A Note on the Global Distribution of Authorship in Economics Journals[1]

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Introduction

There has been much discussion recently on the lack of diversity within Economics and on strategies for addressing it. Much of this discussion has focused on gender and racial under-representation and has centered on the U.S. and Western Europe. Another dimension of diversity which has received comparatively little attention to date is geographical and global. It concerns the under-representation in research publications of authors based outside the U.S. and other advanced nations. In this short note, we present some evidence on the strikingly persistent patterns of geographical concentration in the world of Economics publishing.

Economics is a contextual science: it tries to make sense of a social reality that is dependent on local and changing circumstances. It is enriched when its practitioners can see (and analyze) the world in all its variety, when the diversity of proximate or deeper determinants of economic phenomena is fully considered, and when received wisdom is confronted with "anomalous" behavior or outcomes in unfamiliar environments. Hence the problem is not merely one of inequity, but also one of research quality. Excessive concentration of journal authors in a handful of countries and very low representation of researchers from the rest of the world impoverishes the discipline.

It should suffice to cite two notable examples of how local knowledge can spur advances in Economics. Joseph Stiglitz (2001) has described the time he spent early in his career in Kenya as "pivotal in the development of my ideas on the economics of information." There, Stiglitz was struck by various oddities in how the local economy operated:

> "seeing an economy that is, in many ways, quite different from the one grows up in, helps crystallize issues: in one's own environment, one takes too much for granted, without asking why things are the way they are."

Similarly, Albert O. Hirschman's highly influential book *Exit, Voice, and Loyalty* (Hirschman, 1970) was the result of his experience in Nigeria where he observed behavior he found puzzling. The rail company, which was a public monopoly, had begun to face competition from private truckers. But instead of responding to competition by providing better service and cutting costs, the company deteriorated even further. Hirschman reasoned, in what became a broadly applied idea, that the loss of customers to the private sector ("exit") had denied the state firm the valuable feedback ("voice") required for superior performance.

We focus here on the location of authors and not their nationality or national origin. One could argue that the Economics profession has become more global in recent decades as top academic institutions in the U.S. and Western Europe have become more internationalized, with their faculty being drawn from all around the world. The number of foreign-born researchers in the top economics departments and

[1] This study was undertaken for the International Economic Association, which provided research support. We thank Fabio Montobbio for making the data in Fontana et al. (2019) available to us.

research networks has grown. Researchers in advanced economies also have been paying more attention to developing countries, reflecting the fact that development economics has become a much more prominent field within the discipline.

But none of these positive developments can fully substitute for local knowledge and insight. The sociology and organizational realities of the profession result in foreign-born economists in the West quickly being absorbed into intellectual environments dominated by rich-country issues and conditions. Similarly, the visiting economist's exposure to diverse local realities remains limited to happenstance and coincidence, as in the examples about Stiglitz and Hirschman. It is not wild fancy to think that many important ideas remain undiscovered because researchers from the academic periphery lack a receptive audience.

We base our analysis on Fontana et al.'s (2019) database, constructed using information from the ISI-Web of Science and JSTOR Digital Library. The database includes 322,279 articles, 215,203 unique authors, and more than ten thousand journals over the period 1985-2016.[2] Fontana et al.'s focus is on the geographical diffusion of frontier knowledge. They provide summary statistics of the geographical distribution of authorship for only top-7 journals. And since they explore trends in forward citation counts, their analysis focuses on articles published until 2012 only. They also do not present disaggregated country or regional information beyond the US, Europe, and the rest of the world. We are able to use their rich data set to generate additional results of interest, with a finer geographical and journal classification and longer (more recent) time coverage.

We ask three questions regarding authorship of journal publications. First, how do levels and trends in the global distribution of authorship compare to the levels and trends in the economic size of different regions or groups of countries? Second, how does the global distribution of authorship vary by quality of journal? Third, are there noticeable differences in the trends when journals are categorized by fields of specialization?

Our results point to striking imbalances in the geographic distribution of authorship. Perhaps not surprisingly, developing country authors are greatly under-represented. But what is perhaps more surprising is that their under-representation in economic journals is out of proportion to the weight of their country or region in the global economy. The share of developing country authors in top-10 journals is significantly lower than the share of their respective regions in global GDP – a discrepancy that is most marked for East Asia and South Asia. While authors based in China have steadily increased their participation in top journals, their representation stills falls far short of China's share in the world economy, by an order of magnitude (1.5% versus 16%).[3] Meanwhile Western and Northern European authors have made substantial gains, despite the declining relative economic power of Europe. Hence there is only a poor correlation between changes in economic resources and access to top journals. Financial constraints may not be necessarily the main factor that prevents geographical diversity. While

[2] The total number of journals cannot be stated precisely because while there are 14,727 unique journal names among observations, this includes duplicates of some journals where the names are spelled slightly differently. We manually removed these multiple spellings for the top 300 journals but some remain for lower ranked journals.

[3] Calculated for the share of top 10 journal publications by authors with Chinese affiliations (based on fractional counting for multi-author publications) over the 2012-2016 period and China's share of world GDP (by PPP) in 2016.

the experience of Northern and Western Europe provides some encouragement, it seems also to be the case that once networks and hierarchies are established, it becomes difficult to break into them.

Next we look beyond top-10 journals and at geographical representation across different categories of rankings of journals. One result that stands out here is that non-U.S. representation is lowest and has increased (if at all) least rapidly at the highest-ranked journals. Developing country representation has risen fastest at journals rated 100th or lower, while it has barely increased in journals rated 25th or higher. These results are consistent with a general increase in the relative supply of research in the rest of the world. But they also indicate authors from developing countries, especially, remain excluded from the profession's top-rated journals.

Finally, we look at journals classified by field. Energy/environment, business/IO, and finance seem to be the only fields where there has been some modest gains in representation by authors from developing countries, albeit from very low levels. Interestingly, two fields where we might have expected to see significant global diversification – development and international – have not experienced much increase in developing country authorship.

Previous research

Trends in the geographic affiliations of those publishing in economics journals have received little comprehensive study across journals and fields. Much of the previous research has focused on select top journals. Fontana et al. (2019), whose data we use here, report that from 1985 to 2012 the share of US publications in seven top economic journals fell from 75% to 64%, with a corresponding increase in publications by authors in Europe. Hamermesh (2013) takes a narrower but longer-term perspective, reporting that the share of articles in three top journals by authors from the US and Canada declined from 92% over the 1963-1993 period to 83% in 2003 and 2011.

Other work has focused on the "top five journals." Ek and Henrekson (2019) find that the share of authors in these journals based in the US or Canada declined from 82% in 1994 to 65% in 2017 while the share of European authors doubled to 30% over this period. The share of authors based in Asia increased as well, but only to 5% of top five journal articles in 2017. They argue that these trends are driven by increased co-authorship by authors outside the US with American researchers. In addition to this focus on top journals, Orazbayev (2017) documents some statistics on authorship of articles and working papers as recorded in the Research Papers in Economics (RePEc) database. He finds that the vast majority of co-authored works are between researchers in the same country and that of the international collaborations, most are between authors in developed countries.

There is also some research on the geographical distribution of economics research authorship that focuses on specific fields. Amarante et al. (2021) find that in development economics and policy, researchers from the global south are vastly underrepresented among presenters at prestigious international conferences and authors of articles in the top 20 development journals and also receive fewer citations per article published. Earlier research by Cummings and Hoebink (2016) on development journals finds that only 14% of articles are authored by researchers from developing countries, while Chelwa (2020) reports that researchers in Africa are specifically underrepresented in publishing in development journals focused on Africa. Complementing this work on development economics, Cloos et al. (2020) document an increased share of Europeans publishing in experimental economics with a decline in publishing from authors based in North America.

The database and methods

Our sample consists of 606,727 author-article observations. Each author in a multiple-authored article is treated independently, in the same way as an author of a single-authored article. So each of the 606,727 observations in the sample dataset is a different author-article combination. Note that when calculating shares by region or field, we use total counts that are based on fractional counting (e.g., an observation for a sole authored article has a value of 1, an observation for an article with two authors has a value of 0.5, an observation for an article with three authors has a value of 0.33, etc.). We follow Fontana et al. in allocating authors to countries based on the location of their institutional affiliations. Journals are classified into quality group using the rankings provided by SCImago.[4] For further details on how the database was assembled, we refer the reader to Fontana et al. (2019).

We had to exclude 22% of the author-article observations for the years 1985-2016 in the raw Fontana et al. (2019) dataset because there was no information available on the author's country of affiliation. A manual review of other identifying information (e.g., university name) for a random sample of these excluded observations suggests there is little regional bias in excluding these observations. The share of missing observations also does not substantially vary over time.[5] Finally, there are 22,000 observations where affiliations were obtained only from the institutional address of the corresponding author. However, some of these articles are co-authored, meaning that there are some author-articles "missing" even though the publication is elsewhere in the dataset and the author may also be included in another author-publication observation.

Results: benchmarking by GDP

We average authorship over five-year intervals to smooth out annual fluctuations in publication. Figure 1 shows the regional distribution of authorship in publications in top-10 journals during the latest sub-period for which we have data (2012-2016).[6] The distribution is highly skewed towards the rich regions of the world; the US and other rich nations together account for a whopping 95% of authorship. It may not be surprising that research institutions in the rich nations produce the bulk of frontier research. But the degree of concentration is difficult to explain with reference to economic resources alone. The figure also shows the global distribution of economic output (GDP), which is far less skewed. In particular, the US produces 69% of research output in top-10 journals whereas its share of global output is only 16%. Non-US advanced economies produce roughly equivalent shares of global GDP and top research.

[4] The rankings are based on 2016 version of the SJR2 indicator computed from citation networks weighted by impact factor, available from SCImago Journal & Country Rankings: https://www.scimagojr.com/. This is the same rankings used in Fontana et al. (2019). Note that while these rankings are generally reasonable, they do leave out several multidisciplinary and economics-adjacent field journals. Notable exclusions are: *Science, Demography, PLOS One, Journal of Health Economics, Research Policy, PNAS, Management Science, American Political Science Review,* and *Journal of Policy Management (i*n some cases these are instead included in the category "journals ranked 100th or lower").

[5] Certain journals have very few observations in the sample, such as *Structural Equation Modeling, Foundations and Trends in Entrepreneurship,* and *Extremes.*

[6] The top 10 journals are (in order): *Quarterly Journal of Economics, Journal of Finance, Review of Economic Studies, Econometrica, Journal of Political Economy, Journal of Financial Economics, Review of Financial Studies, American Economic Journal: Macroeconomics, American Economic Review, and American Economic Journal: Applied Economics.*

Meanwhile developing countries' research output is way below their economic weight in the global economy. The imbalance is striking across all developing country regions, but is perhaps greatest for East Asia and South Asia

The evolution of regional shares in GDP and frontier economics research over time since the second half of the 1980s is depicted in Figure 2. The US has always been a distinctive over-achiever in research. But what also stands out in the figure is the significant gains made by other advanced economies since the late 1990s. Before that time, non-US advanced economies were distinctly under-represented in top research, and looked not too dissimilar to developing regions. But since then, the gap between GDP and research shares has closed and (in the most recent period) been essentially erased. Some of this was due to declining global GDP shares, but a significant uptick in research is also visible in the chart.

In developing regions, meanwhile, the gap between GDP and research shares has generally increased over time. Where it has been somewhat reduced (as in Latin America and Eastern Europe), it is the result of declines in GDP shares rather than an increase in research shares. In other words, the problem of under-representation of developing countries in top research publications has been getting worse over time, rather than better.

Looking beyond top-10 journals

The previous results pertain to publications in top-10 journals. We now look at lower-ranked journals to ascertain whether trends in geographical concentration differ across categories of journal quality. We have separated journals in the database into five categories: top 10, top 11-25, top 26-50, top 51-100, and journals ranked below 100. Figure 3 shows the non-US shares over time in these five categories of journals. There are interesting differences across categories both in levels and time trends. When we look at the latest period (2012-2016) we see that non-US representation is significantly higher in journals ranked 50 or below (the two lowest categories), and stands at around 70%. The corresponding share for the two top categories is 31% and 39%, while the middle-category of journals stands at 56%. In other words, the lower the quality ranking of a journal, the higher non-US representation.

As Figure 3 indicates, non-US representation has generally increased in all journal categories (mainly due to gains made by other rich nations, as we have seen). However, the asymmetry just noted has generally widened over time, with an increase in the segmentation of US and non-US authors into top-ranked and low-ranked journals, respectively.

Figure 4 disaggregates the non-US group into advanced versus developing countries. Non-US advanced economies have generally made progress across all journal categories. The gains in top-10 journals are due largely to Europe, with Japan experiencing a decline (Figure 5). But for developing nations it is difficult to see any gains over time in publication shares unless we start looking at lower-ranked journal categories. Indeed the most visible rise (from 6% to 22%) has taken place in the lowest-category journals, ranked below 100 (Table 1).

The picture we have therefore is dramatically different for non-US advanced economies (especially Europe) versus developing countries. The former group has been able to make significant progress in penetrating journals across the board. Whatever progress developing nations have made is limited to the less prestigious, lowest-ranked journals.

Performance has not been uniform across all developing countries, however. Figure 6 shows the East Asia and the MENA (Middle East & North Africa) regions have experienced sharply divergent fortunes, the former experiencing a steady rise in top-10 journal representation (albeit from a very low level) and the latter seeing a sharp drop. The rise in East Asia is due largely to China's increased prominence, and to a lesser extent, a larger footprint for Singapore (Figure 7). So the developing country aggregate hides a reversal of fortune for these two regions. For East Asia, the rise reflects, in a moderated fashion, the economic rise of the region. The decline of MENA's research prominence is harder to explain.

Journals by field

We now look at the top-100 journals in aggregate, classified by field of specialization. Figure 8 displays the trends across different fields for authors based in the US, non-US advanced countries, and developing countries. The general picture is one of declining shares for US authors and increasing shares for non-US advanced country authors, with the latter overtaking the former in many fields (development, econometrics, environment/energy, international, regional and theory). In these specific fields, non-US advanced country researchers now produce near or slightly above 50% of all journal articles (As we noted previously, however, the gains to non-US advanced countries are concentrated in journals that are ranked relatively low.)

As for developing countries, there are no fields where they seem to have made significant gains. Notably, the developing country authorship shares remain quite low even in field such as development and international where the discipline might have been expected to globalize and diversify. Some improvements are visible in business/IO, environment/energy, and finance (Table 2).

Finally, Figure 9 disaggregates developing countries into different regions. Once again, we see important differences among regions. In general, the gains are overwhelmingly concentrated in East Asia, especially in business/IO, econometrics, environment/energy, and international. The shares of most other regions are generally static, with notable declines for South Asia (in development) and Middle East and Africa (in international, public, regional, and theory).

Concluding remarks

The geographic concentration of publications in economic journals is very high – indeed, much more extreme than global income disparities. Many rich nations have made considerable progress relative to the US. But authors based in developing countries have made little gains, despite significant rates of economic growth in low-income regions and economic convergence in recent decades. Where there are gains, they are limited to the lowest-ranked journals. Multiple explanations are possible for this: issues with research quality, barriers to access such as asymmetric information, or exclusionary practices such as closed networks. Further scrutiny of these questions might reveal useful answers.

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Table 1 Shares of publications by region and journal rank in two sub-periods

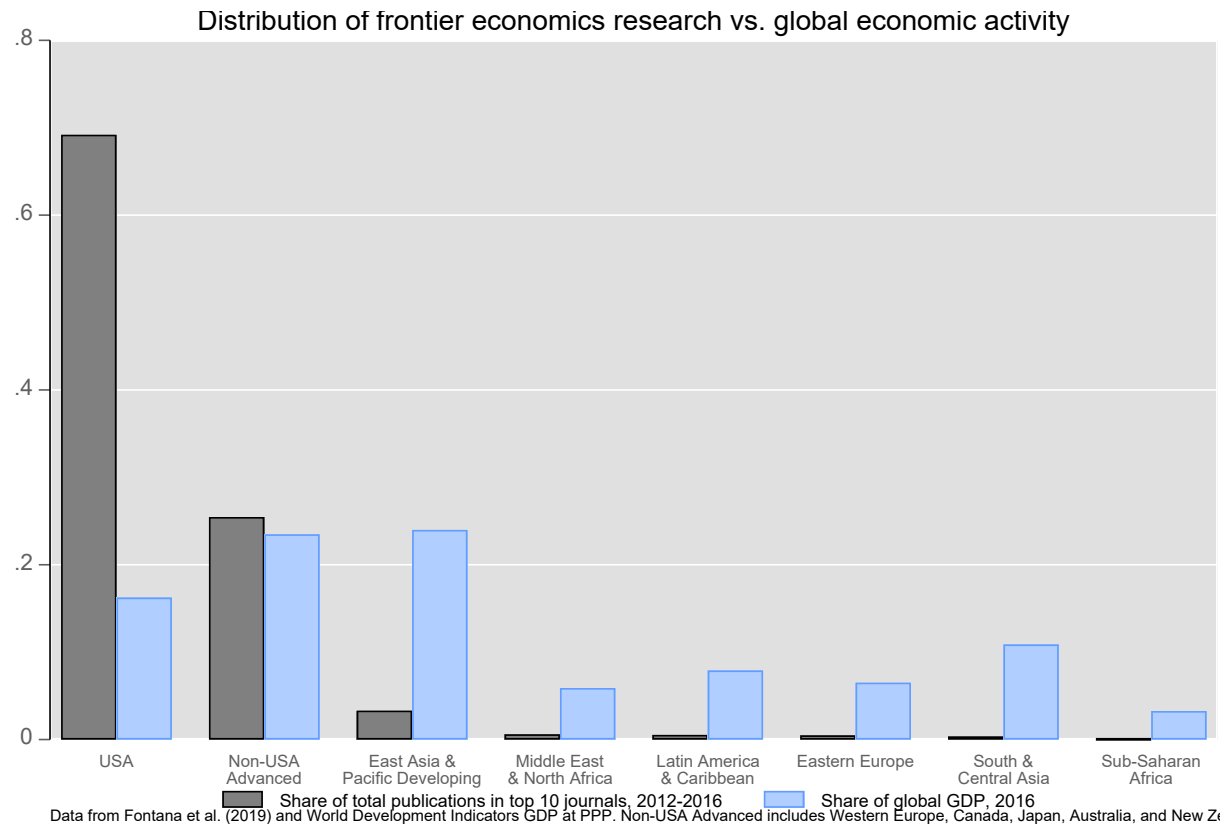
Share of total weighted publications by aggregate region of author affiliation by journal rank						
Journal categories by rank	**1986-2000**			**2001-2016**		
	USA	**Non-USA Advanced**	**Developing**	**USA**	**Non-USA Advanced**	**Developing**
Top 10	79.5%	17.0%	3.5%	73.9%	21.8%	4.4%
Top 11-25	80.7%	16.4%	2.8%	66.1%	28.9%	5.0%
Top 26-50	59.6%	34.0%	6.4%	49.6%	41.7%	8.8%
Top 51-100	53.8%	40.5%	5.7%	35.8%	52.8%	11.4%
>100	55.8%	38.4%	5.7%	33.4%	44.7%	21.9%

Table 2 Change over time in shares of different groups of countries, by field of journal

Share of total weighted publications by aggregate region of author affiliation by journal field

Journal categories by rank	1986-2000			2001-2016			Change b/w periods		
	USA	Non-USA Advanced	Rest of World	USA	Non-USA Advanced	Rest of World	USA	Non-USA Advanced	Rest of World
General-Interest	67.9%	28.5%	3.6%	56.9%	38.6%	4.5%	-11.0%	10.1%	1.0%
Business/IO	71.0%	24.6%	4.4%	54.1%	35.5%	10.5%	-16.9%	10.8%	6.1%
Development	59.6%	24.9%	15.5%	41.3%	42.3%	16.5%	-18.3%	17.4%	0.9%
Econometrics	49.1%	44.4%	6.5%	41.9%	48.7%	9.5%	-7.2%	4.2%	3.0%
Environment/Energy	63.3%	32.5%	4.1%	34.8%	51.1%	14.1%	-28.6%	18.6%	10.0%
Finance	80.1%	16.4%	3.5%	53.8%	36.2%	10.0%	-26.3%	19.8%	6.5%
International	61.6%	33.2%	5.2%	42.3%	47.5%	10.2%	-19.2%	14.3%	5.0%
Macro	80.6%	15.4%	4.1%	56.6%	37.5%	6.0%	-24.0%	22.1%	1.9%
Micro/Applied Micro	79.0%	18.6%	2.5%	64.1%	30.4%	5.5%	-14.8%	11.9%	3.0%
Public Economics	52.5%	42.9%	4.6%	48.8%	46.5%	4.7%	-3.7%	3.6%	0.1%
Regional	73.7%	22.7%	3.6%	45.4%	49.1%	5.5%	-28.4%	26.5%	1.9%
Theory	53.2%	37.2%	9.6%	39.2%	48.7%	12.1%	-14.0%	11.5%	2.5%
Other	83.0%	13.7%	3.3%	45.5%	46.7%	7.7%	-37.4%	33.0%	4.4%

Figure 1


Distribution of frontier economics research vs. global economic activity
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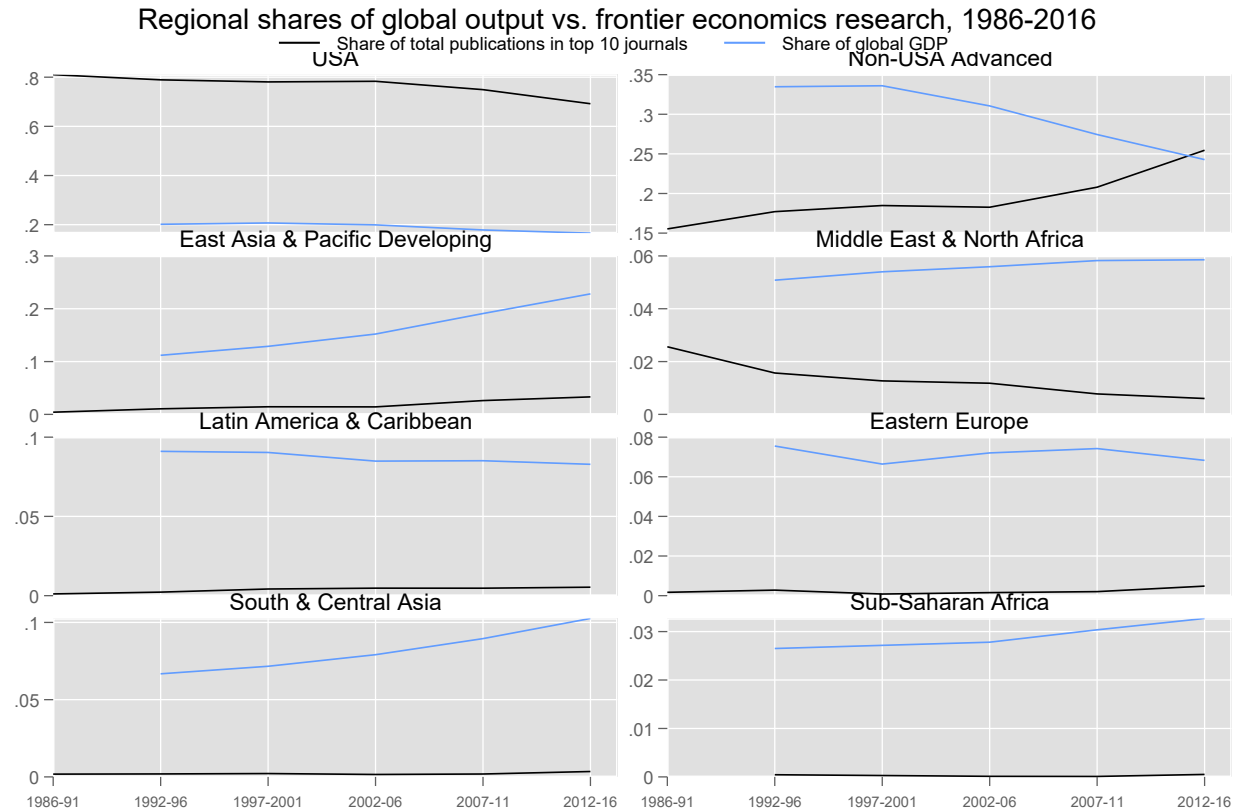
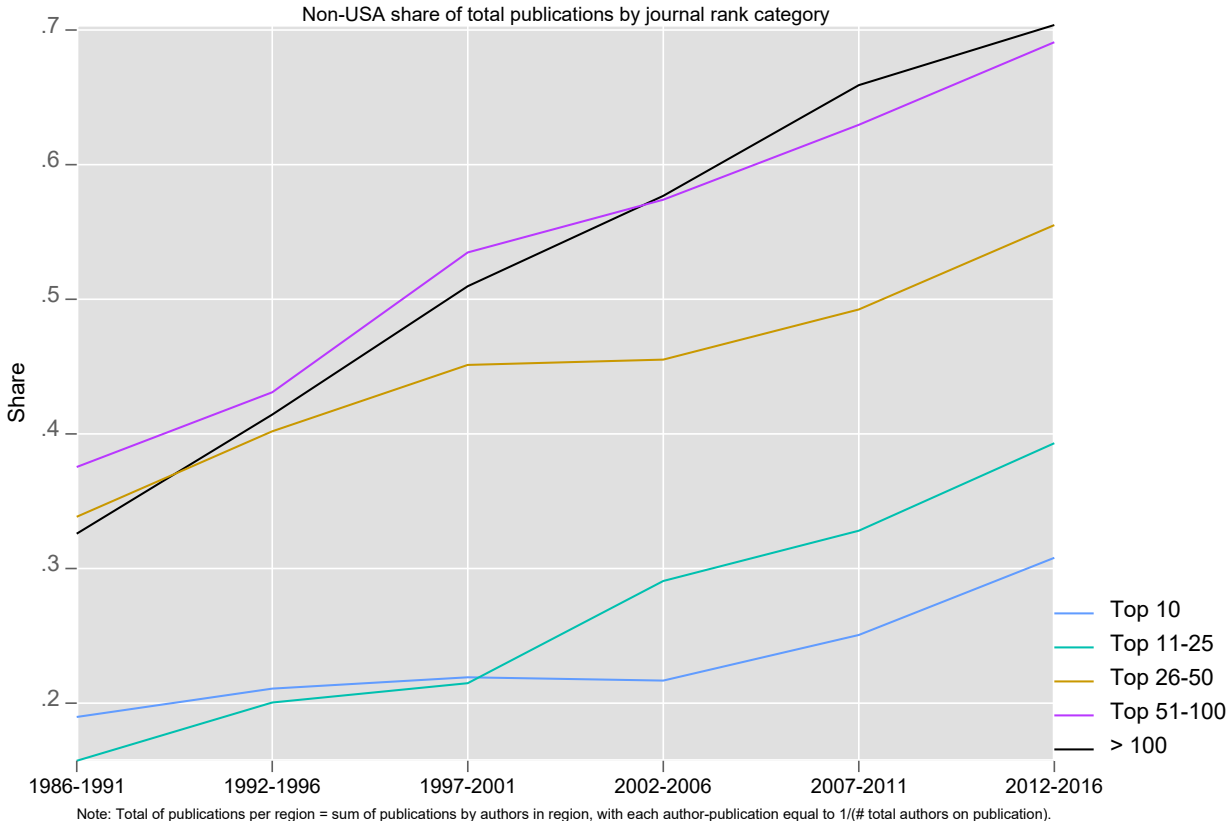
USA
Non-USA Advanced
East Asia & Pacific Developing
Middle East & North Africa
Latin America & Caribbean
Eastern Europe
South & Central Asia
Sub-Saharan Africa
Share of total publications in top 10 journals, 2012-2016
Share of global GDP, 2016
Data from Fontana et al. (2019) and World Development Indicators GDP at PPP. Non-USA Advanced includes Western Europe, Canada, Japan, Australia, and New Z

Figure 2



Data from Fontana et al. (2019) and World Development Indicators GDP at PPP. Non-USA Advanced includes Western Europe, Canada, Japan, Australia, and New Zealand.

Figure 3


Non-USA share of total publications by journal rank category
Share
.7
.6
.5
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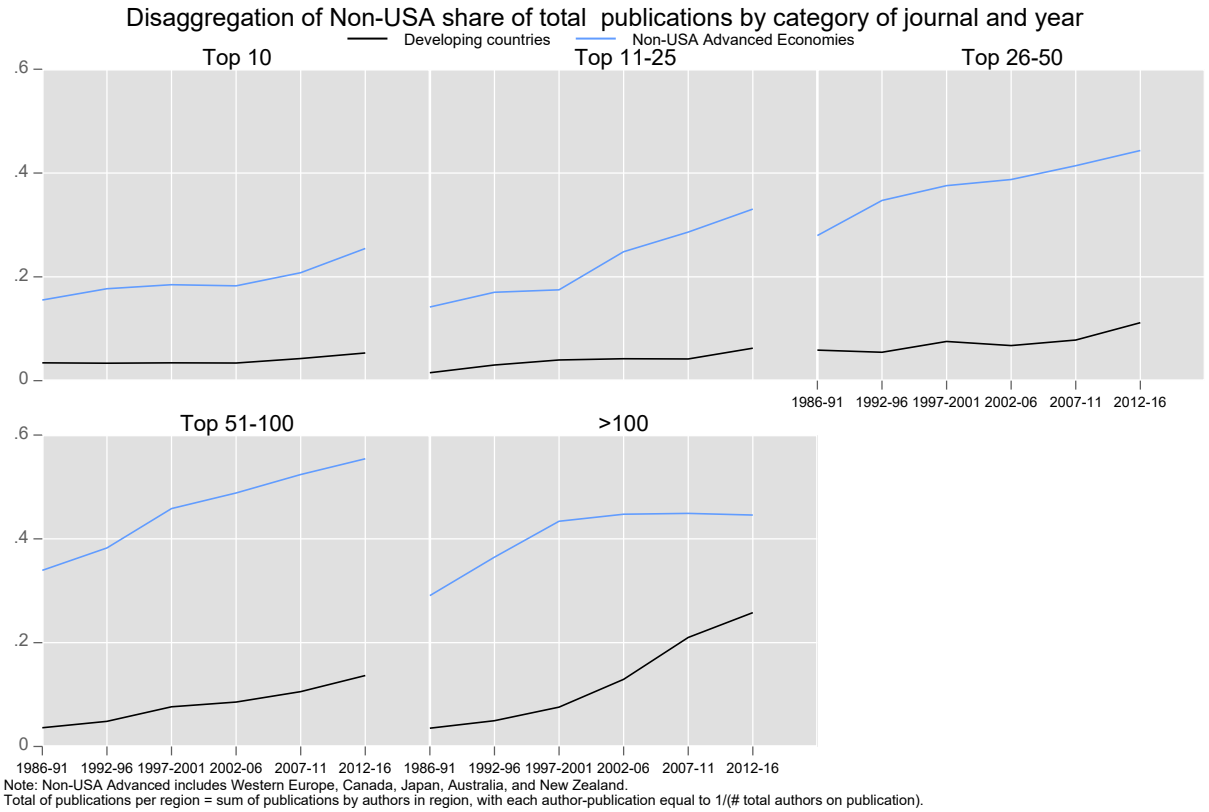
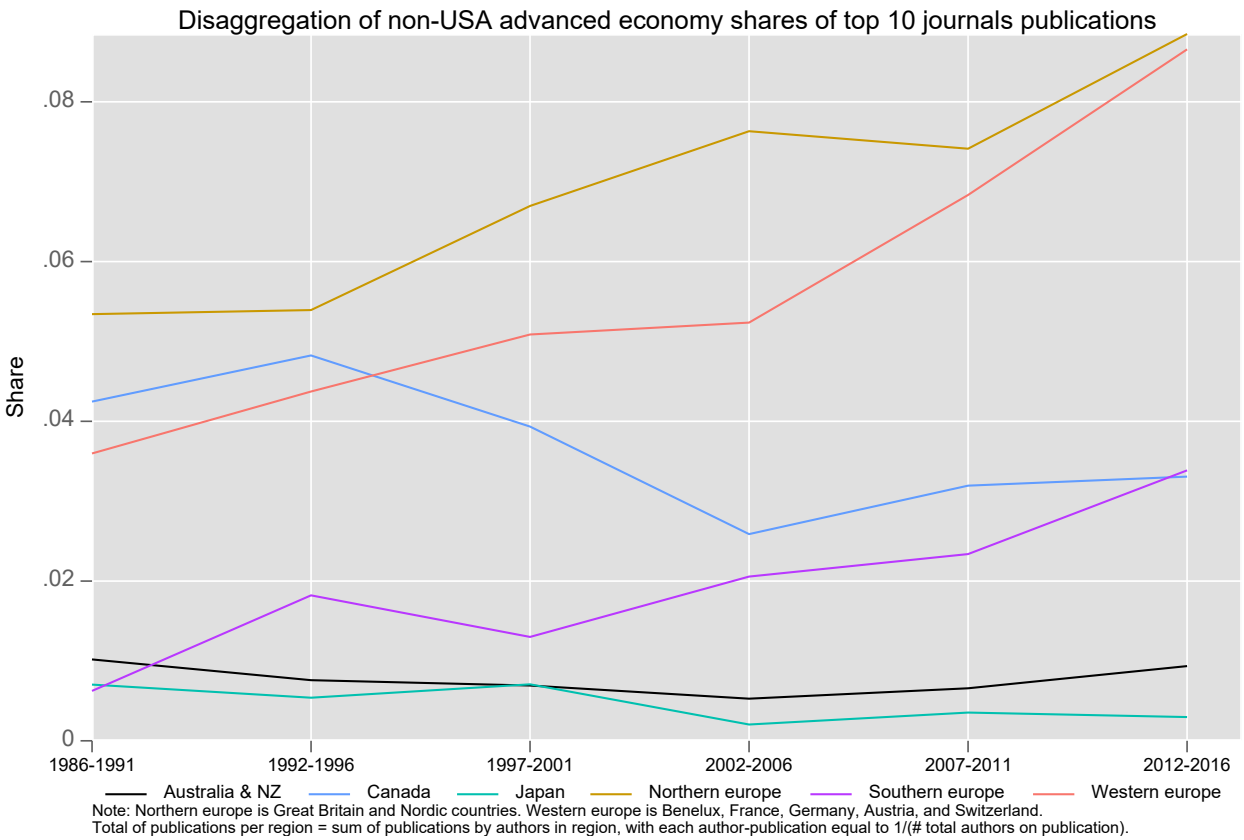
.3
.2
1986-1991
1992-1996
1997-2001
2002-2006
2007-2011
2012-2016
Top 10
Top 11-25
Top 26-50
Top 51-100
> 100
Note: Total of publications per region = sum of publications by authors in region, with each author-publication equal to 1/(# total authors on publication).

Figure 4



Note: Non-USA Advanced includes Western Europe, Canada, Japan, Australia, and New Zealand.
Total of publications per region = sum of publications by authors in region, with each author-publication equal to 1/(# total authors on publication).

Figure 5


Disaggregation of non-USA advanced economy shares of top 10 journals publications
Share
0
.02
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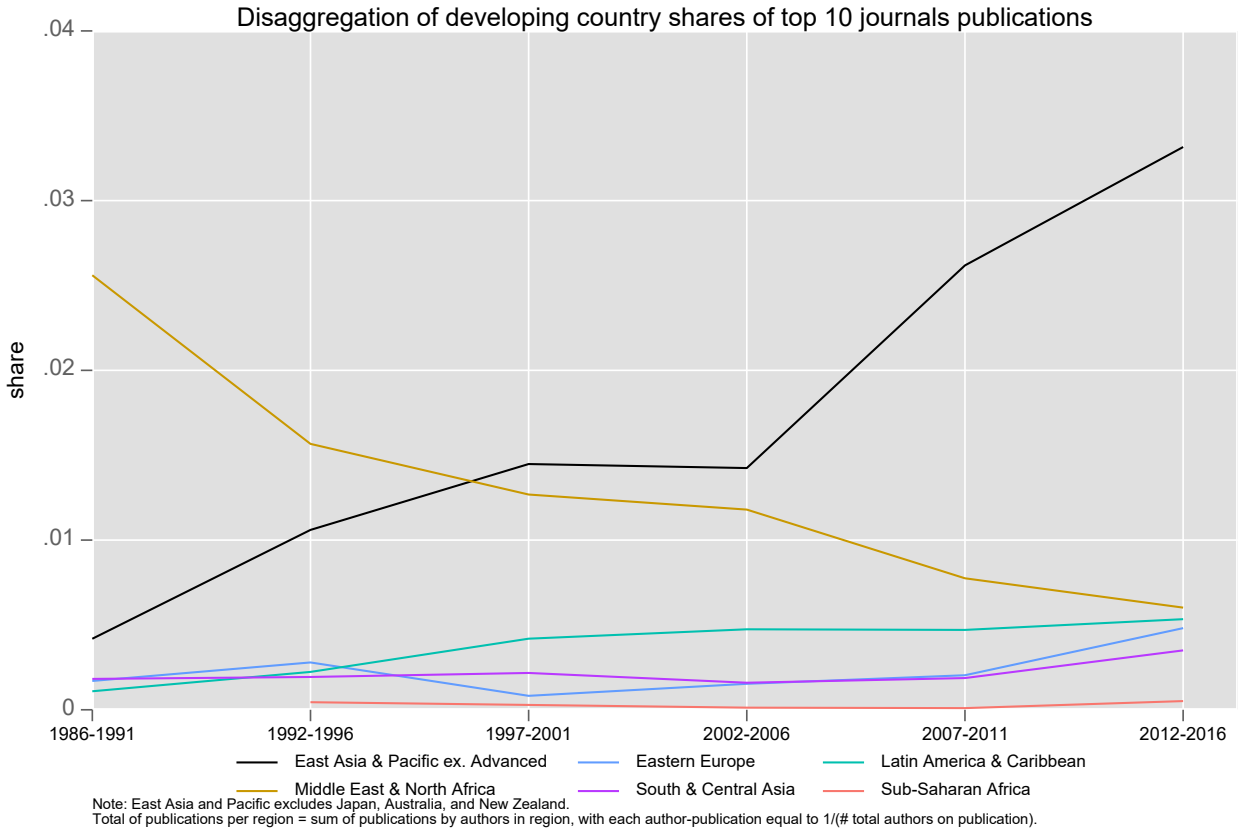
.08
1986-1991
1992-1996
1997-2001
2002-2006
2007-2011
2012-2016
Australia & NZ
Canada
Japan
Northern europe
Southern europe
Western europe
Note: Northern europe is Great Britain and Nordic countries. Western europe is Benelux, France, Germany, Austria, and Switzerland.
Total of publications per region = sum of publications by authors in region, with each author-publication equal to 1/(# total authors on publication).

Figure 6


Disaggregation of developing country shares of top 10 journals publications
share
.04
.03
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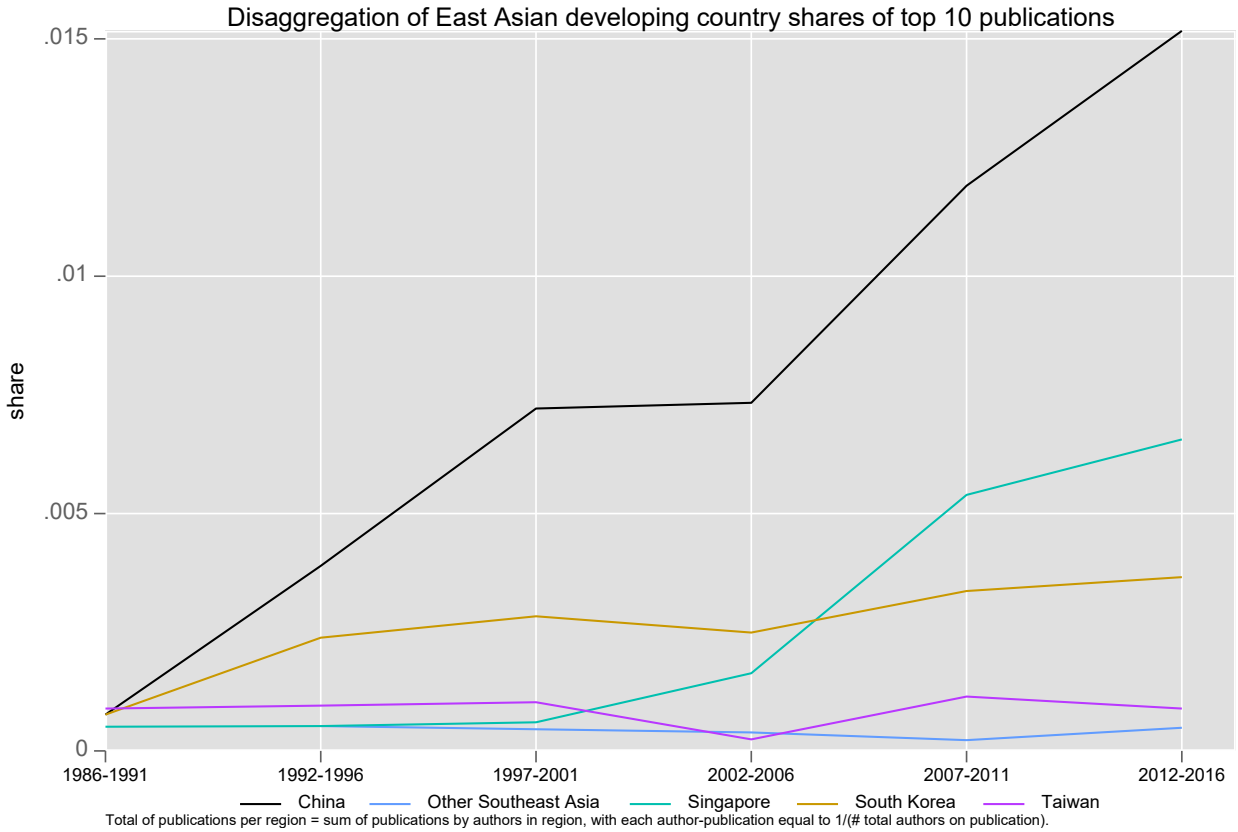
0
1986-1991
1992-1996
1997-2001
2002-2006
2007-2011
2012-2016
East Asia & Pacific ex. Advanced
Eastern Europe
Latin America & Caribbean
Middle East & North Africa
South & Central Asia
Sub-Saharan Africa
Note: East Asia and Pacific excludes Japan, Australia, and New Zealand.
Total of publications per region = sum of publications by authors in region, with each author-publication equal to 1/(# total authors on publication).

Figure 7


Disaggregation of East Asian developing country shares of top 10 publications
.015
.01
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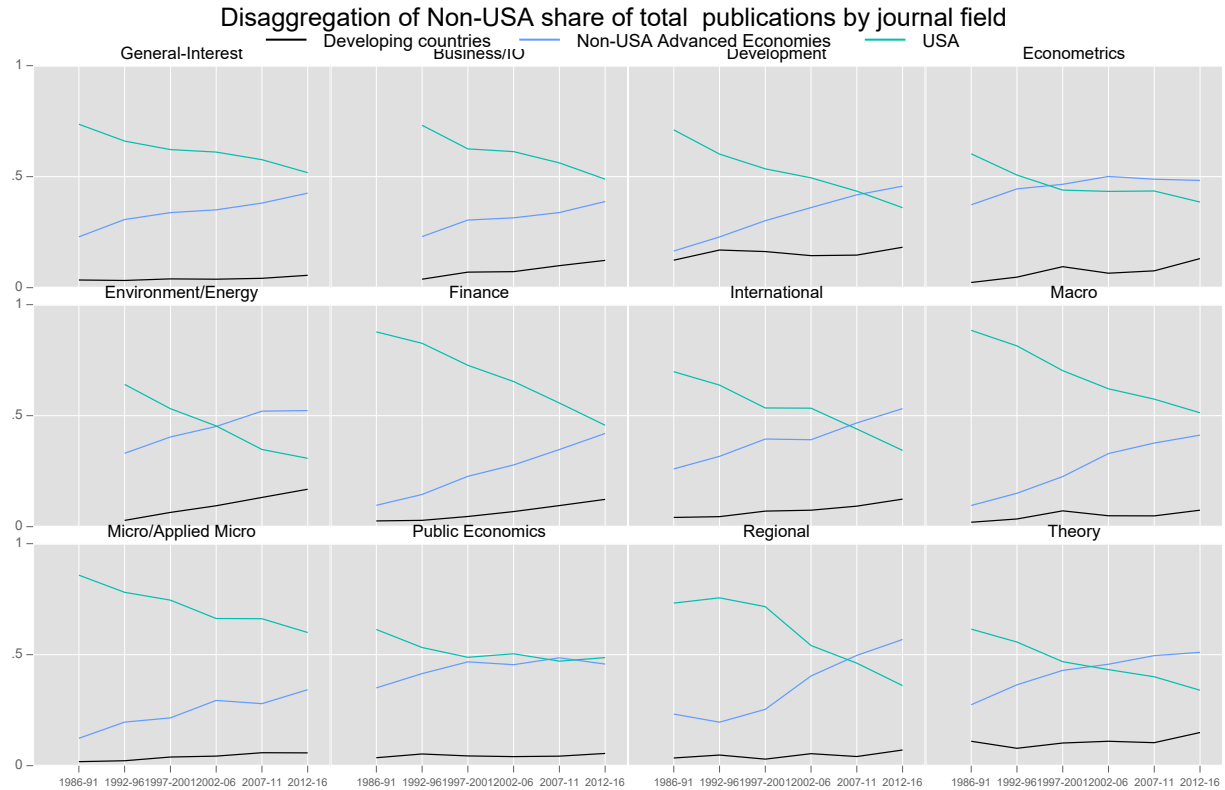
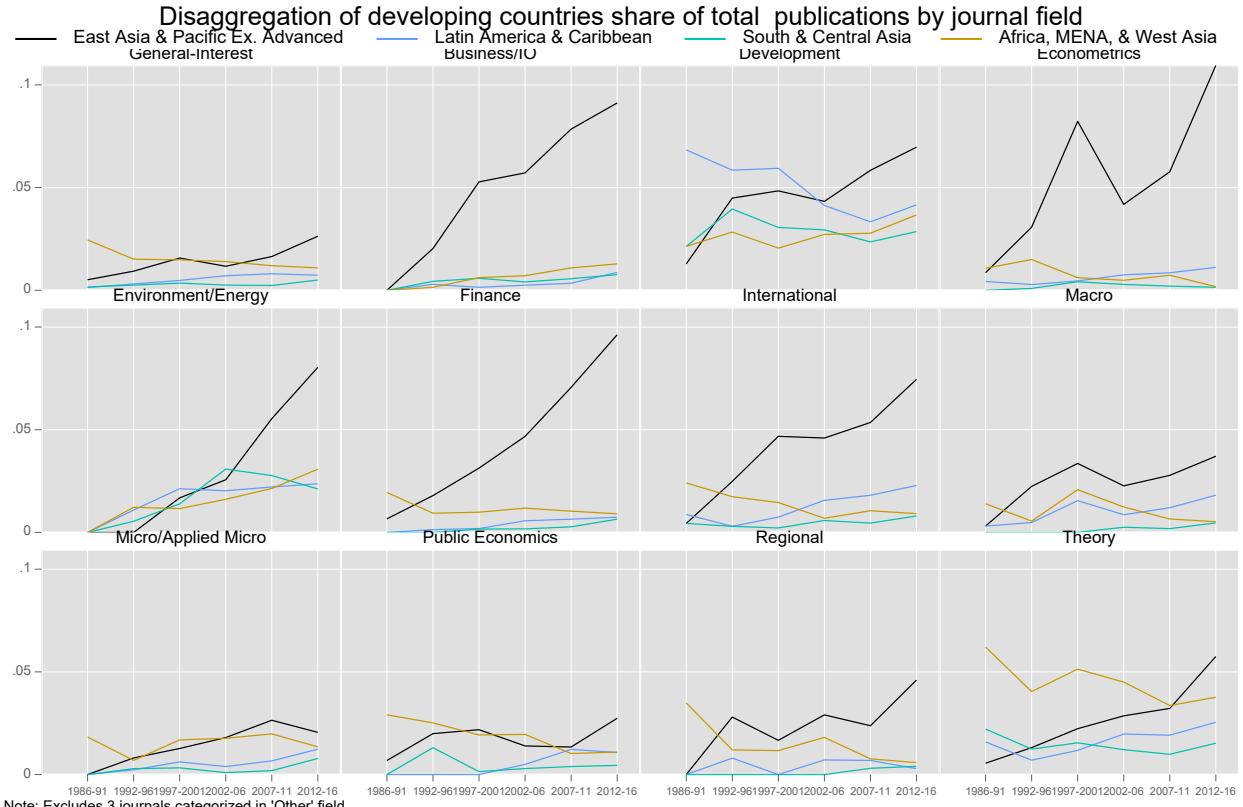
share
1986-1991
1992-1996
1997-2001
2002-2006
2007-2011
2012-2016
China
Other Southeast Asia
Singapore
South Korea
Taiwan
Total of publications per region = sum of publications by authors in region, with each author-publication equal to 1/(# total authors on publication).

Figure 8



Note: Non-USA Advanced includes Western Europe, Canada, Japan, Australia, and New Zealand. Excludes 3 journals categorized in 'Other' field
Total of publications per region = sum of publications by authors in region, with each author-publication equal to 1/(# total authors on publication).

Figure 9



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Total of publications per region = sum of publications by authors in region, with each author-publication equal to 1/(# total authors on publication).