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Coleman H. Cheeley

University of Richmond School of Law

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COMMENT

TAXING THE NEW WITH THE OLD: CAPTURING THE VALUE OF DATA WITH THE CORPORATE INCOME TAX IN VIRGINIA

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INTRODUCTION

The Commonwealth of Virginia markets itself as “The Largest Data Center Market in the World.”¹ In 2019, the Northern Virginia market alone was the largest in the United States by inventory, with room to grow.² In 2021, data centers in Northern Virginia required an estimated 1,686 megawatts of power; that number is expected to increase by 200 megawatts in the near future, reflecting data centers currently under development.³ For reference, in 2022, it was estimated that more than 100 homes could be powered by one megawatt of solar power in Virginia.⁴ Historically, data centers have been located in the Commonwealth due to “the fiber-optic network in Northern Virginia, proximity to Washington, D.C., relatively low-cost energy and a concerted early effort on the part of Loudoun County.”⁵ Today, these massive concrete and metal structures dot the landscape of Northern Virginia, can be found on the outskirts of Richmond, and are beginning to migrate to more remote parts of the state.⁶

Loudoun County is home to more data centers than any other county in the Commonwealth, with that portion of the county most densely populated with data centers, earning the nickname “Data Center Alley.”⁷ Loudoun is also the fourth most populous locality

1. VA. ECON. DEV. P'SHIP, TECH IN VIRGINIA: AMERICA'S EAST COAST TECH HUB 21–22 (2023), https://issuu.com/vedpvirginia/docs/tech_in_virginia?fr=sMTliMDE3MDE3MTA [https://perma.cc/TFC8-2LSL].

2. CBRE RESEARCH, LARGE SUPPLY PIPELINE SETS STAGE FOR MARKET GROWTH IN 2019: NORTH AMERICAN DATA CENTER REPORT H1 2019, at 6 (2019), <https://www.caba.org/wp-content/uploads/2020/04/IS-2020-23.pdf> [https://perma.cc/XDA7-RRU5].

3. S.J. Res. 240, Va. Gen. Assembly (Reg. Sess. 2023).

4. *What's in a Megawatt?*, SOLAR ENERGY INDUS. ASS'N, <https://www.seia.org/initiative/s/whats-megawatt> [https://perma.cc/EJD3-WH33].

5. Ivy Main, *Virginia Has a Data Center Problem*, VA. MERCURY (Dec. 9, 2022, 12:02 AM), <https://www.virginiamercury.com/2022/12/09/virginia-has-a-data-center-problem/> [https://perma.cc/BB73-PDTC]; see also JOINT LEGIS. AUDIT & REV. COMM'N, DATA CENTER AND MANUFACTURING INCENTIVES 8 (2019), <http://jlarc.virginia.gov/pdfs/reports/Rpt518-1.pdf> [https://perma.cc/DT2X-8T86].

6. See Dan Swinhoe, *Microsoft Files Six-Building Data Center Campus in Virginia's Mecklenburg County*, DATA CTR. DYNAMICS (Apr. 12, 2023), <https://www.datacenterdynamics.com/en/news/microsoft-files-for-six-building-data-center-campus-in-virginias-mecklenburg-county/> [https://perma.cc/7VJD-QQUJ]; see also JOINT LEGIS. AUDIT & REV. COMM'N, *supra* note 5, at 8–9.

7. See Alexander Cole, *Why is Ashburn known as “Data Center Alley?”*, UPSTACK (May 18, 2022), <https://upstack.com/blog/why-is-ashburn-known-as-data-center-alley/> [https://perma.cc/5EPR-M485]. The term “Data Center Alley” generally refers to a certain portion of the Dulles Technology Park located in Ashburn, VA. See *id.*; Bill Stoller, *Digital Realty Ups the Ante in Data Center Alley*, DATA CTR. KNOWLEDGE (June 4, 2019), <https://www.datacente>

in the Commonwealth, with a population of 420,959.⁸ But in 1880, there were no data centers in Loudoun, let alone Virginia or the world. Then, the population of Loudoun County was approximately 23,634,⁹ and it would be another eighty-two years until the first passengers arrived at Dulles International Airport in the eastern end of the county.¹⁰ Around that time, Virginia's corporate income tax was aimed at taxing some of the earliest corporations—railroads—like the predecessors to the old Washington and Old Dominion Railroad, which ran through the north end of Data Center Alley.¹¹ But it was not an efficient tax; it was solely based on the value of “all property” owned by a corporation-taxpayer.¹² The law made the taxpayer the assessor, and sure enough, so “strikingly evident was the insignificant part played by corporations in sharing the burden of revenue.”¹³

To address this, the General Assembly of 1881–1882 amended the corporate income tax to capture the true value of property owned by corporations by requiring corporations to furnish statements of their property and authorizing the Board of Public Works to assess such property.¹⁴ Concurrently, the General Assembly provided for the taxation of the net earnings of corporations.¹⁵ As soon as these reforms were implemented, their effects demonstrated a massive underestimation of the value of property owned by railroad and canal corporations: in 1880, the assessment of such property in Virginia totaled \$9,876,306.34, and in 1881, substantially

rknowledge.com/investing/digital-realty-ups-ante-data-center-alley [https://perma.cc/GFG9-BKNF].

8. U.S. CENSUS BUREAU, *Decennial Census: 2020 DEC Redistricting Data (PL 94-171)*, [https://data.census.gov/table?g=050XX00US51107&y=2020&d=DEC+Redistricting+Data+\(PL+94-171\)&tid=DECENNIALPL2020.P1](https://data.census.gov/table?g=050XX00US51107&y=2020&d=DEC+Redistricting+Data+(PL+94-171)&tid=DECENNIALPL2020.P1) [https://perma.cc/XZ3U-8BC9].

9. U.S. DEPT OF INTERIOR, CENSUS OFF., STATISTICS OF THE POPULATION OF THE UNITED STATES AT THE TENTH CENSUS 83 (1883), https://www2.census.gov/library/publications/decennial/1880/vol-01-population/1880_v1-08.pdf [https://perma.cc/6K2Z-GEQM].

10. George Brantner, *Free Coffee and Cake: 1st Dulles Passengers Given N. Va. Welcome*, N. VA. SUN, at 3 (Nov. 19, 1962), <https://viriniachronicle.com/?a=d&d=NVS19621119.1.3> [https://perma.cc/EP23-KKHJ].

11. See Ames W. Williams, *The Washington and Old Dominion Railroad*, in RECORDS OF THE COLUMBIA HISTORICAL SOCIETY OF WASHINGTON, D.C. 1966–1968, at 231, 257–58 (Francis Coleman Rosenberger ed., 1969); EDGAR SYDENSTRICKER, A BRIEF HISTORY OF TAXATION IN VIRGINIA 32–36 (1915). See generally Thomas Walker Page, *The Movement for Tax Reform in Virginia*, 24 J. POL. ECON. 737, 737–40 (1916).

12. SYDENSTRICKER, *supra* note 11, at 36.

13. *Id.* at 38. “It may be truthfully said that in the first decade under the Underwood constitution the corporation paid practically no taxes at all.” *Id.*

14. *Id.* at 38–39.

15. *Id.* at 39. The net earnings tax resulted in insignificant revenues until 1899. See *id.* at 40.

the same property was valued at \$26,940,173.75.¹⁶ All this is to illustrate that taxation of corporations in Virginia “has progressed somewhat in direct ratio to the importance of the taxpayer from the standpoint of obtaining revenue.”¹⁷ In the case of railroad taxpayers, it was not until “the State began on that really marvelous rebound from economic ruin and the railroads began reaping the harvests of increased traffic, [that] for the first time they were seriously regarded as possessing valuable property and as earning considerable income.”¹⁸

Both data centers and the corporations that use them for data storage, like the railroad corporations of old, possess valuable property—data.¹⁹ Unlike railroads, such centers and corporations have become prolific due to the digital economy and the demands of the internet. From floppy disks to CDs to USB flash drives to the cloud, data storage has evolved in response to technological advancements and demand for increased capacity. Today, approximately “93% of American adults use the internet,”²⁰ an activity that requires access to data. People use the internet to access photos, videos, messages, books, and many other digital services. Consumers utilize the internet to access virtual storefronts, make informed decisions, and ultimately make purchases. In the pursuit of profit, corporations use the internet to interact with consumers and engage in the collection and analysis of product and consumer data. Thus, the economic value attributable to internet activity is unmistakable,²¹ which makes data and digital services targets for state taxation.²² Indeed, “[data centers] house the systems, equipment, applications and data that make it possible to do business in the modern world.”²³

16. *Id.* at 40.

17. *Id.* at 41.

18. *Id.*

19. *See id.*

20. *Internet/Broadband Fact Sheet*, PEW RSCH. CTR. (Apr. 7, 2023), <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/> [<https://perma.cc/NX23-8QA7>].

21. *See, e.g., The World's Most Valuable Resource Is No Longer Oil, but Data*, ECONOMIST (May 6, 2017), <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data> [<https://perma.cc/PXW3-Q5PX>].

22. *See generally* Andrew Appleby, *Subnational Digital Services Taxation*, 81 MD. L. REV. 1, 8–9 (2021).

23. Cynthia Harvey, *What Is a Data Center? History, Design, Cooling & Types*, DATAMATION (July 10, 2017), <https://www.datamation.com/data-center/what-is-data-center/> [<https://perma.cc/9GPP-Q7L2>].

In response to the evolving digitization of the economy, some states have taken steps to tax the value of data.²⁴ In contrast, the General Assembly has offered tax incentives to data centers in an attempt to sustain the rapid data center population growth in Virginia.²⁵ First, a sales and use tax exemption applies to data center operators and tenants who meet certain criteria.²⁶ Second, a corporate income tax single sales apportionment formula is available to certain data center operations.²⁷ The former has resulted in more than \$600 million of abated taxes—foregone revenue that cannot be directly recouped, including an estimated \$135.9 million in 2022.²⁸ The latter was initially estimated to have had an “unknown negative General Fund revenue impact” since fiscal year (“FY”) 2017,²⁹ yet it has since been estimated to result in a \$1.2 million reduction in Virginia’s revenue from FY 2019 to FY 2025.³⁰ Notably, the single sales apportionment formula is not available to data center tenants.³¹

Virginia’s corporate income tax is an increasingly important source of revenue, as corporate income tax revenue has doubled since 2019 while sales and use tax revenue has increased at a

24. See *infra* Part II.

25. JOINT LEGIS. AUDIT & REV. COMM’N, *supra* note 5, at 8; 2010 Va. Acts ch. 784 (codified as amended at VA. CODE ANN. §§ 58.1-609.3, -609.10 (Cum. Supp. 2023)); 2015 Va. Acts ch. 92 (codified as amended at VA. CODE ANN. § 58.1-422.2 (2022)).

26. VA. CODE ANN. § 58.1-609.3(18) (Cum. Supp. 2023).

27. § 58.1-422.2 (2022). The single sales apportionment formula calculates Virginia taxable income by multiplying the taxpayer-corporation’s income by a fraction consisting of the taxpayer’s sales in Virginia over the taxpayer’s total sales for the taxable year. See § 58.1-414 (2022). Moreover, eligible corporations establishing a presence in Virginia for the first time are allowed to subtract Virginia sales from the sales factor numerator for up to seven consecutive years—effectively reducing tax owed to zero for a significant period of time. See § 58.1-422.2(E) (2022).

28. Dan Swinhoe, *Virginia Granted Data Centers \$135.9m in Tax Breaks Last Year*, DATA CTR. DYNAMICS (Jan. 4, 2023), <https://www.datacenterdynamics.com/en/news/virginia-a-granted-data-centers-1359m-in-tax-breaks-last-year/> [https://perma.cc/EDE6-ER4K]; see also COMPTROLLER OF VA., VA. DEP’T OF ACCTS., AN ANNUAL COMPREHENSIVE FINANCIAL REPORT FOR THE FISCAL YEAR ENDED JUNE 30, 2022, at 186 (2022), <https://www.doa.virginia.gov/reports/ACFReport/2022/2022-ACFReport-for-web-Entire-Report.pdf> [https://perma.cc/M3ZQ-KJ5W].

29. VA. DEP’T OF TAX’N, FISCAL IMPACT STATEMENT, NO. SB1142FER161, at 1 (2015), <https://lis.virginia.gov/cgi-bin/legp604.exe?151+oth+SB1142FER161+PDF> [https://perma.cc/c/8MJ2-SDCK].

30. JOINT LEGIS. AUDIT & REV. COMM’N, *supra* note 5, at 12. As of 2019, no qualifying data center had transitioned to the single sales factor apportionment formula, but it appears that the report used data up to FY 2017—the first year that the different apportionment formula was allowed. *Id.* at 11.

31. See § 58.1-422.2 (2022).

relatively slower rate.³² While the revenue generated by the sales and use tax is twice as much as that generated by the corporate income tax, the corporate income tax revenue is steadily climbing.³³ The sales and use tax incentives for data centers have likely contributed to the stagnation of sales and use tax revenue growth. It is thus important for Virginia to utilize the full extent of its corporate income tax to meet its revenue needs—this could be achieved by extending the corporate income tax to capture the income attributable to data storage in Virginia data centers.

Part I of this Comment examines how and why data is stored in data centers and demonstrates that data storage is a major part of the modern economy. Part II assesses the current mechanisms states have utilized to tax the value of data. Part III explores how the existing corporate income tax can be operationalized to indirectly tax the value of data by taxing the income attributable to data storage in the Commonwealth. Two applications are considered: Virginia could assert nexus over additional corporations—those that store data in Virginia data centers—thus subjecting such corporations to the corporate income tax, and data storage may be incorporated into the calculation of corporate income tax liability.

I. THE INTERNET, DATA, AND DATA CENTERS

The location where data is stored may be said to be “the cloud,” but the cloud is not completely intangible as the phrase suggests—data must be physically located in some jurisdiction;³⁴ the question is where. Creating a spreadsheet and saving it to a local drive for internal business purposes requires no active internet connection; local data storage simply requires a computer. Yet increasingly, cloud storage is becoming more common, not only for consumers, but also for businesses.³⁵ The storage of data required for webpage hosting is of a different nature. Because the data is stored for a consumer-facing purpose, it must be accessible to consumers. Thus, it must be stored on a server connected to the internet.

32. COMPTROLLER OF VA., *supra* note 28, at 348–49.

33. *See id.*

34. *See* Quentin Hardy, ‘Where Does Cloud Storage Really Reside? And Is It Secure?’, N.Y. TIMES: ASK THE TIMES (Jan. 23, 2017), <https://www.nytimes.com/2017/01/23/insider/where-does-cloud-storage-really-reside-and-is-it-secure.html> [<https://perma.cc/9JB4-CEAA>].

35. *Id.*

The internet operates across a series of interconnected computer networks.³⁶ The relevant and functional method by which data is made available to internet users is known as the “Client/Server model.”³⁷ Data is stored on certain computers—called “servers” in common parlance—capable of handling requests for access to the data and information stored on the server.³⁸ An application running on a local computer, which is used to request the data stored on a server, is known as a “client.”³⁹ The client must be able to contact the server in order to retrieve the data stored upon it.⁴⁰ At a basic level, the process by which a client accesses a server is comparable to the process of inserting a USB flash drive into a laptop and accessing the files stored upon the flash drive. In both processes, the data being accessed is physically stored on a different device, and some user input is required to access the data.

Consumers access websites on the internet using a browser. When a browser, also known as a “web client,” receives an input directing it to display a certain webpage, it sends a request to the appropriate server for the data required to display the webpage.⁴¹ With any luck, the data is sent to the client, translated, and displayed for the consumer to interact with the corporation’s website. These activities are controlled by applications and databases stored on the server, otherwise known as “back-end” technology.⁴² For consumers to access a corporation’s website in the first place, it must create, store, and maintain the underlying data used to display the webpage on a consumer’s browser. This type of data, the “front-end” code,⁴³ is typically Hypertext Markup Language (“HTML”) code, which “contains commands that tell [the consumer’s] browser how to display text, graphics, and multimedia files.”⁴⁴ In short, a corporation’s ability to maintain an internet

36. Adam Satarino, *How the Internet Travels Across Oceans*, N.Y. TIMES (Mar. 10, 2019), <https://www.nytimes.com/interactive/2019/03/10/technology/internet-cables-oceans.html> [<https://perma.cc/D3AG-Y86S>]; see also Kashi M. Way, Comment, *State and Local Sales Tax on Internet Commerce: Developing a Neutral and Efficient Framework*, 19 VA. TAX REV. 115, 117–18 (1999).

37. PRESTON GRALLA, *HOW THE INTERNET WORKS* ch. 4 (8th ed. 2006) (ebook).

38. See *id.*

39. See *id.*

40. See Way, *supra* note 36, at 117–18.

41. GRALLA, *supra* note 37, at chs. 4, 18.

42. *Back-End Web Architecture*, CODEACADEMY, <https://www.codecademy.com/article/back-end-architecture> [<https://perma.cc/6LGF-J2MA>].

43. *Id.*

44. GRALLA, *supra* note 37, at ch. 17.

presence is dependent upon the storage of data on servers that run back-end functions and display front-end data. But a corporation may also create, store, and maintain data unrelated to website maintenance, which may include data collected on consumers, data collected from products, or internal records. Corporations can also purchase nearly any type of data relevant to their needs.⁴⁵

As the demand for data storage has increased and companies have migrated to cloud-computing and storage, the need for data centers has increased.⁴⁶ There are two distinct data center operating models: owner-operated data centers (“OODC”) and multi-tenant data centers (“MTDC”).⁴⁷ In an OODC, the center itself and the IT equipment inside are all property of the owner.⁴⁸ In an MTDC, also known as a “colocation data center,”⁴⁹ the owner owns the center and infrastructure, and “tenants” own their own IT equipment.⁵⁰

Data centers use a lot of electricity and take up a lot of space. These are simply the costs of storing data. But many costs are borne by nearby residents. These impacts include emissions from approximately 4,151 diesel generators located at data centers in Loudoun County alone,⁵¹ noise pollution from cooling units,⁵² and increased runoff, among others.⁵³ But other costs associated with data centers may be borne by those far from Data Center Alley. The dramatic energy needs of data centers require new investments in utility infrastructure, the costs of which may be sustained

45. See Arvind Murali, *The Ins and Outs of a Data Marketplace*, FORBES (May 21, 2021, 8:30 AM), <https://www.forbes.com/sites/forbestechcouncil/2021/05/12/the-ins-and-outs-of-a-data-marketplace/?sh=176dc2f019ea> [https://perma.cc/M5DU-9RTP].

46. See Sulav Malla & Ken Christensen, *A Survey on Power Management Techniques for Oversubscription of Multi-Tenant Data Centers*, ACM COMPUTING SURVS., Jan. 2020, at 1, 1.

47. *Id.* at 2.

48. *Id.*

49. *Id.*

50. *Id.*

51. Renss Greene, *Plan to Relax Data Center Diesel Regulations Narrowed to Only Loudoun*, LOUDOUNNOW, https://www.loudounnow.com/news/loudoun/plan-to-relax-data-center-diesel-regulations-narrowed-to-only-loudoun/article_2c6e2e20-c81e-11ed-9aec-5bbb66dbc8be.html [https://perma.cc/59V9-F9Y5] (Mar. 21, 2023, 5:20 PM).

52. Associated Press, *As Data Centers Proliferate, Neighbors Knock the Noise*, WTOPNEWS (Sept. 13, 2022, 8:53 AM), <https://www.wtop.com/local/2022/09/as-data-centers-proliferate-neighbors-knock-the-noise/> [https://perma.cc/6S4S-VNH2].

53. See Main, *supra* note 5.

by ratepayers in Virginia.⁵⁴ The value of data stored within such centers, if taxed, may be used to raise revenue which could be used to remedy some of these impacts.

II. CURRENT APPROACHES TO TAXING THE VALUE OF DATA

States have taken different approaches to taxing the value of data. These approaches have generally avoided the issue of configuring data into the calculus of the corporate income tax base. Two common proposals attempt to tax the value of data: first, a state may choose to account for the value of data by taxing the sale of data, data processing, and other data-driven services,⁵⁵ thereby incorporating the value of the underlying transaction into its sales and use tax base; second, a state may single out and levy a tax on certain digital services.⁵⁶ As discussed below, both approaches may be legally problematic and inefficient at reaching the underlying value sought to be taxed.

A. Sales & Use Taxes

Prior to 2018, a state's ability to impose a sales and use tax collection obligation on an out-of-state corporation was limited. Until 1992, the theory was that the Due Process Clause of the Fourteenth Amendment and the Commerce Clause of the Constitution required a taxpayer to have some physical presence in the state for the state to impose a sales and use tax obligation on the taxpayer.⁵⁷ Post-1992, physical presence remained a requirement for a finding of Commerce Clause nexus.⁵⁸ But in 2018, the Supreme Court's decision in *South Dakota v. Wayfair, Inc.* gave states wide latitude to impose a sales and use tax collection obligation upon out-of-state sellers.⁵⁹ The decision recognized that the law no longer reflected

54. See Chris Miller, Commentary, *Are Virginia Ratepayers and Residents Subsidizing the Data Center Industry*, VA. MERCURY (Feb. 2, 2023, 12:05 AM), <https://www.virginiamercury.com/2023/02/02/are-virginia-ratepayers-and-residents-subsidizing-the-data-center-industry/> [https://perma.cc/JCH2-GZCZ].

55. See, e.g., WASH. REV. CODE § 82.04.257 (2023); TEX. COMPTROLLER OF PUB. ACCTS., No. 94-127, DATA PROCESSING SERVICES ARE TAXABLE (2022), <https://comptroller.texas.gov/taxes/publications/94-127.php> [https://perma.cc/8PQP-JPJU].

56. Appleby, *supra* note 22, at 11–14.

57. See *Quill Corp. v. North Dakota*, 504 U.S. 298, 301 (1992) (discussing *Nat'l Bellas Hess, Inc. v. Dep't of Revenue of Ill.*, 386 U.S. 753 (1967)).

58. See *id.* at 317–19.

59. 138 S. Ct. 2080, 2099–2100 (2018).

reality—commerce has become increasingly electronic.⁶⁰ Under *Wayfair*, virtual, economic activity of an entity in a taxing jurisdiction can constitute commercial activity in the state that is fairly related to the services which the state provides to the entity.⁶¹ Thus, an entity that sells digital services—sales of software, data processing services, and the like—can be subjected to a foreign state’s sales and use tax. And indeed, certain jurisdictions have hypothesized implementing a “transaction tax on digital advertising services,” which would supplement the existing sales and use tax regime.⁶²

However, most sales and use taxes imposed under the *Wayfair* economic nexus theory require a certain level of sales in the taxing jurisdiction before liability attaches.⁶³ Moreover, the Internet Tax Freedom Act (“ITFA”),⁶⁴ prohibits “[t]axes on [i]nternet access” and “[m]ultiple or discriminatory taxes on electronic commerce.”⁶⁵ Notably, ITFA places restrictions on what in-state activities can be deemed to create nexus for sales and use tax collection liability.⁶⁶ For example, “if the sole ability to access a site on a remote seller’s out-of-State computer server is considered a factor in determining a remote seller’s tax collection obligation,” then a tax is “discriminatory” under the statute.⁶⁷ While there are questions as to whether the “out-of-State” server provision is to be read from the perspective of the taxing state or the seller, this provision represents a limitation on states from requiring an out-of-state seller to collect use tax for sales made in the taxing state.⁶⁸ Because the intent of Congress was to “preserve State . . . taxing authorities’ ability to impose traditional sales and use taxes, excise taxes, property taxes, corporate income taxes, gross receipt taxes, [BPOL] taxes, and other such taxes that are generally applied and not

60. *See id.* at 2095.

61. *See id.*

62. Appleby, *supra* note 22, at 7–8.

63. *See, e.g., Wayfair*, 138 S. Ct. at 2099; *Quad Graphics, Inc. v. N.C. Dep’t of Revenue*, 881 S.E.2d 810, 824–25 (N.C. 2022) (upholding a tax where a taxpayer’s orders in the state were “well above the annual threshold of \$100,000 cited favorably in *Wayfair*”).

64. Internet Tax Freedom Act, Pub. L. No. 105-277, 112 Stat. 2681-719 (1998) (codified as amended at 47 U.S.C. § 151 note).

65. § 1101(a).

66. Walter Hellerstein & Andrew Appleby, *The Internet Tax Freedom Act at 25*, TAX NOTES STATE, Jan. 2, 2023, at 7, 12.

67. *Id.*

68. *See id.*

enumerated in section 1101(a) of the ITFA,”⁶⁹ it is likely that sales and use taxes applied to data-related transactions and services would not violate ITFA as long as they are applied to non-internet data-related transactions. However, a sales and use tax regime using data or server situs as nexus may be in violation of ITFA.⁷⁰ From a policy perspective, data and related services that are used to produce a good or service should be treated as “business inputs,”⁷¹ and as such should not be subject to a sales or use tax. Taxes on business inputs are generally passed forward to consumers, which may cause prices of goods and services to fluctuate based on how dependent production is on non-exempt goods and services.⁷² Lastly, a corporation’s business model may not include taxable sales, or the level of sales may not be an accurate representation of the corporation’s profitability.

B. *Digital Services Taxes*

Digital Services Taxes (“DSTs”) are becoming increasingly common in the realm of international taxation.⁷³ A DST generally attempts to reach revenues from “online advertising, sales of collected user data, and digital platforms that facilitate interactions between users.”⁷⁴ The first generation of digital services taxes in the United States have generally been imposed on the gross receipts of digital advertisements.⁷⁵ Maryland, for example, enacted a “digital advertising gross revenues tax” (“DATA Tax”) in 2020.⁷⁶ The tax was to be imposed on “the annual gross revenues of a person derived from digital advertising services in the State,” apportioned by the fraction of such revenues generated inside the state over the total amount of such revenues generated in the United States.⁷⁷ However, the tax is subject to several challenges. First, it was struck down by the Anne Arundel County Circuit Court, which found the tax to be (1) an unconstitutional tax under the commerce

69. S. REP. NO. 108-155, at 8 (2003).

70. See Way, *supra* note 36, at 123–25; Hellerstein & Appleby, *supra* note 66, at 12; § 1104(2)(B).

71. See JEROME R. HELLERSTEIN & WALTER HELLERSTEIN, STATE TAXATION ¶¶ 6.06–6.06[1], 6-36 to -37 (3d ed. 1998); Appleby, *supra* note 22, at 15–16.

72. See HELLERSTEIN & HELLERSTEIN, *supra* note 71, at 6-37.

73. Appleby, *supra* note 22, at 6.

74. *Id.* at 5.

75. See *id.* at 6.

76. 2021 Md. Laws ch. 37.

77. *Id.*

clause, and (2) in violation of ITFA.⁷⁸ On May 9, 2023, the Supreme Court of Maryland vacated the circuit court's judgment on the basis that the circuit court lacked jurisdiction due to the challengers' failure to exhaust administrative remedies.⁷⁹ Additionally, a federal claim was brought before the U.S. District Court for the District of Maryland by a business organization challenging the propriety of the "pass-through" provision of the law, which prohibits the state from "directly pass[ing] on the cost of the tax . . . to a customer who purchases the digital advertising services by means of a separate fee, surcharge, or line-item."⁸⁰ The issue was ruled moot in light of the state tax challenge,⁸¹ but the ability to "pass-through" the incidence of the tax circumvents the likely purpose of the tax.⁸² Questions related to the viability of the DATA Tax must be answered another day, but until then, DSTs in the United States will be an uncertain revenue-generating venture.

C. *Direct Taxes*

Another problem underlying each method of taxation is that neither a sales tax nor a digital services tax actually reaches the value attributable to the data. Once data is created or collected, it can be utilized over and over again to achieve business purposes. If maintained properly, data can last a very long time.⁸³ The website from which a person purchases property is only operable by the consumer because of data. Simply subjecting a digital service provider to a sales and use tax on its digital products does not reach the underlying value of the data used to create and sell the service, nor does a tax on gross digital advertising receipts. Two additional

78. *Comcast v. Comptroller*, No. C-02-cv-21-000509 (Md. Cir. Ct. Anne Arundel Cnty. 2022).

79. *See Comptroller of Md. v. Comcast of Cal., Md., Pa., Va., Wv., LLC*, 294 A.3d 1108, 1109 (Md. 2023).

80. *Chamber of Com. v. Franchot*, No. 21-CV-00410-LKG, 2022 U.S. Dist. LEXIS 217905, at *3–4 (D. Md. Dec. 2, 2022) (quoting MD. CODE ANN., TAX-GEN. § 7.5-102(c) (2023)).

81. *Id.* at *15.

82. Jennifer W. Jensen, Ferdinand Hogroian, & Timothy G. Gorton, *Maryland Breaks New Ground in Taxing Digital Realm*, TAX ADVISER (Mar. 1, 2022), <https://www.thetaxadviser.com/issues/2022/mar/maryland-taxing-digital.html> [<https://perma.cc/T8BU-EYQE>]; Appleby, *supra* note 22, at 7.

83. Greg Fish, *The Truth About Cloud Storage and Its Future*, HOWSTUFFWORKS (Jan. 25, 2019), <https://computer.howstuffworks.com/cloud-computing/truth-about-cloud-storage-and-its-future.htm> [<https://perma.cc/3GUH-BD2F>] (describing the backup protocols used by data centers and the typical lifespan of a server).

promising solutions would be to impose either an ad valorem tax on data collected, or a data mining tax on the “value associated with collecting and monetizing user data.”⁸⁴ Each tax would be a direct tax, which would seek to tax the actual value of the data collected.⁸⁵ Yet, to achieve the results of either tax, the General Assembly would have to enact a new law.⁸⁶ In Virginia, the former would likely be a matter of local taxation and appear as a new form of property tax.⁸⁷ The latter would be more like a resource extraction tax.⁸⁸ Such taxes, especially a data mining tax, would likely evoke a negative response from the data industry.⁸⁹ To avoid the legislative process, the existing corporate income tax infrastructure may be effectively utilized to capture this value.

III. CAPTURING THE VALUE OF DATA THROUGH CORPORATE INCOME TAXATION

A corporate income tax is a widely used and generally accepted form of state taxation,⁹⁰ which can be levied on income generated from sources within the taxing state.⁹¹ A state’s corporate income tax attempts to tax the income earned by a corporation attributable to the corporation’s income-producing activity in the state. Thus, if a corporation derives value from storing data within the state, it should be taxed accordingly. In this way, income is a proxy for the profitability of the corporation. In fact, the imposition of a corporate income tax is an implicit recognition that the corporate structure is valuable in and of itself; the corporate income tax “arose in part because of the traditional property tax’s failure to reach intangible wealth.”⁹²

84. See Appleby, *supra* note 22, at 21–22.

85. See *id.*

86. See *id.* at 22–26.

87. See *id.* at 21. Currently, “[c]omputer equipment and peripherals used in a data center” may be subjected to a local personal property tax in Virginia. VA. CODE ANN. § 58.1-3506(A)(43) (2022).

88. See Appleby, *supra* note 22, at 25.

89. See *id.*

90. In 2022, forty-four states and Washington, D.C. imposed a tax on corporate income. Garrett Watson, *Combined Federal and State Corporate Income Tax Rates in 2022*, TAX FOUND. (Sept. 27, 2022), <https://taxfoundation.org/combined-federal-state-corporate-tax-rates-2022/> [https://perma.cc/46TE-ZUBL].

91. See, e.g., *Complete Auto Transit, Inc. v. Brady*, 430 U.S. 274, 279 (1977).

92. Steven A. Bank, *Entity Theory as Myth in the Origins of the Corporate Income Tax*, 43 WM. & MARY L. REV. 447, 515 (2001).

Virginia imposes a six percent corporate income tax on the “Virginia taxable income for each taxable year of every corporation organized under the laws of the Commonwealth and every foreign corporation having income from Virginia sources.”⁹³ “Income . . . from Virginia sources” includes any income “attributable to the ownership, sale, exchange or other disposition of any interest in real or tangible personal property in Virginia or attributable to a business . . . carried on in Virginia or attributable to intangible personal property employed in a business . . . carried on in Virginia.”⁹⁴ This tax law can be operationalized to capture the value attributable to corporate data storage in the Commonwealth.

This Part explores two ways that corporate income tax administration can be modified to capture the value attributable to data. Section A describes the constitutional framework under which a corporate income tax is assessed and the policies for allowing such taxation. Section B examines how data can be characterized to fit into the existing corporate income tax regime. Section C explores how the corporate income tax can be extended to corporations engaged in the ownership, purchase, or sale of an interest in data located on a server in Virginia. Lastly, Section D explores how the corporate income tax base can be broadened to include income attributable to data used in the course of a corporation’s economic activities in Virginia.

A. *Constitutionality*

The constitutionality of a corporate income tax, where part of the income to be taxed originates from interstate commerce, is dependent on satisfaction of the *Complete Auto*⁹⁵ four-prong test. In *Complete Auto*, the Supreme Court initiated a reversal⁹⁶ of past formalistic decisions that disallowed the imposition of a state tax levied on corporations “for the privilege of doing business,” but allowed the imposition of substantially similar, yet semantically different state taxes.⁹⁷ The *Complete Auto* test dictates that a tax which (1) “is applied to an activity with a substantial nexus with

93. VA. CODE ANN. § 58.1-400 (2022). “Virginia taxable income” generally means “federal[ly] taxable income.” § 58.1-402(A) (Cum. Supp. 2023).

94. 23 VA. ADMIN. CODE § 10-120-20 (2016).

95. *Complete Auto Transit, Inc.*, 430 U.S. at 279.

96. *Id.* at 288–89.

97. See, e.g., *Spector Motor Serv. v. O'Connor*, 340 U.S. 602, 603 (1951), *overruled by Complete Auto Transit, Inc.*, 430 U.S. at 288–89.

the taxing state,” (2) “is fairly apportioned,” (3) “does not discriminate against interstate commerce,” and (4) “is fairly related to the services provided by the State,” may be imposed upon a corporation’s net income.⁹⁸

Underlying the *Complete Auto* test is a longstanding recognition that a state has the inherent power to tax a corporation’s income where the state “has given anything for which it can ask return.”⁹⁹ Two types of states fit this bill: the state of a corporation’s domicile and a state where the corporation has a source of income.¹⁰⁰ The former is justifiable on the basis that the state of domicile provides a taxpayer with the “protection afforded to the recipient of the income by the state, in his person, on his right to receive the income, and his enjoyment of it when received.”¹⁰¹ The latter is based on a “well recognized” principle that where the source of a corporation’s income is within a state, that state has the power to tax the corporation on “the basis of source.”¹⁰² The source of a corporation’s income is attributable to a state where the “property owned within the State and [the corporation’s] business, trade, or profession [is] carried on therein,” but only to the extent that “the tax is only on such income as is derived from those sources.”¹⁰³

Income can be used as a proxy for the value attributable to data and data storage. Today, the intangible value of a corporation transacting interstate business is typically measured and apportioned using any combination or selection of the following factors: sales, property, and payroll.¹⁰⁴ None of the aforementioned factors patently includes the value attributable to data. However, the corporate income tax base can be modernized to capture the value of data storage and processing within the apportionment formula. This requires a taxing state to reconceptualize data to more accurately reflect the role it plays in the modern corporation. By doing so, a state which serves the needs of data-driven entities, such as Virginia, can increase its corporate income tax base by taxing the value a corporation receives from its data having situs in the state.

98. *Complete Auto Transit, Inc.*, 430 U.S. at 279.

99. HELLERSTEIN & HELLERSTEIN, *supra* note 71, at ¶ 6.04[1], 6-26 to -27 (citing *Wisconsin v. J.C. Penney Co.*, 311 U.S. 435, 444 (1940)).

100. *Id.* at 6-24.

101. *Id.* at 6-24 to -25 (quoting *Lawrence v. State Tax Comm’n*, 286 U.S. 276, 281 (1932)).

102. *Id.* at 6-25.

103. *Id.* (quoting *Shaffer v. Carter*, 252 U.S. 37, 57 (1920)).

104. See RICHARD D. POMP, *STATE & LOCAL TAXATION* 10-51 (9th ed. 2019).

B. Characterizing Data

A data center and the land on which it sits are real property.¹⁰⁵ A server is personal property,¹⁰⁶ or more specifically, tangible personal property.¹⁰⁷ Clearly, data owned by a corporation is not real property—it is likely to be characterized as personal property. Yet, it is less clear whether data should be characterized as tangible or intangible personal property.¹⁰⁸ The characterization of data as either tangible or intangible property carries legal effect: It determines the theory of nexus to be asserted and establishes how the value of data can be included in the apportionment formula, which in turn affects income tax liability.

1. Tangible Personal Property

Data can be, and has been, characterized as tangible personal property.¹⁰⁹ In *American Business Information, Inc. v. Egr*, the Supreme Court of Nebraska held that electronically stored data was tangible personal property.¹¹⁰ Eschewing an assessment of whether electronically stored data has a “tangible, physical manifestation or embodiment,” the court reasoned that “[t]he mere fact that the signals may be received and stored shows that a tangible thing is in issue.”¹¹¹ At the time, Nebraska’s corporate income tax used the federal income tax definitions for terms left undefined in its state income tax, and thus the court relied on a Tax Court ruling

105. See *Real property*, BLACK’S LAW DICTIONARY (11th ed. 2019) (defining “real property” as “[l]and and anything growing on, attached to, or erected on it, excluding anything that may be severed without injury to the land”).

106. *BMC Software, Inc. v. Cherwell Software, LLC*, No. 1:17-cv-01074, 2017 U.S. Dist. LEXIS 227722, at *5 (E.D. Va. Dec. 21, 2017) (“Servers are not real property; they are personal property.”); Kevin Emerson Collins, *Cybertrespass and Trespass to Documents*, 54 CLEV. ST. L. REV. 41, 46 (2006) (“The server box is, after all, a chattel.”). See also *Personal property*, BLACK’S LAW DICTIONARY (11th ed. 2019) (defining “personal property” as “[a]ny movable or intangible thing that is subject to ownership and not classified as real property”).

107. *Tangible personal property*, BLACK’S LAW DICTIONARY (11th ed. 2019) (defining “tangible personal property” as “[c]orporeal personal property of any kind; personal property that can be seen, weighed, measured, felt, touched, or in any other way perceived by the senses”).

108. The “issue is one on which reasonable jurists can differ.” *Pa. State Emps. Credit Union v. Fifth Third Bank*, No. 1:CV-04-1554, 2005 U.S. Dist. LEXIS 42334, at *36–38 (M.D. Pa. May 3, 2005) (citing *Am. Online, Inc. v. St. Paul Mercury Ins. Co.*, 347 F.3d 89, 99–101 (4th Cir. 2003) (Traxler, J., dissenting)). See also Appleby, *supra* note 22, at 21 (“It is not completely clear if data constitutes tangible or intangible property.”).

109. See *Am. Bus. Info., Inc. v. Egr*, 650 N.W.2d 251, 256–257 (Neb. 2002).

110. *Id.* at 257.

111. *Id.* (quoting *May Broad. Co. v. Boehm*, 490 N.W.2d 203, 207 (Neb. 1992)).

which had established a narrow reading of intangible property for the purposes of the investment tax credit found in the Internal Revenue Code.¹¹² Reviewing the legislative history of the statute, the Tax Court found that Congress had intended for “tangible personal property” to “encompass all personal property that is not intangible property in the narrow, traditional sense.”¹¹³ Today, Virginia employs the same conformity tactic,¹¹⁴ and thus a court applying Virginia law may be inclined to take the same stance on the matter.

2. Intangible Property

Data has historically been treated as intangible property,¹¹⁵ which requires a distinction between data and the computer on which it is found. For example, in *American Online, Inc. v. St. Paul Mercury Insurance Co.*, the Fourth Circuit distinguished the physical material on which data is stored from data itself, finding that the former is tangible but the latter is not.¹¹⁶ Through analogy, the court compared a hard drive and data with a combination lock and a combination, finding that the loss of data may render a hard drive useless, just like the loss of a combination renders a combination lock useless, and that in neither case is there damage to the substrate property.¹¹⁷ Similarly, the loss of data on a server may render the server useless for a business’s purposes, but the server may be reused in the future.

Data is difficult to characterize, difficult to value, and difficult to track,¹¹⁸ but the current corporate income tax can be operationalized to adequately address its presence. Once data is characterized as either tangible or intangible property, it can serve as a

112. See *id.* at 256 (citing *Norwest Corp. & Subs. v. Comm’r*, 108 T.C. 358, 374–75 (1997)).

113. See *Norwest Corp. & Subs.*, 108 T.C. at 374.

114. See VA. CODE ANN. § 58.1-301(A) (Cum. Supp. 2023) (“Any term used in this chapter shall have the same meaning as when used in a comparable context in the laws of the United States relating to federal income taxes, unless a different meaning is clearly required.”).

115. *Am. Online, Inc. v. St. Paul Mercury Ins. Co.*, 347 F.3d 89, 99 (4th Cir. 2003) (Traxler, J., dissenting).

116. *Id.* at 93–96. Note that this case arose in an insurance context, not a tax context.

117. *Id.* at 96. The court also alluded to data’s inherent value: “Of course, without any code and instructions, the hardware consists simply of millions of electronic switches, circuits, and drives that can be turned on or off but that cannot function as a computer.” *Id.* at 95–96.

118. Cf. Appleby, *supra* note 22, at 21–22 (describing the practical difficulties in administering a data ad valorem tax).

basis for corporate income tax liability or factor into the calculation of a corporation's Virginia corporate income tax base.

C. *Attaching Nexus Based on Data Storage*

The first way in which the Virginia corporate income tax can be utilized to tax the value attributable to data is by using data storage to attach income tax liability, or nexus. As a threshold matter, a taxing state must satisfy the first prong of the *Complete Auto* test—the “substantial nexus” prong.¹¹⁹ Since *Complete Auto* was decided, it has been applied to determine the constitutionality of corporate income taxes,¹²⁰ sales and use taxes,¹²¹ and other taxes raising questions of constitutionality under the Due Process Clause or Commerce Clause.¹²² Thus, the Court's substantial nexus jurisprudence has developed through a conglomeration of cases involving different types of taxes. To complicate things further, certain taxes have historically been treated differently for purposes of determining substantial nexus. As relevant here, until 2018, the Court retained what is known as the “physical presence” rule for the imposition of sales and use tax collection duties,¹²³ even though prior to 2018 it was widely acknowledged that such a requirement did not apply to corporate income taxes.¹²⁴ Instead, corporate income tax nexus has historically been evaluated through a lens of economic, rather than physical, presence.¹²⁵

Even if commentators and state courts were wrong in interpreting the physical presence rule as inapplicable to state corporate income taxes, the Court demolished any remaining “physical” nexus barrier in 2018. In *South Dakota v. Wayfair*, the Court

119. See, e.g., *Blangers v. Dep't of Revenue & Tax'n*, 763 P.2d 1052, 1069 (Idaho 1988) (“[S]ubstantial nexus is a threshold test that . . . applies to both individuals and corporations.”).

120. See, e.g., *Mobil Oil Corp. v. Comm'r of Taxes*, 445 U.S. 425 (1980).

121. See, e.g., *Quill Corp. v. North Dakota*, 504 U.S. 298 (1992); *South Dakota v. Wayfair*, 138 S. Ct. 2080 (2018).

122. See, e.g., *Goldberg v. Sweet*, 488 U.S. 252, 256 (1989) (applying *Complete Auto* test to a “5% tax on the gross charge of intrastate telephone calls”).

123. See *Wayfair*, 138 S. Ct. at 2099.

124. Adam B. Thimmesch, *The Unified Dormant Commerce Clause*, 92 TEMP. L. REV. 331, 345–46 (2020) [hereinafter *The Unified Dormant Commerce Clause*]; see also Adam B. Thimmesch, *The Illusory Promise of Economic Nexus*, 13 FLA. L. REV. 157, 173–76 (2012) [hereinafter *The Illusory Promise of Economic Nexus*]; *Tax Comm'r v. MBNA Am. Bank, N.A.*, 640 S.E.2d 226, 234 (W. Va. 2006); *Capital One Auto. Fin., Inc. v. Dep't of Revenue*, 22 Or. Tax 326, 338–43 (Or. T.C. 2016).

125. *The Unified Dormant Commerce Clause*, *supra* note 124, at 345–46.

articulated that the sole test for substantial nexus was whether the “taxpayer . . . avails itself of the substantial privilege of carrying on business in that jurisdiction.”¹²⁶ Thus, the answer to whether a physical presence requirement extends to corporate income tax nexus can be answered in the negative. Any state warily applying sales and use tax nexus principles to its corporate income tax no longer faces a physical presence question when levying such tax on out-of-state corporation. Today, the question is whether a corporation’s economic activity within a state creates nexus.

Nexus statutes can be qualitative or quantitative.¹²⁷ In Virginia, there is a qualitative nexus threshold: as long as the corporation has “income from Virginia sources,” it is subject to Virginia’s corporate income tax.¹²⁸ This is supplemented with quantitative regulatory language, stating that “existence of positive Virginia apportionment factors” is one way in which a corporation can have nexus with the state.¹²⁹ Thus, under the Virginia corporate income tax, data storage may constitute the requisite economic activity for there to be substantial nexus where the potential taxpayer corporation leases or owns the server on which the data is stored. As such, the value of the server should be included in the corporation’s income tax apportionment formula under the property factor.¹³⁰ Resulting in a positive property apportionment factor, this should be enough for Virginia to attach nexus to the data center tenant. Similarly, if data owned by a corporation is characterized as tangible personal property and stored in Virginia, a positive apportionment factor results,¹³¹ substantiating a claim of nexus.

A more attenuated situation occurs when data is stored on a third-party server in Virginia, whether at an owner-operated data center or a multi-tenant data center. If a potential taxpayer contracts with a third-party for data storage services—assuming the potential taxpayer owns the data on the server—does the presence

126. 138 S. Ct. 2080, 2099 (2018) (quoting *Polar Tankers, Inc. v. City of Valdez*, 557 U.S. 1, 11 (2009)).

127. *The Illusory Promise of Economic Nexus*, *supra* note 124, at 181.

128. *See supra* note 93 and accompanying text; *cf. The Illusory Promise of Economic Nexus*, *supra* note 124, at 183 (describing Kentucky’s economic nexus standard).

129. VA. DEP’T. OF TAX’N, PUB. DOC. 20-192 (Nov. 24, 2020), <https://www.tax.virginia.gov/laws-rules-decisions/rulings-tax-commissioner/20-192> [<https://perma.cc/K2RC-ECB5>].

130. *Cf. VA. DEP’T OF TAX’N*, PUB. DOC. 12-36 (Mar. 28, 2012), <https://www.tax.virginia.gov/laws-rules-decisions/rulings-tax-commissioner/12-36> [<https://perma.cc/YDQ8-M2HX>] (finding nexus due to a positive apportionment factor where taxpayer owned “several [i]nternet servers in Virginia that are maintained and managed by an unrelated third party”).

131. *See infra* Part III.D.1.

of the data allow Virginia to attach nexus to the corporation's income?

Several comparable situations have been brought to the attention of the Virginia Tax Commissioner. In 2000, the Commissioner issued a ruling on whether the sales and use tax collection duty applied to a taxpayer whose only presence in Virginia was the use of a computer server: "The department does not deem nexus to exist for an out-of-state seller whose only presence in Virginia is the use of a computer server to create or maintain a site on the Internet."¹³² The rationale for this ruling was based on a lack of physical presence in the state, but the Commissioner also remarked that such a result "conforms to the department's interpretation of [ITFA]."¹³³ At the time, the substantial nexus requirement for sales and use tax collection duties was based on the physical presence rule, but substantial nexus for a corporate income tax was less concerned with physical presence and more concerned with economic presence.¹³⁴ Similarly, the Commissioner's interpretation of ITFA appears to limit its scope to the sales and use tax context by referring to the "remote seller's tax collection obligation."¹³⁵ Thus, this ruling alone should not prevent attachment of corporate income tax nexus based on data situs in Virginia.

In 2005, a different situation arose.¹³⁶ The taxpayer was a company that maintained a website on a server in "State A," and contracted with a Virginia company to place a link on the Virginia company's website that would direct traffic to the taxpayer's website and track any sales of tangible personal property made through that link.¹³⁷ The taxpayer presented questions of both sales and use tax collection liability and corporate income tax liability.¹³⁸ For sales and use tax collection liability, the Commissioner negated a finding of sales and use tax collection nexus by citing exclusively to the 2000 ruling; however, the corporate income

132. VA. DEP'T OF TAX'N, PUB. DOC. 00-53 (Apr. 14, 2000), <https://www.tax.virginia.gov/laws-rules-decisions/rulings-tax-commissioner/00-53> [<https://perma.cc/6H7P-794G>].

133. *Id.*

134. *See* *Geoffrey, Inc. v. Okla. Tax Comm'n*, 132 P.3d 632, 634-37 (Okla. Civ. App. 2005); *Geoffrey, Inc. v. S.C. Tax Comm'n*, 437 S.E.2d 13, 18 (S.C. 1993).

135. VA. DEP'T OF TAX'N, PUB. DOC. 00-53 (Apr. 14, 2000), <https://www.tax.virginia.gov/laws-rules-decisions/rulings-tax-commissioner/00-53> [<https://perma.cc/6H7P-794G>].

136. VA. DEP'T OF TAX'N, PUB. DOC. 05-128 (Aug. 2, 2005), <https://www.tax.virginia.gov/laws-rules-decisions/rulings-tax-commissioner/05-128> [<https://perma.cc/A33E-UWR3>].

137. *Id.*

138. *Id.*

tax question was resolved (in favor of the taxpayer) through a Public Law 86-272 (“P.L. 86-272”) analysis.¹³⁹ Because the Commissioner found that the Virginia company was an independent contractor of the taxpayer, the activity was found to be protected by P.L. 86-272.¹⁴⁰ In contrast, a 2012 ruling found that a taxpayer’s activities “appear[ed] to create nexus” and were devoid of P.L. 86-272 protection where such taxpayer owned “several [i]nternet servers in Virginia that are maintained and managed by an unrelated third party.”¹⁴¹

However, P.L. 86-272 only applies in limited circumstances. Namely, it abrogates a state’s power to impose a net income tax on a corporation when its only activity in a state is the solicitation of orders for the sale of tangible personal property, and orders are approved and fulfilled via shipment from a foreign state.¹⁴² This prohibition preempts substantial nexus. It is a slim protection for taxpayers, however, as it has been read to only cover activities that are “entirely ancillary to requests for purchases—those that serve no independent business function apart from their connection to the soliciting of orders.”¹⁴³ And though it contains a *de minimis* exception,¹⁴⁴ it is very difficult to establish.¹⁴⁵ States are thus likely to succeed in marginal cases where the outcome is dependent on a theory of *de minimis* activity. Even if the activity is entirely ancillary to the solicitation of an order, the order must be for a sale of tangible personal property. If the property being sold is characterized as intangible property, this protection fails.¹⁴⁶

Moreover, if the data stored in Virginia is characterized as intangible property, nexus may be found using the theory articulated

139. *Id.*

140. *See id.*

141. VA. DEP’T OF TAX’N, PUB. DOC. 12-36 (Mar. 28, 2012), <https://www.tax.virginia.gov/laws-rules-decisions/rulings-tax-commissioner/12-36> [<https://perma.cc/YDQ8-M2HX>].

142. Act of Sept. 14, 1959, Pub. L. No. 86-272, 73 Stat. 555–56 (codified at 15 U.S.C. §§ 381–384).

143. *Wisconsin Dep’t of Revenue v. William Wrigley, Jr., Co.*, 505 U.S. 214, 228–29 (1992).

144. *Id.* at 231–32.

145. *See id.* at 235 (finding that nonimmune activity of sales from “agency stock checks” was not *de minimis* despite the sales constituting only 0.00007% of taxpayer’s sales in the state); *Santa Fe Nat. Tobacco Co. v. Dep’t of Revenue*, TC 5372, 2022 Ore. Tax LEXIS 38, at *51–54 (Or. T.C. Aug. 23, 2022) (noting that the burden is on the taxpayer to show triviality in absolute numbers or dollar amounts).

146. *See Stanislaus Food Prods. Co. v. Director, Div. of Tax’n*, No. 011050-2017, 2019 N.J. Tax Unpub. LEXIS 24, at *12, n.3 (N.J. Tax Ct. 2019).

in *Geoffrey, Inc. v. South Carolina Tax Commissioner*.¹⁴⁷ The Supreme Court of South Carolina, upholding the imposition of the state's corporate income tax on an out-of-state taxpayer with trademarks and trade names being used in South Carolina, established the principle that "[t]he presence of intangible property alone is sufficient to establish nexus."¹⁴⁸ The court rejected the doctrine of *mobilia sequuntur personam*, finding that the "purposeful direction of activity toward South Carolina as well as its possessing intangible property here provide a definite link between South Carolina and the income derived by Geoffrey from the use of its trademarks and trade names in [South Carolina]."¹⁴⁹

The court in *Geoffrey* was concerned with ensuring that the intangibles located in South Carolina gave rise to the income it sought to tax. To be sure, the court remarked: "The real source of Geoffrey's income is not a paper agreement, but South Carolina's Toys R Us customers. . . . That Geoffrey has received protection, benefits, and opportunities from South Carolina is manifested by the fact that it earns income in this state."¹⁵⁰ Thus, although intangible property alone may be sufficient for a finding of nexus, it is likely important for there to be a clear source of income to substantiate the claim that income is produced by virtue of intangible property's situs in the state.

Where a corporation stores data which supports its corporate goals in a state, the income derived therefrom should be subject to the storage state's corporate income tax.¹⁵¹ By attaching nexus to new taxpayers that utilize data centers in Virginia for their storage needs, the Commonwealth can raise revenue that would otherwise be foregone due to tax incentives and elections allowed to data center operators.

147. 437 S.E.2d 13 (S.C. 1993).

148. *Id.* at 18.

149. *Id.* at 17.

150. *Id.*

151. Indeed, the Washington legislature implicitly recognized that nexus may attach on such a basis when it enacted its tax on digital products (defined to include "data"):

Th[e] act contains specific provisions to . . . promote the location of server farms and data centers in this state by preventing the department from considering a person's ownership of, or rights in, digital goods or digital codes residing on servers located in this state in determining whether the person has nexus with this state for purposes of the taxes imposed in Title 82 RCW.

2009 Wash. Sess. Laws 3222–24.

D. Calculating Income Attributable to Data Storage

There are a number of ways to incorporate the income attributable to data storage into the corporate income tax base; this Comment focuses on incorporating data into the apportionment formula.¹⁵² It is difficult to ascertain exactly what portion of a corporation's income is derived from its activities in a specific state, yet corporations were asked to do just that in the beginning stages of the corporate income tax.¹⁵³ Today, reflecting the reality that administrability and efficiency falter under the weight of separate accounting evidence, the widely preferred and accepted method of attributing income to taxing jurisdictions is formulary apportionment.¹⁵⁴

1. Property Factor

If data is viewed as tangible personal property, it can be added to the property factor of a corporation's apportionment formula. Historically, the property apportionment factor has included the value attributable to real and personal property.¹⁵⁵ Under current law, property that may serve as a proxy for data, such as servers and data centers, should likely be included under the property apportionment factor.¹⁵⁶ But what about the data itself?

152. A more ideal solution would be to tax every corporation that stores data according to the value of data stored. This would likely have to be done by proxy, and neither volume nor quality of data would likely provide an accurate accounting. An income tax surcharge is an alternative worthy of mention as a potential avenue. See Appleby, *supra* note 22, at 16–18; see also Darien Shanske, Reuven S. Avi-Yonah, & David Gamage, *Reforming State Corporate Income Taxes Can Yield Billions*, TAX NOTES STATE, June 8, 2020, at 1211 (describing methods for increasing revenue generated by a state's corporate income tax).

153. POMP, *supra* note 104, at 10-40 to -41.

154. *Id.* at 10-41. The Virginia Department of Taxation “requires multistate businesses to apportion their income to determine the amount of their income which is taxable in Virginia. The apportionment of a multistate corporation's income requires multiplying the multistate corporation's overall income by a fraction which attempts to capture the percentage of that income produced in Virginia.” Va. Dep't of Tax'n v. R.J. Reynolds Tobacco Co., 300 Va. 446, 449, 868 S.E.2d 429, 430 (2022).

155. HELLERSTEIN & HELLERSTEIN, *supra* note 71, at ¶ 8.06, 8-73.

156. See VA. CODE ANN. § 58.1-409 (2022) (“The property factor is a fraction, the numerator of which is the average value of the corporation's real and tangible personal property owned and used or rented and used in the Commonwealth during the taxable year and the denominator of which is the average value of all the corporation's real and tangible personal property owned and used or rented and used during the taxable year and located everywhere, to the extent that such property is used to produce Virginia taxable income and is effectively connected with the conduct of a trade or business within the United States and income therefrom is includable in federal taxable income.”); 23 VA. ADMIN. CODE § 10-120-

In Virginia, once the corporate income tax is imposed upon a data center tenant-taxpayer, the tax is calculated using a three-factor apportionment formula.¹⁵⁷ The value of a server would likely be included in the property factor. However, the value of a server may not adequately account for its contents—if data is being stored or processed on the server, then the server and all components leased or owned by the corporation exist to store or process such data. To reach the full value of the server, the data stored thereupon could be characterized as tangible personal property and included in the property factor of the apportionment formula.¹⁵⁸ This would require a method for assessing such data.

One approach would be to value each byte of data stored by a corporation in Virginia. Under a recent proposal for a corporate tax on consumer data collection focused on taxing the extraction of consumer data, a federal \$0.20 tax would be imposed on every quintillion bytes of data collected.¹⁵⁹ The tax on one individual's data under this approach would equal \$180 per year.¹⁶⁰ In a similar manner, a dollar value could be assigned to a set quantity of data. While data can be lost, deleted, moved, or altered, it would be fair

160 (2016) (noting that to be included in the property factor, property must be (1) owned or rented by the corporation, (2) used by the corporation, and (3) “effectively connected with the taxpayer’s trade or business within the United States”).

157. This is because data center tenants are not allowed to elect into the single sales factor. See *supra* note 31 and accompanying text. The apportionment formula operates:

[B]y multiplying [Virginia taxable] income by a fraction, the numerator of which is the property factor plus the payroll factor, plus twice the sales factor, and the denominator of which is four; however, where the sales factor does not exist, the denominator of the fraction shall be the number of existing factors and where the sales factor exists but the payroll factor or the property factor does not exist, the denominator of the fraction shall be the number of existing factors plus one.

§ 58.1-408 (2022).

158. Property must be “used” in the Commonwealth to be included in the calculation of the property factor under section 58.1-409. In *R.J. Reynolds Tobacco Co.*, the Supreme Court of Virginia held that leaf tobacco stored in warehouses in Virginia was not “used” under section 58.1-409, where the tobacco was stored in such warehouses “to prevent theft or damage,” in preparation “for future use in the manufacture of . . . cigarettes.” 300 Va. at 454–57, 868 S.E.2d at 433–34. The court found that the plain meaning of “used” is “to put into action or service” or “[t]o employ for the accomplishment of a purpose.” *Id.* at 455–56, 868 S.E.2d at 433–34 (quoting WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 2523 (1993); BLACK’S LAW DICTIONARY 1853, 1855 (11th ed. 2019)). Unlike the storage of leaf tobacco in a warehouse, data storage is an essential component of data use—storage on a server allows for access and use of the data upon request. Therefore, it is assumed that data is “used” in the Commonwealth when it is stored in the Commonwealth.

159. Ziva Rubinstein, *Taxing Big Data: A Proposal to Benefit Society for the Use of Private Information*, 31 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1199, 1235–36 (2021).

160. *Id.* at 1236, n.255.

to utilize a rebuttable presumption that all data located on a server on a certain date is stored on said server for a majority of the taxable year, and thus should be reported appropriately. Further study is warranted to ensure that an appropriate balance of efficiency and accuracy can be achieved, such that the administrative costs do not outweigh the potential for revenue generation.

2. Sales Factor

In certain scenarios, the costs associated with storing data in Virginia may allow for inclusion in the sales factor of the apportionment formula. If data is tangible personal property, then any corporation which sells data to a customer in Virginia must include the sale in Virginia's apportionment formula.¹⁶¹ For sales other than sales of tangible personal property, Virginia uses the cost of performance method for determining where a sale is deemed to have occurred for the purpose of the apportionment formula.¹⁶² Such method "sources the transaction where the seller creates the product or service."¹⁶³ For each sale, it would be necessary to determine whether a majority of the "income producing activity" occurred in Virginia or in a different jurisdiction.¹⁶⁴ The costs associated with maintaining data on a server in Virginia should thus be included in this calculus. When a corporation chooses to locate its server in Virginia, it is choosing to host a substantial component of its operations there, especially if the corporation is engaged in providing goods or intangible services over the internet. In such a case, inclusion in the sales factor would depend on the costs

161. See VA. ADMIN. CODE §§ 10-120-210, -120-220(A)(1) (2016). In turn, if the sale is to a consumer outside of the Commonwealth, then the seller would not include the sale in the sales factor of Virginia's apportionment formula. This represents one of the pitfalls of characterizing data as tangible personal property, as if it is collected in Virginia and then sold to an out-of-state customer, then the sale would not be included in the apportionment formula. However, it is possible that the value of the collected data can be captured if it is stored in the state through the property factor of the apportionment formula. See *supra* Part III.D.1.

162. See § 10-120-230 (2016).

163. Garry Canepa, *Who Can Tax Telecommuters?: A Case for an Economic Presence Regime*, 1 UNIV. CHI. BUS. L. REV. 441, 451 (2022).

164. Cf. *Cable One, Inc. v. Comm'n*, 337 P.3d 595, 599 (Idaho 2014) (finding that under an analogous regulation, the inquiry is focused on each individual sale rather than a corporation's income producing activities in the aggregate).

associated with storing and maintaining data on a server, which can be vast.¹⁶⁵

CONCLUSION

Data seemingly exists in a tax vacuum, protected by outdated laws and hidden under a shroud of complexity. Yet, the barriers to taxation can be removed. The methods of taxation which have been proposed and imposed so far to tax the value of data are inefficient, because they do not reach the value data contributes to the profitability of a corporation. Moreover, a new tax requires enactment of a new law. In contrast, the two-fold effect of including data in the corporate income tax calculus—simultaneously subjecting new taxpayers to Virginia’s corporate income tax and increasing income tax liability—efficiently captures the value data adds to a corporation. To be sure, the corporate income tax could not be used to impose a direct tax on data—but it can be used to more accurately estimate a corporation’s income in Virginia, allowing for a more accurate tax on the value attributable to data storage in the Commonwealth.

While the enforcement of the corporate income tax is a complex matter of policy subject to great debate, avoiding the issue of estimating the income attributable to data located in a state undermines the imposition of a corporate income tax. When an employee of a corporation domiciled in one state uploads code to a server located in a different state, it resides on a server in the latter state and is accessible to consumers across the United States—and the world—via the internet. Thus, the mere ability to store data underlies the ability to use that data for the purpose of sustaining “an extensive virtual presence.”¹⁶⁶ Moreover, the tax can be justified as raising revenue to combat the significant energy-related and environmental impacts which data centers impose upon Virginia residents.¹⁶⁷ If the purpose of a state corporate income tax is to reach

165. See *How Much Data Center Colocation Space Do You Really Need?*, VOLICO (Aug. 10, 2021), <https://www.volico.com/how-much-data-center-colocation-space-do-you-really-need/> [<https://perma.cc/UPQ5-5CZT>] (describing the costs of renting data storage space in a colocation data center per month).

166. *South Dakota v. Wayfair*, 138 S. Ct. 2080, 2087 (2018).

167. See *supra* notes 51–54 and accompanying text; Main, *supra* note 5; Andreana J. Lin, *Bill of the Day: Data Centers’ Impact on the Environment*, VA. CONSERVATION NETWORK (Feb. 9, 2023), <https://vcnva.org/bill-of-the-day-data-centers-impact-on-the-environment/> [<https://perma.cc/RE88-KJKF>].

the intangible value attributable to a corporation, then this is an appropriate use of such a tax. It should be recognized that data is valuable property, and that corporations are able to store data on servers in Virginia because of privileges and protections provided by the Commonwealth. A fair and constitutional application of the corporate income tax to such data storage is worthy of consideration.

*Coleman H. Cheeley **

* J.D. Candidate, 2024, University of Richmond School of Law; B.S., 2021, University of North Carolina at Chapel Hill. I would like to thank Professor Hayes Holderness for his mentorship and for providing expertise in the field of state and local taxation. To my colleagues on Volume 58, who I am fortunate to call my friends: thank you for improving the quality of this Comment and my law school experience. Thank you to my family for always encouraging my academic pursuits and for cultivating my curiosity—I am forever grateful. And to Katie Kolcusky, for supporting me during law school and inspiring me everyday—thank you, forever and always.