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IFA 2021 Berlin Congress
Subject 2: Big data and tax – domestic and international taxation of data driven business

Description of "Big Data"

"Big Data" is not a legal or fiscal term in its own right. Rather, the term "big data " is used for different purposes, including to promote products, services or new information technologies. Usually, the term refers to projects, software, services or business functions that involve collecting, aggregating, structuring and analyzing large information sets, often unstructured data or information that was originally collected for different purposes, which can lead to direct or indirect commercialization. A critical element of big data commercialization is the development and deployment of sophisticated data analytics tools, including algorithms, which allow the business to determine relationships and tendencies within very large data sets and derive insights therefrom. This topic will address tax issues arising from commercial transactions in which large sets of data are aggregated, processed, and analyzed to create and provide new forms of goods or services or to improve the utility of goods or services already existing in the marketplace.

Collecting, aggregating, structuring, and analyzing large data sets through the use of data analytics has become an increasingly significant business function in the global marketplace. A large variety of business models—not merely pure internet companies—make use of big data techniques. Businesses currently implement big data analytics to boost customer acquisition and retention, identify potential business risks early, develop risk management solutions, innovate and develop new products, and manage supply chains. Big data also has a number of emerging and foreseeable commercial applications: connected and autonomous vehicles; medical research; remote equipment monitoring; machine learning; predictive and prescriptive analytics; and an increasingly interconnected "Internet of Things."

The relationship between big data and taxation involves both domestic and international aspects. National Reporters should consider their country's legal framework as regards the development and commercialization of big data by domestic firms. Equally important, National Reporters should consider how their jurisdictions treat nonresident firms that use big data to provide goods or services to their residents. Similar issues have to be addressed under both domestic tax law and international tax treaties. What are the appropriate income categories for big data transactions? Is income from the use of data income from the provision of services, royalty income, or another type of business income? How are the sales of data sets treated in cross-border situations?

Given the variety of commercial transactions that might involve big data, it may be necessary to distinguish the treatment of data from the treatment of structured data or big data business methods, such as analytics algorithms. Legal protection likely varies for raw data and big data business solutions. National Reporters should carefully consider how their jurisdictions allocate the value of these different, but connected, factors within a single firm. Depending on domestic tax laws, there could be different outcomes depending on the identification of assets and the characterization of income streams.

Finally, at the core of many issues surrounding big data are more fundamental questions about the nature of data themselves. Generally speaking, most jurisdictions do not provide a copyright or intellectual property right in raw data, on the basis that data are understood broadly as information. However, some jurisdictions are considering the creation of *sui generis* ownership rights in data, in some cases drawing fine distinctions between various types of data, including raw data, personal data, machine data, etc. The EU has for some time had a *sui generis* database right, which does not create property in the data itself, but in the economic investment in collating and organizing it. If data are capable of ownership, it will be important to strike a balance between the

rights of data "owners" and the public interest in access to, and use of, data. We invite National Reporters to consider these fundamental issues in relation to their jurisdiction's domestic and international tax laws and policies.

Legal Background

This section provides a general statement of legal principles that may apply to data in a particular jurisdiction. The legal framework relating to collection of, use of, and transactions in data is highly undeveloped around the world and the application of general legal principles to big data and related transactions may vary greatly from jurisdiction to jurisdiction. The following description reflects prevailing academic commentary relating to legal principles that normally apply to the collection of or transactions in data. Please review these principles and discuss whether they are applicable in your jurisdiction.

- General Property Law:
    - In general, academics tend to agree that there is no property right in data *per se*, even when that data has been aggregated in a database.
    - There is no known "data property statute" in any country providing for a generalized property right in data.
    - Various property law concepts might apply to protect against access to data and information by third parties. For example, data sets might be subject to access rights and restrictions.
- Copyright:
    - There is a general consensus among academics that there can be no copyright protection in data, as data are not the expression of an original creation—data exist separately from works of authorship, databases, and media.
    - However, jurisdictions differ in the copyright protection given to databases.
        - U.S. copyright law distinguishes between the substance of the data or information and the particular form or collection of words in which the writer communicates that data or information. *See* Int'l News Serv. v. Associated Press, 248 U.S. 215, 234 (1918).
        - U.S. law does provide copyright ownership rights for compilations of data, so long as that compilation of data is creative in nature. *See* Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc., 499 U.S. 340, (1991).
        - EU copyright law recognises that copyright can exist in a database if the database meets the subsistence requirements of copyright at the member state level. Such rights would exist independent of the EU's *sui generis* database right.
- *Sui Generis* Rights:
    - Some jurisdictions afford limited *sui generis* protection for collections of valuable data sets.
    - For example, European database laws offer copyright-like protection to creators of valuable databases. *See* Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases, 1996 O.J. (L 77) 20.
- Trade Secret / Confidential Information:

  - The law of trade secret / confidential information can protect information that is held secret, has value due to that secrecy, and steps are taken to maintain secrecy.
  - These principles can apply to transactions in data depending on the circumstances.
  - Device manufacturers generally cannot claim trade secret ownership rights in data and information collected by the devices they sell to customers.
  - Similarly, consumers typically cannot claim trade secret rights in the data collected by the devices they own because normally consumers cannot claim a competitive advantage from keeping such data secret.

- Contract Law:
  - Parties are free to regulate the use of data provided under contract per the terms of the contract.
  - Contract law creates rights and obligations between the contracting parties and named beneficiaries, i.e., these agreements bind the other contracting parties but do not convey actual property rights.

- Regulatory Restrictions:
  - Government regulation could impose obligations on those who acquire and process data, particularly personal data.
  - For example, EU lawmakers have taken broad action to promote data privacy with the General Data Protection Regulation, which prohibits companies from processing any personal data unless there is a statutory exception.

- Control:
  - The fact of unique control over specific data sets may allow some enterprises to commercialize that data as a practical matter.
  - Control may be exercised by not allowing others to access the data, or by transferring data only under limitations provided by contract.

- Other:
  - If your jurisdiction applies or is likely to apply legal principles to the collection of, use of, or transactions in data that differ from the description above, please augment this list with a detailed description of the principle(s) and an explanation of their application in practice.

Examples

The following are examples of common data transactions. This list of examples is not exhaustive, and other forms of transacting in data through big data techniques are likely to become more prevalent in the international marketplace in the near future. Please consider these examples as well as other forms of data transactions that currently occur, or you believe are likely to occur in the future, in your jurisdiction.

- *Pure Data Transactions*
  - Data brokers / information resellers: A business that collects personal information, from public and private sources, about consumers and sells that information to other organizations. This information may be gathered from cookies, loyalty cards, census data, user-contributed data from

social media websites, and court filings. The data are aggregated to create individual profiles, often made up of thousands of individual pieces of information, such as a person's age, race, gender, height, weight, marital status, religious affiliation, political affiliation, occupation, household income, net worth, home ownership status, investment habits, product preferences, etc. Data brokers typically sell these profiles to other organizations, which may use the profiles for various purposes—target advertising, identity verification, and fraud detection.

- Copyrighted Data Transfers: Organizations may maintain libraries of copyrighted materials—such as books, movies, research materials—to which they provide to users access on a subscription fee basis. Other organizations may sell copies of copyrighted materials to customers, e.g., e-books.

- Scientific research: Researchers in various fields need to acquire large data sets to perform their research. For example, the human genome project, an international scientific research effort spanning decades aimed at mapping the nucleotides contained in the human haploid reference genome, requires sequencing a set of individuals and then assembling these together to create a complete sequence of each chromosome. Performing this research and making the results available for other research endeavors involves transactions in large amounts of data to create a mosaic of the human genome, which does not represent any one individual.

- *Big Data Techniques to Facilitate Services*

  - Fully autonomous and driver-assisted vehicles: Car manufacturers are likely to produce autonomous vehicles for sale to the public within the next decade. Self-driving technology has advanced rapidly in recent years, as the growth of big data in technology industries has helped provide car manufacturers with the programming data needed to get closer to fully automating cars. Big data also plays an important role in making vehicles safer by providing driver-assisted functionality, such as blind spot monitoring, adaptive cruise control, and automatic braking.

  - Geographical mapping: Through the use of internet connected vehicles, smartphones, and other GPS-enabled devices, organizations are able to create detailed maps of human movement for a variety of applications. Organizations aggregate these date and use predictive algorithms to provide services such as traffic directions.

  - Weather prediction: Gathering and processing data with respect to the large number of variables involved in weather prediction allows weather forecasters to pinpoint the timing and severity of various weather events, such as hurricanes, floods, and snowstorms.

Technical Tax Issues

In the list of technical issues below, we refer to "data transactions" to mean any of the types of transactions described above. In your responses, please indicate what types of transactions you are addressing. [Q for Secretariat: do we want to pose certain examples that we ask the National Reporters to address?] Transactions involving data would seem to raise the following technical issues, among others.

- Character:

  - How does your country's domestic law characterize data transactions for tax purposes?

  - Are data transactions treated as the provision of a service, license of intangible property or lease of information? Are data transactions treated as a sale or exchange?

- Please describe the relevant factors for determining the tax character of a data transaction.

- Treaty:
  - Please consider how data transactions would be treated under a typical tax treaty analysis for your jurisdiction.
  - Please consider situations in which data transactions would give rise to business profits, royalties, or other types of income under a treaty analysis.
  - Please consider the use of industrial, commercial or scientific equipment.
  - Please consider possible characterization as fees for technical services, e.g. services of a technical, managerial or consultancy nature. *Compare* the United Nations Model Double Taxation Convention Between Developed and Developing Countries Art. 12A, *with* the OECD Model Tax Convention on Income and on Capital, Art. 14 (Pre-2000).

- Source:
  - How does your jurisdiction's tax laws determine the source of income derived from data transactions?

- Nexus:
  - Please describe how your jurisdiction's tax laws determine tax nexus for data transactions.
  - If your jurisdiction has a special nexus rule that applies to data transactions—for example, a significant digital presence tax nexus —please describe that regime and its technical and policy foundations.

- DST:
  - If your jurisdiction has enacted a digital services tax or similar tax which has a component the acquisition or use of data, please describe the scope of the tax.
  - Please describe the policy foundations for the tax.
  - Please comment on practical experience in administering this tax.

- Transfer pricing:
  - Please describe how your jurisdiction's transfer pricing rules account for data in cross-border transactions. In many cases this will not involve the transfer of data per se, but the provision of goods or services where the value or efficiency has been enhanced by the enterprise's use of big data.
  - Please consider intragroup activity not constituting a commercial transaction, e.g., the sharing of data within a single firm.

- Barter theories:
  - In some jurisdictions, it has been discussed that a user's enjoyment of free digital services in cases where the provider is able to collect user data constitutes a barter transaction that could be recognized for VAT or other purposes. Please discuss if this theory has been raised in your jurisdiction.

- Indirect tax:
    - Please discuss any indirect tax regimes that could apply to data transactions, e.g., VAT, GST, consumption tax, etc.
- Incentives:
    - Please describe any tax incentives your jurisdiction provides for big data development or exploitation.
    - For example, does your jurisdiction provide research and development tax credits or a "patent box" regime that would be applicable to typical big data development?
- Recognition of transactions:
    - Please describe the law of revenue and expense recognition as it would relate to data transactions.
- Capitalization and amortization:
    - Please describe the relevant law and regulations that would relate to the capitalization and amortization of expense to collect and maintain data sets, and to develop and maintain databases or data analytics tools.
- Other / Miscellaneous:
    - Please identify any other relevant tax issues that would arise for data transactions within your jurisdiction.