

Docket No. USTR-2017-0024  
2018 Special 301 Review  
Attn: Sung Chang

## COMMENT TO THE SPECIAL 301 SUBCOMMITTEE AND REQUEST TO TESTIFY

Michael Palmedo  
American University Washington College of Law  
Program on Information Justice & Intellectual Property  
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The Program on Information Justice and Intellectual Property (PIJIP) is the internationally recognized intellectual property and information law research and academic program of American University Washington College of Law (AUWCL).<sup>1</sup> This comment reports results from our ongoing multidisciplinary research project that examines the economic impact of copyright limitations. I manage the economics side of this research.

Please note that I wish to testify at the Open Hearing on February 27 before the Special 301 Subcommittee.

PIJIP's research indicates that American firms operating overseas in industries that rely on copyright limitations enjoy better outcomes on average when our trading partners' limitations are more open – defined as being open to the use of any type of work, by any user, or with a general exception that is open to any purpose subject to protections of the legitimate interests of right holders. Econometric research on both the activities of foreign affiliates of U.S. firms and service exports by U.S. firms illustrate this conclusion. At the same time, firms in the more traditional “copyright sectors” (i.e. – music, movies, and printed media), do not seem to be negatively affected by greater balance and openness in copyright limitations.

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<sup>11</sup>More information on PIJIP is available at <http://pijip.org>

My comment to the Special 301 Subcommittee has four key points:

- U.S.-based multinational firms operating abroad in industries that rely on copyright exceptions report higher gross profits, net income and sales figures when their host nations adopt more open copyright limitations.
- BEA data on U.S. multinationals operating abroad does not show harm to the copyright industries when countries have made their copyright limitations more open.
- The Special 301 Committee should include analysis of copyright limitations when evaluating whether a country provides adequate and effective protection of intellectual property.
- The 2017 Special 301 Report should highlight countries that are moving to adopt more flexible copyright practices in its “Best Practices.”

#### I. U.S. FIRMS BENEFIT FROM GREATER OPENNESS IN OUR TRADING PARTNERS’ COPYRIGHT LIMITATIONS

PIJIP has been conducting empirical research pertaining to the impact of balanced copyright systems on trade and economic development. One key element of an adequately balanced copyright system is having sufficiently “open” copyright limitations. We refer to “open” limitations and exceptions as those that are open to the use of any kind of work, by any kind of user and for any purpose, as long as the use does not unreasonably prejudice the legitimate interests of the author. Such openness is the hallmark of the U.S. fair use clause, but other nations have often chosen to meet local needs by opening more specific copyright exceptions. For instance, by ending restrictions that unauthorized research uses be non-commercial in nature. These “open” aspects are crucial because the current pace of technological change creates new opportunities to use different kinds of works, by different users and for different purposes than were envisioned in most copyright statutes. An open statute is a flexible one – and flexibility is needed to accommodate and encourage innovation in the digital environment.

As will be described in greater detail in section three, PIJIP has surveyed copyright experts in various countries in order to develop metrics that describe changes in the law over time. In particular, we have developed an *openness score* that allows us to compare the openness of copyright limitations from between countries and as they change within particular countries. We have found that it is positively related to profitability and income of U.S. multinational firms’ foreign affiliates in our sample set of countries.

#### II. HOW OPEN COPYRIGHT LIMITATIONS BENEFIT FIRMS

Intellectual property law in the United States balances the interests of those who own intellectual property and those use it. In the field of copyright, this involves protections

against infringement, and when appropriate, limitations allowing unauthorized reproduction and use.

Open copyright exceptions allow firms in certain sectors like information, research, and communications technology to use works as needed, including certain uses without authorization that do not affect the commercialization of the work. The most open copyright limitations (such as the U.S.'s fair use) allow greater innovation with new technologies that move faster than legislative processes. A series of CCIA white papers has identified industries that rely on limitations and exceptions to copyright in order to add value to the U.S. economy, a list that includes communications technology hardware firms, internet search and hosting providers, software developers, educational institutions, and contract research and development – among many others. In 2014, these firms added \$2.8 trillion to the U.S. GDP, and employed 18 million workers.<sup>2</sup>

A small but growing body of academic literature has shown how open copyright limitations are associated with positive industry indicators such as greater investment in certain industries,<sup>3</sup> that greater openness supports greater innovative activities by communications firms,<sup>4</sup> and that a *lack* of openness has hampered innovation in certain settings.<sup>5</sup> There is a subset of empirical “event” studies that focus on legal changes in single countries and over a comparatively short period of time.<sup>6</sup>

Last year, PIJIP Prof. Sean Flynn presented our working paper at the World Intellectual Property Organization that introduces our data on changes to copyright law over time and presents initial econometric tests of the openness of copyright limitations.<sup>7</sup> The working paper find positive relationships between the openness of copyright limitations and (1) returns to foreign firms, (2) returns to U.S. multinationals, and (3) the production of scholarly output. This submission uses the same copyright data, but focuses on the returns to American firms doing business in countries that have (or have not) changed their

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<sup>2</sup> Andrew Szamoszegi & Mary Ann McCleary, Fair Use in the U.S. Economy, CCIA (2017) (employing WIPO's methodology for the study of copyright industries to those that rely on copyright exceptions, in the U.S., finding that they employ 18 million workers and accounted for 16% of the U.S. economy).

<sup>3</sup> Joshua Lerner, The Impact of Copyright Policy Changes on Venture Capital Investment in Cloud Computing Companies, CCIA (2014) (demonstrating how a court ruling clarifying copyright user rights increased venture capital funding to American cloud technology firms); Michael Palmedo, R&D Spending and Patenting in the Technology Hardware Sector in Nations With and Without Fair Use (PIJIP Research Paper Series, Paper No. 02, 2017) (finding that technology hardware firms in countries with fair use spent more on research and development and received more patents).

<sup>4</sup> Fred von Lohmann, Fair Use as Innovation Policy, 23 Berkeley Tech. L.J. 8 (2008) (describing “fair use” rights, by which he means generally any private copying rights, as providing a “reservoir of incentive” to the development of private copying technology industries from the VCR to the I-Pod);

<sup>5</sup> Michael A. Carrier, Copyright and Innovation: The Untold Story, 891 Wis. L. Rev. (2012) (focusing on the strength of copyright enforcement rather than exceptions, finding that aggressive online enforcement deterred venture capital funding for new technologies related to online music sharing).

<sup>6</sup> See Roya Ghafele & Brooke Friedman, 4 footnote 11, exceptions for Libraries and Archives, Benjamin Gilbert, A Counterfactual Impact Analysis of Fair Use Policy on Copyright Related Industries in Singapore (2014) (finding that technology hardware firms in Singapore enjoyed faster growth after the nation's introduction of fair use in 2006); Lerner (finding that clarification of fair use of remote DVR providers led to an explosion of investment into what is now the cloud storage industry); Barbara Biasi & Petra Moser, Effects of Copyright on Science: Evidence from the WWII Book Replication Program (2016) (using a natural experiment to test the relationship between unfettered access to science knowledge and research output; the U.S.'s suspension of copyright on German science publications during World War II drove subsequent innovations that can be found in patent citations to these German works).

<sup>7</sup> Flynn, Sean and Palmedo, Mike, The User Rights Database: Measuring the Impact of Copyright Balance (December 4, 2017). Available at SSRN: <https://ssrn.com/abstract=3082371>

copyright law to make limitations more open.

### III. EMPIRICAL EVIDENCE

U.S. firms that rely on copyright limitations have generally fared well when foreign countries have adopted more open copyright limitations in their laws. Last year, PIJIP gave testimony to the Special 301 Committee which used U.S. Commerce Department (BEA) data to show that the foreign affiliates of U.S.-based multinational companies had enjoyed positive returns in three countries that adopted U.S.-style fair use provisions in their copyright laws.<sup>8</sup> As we noted at the time, this way of observing copyright change – whether or not a country adopted a specific type of law, that of the U.S. – was a very strict, blunt metric. Since then we have developed a metric that measures the openness of copyright laws more finely. It is an expert-survey based metric, described below, and the data is available at [infojustice.org/survey](http://infojustice.org/survey).

#### A. User Rights Database

We are currently developing a User Rights Database tracking changes to copyright limitations in countries around the world. To date, we have collected information about the history of copyright user right laws in 21 geographically and economically diverse countries, allowing us to run initial econometric tests. We plan to expand the database to include information on 40 or more countries.

Last year, we circulated a detailed survey on changes in copyright law to legal scholars to collect data on the presence of openness and other qualities such as flexibility and generality in nations' copyright laws from 1970 to present. The survey defines "law" broadly, explicitly including "all authoritative, published rules or interpretations," including "statutory law, administrative regulations or directives, decisions by courts, enforcement agencies or others." The survey asks a series of questions about 20 copyright limitations often found in national laws, (i.e. – the quotation exception, the education exception).<sup>9</sup> For each of the provisions, we ask whether the law is open to use for any purpose, open to use of any type of work, open to use by any type of user, and open to commercial uses. For some copyright limitations, we ask further questions relevant to that specific provision – for instance, we ask if the exception for use of computer programs is open to reverse engineering for the development of interoperable products. Respondents support their answers to our survey questions with legal citations.

Once we receive initial survey responses from our experts, we cite check and code the data. For coding purposes, we assign a numerical value of between 0 and 3 for each question. 0 indicates that the attribute (e.g., whether a particular exception is open to the

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<sup>8</sup> The testimony I gave last year is available at <http://infojustice.org/archives/37845>

<sup>9</sup> The user rights that form the subject of our survey are the General Exception; Quotation; Education; Research; Personal or Private Uses; Computer Programs; Databases or Other Compilations of Non-Original Facts; Text and data mining; Library Rights; Disability Access; Transformative Use; Parody and/or Satire; Incidental Inclusion; Panorama Right; Orphan Works; National Government Works; Exhaustion of Rights; Safeguards From Secondary/ISP Liability; Temporary Copies for Technological Processes; and Protections from Supremacy of Contracts.

use of any work) is definitely not present in the nations law. 3 indicates that the attribute is definitely present. 1 and 2 indicate the exception is “probably not” or “probably or mostly” present depending on factors such as the ambiguity of statutory language and its development through case law.

Our data is publically available under a creative commons license at <http://infojustice.org/survey>. The site includes both the survey responses in their raw form as provided by respondents, and in its coded form for use in empirical work. We have posted the survey on this page as well.

To test whether firms doing business in a particular country are affected by the openness of copyright exceptions in that country, we devised an “Openness Score” from our dataset. This is the unweighted average of the 76 questions in our survey that ask about the openness of copyright exceptions. Each country earns a score between 0 and 3 for each year. PIJIP has run a series of econometric tests of the relationship between openness of countries’ copyright limitations and various firm- and industry-level economic indicators.

We are continuing to solicit data on changes in copyright law, and we plan to survey another round of experts from additional countries later this year. This will allow us to expand our dataset. We would be happy to keep the Special 301 Subcommittee up to date with new research outputs as we move forward.

## **B. Copyright Balance and Returns to U.S. Firm’s Foreign Affiliates**

A key finding from our research thus far is that having more open copyright systems abroad – defined as systems in which a greater number of limitations and exceptions are open to any work, user, and purpose – benefit U.S. companies.

One set of tests utilizes industry level data on majority-owned foreign affiliates of U.S. multinational enterprises, taken from the Bureau of Economic Analysis (BEA).<sup>10</sup> The data is available for the 17 year period running from 1999 to 2015. First, we examine outcomes experienced by affiliates in the Scientific and Technical Services sector. These are the industries under the two-digit NAICS code 54, which include research and development services and computer systems development, among others.

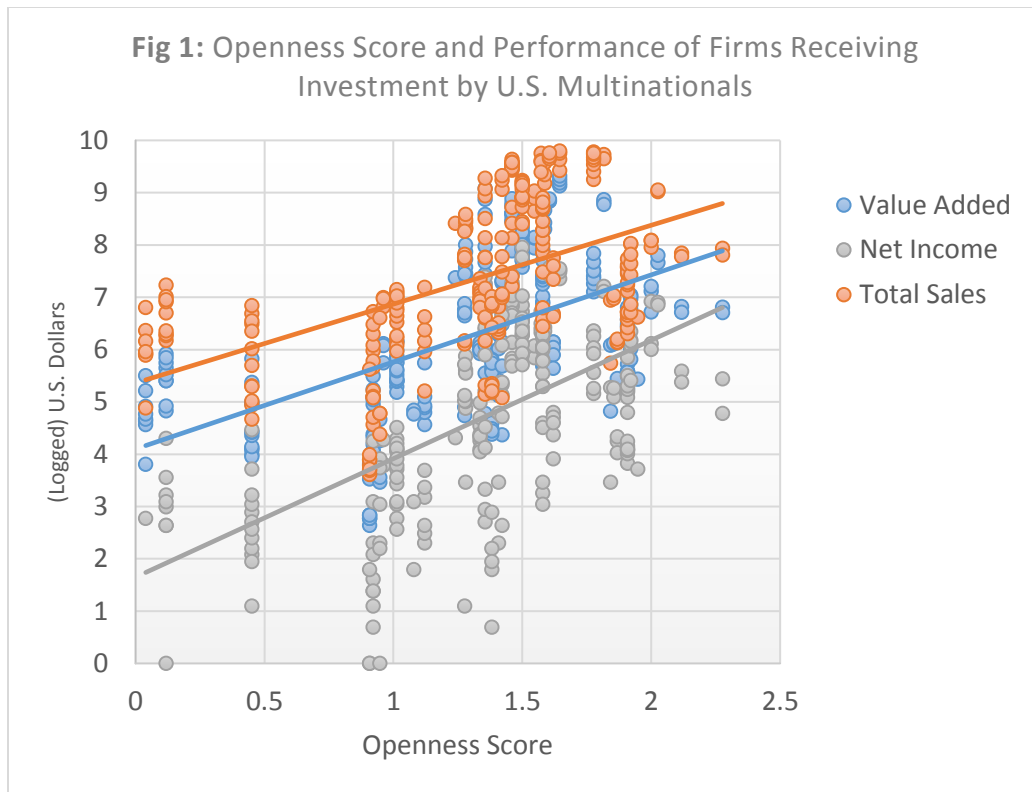
Figure 1 shows the positive relationship between our openness score and three indicators of economic returns to the foreign affiliates:

- a. Value Added – the value of goods or services produced by the foreign affiliate in the foreign affiliate’s country. It differs from sales because it excludes the costs of inputs purchased. Value added is also referred to as gross profit.
- b. Net Income – the income received by the foreign affiliate from all sources, minus costs and expenses
- c. Total sales – dollar value of all final sales transactions

The positive correlations indicate that foreign affiliates in this sector tended to be more profitable, earn higher net income and higher gross sales when they operated in countries

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<sup>10</sup> The data is publicly available at: <https://www.bea.gov/international/di1usdop.htm>



with more open national copyright laws.

To control for other factors that ought to affect industry returns, we ran a series of panel regressions testing the relationship of openness with these three indicators as dependent variables. In these regressions, GDP per capita and population control for the wealth and size of the national markets in which the affiliates operate. We use time- and country-fixed effects to control for unobserved variation that differ by year and country.<sup>11</sup> The results are summarized in Table 1.

Column 1 of Table 1 reports the regression results for Value Added. The coefficient on our openness score is positive and statistically significant at the 95% level of confidence, indicating that firms in this sector have earned higher profits from their affiliates in our sample countries when the copyright limitations in these countries have become more open. When Net Income and Total Sales are the dependent variables, the coefficients on the openness score are positive and significant at the 90% level. Coefficients on the control variables indicate that GDP per capita is positively related to nation-level returns to our firms in these sectors, but that the size of the local market is insignificant. Taken together, the results indicate that openness is associated with greater returns to foreign affiliates of U.S. firms in these industries, even when controlling for other factors (wealth, market size, time, and static country characteristics) which affect returns as well.

<sup>11</sup> Data on GDP and population were taken from the World Bank databank.

**Table 1:** Regression results for NAIC 54  
Professional, Scientific, and Technical Services

VARIABLES	(1) Dep. Variable: (Log) Value Added	(2) Dep. Variable: (Log) Net Income	(3) Dep. Variable: (Log) Total Sales
Openness Score	0.372** (0.141)	0.628* (0.311)	0.401* (0.200)
(Log) GDP per capita	1.481*** (0.192)	1.878*** (0.212)	1.580*** (0.181)
(Log) Population	-0.376 (0.616)	2.004 (1.275)	-0.156 (0.590)
Constant	-1.489 (11.95)	-49.02* (23.69)	-5.288 (11.40)
Observations	272	242	265
Within-entity R <sup>2</sup>	0.779	0.592	0.775
Time and country F.E.	Yes	Yes	Yes

Robust standard errors in parentheses

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

Next, we test whether copyright limitations have a negative association with firms in copyright intensive industries. We use BEA data on the returns to majority-owned foreign affiliates in the “information” sector, identified under the two-digit NAICS codes 51. This is a very high level of industry aggregation – including copyright industries such as print publishing (5111), movies (5121), and music (5122), as well as industries that rely more on flexibilities in copyright, such as data processing, hosting (5182), and software development (5112). The high level of aggregation makes the results difficult to interpret, but this is the only publicly available industry-level data on foreign affiliates we are aware of, and it allows us to test the effect of openness of copyright user rights on a set of industries that should be sensitive to copyright protection.

We run the same set of panel regressions on Value Added, Net Income and Total Sales as before, this time using data from the information sector. GDP per capita is the most significant control variable, and population is significantly, positively related to sales. Yet we find no statistically significant relationship – negative or otherwise – between our openness score and any of the three variables measuring industry outcomes in our sample countries. According to the available data, there is no evidence that foreign affiliates of U.S. firms based in our sample countries have been adversely affected when these countries have adopted more open copyright limitations.

The results are summarized in Table 2.

**Table 2:** Regression results for NAICS 51  
Information Industries

VARIABLES	(1) Dep. Variable: (Log) Value Added	(2) Dep. Variable: (Log) Net Income	(3) Dep. Variable: (Log) Total Sales
Openness Score	0.454 (0.390)	0.105 (0.597)	0.743 (0.515)
(Log) GDP per capita	1.223*** (0.188)	1.148*** (0.178)	1.071*** (0.228)
(Log) Population	0.807 (0.631)	-1.505 (0.991)	1.273** (0.537)
Constant	-20.30* (10.64)	20.40 (17.25)	-26.20** (10.65)
Observations	261	180	264
Within-entity R <sup>2</sup>	0.541	0.291	0.577
Time and country F.E.	Yes	Yes	Yes

Robust standard errors in parentheses

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

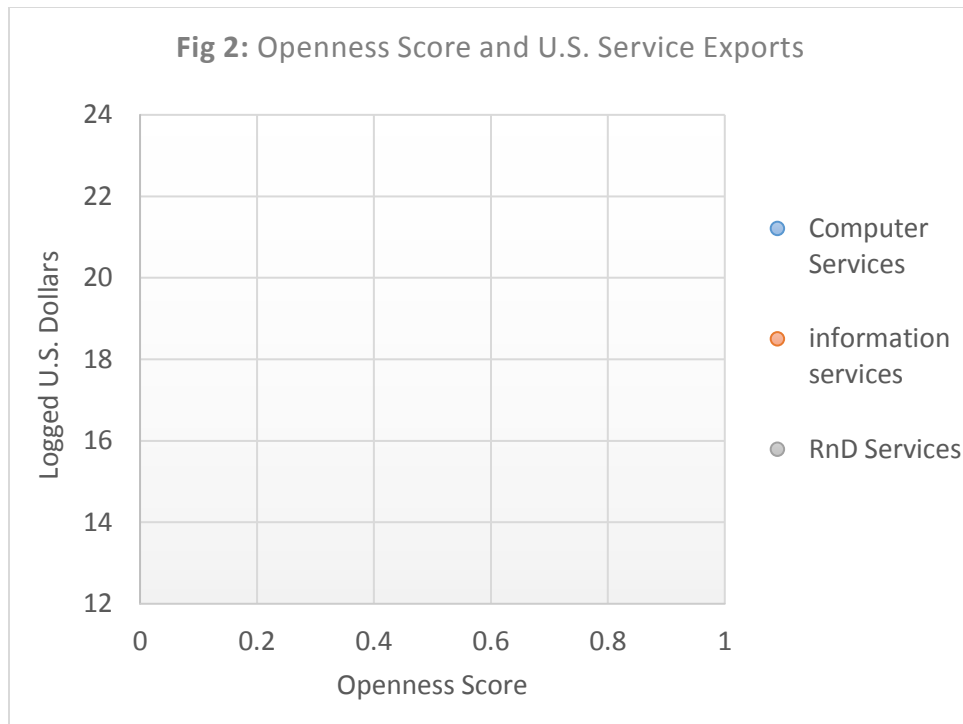
### C. Copyright Balance and Imports of Goods and Services from the United States

PIJIP tested the relationship between the openness of a country's copyright user rights and U.S. exports to those countries from four industries, using data from the UN COMTRADE database. The results indicate that improved copyright balance and openness abroad can benefit US exporters in certain industries.

We next test the relationship between U.S. exports of services in three information-based sectors identified under the Electronic Balance of Payment Services (EBOPS) codes: computer services, information services, and research and development. Our data is taken from the UN COMTRADE database.<sup>12</sup> There is a limited quantity of data, yet there is a clearly positive correlation between the openness found in a trading partner's copyright user rights and the value of services imported by that country from U.S. firms. Figure 2 shows the scatterplot illustrating the relationship before the addition of control variables.

<sup>12</sup> The data is available at: <https://comtrade.un.org/data/>





We run three panel regressions test this relationship in the presence of control variables for market wealth and size, with fixed effects controlling for unobservable variation at the country and time. Table 3 summarizes the results. Despite extremely small sample sizes, there is a positive significant relationship between openness and service exports in the R&D and computer service industries, and most of the control variables are positive and significant as expected. The coefficient on the openness coefficient in the information services industry is insignificant, which is unsurprising for a panel regression with 41 observations. Overall, the results imply that U.S. firms export more services to countries that have more open copyright limitations, and that the relationship is robust to the inclusion of controls.

**Table 3: Regression results for Service Exports**

VARIABLES	(1) Research and Development	(2) Computer Services	(3) Information Services
Open	0.636*** (0.0953)	1.272*** (0.170)	0.278 (0.194)
log_gdppc	0.488 (0.285)	1.336*** (0.298)	0.119 (0.314)
log_pop	7.495*** (1.161)	4.034** (1.560)	0.218 (2.399)
Constant	-120.3*** (18.74)	-67.48** (26.10)	12.70 (41.32)
Observations	128	44	41
Within-Entity R <sup>2</sup>	0.635	0.554	0.015
Time and country F.E.	Yes	Yes	Yes

Robust standard errors in parentheses

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

#### IV. RECOMMENDATIONS TO THE SPECIAL 301 COMMITTEE

Based on these findings, I would like to make two recommendations to the Committee regarding copyright limitations and the Special 301:

##### **A. The Special 301 Committee should include analysis of copyright limitations when evaluating whether a country provides adequate and effective protection**

The inclusion of limitations and exceptions as a necessary component to an adequate and effective intellectual property system is consistent with evolving U.S. trade policy. The trade negotiation objectives stated in the Bipartisan Congressional Trade Priorities and Accountability Act of 2015 require negotiators to seek levels of intellectual property protection that "reflect a standard of protection similar to that found in United States law."

Since USTR has promoted the adoption of flexible copyright limitations elsewhere, including in the TPP and KORUS FTA, it seems fitting that the Special 301 Committee would include consideration of copyright limitations in its annual review of intellectual property laws.

**B. The 2017 Special 301 Report should highlight countries that are moving to adopt more flexible copyright practices in its “Best Practices”**

One place USTR should comment on copyright limitations in foreign country laws is in the Best Practices section of the 2018 Special 301 Report. Trading partners such as Australia, Hong Kong, Nigeria and South Africa (among others) have been debating how much to open up the copyright limitations in their laws. Inclusion of fair use as a Best Practice would encourage them to do so, which would benefit U.S. firms in industries that rely on copyright limitations, and the 18 million people they employ.