

Globalization of Services in the Internet Age: A New Engine, Acceleration and Major Power Competitiveness*

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网络和信息技术从根本上改变了传统服务业低效率和不可贸易的性质，使服务全球化的推动力大大加强，网络时代服务全球化进程必将加速，不可逆转。在网络时代服务业全球化过程中，中国在发展阶段、市场规模、商业模式、网络和数字技术应用、开放程度等方面具有优势，将形成较强竞争力。基于文化和体育产业的分析表明，大国文化市场开放能提升本国文化元素在全球的影响力。

关键词：网络时代 服务全球化 大国竞争力 文化和体育产业

The Internet and information technology have fundamentally changed the inefficient and non-tradable nature of the service industry and greatly strengthened the impetus for services globalization. In the Internet age, the accelerating globalization of services is irreversible. In the course of this process, China will enjoy advantages in terms of development stage, market scale, business models, Internet and digital technology applications and degree of openness, all of which will give it greater competitiveness. An analysis of cultural and sports industries indicates that the opening up of large countries' cultural markets will increase the international influence of their cultural factors.

Keywords: Internet age, service globalization, large countries' competitiveness, cultural and sports industries

Over the last forty years, opening to the outside world to take advantage of the opportunities of globalization has been key to promoting China's rapid economic growth, structural adjustment and technological upgrading. In recent years, judgments about the stagnation, reversal and troubled future of globalization have predominated and aroused widespread concern. China has just entered the era of service-oriented development. If the globalization of services, which has long lagged behind the globalization of manufacturing, were to retrogress,

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it would have a substantial impact on China's future. Can China still maintain medium to high-speed growth and continuously improve efficiency by making use of both domestic and international markets and resources?

As a whole, China's theoretical research on the service economy and the globalization of services is relatively weak. This paper focuses on three points: 1) the theoretical issues—the impact of the Internet age on the development of service industries and the globalization of services; 2) judgments about trends—whether the trend toward the globalization of services will be reversed or continue; 3) the immediate issue—the impact on China of service globalization. This paper presents a case study of the cultural and sports industries, since they best reflect the characteristics of the service industry in the Internet age and will in future be the fastest growing industries and function as a conspicuous support to the economy.¹

I. Information Technology and the Globalization of Services: Radical Changes²

1. Traditional service industries: inefficient and non-tradable³

Low labor productivity has lingered on in the traditional service industries due to their essential features, noted by many of the classical economists. The British economist Adam Smith argued that the output of services was non-physical and could not serve to accumulate wealth as it perished in the instant of its production or performance, so he defined services as an unproductive activity.⁴ Marx, too, believed that much of the service sector was unproductive; importantly, he put forward the idea of the problem of inefficiency in service industries. He argued that the division of labor in the commercial sector was based on the specialization of its activities rather than on the process of mechanization. He added

1 There is little debate over the conclusion that the development of culture as an industry is influenced by the Internet age, but there is some controversy over whether sport is an industry. Sport in the sense of physical exercise has always been regarded as a public service basically aimed at improving the health level of the population. In many countries, especially in developed countries, however, sport is a major industry; it includes fitness, professional sports, outdoor sports, sports training, etc. In terms of both participants and spectators, sport not only offers a diversified low-cost means of participation, but also makes use of cyberspace for low-cost dissemination and viewing in the Internet age. For this reason, sport is among the industries most affected by IT and digital technology.

2 There are many definitions of the globalization of services. Our own definition states that the globalization of services refers to the emergence of an integrated international network in which the production and consumption of services and distribution of related factors of production cross national boundaries; the service industries of different countries are entwined and interdependent; and the international supply and consumption of services continues to grow. For further discussion, see Jiang Xiaojuan *et al.*, *Service Globalization and Service Outsourcing: Current Situation, Trends and Theoretical Analysis*.

3 For literature on the nature of service industries and service industry inefficiency, see Jean-Claude Delaunay and Jean Gadrey, *Services in Economic Thought: Three Centuries of Debate*. For a shorter overview, see Jiang Xiaojuan *et al.*, *The Service Economy in the Internet Age: China Entering a New Stage*.

4 Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*.

that the relative growth in the number of commercial enterprises was due to the fact that economic activities in the commercial sector were not easily mechanized and hence there were no economies of scale.⁵ Later economists, such as Say, regarded the service industry as productive from the perspective of the utility theory of value because services create utility,⁶ but few of his contemporaries paid adequate attention to the difference between production of services and manufacturing production, nor did they compare the efficiency of the two forms of production.

Victor Fuchs is among the pioneers of the modern theory of service economy. His 1968 monograph, *The Service Economy*,⁷ has become a classic. He stresses the inherent inefficiency of the service industry and attributes it to such factors as technology, labor quality and capital intensity.

William Baumol's 1967 paper is among the best-known writings on the service industry.⁸ He found that the high cost of services meant that many of the large cities in the United States suffered from a "cost disease," which led to financial crises. He put forward a macroeconomic growth model that divided the economy into two sectors on the basis of their productivity growth: the progressive sector, represented by manufacturing, and the non-progressive sector, including municipal government, education, the performing arts, restaurants and leisure time activity, with live performances being an extreme example.

The definition of service widely used today is still the one given by Hill in 1977, "A service may be defined as a change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of activity of some other economic unit, with the prior agreement of the former person or economic unit." He adds that "[s]ervices are consumed as they are produced in the sense that the change in the condition of the consumer unit must occur simultaneously with the production of that change by the producer: they are one and the same change. ...the fact that services must be acquired by consumers as they are produced means that they cannot be put into stock by producers."⁹ This indicates that in traditional economic analysis, services have the following properties.

First, they produce non-material output, characterized by "synchronicity" (the production process requires the participation of consumers and service supply and consumption occur simultaneously) and "non-storability" (a service is a process that perishes in the instant of performance; its production and consumption cannot happen at different times). Education, healthcare, artistic performances, and security and housekeeping services are typical

5 Marx's view on services is quoted from Jean-Claude Delaunay and Jean Gadrey, *Services in Economic Thought: Three Centuries of Debate*. His view that services did not create value had an important influence on the economic operation and industrial structure of socialist countries.

6 Jean-Baptiste Say, *Catechism of Political Economy*.

7 Victor R. Fuchs, *The Service Economy*.

8 William Baumol, "Macroeconomics of Unbalanced Growth: The Anatomy of an Urban Crisis," pp. 415-426.

9 T.P. Hill, "On Goods and Services," pp. 315-338.

examples.

Second, one of the most important derivative features of synchronicity and non-storability is that services are non-tradable at a distance. For example, commercial retail can sell goods only to face-to-face customers, and artistic and sports performance services can only be provided to an on-site audience. Long-distance trade is ruled out by its extremely high costs.

Third, labor productivity has long been relatively low in the service industries, as they are unable to access more efficient machinery and equipment and lack economies of scale. In manufacturing industry, labor productivity has risen rapidly, and falling unit product costs have been accompanied by a relatively rapid rise in wages. In the service industry, however, workers' wages have to go up despite the absence of improvements in labor productivity, resulting in an increase in the price of services. The service industry's share of employment increases due to increased demand and the stagnation of its labor productivity rate. Accordingly, the economy's overall productivity growth inevitably declines.

Given that a considerable part of services is non-tradable, the proportion of services trade in total global trade has been relatively low, accounting for less than 10 percent until the 1970s. This confirms that long-distance international trade in services was then almost impossible.

2. Information technology, long-distance trade and globalization of services: an analysis focusing on the cultural and sports industries

In recent years, trade in services has accelerated for the following reasons. First, the development of IT means that various services related to information production and processing can be provided across long distances at a low cost. In the early 1990s, with the introduction of services storage media, the System of National Accounts 1993 (SNA93) supplemented its description of traditional service industries with a service industry group comprising the production of general or specialized information, news, consultancy reports, computer programs, movies, music, etc. The output of these industries is often stored on physical objects that can be traded like ordinary goods. It can be seen that these new services are storable and tradable. Second, the development of transportation and communication technologies has resulted in a steep decline in the cost of long-distance services. Third, the intermediate demand for services, or producer services, has increased. Services such as information, finance, logistics and commercial services are strongly tradable, accounting for more than two-thirds of total world trade in services.

More generally and more importantly, the globalization of services presents new features and trends that draw on satellite television and the Internet. Cyberspace offers a multitude of cross-border services, greatly improving the productivity of the services sector, especially in cyberspace industries. Satellite TV and Internet technology have allowed services that could previously only be offered on site, like the cultural and sporting performance industries, to acquire a brand-new industry character and business model. Consumers can enjoy a large number of programs at a very low cost, and the scale of consumption can be greatly expanded through satellite television, which delivers performances across the world, and online, which

offers various replicable low-cost means of viewing.

This quintessential change in cultural goods is demonstrated in the relevant theoretical research. Most of the theoretical studies by the world's cultural economists over the last decade and more have expanded on the "local market effect"¹⁰ of the new trade theory. The "extremely significant effect of economies of scale" is often regarded as the most important hypothetical premise of this model, while the "extremely high fixed to variable cost ratio" is seen as a significant feature of cultural goods; in many theoretical models, the variable cost is even assumed to be zero.¹¹ At the same time, the transport costs of the classical international trade models are usually assumed to be zero in the literature on cultural trade theory, being replaced as trade costs by "cultural distance" or "cultural discount."¹² This indicates that international cultural trade researchers are well aware that there have been huge changes in the productivity of cultural goods; they have undergone a fundamental transformation from their original non-tradable status to tradability. The fact that the trade cost of cultural goods is lower than that of the vast majority of manufacturing goods means that the former are more tradable than the latter.

Thanks to the global connectivity of cyberspace, a good artistic product now targets consumers all over the world. This huge market is fertile soil on a massive scale for individual works, with the best cultural products often gaining enormous profits. Labor productivity will never be the same. Until the 1980s, hardly anyone in the cultural field could make a lot of money out of a single song, musical composition, or novel, and this was even truer of highbrow symphonies, operas or ballet. Consumers may have embraced them, but they had no chance of enlisting a large consumer base.¹³ Today, on the other hand, a single song, movie or TV program can easily spread across the world, gaining a market worth tens or even hundreds of millions of dollars.

Knowledge-intensive services are another field that can be transmitted over long distances across the globe. A significant portion of these services, such as education and training, online transactions, distance education and medicine, supply chain management, investment and management consultancies, and marketing and customer services, can be provided remotely through IT.

In short, the Internet age has seen a marked improvement in the productivity and globalization of the service sector, with some services even outperforming modern manufacturing. For example, online programs and text messages can be copied countless times at a very low cost on the Internet, producing noteworthy economies of scale with

10 See Elhanan Helpman and Paul Krugman, *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition and the International Economy*.

11 Patrick Francois and Tanguy van Ypersele, "On the Protection of Cultural Goods," pp. 359-369.

12 James E. Rauch and Victor Trindade, "Neckties in the Tropics: A Model of International Trade and Cultural Diversity," pp. 809-843.

13 See Jiang Xiaojuan, "Service Industries in Cyberspace: Productivity, Constraints and Prospects: A Case Study of Sports and Cultural Industries."

unlimited increasing marginal returns unrivalled by any goods in the manufacturing sector.¹⁴

3. *The relatively rapid growth and increased share of global services trade*

From the 1980s on, the share of services trade in global trade as a whole started to rise, exceeding 20 percent in 1990 and reaching 23.76 percent in 2016. Our previous analysis suggests that the proportion of services that can be traded at a low cost over long distances should be on the rise,¹⁵ a conclusion that has been confirmed by the statistics. The share of cultural services trade in total services trade rose significantly from 5.44 percent in 1970 to 9.45 percent in 2017.

In short, cyberspace services present significant new features, accelerating the globalization of services.

(1) Economies of scale are striking, and the global market is a standard target

The services offered in cyberspace have cast off the low labor productivity and distance barriers of their antecedents. It costs almost the same to serve an audience of one or an audience of millions, a domestic audience or a foreign audience. To maximize economies of scale, all cyberspace services strive to reach the global market.

(2) The economies of scope are striking, and global product provision is a standard feature

An Internet platform must have a large amount of content; once consumers log on, they expect all their relevant demands to be met. As a result, platforms offer as many global product lines and as much service content as possible in order to maximize their platform effects. For example, at least 10,000 programs are available simultaneously on the main video websites in China, an offering unrivalled by any cinema chain, theater group or television channel. Foreign programs account for about 20 to 60 percent of the total.¹⁶

(3) The labor force is separable from labor services; global services are a standard feature

International trade theory indicates that the gap in service prices between countries at different income levels is greater than the gap in prices of manufacturing goods. For instance, in 2004, the labor costs of security services in the United States were at least twenty times higher than that in China (US\$40,000 vs ¥9,600 per person/year).¹⁷ However,

14 See Jiang Xiaojuan, "Resource Reorganization and the Growth of the Service Industry in an Interconnected Society."

15 The statistics for cultural trade have always been incomplete. This paper uses the statistical method for cultural trade of the report *The Globalization of Cultural Trade: A Shift in Consumption* published by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2016. The data come from "Charges for the Use of Intellectual Property" and the sum of the import and export of "Personal, Cultural and Recreational Services" in the current account of the balance of payments of the International Monetary Fund (IMF) balance of payments dataset. Some researchers believe that this method underestimates the statistics of cultural trade: see the *Global Music Report 2017* of the International Federation of the Phonographic Industry (IFPI).

16 The data represent the results of our calculation of the total number of programs and the number of programs by classification provided by China's top four video websites: Tencent Video, iQiyi Video, Sohu.com and Youku Tudou. Due to space limitations, we have not provided the detailed classification data; it can be obtained from the authors on request.

17 The data comes from our study of four cross-border security service companies in Beijing in 2004.

providing such services over long distances was almost impossible in the past, due to the high cost and constraints of cross-border human capital. Today's cyberspace services are extremely convenient, and US security companies frequently use video systems to outsource surveillance operations to security companies in China and other developing countries. This is an extremely important change, since providing cross-border services without the need for cross-border movement of personnel overcomes the primary obstacle to trade in services. The low-cost labor force in a large number of developing countries can make its services available to the whole world without crossing national borders. "Living locally with a job overseas" has become a reality.

II. The Driver of Globalization of Services: The Concerted Force of All Stakeholders

1. Providers are opening up the international market: the globalization of service production

Due to significant economies of scale and scope and the extremely low cost of cross-border transactions, many service providers attach equal importance to domestic and international markets. The scale of some overseas markets has exceeded or come close to the domestic market. To use the technical vocabulary of international trade, services are quite highly import- and export-dependent.

Some characteristics of the production of cyberspace cultural goods determine that they are strongly inclined to "maximize their audience."¹⁸ Their extremely high fixed to variable cost ratio means that once cultural goods take off, their profits increase dramatically. Once the break-even point is exceeded, additional unit sales make profits soar. In order to maximize their audience, many cultural goods adopt the "secondary sales" model; that is, a single product targets both the advertising market and the audience market. This further strengthens the tendency to seek audience maximization, under which mainstream cultural goods become increasingly inclined to apply the principle of "least offence" in the selection of cultural elements. This principle strives to avoid cultural products that could hurt the feelings of any national or ethnic group and seeks to meet the shared cultural demands of people with different cultural backgrounds,¹⁹ so as to enable cultural goods to expand to a worldwide market.

2. Consumers can choose services across the world: the globalization of service consumption

International experience suggests that when income reaches a certain level, the structure of service consumption in different countries tends to converge. It is this convergence of "service consumption tastes" that enables multinational service enterprises to use standardized technologies to provide the same services to customers around the world. The

18 See Sherwin Rosen, "The Economics of Superstars"; David Hesmondhalgh, *The Cultural Industries*.

19 Michael Curtin and Jane Shattuc, *The American Television Industry*.

online consumption of cultural services has a quintessential feature that facilitates globalized consumption; that is, network externalities²⁰ or the economies of scale effect of consumption.²¹ This makes the marginal utility consumers obtain from cultural services into an increasing function of the number of existing consumers. As people find that the products they consume are consumed by more people, the utility they get from the consumption of cultural services increases,²² since their consumption has a certain “social function.” Some research has found that the falling cost of communications in the Internet era has facilitated network externalities’ crossing of national borders, thus facilitating the worldwide convergence of consumption of cultural services.²³

3. Investors are seeking investment opportunities across the world: the globalization of services investment

In recent years, a number of large film producers have been increasing their investments in international blockbusters targeting global audiences. Of the world’s top hundred highest-grossing movies in 2017, eleven and nine respectively had Chinese companies as their first or second producer; and in the ranking of the 293 best movies in the world in the same year, 115 were co-produced by two or more regions, accounting for 39.24 percent of the total number and 50.18 percent of total box office revenue.²⁴

A similar situation has emerged in the sports industry. In recent years, a large number of Europe’s famous football clubs have been acquired, in part or in whole, by foreign investors. Our statistics indicate that since 2010, at least 44 cross-border acquisitions have occurred in football clubs in the five biggest European football leagues (the Big Five), involving a total sum of US\$5.2 billion. They were acquired by companies or individuals from China, the United States, Russia, Malaysia, Kuwait, Thailand, Qatar, India, Egypt, Greece, Singapore and others.²⁵

III. Openness and Cultural Diversity: An Analysis of Industry Concentration

The previous analysis demonstrates that the globalization of services is an irreversible

20 Günther G. Schulze, “International Trade,” pp. 236-244.

21 Michael L. Katz and Carl Shapiro, “Technology Adoption in the Presence of Network Externalities,” pp. 822-841.

22 Eckhard Janeba, “International Trade and Consumption Network Externalities,” pp. 781-803.

23 James E. Rauch and Vitor Trindade, “Neckties in the Tropics: A Model of International Trade and Cultural Diversity,” pp. 809-843.

24 Calculated by the authors based on data from boxofficemojo.com.

25 The data have been compiled by the authors on the basis of the *Union of European Football Associations (UEFA) Club Licensing Benchmarking Report of Financial Year 2015* (released on January 12, 2017 on the UEFA website) and the information on Hupu.com, Tencent Sports, Sohu Sports and other media websites. Due to space limitations, the names of the parties to the transactions, the amount expended on the acquisitions in each case, etc., are not provided here, but can be obtained from the authors upon request.

trend in the Internet age. What does this mean for China? And what advantages are at its disposal in this process? Taking the opening of cultural industries as an example, this section focuses on the important advantage possessed by China in the course of its integration into services globalization: the country's open market raises its ability to communicate its culture throughout the world.

1. Opening up a large country's market and disseminating its local cultural elements: an overview of opinions and a description of the situation

To increase their overseas market share, many cultural and entertainment products attach importance to the cultural elements of their target market. In recent years, non-American actors have appeared in a large number of Hollywood movies. Their emergence is not because they previously performed poorly, but rather because Hollywood movies now need them to facilitate their entry into overseas markets.

In recent years, a number of Hollywood movies with Chinese themes or Chinese cultural elements have been produced, with a view to the rapid expansion of Hollywood's share in the Chinese market. This is indeed an important pathway, since we have long stressed that the export of Chinese cultural goods is conducive to the dissemination of Chinese cultural elements. At the same time, the evidence shows that opening up the Chinese cultural market to the outside world is also conducive to the dissemination of Chinese cultural elements across the world; at the present stage, some cultural representations can spread more rapidly and widely through this route. Some of the Chinese-themed movies made in Hollywood in recent years offer an intensive embodiment of elements of Chinese culture, including Chinese *kung fu*, the martial arts spirit, Confucian and Taoist thought, Zen, Chinese landscape painting, acupuncture and moxibustion, customary dress, Chinese cuisine, distinctive streets, time-honored brands (*laozihao*), *taiji*, and brush calligraphy. By comparison, although some Chinese movies are among the world's highest-grossing each year, they are shown in a very limited number of places around the world, with most of the box office results coming from the mainland of China. In terms of the international dissemination of Chinese cultural representation, they are far less effective than the internationally produced blockbusters with Chinese themes or Chinese cultural symbols like *Kung Fu Panda*, *The Great Wall* and *Crouching Tiger, Hidden Dragon*.

The situation is similar in professional sports events, where that the importation of foreign players and coaches can attract audiences in their home countries. To open up the Chinese market (the largest overseas market), the US National Basketball Association (NBA) has introduced Chinese elements throughout its industry chain. By drafting Chinese players like Yao Ming, the NBA soon penetrated the Chinese market. The Houston Rockets have become the home team of many Chinese fans; whenever Yao Ming was playing, Chinese television channels broadcast the match live; print and online media kept him trending in the public eye; and enterprises placed a multiplicity of targeted advertisements. Other measures included organizing competitions in China where Chinese elements were incorporated in the event

design, e.g., decorating a stadium with Chinese cultural elements during the Spring Festival, having players congratulate the Chinese audience in Mandarin, designing mascots and souvenirs with Chinese-type patterns, or organizing NBA stars to tour China and interact with Chinese fans.

The theoretical basis of the conclusion that a large country's cultural opening up is conducive to the dissemination of its culture is the "cultural discount" concept in cultural trade.²⁶ This holds that because consumers prefer locally produced cultural goods or goods with local cultural elements, the export of globalized goods to a particular country entails "cultural discounts," which form an important part of trade costs.²⁷ A product that contains local cultural elements can more easily flourish in the local market while reducing trade costs.²⁸ In order to maximize market share, cultural goods targeting overseas markets tend to infiltrate a single large market by adding that market's cultural elements to shorten the cultural distance between them. Although the relationship between liberalization of international trade and cultural diversity is subject to dispute, a consensus exists in the literature of cultural trade theory that a large country's opening up of its cultural industry is conducive to the dissemination of its culture. Almost all of the relevant theoretical studies find that cultural trade liberalization has led to a reduction in the types of cultural goods or had a negative effect on cultural security in small countries, but there are virtually no studies showing that cultural trade liberalization has been detrimental to a major power.²⁹ Below, we present our empirical analysis of the view that the expansion of the Chinese cultural market is conducive to the dissemination of Chinese culture across the world.

2. Market openness and changes in industry concentration: a quantitative analysis

In products where the effect of economies of scale is obvious, there is a trade-off between optimum output and diversity,³⁰ and this is characteristically true of the cyberspace cultural services industry. When aggregate demand is constant, diversity damages the effect of economies of scale, but increasing the production of a single product damages diversity. Only when the market has expanded can the two be organically united. This section analyzes the

26 Colin Hoskins and Rolf Mirus, "Reasons for the US Dominance in International Trade in Television Programs," pp. 499-504.

27 Yuki Takara, "Do Cultural Differences Affect the Trade of Cultural Goods? A Study of Trade in Music," pp. 1-25.

28 James E. Rauch and Victor Trindade, "Neckties in the Tropics: A Model of International Trade and Cultural Diversity," pp. 809-843.

29 Patrick Francois and Tanguy van Ypersele, "On the Protection of Cultural Goods," pp. 359-369; Eckhard Janeba, "International Trade and Consumption Network Externalities," pp. 781-803; Anne-Celia Disdier, Keith Head and Thierry Mayer, "Exposure to Foreign Media and Changes in Cultural Traits: Evidence from Naming Patterns in France," pp. 226-238; Martin Richardson and Simon Wilkie, "Faddists, Enthusiasts and Canadian Divas: Broadcasting Quotas and the Supply Response," pp. 404-424.

30 Avinash K. Dixit and Joseph E. Stiglitz, "Monopolistic Competition and Optimum Product Diversity," pp. 297-308.

relationship between the expansion of global movie box office size and the degree of regional and language concentration of movie production, so as to verify the above views and analyze the contribution of the Chinese market variable.

(1) Indicator setting and description

We used the Herfindahl-Hirschman Index (HHI) to measure market concentration, setting it as the sum of the squares of the total movie box office results of movies made in different regions or different languages as a proportion of annual world box office results. The formula is as follows:

$$HHI_t = \sum_{i=1}^n MS_{it}^2$$

where MS_{it} has two meanings. When i refers to a country or region, MS_{it} denotes the market share of movies from that country or region as the first production region in year t , and when i refers to a language, MS_{it} represents the market share of movies with that language as the first language in year t . The index HHI_t measures the regional and language concentration of movies worldwide in year t , the lower the index, the lower the concentration, and the stronger the regional and language diversity of the movies in year t .³¹ Using the box office data of 7,050 films in the global film rankings from 1989 to 2017,³² we analyzed the diversity of the world movie market and observed its relationship with the changes in total movie box office for the world and for China³³ on the basis of changes in the HHI in successive years.

(2) Calculation results

The expansion of the market has been accompanied by a decline in the level of concentration and a rise in diversity. Whether considered in terms of language or region, over the 29 years from 1989-2017, as the size of the movie market continued to grow, the market concentration of the world's movies displayed a falling trend, while the diversity in the films audiences were watching across the world showed a trend of dynamic increase. In relative terms, the regional concentration of film-making fell the fastest, going from 0.93 in 1989 to 0.42 in 2017; while the fall in language concentration was limited, only going down from one in 1989 to 0.83 in 2017. To a certain extent, this may be explained by the network externalities

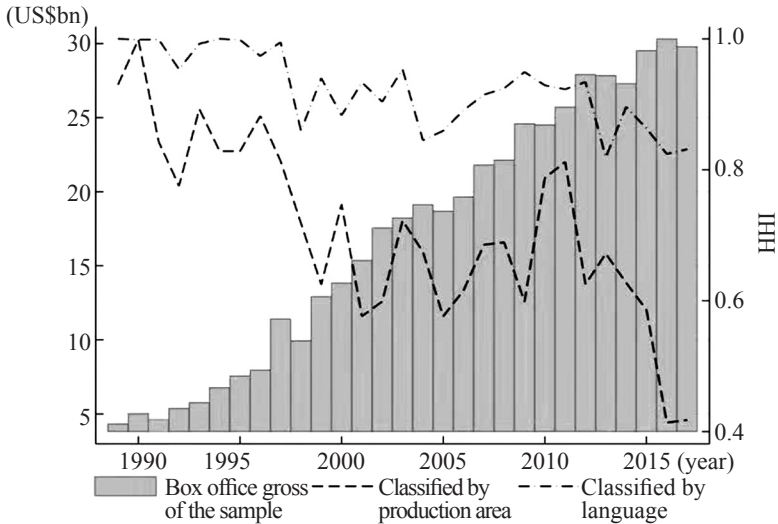
31 The HHI used in this paper is a common measure of market concentration. It can reflect cultural concentration or diversity since it measures movies' regional and language concentration by using regions and languages as the classification standard.

32 The data are based on the worldwide box office results on boxofficemojo.com as well as all the data collected from the Internet Movie Database (IMDB), maoyan.com and the Motion Picture Association of America website (mpaa.org) from 1989 to 2017. The final sample includes data on 7,050 movies in the period 1989-2017. The main indicators used include year of release, language, worldwide box office results, Chinese box office results and production region.

33 We carried out the calculation in two steps using Stata 14. We first included all the movies in the 1989-2017 rankings to compute the two types of HHI. We next calculated HHI after removing the Chinese market, and then compared the results of the first and second steps to measure the influence of the Chinese market on the global movie market.

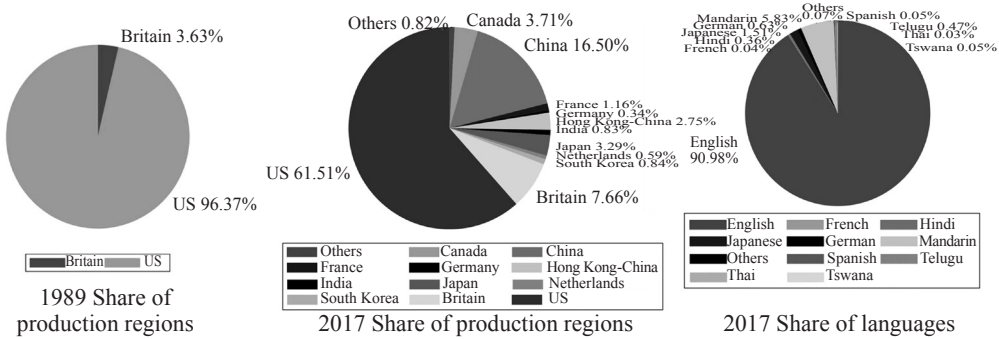
of language being much greater than movie-making (see Figure 1).

Figure 1 Yearly Box Office Gross and HHI



Source: Calculated by the authors using data from boxofficemojo.com.

Figure 2 Market Share of Production Regions and Languages in Worldwide Box Office



Source: Calculated by the authors using data from boxofficemojo.com.

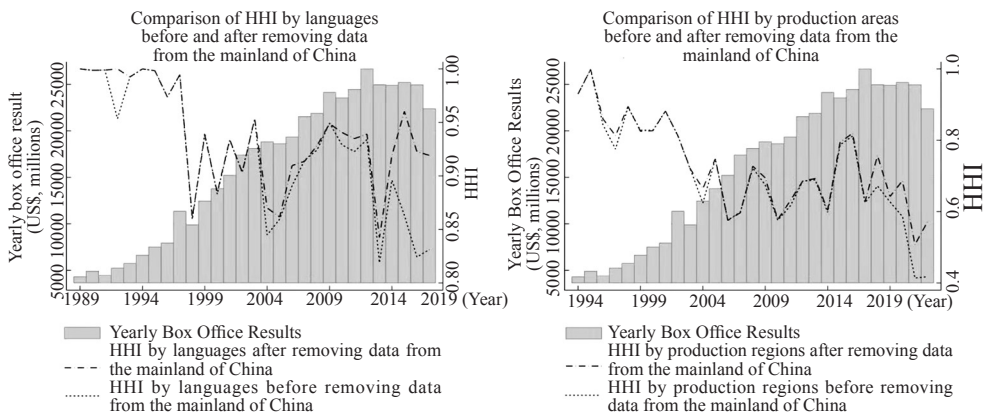
3. The influence of a large country: what would the figures look like without China?

In recent years, China’s movie market has witnessed a rapid rise, contributing the main share of growth in the world movie market. Except for one or two years, the box office gross in China has maintained a high growth rate over 2006-2017; since 2010, annual growth has registered more than 20 percent, and in 2014 it even reached 24 percent.³⁴ Some representative

34 Calculated by the authors based on data from the website of the National Bureau of Statistics of China and the website of the Motion Picture Association of America (mpaa.org).

facts³⁵ give us grounds to believe that the expansion of the Chinese market is a key reason for the world's movie diversity in recent years. To verify this conclusion, we calculated HHI after removing the Chinese box office results,³⁶ then compared these figures with the previous results to analyze the influence of the Chinese market on the concentration and diversity of the world movie market. We found that removing China's box office results increased HHI both when classified by language and when classified by production region. For example, in 2017, HHI classified by language increased from 0.83 to 0.92, while HHI classified by production region grew from 0.41 to 0.57 (see Figure 3). The fact that the Chinese market has lowered the global HHI indicates that it is an important variable that reduces the concentration and increase the diversity of the world movie market.

Figure 3 Comparison of HHI Before and After Removing Data from the Mainland of China



Source: Calculated by the authors using data from boxofficemojo.com.

35 The success of some non-English language movies in terms of worldwide box office gross in recent years is largely due to their good results in the mainland of China. An example is *Genius Gunners*, Thailand's local box office champion. The box offices results for its first day in Chinese mainland surpassed its yearly gross in Thailand. According to our statistics, the Chinese market accounts for a high proportion of all the top highest-grossing non-English movies, such as *Wolf Warriors 2* (Mandarin, 98.13 percent), *The Mermaid* (Mandarin, 96.61 percent), *Your Name* (Japanese, 23.46 percent), *Dangal* (Hindi, 66.69 percent), *Mojin: The Lost Legend* (Mandarin, 99.07 percent), *Lost in Hong Kong* (Mandarin, 91.3 percent), *Journey to the West: The Demons Strike Back* (Mandarin, 97.32 percent), and *Goodbye Mr. Loser* (Mandarin, 99.08 percent). With the exception of the French movie *Intouchables* and the Japanese *Spirited Away*, which were not shown in the mainland of China, Chinese mainland has contributed significantly to the worldwide box office results of the other non-English films.

36 We conducted the verification in four steps. 1) We obtained the China mainland box office results for all the movies in the sample and converted them to US dollars according to the exchange rate for each year given in the *China Statistical Yearbook*; 2) We removed the mainland of China's box office results from all the movies; 3) We calculated the two types of HHI using the full sample data but excluding that from the Chinese market; 4) We compared the results of the third step with the data obtained before removing China's box office results.

Our analysis indicates that measured over a long time series interval, market expansion can actually ease the constraints of diversification on products with obvious economies of scale. The rapid growth of China's movie market in recent years has become the most important driving force for the growth of the global movie market, as well as an important influence that enhances the diversity of movies across the world. To go further, one could say that the rise of the Chinese economy has introduced new possibilities for the revival of the world's cultural diversity.

The openness of China's movie market growth provides a new space for cultures across the world, and more importantly, offers a rare opportunity for enhancing the international influence of Chinese culture through the "cultural discount" theory mentioned above. In our sample, the box office market share of movies using Mandarin as the first language has increased from 0.72 percent in 2010 to 5.83 percent in 2017, making Mandarin the fastest growing movie language in recent years. As a production area, the importance of the mainland of China has grown even faster. In 2017, the box office market share of movies with China as the first producer accounted for 16.50 percent of the box office of all movies in the sample.³⁷ All this indicates that the international influence of Chinese culture in the global movie industry is steadily increasing. This is partly because the box office performance of Chinese movies has risen and partly because Hollywood movies are increasingly adding Chinese cultural elements to win over the Chinese market.

China has potentially great advantages in furthering its international cultural communication on the basis of opening up. The scale of its cultural market is growing rapidly; China's share of world box office has risen from 0.7 percent in 2004 to 19.46 percent in 2017;³⁸ in future it may rank first in the world.³⁹ To be successful in the world market, a movie has to perform well in the Chinese market. The world's top film-producing countries, like the US, are increasingly incorporating positive Chinese cultural elements and using their strong capacity for international communication to spread Chinese cultural symbols around the world.

IV. Implications and Reflections: Service Globalization Will Inevitably Accelerate in the Internet Age

Our summary and further thoughts are as follows.

Firstly, service globalization will continue to advance and present new features. In the case of services that can be provided remotely via IT, the factors that used to restrict globalization

37 If one includes the many movies in the sample co-produced by the mainland of China, albeit not as the first producer, the box office share of the mainland of China would rise to 25.33 percent in 2017.

38 Calculated by the authors based on data from the websites of the National Bureau of Statistics of China and the Motion Picture Association of America (mpaa.org).

39 We expect that China will overtake North America as the world's largest movie market by 2023 at the latest.

in the past have weakened or even disappeared, while those that drive globalization have been greatly strengthened. On the one hand, the economies of scale and scope are very clear: labor can be separated from services, and the cost to producers of cross-border services is extremely low. At the same time, consumers can choose whatever services they require from across the world at their convenience. There is little difference between services at one's doorstep and those far away, either in supply or consumption. Widespread globalized services have stolen silently into our lives. One can expect that although various interest groups may play games with each other and voices and events opposing globalization emerge from time to time, the world has become highly interconnected and there will be no change in the globalization trend.

Secondly, China enjoys advantages of scale and competitive edge in the globalization of services. With its unique advantages in terms of population, economic size, IT innovation, popularity of mobile terminals, etc., China has significant economies of scale in the course of the services globalization of the Internet era, and is developing strong global competitiveness. China is also able to rapidly improve the level and quality of its service industries by attracting high-quality resources from around the world to invest in and provide services to its vast domestic market. The export of Chinese cultural goods will be an increasingly important means of global cultural communication. At the present stage, market opening is an effective approach to promoting the diffusion of Chinese cultural elements abroad.

Thirdly, a variety of factors should be taken into account in expanding the openness to the outside world of the services market. In terms of demand, China's vast domestic market provides exceptional conditions for the future open development of the service industries; however, good supply conditions are also needed, since no industry can develop healthily merely if it only relies on demand conditions. From the supply-side perspective, China still has a long way to go in developing its service industries effectively and upgrading its international competitiveness. At present, further opening up of the service market to the outside world is an important component of the promotion of supply-side structural reform in China. The advent of the Internet age and China's advantages in developing Internet technology and the Internet industry provide the service industry with exceptional opportunities for improving service efficiency on the supply side; but at the same time, China needs to emphasize the strengthening of domestic reform and foster reform by opening up in certain areas. For instance, it should create a tolerant and inclusive environment for the development of the cultural industries. Empirical research shows that a moderate relaxation of controls and the inclusive environment for cultural producers' creativity and innovation in which "a hundred flowers bloom" is an important prerequisite for improving the content of cultural industries and further upgrading their international competitiveness.⁴⁰

40 For example, the opening up of China's film industry to the private sector is a major reason for the upgrading of its industrial competitiveness. The prosperity and international competitiveness of the

At the same time, we should understand that some service industries are socially and politically sensitive, especially culture, the media, communications, the Internet, etc.; they involve many aspects, such as value judgments, cultural identity, public opinion and public services. For instance, cultural industries may seek to gain traffic by producing eye-catching and sensational contents to meet people's "unsound" demands. We should also have a clear understanding of the effects of these non-economic or supra-economic factors, seriously evaluate the gains and losses of opening up, and conscientiously carry out policy design and preventive measures related to national cyberspace security. In addition, the Chinese cultural elements in foreign cultural goods are superficial at present; we need to make good use of the curiosity and interest in Chinese culture they have aroused to induce more people overseas to explore and understand the values and contemporary significance of traditional and modern Chinese culture.⁴¹ In a word, a suitable institutional and policy environment is essential to give full play to the advantages of scale of China's service industries in the Internet age.

Lastly, traditional trade theory and current trade patterns have been challenged. Factor endowment theory holds that the genesis of trade is to be found in the difference between the pre-trade relative product prices of trading nations, since countries have different factor ratios. This theory faces challenges in interpreting contemporary service trade. The assumptions behind factor endowment theory are rigorous. One of them is that the factors of production, especially labor, do not flow between two countries. This is at the heart of the theory, because the flow of factors would change the disparities in the factor endowment between the two parties to trade, thus undermining the basis of trade. In the era of the Internet, large-scale movement of the labor force is still not possible, but large-scale long-distance services can be provided without hindrance, rapidly narrowing the services price differentials between countries. For instance, both domestic and foreign audiences can enjoy low-cost and high-quality cultural services in listening to music and viewing programs. The fact that services can be offered in cyberspace reduces the explanatory power of traditional theory. In the future, whether in theoretical analysis or immediate changes, the horizontal division of labor may be

Hong Kong film industry in the 1990s can be almost entirely explained from the supply side. One of the important reasons for the rapid development of China's Internet industry and the upgrading of its international competitiveness in recent years is that the government has taken the approach of "testing the water first, followed by supervision and control" towards digital enterprises and institutions, an approach that nowadays is actively facilitating the digital economy in China. See Luo Libin, "The Role of Opening Up in the Development of China's Film Industry: Also on the Strategy of Further Opening Up"; Luo Libin, "The Rise, Fall and Implications of the Hong Kong Film Industry: An Explanation for Integrating the Theoretical Framework of Cultural Trade"; and McKinsey Global Institute, "How China's Digital Economy Leads the New Global Trend."

41 For instance, in the video depicting the introduction of giant pandas given to foreign countries as a goodwill gift in recent years, China's publicity to the recipient population stresses its measures to protect the environment and its green development concept, including improved habitats for wild animals, including the giant panda. This has been a success.

better able to explain and forecast the cyberspace service industry. Only by understanding this change can enterprises and governments take note of how to foster the development of the service industry and enhance their global competitiveness.

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References

- Baumol, William. "Macroeconomics of Unbalanced Growth: The Anatomy of an Urban Crisis." *The American Economic Review*, vol. 57, 1967, no. 3.
- Curtin, Michael and Jane Shattuc. *The American Television Industry*. London: BFI Publishing, 2009.
- Delaunay, Jean-Claude and Jean Gadrey. *Services in Economic Thought: Three Centuries of Debate*. Dordrecht: Springer Netherlands, 1992.
- Disdier, Anne-Celia, Keith Head and Thierry Mayer. "Exposure to Foreign Media and Changes in Cultural Traits: Evidence from Naming Patterns in France." *Journal of International Economics*, vol. 80, 2010, no. 2.
- Dixit, Avinash K. and Joseph E. Stiglitz. "Monopolistic Competition and Optimum Product Diversity." *The American Economic Review*, vol. 67, 1977, no. 3.
- Francois, Patrick and Tanguy van Ypersele. "On the Protection of Cultural Goods." *Journal of International Economics*, vol. 56, 2002, no. 2.
- Fuchs, Victor R. *The Service Economy*. Trans. Xu Weiyun et al. Beijing: The Commercial Press, 1987.
- Helpman, Elhanan and Paul Krugman. *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition and the International Economy*. Trans. Yin Xiangshuo and Yin Xiangkang. Shanghai: Truth & Wisdom Press, Shanghai SDX Joint Publishing Company and Shanghai People's Publishing House, 2014.
- Hesmondhalgh, David. *The Cultural Industries*. Trans. Liao Peijun. Taipei: Weber Publication International Ltd., 2006.
- Hill, T.P. "On Goods and Services." *Review of Income and Wealth*, vol. 23, 1977, no. 4.
- Hoskins, Colin and Rolf Mirus. "Reasons for the US Dominance in International Trade in Television Programs." *Media Culture & Society*, vol. 10, 1988, no. 4.
- Janeba, Eckhard. "International Trade and Consumption Network Externalities." *European Economic Review*, vol. 51, 2007, no. 4.
- Jiang, Xiaojuan. "Resource Reorganization and the Growth of the Service Industry in an Interconnected Society" (高度联通社会中的资源重组与服务业增长). *Economic Research Journal (经济研究)*, 2017, no. 3.
- . "Service Industries in Cyberspace: Productivity, Constraints and Prospects: A Case Study of Sports and Cultural Industries" (网络空间服务业: 效率、约束及发展前景——以体育和文化产业为例). *Economic Research Journal*, 2018, no. 4.
- Jiang, Xiaojuan et al. *The Service Economy in the Internet Age: China Entering a New Stage (网络时代的服务型经济: 中国迈进发展新阶段)*. Beijing: China Social Sciences Press, 2018.
- . *Service Globalization and Service Outsourcing: Current Situation, Trends and Theoretical Analysis (服务全球化与服务外包: 现状、趋势及理论分析)*. Beijing: People's Publishing House,

2008.

- Katz, Michael L. and Carl Shapiro. "Technology Adoption in the Presence of Network Externalities." *Journal of Political Economy*, vol. 94, 1986, no. 4.
- Luo, Libin. "The Role of Opening Up in the Development of China's Film Industry: Also on the Strategy of Further Opening Up" (对外开放对中国电影产业发展的作用: 兼论进一步扩大开放的战略). In *Cultural Industry Research* (文化产业研究), vol. 12. Gu Jiang, ed. Nanjing: Nanjing University Press, 2015.
- . "The Rise, Fall and Implications of Hong Kong Film Industry: An Explanation for Integrating the Theoretical Framework of Cultural Trade" (香港电影业的兴衰与启示: 纳入文化贸易理论框架的解释). Retrieved from http://www.cssn.cn/jjx/jjx_gzf/201707/t20170706_3571234.shtml.
- McKinsey Global Institute. "How China's Digital Economy Leads the New Global Trend." (中国数字经济如何引领全球新趋势). Retrieved from <http://www.mckinsey.com.cn/>.
- Rauch, James E. and Victor Trindade. "Neckties in the Tropics: A Model of International Trade and Cultural Diversity." *Canadian Journal of Economics*, vol. 42, 2009, no. 3.
- Richardson, Martin and Simon Wilkie. "Faddists, Enthusiasts and Canadian Divas: Broadcasting Quotas and the Supply Response." *Review of International Economics*, vol. 23, 2015, no. 2.
- Rosen, Sherwin. "The Economics of Superstars." *The American Economic Review*, vol. 71, 1981, no. 5.
- Say, Jean-Baptiste. *Catechism of Political Economy*. Trans. Chen Fusheng and Chen Zhenhua. Beijing: The Commercial Press, 1997.
- Schulze, Günther G. "International Trade." In *A Handbook of Cultural Economics*, 2nd. R. Towse, ed. Cheltenham & Northampton: Edward Elgar, 2011.
- Smith, Adam. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Trans. Guo Dali and Wang Yan'an. Beijing: The Commercial Press, 1974.
- Takara, Yuki. "Do Cultural Differences Affect the Trade of Cultural Goods? A Study in Trade of Music." *Journal of Cultural Economics*, 2017, no. 2.

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