

Netflix: global hegemon or facilitator of frictionless digital trade?

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Abstract Trade in cultural products has traditionally been constrained by a combination of law and technology. In Europe, digital sellers based in a given EU country are not always able to distribute across borders. In January 2016, US-based Netflix announced an expansion to 243 countries, accomplishing cross-border distribution through business strategy. Changes in law or technology that facilitate cross-national cultural trade have traditionally drawn the concern of observers worried about the cultural heritage—and products—of small markets. The expansion raises questions about what Netflix is doing. Is it a cultural hegemon, distributing US fare into 243 countries? Or it is a facilitator of free trade, making the products of even small countries more available outside their home markets (relative to traditional distribution)? And how does the curated model—which limits the number of movies the platform wants to distribute—affect Netflix’s function? To shed light on these questions, we develop a new measure of the global availability of a repertoire, the value-weighted geographic reach. Using this measure we find, first, that Netflix makes many of the works from a wide variety of countries available in many other countries. Second, we find that theatrical distribution strongly

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advantages US-origin fare. Third, the pattern of origin repertoire available through Netflix also favors the USA, although less overwhelmingly. Moreover, many countries are relatively advantaged by their Netflix availability patterns. Finally, we discuss some issues related to the Netflix platform, including horizontal competition with other platforms, vertical struggles with content providers (and its backward integration into production), and we speculate on possible challenges for regulators.

Keywords Cultural trade · Movie industry · Online distribution · Netflix

JEL Classification Z10 · Z18 · L82

1 Introduction

Trade in cultural products has traditionally been constrained by a combination of law and technology.¹ Trade in movies, for example, historically required shipment of expensive physical reels to destinations with sufficient demand for a foreign product in small geographic areas—the catchment area of a theater—to make theatrical release profitable. The development of digital technology has substantially—but not completely—eased these frictions. Movies must no longer be physically shipped, although they still require translation in the form of dubbing or subtitles. And releasing them in theaters requires finding destinations with sufficient local demand to fill a theater. For all of these reasons, global theatrical distribution has remained limited.

With the development of direct digital distribution to consumers—on platforms such as Netflix, Amazon, Amazon Prime, Hulu, HBO GO, Comcast on Demand, and many others—it is possible that consumers, even internationally, would get access to a much wider variety of foreign fare. Consumers in different countries nevertheless do not have access to the same set of films, for a variety of reasons. First, preferences differ, so not all films marketable in one country are broadly appealing in another. Second, territorial licensing and geo-blocking also stand in the way of choice sets converging across countries. This is particularly relevant within the EU, where these practices lead to a fragmentation of the EU market by preventing consumers located in a given EU Member State from accessing content available in other Member States.² Additionally, even if a similar service is provided in several EU Member States, consumers typically only have access to the catalog offered in their own country of residence. For example, iTunes France

¹ A substantial literature examines trade in cultural products, including Disdier et al. (2010), Hanson and Xiang (2008), Richardson (2006), Blum and Goldfarb (2006), and Ferreira and Waldfogel (2013).

² Geo-blocking is a commercial practice that prevents online consumers from accessing a website or purchasing content based on location. See, for instance, <https://epthinktank.eu/2015/05/13/digital-single-market-and-geo-blocking/>. These commercial strategies are based on the principle of copyright territoriality. See Renda et al. (2015) for a more detailed description the relationship between territorial licensing and EU copyright law in the audiovisual sector.

cannot legally sell in Germany, nor can Netflix France distribute to Germany. Instead, a distributor must both acquire destination-specific rights and establish a destination-specific online presence. And these have stood as contractual and policy obstacles to the frictionless trade that technology makes possible in principle. European policy makers are currently pursuing the creation of a European digital single market (European Commission 2015), under which territorial restriction for digital films would be eliminated. As a result, a digital product available in one Member State would be available in all States.

In January 2016, US-based Netflix—which had already been operating in multiple countries—announced an expansion to 243 countries. That is, Netflix secured the various rights to stream some combinations of the 14,450 movies and 2,200 television shows available in their platform into 243 different countries.³ The only major country outside the Netflix distribution zone is China. To put this another way, Netflix partly accomplished through business strategy an outcome that public policy had not heretofore made possible. The digital single market is controversial in Europe, and it is not clear when digital sellers in one EU country will be able to distribute to another.

While the Netflix streaming service is available in 243 countries, Netflix does not offer the same content in all markets for at least two reasons. First, the rights to distribute existing programming are typically country-specific, and assembling the bundles of rights is costly simply because of transaction costs. Second, the rights holders are not uniformly enthusiastic about licensing their content on terms suitable to the Netflix business model. Third, and related, the Netflix model entails purchasing content rights for fixed fees. Hence, Netflix only wants to add content as long as the marginal benefits in subscription revenue cover the marginal costs. This stands in sharp contrast to services such as Amazon Instant, which sell a la carte video, sharing revenue with the underlying creator. All of this is to suggest that it is not obvious that Netflix will distribute much content, the same content, or high-value content, in all destinations.

At the same time, Netflix is aggressively creating original programming, whose global distribution rights Netflix will own outright. Some of the high-value original programming produced by Netflix (*House of Cards*, *Orange is the New Black*) predates their global distribution strategy, so they ironically do not currently have distribution rights to all of their original content. But going forward, Netflix plans to use its newfound global distribution capability as a cornerstone of its strategy. As Netflix CEO Reed Hastings put it during a January 2016 Keynote, “Right now, you are witnessing the birth of a global TV network.”⁴ As the New York Times reports,

³ At the time of our data collection, Netflix was distributed into 243 sales territories, most of which were countries, but some of which were areas within countries. Hence, the number of countries exceeding the world’s total despite not including China. In the paper, we use the term “country” loosely, to refer to Netflix distribution territories at the time of our data collection. See <https://media.netflix.com/en/press-releases/netflix-is-now-available-around-the-world> and the list of countries at <https://help.netflix.com/en/node/14164>. Also see http://www.nytimes.com/2016/01/07/business/media/netflix-expands-its-streaming-service-worldwide.html?_r=0.

⁴ http://www.nytimes.com/2016/01/07/business/media/netflix-expands-its-streaming-service-worldwide.html?_r=0.

“Netflix is pouring resources into original productions. The company said it would release 320 hours of original programming this year, about three times its offerings in 2014. That includes about 65 new and returning series, movies and other content. Netflix said it planned to raise at least a billion dollars of additional long-term debt to finance the material.”⁵

Changes in law or technology that facilitate cross-national cultural trade have traditionally drawn the concern of observers worried about the cultural heritage—and products—of small markets.⁶ The global entry of Netflix provides another possible occasion for concern. It is not clear on its face whether the Netflix expansion is good or bad for the fortunes of producers or cultural guardians outside of the USA. One possibility is that the Netflix expansion makes a large amount of US-origin material available worldwide, expanding the already-large US-origin share of motion picture sales around the world. A second possibility is that Netflix facilitates the distribution of all countries’ fares around the world (and into the large US market) in ways that earlier distribution channels such as theatrical release did not allow.

Policy makers have expressed alarm at Netflix global expansion. In 2017, the European Parliament asked for rule that would require at least 30% European content on Netflix.⁷

This paper provides a first pass at answering this question. As of the launch of Global Netflix, what does it do? Is it a cultural hegemon, distributing US fare into 243 countries? Or is it a facilitator of free trade, making the products of even small countries more available outside their home markets (relative to traditional distribution)? And how does the curated model—which limits the number of movies the platform wants to distribute—affect the way Netflix functions?

The rise of Netflix—and its global distribution capability—raises questions for a variety of industry actors, including large-scale producers (such as the major Hollywood studios), smaller-scale producers (such as independent and non-US producers), and regulators. Large-scale producers might be attracted by an opportunity to distribute through an intermediary with global reach, but at the same time might worry about promoting the development of a downstream player that, if powerful, could act as a toll-charging gatekeeper. Small-scale producers might see Netflix as an outlet that would enable distribution of movies that could not find sufficiently large audiences to justify theatrical distribution, especially outside of their origin markets. Regulators can presumably not stop Netflix. A question that is particularly relevant for European regulators is therefore whether Netflix can be encouraged to function more like a facilitator of free trade than a US cultural hegemon.

To calibrate expectations, we note that addressing *all* of these questions lies beyond the scope of this paper. Instead, we will characterize what Netflix is currently doing to facilitate distribution of movies, using theatrical distribution as a benchmark. To these ends we develop a new measure of the global availability of a

⁵ <http://www.nytimes.com/2015/01/21/business/media/netflix-earnings.html>.

⁶ See, for example, Aguiar and Waldfogel (2014) and Herrera and Martens (2015).

⁷ See https://www.theregister.co.uk/2017/05/25/eu_pegs_homegrown_netflix_quota_at_30pc/.

repertoire, the *value-weighted geographic reach*. Intuitively, it is the average share of the world's population whose country has local distribution of an origin country's repertoire. Even at this point, an illustrative example is helpful. If an origin country has three works, one of which is available to countries that account for 100% of the world's population, while the second is available to countries that account for 50% of the world's population, and the third is not currently being distributed, then the origin's *simple* average geographic reach is 50%.⁸ If the first product is twice as important as each of the remaining two in value terms, then the *value-weighted* geographic reach is 62.5%.⁹

Characterizing the availability of origin repertoires on Netflix requires some points of comparison. One natural benchmark is the ubiquitous availability of all works produced in each origin country. Another is the actual availability of products through traditional channels. Because the latter is difficult to create for television and much easier for movies, our analysis will mainly focus on movies by comparing their availability on Netflix to their availability through theatrical distribution. Moreover, because we observe theatrical distribution for only 56 countries among those where Netflix distributes, we compare theatrical versus Netflix distribution of movies into these 56 countries.

What do we find? First, Netflix makes many of the works from a wide variety of countries available in many other countries. A few examples: Netflix distributes the Swiss film *Tibetan Warrior* in 243 countries, the Danish film *Democrats* in 206 countries, the Hong Kong film *Ip Man 2* in 103 countries, and the Thai film *Ong-Bak: The Thai Warrior* in 63 countries. Second, we find that theatrical distribution favors US-origin fare relative to other countries. Our new measure (the value-weighted geographic reach) of US-origin fare through theaters is a third to a half above the next most widely distributed repertoires (UK, Germany, France, Spain, and Australia) and more than double the other origin countries. Third, we find that the reach is smaller through Netflix than through theatrical distribution for the vast majority of repertoires. Only a few countries—Hong Kong, Norway, and Chile—have a larger reach on Netflix than on theatrical distribution. Fourth, US-origin repertoire also has the highest reach measure through Netflix, but the US dominance over other repertoires is smaller. In particular, Netflix provides relatively greater reach compared to the USA for the repertoires of Hong Kong, Norway, Chile, Colombia, and Brazil (among others), while providing relatively less reach for Austria, Spain, India, Israel, and Germany (among others).

The paper proceeds in six sections after the introduction. Section 2 provides background. First, we characterize some availability pattern benchmarks. Second, we discuss the recent Netflix expansion in the context of the current discussions about the European digital single market. Section 3 describes the data used in the study, which include both Netflix distribution patterns (the countries where each of the works they distribute are available) and the movies released into theaters in each

⁸ That is, $\frac{(100+50+0)}{3} = 50$.

⁹ That is $(\frac{1}{2} \times 100) + (\frac{1}{4} \times 50) + (\frac{1}{4} \times 0) = 62.5$.

of 56 countries, 2008–2014.¹⁰ Section 4 presents descriptive facts on Netflix. Section 5 introduces our measure, the value-weighted geographic reach. Section 6 presents results on the repertoires with wider reach. In particular, we compare repertoires' reach via theatrical versus Netflix distribution. Section 7 concludes and discusses the results in the context of the various platform competition issues raised by the Netflix global expansion: competition with other platforms, difficulties in relationships with program suppliers, Netflix backward integration into content production, and possible regulatory issues on the horizon.

2 Background

2.1 Characterizing availability patterns

This paper is about product distribution and the resulting choice sets. Our main interest is to assess how the development of a global distribution platform—Netflix—affects the availability of origin repertoires. Frictionless trade would make the products of all origin countries available in all destinations. This is not to say that consumption would converge, but if trade were frictionless, then consumers' choice sets would be identical across countries.

It is almost immediately clear that trade is not frictionless via Netflix. Perhaps the biggest friction arises from their curated model. They choose which works to distribute, purchasing them with flat fees. Particularly because they maintain relatively low subscription prices, they do not collect enough revenue to make all, or many highly popular recent works, available. This leads to the next question of what subset Netflix makes available. One possibility is representative trade, in which the same share of works (or the value of works) from each country would be made ubiquitously available.

A second possibility is that Netflix does not make representative samples of works available from different origins but rather disproportionately distributes the works from particular origin countries. Given that Netflix is US-based and that much of the concern about the digital single market has come from policy makers and practitioners in Europe, it is of particular interest to determine whether Netflix on balance provides broader distribution for European versus US works around the world.

¹⁰ We include countries for which we have box office revenue 2008–2014. The countries include Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Chile, Colombia, Croatia, Czech Republic, Denmark, Ecuador, Egypt, Estonia, Finland, France, Germany, Ghana, Greece, Hong Kong, Hungary, Iceland, India, Italy, Japan, Latvia, Lebanon, Lithuania, Malaysia, Mexico, Netherlands, New Zealand, Nigeria, Norway, Peru, Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Thailand, Turkey, Ukraine, UK, USA, Uruguay, and Venezuela.

2.2 The European digital single market

Over the past few years some European policy makers have pursued the creation of a digital single market (DSM), in which sellers of digital products operating in a European country would be able to distribute to any other European country (European Commission 2015). That is, iTunes France could sell to consumers in Germany. And Netflix Spain could sell to consumers in Portugal. Beyond that, Apple or Netflix would in principle not need to establish separate retail presences in each country.

It is worth noting that the creation of a digital single market would not eliminate challenges of obtaining contractual rights to distribute in multiple countries. Rights holders would of course require greater compensation for the right to distribute their products in all of Europe than in, say, Germany alone. Still, the establishment of an EU-wide DSM has been controversial. European film makers have objected to its creation, fearing that the elimination of state-specific distribution would undermine their current financing model. In the current regime, much film financing comes from distributors with exclusive rights to distribute films into each country. Film makers apparently believe that a pan-European film distributor might not finance the current slate of projects.

The concern is somewhat inscrutable on its face. Imagine a film maker producing a film targeting France. Suppose the value of that film to a France-only distributor is X . Presumably, the rights to distribute that film in both France and the rest of Europe is worth more than X . So it is possible that a pan-European distributor would be willing to pay more than X for the right to distribute the film. Despite this logical possibility, practitioners remain concerned that the pan-European distributor would not finance the product at all. Their concern might be that a distributor targeting a broader international audience might prefer movies targeted in ways that appeal across borders, rather than simply to France. One might counter that if there is a France-only audience for the project, then even if no other audiences are interested, the project is still worth the original X to the pan-European distributor. However, given that audiovisual works tend to be somewhat substitutable for one another, it is possible that in the presence of multinational distribution and financing, the France-only project would face additional competition that would reduce its value to distributors below the original X . In this way, perhaps, it is possible that multinational distribution might undermine the creation of products targeted to local consumers.¹¹

The creation of an EU DSM has brought additional concerns. One of them is that a single market would prevent right holders from exploiting differences in willingness to pay across EU countries and price discriminate accordingly. This would lead to a single price charged across EU Member States, possibly lowering

¹¹ This concern is reminiscent of the issues raised in George and Waldfogel's (2006) study of the impact of national New York Times (NYT) distribution on the positioning of local newspapers in the USA. In that context, national distribution of the NYT into local markets diverted demand from local to the national product and caused local products to reposition.

revenues.¹² Another concern for European film makers relates to the fact that only a few distributors would be able to purchase a pan-European license to distribute movies within the EU DSM. The bargaining power of these distributors would therefore increase relative to the bargaining power of film producers.

Against the backdrop of these concerns, it is interesting to understand which fare sees distribution through a US-based global distributor. This may provide some hints about how the growth of global distribution would affect producers around the world. Related, it may shed light on concerns that Netflix raises for large producers, small producers, and regulators.

3 Data

The first data set for the study is a list of movies created between 1980 and 2014. For each work we have a measure of popularity which we use to create a proxy for the underlying aggregate value of each repertoire. We obtain this grand list (for 134,098 movies and 35,952 television series) from `IMDb.com`. We include only works for which IMDb reports a number of users rating the work. This in turn happens for works that at least five users have rated. This data set also includes an indicator for whether the work is available to stream on Amazon in the USA.¹³

The second data set for this study is a list of movies distributed via Netflix as of February 2016.¹⁴ For each work we see the countries where it is carried on Netflix. We also observe some information about the works, in particular the first listed country of origin and the number of IMDb users rating the work, which we show below to be highly correlated with box office revenue for movies with theatrical distribution. The data on the works available on Netflix are drawn from `unogs.com`, which includes a link to the corresponding IMDb entry for each work. The information about the works (e.g., the national origin) is obtained from IMDb. Note that we have no measures of usage of works on Netflix.¹⁵

The third data set is the list of movies distributed in theaters in 56 countries among those where Netflix is available in 2008–2014. Those data are drawn from Box Office Mojo revenue data and linked with IMDb to determine their origins and value weights based on the number of IMDb users rating them. Note that we have box office revenue in addition to availability for movies in theaters, which we use only to validate the users measure. We do not use revenue directly as a measure of

¹² Note that preventing price discrimination across countries could also lead to a reduction in welfare levels if the unique price charged ends up being higher than the willingness to pay of consumers from lower-income countries.

¹³ One might worry that reliance on US-based IMDb would lead to a US-biased list of underlying movies that might miss non-US-origin works distributed by Netflix. Yet, virtually all of the movies appearing on Netflix are also in the IMDb data.

¹⁴ For background, we also provide some data on the Netflix catalog of television series by country.

¹⁵ Netflix is famously tight-lipped about its subscribers' usage tendencies. Cary Fukunaga, the director of the Netflix-distributed film *Beasts of No Nation* made precedent-setting news by getting Netflix to tell him how many people had watched his film on the platform. See <http://www.businessinsider.com/netflix-streaming-giants-deals-with-studios-2015-12>.

value for each movie because it is only available for movies released in theaters. Instead, our distribution measures are based on the share of repertoires' total underlying value (based on the number of IMDb votes) that is distributed via a channel.

Using our universe of underlying movies—those with numbers of users rating them in IMDb—we can characterize the share of each origin's repertoire that is available through Netflix or in theaters. Moreover, using the number of users rating each work to create a proxy for the work's share of origin country value, we can construct estimates of the share of origin country value included in the distribution channel.

For each movie distributed and each distribution channel, we calculate the share of world (or relevant area) population whose country has access to the work. For the comparison of box office revenue with Netflix, we define the world as the list of 56 countries for which we have both box office distribution data 2008–2014 as well as Netflix distribution data. Effectively, this means many large countries of the world except China.¹⁶ We calculate the share of relevant area population with access to each work using 2014 country population, which we obtain from the World Bank.¹⁷

The fourth data set is the list of works distributed via Amazon Instant and the Apple iTunes Movie Store. These data are drawn from Justwatch.com.

4 Descriptive facts

4.1 Production and the geographic distribution of extant products

We use the list of works in IMDb with ratings as the universe of underlying works from each origin country. One challenge is that IMDb contains a wide range of works according to commercial value. As Waldfoegel (2016) documents, a large fraction of the recent works in the IMDb database, particularly those with few user ratings, are not commercially available. Our interest in the full census list of works from each origin country is more in the value of the work, relative to other works from that country, than in the number of works created. IMDb reports the number of users rating a work only when five or more have done so. Hence, our measure of value—the sum of ratings of an origin country's works—can only include those works with at least five users. While this excludes a large number of works, those works are presumably low-value works; and if so, their exclusion has little impact on our measure of origin value.

It is important, however, for the user measures to be correlated with the value of the works. To explore this we examine the relationship between worldwide box office revenue for titles and their user measures. Figure 1 shows these relationships for French- and US-origin movies for the period 2008–2014.¹⁸ The correlations are

¹⁶ See footnote 10 for the full list of countries included.

¹⁷ See <http://data.worldbank.org/>.

¹⁸ One may be concerned about the fact that IMDb is mostly a US-centric platform, which could potentially bias users and their rating in favor of US-products. Note, however, that we look at the relationship between box office revenue and user ratings *within* each origin country of production.

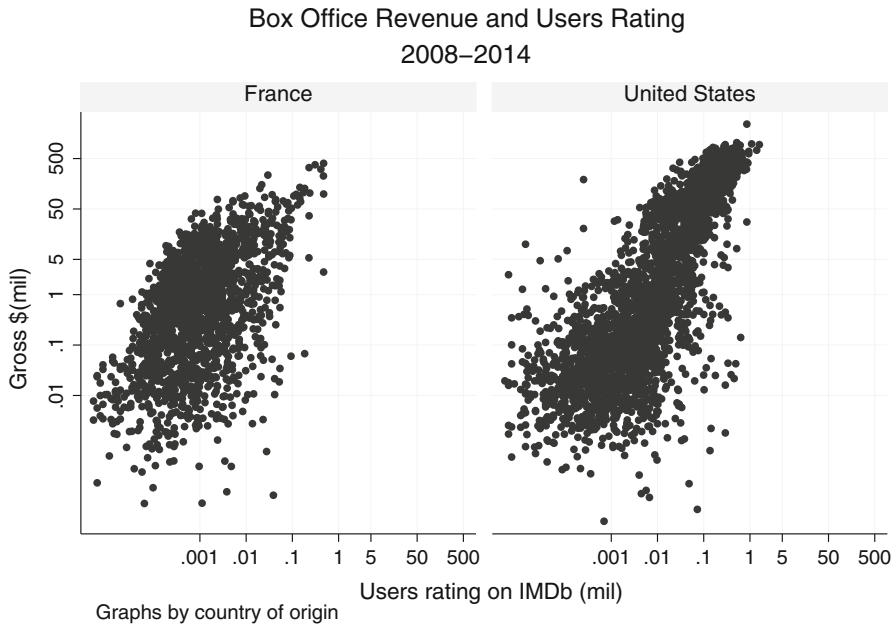


Fig. 1 Box office revenue and users rating

Table 1 Production of movies by origin (1980–2014)

Origin	Number (<i>N</i>)	Users (in mil.)	% of <i>N</i>	% of users
Australia	1928	4.4	1.4	0.9
Brazil	1595	1.1	1.2	0.2
Canada	5120	6.9	3.8	1.4
Denmark	1212	1.7	0.9	0.4
France	6393	16.1	4.8	3.4
Germany	4308	8.7	3.2	1.8
India	9049	6.3	6.8	1.3
Italy	3730	2.8	2.8	0.6
Japan	4204	5.0	3.2	1.1
Spain	2898	4.2	2.2	0.9
UK	8566	37.1	6.4	7.7
USA	47,577	361.3	35.1	75.5
Other	37,518	22.8	28.2	4.8
Total	134,098	478.6	100.0	100.0

The table includes all features in IMDb with at least five user ratings. “Users” is the number of users rating the work

high: 0.74 for France and 0.73 for the USA. The correlations are similarly high for other countries: 0.69 for Germany, 0.72 for the UK, and 0.80 for Spain. We conclude that the voter/user measure is a reasonable proxy for value.

We now characterize the volumes of production of movies around the world. Table 1 shows production of movies, by number of movies as well as the sum of

Table 2 Works Streaming in the USA on Selected Platforms. *Source:* Justwatch.com (retrieved March 2, 2016)

Platform	Number of movies	Number of series	Total
Amazon Instant	34,071	3193	37,264
Netflix	4186	725	4911
Apple iTunes	18,657	2398	21,055
HBO Now	912	73	985
Hulu	3246	1537	4783
Amazon Prime	7787	487	8274

movies' users, across origins, 1980–2014. Production of movies with user ratings reaches 134,098 works across the 192 producing countries. The USA is responsible for 35% of this output by number of works and 75.5% by our value proxy. The UK is next with 7.7% of both works and value, followed by India, France, Canada, Germany, and Japan each of which has about 3–5% of produced works. The table provides a few pieces of important information. First, the number of works produced is large relative to traditional distribution capacity. For example, US theaters exhibit roughly 500 movies per year (Waldfoegel 2016). Second, the shares of works from each origin country provide us with a benchmark for evaluating distribution. For example, if everything were available everywhere, then roughly a third of available titles would be US-origin movies.

Digitization has relaxed the constraint on movie distribution. In principle, there is no limit on the number of works that can be made available online. In practice, however, not all works are available through all (or any) channels. One of the major determinants is the choice of business model for streaming distribution. Broadly, there are two pricing models for distribution: a la carte and bundled. Amazon Instant and Apple operate two of the major a la carte services. These distributors share revenue with the producers, who retain 70% of revenue. Hence, the distributors have little incentive to limit the number of works on the platform, and catalogs are large. According to Justwatch.com, Amazon Instant distributed 34,071 movies and 3193 television series in the USA in early 2016. Apple carried 21,055 works. See Table 2.

Other distributors pay flat fees to producers for content and charge consumers flat fees for unlimited access. Under this model, a distributor incurs costs to include more content and generates revenue only if additional consumers subscribe. These distributors, such as Netflix, Hulu, Amazon Prime, and HBO Now, offer much smaller libraries. Table 2 presents information on their US libraries. What is important to note is that Netflix uses this curated model. Netflix distributes fewer than 5000 works in the USA compared with over 37,000 at the Amazon Instant service. Hence, they exercise managerial discretion in choosing which movies to obtain and distribute.

Characterizing whether Netflix is a US hegemon or a facilitator of frictionless trade is a bit like the proverbial blind person describing an elephant. From some perspectives, Netflix clearly promotes the availability of products from a variety of sources. Table 3 lists the most widely distributed movies, on the Netflix platform,

Table 3 Movies most widely available on Netflix, by origin. *Source:* unogs.com

Origin	Title	Number of countries	Number of IMDb users
Argentina	La Cienaga	53	3145
Australia	A 2nd Chance	243	314
Austria	The Counterfeiters	30	35,858
Belgium	Game Face	242	41
Brazil	City of God	56	513,391
Canada	My Little Pony: Equestria Girls	243	3409
China	Kung Fu Killer	90	4801
Colombia	Aluna	82	59
Czech Republic	The Rainbow Tribe	54	436
Denmark	Democrats	206	119
Finland	The Dudesons Movie	64	2780
France	Arthur 3: The War of the Two Worlds	78	5472
Germany	Capital C	233	141
Greece	Strella	11	2233
Hong Kong	Ip Man 2	103	63,780
India	Piku	221	13,677
Ireland	Life's a Breeze	58	682
Israel	Web Junkie	87	436
Italy	Bella Vita	196	69
Japan	Little Witch Academia	239	740
Mexico	Western	234	107
Nigeria	Fifty	109	55
Norway	Jo Nesbo's Headhunters	80	76,854
Poland	Joanna	35	225
Portugal	In Vanda's Room	11	792
Russia	Day Watch	46	29,895
South Korea	Oldboy	72	339,940
Spain	The Propaganda Game	184	1197
Sweden	The Best Intentions	46	2011
Switzerland	Tibetan Warrior	228	12
Thailand	Ong-Bak: The Thai Warrior	63	59,353
Turkey	Fort Bliss	47	1780
UK	Virunga	243	5609
USA	To Kill a Mockingbird	243	217,297

If a country has more than one movie available in the maximum number of Netflix countries, the table includes the movie with the most IMDb user ratings

Table 4 Works on Netflix by origin. *Source:* unogs.com

Origin	Number of movies	Number of series	Total
Argentina	94	16	110
Australia	198	56	254
Austria	31	1	32
Belgium	73	14	87
Brazil	84	15	99
Canada	559	162	721
China	90	5	95
Colombia	22	40	62
Denmark	139	11	150
Finland	30	10	40
France	851	77	928
Germany	356	45	401
Hong Kong	123	1	124
India	229	4	233
Ireland	55	11	66
Israel	34	3	37
Italy	209	11	220
Japan	535	206	741
Mexico	221	52	273
Norway	90	6	96
Other	718	70	788
Russia	39	0	39
South Korea	114	49	163
Spain	187	28	215
Sweden	90	17	107
Switzerland	32	2	34
Thailand	32	0	32
UK	1290	361	1651
USA	7804	916	8720
Total	14,390	2189	16,579

The table includes origin countries with at least 25 titles

from each origin.¹⁹ Belgium's LGBTQ documentary *Game Face* is available in 242 countries. Germany's *Capital C* is available in 233. Spain's *The Propaganda Game* is in 184.

While our analysis below focuses exclusively on movies, descriptive statistics on both the movies and TV series available on Netflix are informative. Netflix distributes 14,456 movies and 2209 television series into at least one of 243 countries around the world. Table 4 shows that of 16,579 works with origins, the major origins are as follows. Over half of the movies are from the USA, and just under half of the series are from the USA. The next largest source of works is the

¹⁹ While our analysis below will focus exclusively on movies, we still present descriptives on the TV series available on Netflix as they are informative of the works' origin carried by the platform.

Table 5 Availability of works on Netflix. *Source:* unogs.com

Country	Number of movies	Number of series	Total
Australia	1653	465	2118
Brazil	2982	576	3558
Canada	2859	638	3497
Colombia	2877	647	3524
Denmark	1730	357	2087
France	1536	399	1935
Germany	1447	362	1809
India	573	218	791
Italy	1019	205	1224
Japan	1431	421	1852
Mexico	2902	647	3549
Poland	594	225	819
Spain	1071	247	1318
UK	2428	558	2986
USA	4546	1102	5648

The table presents the number of works for a selected sample of destination countries

UK with 1651, followed by France with 928. The USA is large compared with any other country.

Not all of the works are available in all destinations. Table 5 shows these totals for selected countries. Netflix subscribers in the USA have 5648 works, while those in the UK have 2986. Others have many fewer. India has 791 movies and series. Poland has 819. Looking at this another way, and as Table 6 shows, the median number of destinations is 4 for the movies streaming on Netflix. The movie at the 75th percentile is available in 21 countries. The movie at the 90th percentile is available in 51 countries. At the 95th it is 72. At the 99th percentile, a movie is available nearly everywhere that Netflix serves (221 countries). Series are slightly more global in their availability. The median series is available in five countries. At the 75th percentile a series is available in 46 countries. At the 90th it is 99, and at the 95th it is 203. It is immediately clear from Table 6 that distribution is not mainly global. Most movies and series are available in just four countries or fewer. Hence, Netflix is not a global hegemon in the sense of providing one-size-fits-all programming to all destinations.

The breadth of distribution varies by origin. Table 6 shows the median number of destination countries for Netflix-available movies and series from the major origin countries. The distribution of a typical work varies by origin. For example, the median number of countries where a work from Colombia is distributed is 45. The median for the USA, by contrast, is 5 for movies and 2 for television series. This statistic, while interesting, is potentially highly misleading since the USA may have many more works distributed to many countries.

While the foregoing statistical characterization of Netflix distribution is in some ways enlightening, it does not lead to a summary quantification of the extent to

Table 6 Median number of destinations by origin *Source* unogs.com

Origin	Movies	Series
Argentina	11	3
Australia	7	8
Austria	2	1
Belgium	5	1
Brazil	1	1
Canada	4	6
China	8	46
Colombia	45	45
Denmark	3	5
Finland	3	2
France	7	14
Germany	4	4
Hong Kong	7	46
India	2	48
Ireland	5	14
Israel	5	17
Italy	3	1
Japan	1	1
Mexico	45	45
Norway	1	21
Russia	4	
South Korea	1	1
Spain	3	5
Sweden	4	4
Switzerland	2	29
Thailand	4	
UK	4	5
USA	5	2
Overall	4	5

The table presents figures for origins with at least 25 movies or series

which an origin repertoire is globally available. That requires a more refined measure, to which we now turn.

5 Characterizing origin repertoire availability

Measuring the extent to which a distribution channel provides access to an origin's repertoire is somewhat complicated, as it has two dimensions. These may be viewed as essentially the number of countries to which works from the origin are distributed, and the number of works from the origin that achieve distribution. An origin country o has some number of works available on the channel (m_o) from the underlying number of the origin's extant works (M_o). Each of the works i (from

origin o) is distributed in some number of countries by the channel. Define that number of countries for work i as n_i . Define N as the total number of countries in the world (or the total number of countries served by the channel). Because we focus on the comparison of Netflix and theatrical distribution, and since we only observe the latter in 56 destination countries, we define $N = 56$ for our analysis below.

Total coverage for an origin country would be for all of its extant works M_o to be distributed to all countries (N). This could be represented in a space with the share of works from an origin country on the horizontal axis and the share of countries where the movies are available on the channel on the vertical. We could order the movies from those distributed to the most countries to those distributed to the fewest. Complete coverage—all works available in all destinations—would have an area equal to one. The average geographic coverage of the origin repertoire would correspond to the area under the curve.

While the foregoing is intuitive, it can be refined further to reflect the facts that both destination countries and works differ in economic importance. First, countries differ in size, so rather than how many countries to which a work is distributed, one can instead characterize each work (from each origin country) by the share of world population to which the particular movie is distributed via the channel. Hence, define π_i as the share of population that has access to work i on a channel.

Just as not all countries are equally large, not all works are equally valuable. Suppose one had a measure of the importance of each work, then rather than weighting them equally by $\frac{1}{M_o}$, we could weight by relative importance. Suppose we had a weight for each movie from origin o , α_i , such that $\sum_{i=1}^{M_o} \alpha_i = 1$. Note that the value weighting is among works from its origin country. If a work is from Norway, its resulting weight is unaffected by the number of votes received by works from other countries such as the USA. Then our preferred measure, the value-weighted geographic coverage index of origin o , would be given by

$$\Phi_o = \sum_{i=1}^{M_o} \pi_i \alpha_i. \quad (1)$$

Intuitively, Φ_o is the area under a curve whose height shows the share of population reached by each movie from origin o and whose horizontal axis shows the cumulative share of origin country o 's work value.

Ideally, we would use some measure of interest in each product, such as box office revenue, to determine α_i . Note that we require a measure of value for each work from the origin country, not just for those that appeared in theaters. Hence, we will use the number of users leaving a rating at IMDb, which we have shown to be highly correlated with box office revenue (see Fig. 1).²⁰

In order to calculate α shares, we need the denominator, the sum of the user ratings across all works from each origin country. This in turn requires us to define the universe of underlying works from each origin. For the purpose of comparing Netflix with theatrical release, we simply choose a time window that corresponds to

²⁰ Note that the average rating given to each movie is only relevant to the users who see the movie, but does not allow us to measure the total volume of interest in a specific origin's catalog.

a period for which we have the most comprehensive box office data, 2008–2014. Thus, for example, we compute α for a particular movie from Norway as its number of IMDb voters divided by the sum of the numbers of all votes cast for Norwegian-origin movies originally released during 2008–2014.

One last caveat is in order. We treat theatrical distribution in each destination country as a binary variable—available or not—even though “availability” can vary between a few theaters for a week to thousands of screens for months.

6 Results

This section reports our basic result, the value-weighted geographic reach indices by repertoire for the theatrical and Netflix distribution channels. Before jumping to the results it is instructive to illustrate the calculation with two country comparisons.

Figure 2 represents the value-weighted geographic reach of the US- and French-origin movie repertoire in theaters for the period 2008–2014. The vertical axis shows the share of total population (of the 56 countries included in our data) reached by theatrical distribution, while the horizontal axis shows the share of the origin country’s movie value accounted for (according to IMDb users). Both axes run from 0 to 1. The lines start high, indicating that the most widely distributed works from each country reach most of the population of the 56 included destination countries. The top work from France reaches almost the entire population, while the top works for the USA reach the entire population. By construction the lines decline monotonically as we move toward less widely distributed movies. The left-hand panel indicates that about 30% of the value of French movies is distributed to at least 50% of the world population via theatrical distribution. Both origin countries’ lines hit the horizontal axis near unity, indicating that nearly 100% of the origins’ repertoires by value are distributed theatrically, at least somewhere.

Our summary measure of value-weighted geographic reach measure for each repertoire (Φ) is the area under the curve. Figure 3 reports this measure for many origin countries, ordered by size. US-origin repertoire has the highest value-weighted geographic reach at 0.45. France and the UK are next at about 0.35, followed by Australia and Germany at around 0.3. Spain is at 0.27. Other European countries are lower: Italy (0.13), Denmark (0.17), Sweden (0.15), Norway (0.08).

What about the patterns of origin availability for works distributed via Netflix? Figure 4 begins by comparing the Netflix π functions for France and the USA (again for the period 2008–2014). Here the contrast between France and the USA is sharper. The area under the US curve is much larger. The most distributed French-origin film on Netflix reaches close to 60% of the population, whereas the most distributed films from the USA reach the entire relevant population. Both countries’ lines hit the horizontal axis near 0.8, indicating that 80% of the origin countries’ repertoires, by value, is distributed *somewhere* via Netflix.

Figure 5 calculates the value-weighted geographic reach Φ for Netflix distribution of movies by origin. The USA again has the highest reach—about 17.5%—followed by Australia (16), Hong Kong (16), Mexico (13), the UK (12), and Sweden (11).

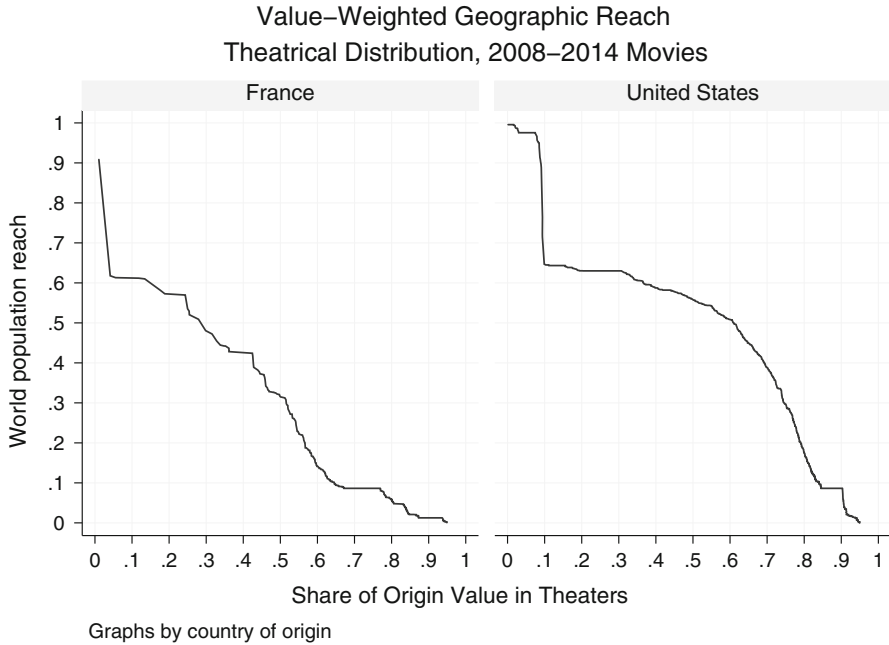


Fig. 2 Value-weighted geographic reach, theatrical distribution

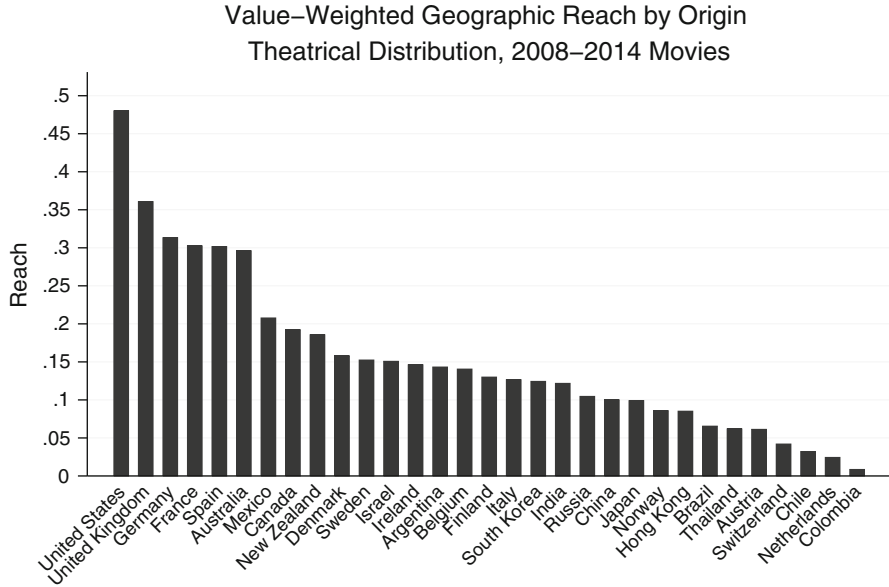


Fig. 3 Value-weighted geographic reach, theatrical distribution. *Note:* Countries with at least 15 movies appearing on Netflix

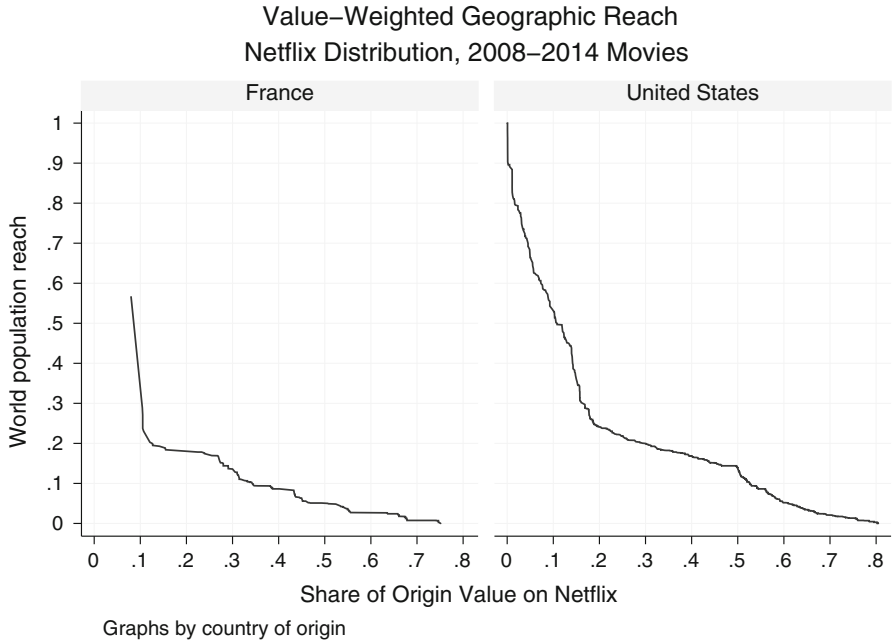


Fig. 4 Value-weighted geographic reach, Netflix distribution

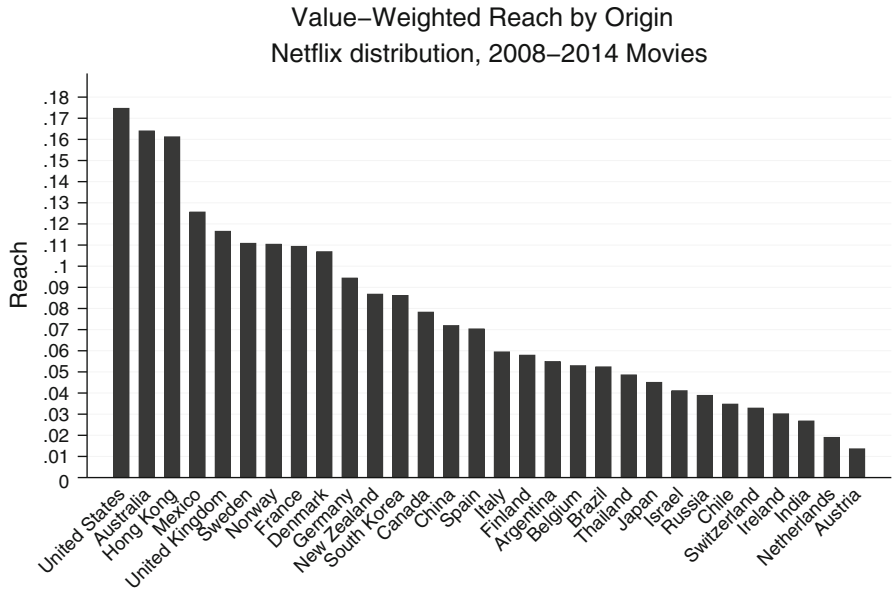


Fig. 5 Value-weighted geographic reach, Netflix distribution. *Note:* Countries with at least 15 movies appearing on Netflix

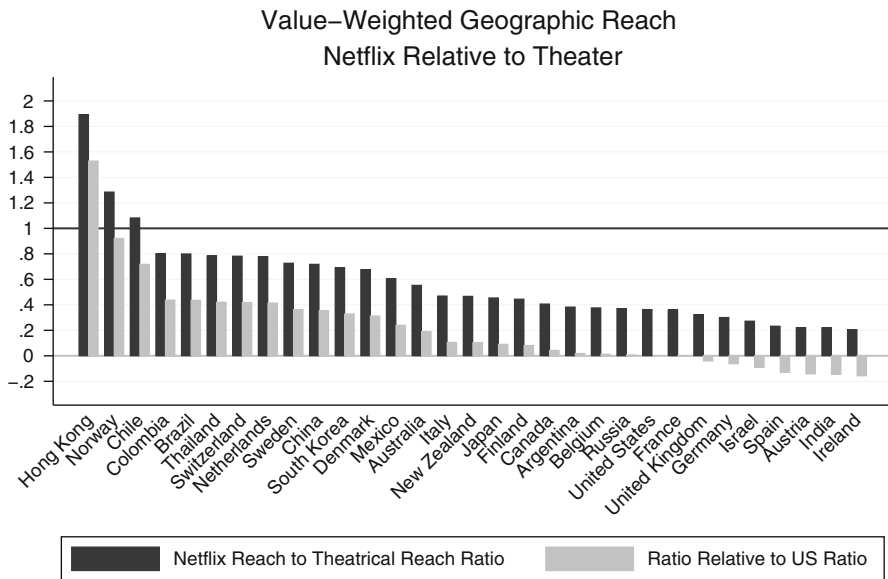


Fig. 6 Relative value-weighted geographic reach: Netflix versus theatrical. *Note:* Countries with at least 15 movies appearing on Netflix

Three points emerge from the comparisons of theatrical and Netflix distribution. First, theatrical distribution takes a higher share of value to more people for the vast majority of repertoires. Figure 6 compares our Netflix and theatrical value-weighted geographic reach measures. The black bars display the ratio of the Netflix reach to the theatrical reach from Figs. 5 and 3, respectively. For each country's repertoire, the gray bars present the difference between the country's ratio and the ratio of the US repertoire. It is clear from the figure that the value-weighted geographic reach of most repertoires is higher for theatrical than Netflix distribution. However, as indicated by the black bars, a few countries—Hong Kong, Norway, and Chile—have a larger reach on Netflix than on theatrical distribution. Second, while the USA leads both measures, the US dominance of Netflix is proportionally smaller. Third, while most countries have lower coverage through Netflix, most countries do relatively better than the USA, as indicated by the gray bars in the figure. These include, in particular, Hong Kong, Norway, Chile, Colombia, Brazil, Thailand, and Switzerland. Relative to the USA, France, the UK, Germany, Israel, Spain, Austria, India, and Ireland have lower coverage.

These results—that smaller countries do relatively better on Netflix than in theater—may arise for two complementary reasons. First, this may arise because movies that could not attract audiences to theaters may nevertheless attract enough viewing on Netflix to justify their digital carriage. Second, movies with broad commercial appeal—disproportionately from larger countries—may not be worth their cost to Netflix.

We have focused on value-weighted reach measures to show the share of origin movie value made available, but it is also interesting to explore unweighted

Value-Weighted vs Unweighted Geographic Reach
2008–2014 Movies

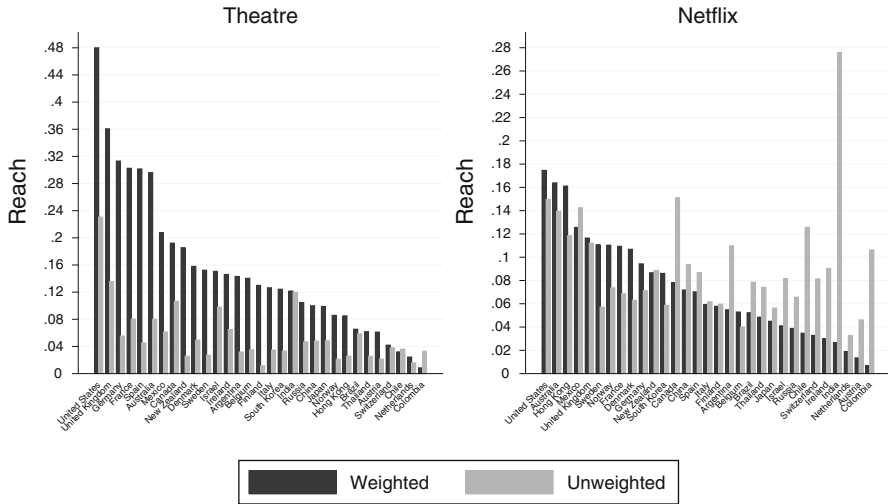


Fig. 7 Value-weighted versus unweighted geographic reach. *Note:* Countries with at least 15 movies appearing on Netflix

measures that show the share of origin country movies (as opposed to value) made available. The left panel of Fig. 7 compares weighted and unweighted reach measures for theatrical distribution. The weighted measures are generally and almost uniformly higher. While relatively few of the movies from each origin are distributed in theaters, these are high-value movies are distributed in theaters.

The right panel of Fig. 7 does the same exercise for Netflix distribution, revealing a very different pattern. The unweighted Netflix reach tends to be roughly as high as the weighted reach. This arises because Netflix distributes a large number of movies from each origin country but, again, does not distribute the high-value movies.

Putting the patterns of the two figures above together gives rise to the bottom-line comparison of weighted and unweighted version of the paper’s basic measure, i.e., the ratio of the reach measure via Netflix to the reach measure via theatrical distribution. See Fig. 8. The unweighted ratio is both unambiguously larger and almost uniformly above unity. This means that more movies from each origin are widely available through Netflix than through theaters, and substantially so. One might interpret this to mean that Netflix makes movies substantially more available than theatrical distribution. While this is a fulfillment of the promise of low-cost digital distribution, it is arguably a bit misleading, since the highest value movies are largely missing from Netflix.

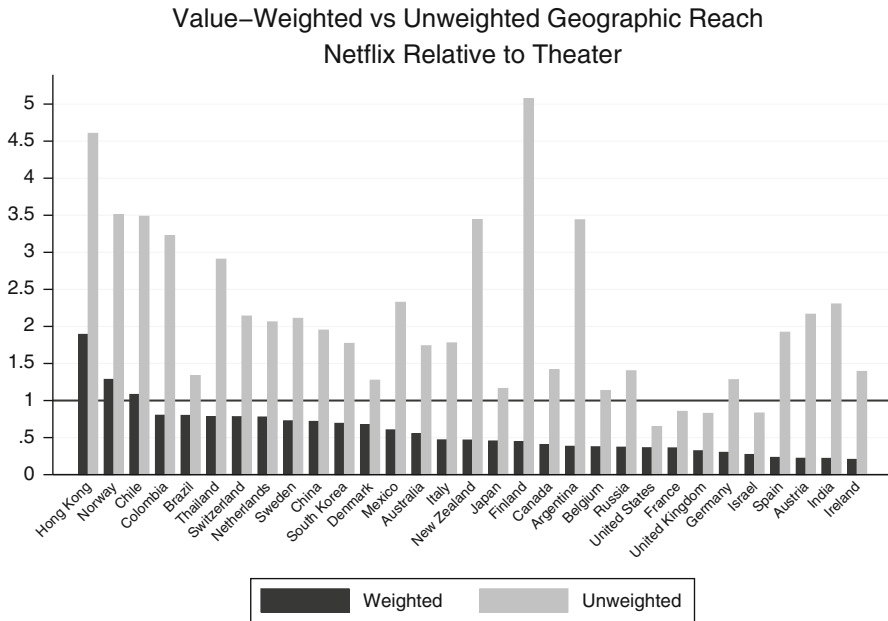


Fig. 8 Relative value-weighted and unweighted geographic reach

6.1 A la Carte versus bundled sales

One result that emerges clearly above is that Netflix carries a relatively small share of the value of origin country works. As suggested above, this likely arises from its curated business model, in contrast to passive services that retain, say, 30% of revenue. Especially from the standpoint of understanding how digitization might make origin repertoire more broadly available around the world, this raises the question: how does the availability of films compare across business models?

We lack complete data for addressing this, but we do have information on which works are available via Netflix in each country as well as which works are available on Amazon's Instant streaming service in the USA. Figure 9 shows the availability of works by vintage at US Netflix versus Amazon Instant. For works released in 1980, about 10% of the value (according IMDb votes) is on Netflix, compared with about 80% of value on Amazon. Both time series rise for more recent relative to earlier vintages, to 20% for Netflix and to 90% for Amazon.

Figure 10 shows the value-weighted share of origin repertoire streaming in the USA at Amazon versus Netflix. While Netflix carries about 10% of the repertoires of most origins (but 60% for Brazil and nearly 40% for Denmark), Amazon's Instant service carries about 80% for many repertoires. The contrast between the availability on Netflix in the USA and availability on Amazon's Instant services suggests that the business model employed by the distributor has a large impact on the extent to which digitization facilitates something more like frictionless trade.

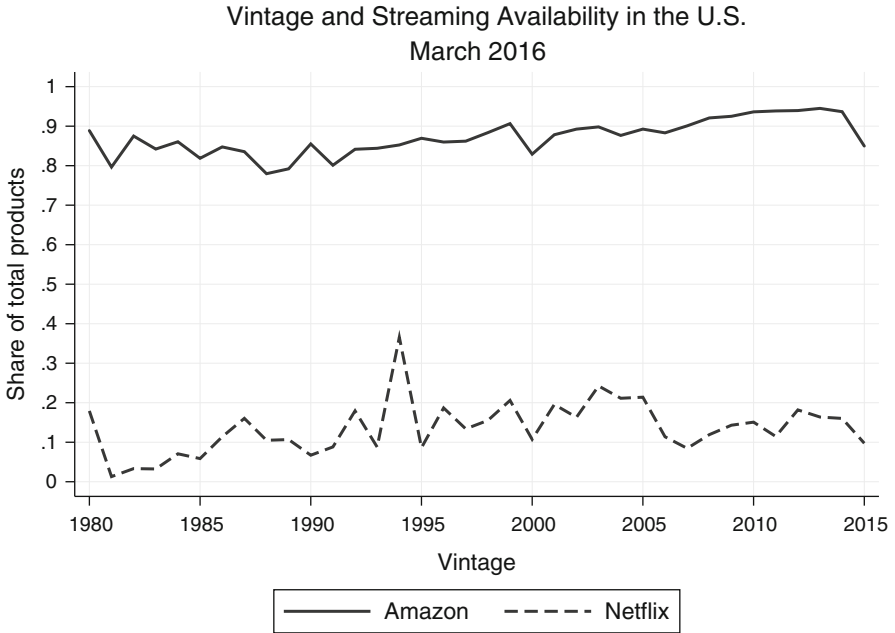


Fig. 9 Vintage and streaming availability in the USA

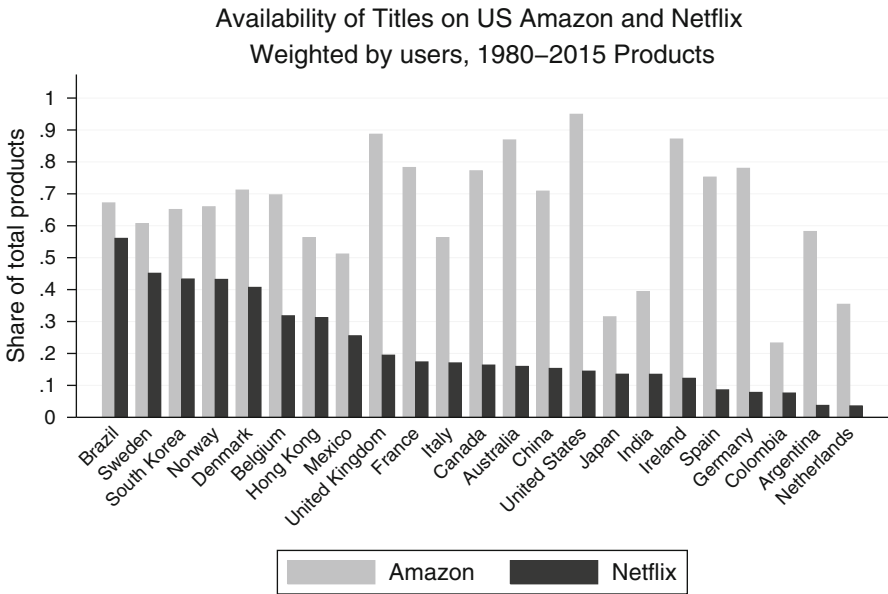


Fig. 10 Availability of titles on Amazon and Netflix, by country. *Note:* Countries with at least 15 movies appearing on Netflix

7 Discussion and conclusion

We have characterized the extent to which newly global Netflix makes available the products of different origin countries and, moreover, we have compared these origin availability patterns to those arising from theatrical distribution. The answer to the question we pose in the title is as follows. While both theatrical and Netflix distribution of films favor US-origin repertoire, the degree of advantage to US fare is far smaller via Netflix. Indeed, more origin repertoires fare relatively better than the USA on Netflix than in theaters. While the findings are interesting in themselves, it is important to note that the ultimate intended strategy of Netflix may differ substantially from Netflix at the launch of its global strategy.

In order to offer desirable programming bundles at launch, Netflix needs to license substantial amounts of preexisting content, such as movies and television programs, much of which is also available through other platforms. As of October 2015, for example, most of Netflix content was non-exclusive among US streaming platforms. Table 7 shows the numbers of movies and television series carried on each of the major US streaming platforms, along with the numbers titles exclusive to each platform. Of about 4,200 movies then on US Netflix, 648 were exclusive. Of 671 series titles, 136 were exclusive.

The degree of exclusivity is likely to change, and we can see this in two clear ways. First, Netflix has allowed many of its movie content deals to lapse. In late 2015, Netflix contract with Paramount Pictures' Epix unit, which give Netflix access

Table 7 Exclusive content on US streaming platforms

Platform	Total movies	Total series	Exclusive movies	Exclusive series
Amazon Instant	32,019	3302	7033	637
Amazon Prime	7068	197	199	10
Crackle	144	0	8	0
Fandor	4282	0	2575	0
Google Play	10,966	697	513	10
HBO Now	590	66	142	9
MUBI	28	0	13	0
Netflix	4236	671	648	136
PlayStation	11,290	1452	168	27
SHO	337	35	28	7
VUDU	16,320	1722	651	21
Xbox	16,891	2215	363	72
Epix	2587	0	511	0
Hulu	2773	1506	505	665
Hulu+	1593	517	613	77
iTunes	16,590	2197	1448	134
Realez	295	0	200	0
Universe	45,238	5023		

Calculated from Justwatch.com in October 2015

to thousands of movies including *Hunger Games*, came to an end without renewal. As *Variety* put it, “[t]he “fix” part of Netflix is about to get less precise.” The article continued,

It is not that Netflix does not want movies. It is that it wants exclusive rights, with titles you cannot watch on any other subscription service... Given Netflix’s trajectory, its pact with Epix was doomed. Netflix calls itself an Internet TV subscription service and compares itself to HBO... and so, by extension, it is also really a competitor to Epix.

The article draws a colorful conclusion: “In a certain light, then, Netflix carrying the movies from Epix is like McDonald’s cutting a deal to sell Whoppers.” In 2017 Disney’s distribution deal with Netflix ended.²¹

Second, Netflix is now viewed not only as a purchaser of content but also as a studio in its own right. In a *Wired* article entitled “Don’t Look Now, but Netflix Just Became a Traditional Studio,” the author described various recent decisions—including “multi-film partnerships with both the Duplass brothers and Adam Sandler’s production company” and its \$50 million investment “to finance *Snowpiercer* director Bong Joon-Ho’s next film” as follows: it is “not film acquisition, it is film production.”²² If these deals were not clear enough evidence that Netflix is becoming a studio, the February 2016 news that Netflix had leased a 323,000 square foot building at Sunset Bronson Studios, “the largest lease ever signed in Hollywood in terms of square feet,” according to *Variety*.²³

Both outside observers and Netflix itself compare it to HBO, which is an exclusive distributor of high-value content. For the past few years, HBO has been in competition with Netflix for access to exclusive content from the movie studios. *Techcrunch*’s headline description of a 2013 HBO deal with Universal Pictures is instructive: “HBO Inks Exclusive, 10-Year Deal With Universal To Keep Content Out Of Netflix’s Hands.”²⁴ If Netflix can attract substantial numbers of subscribers around the world, then it may be a difficult rival for HBO, which operates domestically in the USA, licensing its content abroad.²⁵

Not only has Netflix emerged as a potential horizontal competitor to other streaming services such as HBO, Netflix is also emerging as a vertical threat to content creators. As *Marketwatch* reported in 2016, “Many studios are reluctant to provide such rights for fear of giving Netflix too much leverage in future negotiations. Warner Bros. is particularly wary of a one-size-fits-all global deal with Netflix, people familiar with the company’s thinking said.”²⁶

²¹ See <https://www.cnbc.com/2017/08/08/disney-will-pull-its-movies-from-netflix-and-start-its-own-streaming-services.html>.

²² See <http://www.wired.com/2015/11/netflix-real-movie-studio/>.

²³ See <http://variety.com/2016/digital/news/netflix-lease-entire-14-story-hollywood-icon-office-tower-1201715932/>.

²⁴ See <http://techcrunch.com/2013/01/06/hbo-inks-exclusive-deal-with-universal-to-keep-content-out-of-netflixs-hands/>.

²⁵ See [https://en.wikipedia.org/wiki/HBO_\(international\)](https://en.wikipedia.org/wiki/HBO_(international)).

²⁶ <http://www.marketwatch.com/story/with-netflix-deal-expired-cw-seeks-new-streaming-partner-2016-01-10>.

It is conceivable that Netflix will at some point have some gatekeeping power over global content distribution, although given HBO's ability to license its content throughout the world, it is not clear that Netflix could exercise power over content creators seeking distribution.

While the strategic evolution of Netflix raises interesting economic questions about its horizontal competition with other platforms and its vertical relations with content producers, it also raises some intriguing questions about cultural trade and production. As we emphasized at the outset, the development of a distribution platform with global reach holds out the possibility of facilitating trade, both from large countries to small and vice versa. And Netflix seems to be engaged in trade in many directions (both from the USA to the rest of the world, as well as from origin countries such as Norway).

How this will progress as Netflix moves toward functioning as a studio is an interesting open question. Many of Netflix's signature programs—such as *House of Cards* and *Orange is the New Black*, *Jessica Jones*, *Daredevil*, and *Bloodline*—are both from the USA and about the USA. To the extent that Netflix will pursue a global strategy, to produce and widely distribute US-focused programming, its global expansion may deliver bad news to protectors of local cultural production. One the other hand, Netflix has already produced a series (*Narcos*) largely in Spanish, another (*Atelier*) in Japanese, and another in French, about France (*Marseille*).²⁷ As the Netflix audience evolves—as the service attracts subscribers in its 243 operating countries—the composition of its audience will change. This may, in turn, affect the prospects for programming hailing from different origin countries and appealing to different kinds of viewers.

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²⁷ See https://en.wikipedia.org/wiki/List_of_original_programs_distributed_by_Netflix.

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