Impact of E-Commerce on Allocation of Tax Revenue between Developed and Developing Countries

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Abstract

The advent of digital technology increases productivity, and will, as a whole, make the world better off. Nevertheless, advanced countries have suggested an increase of their share in inter-jurisdictional allocation of revenue, justifying their position with the rhetoric of tax neutrality and residence jurisdiction. Indeed these suggestions can be hardly justified in that the economic and legal assumptions underpinning the existing norm of inter-jurisdictional revenue allocation are not valid in a digital era. Tax neutrality will rather justify a new order that would assign more revenue to the developing countries. Maintaining the existing international tax order and fixing it in a make-shift way will not lead to this new order of international taxation, however, because digital technology enables a taxpayer to circumvent any such attempt.

Creating an entirely new norm and imposing it on developed countries appears to be beyond the reach of developing countries, judging from the past experiences of bargaining between developed and developing countries, which may have no other choice but to acquiesce to these changes. Despite this pessimism, the United Nations may consider revising the UN Model to the interest of developing countries, because the very role of the UN Model is to provide bargaining leverage for a developing country in negotiating a real world treaty. Proposed changes to the UN Model are as follows:

1. Add a paragraph to article 7 (business profits) that permits a host country to impose withholding tax to all payments to a non-resident e-supplier in general, or upon the host country's election, to a payment to an e-supplier from a domestic business that can deduct the payment.

2. Change article 7(4) to permit a host country to adopt a formula apportionment if an e-supplier has a permanent establishment in the host country or if sales by a non-resident e-supplier exceeds a certain sum of money.

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The impact of the Internet and digital technology has been one of the favorite topics of international taxation for the past several years. It has been made clear that the existing norm of international taxation is seriously affected by the advent of electronic commerce and digital technology. Because the issue involves state-of-the-art technological innovation, suggestions for changing the international tax order have largely been proffered by the advanced countries and the international organizations consisting of or controlled by the same economically and technologically advanced countries. In essence these countries argue for lassiez-faire — that the existing norms, designed in the pre-digital era, should remain intact to the broadest extent possible.

This paper addresses the impact of the Internet and digital technology on the allocation of tax revenue among nations, in particular between developed and developing countries. The thesis of the paper is three-fold: i) digital technology completely destroys the economic and legal basis for the existing rules of international taxation, implying the necessity of a complete overhaul, ii) extending the existing rules into the digital era, as suggested by developed countries, will increase the revenue share of developed countries at the loss of developing countries, and iii) despite this foreseeable outcome, developing countries do not have much choice but to suffer. In terms of a practical policy implication, this paper points out that make-shift suggestions within the boundary of the existing norms will not help developing countries. The right solution, from the perspective of a developing country, will be to impose taxes even without a permanent establishment and adopt formula apportionment, although changing tax treaties to this end appears to be beyond the reach of developing countries.

The thesis is shown in five parts. Part I is a very short summary of the suggestions advanced thus far by developed countries for maintaining and applying the existing rules. Part II addresses the first thesis and analyzes the economic bases or assumptions underlying the existing rules or compromises of international revenue allocation, and it will show that digital technology breaks these assumptions. Part III briefly summarizes the second thesis, which is more or less known to the world, that the maintenance or application of the existing rules to the digital environment will reallocate revenue from developing to developed countries. Part IV shows that the policy suggestions proffered thus far by the OECD and the European Union are misdirected anachronisms. Part V proceeds to the third thesis, and will present a grim prediction that developing countries do not have much choice but to acquiesce to the advanced countries' self-serving suggestions.

This article does not discuss the tax administration issues raised by e-commerce, or more generally by the technological progress that facilitates the cross-border movement of goods, services and capital. As discussed in many studies,[1] the administration issues are more complex and subtle and may indeed be more important than the substantive law issues. For example, where capital can instantly flow over the globe at a negligible transaction cost, even developed nations may have to enter into a tax competition to attract capital. At the level of substantive law, however, this development does not affect the residence jurisdiction of capital exporting countries, which reaches the capital income derived by its residents regardless of where it is invested. One may easily point to the tax deferral for the earnings retained in a foreign subsidiary, but a capital exporting country can unilaterally address the problem by anti-abuse measures such as the U.S. subpart F rules. Enforcing such a measure is hard work. The administrative difficulty of keeping track of the capital flow could be devastating. Addressing these administrative issues, however, is simply beyond the scope of this article.

I. Advanced Countries' Suggestion for Taxing E-Commerce

In the government or public sector, the seminal study on the impact of e-commerce on taxation was published by the U.S. Treasury in November 1996, entitled Selected Tax Policy Implications of Global Electronic Commerce.[2] The study was characterized as a discussion document designed to elicit views on the issues as well as suggestions for solving the new problems, and it was not intended to represent the legal or policy views of the U.S. Government.[3] Nevertheless, it

1) See *e.g.* United Nations Secretariat (*Ad Hoc* Group of Experts on International Cooperation in Tax Matters), Electronic Commerce and the Challenge for Tax Administration 4-9 (reporter W. Hellerstein, May 9, 2001); OECD, Tax Administration Aspect of Electronic Commerce (A Report from the Forum on Strategic Management to the Committee on Fiscal Affairs, Feb. 2001).

2) *http://www.ustreas.gov/taxpolicy/library/internet.html* (as of June 3, 2003).

3) *Id.*, at cover page.

included a pivotal suggestion to be followed by subsequent studies — that is, tax neutrality between electronic and conventional commerce,[4] for ensuring that tax rules will not affect economic choices about the structure of markets and commercial activities.[5] From the neutrality concept, the Treasury reached the practical conclusion that "the best means by which neutrality can be achieved is through an approach which adopts and adapts existing principles in lieu of imposing new or additional taxes." [6] In this context, the Treasury raised the necessity of reexamining a number of basic concepts, including residence v. source taxation,[7] permanent establishment or domestic trade or business,[8] the classification of income,[9] source of services income,[10] and the inter-jurisdictional allocation of income and expenses.[11]

The concept of tax neutrality was also adopted by the Commission of the European Community in "A European Initiative in Electronic Commerce." [12] This report noted the impact of electronic commerce on value added taxation, but opposed the idea of bit tax.[13] It also pointed out the necessity to re-evaluate the source v. residence taxation.[14]

A U.S. presidential directive entitled "A Framework for Global Electronic Commerce" was published in 1997.[15] This directive is substantively an extension of the Treasury report, enunciating the concept of tax neutrality between conventional and electronic commerce.[16] The United States would also "advocate in the World Trade Organization and other appropriate international fora that the Internet be declared a tariff-free environment whenever it is used to deliver products or services." [17] The Internet Tax Freedom Act [18] of 1998 indeed mandated the use of

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4) *Id*., at para. 6.2.

5) *Id*.

6) *Id*.

7) *Id*., at para. 7.1.

8) *Id*., at para. 7.2.

9) *Id*., at para. 7.3.

10) *Id*., at para. 7.4.

11) *Id*., at para. 7.5.

12) com(97)0157 - c4 - 0297/97, at para. 56.

13) *Id*., at para. 57.

14) *Id*., at para. 58.

15) *http://www.whitehouse.gov/WH/New/Commerce/read.html*. (as of Feb. 4, 1999).

16) *Id*., at "Customs and Taxation".

17) *Id*.

existing rules to e-commerce and declared Internet a tariff-free arena. The neutrality concept was endorsed by other countries as well, including Australia,[19] and Canada.[20]

In the arena of international organizations, the OECD has opened a series of conferences. Most importantly, an Ottawa conference report of 1998, "Electronic Commerce: Tax Framework Conditions,"[21] described that "at this stage of development in the technological and commercial environment, existing taxation rules can implement the principles" that underlie the conventional commerce.[22] "New administrative or legislative measures, or changes to existing measures" were not precluded, but only on condition that they "are intended to assist in the application of the existing taxation principles, and are not intended to impose a discriminatory tax treatment of electronic commerce transactions."[23] In extrapolation of this position, the OECD has hitherto not revised a single paragraph of the Model Treaty, and the follow-up measures after the Ottawa conference has been limited to mere changes in several paragraphs of the Commentary, notably in regard to the classification of income and permanent establishment.[24]

Regarding VAT, the European Union in 1997 clarified the taxability of call-back services provided by foreign telecommunication companies to EU consumers, and in 1999 amended the VAT Directive[25] to permit member states to obligate such companies to a joint and several VAT liability with local consumers.[26] Effective July 1, 2003,[27] the VAT obligation for non-residents was temporarily[28] extended to radio and television services as well as 'electronically supplied services'. Under this new measure, a non-EU digital supplier (called 'non-established taxable persons') is

18) P.L. 105-277 of October 21, 1998.

19) Australian Tax Office, Tax and the Internet (Aug. 1997).

20) Revenue Canada, Electronic Commerce and Canada's Tax Administration (1998).

21) *http://www.oecd.org/pdf/M000015000/M00015517.pdf* (as of June 3, 2003).

22) *Id*., at para II.4.

23) *Id*., at para II.5.

24) OECD Model Commentary 42.1 thru 42.10 on art. 5, Commentary 11.2 thru 11.6 on art. 12, Commentary 17.1 thru 17.4 on art. 12.

25) Council Directive 77/388/EEC of May 17, 1977.

26) *Id*., art. 9(e) and 21(b) amended by 1999/59/EC.

27) 2002/38/EC, art. 3.

28) *Id*., art. 4.

required to file VAT return[29] and pay taxes[30] to a Member State of identification it chooses to be registered with.[31] The non-resident's tax obligation will not apply if the electronic supply is made to a 'taxable person' or an EU firm that files VAT return, who will continue to self-assess the tax through the reverse-charge mechanism.[32]

II. Impact of Digital Technology on Existing Norm of International Taxation

The existing norm of international taxation embodies express and implicit compromises among nations for allocating tax revenue from international trade and investment. The legal concepts carrying these compromises can ultimately be reduced to the economic nature of income and the territorial connection between a country and economic activities. These concepts cannot survive in a digital age. They only belong to a world that can be adequately modeled by traditional economic and legal concepts.

A. Allocation of Income Tax Revenue

The essence of existing international tax rules is classification and assignment, — that is, income is classified under a number of categories and taxing powers are assigned to each nation for each category of income. This classification of income is based on the property/service or capital/labor dichotomy.

1. Source v. Residence taxation

Since the collapse of the imperialist economic blocks in the early 20th century, international trade and investment are rendered ever more globally, and production,

29) 77/388/EEC, art. 26c(B)(5).

30) *Id*., art. 26c(B)(7).

31) 77/388/EEC art. 26c(B)(1) and (2), added by art. 1(3) of 2002/38/EC.

32) 77/388/EEC, art. 21(b).

consumption, saving and investment in each nation is intertwined with those of other nations. Economic efficiency from the global perspective will be best served when the tax burden on cross-border trade or investment is the same as that within-the-border and, thus, when resources are efficiently allocated internationally. The world as a whole would gain by avoiding double taxation. Hence the global community faces the task of dividing the revenue from income tax while avoiding double taxation.

The two competing ideas are source v. residence taxation. Source taxation or the territorial principle looks to the place where the income-generating activities arise, implying that the country in which the activities take place deserves to get the tax revenue. The residence principle, in contrast, looks to the place where the person who gets the income lives, implying that the country in which a person resides deserves to collect the revenue for the income derived by the person. Roughly speaking, the source v. residence principles correspond to the concepts of the gross domestic product v. gross national product, or domestic v. national income, of each country. For a simplified example, assume that the world consists of two countries A and B, and that all the capital (in the microeconomics sense of the word) in the world is owned entirely by the residents or citizens of country A. Further assume that in one particular year, each country produces the final product of 100, which is divided 70:30 between the workers and the owners of the capital. The source and the residence principles respectively mean that the two countries will share revenue 100:100 and 130:70.

2. Treaty Rules for Avoiding Double Taxation

Under either approach, double taxation on international trade or investment will be eliminated in as much as all the world follows the same rule. Using the previous example, suppose that the two countries are in identical conditions except that the citizens or residents in country A own all the capital in the world. The capitalists will then split their capital evenly between the two countries. In the meanwhile, from the perspective of an individual country, it will gain by the amount of revenue it collects. The world as a whole, however, will lose if this attempt results in double taxation. The controversy between the capital importing and the capital exporting countries, or source v. residence taxation, is caused from this tension. As a result of a historical path, the world has expressly and implicitly agreed on relatively stable rules for allocating tax revenue among the nations. These rules can be summarized in three basic statements.

i) Each country is entitled to tax the income derived from an activity taking place within the country.

ii) Each country is entitled to tax the income derived by a person physically or legally residing in the country regardless of where the income was derived from. Income tax collected from a corporation is also allocated based on the residence or the nationality concept.[33)]

iii) For avoiding double taxation caused from overlap of the first and second taxing powers, the source country will narrow its tax, and the residence country will admit to the primacy of the source tax to the extent so narrowed. The residence country can either abstain from taxing the income subject to the source tax, or reduce its own tax by the amount of the source tax.

This compromise has more or less successfully pervaded the world. Ever since the OECD designed a model tax treaty based on this compromise, a lot of countries have entered into real world treaties following the model. Most tax treaties have taken the form of a bilateral treaty, but the treaty network over the world has virtually resulted in a global multilateral treaty with a very complex set of reservations by each participant.[34)]

3. Economic Basis for a Tax Treaty

The epitome of the international tax order — that is, the primacy of the source taxation within the agreed boundary — was an inevitable yet most reasonable solution to the tension between maximizing the tax revenue of an individual country and yet avoiding double taxation in the global perspective.

33) The residence of a corporation is in fact only a very strange analogy to an individual. A corporation does not “live”, and even less live “on a place.”

34) A U.N. report of the High-Level Panel on Financing for Development thus calls for establishment of an International Tax Organization (*http://www.un.org/reports/financing*, as of June 4, 2003).

First, the right of a source country to tax income derived from within its border is based on the physical power of the source country to collect a portion of the income. As for the product of a firm that is located within the border of a particular country, the country has the physical power to control it and collect a portion of it as income tax. No distinction exists in this aspect between the labor and the capital income. Capital income, taking the legal form of interest, dividend or business profits, is in essence the residual of the added value produced by a firm over the product distributed to labor, expressed in the common denominator of monetary value.

The right of a residence country to tax income derived by its residents is also based on the physical domination over a human being. As long as a person wants to remain in a country or maintain the legal connection to the country despite the tax he or she is subject to, the country can tax the person. Because the source country has already taken a part of the capital income, the residence country has four choices: (i) exempt the income, (ii) credit the source tax, (iii) deduct the source tax as an expense, or (iv) simply ignore the source tax. Indeed examples of all four can be found somewhere in the world. Of importance, the first or the second option is not an optimal strategy from the residence country's individual perspective. Given the source country tax on international investment income, gains to the residence country is the net income — that is, net of the source tax. In contrast, if the capital had been invested within its own borders, the gross product in its entirety would accrue to the residence country, divided between net income to the capital owner and the tax to the society as a whole. This implies that capital export neutrality between domestic and international investment does not maximize the national income of the capital exporting or the residence country.[35] The individual interest of the residence country is better served by taxing international investment income more heavily than domestic investment to a certain extent.[36]

Combining the implications of the two preceding paragraphs, partial double taxation becomes an unavoidable result of the game, with the result that the

35) Oliver Oldman, *Taxation of International Income*, in Taxation in Developing Countries 253 (Bird and Oldman ed. 1990).

36) Indeed, the foreign tax deduction system is an optimal strategy from the capital exporting country's individual perspective. Gary C. Hufbauer U.S. taxation of International Income 56 (1992); M. Feldstein and D. Hartman, *The Optimal Taxation of Foreign Source Income*, 93 Quarterly Journal of Economics 613 (1979).

distorting taxation results in a less than optimal amount of international trade and investment, and thus makes the whole world worse off. This unfortunate equilibrium can be changed by a collusion of the participants. If the source country reduces its tax and the residence country admits to the primacy of the source tax within the agreed boundary, they can divide the gain arising from the elimination of the distorting taxes and the consequential improvement in economic efficiency. This collusion is the *raison d'être* of a tax treaty.[37)]

Under a tax treaty, the residence country either credits the tax imposed by the source country, or exempts the income derived from the source country. The first approach of the foreign tax credit system achieves capital export neutrality and an efficient allocation of capital. Under this system, a taxpayer is still obligated to pay tax to the resident country to the extent taxation at the source is lower than the resident country tax on the income. As a result, a taxpayer is always subject to the same tax burden regardless of where she invests her capital.[38)] This tax neutrality in turn assures an efficiency that the owner of the capital will invest it where it can achieve the highest return and productivity before tax. The second approach, in contrast, of exempting foreign income assures the competition or capital import neutrality, and an efficient allocation of savings. When foreign income is exempt under this territorial principle, investment in a host country is not taxed in the investor's home country. As a result, net return to the investor will be equal regardless of where she invests her capital. This, in turn, will assure an efficient allocation of saving. Equal net return on capital or equal net interest rate means that consumers in different countries are willing to postpone the same amount of present consumption for the future, discarding any possibility of Pareto-efficient reallocation of savings.

Unless the capital exporting and importing countries have the same tax rate, the simultaneous achievement of capital export and import neutrality is impossible. Regarding the choice, the majority of economists believe that capital export neutrality is more important than capital import neutrality, because investment is more sensitive to taxes and net return than saving is.[39)] In the real world, however,

37) The text assumes that the in-and-outflow of trade and investment is on balance.

38) The statement does not hold true if the source country has a higher tax rate than the residence country.

39) OECD, Taxing Profits in a Global Economy 45 (1991).

the majority of capital exporting countries have taken the exemption method, probably to help its residents compete in a foreign market.[40)]

4. Classification and Assignment

Under either approach, the gist of the agreement is that the source country reduces its tax to the agreed scope, and the residence country admits to the priority of the source country tax to the extent so agreed, and eliminates a double tax burden. The central issue then is how to define the scope or boundary of the preemptive source country tax. The guideline that the early treaty designers recommended was classification and assignment - that is, classify income according to the nature of its economic character and define the preemptive scope of the source tax category by category. The classification fundamentally rested on the economists' distinction between labor and capital, the two factors of production in classical economics, which, in turn, translated to the legal classification of service income on the one hand and passive investment income and active business profits on the other hand. Based on the classification, tax jurisdiction was assigned as follows:

i) Compensation for labor or service income can be taxed in the source country where the service or labor was performed. Dependence or independence of the labor or service results in a sub-classification, but the fundamental rule of source does not change. As a de-minimus rule, a very short sojourn does not create taxability.[41)] Compensations paid to directors,[42)] entertainers,[43)] or sports players [44)] do not qualify under this de-minimus rule, as they typically involve a sizable sum of money.

ii) Of capital income from passive investment, interests [45)] and dividends [46)] can be taxed in the country of source (residence of the payor) within an

40) Even the United States compromised its foreign tax credit system by the Foreign Sales Corporation rule that mimicked the territorial system for helping exports, as disputes arose before the WTO.

41) OECD Model, art. 14 (before deletion) and 15.

42) OECD Model, art. 16.

43) OECD Model, art. 16.

44) *Id*.

45) OECD Model, art. 11.

46) OECD Model, art. 10.

agreed limit. Royalties are assigned to the payee's residence country.[47] Alternative source rules for royalty income include the place of using the royalty-generating property[48] and the place of payment.[49]

iii) Business profits can be taxed by a non-resident country only when a permanent establishment can be found in its borders.[50] Absent a fixed place of business, existence of a dependent agent within the border also triggers taxability.[51]

iv) Given a permanent establishment within a country, the taxable income in the host country is the hypothetical arm's length profit that the permanent establishment would make if it were an independent firm.[52] Income from a mere purchase and sale can be taxed in the country of sale in full.[53] Income from manufacture and sales is split between the two portions and taxed accordingly in the country of manufacture and sale, respectively.

v) Business profits derived by a group of related companies are split by the resident countries commensurate with the hypothetical arm's length income that would have been derived by each company if it had been an independent entity.

The decisive question under these assignment rules is the nexus of the economic activity, property or legal institution to the territory of a nation. What takes place within the border of a country decides its share in the tax revenue from cross-border economic activities.

B. Allocation of Consumption Tax Revenue

"Place" or a territorial nexus is made the pivotal frame of reference also in the

47) OECD Model, art. 12.

48) Internal Revenue Code, art. 861(a)(4).

49) Corporate Income Tax Act (Korea), art. 93(9).

50) OECD Model, art. 7(1).

51) OECD Model, art. 5(5).

52) OECD Model, art. 7(2).

53) I.R.C., sec. 865(e)(2) and 864(c)(4)(B)(iii). Corporate Income Tax Act (Japan), art. 141, 138 and its Enforcement Decree, art. 176. Corporate Income Tax Act (Korea), art. 93(5) and its Enforcement Decree, art.132(1)(1).

international allocation of consumption tax revenue. The VAT, the prevailing form of consumption tax in the contemporary world, operates under a tacit international consensus that each country will split the revenue based on the destination principle.[54] In short, consumption tax means that a taxpayer must pay a portion of her intended consumption of goods and services to the government. In an open economy, the goods and services to be consumed may well have been produced in another country. For example assume that a Japanese importer purchases consumption goods from a U.K. supplier for US $100 and resells it to a Japanese consumer at US $120. How will the countries divide revenue from the $120 consumption? Under the destination principle, the country in which the goods or services are consumed collects the tax. Hence the United Kingdom will not collect any revenue, and Japan will tax the $120 in its entirety. The destination principle assumes zero-rating for exports. When goods are exported, input tax is refunded to the exporter under the zero-rating and the exported goods do not bear any tax burden in the country of production or origin. In the country of import, consumption of the goods is taxed in the same way as those produced inside the border.

Almost invariably, the customs administration (or whosoever watches over the customs line or economic border) collects tax from the importer of goods. Indeed, this is not a substantive part of the destination principle, but a collection mechanism for not losing revenue in case the importer is a final consumer or an exempt entity. If the importer is a taxable person (having direct obligation to the government to pay the output minus input tax periodically), tax paid for import is creditable from the output or sales tax of the taxpayer, and the border tax collection only appears to complicate the system without generating any revenue. If, however, the importer is a final consumer or an exempt organization, the customs administration is in the best position to collect the tax, unless the country wants to implement a direct consumption tax of collecting revenue directly from every consumer. Given that the customs agency must collect tax from at least some of the importers, requiring the agency to distinguish between taxable and non-taxable importers will make the administration too complex. It would be simpler for the customs agency to collect tax uniformly from every importer, and let the importer credit the tax if it has a VAT

54) The alternative rule of the origin principle will be discussed in IV.C.

obligation to the government.

Unlike goods, a cross-border supply of services does not pass through the customs administration. Supply to a taxable entity does not lead to any revenue loss, because the value of the output to the consumer is subject to the tax anyway. Supply to a final consumer or an exempt entity results in revenue loss, however. The destination principle requires that the value of services be taxed in the country where it is consumed. The two alternatives to this end are i) collecting the tax from the overseas supplier, or ii) collecting the tax from the consumers and the exempts.[55] The choice between the two depends on which can be better enforced. Apparently, the second choice ('reverse charge' in VAT jargon) is less doomed than the first, and many countries have taken this path. In the real world, however, this reverse charge obligation is enforced only for exempt organizations that may be audited anyway for income tax or withholding tax purposes. The importation of services by individual consumers has been largely left out of the actual administration of the VAT system, although this has not been considered a serious problem because such transactions have been rare indeed.

C. E-Commerce Breaks Assumptions Underlying the Existing Rules

The international tax rules as exist today are based on the dichotomy of capital and labor in an economist's jargon, and property and service in a lawyer's words.[56] Depending on the legal system, the concept of 'property' has been expanded to cover electricity and other manageable energy, but fundamentally it means tangible property that we humans can see and touch. The concept of property corresponds with physical work. Property is something we make with our physical body. Throughout history, the concept of property has been the cornerstone of the legal system, at least ever since the private property system has sneaked into human society. Contracts have been nothing but conceptual tools for changing the

55) A third choice is to collect the tax from a financial intermediary involved in the payment for the services. This issue will be revisited in Part IV.C.

56) "Property" obviously includes land, and is a broader concept than "capital". For our purpose, however, suffice to say that capital (meaning physical capital, or man-made factor of production) belongs to the legal concept of property.

ownership of property. The progress of technology, however, began to deprive property of its central status and relegate it to the marginal corner. Intellectual labor or brainwork has been playing an ever more important role in what and how we humans produce. The advent of digital technology during the most recent decades gave a decisive spur to the predominance of mental work, by enabling the work-result to be saved and reused whenever needed. Information, software and other incorporation of the intellectual labor that can be transmitted through wire came to occupy no less significance than tangible property.

The existing norm of international taxation classifies income according to the nature of its economic character and assigns tax revenue for each category of income. The Internet and digital technology break this classification, as has been discussed in the United States Treasury report[57] and elsewhere. The existing classification is based on the dichotomy of capital v. labor, property v. service, or capital income v. service income. In the microeconomics concept of the word, "capital" means the factor of production created by humans - that is, the yet unconsumed portion of the corporeal products of human labor. The dichotomy begins to fall apart in the digitalized world. If the product of human labor can be saved and reused, this product exactly fits in the definition of capital, regardless whether it is tangible. Hence the distinction between capital v. service income becomes irrelevant.

Suppose two television companies, A and B, are interested in airing a performance by U.S. superstar Michael Jackson. If A pays Jackson for broadcasting the performance live, and B pays A to buy the recorded performance and broadcast it in a month, the economic nature of the two payments look different. Are they really different, however? What if B broadcasts the performance after one hour? One minute? One second? The mere differences in the legal formality do not make the two payments really different in economic substance. Under the existing rules, however, private law formality is decisive: the payment from A to Jackson is considered service income, and the payment from B to A royalty income.

In another example, a company may purchase 100,000 disks of Windows from Microsoft or may purchase a single master disk plus the right to make 100,000

57) U.S. Treasury, *supra* note 2, at para. 7.3.

copies. No economic difference can be found between the two choices. Under the existing rules, however, Microsoft will be considered to receive business profits in the first case [58] and a royalty in the second.[59]

The existing rules attribute significance to the territorial nexus of an economic activity, physical premise or legal institution. This is no longer relevant in the digital age. For example, the concept of permanent establishment was invented before the advent of the modern communication networks. Traditionally, selling goods into another country in massive scale was not possible unless an employee or an intermediary was actually engaged in the sales activity in the country, which in turn requires a business premise controlled by the seller or the intermediary. Such an employee, business premise, or intermediary was considered a permanent establishment, triggering taxation by the country of importation.

The rule that business profits are not taxable without a permanent establishment presupposes that any massive sales into a country will necessarily involve a permanent establishment and trigger taxation. Accordingly, it was not even necessary to include a warehouse in the scope of a permanent establishment.[60] Without sales activity within the border, the owner of goods cannot sell them even if she kept a massive inventory within the border. Focusing on sales activity was enough.

In the digital era, however, e-commerce breaks this very premise. A foreign supplier, seated in his home office, can enter into a sales contract with any buyer in the country of import and sell massive amounts of goods through the postal system or other logistic means, without ever physically touching the territory of the importing country. If the existing rules apply to e-commerce, the importing country cannot collect income tax from the supplier, even where the supplier sells massive volume of products from the inventory kept within the border, as long as the supplier renders all the sales activities outside the country.

The impact of e-commerce is even more devastating on service income. Under the existing rules, service income is basically taxed in the country where service is provided. This rule was based on the insight that personal service required a physical

58) U.S. Treasury Reg. 1.861-18 (h) Ex. 9.

59) U.S. Treasury Reg. 1.861-18 (c).

60) OECD Model, art 5(4)(a) and (b).

contact between the parties to the contract. Splitting the tax revenue among nations commensurately with the contact to their territories was a most likely and reasonable compromise. For example, a doctor could not diagnose a patient without meeting her in his office or the patient's place. An architect could not draw a design without actually examining the site of a building. Again, the advent of digital technology is incompatible with this assumption. A doctor can examine a patient on the other side of the globe, and an architect can examine the building site without ever standing there. Thus the place or territorial contact thus becomes irrelevant for allocating revenue between nations.

The consumption tax is no less seriously affected. The destination principle operates under the assumption that the cross-border supply of a service is insignificant. This assumption will not hold in the digital age. Digital technology makes it possible to preserve anything that can be digitalized, and moreover permits it to move along the wire or through the air, without ever passing through customs control. The country of import has the substantive right to collect the tax, but has no means to enforce it. Thus, the destination principle loses its validity. The same problem exists with customs duties. What used to be imported in the corporeal form of property can now be transferred over the Net directly to the consumer. The existing rules do not fit the digital age.[61]

III. Extrapolating the Traditional Rules to E-Commerce

The discussion on digital technology has been led by the United States and the OECD. Neither has articulated a clear position on every issue so far raised. At the risk of over-simplification, it may be said that the developed countries have agreed on four principles:

i) an emphasis on international cooperation;
ii) the maintenance of existing rules and concepts, to the extent possible;
iii) indiscriminate taxation between traditional and electronic commerce; and
iv) abstention from inventing a new tax.

61) Revenue Canada, *supra* note 20, at para. 4.4.2.

In short, the perspective of the advanced countries is that digital technology is a challenge to administration rather than substantive law: The technology makes it harder to collect tax, yet the established substantive rules can and should apply to e-commerce. Not surprisingly, the suggestions by the developed countries are serving their own interests, as the exporters of goods, services, and capital.

The United States has already proposed to make e-commerce duty-free,[62] and many other countries are more or less positively disposed to the concept. Canada has further suggested not to impose duties on whatever can be transmitted through the Net, even if they pass through the customs administration in the form of a physical medium.[63] As economists have demonstrated, the world as a whole would gain by eliminating or reducing customs duty, because exports and imports cancel out over the globe. If, however, customs duty is eliminated on e-commerce but remains on traditional commerce, the gains from the reduced duty will mostly accrue to the country that has a strong position in e-commerce, the United States. Apparently, this is why, even among the developed countries, many are positively considering, but yet are not really enthusiastic, about the U.S. proposal. In an extreme case, a net exporter in traditional commerce may lose revenue in absolute terms, albeit such an empirical analysis is beyond the scope of this paper. Regarding international allocation of consumption tax revenue, advanced countries still endorse the existing norm of the destination principle, although the internal norm within the EU Common Market comes ever closer to the origin principle. A note-worthy development exists in the enforcement of the destination principle. Effective July 1, 2003, the European Union will, rather than vainly trying to collect tax from final consumers for imported digital products, obligate non-EU suppliers to register and pay VAT to the extent they provide digital products to EU consumers as aforementioned.

The suggestion for income tax also reflects the interest of the advanced countries as exporters of goods, services and capital. The OECD has not revised a single sentence of the Model treaty, and has merely added some commentaries on how to apply the existing language of the Model to e-commerce.[64] As revealed in the

62) The White House, *supra* note 15, at Customs and Taxation.

63) Revenue Canada, *supra* note 20, at Para. 4.4 recommendation 48.

64) OECD Model Commentary 42.1 thru 42.10 on art. 5, Commentary 11.2 thru 11.6 on art. 12, Commentary 17.1 thru 17.4 on art. 12.

Commentary, this will inure to the benefit of the advanced countries. Thanks to e-commerce, a U.S. supplier may be able to sell as many products to China as would have required a sales office within China in traditional commerce, yet China will be barred from taxing the supplier's income owing to lack of a permanent establishment. "An Internet web site... does not in itself constitute tangible property. It therefore does not have a location that can constitute a 'place of business," [65)] "even if the enterprise has been able to determine that its web site should be hosted on a particular server at a particular location".[66)] In principle, "ISPs will not constitute an agent of the enterprises to which the web sites belong", and a web site is not a "person" [67)] as the term is used in the definition of a dependent agent PE.[68)]

Thanks to digital technology, a U.S. doctor may provide the same service to a Chinese patient as in a physical meeting, yet China will not be allowed to tax the doctor's income because the income is sourced without China under the old independent service clause,[69)] or is characterized as business profits [70)] without a permanent establishment.

Even if a permanent establishment can be found of an e-commerce supplier, the amount of profits attributable to the establishment will be insignificant, "relative either to the value of transactions processed through the permanent establishment or the arm's length cost of securing the use of the hardware and software required to ensure the continuous operation of the server without human intervention".[71)] If the function of the server is comparable to an ISP provider, "the profit margin ...would be mostly attributable to the value added associated with the development of the software and renting of either the hardware or space on a server".[72)] If the function of the server is comparable to a contract service provider, "the profit of the permanent

65) OECD Model Commentary 42.2 on art. 5.

66) OECD Model Commentary 42.3 on art. 5.

67) OECD Model Commentary 42.10 on art. 5.

68) OECD Model, art. 5(6): "agent of any other status, provided that such persons are acting in the ordinary course of business."

69) OECD Model, art. 14 before deletion.

70) OECD, Treaty Characterization Issues Arising from E-Commerce (Feb. 1, 2001), Annex 2, Category 18.

71) OECD, Attribution of Profit to a Permanent Establishment Involved in Electronic Commerce Transactions, para. 105 (Feb. 2001).

72) *Id*., at para. 102.

establishment will likely be determined by reference to a cost plus calculation performed on the basis of direct operating costs incurred in the permanent establishment." [73]

Absent a permanent establishment, the tax revenue of the importing country may still be saved if the income is characterized as royalty. In many real world treaties between a developed and a developing country, royalties are sourced by the residence of payor or place of using the royalty-generating property, and the importing country can tax royalty payments. This possibility is negated in e-commerce, however, because such income will normally be characterized as business profits. Electronic ordering or processing of tangible products will clearly result in business profits.[74] Payment to an ISP provider or a data warehouse will also be considered business profits.[75] Even where digital products and copyrights are involved, most income from e-commerce will be considered business profits, not taxable in the importing country. Payment for a computer program will constitute royalty "only where it is made to acquire information constituting ideas and principles underlying the program, such as logic, algorithms or programming languages or techniques, where this information is provided under the condition that the customer not disclose it without authorization and where it is subject to any available trade secret protection".[76]

Indeed, of the twenty-eight plausible forms of e-commerce, only three may generate royalty, as reported by a technical advisory group of the OECD.[77] The revised OECD Model Commentary describes that "[where] ...the use of copyright is limited to such rights as are required to enable downloading, storage and operation on the customer's computer, network or other storage, [or] performance or display device, such use of copyright should be disregarded in the analysis of the character of the payment for purposes of applying the term royalty".[78] This statement must hold true even if, under the copyright law of the land, "transactions which permit the customer to electronically download digital products may give rise to use of

73) *Id*., at para. 104.

74) *Id*., at Category 1.

75) *Id*., at para. 30 and 31.

76) *Id*., at para. 23. The OECD Model Commentary did not incorporate this statement, however.

77) *Id*, Annex 2.

78) OECD Model Commentary 17.2 on art. 12.

copyright by the customer." [79] Doubtlessly, this is a wise and practical conclusion. From a business perspective, even if "the act of copying the digital signal onto the customer's hard disk ...constitutes the use of a copyright under the relevant law,... this is merely an incidental part of the process." Nevertheless, this reveals that something more than mere application of the existing concepts is happening. Price for 'using a copyright' is not considered "payments of any kind received as a consideration for the use of, or the right to use, copyright of literary, artistic or scientific work." [80]

In sum, the idea of maintaining the existing rule and concepts will benefit the countries that export goods, services, and capital. At an even more fundamental level, the United States cautiously suggested to abrogate source taxation and make residence taxation an exclusive basis for allocating revenue.[81] In the age of electronic commerce, it is hard to tell where an economic activity takes place, but it is clear where a person lives or resides. In a world, however, where cross-border flow of capital is mostly unidirectional, this suggestion will result in a revenue gain to the capital exporting countries at the loss of the capital importing countries.

IV. Misdirected Developments to Date

The progress of digital technology increases productivity, and the world as a whole can produce more output. Nevertheless, if they sit idle, developing countries will be unable to collect the revenue that they could claim in the pre-digital age. An easy temptation will be to fix the existing rules for protecting the interest of these countries. These make-shift supplements are an anachronism, however, and will not work.

79) *Id*.

80) OECD Model, art. 12(2).

81) United States Treasury, *supra* note 2, at 7.1.5.

A. Make-Shift Supplements are an Anachronism

The existing rules do not protect the revenue interest of the developing countries in e-commerce. Facing this predicament, the countries could think of expanding or altering the existing concepts of tax rules to increase their share in the revenue. For example, what used to be considered property under traditional commerce could still be considered so for customs purpose, even if delivered over the wire or through the air. The distinction between business profits and investment income could be redefined to expand source taxation. The concept of a permanent establishment could be expanded to cover a server owned by a foreign supplier.[82] A network provider could be considered a dependent agent.[83]

Unfortunately, these suggestions are hardly compatible with the progress of digital technology. Digital technology can easily circumvent any make-shift supplements to the existing rules unless impracticable or prohibitively expensive measures are taken.

Trying to maintain the service/property dichotomy or its corollary classification of income is an anachronism. The distinction was based on the physical difference between services and property. As long as something is digitalized and processed physically in the same way, attempting to characterize this "something" either as a property or a service is preposterous. Expanding the coverage of investment or royalty income and contracting the scope of business profits is not likely to help the developing countries either, because digital technology can be applied again to re-characterize the income and avoid the source tax. Moreover, suppose *arguendo* that the world agrees that what is considered property under the traditional commerce will be considered property even in e-commerce. Enforcing this rule would require the government's full access to what a person gets through the Net. Obligating individual consumers to withhold gross-based tax from payment to non-resident e-suppliers has the same problem. This is technically and administratively impracticable, and moreover, humankind has so far considered such an Orwellian prospect abhorrent.

Trying to redefine the legal significance of a place is also doomed. Asking where

82) OECD Model Commentary 42.6 on art. 5.

83) OECD Model Commentary 42.10 in principle denies this.

a property exists or where a service is provided is a mere anachronism. For example, if a server is considered a permanent establishment, the supplier may simply move its home page to another server out of the country of purchase, perhaps to a low-tax or no-tax jurisdiction.[84] Digital information does not exist on a particular spot. Suppose a U.S. resident and a Japanese resident develop a new software by collaborating over the Net and makes it available to a Chinese resident. Where does this software exist? Where is it made? Where is it used? Software is not tangible. It only exists on the Net, and not in any physical place. Of course, somewhere in the world there is a media in which the software is saved. Mere location of the media, however, does not have any technical or economic significance. In contrast, the place of producing the software appears to be the United States and Japan for certain. Upon second thought, however, the result of the work exists only on the Net. The United States and Japan are mere places where the developers are resident. In the end, the only significant facts are that somebody lives or stays somewhere.

B. Tax Neutrality

The proposition that the only place that could have legal significance is where we live or stay necessarily leads to the residence taxation as the single basis of allocating international tax revenue. If the place of production loses its meaning, source taxation cannot survive. Under the single rule of residence jurisdiction, obviously, the developed or capital exporting countries will gain at the expense of the developing or capital importing countries.

Is this an inevitable result of tax neutrality? Developed countries derive the prescription of maintaining the existing rules from the concept of tax neutrality between the traditional and electronic forms of commerce. It was argued that neutrality requires the same rules and concepts, and thus maintaining the existing rules was implied to be an inevitable outcome of neutrality and economic efficiency. In fact, the reference to the neutrality appears to be mere rhetoric or ideology. Neutrality means taxes should not affect economic choices. To the extent the total amount of tax burden remains unchanged, allocation of revenue among the nations

84) United Nations Secretariat, *supra* note 1, at 13.

does not affect business decisions. Compare three cases in which i) a Japanese supplier has a sales office in China and sells goods in China on a massive scale, ii) a Japanese supplier does not have a sales office in China and only sells a limited amount of goods sporadically, and iii) a Japanese supplier sells goods to China on a massive scale by e-commerce. None of these cases are identical. No mechanical concept of neutrality can be mandated subjecting the third scenario to the same tax burden as the second. The right issue is, which of the first two is closer to the third. The two relevant factors are the massive recurring sales compared to the existence of a sales office. To the eyes of many, the first factor must look more important than the second. Relying on tax neutrality is no more than well-packaged rhetoric to justify or insinuate an aura of moral claim to the revenue interests of the advanced countries.

The permanent establishment rule is not a sacrosanct, heavenly principle. It was derived from the administrative difficulty in taxing non-resident taxpayers on a net income basis. The concept was invented to enable gross-basis taxation or tax exemption in case the local activities of non-residents are not significant enough to justify the chore of identifying the net income. If we admit that the distinction between PE-taxation and the gross basis taxation is derived from this administrative consideration, the administrative difficulties raised by e-commerce should suffice to reprove the distinction and the existing concept of permanent establishment as a tax nexus. Indeed development on consumption taxes in the advanced countries well evinces that e-commerce demands redefining a tax nexus. The function of permanent establishment in income taxation is essentially the same as that of the place of supply (which in principle is the place of business or fixed establishment of the supplier [85]) in VAT or the 'substantial nexus' in U.S. sales taxation.[86] All these concepts define the hurdle for obligating a non-resident to pay taxes directly to the government of the importing country. Now the European Union obligates foreign firms to pay tax even without any local place of business. In U.S. sales taxation, the U.S. Supreme Court ruled that an importing state may find a substantial nexus between itself and a non-resident supplier, even without any physical presence.[87] Seen this way, a proposal for imposing withholding tax for business profits and other

85) 77/388/EEC, art. 9(1).

86) Complete Auto Transit, Inc. v. Brady, 430 U.S. 274 (1977) etc.

87) Quill Corporation v. North Dakota, 504 US 298, at 308. Although the decision upheld that a physical

categories of income [88] does not harm tax neutrality, and is indeed consistent with an extrapolation of the OECD and the U.S. position on consumption taxes.

Another self-contradiction exists in the current argument for residence jurisdiction, as it applies to corporations. It is often argued that the source jurisdiction based on the place of production cannot survive e-commerce, and thus residence jurisdiction must become the sole rule for allocating revenue among nations. E-environment thus appears to justify the advanced countries' moral claim to revenue, because a typical digital supplier will be a corporation resident in an advanced country. This is superficial and indeed misleading rhetoric. When we say that the place of residence is the only stable concept in a digital environment, we mean the place where the physical body of us human beings live. The digital environment invalidates the place of residence of a corporation [89]; a corporation does not 'live', and even less live on a "place".

C. Consumption Tax

Without having any express agreement, the existing norms allocate consumption tax revenue under the destination principle. Presumably, the principle does not incorporate any shrewd policy decision by the international community, but is a mere by-product of the historical ascent of the VAT. This tax grew out of the domestic sales tax, and the border tax-adjustment rules were designed without questioning the assumption that the aggregate tax base will be national consumption. Left to the discretion of each country, the destination principle is a natural development. The zero rating is most natural in that it avoids taxing exports. Importing countries in turn are willing to tax foreign goods, because imported goods must at minimum be taxed at the same rate as domestically produced goods.

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presence is necessary for taxation by the importing state, it was based on the inter-state commerce clause of the U.S. Constitution. Leaving aside the 'self-inflicted' 'American problem', "there would no longer be any basis for prohibiting the states from requiring a remote vendor from collecting tax". United Nations, *supra* note 1, at 31.

88) Richard Doernberg and Luc Hinnekens, Electronic Commerce and International Taxation 320 (1999); Avi-Yonah, International Taxation of Electronic Commerce, 52 Tax L. Rev. 507.

89) United Nations, *supra* note 1, at 18; Avi-Yonah, *Id*., at 527 etc.

90) Report of the Fiscal and Financial Committee on tax Harmonization in the Common Market, Common Market Reports, para. 3459 (CCH 1963).

Accordingly, customs administration imposes VAT on import of foreign goods.

The primary problem with the destination principle is its economic inefficiency compared to the alternative rule of splitting revenue based on the origin principle. The former assigns consumption tax revenue to the country of consumption, while the latter allocates revenue based on the value added in each country. In the previous example, in which a U.K. exporter sells a product to a Japanese importer for $100, and the latter then resells it to a Japanese consumer for $120, the destination principle assigns the revenue entirely to Japan. In contrast, the origin principle permits the United Kingdom to tax $100 and Japan $20, the respective amount of value added in its territory.

Under the destination principle, the international community must maintain a customs line or economic border for tax adjustment. The U.K. government must refund the VAT to the exporter, and Japan must tax the import. This requires time and effort and deters international trade. In contrast, the origin principle does not involve border tax adjustments. Assuming that the tax rates are 10% in both countries, the U.K. supplier will collect $10 from the Japanese importer in the same way as domestic sales and pay it to the U.K. government, and Japanese importer will credit $10 from its $12 output VAT collected from the final consumer. No time and effort is lost on the border. This is why the Neumark Commission[90] recommended the origin principle in 1963, and the European Union has a long-term perspective of moving in that direction.[91] In that customs duties will not be imposed on transactions within the EU common market, moving from the destination to the origin principle is inevitable.

Nevertheless, the European Union apparently is not very interested in extending the origin principle to the global community. Sequential to call-back services, the European Union has extended VAT obligation to non-EU e-suppliers. These changes incorporate the destination principle that "rules for the consumption taxation of cross-border trade should result in taxation in the jurisdiction where consumption takes place".[92] Indeed they correctly implement the existing VAT, in that they address the administrative difficulty of zero-rating the export and taxing the import

91) 77/388/EEC, art. 28l.

92) OECD(Working Party No. 9), Consumption tax Aspects of Electronic Commerce, at para. 5 (April 30, 2001).

of services- a problem aggravated by e-commerce.

Nevertheless, these changes are another make-shift anachronism. Obligating foreign suppliers rather than domestic consumers to pay the tax is based on the simple fact that the number of the suppliers is far less than the number of domestic consumers; therefore, it could be easier to enforce the tax on foreign companies. This, however, assumes that the nonresident foreign companies, and ultimately the foreign governments that control them, will cooperate with the country trying to collect the tax. If they refuse to cooperate, the country will be back at square one having to collect the tax from each individual consumer within its borders.

A tempting alternative to this bewilderment is to engage a financial intermediary or another third party somehow involved in the payment process to collect tax from the flow of money paid to an e-supplier.[93)] Some researchers of the OECD argued that "the responsibility for collection should not be imposed upon any third party intermediary or set of intermediaries", and "any such party participation should", in their view, "be voluntary and based upon market-driven commercial viability... provided with appropriate incentives".[94)] From the perspective of social engineering, this argument can hardly be endorsed, because the tax collecting obligation must, like any other obligation, be imposed on whoever can do so with the least amount of transaction costs.[95)] Deeper trouble remains, however, with the suggestion of engaging financial intermediaries. Namely, the intermediary must distinguish between taxable and non-taxable payments, necessitating that the intermediary and ultimately the government have full access to the information on spending by all individual taxpayers. This will contradict human freedom and privacy, which very many people, if not all, consider a sacrosanct value. Even the fancy suggestion for tamper-proof software or another technological solution is no less doomed. Technologically, it would perhaps be possible to invent a software that can "automatically calculate the tax due on a transaction and remit the tax to the destination jurisdiction".[96)] This possibility, however, assumes that governments

93) *Id*., at para. 51.

94) *Id*.

95) Coase, The Problem of Social Cost, 3 Journal of Law & Economics 1 (1960). If the OECD argument were right, no withholding tax would ever be justified.

96) OECD *supra* note 90, at para. 52.

cooperate to force the software to business enterprises, and punish violators. It may be an option for a far, far future of an Orwellian world government, but, yet, would not be an acceptable option to the eyes of many, if not all.

For the foreseeable future, the push for the origin principle is not likely to be strong. In a world that still has border control for customs duty purposes, the origin principle is premature. The origin principle also needs harmonization of tax rates, which, in turn, requires an international agreement. In the previous example, if the tax rates in the United Kingdom and Japan are 20 and 10 percent, respectively, Japan would not want the 20 percent U.K. tax to encroach its 10 percent output tax. Moreover, the United States does not have a VAT at the federal level; thus, it cannot lead any discussion on allocating consumption tax revenue among nations. This backdrop explains why the OECD confined the scope of its consumption tax review to national level taxes alone.[97]

V. Prospect for a New Order

If make-shift repairs of the existing rules cannot maintain the relative share in tax revenue between developing and developed countries, the world presumably needs an entirely new international tax regime for allowing technological progress and distributing its fruit in a more equitable fashion. As resolved by the General Assembly of the United Nations, "the central challenge we face today is to ensure that globalization becomes a positive force for all the world's people" [98] and "the benefits of new technologies, especially information and communication technologies ...[must be] available to all." [99] Nevertheless and unfortunately, inventing new rules and enforcing them to the world appears to be beyond the power of developing countries, which may not have much choice but to lament their inability to gain a fair share in the fruits of technological development.

Developed countries have already made it clear that they do not want any new forms of taxation, and developing countries probably do not have any bargaining

97) *Id*., para. 18.

98) General Assembly of the United Nations (55th Aess.), United Nations Millennium Declaration, para. 5.

99) *Id*., at para. 20.

power to redesign and impose a new international tax order on developed countries. In a one-to-one negotiation between a developed and a developing country, the latter obviously does not have much bargaining power. From bilateral trade and investments, a large economy gains relatively less than a small economy, and this results in an absolute difference in their bargaining powers. Conceivably, the only way that small economies or developing countries can strengthen their bargaining power is a collective action with the advanced countries.

Indeed, the world already has experimented with collective bargaining in this sense, well before the advent of the digital age — that is, with the U.N. Model Convention. Developing countries could reflect their position to the model to an extent, yet in essence the model is not much more than an extension or a variation of the OECD Model, in the sense that a tax treaty was considered a tool for reducing the source tax. Moreover, in the real world, the OECD Model has exercised more influence than the U.N. Model, as an inevitable result of the bilateral nature of a real world treaty. This result was reached in an environment where the validity of source taxation was not questioned much. Mired in a worse situation, developing countries apparently do not have the power to reshape the international tax order to their favor.

In the long run, value added taxation will also probably be covered by bilateral or multilateral tax treaties, but this would not help developing countries either. As clarified above, the destination principle needs international cooperation if it is to apply to services as well. Even the fancy idea of tamper-proof software will necessitate an international agreement that "would provide for the verification by the tax authority in the 'supplying' jurisdiction (on behalf of the 'consuming' jurisdiction) of the installation and operation of such software." [100] Once the consumption tax is so covered by an international agreement and progresses to a multilateral agreement or a net of bilateral agreements amounting to a de-facto multilateral agreement, it would be most natural to move further to the more efficient rule of the origin principle. Again, developing countries as net importers are likely to be losers. Compared to the destination principle, a net exporter country will gain revenue at the loss of net importers.

Given that digital technology circumvents an anachronous extrapolation of existing rules, developing countries can maintain the status quo in revenue terms

100) OECD *supra* note 90, para. 51.

only by a more fundamental change in the international norm, such as withholding tax at source for business profits or other categories of income.[101] Achieving this in a bilateral treaty appears to be hopeless, however. Perhaps a developing country may have a better chance with a formula apportionment of business profits. Doubtlessly, the formula apportionment, especially if the profits of multinational enterprises as a group are consolidated for apportionment, is not consistent with the accepted norm of the arm's length principle.[102] Nevertheless, the world has been witnessing an expansion rather than contraction of this 'heretic' rule. The profit split method, initiated by the United States and endorsed by the OECD [103] consolidates the profits of related parties and apportions it. In response to the failure of the arm's length principle in global trading, the U.S. adopted a formula apportionment.[104] More fundamentally, the whole turmoil of U.S. super royalty issues was about the U.S. frustration with the arm's length principle.[105] All these circumstances reveal that a formula apportionment may be quite amenable to the advanced countries. Once on the road of formula apportionment, how to split profits is at best based on arbitrary factors, and a developing country may seek better luck rather than futilely attempting make-shift remedies within the traditional concepts.

In conclusion, the advent of digital technology increases productivity, and will, as a whole, make the world better off. Nevertheless, advanced countries have suggested an increase of their share in inter-jurisdictional allocation of revenue, justifying their position with the rhetoric of tax neutrality and residence jurisdiction. Indeed these suggestions can be hardly justified in that the economic and legal assumptions underpinning the existing norm of inter-jurisdictional revenue allocation are not valid in a digital era. Tax neutrality would rather justify a new order that would assign more revenue to the developing countries. Maintaining the existing international tax order and fixing it in a make-shift way will not lead to this new order of international taxation, however, because digital technology enables a taxpayer to circumvent any such attempt.

101) See *supra* note 86.

102) OECD Model Commentary 25 on art. 7(4).

103) OECD, Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations.

104) I.R.S. Notice 94-40, 1994-1 CB 351.

105) Chang Hee Lee, A Strategic Tax Approach for Capital-Importing Countries under the Arm's Length Constraint, 18 TNI 677, at Part I.

Unfortunately, creating an entirely new norm and imposing it on developed countries appears to be beyond the reach of developing countries, judging from the past experiences of bargaining between developed and developing countries. Despite this pessimism, however, the United Nations may consider revising the UN Model Convention to the interest of developing countries, because the very role of the Model is to provide bargaining leverage for a developing country in negotiating a real world treaty. More specifically, a proposed change to the Model is as follows:

i) Add a paragraph to article 7 (business profits) that permits a host country to impose withholding tax to all payments to a non-resident e-supplier in general, or upon the host country's election, to a payment to an e-supplier from a domestic business that can deduct the payment.

ii) Change article 7(4) to permit a host country to adopt a formula apportionment if an e-supplier has a permanent establishment in the host country or if sales by a non-resident e-supplier exceeds a certain sum of money.