U.S. and Them: The Geography of Academic Research[1]

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Abstract: Using a database of 76,046 empirical economics papers published between 1985 and 2005, we report two associations. First, research output on a given country increases with the country's population and wealth, yielding a strong correlation between per-capita research output and per-capita GDP. Regressions controlling for data quality, governance and the use of English give an estimated research-wealth elasticity of 0.32; surprisingly, the U.S. is not an outlier. Second, papers written about the U.S. are 2.5 percentage-points more likely to be published in the top five economics journals after accounting for authors' institutional affiliations and the field of study. This is a large effect because only 1.5 percent of all papers written about countries other than the U.S. are published in first-tier journals. No similar premium for research on the U.S. is detected in second-tier general interest journals, where papers from the UK and Europe command a substantial premium instead.

1. Introduction

Is research in economics, at least to the extent that it is published in peer-reviewed journals, too focused on rich countries, and hence less suitable for informing policy in the rest of the world, where, paradoxically, it might have the highest social returns? Or even more specifically, is the view expressed for example by Bardhan (2003) and many others that researchers working on countries other than the United States do not get a fair deal in mainstream journals consistent with broad patterns in the data?

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While recent work by Ellison (2002) and others documents how publishing in economics has changed over time, it is interesting to ask, at the end of three decades of globalization, how global economic journals are today in terms of publishing research about different parts of the world and whether publications in economics have moved in the direction of being more representative of the world.

Drawing on an article-level database of 76,046 empirical papers published between 1985 and 2005 in the top 202 economics journals, we provide stylized facts on the country focus of empirical economics research and the likelihood of publication in the first and second-tier general interest journals, for research on the U.S. and other countries.[2] The key variable that allows us to identify the geographic focus on empirical articles is a geographic identifier in the EBSCO-HOST database of economic research papers.

The newly-assembled dataset first highlights considerable disparities in the geographic focus of economic research, and in particular the paucity of research on low-income countries. Over the 20 year span of the data, there were 4 empirical economics papers on Burundi, 9 on Cambodia and 27 on Mali. This compares to the 37,000 or so empirical economics papers published on the U.S. over the same time-period. This variation is also reflected among the highly selective top-tier general interest journals (henceforth top-tier journals) of the economics profession (*American Economic Review, Econometrica, The Journal of Political Economy, The Quarterly Journal of Economics* and *The Review of Economic Studies*). *American Economic Review* has published one paper on India (on average) every 2 years and one paper on Thailand every 20 years. The first-tier journals together published 39 papers on India, 65 papers on China, and 34 papers on all of Sub-Saharan Africa. This compares to 2,383 papers on the U.S. over the same time period.

To explore this variation further, we first document basic correlations between the geography of academic empirical research and country-level covariates using the dataset obtained by pooling the data over the 20 year span of the data. Our main result is a strong positive relationship between per-capita income and the extent of (per-capita) empirical research on the country. Population and income alone account for 75 percent of the cross-country variation in the geographical focus of

[2] The top 202 journals are all the journals that appear on one of the rankings provided by Kalaitzidakis et al. (2003) and Kordrzycki and Yu (2006).

research. We show that this "worldwide" fit applies to every region in the world except for Middle East and North-Africa (MENA), where the research output is lower than predicted by the level of income and the research-wealth elasticity is different. Thus, within Sub-Saharan Africa, the difference between South Africa (721 papers) and Niger (20 papers) is largely explained by differences in population and income, as is the difference between India (1093 papers) and Bangladesh (284 papers). The role of data in explaining this relationship is assessed by explicitly controlling for measures of country-level measures of data availability and quality and by looking at the patterns of research output following the release of major household surveys. At first glance, the lack of data does not seem to be the main impediment.

Turning from the aggregated data to time trends, we look at whether the geographical focus of academic research has changed over the 20 years covered by our data. Over time, the research-income elasticity has remained constant. There is no evidence that it has declined in the last 5 years of our data and point-estimates suggest that it may have even increased over time. However, in specifications with country and time fixed-effect, the research-wealth relationship is weak and statistically insignificant. One possibility is that there is too little variation within-country over-time during the short time period that we are focusing on; in our data, 97 percent of the variation in GDP is across countries so that specifications with country fixed-effects seek to identify the relationship over the remaining 3 percent of the GDP variation. A second possibility is that different processes may generate variation in research across and within countries: Once a country is rich, recessions may become ripe topics for further research.

A striking result from the geographical focus of research is that the U.S., despite being the focus of 36,649 papers over the 20-year period of our data (out of 76,046) is not an "outlier". It is on the regression line relating (log) per-capita publications to (log) per-capita Gross Domestic Product (GDP); excluding the U.S. from the regression does not alter the coefficient on GDP per-capita. Because a country like the U.S. is rich with a large population, it reports far more publications than other countries with similar per-capita incomes. Put another way, publications per-capita are very similar in the U.S. to other countries at similar levels of wealth.

This surprising lack of American exceptionalism no longer holds for publications in the first-tier journals. Across all articles, around 4 percent make it to the first tier. However, 6.5 percent of all papers written about the U.S. are published in the top-5 economics journals compared to 1.8 percent of all papers written on countries other than the United States. Controlling for authors' institutional affiliation, and hence partially accounting for research quality, the difference is lower but still a statistically and qualitatively significant 2.4 percentage points. We investigate further whether the premium for papers on the U.S. also applies to a broader journal set drawn from the top of the journal distribution. We find a much smaller premium in the second-tier general interest (henceforth second-tier) journal set (*Review of Economics and Statistics, Economic Journal, International Economic Review,* and *Journal of the European Economic Association*), where instead research on the UK commands a similar premium. These premiums have remained surprisingly stable over time, although with fluctuations over the mean. There is a hint of a decline in the first-tier journal set between 2004 and 2005 (where it goes down to 0.027 from an average of 0.039), but this may be part of cyclical fluctuations rather than a structural break.

We clarify that our findings consist of tabulations and correlations that describe the geographic focus of empirical research and clearly, none of our claims are causal. Identifying differential treatment (say of U.S. focused research in top journals) in any form is difficult in the absence of experimental studies.[3] Furthermore, with sparse information on the availability and quality of datasets from different countries, it is ultimately difficult to rule out the influence of data on the quantity and quality of publications across countries. Our results therefore aim to book-end a debate on why there is more research on some countries than others and on the publication process in the economics discipline, with a focus on empirical studies on and outside the U.S.

The remainder of the paper is as follows. Section 2 is the description of the data. Section 3 documents and discusses the two main findings of the paper. Section 4 concludes.

[3] Previous work examines whether top economics journals are biased in their publication rates towards authors in the editor's networks as well as how the introduction of double-blind review changed the publishing process (Laband and Piette, 1994, Blank 1991).

2. Data Description

The main data source is constructed using information on journal articles published in selected 202 economics journals during the period 1985-2004. We used journal rankings proposed by Kalaitzidakis and others (2003) and Kordrzycki and Yu (2006) to finalize the list of journals for inclusion in the database. Ultimately, we selected the 202 economics journals that appeared at least in one of their proposed rankings. Table A1 provides the list of these journals and their rankings according to various citation indices. The large number of journals was chosen partly to ensure that country-specific publications in the dataset reflected the volume of research on the country rather than journal selectivity; of note is that the citation index for the bottom ranked 11 journals (among those included in the ranking by Kalaitzidakis and others 2003) is 0, and close to 75 journals have a citation index less than 1 (that is, the average article in the journal is cited less than once in subsequent research).[4,5]

To obtain the files of article records we used the Econlit database provided by EBSCOHost to conduct a field search for each individual journal title, limited to the years 1985 through 2004.[6] If a journal started publication after 1985 we started with the earliest possible date. Every Econlit record is assigned metadata separated into fields. We kept data from the following fields: Author; Author Affiliation; Journal Name; Journal Issue; Descriptor Classification Codes (JEL codes); and Geographical Descriptors. We manually cleaned up the Author-Affiliation field and identified the

[4] Kalaitzidakis and others (2003) construct for each journal a citation rank based on citations in 1998 of articles published only in 1994-1998, excluding self-citations and adjusted for impact (influence) and size. Kordrzycki and Yu (2006) provide citations and reference-intensity-adjusted rankings that evaluate a specified set of journals according to influence of journals and influence of journal articles. These rankings take into account citations in economics academic journals as well as citations in other social science and policy journals. In addition, we use the Eigen-factor ranking produced as part of a research project at University of Washington. The Eigen factor is associated with a specified set of journals and is a measure of the overall value provided by all the articles published in a given journal in a year. The Article Influence is a measure of a journal's influence based on the number of citations per article. Thus, according to the Article Influence ranking, one publication in the *American Economic Review* will count for 4.9 publications, while one publication in the *Journal of Development Economics* will count for 1.4 publications.

[5] Nevertheless, important research outlets may still be omitted from this database. Many papers on India, for instance, are published in the *Economic and Political Weekly*, which does not appear here; neither is research that only appears in reports or books incorporated in this analysis. This database also excludes policy reports and other country specific analyses that are not submitted through the formal academic refereeing system, but with potentially important policy impact such as World Bank's Country Economic Memorandums, IMF Country Reports, or the United Nations Development Program's National Human Development Reports.

[6] Due to the unavailability of data on some governance indicators and growth variables for the years 2005 and onwards, we restrict all the analysis in this paper for the years 1985-2004.

100 first academic institutions in addition to three multilateral organizations (IMF, UN and World Bank).[7,8] Geographic Descriptors refer to either a specific country, or a generic group of countries.[9]

Based on the geographic descriptor, we classified papers into three groups. Those without a geographic descriptor were classified as "Theory and Others", a category that includes mostly theoretical economics papers, but also a number of correspondence, comments, errata and reviews. Those with a geographic descriptor related to a group of countries (for instance, Europe) or to global data were classified as "cross-country and regional analysis". For the third category, an article was assigned to a specific country if the Geographic Descriptor made an explicit mention of the country (up to 3); hand-checking a random sample of papers (see below) suggests that 5 percent of these papers could be comments or reviews *based on* empirical research from a single country rather than new analysis. It is this third category of country-specific case studies that forms the core data of our exercise.

In order to assess the accuracy of the classifications based on the geographic descriptor in the dataset, we sampled 120 papers from the full database using a stratified random sample that took 40 papers from each category (theory and others, single country and cross-country or regional). We then read each of these papers and re-classified them according to the groupings used in our paper, masking the original classification throughout the exercise. There are a couple of observations from this exercise.

First, papers in the "theory and others" category are correctly classified (1 paper was wrongly classified, and should have been a "cross-country or regional analysis"), but our "cross-country and regional analysis" classification is less precise. We originally envisioned that this category would

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[7] We take the 100 first institutions ranked by the number of pages published provided by Kalaitzidakis et al. (2003). These institutions produced a third of the total number of publications over the period 1985-2004. Affiliations we did not uniquely identify were coded "Other".

[8] The codes used to identify the institutional affiliations are open access (http://econ.worldbank.org/staff/qdo/), and we welcome additions to the list of institutions already identified. Above all, we encourage Econlit to code authors, their affiliations, geographic descriptors and other paper attributes in a more standardized fashion.

[9] Articles with broadly defined geographical identifiers such as "Selected Countries" or "Europe" were difficult to link to a specific geographical entity. An Econlit representative pointed out that such identifiers usually represent research arising from cross-country empirical techniques. For instance, a continent identifier such as "Europe" would be used for research on a general topic (such as climate change) across a large number of countries in the continent. It is unclear how to deal with cross-country empirical work, and such papers are excluded from this analysis entirely.

include only global or regional empirical studies. This is true for 78 percent of the sample. However, six out of the 40 papers should have been "theory and others"; of these four were "pure" theory and are errors in the database. The other two could go either way—they present reviews of theoretical and empirical literature from a number of countries, but do not present new empirical analysis. Therefore, the "cross-country and regional empirical research" classification potentially over-estimates the number of such papers by 20 percent.

Second, and of direct concern for our results, is the original classification of the micro-empirical research. Encouragingly, 97.5 percent of papers classified as country case-studies were correct, and wherever the broad classification is correct, the country allocation is always correct. There was 1 case where the paper was incorrectly classified as a country case-study: The paper uses data from U.S., Japan and Germany along with five other countries, but the geographic descriptor specifies only U.S., Japan and Germany. Therefore, it should have been classified as a "cross-country and/or regional analysis." There were also two cases that were comments or reviews based on empirical work from a single country; as noted above 5 percent of this research should be thought of as secondary rather than primary empirical analysis. There are also cases where a paper should have been a country case-study but was not classified as such (3 out of 80 or 3.75 percent). In two cases the geographic descriptor was wrongly assigned as "Africa" whereas they should have been "Burkina Faso" and "Cameroon" and in a third case, the geographic descriptor has been (correctly) updated to "S. Korea". Our broad conclusion based on this exercise is that both Type I and Type II errors of classification in our database are below 5 percent.

To assess the volume of published papers in the top-202 economics journals dedicated to micro-empirical research relative to macro-empirical and theoretical contributions, Figure 1 presents a characterization of the nature of research over the 20-year span of our data. We split the set of articles into the three classifications: theory and others, country-specific case studies, and cross-country or regional analyses. During the 20-year period, the number of publications in all 3 groups increased, but the fractions across these categories have remained more or less constant. There is an increase in the share of cross-country and regional empirical work at the expense of the other two, but theory and others (40 percent) and single-country empirical papers (50 percent) continue to account for 90 percent of all publications in the field. Therefore, the papers examined here represent

the vast majority of empirical work in the 202 economics journals considered here, and almost half the output of these journals as a whole.

For the remainder of the paper, our analysis is based on the category of country-specific case studies, which we also call micro-empirical research. Our results aggregate the article-level data to create a country*year dataset of total publication counts broken down by three types of journals categories (first tier, second tier, and other) and author affiliations.[10] We merge this dataset on country-specific case studies with standard country income and population variables, governance indices and release of survey data to arrive at a panel dataset and a country-level dataset on 175 countries for the period 1985 to 2004. Table A2 in the Appendix provides a detailed description of variables and their sources. Summary statistics for the data used in the paper are presented in Table 1.

3. Two Facts on the Geography of Academic Research

3.1. Stylized Fact 1: The Research-Wealth Relationship in the Cross-Section

To gain some familiarity with publishing patterns across different countries, Table A3 in the appendix summarizes the number of publications for every country in our database, and also indicates the number of papers that were published in one of the top-tier and one of the second tier economics journals. Taken as a whole, there is a mass of countries with very few publications and a thin layer above this group, which includes countries like China (1807 publications), India (1093 publications) and Japan (2209 publications). Above these are Canada with 4151 and the United Kingdom with 6,567 publications over the 20 years. Standing out from the group is the United States with 36,649 publications over these 20 years, accounting for the geographical focus in 48 percent of all the economic empirical research during this time.

Given U.S dominance, publications by other countries seem insignificant; nevertheless within region comparisons are informative. In Latin America, Mexico reports the highest publications followed by Brazil and Argentina with countries like Venezuela and Bolivia at the very bottom. In Sub-Saharan Africa (SSA), a lot more research is produced on South-Africa than the others, but there is some

[10] The republic of Korea is missing from these data.

work on Ghana, Kenya and Nigeria. There are almost no papers published on countries like Togo, Benin, The Central African Republic and Somalia over this period. In South Asia (SA) and the East Asia and Pacific (EAP) region, China and India report more publications than all other countries, but twice as much research is produced on China as on India.[11]

Finally, it is also noteworthy that the total numbers of papers produced are very different across countries at similar levels of income. Much more is produced, for instance, on India than on Mexico, although PPP adjusted per-capita incomes are four times higher in Mexico than India. This suggests that for the *total* publications both GDP per-capita and population matter since India is poorer but significantly larger than Mexico. Deflating the number of publications by country population could yield a clearer relationship between research and wealth, to which we now turn.

Figure 2 plots the non-parametric relationship between the logarithms of total publications against the logarithm of GDP averaged over the 20-year period for all countries (left), and the same relationship in per-capita terms on the right. Any difference in the slopes captures the specific role that scale-economies play in the production of research, a question we turn to below. As is clear from the figures, the richer the country, the more research there is on it. The relationship between log number of publications and log GDP is roughly linear with a slope very close to 1. There is a hint that the U.S. is above this line, but the deviation does not stand out, and in the per-capita relationship, the U.S. is indistinguishable from other countries around the same level of GDP per-capita.[12]

Distinguishing countries by region in Figure 3 suggests that the research-wealth relationship within geographical regions is similar to that across the world. In most regions—with the exception of MENA—countries are evenly spread out on the worldwide fitted line relating research to wealth. Countries in the MENA region stand out for their significant downward deviation. *All* countries in the MENA region report significantly less research than what is expected for their levels of income

[11] The last finding is puzzling since there were more papers written on India in the first 5-years of our data relative to China (185 versus 153). However, by the end of our data period, China had leapt ahead with 861 papers between 2000 and 2004 relative to 439 for India.

[12] The three countries on the far right are the islands of San Marino, Cayman Islands and Aruba—all very rich and very small with 1 publication each over the 20 years.

and within the region, there appears to be little relationship between the research produced on a country and its wealth, measured by GDP.

To investigate these relationships further, Table 2 presents the regression (OLS) analog of this figure. Publication measures are totals for the period 1985-2004, whereas GDP is averaged over the same period for the 175 countries. We estimate the following equation:

$$Log(Publications)_i = a + b.log(GDP\ per\text{-}capita)_i + c.log(Population)_i + e_i \qquad (1)$$

The description illustrated in Figure 3 is confirmed from the results in Columns 1. Publications and GDP are positively correlated. The coefficient of log(GDP per-capita) is 0.62, and it remains virtually unchanged at 0.63 once region fixed-effects are included in Column 2. The coefficient on (log) population is just below 1 (a difference that is statistically significant at the 1 percent level of confidence), suggesting small decreasing returns to scale. Also remarkable is the high explanatory power of this simple specification—GDP per-capita and population alone account for 74.2 percent of the variation in the data and adding in region fixed-effects increases the percentage of explained variation to 81.2.

In Column 3 we introduce a number of control variables to further understand the relationship between research and wealth. The press freedom index is a measure of governance (we also tried other indices such as an index of democracy and a political rights index; the high correlations among these indices imply that the results remain the same); the variable for the availability and quality of data takes the average of the countries scores on data collection, data availability and data/statistical practices compiled by The World Bank and independent dummy variables that indicate whether the country has a Muslim majority and whether English is an official language. Finally, we also include enrollment in tertiary education as a proxy for country research capacity.

The estimated coefficient on wealth declines in Column 3, and independent regressions (not shown here) show that this decline is due to the inclusion of our measure of governance (press freedom) and/or data availability/quality. Although the dummy variables indicating whether a country has a Muslim majority and the use of English as an official language are important predictors, they do not

mediate the research-wealth relationship of Column 1. There is therefore some evidence of less research on countries with poor governance and data. Also of note is the far lower research produced on Middle East and North Africa (MENA), East Asia and Pacific (EAP) and Eastern Europe and Central Asia (ECA) regions relative to the omitted category of North America. In contrast, the coefficients are smaller for both South Asia and Sub-Saharan Africa (SSA) and are not statistically significant in either case. Although the South Asia result could be anticipated, the SSA result comes as a surprise given our priors on the low level of research on African countries. These results suggest that overall publication numbers for the SSA region are small largely because the countries are poor, and not because these countries have received less attention from the research community once we control for income.

Columns 4 to 6 present additional variants of the specification to check for non-linearity in the research-wealth relationship (Column 4), a different research-wealth relationship for OECD countries (Column 5) and robustness to alternate model specification (Column 6 and Column 7). The original linear specification is fairly robust to these alternate models and, in particular, there is little change in the coefficient on wealth with the inclusion of quadratic terms, a potentially different elasticity for the OECD countries or in the Poisson specification. Instead of the log specification, Column 7 then shows the linear publications model; this specification suggests that a (log) increase in GDP per-capita increases publications by 267 papers over the time-period considered.

Of some interest is the fact that statistically, the U.S. is *not* an outlier in the volume of research that is produced on it. We examined two possibilities. First, we checked whether the U.S. lay outside the predicted confidence interval (accounting for both the variance of the error and the estimates themselves) from a regression that excluded the U.S. from the estimating equation. Second, we checked for the leverage that the U.S. exerted on the estimated coefficients, by statistically comparing the coefficient vector in regressions with and without the U.S. Both tests showed that U.S. was no different from other countries once our set of observable characteristics was controlled for; the volume of research for the U.S. lies well within the predicted confidence interval and excluding the U.S. leads to the same coefficient estimates as its inclusion. In other words, a lot more is produced on the U.S. because it is rich and it is big; the natural comparator for the U.S. would be all of Europe and here, the volume of research is very similar.

Has the relationship between wealth and research changed over time, and what has been the role of new data, if any, in spurring more research? We note first that the research-wealth relationship identified in the cross-section has been surprisingly robust over the 20 year period of our data. Figure 4 plots, for instance, the estimated coefficient of publications on (log) GDP per-capita for each individual year in the data and as is clear, there has been little, if any movement over this time. The point estimates suggest that at the beginning of the time period every (log) increase in GDP per-capita led to an addition 17-18 papers per year and by the end, the relationship has strengthened somewhat to 22-23 papers per year. This increase though, is well within confidence intervals given the small number of observations every year. The constant research-wealth elasticity over the time period has been accompanied by some increase in the number of papers produced on low-income countries over this time-period, albeit from a very low base. Specifically, grouping the data by 5-year intervals, the 53 high income countries in our database saw an increase from 226 to 385 papers between 1985/89 and 2000/2004 while the poorest 60 countries (excluding countries with populations less than 1 million) increased from 8 papers produced in 1985/89 to 24 in 2000/2004. The glass is half empty if we look at the growing absolute differences between rich and poor countries, but is half-full if we focus instead on the faster growth of publications among poor countries.

Table 3, Columns 1 to 3 then presents additional results using the panel aspects of the database.[13] Here, we include country and time fixed-effects in every year and re-estimate the relationship between GDP and research, using only the within-country variation over time. The general result across different specifications is that there is a sharp reduction in the research-wealth relationship and, although it remains positive and is close to statistically significant in the linear model, it is insignificant in the Poisson fixed-effect specification and identically zero in the log specification. For instance, Column 7 in Table 2 implies an annualized increase of 13 papers per year from a 1-log increase in GDP and this coefficient halves to 6.5 in Column 1 of Table 3. It is nevertheless difficult, from these data, to speak clearly to whether this is because the research-wealth relationship is driven by country-level omitted variables. A couple of issues are of broad concern. First, there is too little

[13] Because there are many country-year combinations with zero publications, to look at changes over time, we restrict attention to countries with a population greater than 1 million, which excludes most of the small island economies.

variation in the GDP per-capita variable after country and time fixed-effects are accounted for. Country and time fixed-effects account for 98.8 percent of the variation in log GDP per-capita over this time period, suggesting that the small within country variation that is left will not be sufficient to identify the research-wealth relationship with any accuracy. Second, it is possible that more research is conducted on wealthier countries, but variation in wealth within a rich country is less important, so that the across and within country dynamics are different.

Columns 4-7, Table 3 present further results on the role of data. Given that the inclusion of data availability/quality reduces the estimated coefficient on GDP in Table 2, is it likely that better measures of data would drive the coefficient even lower? A priori this could certainly be true: data collection might not be a priority for poorer countries and might also be difficult to carry out given local conditions (infrastructure, local capacity, etc.) To the extent that data alone, instead of GDP, drive publications, we should find some evidence that the release of *new high quality* data in low-income countries has some impact on the volume of research.

We look at the correlation between publications and the release of two highly influential and high quality household surveys—the Living Standards Measurement Survey (LSMS) and the Demographic and Health Survey (DHS)—in countries that reported one such survey sometime between 1985 and 2004. We estimate a standard difference-in-difference relationship with country and time fixed-effects, country specific time-trends and additional controls for the GDP and population on the country. Since the LSMS and DHS surveys were conducted and released in different years for each of these countries, our difference-in-difference analysis allows us to estimate the impact of the release on both intensive (Columns 4 and 5, Table 3) and extensive (Columns 6 and 7, Table 3) margins. The basic result is that, while it is certainly possible to find small effects (and different specifications could also yield significance) of data release on publications, in general there is little evidence of a substantive increase in publications after release on the intensive margin. There is nevertheless some evidence that the release of a LSMS or DHS survey is associated with a higher likelihood of publishing at least one paper that year. Although the lag structure relating publications to data release is not clear and it may be that more sophisticated modeling yields different results, at first glance more data do not lead to a sustained increase in research on the country.

3.2. Stylized Fact 2: Likelihood of Publication in First-Tier Journals

Our second stylized fact looks at whether research on the U.S. is more likely to be published in a high-quality journal relative to research on other countries. We specifically look at the geographic determinants of publication in one of the first-tier general interest journals in economics, namely *Econometrica*, the *American Economic Review*, the *Quarterly Journal of Economics*, the *Journal of Political Economy*, and the *Review of Economic Studies*. We augment these results with additional data on the determinants of publications in the second-tier general interest journals, which consist of *Review of Economics and Statistics, Economic Journal, European Economic Review* and *International Economic Review*.

The basic fact that empirical papers written about the U.S. are more likely to appear in the top tier journals is shown in Figure 5 and Table 4. Figure 5 plots the relationship between (log) publications, this time restricted to the top tier journals, against (log) GDP. To begin with, there is a positive relationship between wealth and the number of articles published in the first-tier journals. The regression results below will show that this positive relationship is mechanically driven through the relationship between research and wealth. That is, richer countries have more research published on them, and a constant fraction of these papers make it into the highly selective, first-tier journals. The one country that stands as a clear exception to the tight grouping around the regression line is the U.S. Unlike the relationship between total research and wealth, where we found no evidence of American exceptionalism, Figure 5 suggests that relative to other countries at the same level of total income, almost 400 percent more research from the U.S. is published in the highly selective journals.

Table 4 first documents the relative likelihood of publishing in the first- and second-tier journals for the U.S., the UK and for countries in other regions of the world. Of the 3083 papers published in the first-tier journals between 1985 and 2005, 2,383 focused on the U.S. Since 48 percent of overall research volume is on the U.S., this represents a substantial premium over what would be expected from an equal probability of selection. Across all countries, roughly 1 out of every 25 papers is accepted into the top tier journals. The difference between the U.S. and the rest of the world is substantial—6.5 percent of all papers published on the U.S. are in the top tier journals relative to 1.8 percent of papers from other countries. Of particular interest is that once we move outside the U.S., there is no difference in the likelihood of publication across the different regions—papers from the

UK and other OECD countries (some of which are incredibly data rich) have just as low a likelihood of publication in the top tier journals as papers from SSA or EAP.

These results no longer hold in among the second-tier journals. While the acceptance rate at the next level of selectivity is still low (3.92 percent), the selectivity for all regions and for U.S.-based articles is virtually identical. The country that does enjoy a substantial premium is the UK (8.2 percent) and more widely, those in the European and Central Asian region (5.6 percent). In fact, if we combine the first- and second-tier journals, these differences iron out. The U.S. advantage is now much smaller (10.5 percent for the U.S. relative to the general acceptance rate of 7.98 percent) and much closer to the UK acceptance rate of 9.76 percent. The percentage of research from Europe and Central Asia that makes it into this still highly selective group, at 7.11 percent is very similar to the overall acceptance rate. Across the other regions, acceptance rates are lower (SSA is particularly low), but the discounts are much smaller than for the top-5 journal set.

To examine this relationship within a regression context, we estimated the following equation:

$$Tier_i = a + b.U.S._i + c.UK_i + d.X_i + e_i \qquad (2)$$

where $Tier_i$ is an indicator variable that takes the value 1 if article i is published in a first (or second) tier journal; $U.S._i = 1$ if the article focuses on the U.S.; $UK_i = 1$ if the article focuses on the UK and X_i are the other controls used in the regression relating the volume of research to country characteristics. Our focus on the UK in addition to the U.S. is guided by the breakdown in Table 4—there is some evidence that the top and second tier journals act as substitutes, with higher premiums for the U.S. in the top tier and for the UK in the second tier journals It appears to us that, given similar education levels, high quality empirical economists in both countries and the availability of equally high quality data, the issue of journal selectivity is most fairly addressed within this narrow comparison.

A causal interpretation of the coefficients b (or c) is equivalent to acknowledging a U.S. (or UK) premium in the publication process. Clearly, the key omitted variable from this equation is the quality of the article. If U.S.-focused papers are generally of higher quality, this would imply greater

acceptance in first-tier journals without any bias on the part of these journals. In particular, if different research institutions have different geographic foci, a positive value for b or c might reflect the fact that researchers of top research institutions are more prone to work on the U.S. or the UK. The data do indicate such a process; for instance, among the Top-5 ranked economics departments in the world (i.e. Harvard, MIT, Stanford, Princeton and the University of Chicago), 74 percent of all papers published have a U.S. focus compared to 47 percent for all institutions taken together.

To examine this issue further, we pursue a variety of additional specifications. We first include a set of dummy variables for the institutions that the authors were affiliated with at the time of publication. The idea is that the institutional affiliations of different authors represent a plausible measure of the quality of the article. To account for co-authors, we introduce the institutional dummies in two different ways. Suppose that the quality of the article, $Q_i = f(IA_j, IA_k)$ where IA_j is the institutional affiliation of author *j* and IA_k is affiliation of author *k*. If *f(.)* is linear, introducing fixed effects for every institutional affiliation will provide coefficient estimates on $U.S._i$ purged of the institutional effects. To account for the possibility that *f(.)* is non-linear, we also introduce fixed-effects for every institutional affiliation *combination* in the dataset as an additional check. That is, the co-author pair of Harvard and MIT is treated as an entirely separate institutional combination relative to, say, Harvard and UCLA or UCLA and MIT. Next, we address the possibility that differential acceptance rates for the U.S. (or UK) may reflect the choice of topics. To address this, we include, in addition, a full list of JEL-codes for every article in the specification.

Table 5 presents the results from these specifications, where the likelihood of publication in the top tier journals is related to country-level variables and indicator variables for the U.S. and UK. There are several noteworthy patterns. Column 1 suggests that (a) there is no relationship between the likelihood of publication in first-tier journals and the GDP of the country beyond the effect of wealth on the total number of papers published; (b) that there is a small positive association of the likelihood of publication in first-tier journals with the size of the country and; (c) that there is also a (small) positive association with the total volume of research on the country.

The U.S. and the UK are then included as additional explanatory variables in Column 2. Immediately obvious is the large coefficient estimate for the U.S. With a coefficient estimate of 3.9 percentage

points the U.S. effect is large both in terms of its size and its statistical significance. The inclusion of the U.S. also shows that the relationship between the likelihood of being published in the first tier and the total number of publications is driven entirely by the large volume of research on the U.S. and the much higher likelihood of acceptance for U.S.-focused papers (Column 2). With the inclusion of the U.S., the effect of aggregate research on the likelihood of publication in a first-tier journal becomes insignificant and of the wrong sign. Of note, there is no premium for research on the UK in the top tier journals—the coefficient on the UK is small, negative and statistically insignificant.

Columns 3 to 6 show that the basic result of a U.S. premium in the highly selective first-tier journals is robust to a variety of additional specifications, although differential quality and choice of topics does reduce the premium considerably. Introducing institutional affiliation fixed-effects in a linear fashion reduces the coefficient on the U.S. to 2.5 percentage points and substantially increases the explanatory power of the regression by 4 times. Columns 3 and 4 show that introducing institutional combination fixed-effects doubles the explanatory power of the regression but *has no further effect on the estimated coefficient for the U.S.*. That is, we are now able to proxy for quality in a better way but this further improvement in the quality measure appears to be uncorrelated to the relative preference for U.S.-based articles. Further, there is no correlation between country governance measures and our measure of data quality and availability—as with the coefficient on the UK, these are precisely estimated zeroes. In our most exacting specification with a full set of JEL codes for each paper and institutional combination fixed-effects, the U.S. premium is reduced to 1.6 percentage-points (or 100 percent over research from other countries), which remains statistically significant at the 1 percent level. Finally, in Column 7 we repeat these specifications for publishing in second-tier general interest journals and find a higher relative premium for the UK compared to the U.S. In our preferred specification with institutional combination fixed-effects and indicator variables for JEL codes, research on the UK enjoys a premium of 3.7 percentage points, relative to an overall acceptance rate of 3.92 percent in these journals. Although not reported here, we note that the estimated premium is robust to alternate specifications with or without the inclusion of variables related to the institutions of authors and the JEL codes for the paper.

Are these premiums decreasing over time? In Columns 8 and 9, we introduce interactions with the year of publication as additional explanatory variables. Both for the U.S. (in first-tier journals) and for the UK (in second-tier journals), we find some evidence for a decline over time. To investigate this further, Figure 6 plots the coefficient for these premiums in every year of our data. As is clear, it may be too early to make specific claims about a change in the pattern of publishing in the most selective journals of the economic profession. The U.S. premium in the top tier journals has fluctuated over time, and the decline seen in the last four years of the data may be a part of these systematic fluctuations. Similarly, the UK premium has changed dramatically over the span of the data with a sharp drop from a high of 0.12 in 1990 to a low below 0.02 in 1999. Since then, the premium has remained stable with a hint of an *increase* in the last 2 years.

These results show that research on the U.S. is more likely to be published in first-tier journals and that on the UK in second-tier journals, although in the former case, including proxy measures for quality and the topic of research decreases the size of the premium. How we *interpret* these results depends on our priors. There are several possibilities. Those who believe that there is no discrimination in the publication process could well argue that the U.S. effect is an upper-bound because further controls for quality would decrease the coefficient---perhaps to zero. Alternatively, researchers may be placed in the top ranked economics departments only if they have a minimum number of top-5 publications. If there is discrimination in the top tier journals, then researchers working on non-U.S. countries in the top-ranked institutes may have produced higher quality papers than those working on the U.S. In this case, the institutional fixed effects produce a lower-bound of the U.S. difference relative to the raw correlations.

Of course, discrimination is not the only possibility. For instance, another possibility is that there is a "superstar" effect to data. Researchers converge on the "best" dataset even if it is 1 percent better than other data available, and the initial work creates a focal point for further research with the same data.[14] Regardless of our judgments of what these coefficients imply, these associations and correlations may be helpful in understanding the publication process in economics and the potentially differential rewards for academic research around the world.

[14] We thank an anonymous reviewer for suggesting this alternate possibility.

4. Conclusions

The research-wealth relationship documented here presents country-specific applied economic research in a framework familiar to many. The differences in the volume of research suggest that evidence based economic policies will be difficult in the 20 poorest countries, where 3 papers per country are written every 2 years (and 1 paper every year per country if we exclude Ethiopia and Tanzania). That these differences are driven to a large extent by the income level of the country is particularly problematic since a lot of the research on low-income countries is done by researchers outside the country, rather than in local institutions. Therefore while it is understandable that other outcomes, such as health and education, have a demonstrated association with country income (largely as a function of the country's own systems), there is no good explanation for why research, which is driven at least partially by non-local institutions, should suffer similarly. If we believe that there is some link between good economic policy and country-specific research, the low volume of research on poor countries is a cause for concern.

To the extent that optimal economic policy depends on local institutions, culture and geography, country-specific research is important. There is some indication that such a debate may indeed already be under way. The Growth Commission, mandated to understand the sources of growth and appropriate policy, argues in its final report that growth strategies are almost certainly country-specific and perhaps time-specific as well. One introductory passage is worth quoting in full:

> "*Wedded to the goal of high growth, governments should be pragmatic in their pursuit of it. Orthodoxies apply only so far. This report is the product of two years of inquiry and debate, led by experienced policy makers, business people and two Nobel prize-winning academics, who heard from leading authorities on everything from macroeconomic policy to urbanization. If there were just one valid growth doctrine, we are confident that we would have found it."*—Growth Commission Report, Introduction, Page 4

In many instances, country-specific reports such as the World Bank's Country Economic Memoranda, the IMF's Country Reports or UNDP's National Human Development Reports form an important part of the knowledge base on which to draw from. Should we be leaving policy

discussions in developing countries to analyses that did not go through a formal referee process, or alternatively to results obtained from research focused on the U.S.?

The results could also further discussion on the nature of the publication process in the most selective economics journals. If, for instance, researchers base their choice of research countries on the likelihood of publications in top journals, perceived discrimination in these outlets could inefficiently allocate greater research effort towards the U.S. or UK. Alternatively, if researchers who continue to work on low-income countries are not rewarded in the publication (and hence tenure) process, there may be efficiency losses in terms of the networks that they have access to. In either case, the quality and volume of research on low-income countries will suffer.

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Appendix

A1. List of journals and publication weights

See Table A1

A2. Macroeconomic variables

See Table A2

A.3. Breakdown of publications by country

See Table A3

Table 1

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Table 1: Summary Statistics

	N	mean	s.d.	min	max
Number of publications - all journal	215	353.7	2,561.5	0	36,649
Number of publications - first-tier journals	215	14.3	162.7	0	2,383
Percentage of publications in first-tier journals	215	0.18%	0.06%	0.00%	29.47%
Number of publications - second-tier journals	215	13.9	107.2	0	1,468
Percentage of publications in second-tier journals	215	0.21%	0.10%	0.00%	21.84%
Number of publications from top 5 universities - all journals	215	17.4	188.9	0	2,767
Number of publications from top 5 universities - first-tier journals	215	3.5	42.4	0	621
#publications in next 4 general interest journals from top5U	215	0.8	7.3	0	106
Average gdp to average population 1985-2005	195	10,889	47,103	144	596,111
Average population 1985-2005	205	27,207,496	108,664,537	1,400	1,189,547,874
average enrollment in tertiary education 1998-2005	205	58,484	200,207	0	2,002,384
1 if English official language, 0 otherwise	215	0.2	0.4	0	1
1 if Muslim country, 0 otherwise	215	0.2	0.4	0	1
Press freedomn index	192	45.6	24.1	7	97
Political rights index	193	3.6	2.1	1	7
Civil liberties index	193	3.6	1.8	1	7
Autocracy-Democracy index	159	1.5	6.6	-10	10
East Asia and Pacific	215	0.2	0.4	0	1
Europe and Central Asia	215	0.3	0.4	0	1
Latin America and the Caribbean	215	0.2	0.4	0	1
Middle East and North Africa	215	0.1	0.3	0	1
North America	215	0.0	0.1	0	1
South Asia	215	0.0	0.2	0	1
Sub-Saharan Africa	215	0.2	0.4	0	1
OECD	206	0.1	0.3	0	1
Data quality (overall)	140	69.3	20.9	9	100
Data quality (statistical practice)	140	62.1	28.1	0	100
Data quality (collection)	140	69.5	25.6	0	100
Data quality (availability)	140	76.4	16.4	18	100

Table 2
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Table 2: The Geography of Academic Research: Cross Sectional Reults

	Logarithm of number of publications (1985-2005)					Number of publications (1985-2005)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Independent variables	**OLS**	**OLS**	**OLS**	**OLS**	**OLS**	**Poisson**	**OLS**
Per capita GDP (log)	0.617***	0.630***	0.319***	0.860**	0.635***	0.616***	268.566**
	(0.053)	(0.071)	(0.105)	(0.358)	(0.072)	(0.108)	(130.693)
Per capita GDP (log squared)				-0.014			
				(0.020)			
Per capita GDP * OECD					-0.455		
					(0.550)		
Total population (log)	0.906***	0.886***	0.872***	0.880***	0.886***	0.823***	187.605***
	(0.035)	(0.034)	(0.069)	(0.034)	(0.033)	(0.061)	(63.672)
OECD		0.560*	0.248	0.580**	5.095	0.250	758.592
		(0.290)	(0.365)	(0.287)	(5.446)	(0.464)	(497.411)
East Asia and Pacific		-0.898***	-0.597	-0.910***	-0.932***	-1.756***	-11,985.176
		(0.256)	(0.379)	(0.257)	(0.267)	(0.330)	(8,915.409)
Europe and Central Asia		-1.358***	-0.691*	-1.375***	-1.390***	-1.372***	-12,833.376
		(0.241)	(0.408)	(0.244)	(0.257)	(0.386)	(9,116.798)
Latin America and the Caribbean		-1.065***	-0.443	-1.092***	-1.102***	-1.844***	-12,507.033
		(0.301)	(0.451)	(0.306)	(0.314)	(0.387)	(9,029.676)
Middle East and North Africa		-2.730***	-1.240**	-2.760***	-2.766***	-2.580***	-12,207.961
		(0.290)	(0.510)	(0.301)	(0.303)	(0.609)	(8,911.233)
South Asia		-1.097***	-0.489	-1.084***	-1.123***	-1.598***	-12,312.895
		(0.343)	(0.570)	(0.353)	(0.353)	(0.309)	(8,994.368)
Sub-Saharan Africa		-0.965***	-0.524	-0.937***	-0.990***	-1.130***	-12,225.514
		(0.321)	(0.431)	(0.327)	(0.330)	(0.404)	(8,948.902)
Press freedom index			-0.020***				
			(0.005)				
Data quality (overall)			0.016***				
			(0.006)				
Muslim majority (1:yes;0:no)			0.219				
			(0.216)				
English as official language (1:yes;0:no)			0.741***				
			(0.183)				
Enrollment in tertiary education (1998-2005)			0.000				
			(0.000)				
Constant	-15.281***	-13.882***	-12.303***	-14.679***	-13.887***	-12.038***	7,726.532
	(0.778)	(1.012)	(1.269)	(1.674)	(1.007)	(1.550)	(8,232.040)
Number of observations	173	173	136	173	173	195	195
Adjusted R-squared	0.742	0.812	0.851	0.812	0.812	0.949	0.416

Note: Robust standard errors in parentheses. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively. Unless specified otherwise, independent variables are 1985-2005 averages.

Table 3

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Table 3: The Geography of Academic Research: Panel Results

	Number of publications	Logarithm of publications	Number of publications	Logarithm of publications		At least one publication (1:yes;0:no)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Independent variables	OLS	OLS	Poisson	OLS	OLS	OLS	OLS
DHS/LSMS available (1:yes;0:no)				0.013	0.024	0.076**	0.077*
				(0.087)	(0.094)	(0.038)	(0.041)
Per capita GDP (log)	6.517	-0.048	0.175	-0.464	-0.318	-0.055	0.007
	(4.708)	(0.189)	(0.453)	(0.294)	(0.412)	(0.076)	(0.100)
Total population (log)	-42.254***	-1.147**	-0.835	0.248	0.188	-0.480	-0.523
	(11.522)	(0.452)	(0.652)	(1.667)	(2.722)	(0.421)	(0.476)
Per capita GDP (log) * Year of publication				0.016	-0.014	0.001	-0.001
				(0.010)	(0.035)	(0.007)	(0.018)
Country fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country specific quadratic time trend	No	No	No	Yes	Yes	Yes	Yes
Year of publication fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Restricted to DHS/LSMS only countries	No	No	No	No	Yes	No	Yes
Number of observations	2,710	1,874	2,624	1,960	1,053	3,466	1,657
Adjusted R-squared	0.055	0.275		0.919	0.845	0.629	0.535

Note: Robust standard errors in parentheses, clustered at the country level. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively.

Table 4
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Table 4: Publication Breakdown

	All journals		First-tier general interest journals			Second-tier general interest journals		
	Number	As percentage of total (%)	Number	As percentage of total (%)	Acceptance Rate (%)	Number	As percentage of total (%)	Acceptance Rate (%)
All countries	76,046		3083	100	4.05	2983	100	3.92
United States	36,649	48.19	2383	77.29	6.50	1468	49.21	4.01
United Kingdom	6,567	8.64	102	3.31	1.55	539	18.07	8.21
All countries but US and UK	32,830	43.17	598	19.40	1.82	976	32.72	2.97
East Asia and Pacific	8,272	10.88	152	4.93	1.84	167	5.60	2.02
Europe and Central Asia	19,285	25.36	292	9.47	1.51	1080	36.21	5.60
Latin America and the Caribbean	2,800	3.68	63	2.04	2.25	53	1.78	1.89
Middle East and North Africa	741	0.97	23	0.75	3.10	30	1.01	4.05
South Asia	1,710	2.25	50	1.62	2.92	39	1.31	2.28
Sub-Saharan Africa	2,440	3.21	34	1.10	1.39	23	0.77	0.94
OECD countries except U.S. and U.K.	17,246	22.68	298	9.67	1.73	705	23.63	4.09
High Income - non OECD countries	1,292	1.70	26	0.84	2.01	43	1.44	3.33

Note: First-tier general insterest journals consist of *American Economic Review, Econometrica, Journal of Political Economy, Quarterly Journal of Economics* , and *Review of Economic Studies* . Second-tier journals consist of *Economic Journal* , *European Economic Review, International Economic Review,* and *Review of Economics and Statistics* .

Table 5

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Table 5: Determinants of Likelihood of Publication in First and Second Tier Journals

	First-tier general interest journals						Second-tier general interest journals	First-tier general interest journals	Second-tier general interest journals
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Paper is on the U.S. (1:yes;0:no)		0.039***	0.025***	0.024***	0.017***	0.016***	0.011**	0.037***	0.010
		(0.005)	(0.003)	(0.003)	(0.003)	(0.003)	(0.005)	(0.004)	(0.007)
Paper is on the US * Year of publication								-0.002***	0.000
								(0.000)	(0.000)
Paper is on the U.K. (1:yes;0:no)		-0.004	-0.002	-0.003	-0.004**	-0.005***	0.037***	-0.005	0.061***
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)	(0.003)	(0.006)
Paper is on the U.K. * Year of publication								0.000	-0.002***
								(0.000)	(0.000)
Total number of publications 1985-2005 (log)	0.005*	-0.002	-0.001	-0.002	0.000	-0.000	-0.008***	0.001	-0.008***
	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.001)	(0.003)
Average GDP per capita 1985-2005 (log)	0.002	0.002	0.001	0.001	-0.002*	-0.002	0.004	-0.003**	0.004
	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.001)	(0.003)
Average population 1985-2005 (log)	0.009**	0.007***	0.004***	0.004***	0.003**	0.003**	0.007***	0.002*	0.007**
	(0.004)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.001)	(0.003)
Average press freedom index 1985-2005	-0.001**	-0.000	-0.000	-0.000	0.000	0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Data quality (overall)	-0.001**	0.000	0.000	0.000	-0.000	-0.000	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Institutional Dummies	No	No	Yes	No	Yes	No	No	No	No
Institutional affiliations fixed-effects	No	No	No	Yes	No	Yes	Yes	Yes	Yes
JEL Code Dummies	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Number of observations	73,969	73,969	73,969	73,969	72,854	72,854	72,854	72,854	72,854
Adjusted R-squared	0.014	0.016	0.067	0.112	0.056	0.103	0.037	0.104	0.037

Note: Robust standard errors in parentheses, clustered at the country level. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively. First-tier general insterest journals consist of *American Economic Review, Econometrica, Journal of Political Economy, Quarterly Journal of Economics* , and *Review of Economic Studies* . Second-tier journals consist of *Economic Journal, European Economic Review, International Economic Review,* and *Review of Economics and Statistics* .

Table A1
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Table A1: Rankings of Economics Journals according to various ranking schemes

	Journal Name	JEEA	J_IN	PA_IN	WJ_IN	WPA_IN	J_ALL	PA_ALL	WJ_ALL	WPA_ALL	J_POL	PA_POL	WJ_POL	WPA_POL	EIGEN	ARTINFL
1	American Economic Review	100	100	27.1	46.8	26.64	20.86	29.26	19.22	19.01	100	34.52	100	26.92		
2	Econometrica	96.78	79.86	41.37	28.74	31.74	9.62	44.17	7.34	12.71	30.95	28.83	31.12	17.47	0.00	0.44
3	Journal of Political Economy	65.19	74.63	58.9	36.16	59.39	9.03	63.87	5.55	37.25	24.35	51.13	39.66	35.4	0.11	4.90
4	Journal of Economic Theory	58.76	42.13	12.83	10.57	6.63	2.86	13.34	1.9	3.64	1.84	2.61	4.6	2.5	0.01	0.60
5	Quarterly Journal of Economics	58.11	88.4	77.89	44.19	83.2	28.84	86.12	23.11	72.51	56.58	100	70.22	81.95	0.00	0.10
6	Journal of Econometrics	54.91	35.86	15.53	15.43	14.03	8.24	16.97	5.83	3.2	11.8	17.34	19.5	11.23		
7	Econometric Theory	45.85	11.49	6.57	4.38	5.08	0.89	6.74	0.38	0.75	0.89	1.98	1.69	0.78	0.01	0.23
8	Review of Economic Studies	45.15	40.42	37.06	14.09	27.63	4.78	38.18	2.81	16.29	7.42	21.34	13.8	14.97	0.00	0.06
9	Journal of Business and Economic Statistics	38.41	17.55	14.87	7.4	13.18	1.98	15.45	1.05	3.57	7.55	18.04	14.02	13.5		
10	Journal of Monetary Economics	36.41	33.31	23.22	13.93	24.06	2.6	23.86	1.12	5.93	8.18	26.77	18.16	23.41	0.00	0.16
11	Games and Economic Behavior	35.49	22.62	8.52	5.45	4.1	1.99	9.06	2.28	2.56	1.19	2.89	3.36	4.03		
12	Journal of Economic Perspectives	34.26	31.8	24.68	12.72	23.28	11.69	26.28	7.37	32.26	48.59	38.52	31.8	31.53		
13	Review of Economics and Statistics	28.02	31.52	17.53	13.6	16.37	7.09	18.23	3.97	6.98	14.14	17.45	22.58	14.45	0.01	3.39
14	European Economic Review	23.76	28.73	12.04	11.44	11.8	3.01	12.35	1.41	5.73	11.75	15.81	21.61	15.51	0.00	0.12
15	International Economic Review	23.04	26.6	17.44	8.24	12.78	2.14	17.78	0.88	3.27	3.44	11.6	6.23	8.71	0.00	0.53
16	Economic Theory	22.43	18.11	6.5	4.92	3.71	1.06	6.66	0.43	1.17	1.05	2.06	2.17	2.3		
17	Journal of Human Resources	21.34	9.14	10.73	3.02	6.88	13.3	11.59	11.36	5.04	14.69	19.62	16.38	9.53		
18	Economic Journal	20.71	24.78	12.08	8.83	10.62	4.8	12.48	2.94	8.14	40.39	20.7	27	19.97	0.01	0.86
19	Journal of Public Economics	19.77	24.73	10.66	8.46	7.6	7.03	11.05	4.57	6.94	17.51	13.77	21.68	9.47		
20	Journal of Economic Literature	18.78	35.39	66.32	14.73	62.51	10.22	72.68	6.57	80.03	32.73	87.48	32.68	51.47	0.00	0.31
21	Economics Letters	18.73	15.4	2.4	5.03	1.79	1.81	2.48	0.88	0.76	3.81	2.46	8.02	1.88		
22	Journal of Applied Economics	16.59	8.07	8.54	2.9	7.03	0.88	8.7	0.36	1.95	3	13.75	6.47	11.27	0.00	0.13
23	Journal of Economic Dynamics and Control	14.54	13.87	6.47	6.95	6.43	0.9	7.47	0.6	1.21	1.58	2.9	2.8	1.72	0.00	0.11
24	Journal of Labor Economics	12.76	10.44	12.68	3.77	8.66	2.14	12.75	1.33	9.66	10.32	19.4	14.96	7.37	0.00	0.24
25	Journal of Environmental Economics and Management	11.85	6.17	5.69	1.39	2.3	2.24	5.54	1.1	3.86	7.77	10.52	6.79	2.41	0.00	0.05
26	RAND Journal of Economics	11.44	20.54	19.69	8.57	16.75	4.39	21.68	7.02	29.8	14.64	23.97	20.67	22.64	0.00	0.06
27	Scandinavian Journal of Economics	10.66	4.3	4.67	1.34	3.13	0.62	4.73	0.31	1.02	1.16	3.97	2.27	3.06		
28	Journal of Financial Economics	9.89	78.69	63.64	76.92	97.28	3.94	84.05	2.81	35.42	8.34	18.48	17.34	18.37	0.00	0.07
29	Oxford Bulletin of Economics and Statistics	8.35	3.19	3.07	1.1	2.3	0.96	3.17	0.51	0.54	2.74	4.78	4.44	1.68	0.01	0.78
30	Journal of International Economics	7.84	24.8	16.2	9.66	16.47	2.54	16.61	1.14	4.59	6.92	20.97	12.61	13.75	0.01	1.26
31	Journal of Mathematical Economics	7.64	7.75	3.99	1.24	1.19	0.4	4.17	0.17	0.36	0	0	0	0	0.06	6.77
32	Journal of Economic Behavior and Organization	7.05	9.13	3.36	2.86	2.3	2.64	3.85	4.72	3.35	0.87	1.89	2.4	2.69		
33	Social Choice and Welfare	6.89	6.88	3.87	1.03	1.04	0.44	4.87	0.11	0.5	0.16	0.13	0.13	0.01	0.00	0.78
34	American Journal of Agricultural Economics	6.19	4.11	1.47	0.84	0.51	3.3	1.49	2.26	0.53	10.18	3.54	13.36	0.59	0.00	0.24
35	International Journal of Game Theory	6.09	6.31	4.1	1.21	1.37	0.38	4.25	0.17	0.91	0.24	0.88	0.61	0.56	0.00	0.95
36	Economic Inquiry	6.03	4.84	3.69	1.55	2.52	2.47	3.89	3.1	9.3	6.01	6.85	7.72	4.99	0.00	0.78
37	World Bank Economic Review	5.68	3.84	7.31	1.31	6.16	1.13	7.97	0.67	2.45	5.94	13.3	8.83	4.98	0.01	0.76
38	Journal of Risk and Uncertainty	5.58	3.89	4.36	1.08	2.51	7.82	6.76	9.38	40.84	1.52	3.11	2.01	0.55	0.03	3.09
39	Journal of Development Economics	5.5	10.64	6.56	3.99	6.26	2.13	6.72	1.17	3.39	14.05	12.53	22.98	8.2	0.00	0.11
40	Land Economics	5.14	2.92	3.33	0.51	1.05	1.7	3.32	0.83	1.89	6.79	8.59	5.88	1.46	0.00	
41	International Monetary Fund Staff Papers	5.12	3.71	7.27	1.43	7.4	0.46	7.34	0.21	2.6	2.53	12.14	4.8	12.48	0.00	0.12
42	Canadian Journal of Economics	5.09	8.35	3.93	2.92	2.95	1.01	3.9	0.43	1.21	6.05	4.8	5.6	4.14	0.01	0.62
43	Public Choice	4.95	3.19	1.56	0.98	1.34	0.49	1.92	0.29	4.18	1.26	3.43	4.15	5.58	0.00	0.89
44	Theory and Decision	4.9													0.00	0.32
45	Economica	4.56	3.59	3.44	0.95	1.99	0.8	3.49	1.08	3.39	1.1	3.04	1.62	1	0.01	0.45
46	Journal of Urban Economics	4.37	5.29	5.18	1.8	3.2	1.18	5.25	0.61	1.94	12.51	13.96	15.77	7.32	0.00	0.81
47	International Journal of Industrial Organization	4.26	6.61	3.68	2.37	2.84	0.64	3.86	0.35	3.09	1.88	4.53	4.62	4.14		
48	Journal of Law Economics and Organization	4.05													0.00	0.55
49	Journal of Law and Economics	3.9	5.55	9.26	3.48	10.43	2.15	11.57	1.44	100	7.9	16.97	9.63	12.52	0.00	1.08
50	National Tax Journal	3.87	5.18	4.56	1.65	3.26	3.48	4.88	1.26	9.59	6.26	9.77	6.54	5.73	0.00	0.01
51	Journal of Industrial Economics	3.85	6.67	9.84	3.01	9.1	0.76	10.74	0.55	11.41	2.4	14.65	6.23	19.73		
52	Journal of Economic History	3.78	5.26	4.7	2.02	4.27	0.67	5.22	0.4	2.01	0.88	3.56	1.74	2.22	0.00	0.51
53	Oxford Economic Papers	3.71	3.05	3.75	0.96	2.6	0.55	3.81	0.32	1.11	2.92	4.49	4.54	1.42	0.00	1.31
54	Journal of Comparative Economics	3.36	1.3	2.66	0.84	3.95	0.21	2.78	0.12	1.98	2.11	9.82	5.77	15.33		
55	World Development	3.22	2.46	0.94	0.7	0.56	7.27	1.49	5.58	0.45	37.53	7.31	15	2.06	0.00	0.40
56	Southern Economic Journal	3.09	3.55	4.98	1.15	3.76	1.98	4.9	2.09	5.42	3.84	12.37	6.21	13.41	0.03	2.33
57	Explorations in Economic History	2.97	1.51	3.03	0.45	1.83	0.21	3.08	0.08	0.59	0.26	2.68	0.46	0.71		
58	Economic Record	2.93	0.36	0.6	0.12	0.51	0.06	0.59	0.03	1.37	0.37	2.03	0.7	2.33	0.00	0.45
59	Journal of Banking and Finance	2.62	9.75	5.47	8.28	8.09	0.57	7.05	0.25	2.08	0.96	1.92	1.88	2.2	0.00	0.75
60	Contemporary Economic Policy	2.42	0.71	1.03	0.24	0.85	1.61	1.04	2.39	0.8	0.34	2.45	0.96	3.29		
61	Journal of Population Economics	2.41	1.62	1.99	0.37	1.06	1.18	2.17	1.26	1.49	3.14	4.76	4.69	1.35	0.00	
62	Journal of Financial and Quantitative Analysis	2.09	14.69	23.14	15.34	37.98	0.73	31.38	0.52	9.86	1.16	6.3	2.7	7.2	0.00	0.26
63	Journal of Institutional and Theoretical Economics	2.01	0.32	0.6	0.15	0.75	0.08	0.83	0.06	2.64	0.67	4.05	1.16	3.42	0.01	1.24
64	Applied Economics	2	2.73	0.65	0.73	0.44	3.33	0.69	2.62	0.24	2.01	1.31	3.7	1.32		
65	Scottish Journal of Political Economy	1.84	0.34	0.84	0.19	1.26	0.16	0.81	0.07	0.78	0.58	4.63	2.09	8.06		
66	Journal of Macroeconomics	1.75	0.48	0.41	0.16	0.31	0.09	0.41	0.03	0.05	0.01	0.06	0.01	0.01	0.01	0.90
67	Review of Income and Wealth	1.74	2.42	3.19	0.79	2.14	0.46	3.26	0.25	0.87	3.28	10.31	5.13	3.31		
68	Oxford Review of Economic Policy	1.64	1.59	2.18	0.8	2.27	0.54	2.42	0.19	0.84	5.14	8.92	3.67	4.27	0.00	
69	Journal of Health Economics	1.6	5.09	3.69	1.4	1.85	100	7.58	100	2.36	71.79	9.1	40.76	2.69		
70	Regional Science and Urban Economics	1.59	2.52	3.69	0.85	2.36	0.81	3.67	0.58	1.83	2.4	4.6	2.85	2.12		
71	Journal of Economics and Management Strategy	1.38	4.33	6.46	1.32	3.88	1.43	7.32	1.23	4.19	0.9	6.02	1.55	1.91		
72	World Economy	1.34	0.7	0.6	0.23	0.85	0.25	0.77	0.08	1.03	2.35	3.15	2.5	2.22	0.00	
73	Small Business Economics	1.33	0.27	0.29	0.06	0.16	0.16	0.53	0.14	0.26	2.14	0.56	2.09	0.09		
74	Economic History Review	1.27	0.58	0.89	0.17	0.46	0.14	1.15	0.06	0.23	0.02	0.29	0.05	0.08	0.00	0.30
75	Cambridge Journal of Economics	1.25	0.14	0.26	0.03	0.12	0.34	0.58	0.2	1.15	3.96	1.76	3.16	0.48	0.01	2.05
76	World Bank Research Observer	0.93	0.46	1.46	0.11	0.77	0.62	1.75	0.37	2.87	4.91	9.31	6.78	2.67		
77	Energy Journal	0.92	1.51	2.99	0.33	1.37	0.25	2.7	0.07	0.82	3.23	7.72	2.67	3.77	0.00	0.73
78	Weltwirtschaftliches Archiv/Review of World Economics	0.92	1.85	1.81	0.6	1.32	0.19	1.85	0.08	0.38	0.64	2.21	0.99	1.25	0.01	0.76
79	Kyklos	0.91	0.93	1.3	0.27	1.14	0.16	1.47	0.08	0.68	0.66	2.57	1.12	1.67	0.00	
80	Australian Economic History Review	0.89														
81	Ecological Economics	0.89	1.89	1.14	0.39	0.39	1.65	1.22	0.97	0.31	5.45	3.77	6.47	0.84	0.00	0.33
82	Geneva Papers on Risk and Insurance Theory	0.87													0.00	0.40
83	Review of Industrial Organization	0.87	3.59	3.06	1.37	2.69	0.42	3.1	0.23	2.11	2.07	7.01	5.2	7.52	0.00	0.03
84	Journal of Transport Economics and Policy	0.8	1.34	1.74	0.42	0.88	1.25	2.6	0.27	0.67	0.98	3.59	0.18	0.3	0.00	0.20
85	Economics and Philosophy	0.78													0.00	
86	Journal of Accounting and Economics	0.76	8.2	14.3	8.08	22.61	0.7	37.69	0.52	12.1	5.48	22.32	10.84	23.81		
87	Journal of the Japanese and International Economies	0.76	1.34	2.03	0.53	2.72	0.12	2.09	0.07	0.64	0.39	3.83	0.94	3.96	0.01	1.72
88	Resource and Energy Economics	0.76	0.88	2.48	0.16	0.73	0.18	2.28	0.04	0.41	0.78	4.21	0.43	0.5	0.00	0.34
89	Journal of Agricultural and Resource Economics	0.72	1.11	0.68	0.11	0.11	0.32	0.68	0.07	0.06	0.15	0.15	0.19	0.01	0.00	
90	Brookings Papers on Economic Activity	0.71	13.48	42.92	5.94	49.96	1.57	42.61	0.79	17.69	8.27	92.23	17.3	90.12	0.00	0.32
91	Economic Development and Cultural Change	0.66	0.93	1.31	0.24	0.77	0.8	1.39	0.55	0.27	5.56	4.27	8.11	0.99		
92	Communist Economies and Economic Transformation	0.65													0.01	0.70
93	Journal of Housing Economics	0.62	0.6	2.01	0.38	1.51	0.18	2.39	0.12	0.63	2.14	4.43	3.35	2.71		
94	Journal of Regulatory Economics	0.62	1.34	2.91	0.63	3.68	0.18	2.68	0.13	3.32	1.37	11.84	5.15	21.09	0.01	2.34
95	Manchester School	0.6	0.88	0.83	0.42	0.8	0.08	0.85	0.04	0.18	0.47	1.04	1.02	0.55	0.00	0.68
96	Economic Modelling	0.54	0.2	0.19	0.04	0.09	0.04	0.21	0.01	0.06	0.04	0.32	0.02	0.08		
97	Developing Economies	0.5	0.32	0.34	0.04	0.08	0.08	0.37	0.03	0.03	1.31	1.09	1.73	0.12	0.01	1.40
98	Journal of Policy Modeling	0.5	0.53	0.26	0.09	0.1	0.06	0.27	0.01	0.06	0.12	0.25	0.03	0.07		
99	Journal of Productivity Analysis	0.49	0.85	1.3	0.25	0.71	2.03	1.37	1.79	0.3	5.97	1.47	4.86	0.12	0.03	3.09
100	Canadian Journal of Agricultural Economics	0.48													0.01	1.06
101	Australian Journal of Agricultural Economics	0.44													0.01	0.56
102	Journal of Risk and Insurance	0.43													0.00	0.28
103	Japan and the World Economy	0.41	0.86	0.85	0.3	0.77	0.09	0.85	0.04	0.3	0.3	1.84	0.74	2.19	0.01	4.05
104	Review of Black Political Economy	0.4													0.00	0.98

Table A3
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Table A3: Breakdown of Publications by Country (1985-2005)

Country Name	Total number of publications (1985-2005)	Total number of publications in first-tier journals (1985-2005)
North America		
Canada	4151	86
United States	36649	2383
East Asia Pacific		
American Samoa	0	0
Australia	1806	8
Brunei	1	0
Cambodia	9	0
China	1807	65
Cook Islands	0	0
Fiji	15	0
French Polynesia	0	0
Guam	1	0
Hong Kong, China	190	1
Indonesia	682	10
Japan	2209	57
Kiribati	1	0
Korea, Dem. Rep.	0	0
Korea, Rep.	0	0
Lao PDR	7	0
Macao, China	0	0
Malaysia	169	0
Marshall Islands	0	0
Micronesia, Fed. Sts.	0	0
Mongolia	12	0
Myanmar	2	0
Nauru	0	0
New Caledonia	0	0
New Zealand	271	1
Niue	0	0
Northern Mariana Islan	0	0
Palau	0	0
Papua New Guinea	33	0
Philippines	262	2
Samoa	1	0
Singapore	124	0
Solomon Islands	2	0
Taiwan Province of Chir	411	3
Thailand	167	4
Timor-Leste	2	0

Table A2

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Table A2: Variable descriptions and their sources

Variable	Description	Source
GDP	GDP at Market Prices (current US$)	World Bank Data Development Platform
Per capita GDP	Real GDP per capita	World Bank Data Development Platform
Population	Population, Total	World Bank Data Development Platform
LSMS dummy	1 if Living Standards Measurement Study (LSMS) survey was done in a particular year, 0 otherwise	World Bank
DHS dummy	1 if Demographic and Health (DHS) survey was done in a particular year, 0 otherwise	Macro International Inc.
Autocracy Democracy Index	Level of democracy/autocracy is indexed on a scale from -10 (strongly autocratic) to +10 (strongly democratic).	World Resources Institute
Press freedom index	Level of press freedom is on a scale from 0 (good situation) to 100 (very serious situation)	Reporters without Borders
Civil liberties index	Level of civil liberties indexed on a scale from 1 to 7	Freedom House
Political rights index	Level of political rights indexed on a scale from 1 to 7	Freedom House
Enrollment in tertiary educatio	Number of students enrolled in tertiary education	World Bank Data Development Platform
English as an official language	1 if English is an official language, 0 otherwise	CIA World Factbook
Muslim dummy	1 if Muslim country, 0 otherwise	CIA World Factbook
EAP dummy	1 if country is in East Asia and Pacific region, 0 otherwise	World Bank country classification
ECA dummy	1 if country is in Europe and Central Asia, 0 otherwise	World Bank country classification
LAC dummy	1 if country is in Latin America and Carribean region, 0 otherwise	World Bank country classification
MENA dummy	1 if country is in Middle East and North Africa region, 0 otherwise	World Bank country classification
SA dummy	1 if country is in South Asia region, 0 otherwise	World Bank country classification
SSA dummy	1 if country is in Sub-Saharan Africa region, 0 otherwise	World Bank country classification
OECD dummy	1 if country is an OECD country or is High-Income as classified by World Bank, 0 otherwise	World Bank country classification

Figure 1: A Broad Classification of Publications (1985-2005)

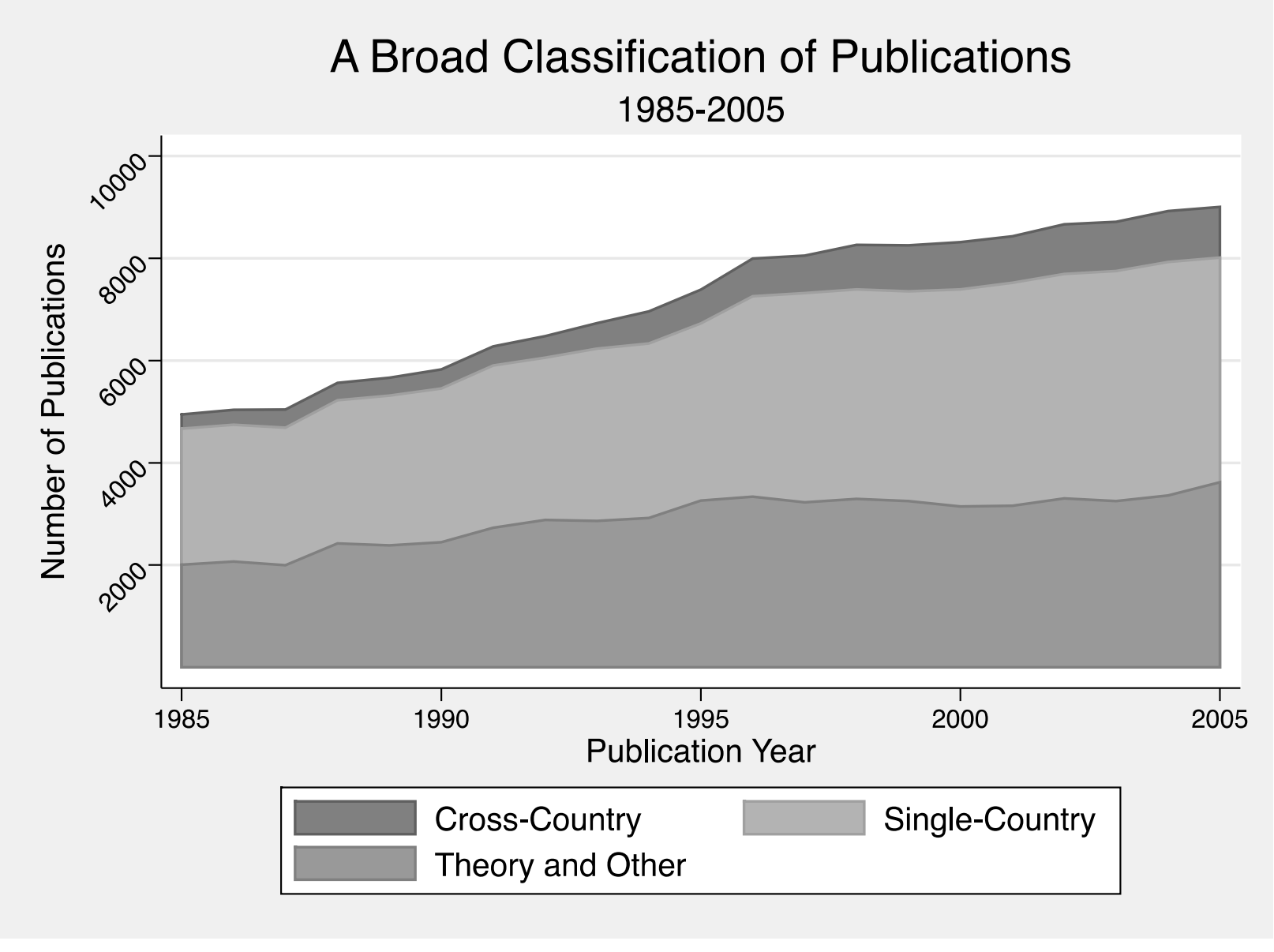

Figure 2: The Research-Wealth Relationship

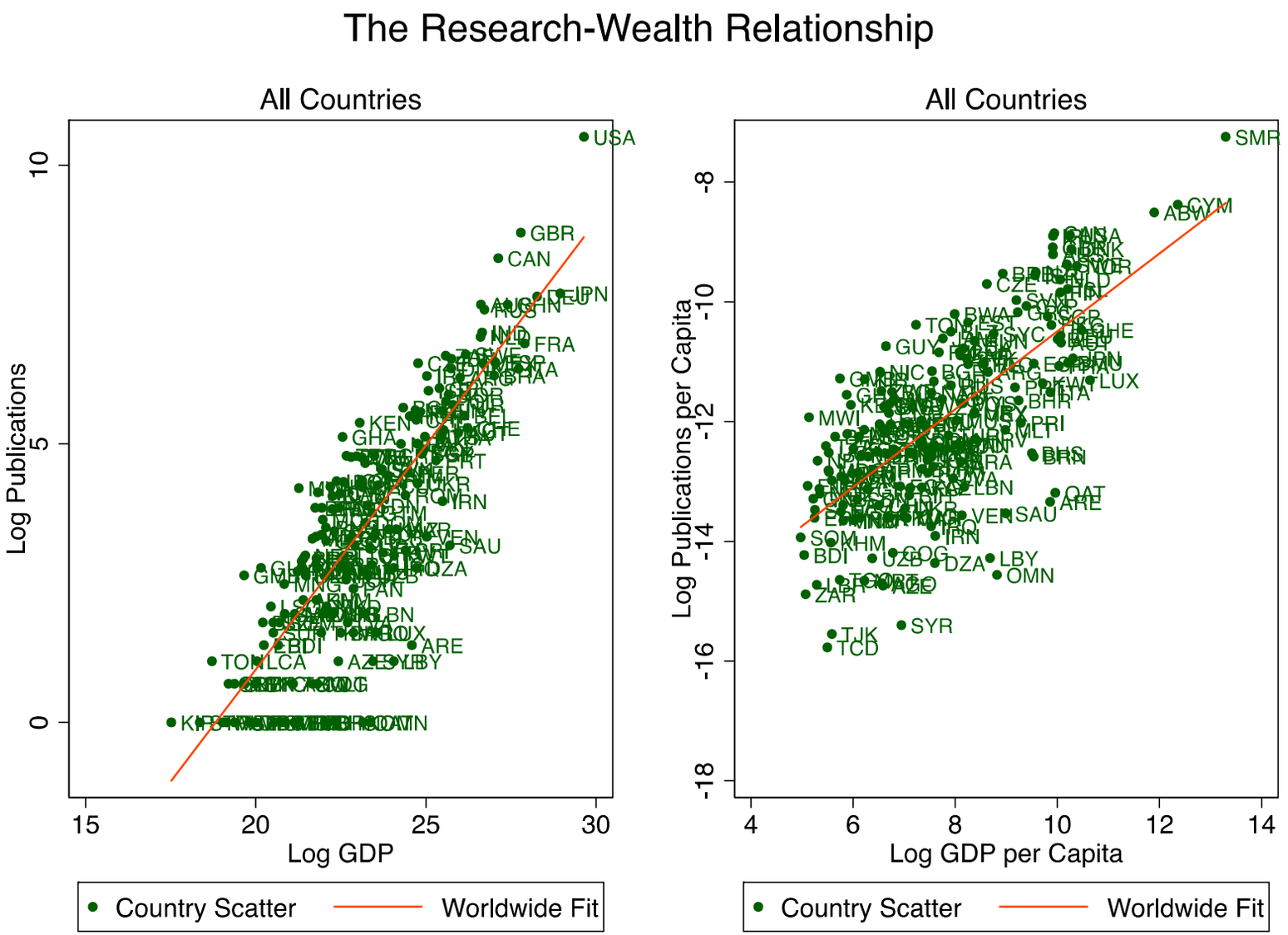

Figure 3

Figure 3: The Research-Wealth Relationship across the World

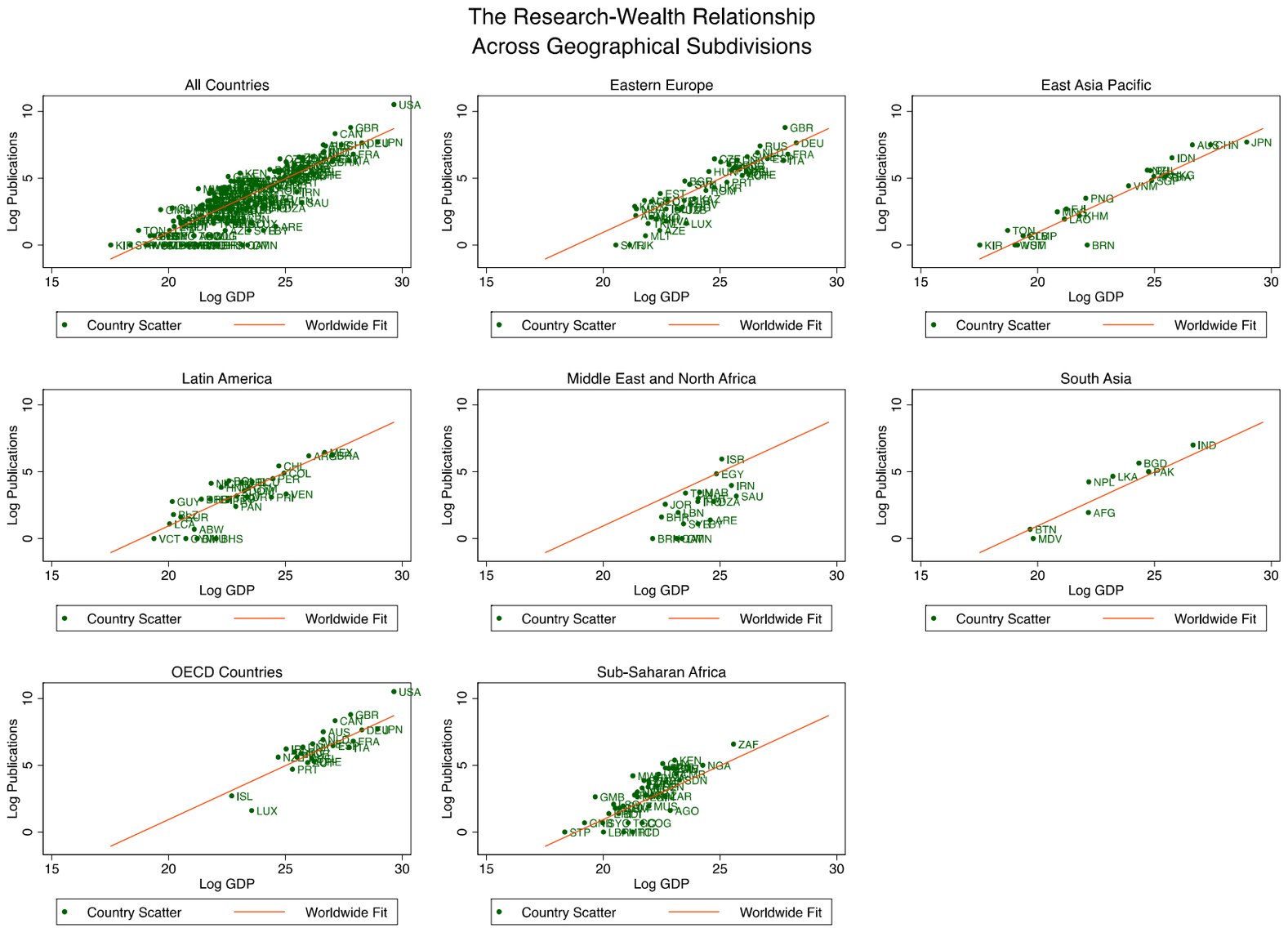

Figure 4: Research-Wealth Elasticity over Time

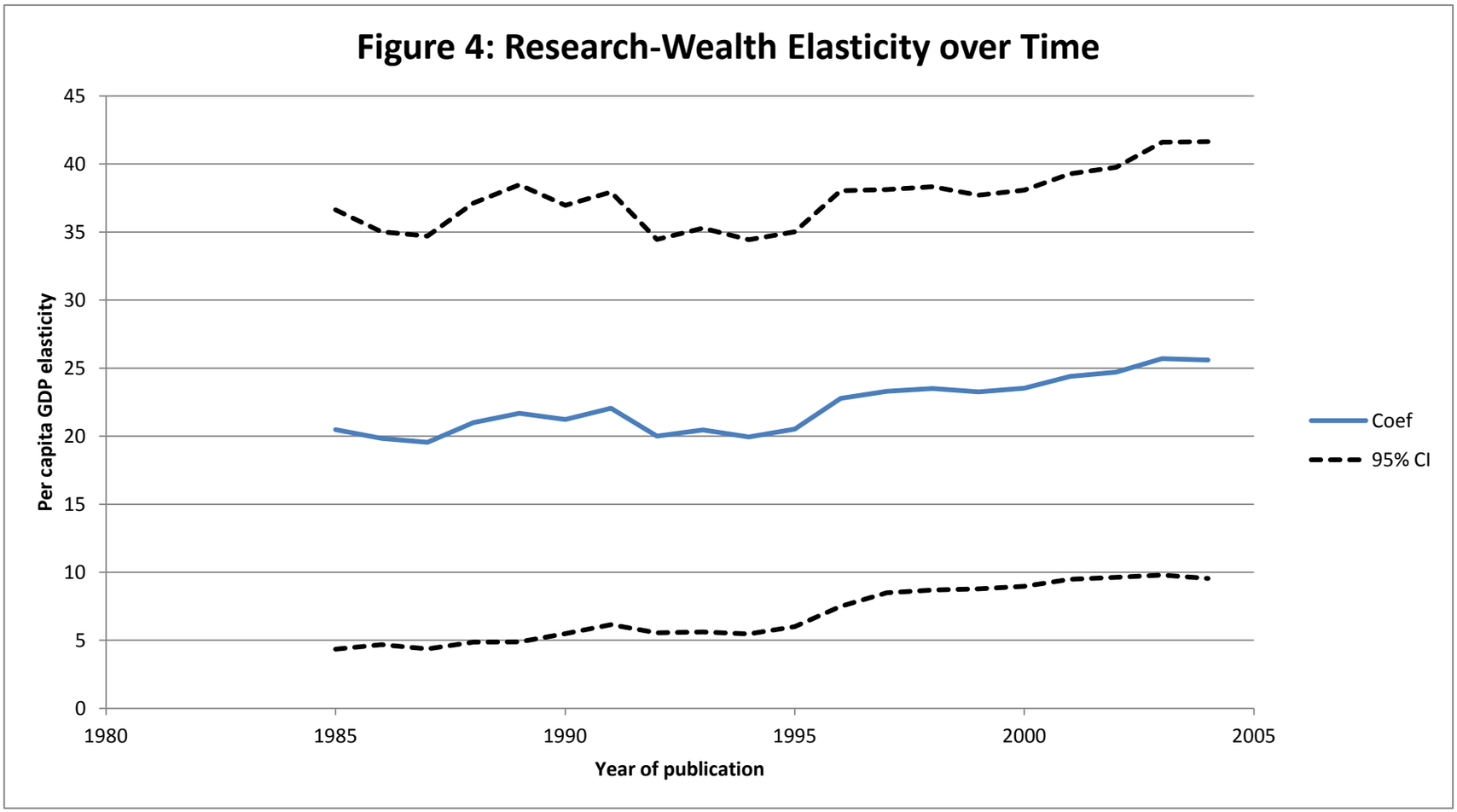

Figure 5

Figure 5: Publications in First-Tier General Interest Journals

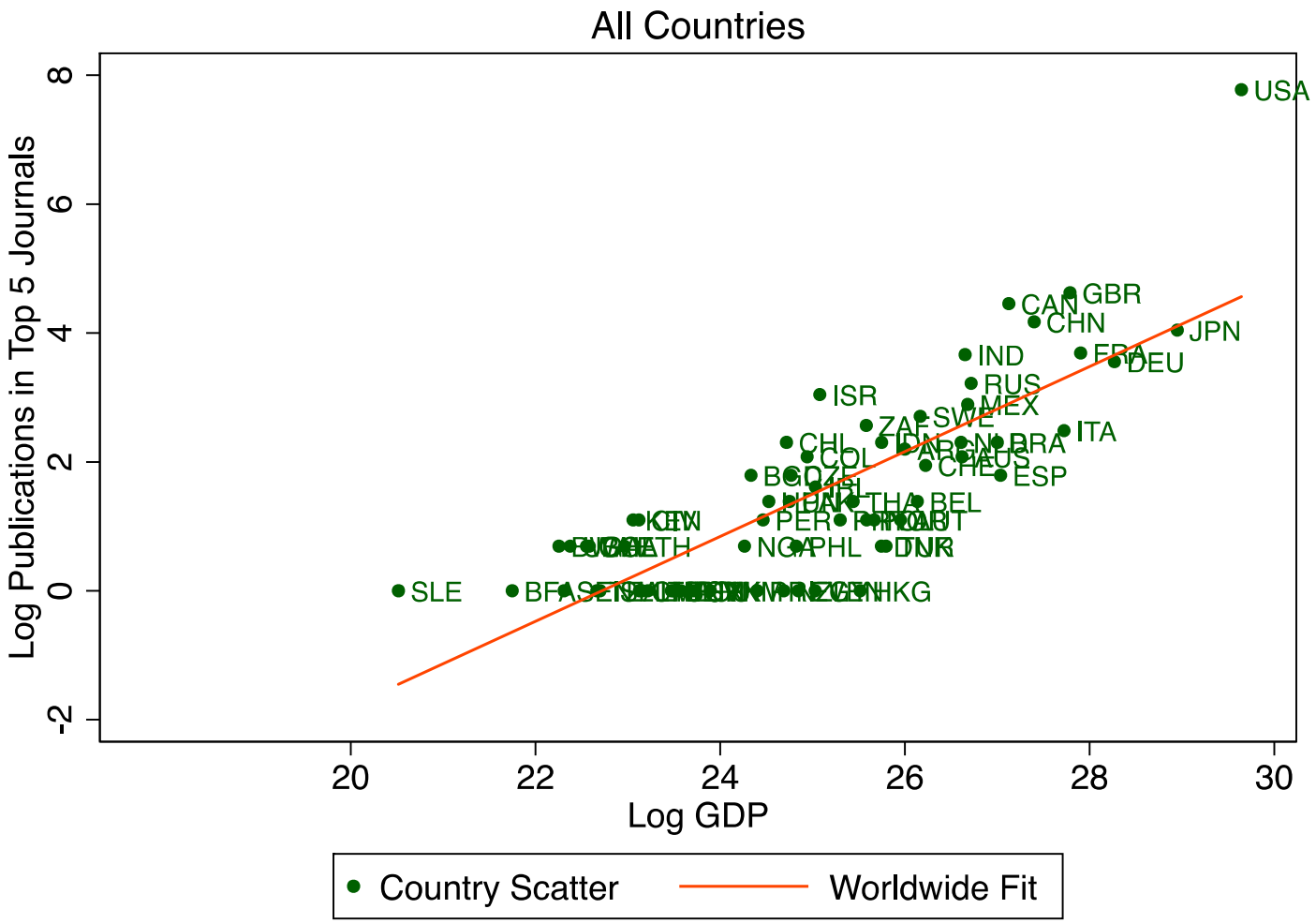

Figure 6

Figure 6: U.S. and U.K. Premiums in First- and Second-Tier Journals