

De La Salle University

Animo Repository

Angelo King Institute for Economic and
Business Studies

Units

8-2021

Resurgence of Bundling Mechanisms in Digital Services Trade

Tereso S. Tullao

Vicenzo della Croce Br.

Follow this and additional works at: https://animorepository.dlsu.edu.ph/res_aki



Part of the [International Trade Law Commons](#), and the [Technology and Innovation Commons](#)



Resurgence of Bundling Mechanisms in Digital Services Trade

DLSU-AKI Working Paper Series 2021-08-073

By: Tereso S. Tullao, Jr.
De La Salle University

Resurgence of Bundling Mechanisms in Digital Services Trade¹

Tereso S. Tullao, Jr., Ph.D.

Br. Vincenzo della Croce Professor in Business Economics

De La Salle University-Manila

2021

Abstract

The expansion of trade through centuries was pushed through a great extent by the unbundling of commodities from various factors that prevent them from being traded globally. The use of the steam engine in shipping, for example, ushered in the rapid expansion of 19th-century trade as transport cost was drastically reduced and countries realized interspatial cost differences across the Atlantic. The previous untradability of services, on the other hand, was broken by various dimensions of globalization that separated the simultaneous production and consumption of services. This unbundling rapidly boosted global trade in recent decades. However, growing developments and innovations in ICT are creating new bundling mechanisms. The essay will identify how these new bundling mechanisms have emerged and their implications on services trade and other dimensions of human development.

Introduction

International trade theories generally start with the assumption that transport cost is zero. This assumption is crucial in the context of global trade in the past was constrained because the cost of the commodity was intimately linked or bundled with huge transport costs. Thus, any interspatial price differences among countries did not lend to arbitrage because the huge cost of movement, which is tightly bundled with the cost of production and consumption, made these price

¹ A Professorial Chair Lecture for the Br. Vincenzo della Croce Professorial Chair in Business Economics delivered online on July 9, 2021 at 10:00 am. The lecture was also part of the celebration of the SOE10, the ten-year anniversary of the School of Economics of De La Salle University.

differences inconsequential. However, several factors over the centuries have cut the knot of this linkage which is known as unbundling. As a result, global trade has expanded over the centuries as the huge cost of transport was considerably reduced and unbundled from the cost of production and consumption. This unbundling allowed countries to exploit arbitrage in cost differences across national boundaries, and only then did trade theories become relevant as they analyzed these cost differences in terms of differences in productivity (Ricardo, 1817) and differences in factor endowments (Heckscher, 1919; Ohlin, 1933, 1967) as the basis of international trade.

The main objective of this essay is to explore the emerging bundling mechanisms that affect trade in services, particularly digital services trade. In addressing this objective, I will discuss the role of bundling and unbundling mechanisms in the expansion of global trade, initially on trade in commodities and subsequently on trade in services. Because of the growing prominence of trade in services in recent decades, I will likewise discuss the benefits of unbundling mechanisms in trade in services on the entire economy.

But with the rapid developments in information communication technology (ICT), on the one hand, and the growing complexities of global value chains (GVC), on the other hand, the resurgence of bundling mechanisms has been observed in the digital services trade. The essay will discuss how these bundling mechanisms have evolved and their impact on society and specifically on digital services trade. Because these bundling mechanisms are threatening personal privacy, national security, and intellectual property, countries have responded to mitigate the consequences of these bundling mechanisms. But these responses, in turn, are the ones deepening restrictions on digital services trade, worsening infringement on privacy, and creating conflict with other government policies, including competition policy.

Because of the huge economic benefits of digital services trade, which have been highlighted during the COVID-19 pandemic, economies around the world are crafting policies meant to mitigate the impact of restrictive trade policies on digital services trade. But liberalization of these policies is not enough to expand the digital services trade. Liberalization measures must be complemented and integrated with policies affecting infrastructure, connectivity, human capital,

innovations (Organisation of Economic Co-operation and Development [OECD], 2019).

Bundling and International Trade

Bundling and Unbundling in Goods

Bundling is the tight linkage of the consumption of a commodity with any of the following influences: costs of transfer, production, location, mix with other commodities, and recurring benefits to various market players beyond the initial consumption. These linkages may restrict the commodity from being traded globally. From the perspective of Baldwin (2016), this bundling is due to the huge transport cost of goods, services and intellectual commodities across economies.

Before the 19th century, global trade was limited because the cost of goods was intimately coupled with the huge cost of transport. The trade in the Pacific, for example, between Mexico and the Philippines under the Galleon trade in the 17th century, as well as the trade in the Atlantic, was driven by wind flows. Thus, the cost of transport with its subsequent risks in the Pacific trade was estimated at least 200% of the cost of the commodity (Tullao, 2016). This enormous transport cost limited global trade as players did not see any interspatial cost differences among competitive products, and there was no ground for international exchange. Given this backdrop, global trade was limited to complementary goods.

However, with the development of the steam engine, the cost of marine transport was drastically lowered. Consequently, the cost of goods was unbundled from their huge transport cost. With transport cost substantially dropped, citizens across the Atlantic realized gains from international trade based on interspatial price differences of competitive products, and this development enhanced global trade, at least in the Atlantic.

In addition, the phenomenon of unbundling mechanism encouraged the development of trade theories in the 19th and 20th centuries. The Ricardian model of trade based on productivity differences between countries in the production of competitive goods was premised on the assumption that transport cost is zero or insignificant. Similarly, the modern theory of comparative advantage based on differences in factor endowments of trading economies was prefaced on zero transport cost.

Bundling and Unbundling in Services

Meanwhile, services are commodities characterized by tight bundling of their consumption with production. This means that there is a need for simultaneous consumption and production in services. Because of this feature, services were not traded globally in the past because, unlike goods, services cannot be stored and transported across national boundaries. Thus, services were considered untradable because it requires production and consumption domestically.

However, various dimensions of globalization through the centuries have drastically reduced the costs of moving goods, people, capital, and ideas. As mentioned earlier, transportation improvements have lowered transportation costs, which expanded global trade initially with commodities. In addition, rapid innovations in digital services trade through the development of apps together with the expansion of ICT infrastructure through affordable smartphones, expansion of bandwidth, and the liberal importation of ICT equipment lowered the cost of moving ideas. The mobility of people was ushered by massive migration of people across national borders. In terms of mobility of ideas, people, and capital, the General Agreement on Trade in Services (GATS) allowed services to be globally traded through the movement of service, consumer, and service provider, which made services be stored and transported digitally. These unbundling mechanisms prompted the development of global supply chains by providing wage arbitrage across national boundaries (Baldwin, 2016).

Unbundling of Services Through GATS

With the establishment of the World Trade Organization (WTO) in 1995, a new agreement was launched meant primarily to promote the expansion of trade in services. The General Agreement on Trade in Services (GATS) laid the operational definition on how services can be traded internationally through the identification of four modes of supply. These four modes are cross-border transactions (Mode 1), consumption abroad (Mode 2), commercial presence (Mode 3), and movement of natural persons (Mode 4). These four modes, in effect, unbundled the concurrent consumption and production of services as they provide options for the movement of the service digitally, movement of consumers, movement of producers, and movement of individual service providers.

Under Mode 1, the interspatial provision of service is facilitated through various means of telecommunications. It is also called digital services trade because services can now be stored and can cross borders digitally. Examples include telemedicine, online education, financial services, retail services, among others.

Meanwhile, Mode 2 is the provision of service made when the consumer moves to the territory of the supplier to consume the service. Examples are tourism, health services, and overseas education.

In Mode 3, the provision of service is made when the producer of the service moves to the territory of the consumers and establishes a commercial presence to provide service. Examples include franchising, the establishment of branches, and foreign direct investments in the services sector.

Lastly, provision of service under Mode 4 is made when a natural person moves to the territory of the consumers to provide temporary service. Examples include the movement of professional services and intra-corporate transferees.

Opportunities in Digital Services Trade

Of these four modes, Mode 1 has been transformed heavily over time. What used to be primarily trade in services has been modified to include trade in goods affecting agriculture and the industrial sector. In addition, previously, Mode 1 covers only service transactions crossing territorial borders. Currently, it does not have to cross borders as the provision of a service or good can be pursued digitally within the country. From the cross-border transaction, this provision of supply of service has been called e-commerce in the recent past, and it is currently referred to as digital services trade regardless of the commodity and territory covered.

The COVID-19 pandemic has underscored the benefits and development potentials of digital services trade in various sectors of the economy. In educational services, face-to-face teaching, lectures, and seminars are being substituted or complemented by online teaching and Zoom conferences. In addition, many teachers at all levels have produced their own videos and other instructional materials, which can be accessed online, whereas others have tapped existing educational resources on the Internet. This phenomenon has the potentials of narrowing the gap of educational inputs between public schools and private schools, on the one hand, and between rural schools and urban schools, on the

other hand, particularly on the provision of instructional materials. Moreover, the use of English as a medium in these online educational materials can make these instructional materials competitive regionally and globally, especially in English-speaking countries. Meanwhile, the use of local languages can promote the government's educational goals, including the use of the mother tongue and the intellectualization of the national language (Tullao, 2021).

In health and medical services, the digital services trade ushered the importance of telemedicine. The COVID-19 pandemic and economic lockdown forced many hospitals to scale down their operations, focusing on treating COVID-19 patients. Other medical services, including doctor's consultation and prescriptions, were made through various digital means. This development has the possibility of addressing the rural and urban divide in the provision of health services (Tullao, 2021).

In financial services, several apps have been developed using mobile phones and computers for online banking, payments, and other transactions that address the immediate financial needs of individuals. This occurrence can promote financial inclusion and development. Meanwhile, the lockdown has suspended the operations of many firms in the manufacturing sector. However, small credit organizations' work from home (WFH) operation continues to provide services to its clients by processing loans through exchanges of electronic mails while payments are made through bank transfers. This adjustment can promote financial inclusion and development (Tullao, 2021).

Despite the lockdown, retail trade adjusted through digital means as well. Online delivery apps are being utilized by an increasing number of consumers as the COVID-19 pandemic and lockdown forced many people to stay at home. Purchase and delivery of goods were made through online ordering apps like Lazada and Shopee, which were developed within the region. This practice can create employment opportunities for self-employed and displaced workers, particularly in the transport sector (Tullao, 2021).

Digital trade also has applications in agriculture and the production of primary products. Using digital trading platforms, agricultural players can now address information asymmetry thru the provision of pertinent information for decision making. Current farming techniques, expert advice, weather forecasts,

domestic and international prices can be accessed from these platforms. This has the potentials to reduce transaction costs and possible reduction, if not elimination, of costly intermediaries or agents. It can also temper the price volatility of agricultural products, which, in turn, provide higher income for farmers and farmers' organizations (Serafica & Oren, 2020).

In manufacturing, the movement, accumulation, and utilization of digital data enable firms to participate efficiently in global supply chains. This can be inclusive because small firms can have access to global digital data. It can also provide efficient delivery of goods and services locally and globally (Tullao, 2021).

Role of Services in the Economy

Aside from the various contributions of digital services trade highlighted above, which have become more pronounced with the COVID-19 pandemic, the significance of digital services trade arises from the fact that it is a component of a key economic sector of the economy, the services sector. The services sector is probably the most dynamic and largest economic sector and a major source of economic growth in many economies, developed and developing. The services sector constitutes the biggest proportion of domestic output. In the Philippines, almost 61% of domestic output was contributed by the services sector in 2019. In addition, the services sector employs a huge proportion of the labor force. In the Philippines, more than one in every two workers are employed in the services sector. It does not only constitute the largest share of domestic output and employment, but this sector also registered the highest growth rate, as shown in Table 1. More importantly, these dynamisms and contributions of services can also be attributed to its extensive linkages with other sectors, particularly industrial and agriculture. It provides inputs to sectors like transport, telecommunications, retail, financial services, and other services. Thus, a progressive, efficient, and competitive services sector implies more progressive and competitive agricultural and industrial sectors as it contributes to the efficiency, productivity, and competitiveness of these sectors (Tullao, 2016).

Table 1*Role of Services in Selected ASEAN Economies*

Economy	Economic Growth in 2019	Share of Services in GDP	Share of Services in Total Employment	Growth of Services in 2019
Indonesia	5	44.1	48.9	10.5
Malaysia	4.4	55	52	6.1
Philippines	6	60.6	58	7.9
Singapore	0.7	64.8	83.8	1.1
Thailand	2.4	61.7	45.8	4.1
Sources: ASEAN Secretariat, 2020; World Bank, 2020 and others				

Resurgence of Bundling Mechanisms in Digital Trade**Bundling of Goods and Services**

With the rapid developments in ICT and the growing complexities in the globalization of production processes through global value chains (GVC), digital services trade currently may cover goods and not only the provision of services. The initial intention of GATS and specifically Mode 1 is to promote global trade in

services through digital means. This is very clear in financial services. Currently, you can purchase a good like a book or a computer using the Lazada online shopping app, and it will be delivered to you through local delivery partners. In this case, the merchandise good is bundled with several services, including an online shopping app, transport, and local delivery services. When goods and services are bundled, trading economies are problematic on which trade policy to apply for digital services trade crossing borders. GATS is primarily for trade in services, but with GVC, final consumption is a merchandise good but facilitated through several services. Will the GATT rules on commodities apply as well for these services transactions?

Bundling of Borders

Another complexity of GVC and the bundling of commodities is the bundling of borders. Although the destination of the final transaction can be identified, the production sites of various components of the commodity may originate from several locations as well as the domicile of the owner of the service provider app or design. With these complications, the rules of origin become even more problematic, especially when applying the preferential treatment on traded goods under Regional Trading Arrangements (RTA). Taxation issues may likewise arise, particularly on which transaction to be taxed and the jurisdiction of the taxing authority?

Bundling of Economic Benefits Beyond the Transaction

The third bundling mechanism, which is more extensive and controversial, is the bundling of economic benefits beyond the initial consumption. In many of the apps utilized by consumers, numerous data about the user's personal, demographic, and professional information are generated and stored by the app's owner, which provides economic value accruing to the developer/owner of the app. This enormous data can convey economies of scale to the owner that lowers its costs in the provision of service. For example, Lazada, Shopee, and Grab are popular because of the efficient service they provide, which is based on the accumulated data from their transactions locally, regionally, and globally currently and in the immediate past without the consent of the consumers (Seráfica & Oren, 2020).

However, such accumulated data that provides monopoly power to the owner may endanger the privacy of consumers and users. The owners are using this information to their economic advantage without consent from the source of the data. Worse, the information can be used against the source of information.

Aside from privacy rules, the use of this accumulated data may threaten national security. The use of data and apps may pose risks to the nation, especially when foreign governments or private organizations try to influence citizens' political sentiments that may threaten political survival and stability. The allegations that Russia intervened in the U.S. election in 2016 were based on the data accumulated on the political perceptions and views of individuals on a particular issue and candidate.

Beyond the utilization of data, another dimension of economic benefits from the initial transaction is the economic value that may accrue to the consumer/user of a product or service acquired electronically thru multiple digital transmissions. In this case, the intellectual property rights of the owner or developer of the product or service are breached.

Privacy and National Security Concerns

Because of the importance of privacy and national security, many countries have initiated measures to mitigate the consequences of these violations. These measures are incorporated in laws governing data privacy. Among these measures being implemented by countries are data localization, data retention, government access to data, right to be forgotten, and restrictions on electronic payments. (Ferracane et al., 2018)

Data localization means the banning or setting conditions on the transfer of data across borders. It may also require local servers to process personal data. Meanwhile, in data retention, the government may mandate ICT providers to collect and retain data of users, set a minimum period for data retention, and documentation of online activities of users. In some countries, government agencies may have access to personal data even without a court warrant to use it in their investigations. The right to be forgotten is a form of consumer protection because it allows the removal of outdated information of individuals in various links. Restrictions on electronic payments, meanwhile, are meant to discourage the

use of online apps that can generate data that can be used for other purposes and create personal and social problems (Ferracane et al., 2018).

Although these measures are meant to mitigate the consequences of infringements on personal data and national security, they have unintended effects. For example, data localization may restrict digital services trade. It can make the country unattractive to foreign providers of digital services. This issue has become a global trade concern targeted at big economies like India and China which have data localization rules. Data retention, meanwhile, may infringe on data privacy while protecting national security. The government may use this data to target individuals who are against the ruling party or the government. The right to be forgotten is the only one that really promotes data privacy and protection of individuals. Restrictions on electronic payments may also limit digital services trade because it can be discriminatory relative to other forms of transactions and payments.

Intellectual Property Issues

Countries have crafted intellectual property laws to protect patents, copyright, and trade secrets of investors and creators of any good, service, or digital app. Patent, for example, is an exclusive right given to the holder to preclude others from making, using, or selling a patented invention for a temporary period of time (Ferracane et al., 2018). Normally, IP laws include legal sanctions on violations of patents, including the outright prohibition of sales or imposition of fines. For foreign digital service providers, they are looking for provisions in IP law pertaining to the process of patent application and enforcement mechanisms on foreign patents.

Meanwhile, copyright is the legal right for producers of original works for exclusive rights of use and distribution of their created works (Ferracane et al., 2018). Although copyright is protected in IP laws, consumers and service providers are particularly concerned about the rules of copyright exception, including fair use and fair dealing. Fair use refers to the copying of materials for a limited and transformative purpose for academic, research, commentary, and criticism. On the other hand, fair dealing, which is a similar concept, refers to the reasonableness of the transformed work from the original work. Fairness is assessed in terms of the purpose of copying, amount copied, acknowledgment, and no conflict of interest.

Protection of copyright is not only premised on the presence of IP laws but more so on the enforcement of copyright laws on online works.

Trade secrets refer to formula, pattern, compilation, program, device, method, technique, or even process, which is undisclosed or not readily accessible because it constitutes an important part of the firm's business model that creates economic value (Ferracane et al., 2018). The IP laws should recognize the protection of trade secrets. There are territories that mandate the disclosure of trade secrets.

Although there are IP laws protecting intellectual property in many countries, what is crucial for foreign digital service providers is the enforcement of these laws. Mere presence is not enough.

Measures adopted by countries regarding intellectual property, however, have certain implications. For infringement of patents, banning the selling of a firm that violated patents may be considered too harsh as they restrict trade and provide huge monopoly power to the holder of patents. A heavy fine may be considered less severe than outright prohibition, which can be considered as creating a business environment that is anti-competitive.

Meanwhile, when countries do not have or have unclear rules on copyright exceptions, digital services trade may be restricted because service providers will always face the risks of infringement of their copyright. On the other hand, users of copyrighted works also face risks of violating copyright when there is no clear rule on fair use and fair dealing while this is allowed in other territories.

Mandatory disclosure of trade secrets is an onerous requirement that makes the country unattractive to foreign players in digital services.

In this light, policymakers will have to make a balancing act in protecting intellectual property, on the one hand, and promoting a competitive business environment, on the other hand. Protection of intellectual property is a legitimate objective for the government to pursue, but carrying out such an objective has a tradeoff as it can provide extensive monopoly power to the owners of IP at the expense of potential competitors and society at large. Creating a more competitive environment by mandating foreign service providers to disclose trade secrets, on

the other hand, may threaten IP protection. Thus, there is a need for policymakers to balance these competing government objectives.

The presence of intellectual property laws is important in creating a more liberal environment for owners of digital services apps; however, more presence is what is needed in the enforcement of these laws and provisions. Many developing countries are remiss on this condition.

Enhancing Digital Services Trade

Given the extensive and increasing contributions of digital services trade, on the one hand, and increasing restrictiveness of digital services trade arising from current domestic regulations and emerging bundling mechanisms, on the other hand, there is a need to manage these changes for society and the international community to reap the benefits of digital services trade.

One way of addressing this is to lessen the trade restrictions of the country that may affect digital services trade. The European Center for Political Economy (ECIPE) has developed the Trade Restrictive Index in Digital Trade. In brief, it covers an assessment of a country's commercial and other policies that are restricting trade in services, particularly digital services trade. It includes the following components: infrastructure and connectivity, electronic transactions, intellectual property issues, and payment system. Infrastructure and connectivity cover tariffs and other restrictions on the importation of ICT equipment and the restriction on the flow of data. Electronic transactions cover discriminatory taxes on electronic payments. Intellectual property covers the presence of IP laws and enforcement mechanisms of IP rules and regulations. Payment system refers to restriction on electronic payments.

However, liberalization of market access is considered a necessary condition but not sufficient in promoting digital services trade (OECD, 2019). These liberalization measures should be complemented with infrastructure and connectivity, innovation, and human capital development. Because digital services trade is driven by hard infrastructure and the movement of data, there is a need for liberal importation of ICT equipment, more open FDI policies, and a sensible way of managing the movement of data considering legitimate concerns on national security, privacy, and competition policies. In addition, as the digital services trade is innovation-intensive with the development of numerous apps,

there is a need to invest in research and development, development of an innovation mindset, and nurturing entrepreneurial outlook among the youth. Lastly, because the digital services trade is concentrated in human-capital/knowledge-intensive sectors, there is a need to invest in higher education and the training of the youth in ICT.

Conclusion

Unbundling has expanded trade in commodities and services in the past. The substantial drop in transportation cost unbundled it from the cost of consumption that enabled trade in competitive goods in the 19th century as countries realized gains from interspatial cost differences. Meanwhile, various avenues of globalization and the GATS unbundled the simultaneous production and consumption of services allowing them to be traded globally along the four modes stipulated under the GATS. With developments in ICT, numerous innovations, and the complexities of GVC, new bundling mechanisms have emerged in the digital services trade. The most important consequences of these new bundling mechanisms are on the use and transfer of data and infringement of intellectual property. Addressing trade restrictions on digital services must be done together with measures on innovation, infrastructure, connectivity, and the development of human capital. With this formula, it is predicted that digital services will further expand, thus realizing their significant contributions to the economy and society.

References

- ASEAN Secretariat. (2020). *ASEAN statistical yearbook*. Author.
- Baldwin, R. (2016). *The great convergence, information technology and the new globalization*. Harvard University Press
- Ferracane, M. F., Lee-Makiyama, H., & van der Marel, E. (2018). *Trade restrictiveness index*. European Centre for International Political Economy.
- Heckscher, E. F. (1919). Utrikeshandelns verkan på inkomstfördelningen: Några teoretiska grundlinjer [The effect of foreign trade on income distribution: Some theoretical guidelines]. *Ekonomisk Tidskrift*, 21, 1–32.
- Organisation for Economic Co-operation and Development. (2019). *Trade in the digital era* [OECD Going Digital Policy Note].
www.oecd.org/going-digital/trade-in-the-digital-era.pdf
- Ohlin, B. (1933). *Interregional trade and international trade*. Harvard University Press.
- Ohlin, B. (1967). *Interregional trade and international trade* (Revised ed.). Harvard University Press.
- Ricardo, D. (1817). *Principles of political economy and taxation*. London: John Murray, Albemarle-Street.
- Serafica, R., & Oren, Q. C. (2020). *Understanding the costs and benefits of digital platforms and the implications for policymaking and regulation* (Discussion Paper Series 2020-52). Philippine Institute for Development Studies.
- Tullao, T., Jr. (2016). *Understanding economics in the Philippine setting* (4th ed.). Phoenix Publishing House.

Tullao, T., Jr. (2021). *Opportunities and risks in digital services trade: Development perspective* (Virtual workshop on digital services trade). Asian Development Bank.

World Bank. (2020). *World development indicators*. Author.