

# Kentucky Sales Tax Modernization:

## Keeping the Sales Tax on Sales, Not Production

By Jared Walczak, Katherine Loughead, and Andrey Yushkov



TAX FOUNDATION



This report was researched, written, and produced independently by the Tax Foundation and was supported by a grant from the Kentucky Chamber of Commerce, Commerce Lexington Inc., Greater Louisville Inc., and the Northern Kentucky Chamber of Commerce.

# Kentucky Sales Tax Modernization: Keeping the Sales Tax on Sales, Not Production

---

**Jared Walczak** Vice President of State Projects  
**Katherine Loughhead** Senior Policy Analyst & Research Manager  
**Andrey Yushkov** Senior Policy Analyst

## Key Findings

- Under an ideal sales tax structure, the tax should apply to all final personal consumption while exempting business inputs to prevent tax pyramiding.
- All state sales taxes depart from the ideal structure by taxing business inputs to varying degrees, though some states are making considerable progress on removing them from the base. Kentucky has an opportunity to lead by actively pruning business inputs from its sales tax base and avoiding the inclusion of any new inputs.
- The economic literature on business inputs taxation overwhelmingly agrees that taxing business inputs causes harmful economic distortions, imposes nonneutral tax burdens, and increases regressivity while disguising the true costs of government.
- In recent years, Kentucky lawmakers have made a concerted effort to broaden the sales tax base to numerous services that were historically untaxed, including many consumer transactions but also some business inputs.
- There is still room for additional pro-growth reform in Kentucky, including reforms that expand the breadth of the sales tax base, but such reforms should include broad exemptions for business inputs.
- Semantic battles to narrowly define business inputs are imprudent; only a broad definition of business inputs is consistent with Kentucky lawmakers' goals of prioritizing competitiveness and promoting economic growth.
- Kentucky's current sales tax is still more competitive than the income tax, but paying down income tax rates specifically by expanding the sales tax to more business inputs would make the Commonwealth's tax code worse, not better.
- Taxing final consumption is more pro-growth and economically efficient than taxing income, but taxing business inputs is more economically harmful than taxing income, as it taxes the factors of production in a concentrated manner, doubling down on the worst features of an income tax.

## Introduction

Kentucky lawmakers are on a roll. Twice in the past six years, legislators have adopted tax reform packages that are the envy of other states. The Commonwealth now has a single-rate individual income tax, and its rate is on a downward trajectory. Significant progress has been made to modernize the sales tax base to apply it more neutrally to consumer goods and services alike, and this has generated additional revenue that, along with revenue from strong economic growth, has allowed Kentucky to reduce its individual income tax rate using tax triggers. Structural improvements have also been made to other taxes, including the corporate income tax and inventory tax. And legislators are by no means done; they have not lost their focus on improving Kentucky's tax competitiveness.

But there are potential pitfalls facing policymakers that could derail Kentucky's recent progress on pro-growth tax reform. As has occurred in other states, lawmakers may be tempted to generate revenue to offset other tax reforms by exposing more business purchases to the sales tax. Driving such considerations could be the view that existing sales tax exemptions provide special treatment to businesses over individuals. Similarly, a general appreciation for the economic case for relying more on consumption taxes than income taxes can sometimes lead to the view that any expansion of the sales tax is less economically harmful than existing taxes on income or other alternative forms of taxation.

This view, however, is mistaken. The sales tax is intended to be a tax on final consumption, and whenever taxes are imposed at prior points on the chain of production, the tax "pyramids" to the detriment of consumers and in-state businesses. And the people affected the most are not those at "the top": big businesses and national investors can more easily adjust, whereas those adversely affected tend to be consumers (in the form of higher prices), employees (in the form of lower wages), and small business owners and entrepreneurs (in the form of lower profits).

Moreover, taxing business inputs changes the sales tax from a geographically neutral tax on consumption—one in which businesses everywhere compete on a level playing field—to a geographically concentrated tax on in-state production. An ideal sales tax does not affect where businesses choose to locate, but a sales tax that heavily taxes intermediate (non-final) transactions makes it harder for a state's businesses to compete with their out-of-state rivals.

All states tax business inputs to varying degrees. But whereas some states are working on pruning business inputs from their sales tax bases, there could be a temptation for Kentucky to go in the opposite direction. Doing so would undermine the good progress on tax reform that policymakers have made in recent years, reforms that have helped Kentucky further its goal of attracting more growing industries—like advanced manufacturing, technology, and business services firms—to the Commonwealth.

Moving forward, there is still room for pro-growth tax reform, including reforms that expand sales tax breadth. But not all change is beneficial, and the trajectory of Kentucky's tax efforts depends on lawmakers recognizing the difference.

In the pages that follow, we explain why Kentucky policymakers should refrain from expanding the sales tax to additional business inputs, with our report divided into 10 short but distinct parts:

1. In Part 1, we identify seven key principles of sales taxation on which public finance experts widely agree. These principles can serve as guideposts to help policymakers evaluate whether proposed future sales tax policy changes would bring Kentucky's sales tax into better or worse alignment with an ideal sales tax structure.
2. In Part 2, we briefly summarize the economic literature on the effects of taxing business inputs. A more extensive review of the economic literature surrounding business inputs taxation can be found in the Appendix of this report.
3. In Part 3, we illustrate the harmful consequences of tax pyramiding by showing how a model IT firm would be affected under three different sales tax scenarios where business inputs are included in the base to varying degrees.
4. To understand which transactions should remain exempt from taxation, a clear definition of "business inputs" is essential. In Part 4, we explain why a broad definition of business inputs is most appropriate and define which transactions ought to be included in such a definition.
5. In Part 5, we discuss the role of sales taxes in a rapidly evolving digital economy and the negative consequences that would ensue from expanding taxation of digital purchases, as the vast majority of digital transactions are business-to-business transactions.
6. Part 6 of this report explains how exposing major categories of business inputs to the sales tax risks transforming the sales tax into an economically harmful tax on production rather than a much less economically harmful tax on consumption.
7. Part 7 of this report explains how the U.S. is a global outlier in facing the problem of sales taxes applying to business inputs, as this issue is avoided under the value-added taxes (VATs) levied in most developed countries.
8. In Part 8, we provided a detailed overview of recent sales tax base broadening reforms in Kentucky.
9. Our discussion of Kentucky's sales tax base-broadening reforms is followed by a discussion in Part 9 of how Kentucky's sales taxation of business inputs compares to other states both regionally and nationally.
10. Finally, Part 10 of this report describes how some states are taking strides to reduce their taxation of business inputs.

## Part 1: General Principles of Sales Taxation

The sales tax is, for the most part, a good tax. Taxes on consumption are more economically efficient than taxes on income, meaning they do less to distort economic decision-making; do less to reduce investment levels and labor force participation; and are less likely to adversely affect interstate migration. This is true even in the real-world case of the sales tax, which substantially departs from what public finance scholars would consider an "ideal" sales tax. In the real world in which policymakers operate, few taxes will ever achieve their "ideal" form. Nevertheless, reforms that move the sales tax *closer* to those ideals will improve Kentucky's tax competitiveness and create opportunities for economic growth, while shifts in the other direction could imperil Kentucky's hard-won successes.

In particular, the ideal sales tax is a tax on final consumption. Yet in Kentucky, and (to varying degrees) in every other state, a substantial portion of the sales tax falls on the factors of production instead. A tax on consumption is more pro-growth than an income tax, but a tax on production is *worse* than an income tax.



## 4 | Kentucky Sales Tax Modernization

Under its current base, Kentucky's warts-and-all sales tax is still more competitive than the income tax, but paying down income tax rates specifically by expanding the sales tax to more business inputs would make the Commonwealth's tax code worse, not better.

Before proceeding any further, it may be helpful to outline seven principles and observations that capture the broad consensus of public finance scholars who study sales taxation.<sup>1</sup> Key elements of this consensus will be explained further and are supported by the relevant academic literature reviewed in the Appendix. In short:

1. An ideal sales tax is imposed on all final (personal) consumption, both goods and services.
2. An ideal sales tax exempts all intermediate transactions (business inputs) to avoid tax pyramiding and to avoid transforming it from a consumption tax to a tax on production or investment.
3. Sales taxes should be destination-based, meaning the tax is owed in the state and jurisdiction where the good or service is consumed.
4. The sales tax is more economically efficient than many competing forms of taxation, including the income tax, because it only falls on present consumption, not savings or investment.
5. Because lower-income individuals have lower saving rates and consume a greater share of their income, the sales tax can be regressive, though broader bases that include consumer services (much more heavily consumed by higher-income individuals) push in a progressive direction.
6. The sales tax scales well with the ability-to-pay principle because it grows with consumption and is therefore more discretionary than many other forms of taxation.
7. Consumption is a more stable tax base than income, though the failure to tax most consumer services in many states is leading to a gradual erosion of sales tax revenues as services become an ever-larger share of consumption.

In recent years, Kentucky has made important progress in modernizing its sales tax base as part of a broader emphasis on tax reform and relief. Base broadening, particularly to additional consumer services (some of which had already-taxable tangible good analogs) but also to a smattering of business inputs, represented a modest revenue offset for income tax relief under House Bill 366 in 2018 and H.B. 8 in 2022. Health and fitness services, pet care and veterinary services, event admissions, landscaping, laundry and dry cleaning services, moving services, and other consumer services were added to the base, along with business inputs like telemarketing, lobbying, and janitorial services.<sup>2</sup>

As lawmakers have contemplated ways to accelerate planned income tax rate reductions, another round of sales tax base broadening could emerge as an attractive possibility. This instinct is reasonable: Kentucky's sales tax (like nearly all states') still falls far short of being a truly broad-based consumption tax, and further expansion to additional final sales would, if the revenue were used to pay down income tax rate reductions, improve the Commonwealth's overall tax competitiveness.

---

1 See, e.g., John Mikesell, "A Quality Index for State Sales Tax Structure – Measuring the States Against an Ideal Standard," *Tax Notes State*, Jan. 26, 2005; and Charles E. McLure Jr., "Rethinking State and Local Reliance on the Retail Sales Tax: Should We Fix the Sales Tax or Discard It?," *BYU Law Review* 2000:1 (March 1, 2000): 77. This broad scholarly consensus is further examined in the literature review in the Appendix.

2 Katherine Loughhead, "Kentucky Legislature Sends Pro-Growth Tax Changes to Governor," Tax Foundation, Apr. 8, 2022, <https://taxfoundation.org/blog/kentucky-income-tax-reform/>; Morgan Scarboro, "Kentucky Legislature Overrides Governor's Veto to Pass Tax Reform Package," Tax Foundation, Apr. 16, 2018, <https://taxfoundation.org/blog/kentucky-tax-reform-package/>.

Unfortunately, the “easiest” way to dramatically broaden the base is often to ignore untaxed final consumption and instead look to intermediate transactions—business inputs—as sources of additional revenue. The potential revenue gains are large, and estimates either already exist or are relatively easy to come by. Enticing as this approach may be, however, it is the wrong approach for Kentucky and would reverse the competitive gains the Commonwealth is making in its campaign to lower income tax rates.

Moreover, policymakers should not attempt to thread the needle by adopting a narrow definition of business inputs and only avoiding expansion to that narrow set of intermediate transactions. In the pages that follow, we explain why semantic battles to narrowly define business inputs are imprudent, and why only a broad definition is consistent with lawmakers’ goals of prioritizing competitiveness and promoting economic growth.

## Part 2: A Brief Overview of the Economic Literature on Business Inputs Taxation

There is broad consensus among public finance scholars that business inputs should not be included in sales tax bases. An extensive review of the economic literature on this topic is available in the Appendix for those who wish to get into the weeds, but we will briefly summarize those findings here.

In short, there is agreement that taxing business inputs results in nonneutral effective tax rates on consumers and disguises the true costs of government, while also, in many cases, increasing the costs of production and putting states with greater taxation of business inputs at a competitive disadvantage in attracting and retaining businesses.

When intermediate goods or services, such as the in-house software platforms used by an IT firm or the accounting or marketing services used by a restaurant chain, are included in the sales tax base, this may influence the choice of production method. For example, a firm might decide to purchase a cheaper but less effective technology, hindering efficiency and productivity, or avoid the taxable transaction altogether, favoring labor-intensive production methods over capital-intensive ones. As a result, rates of investment decline, negatively affecting future economic growth. Firms that are large or profitable enough to do so may choose to bring the production of otherwise taxable services and goods in-house to avoid exposure to a taxable transaction (which can create its own inefficiencies if the choice would not be prudent except as a way to reduce tax liability), but smaller or less profitable firms usually have far less capability to vertically integrate to avoid such taxes.

On the consumer side, when business inputs are included in the base, the sales tax essentially stops being a single-stage tax. When a tax applies at multiple stages of the production process as well as at the final point of sale, this results in an effective tax rate (what the final consumer actually pays in taxes in proportion to the pre-tax price of a given good or service) that significantly exceeds the statutory sales tax rate. As a result, taxing business inputs leads to nonneutral tax burdens for consumers due to the application of non-uniform effective tax rates across different categories of goods and services.

Furthermore, when sales tax pyramiding leads to effective tax rates that are higher than the statutory rate, this disguises the true costs of government. Final consumers, when buying goods at retail, only see the statutory rate (e.g., 6 percent) reflected on their receipt. What they don't see are sales taxes applied and collected during the production process that get passed along to them in the form of higher prices.

In the following section, we provide an example of tax pyramiding that illustrates how the effective sales tax rate may be several percentage points higher than the statutory rate if business inputs are taxed. Consequently, when tax pyramiding occurs, taxpayers can never fully know, for any given transaction, how much they are paying for the good or service itself versus how much of their money is being remitted in taxes to pay for government services. The degree of double taxation, moreover, will vary greatly across different goods and services, without regard to value, profits, or price level.

Finally, scholars have found that removing business inputs from the sales tax base would promote economic growth even if the sales tax rate increased commensurately to maintain revenue neutrality. Research shows that even a partial rollback of business input taxation, offset by higher rates on the remaining sales tax base, would be capital- and growth-enhancing because it would lead to an increase in physical capital stock and gross state product that would more than offset the reductions in physical capital stock and gross state product attributable to a commensurate increase in the sales tax rate. (See the Appendix for further details and analysis of this and other studies.)

## Part 3: Illustrating the Harmful Consequences of Tax Pyramiding

Tax pyramiding is one of the most harmful consequences of taxing business inputs. Sales and use taxes, unlike the more efficient value-added taxes levied throughout much of the rest of the world, are designed to be single-stage taxes levied only at the point of final sale. However, when intermediate goods and services are taxed in addition to final consumption goods and services, sales taxes can pyramid, leading to negative consequences both for businesses and final consumers. The example in Table 1 illustrates the adverse effects of taxing business inputs.

Suppose there is an IT firm in State A that produces digital services (e.g., on-demand educational videos) and sells them to final consumers through monthly or annual subscriptions. When the firm's digital services are sold to final consumers in State A, they are subject to the general sales and use tax of 6 percent.

In this example, we consider three scenarios: Scenario 1, where business inputs are not taxable (resembling an ideal sales tax levied on final consumption goods and services only); Scenario 2, where some business inputs are taxable (as is the case in many states, including Kentucky and our hypothetical State A); and Scenario 3, where those business inputs are taxable and pyramid two times. In real life, Scenario 1 generally applies to most out-of-state firms with economic nexus in State A,<sup>3</sup> located in other states where business inputs are not taxable. Scenarios 2 and 3, on the other hand, apply to in-state firms located in State A and selling services to State A residents, including the IT firm considered in this example.

---

<sup>3</sup> When a firm has economic nexus in a state (typically, through exceeding the sales or transactions threshold), it has an obligation to collect and remit sales and use taxes in that state.



**Table 1. Tax Pyramiding Example for a Hypothetical IT Firm**

Item	Scenario 1: No Tax on Business Inputs	Scenario 2: Some Business Inputs Are Taxed	Scenario 3: Inputs Are Taxed an Avg. of 2 Times
	Final Cost	Final Cost	Final Cost
Non-Taxable Business Inputs	\$500,000	\$500,000	\$500,000
Potentially Taxable Business Inputs	\$1,500,000	\$1,500,000	\$1,500,000
Intermediate Sales Tax	\$0	\$90,000	\$180,000
Total Cost	\$2,000,000	\$2,090,000	\$2,180,000
Total Cost Plus Markup (15%)	\$2,300,000	\$2,403,500	\$2,507,000
Sales Tax at Retail	\$138,000	\$144,210	\$150,420
Total Tax at All Stages	\$138,000	\$234,210	\$330,420
Final Total Price to Consumers	\$2,438,000	\$2,547,710	\$2,657,420
Pyramiding	\$0	\$109,710	\$219,420
Effective Tax Rate	6.00%	9.74%	13.18%
Price Increase Due to Tax	6.00%	10.18%	14.37%

Note: Services under all scenarios are sold at a 15 percent markup.

The total cost of producing these digital services is \$2,000,000, out of which the IT firm spends \$500,000 on non-taxable business inputs (e.g., labor and legal, consulting, and accounting services) and \$1,500,000 on taxable business inputs (e.g., electricity, website hosting, computer software access services, specialized design services, and telemarketing).<sup>4</sup> This distinction is relevant only for Scenarios 2 and 3, as Scenario 1 assumes there is no tax on business inputs.

Since some business inputs are taxable under Scenario 2, the final cost of these goods and services to the IT firm is \$1,590,000 (which is \$1,500,000 plus the 6 percent sales tax on these intermediate transactions). Consequently, the total cost for the IT firm under Scenario 2 is \$90,000 higher than under Scenario 1. Assuming that digital services are sold with a 15 percent markup in both scenarios, the total pre-tax sales amount is \$2,300,000 under Scenario 1 and \$2,403,500 under Scenario 2.

The total sales tax remitted to the government of State A is \$138,000 under Scenario 1 and \$234,210 under Scenario 2 (\$144,210 collected at the final stage and \$90,000 collected at prior stages of the production process). This results in total post-tax sales of \$2,438,000 under Scenario 1 and \$2,547,710 under Scenario 2. The difference between the two, which is \$109,710 (4.5 percent of post-tax sales under Scenario 1), represents the total amount of pyramiding. As a result, the effective tax rate for final consumers is 9.74 percent, and the overall cost is increased by 10.18 percent, well above the statutory tax rate of 6 percent.

<sup>4</sup> Most of these intermediate or dual-purpose services are currently taxable in Kentucky.

If the IT firm has approximately 50,000 subscribers, then the after-tax price of one annual subscription is \$48.76 under Scenario 1 and \$50.95 under Scenario 2. This difference of more than \$2 (or 4.5 percent) illustrates that when State A taxes business inputs, firms located within the state face a competitive disadvantage compared to out-of-state firms located in states where intermediate goods and services are not subject to taxation.

Since value chains can vary in length, the estimates provided in this example likely underestimate the total tax pyramiding resulting from taxing intermediate goods and services. For instance, if business inputs are taxed twice on average (it is evident that some providers of professional and software services may also purchase taxable intermediate services; for instance, electricity is used by virtually all firms along the value chain), then the total amount of tax pyramiding increases to more than \$219,000 (Scenario 3), and the effective tax rate for final consumers rises to 13.18 percent with a cost increase of 14.37 percent.

This simple example illustrates that taxing business inputs can have detrimental effects on both businesses and residents. To remain competitive with their out-of-state counterparts, in-state firms have to lower their markups (impacting their overall profitability) or even consider costly relocation decisions, which clearly violates the principle of neutrality. At the same time, residents face effective tax rates that are significantly higher than the statutory rate. This not only obscures the actual cost of government but also makes the sales and use tax system more complicated and less transparent.

Crucially, taxing business inputs is often regressive. Low-income households spend a greater proportion of their income, and their consumption tends to be more concentrated in production-intensive consumer goods which can be uniquely susceptible to tax pyramiding. When manufacturers are taxed on utilities and fuels, for instance, this raises the costs of affordable and luxury goods alike, but the high-end options are likely to merit their higher prices through details that require little in the way of additional electricity or manufacturing fuels. That cost may be nearly the same for the most affordable and most expensive designer purse, or for an economy sedan and a premium sports car. And basic staples of life can have much longer production chains—and thus more points of potential exposure to the sales tax—than high-end consumer goods, to say nothing of services. The legal incidence of applying the sales tax to services is on businesses, but the economic incidence is often on consumers—and is frequently more burdensome to lower-income consumers at that.

## Part 4: Defining Business Inputs

The broad theoretical agreement that an ideal sales tax base would exclude business inputs tends to break down on the seemingly simple question of what constitutes a business input. Imagine, for instance, a company manufacturing kitchen utensils. Which of these business purchases constitute business inputs that should, ideally, be exempt from taxation?

- The metal and other raw materials used in the utensils themselves
- The machinery and equipment used to cast, mold, or cut the utensils
- The electricity and fuel used to power that machinery
- The packaging for the utensils
- The contract for shipping and distributing the utensils
- The marketing contracts to advertise the products
- The legal, accounting, and other services necessary to operate the business
- The landscaping and janitorial services for plants, warehouses, and corporate offices
- The electronics and furnishings in the corporate office
- The subscription for a sales database
- The cloud services and data processing used for manufacturing, distribution, and logistics
- The purchase of utensils by a home goods store for resale to consumers

Nearly everyone would agree that the raw materials and the sale for resale should be exempt, and states are largely uniform in exempting these transactions. States are more inconsistent in exempting machinery and equipment and business fuels, and sometimes only do so for select businesses or industries through targeted incentives. Increasingly, data services—cloud storage, data processing, client databases, software (including software as a service), and machine learning—are subject to tax, as are many goods “consumed” by businesses that are not a component of the final product. Because most services have historically been exempt from sales taxation, legal, accounting, human resources, advertising, and similar services are frequently exempt, but proposals to expand to services, or to a broad array of digital products, could imperil this treatment and capture a wide new range of intermediate transactions. Few states have a consistent approach to the tax treatment of business inputs, and it is often difficult to identify any governing philosophy.

In Kentucky, for example, recent uncertainty over eligibility for the existing sales tax exemption for manufacturing and industrial supplies has been a major concern for manufacturers, since the statute specifically excludes repair, replacement, or spare parts from eligibility for the exemption, creating uncertainty as to which purchases are considered exempt “supplies” and which are considered taxable “repair,” “replacement,” or “spare” parts. In December 2022, in *Century Aluminum of Kentucky, GP v. Department of Revenue*, the Kentucky Supreme Court found that the Commonwealth’s manufacturing supplies exemption *does* apply to industrial supplies that are purchased repeatedly, a decision that brought relief to businesses that make repeat purchases of supplies in the course of doing business.<sup>5</sup> In the future, however, such questions could be avoided by adopting broader exemptions for manufacturing, industrial, and other business purchases in line with a broader understanding of which transactions constitute business inputs and therefore ought to be exempt.

<sup>5</sup> “Kentucky Tax Talk: Clash Over Industrial Supplies Exemption,” Frost Brown Todd Attorneys, Nov. 14, 2023, <https://frostbrowntodd.com/kentucky-tax-talk-clash-over-industrial-supplies-exemption/>.

Across the country, some defenders of the *status quo* often endorse a narrow definition of business inputs, focused largely on physical identities. Distinctions are often made between goods and services consumed “by” the business rather than embedded in the final consumer product, or between things that are “integral” rather than ancillary to production. A set of kitchen knives contains the metal and other raw materials used in its manufacturing but does not contain the machinery that made it, nor the fuels that powered them. And whereas the machinery and fuels are necessary for the creation of the final product, strictly speaking, the marketing budget, the shipping contract, the legal team on retainer, and the contracted services that keep the manufacturer’s office up and running are not. This lends itself to the drawing of several possible lines in defining business inputs for exemption purposes:

1. Just the raw materials and the sale for resale, to avoid double taxing the actual components of the product
2. Everything directly used for or consumed in production, like machinery and equipment (which depreciates and is ultimately consumed by the production process) and fuels, in addition to raw materials and sale for resale
3. Virtually everything purchased by a business as part of its business activity, with narrow exceptions for purchases that function as final consumption

Lawmakers sometimes balk at the third definition, as it is the most expansive. It may also come across as *too simple*, as if it elides the hard work of providing a more robust definition. Yet it is, in fact, the most appropriate definition of business inputs, because it conforms to the economic realities of business purchases, and the exemption of these purchases aligns the sales tax with its intended function as a tax on consumer purchases.

This becomes apparent both by interrogating the rationale for business purchases regardless of category as well as through an appreciation of the purpose of business input exemptions.

With limited exceptions, businesses make purchases in service of their bottom line. This does not guarantee that their transactions are prudent or turn a profit: businesses make poor investments all the time and are punished by the markets when they do so. But a business purchases advertising time, cloud computing, packaging products, shipping contracts, and facility maintenance services for the same reason it purchases raw materials. They are all means to the end of the (hopefully) profitable production and sale of some valuable good or service. Not all of these purchases will be resold or physically embedded in final products, but they are only purchased because they are part of the business model, and thus part of the economic identity of their product.<sup>6</sup>

---

<sup>6</sup> It is possible to conceive of limited exceptions, where businesses do engage in final consumption, though most of these are trivial, and those which aren't have been rendered uncommon due to long-ago changes to the federal tax code. For instance, while a commercial fleet for salespeople is properly understood as a business input, a company car for the private use of the CEO has the character of final consumption, because it is an alternative to compensating her more so that she could purchase the car herself. Employee perks like free meals, gym memberships, private (non-business) counseling, or will-drafting services can also be argued to be final consumption, even though a business may rationalize them as necessary to attracting a qualified workforce, as some or all of these goods and services could be taxed under a retail sales tax if purchased by the employees themselves under increased financial compensation from their employer. Efforts to ensure that such purchases are taxable to the extent that they are in the retail sale tax base are reasonable, though these transactions represent a vanishingly small proportion of business inputs and cannot justify broad-based taxation of intermediate transactions.

The purposes of a business input exemption, moreover, are consistent with a broad definition. Those purposes, simply stated, are to:

1. Tax final consumption uniformly, avoiding tax pyramiding where a final product is taxed on its value several times over, and where some products are taxed more aggressively than others
2. Avoid distorting economic decisions on capital investment, location, vertical integration, or production processes
3. Prevent the sales tax from disadvantaging in-state production or putting particular (often smaller) companies at a competitive disadvantage

The nature of the business input subject to tax can affect the intensity of the distortion—some inputs pyramid more than others—but all are, by definition, distortionary.

## Part 5: Navigating the Digital Frontier

Our world has changed. Many formerly tangible products have been replaced by digital cousins: we download e-books, stream movies and music, store photographs in the cloud, and subscribe to services for our homes, cars, and even appliances. These are all forms of consumption, and it is reasonable for sales taxes to reflect this new reality, particularly where a digital product has taken the place of tangible property that is subject to tax.<sup>7</sup>

Personal consumption of digital products, however, is dwarfed by the business applications, and most proposals to include digital products in the sales tax base would represent a vast expansion of business input taxation. The real money is not in Spotify accounts or Netflix subscriptions, but in digital controls, commercial cloud computing, inventory management, automated production lines, digital payments, machine learning, software (and platform and infrastructure) as a service, digital advertising, and data processing.

At present, the Multistate Tax Commission (MTC) is working on definitions of digital products for states to consider for purposes of their own sales taxes. The Commission has taken pains to insist that they are merely seeking to define what constitutes a digital product, without taking a position on which digital products (if any) should be taxable, but there is a risk that policymakers will incorporate a broad definition into their sales tax base. That would be an egregious policy mistake.

An outline circulated by the MTC offers extensive digital product exemplars within a variety of industries. Agriculture, manufacturing, health care, construction, education, energy, food, retail, office products, telecom and information technology, and travel all make the list. Examples of digital products in the agricultural industry include, just to cite a few examples, digital pasture management, digital seed technology, drones, farm management software, GPS guidance systems, machine learning (used to improve crops and identify pests), monitoring technology, robotic harvesting, sensors, smart irrigation, and data and artificial intelligence for assessing things like soil quality and plant yield.

---

<sup>7</sup> This section is loosely adapted from Jared Walczak, “The Perils of the Multistate Tax Commission’s Digital Products Tax Push,” *Tax Notes State*, Apr. 17, 2023. See article for further discussion.



Sometimes it can be difficult to categorize a particular good or service as a business input or a consumer transaction without knowing the identity of the purchaser, because businesses and individuals alike purchase some of the same products. It is not, however, terribly difficult to recognize that digital seed technology has limited consumer applicability, and that hobbyist gardeners are not using robotic harvesting or operating combines with GPS guidance systems.

Agriculture, moreover, has generally been treated fairly well by state sales taxes, with exemption certificates often eliminating the taxability of many of the intermediate transactions that are not definitionally excluded from the base. Were digital products broadly taxed, that would change overnight.

For manufacturing, digital goods could include modeling, simulations, automated production lines, data storage and processing, digital controls and machines, robots, software as a service, and digital advertising, along with categories also applicable to agriculture, like machine learning. The health-care industry's digital products are ample, too, and might include storage of medical records, wearable devices, artificial intelligence and augmented reality used in medicine, cloud computing, robot-assisted surgery, virtual biopsies, and much more.

Notably, these are not just areas where most states exempt business inputs because they do not tax most digital products. Rather, they are areas where lawmakers have, through concerted efforts over years and decades, sought to limit the scope of sales taxation. An insufficiently cautious expansion of the base to digital products could indiscriminately wipe out the conscious policy choices of legislatures going back decades.

The digital world, meanwhile, is inherently more mobile than the production of tangible goods. If a state taxes intermediate digital transactions, businesses will adapt by moving as many of those processes as possible out-of-state, depriving the taxing state of economic activity (and tax revenue) it would have otherwise enjoyed. And taxing digital products is not just—or even primarily—about taxing the tech industry. As the exemplars above suggest, virtually all companies rely on digital products to do business. Applying the sales tax to digital products would impose additional layers of tax on virtually every business in the Commonwealth.

The broad reach of digital products taxation is an important reason to reject the taxation of digital business inputs on equity grounds as well. It is occasionally argued that, while business inputs would not be taxed under an ideal tax system, the fact that many intermediate transactions involving tangible goods are already taxed, makes it necessary to impose similar burdens on digital intermediate transactions for the sake of fairness. Even setting aside the question of whether new economically damaging policies should be adopted to parallel existing flaws, and neglecting the differences in relative scope (taxing most or all digital business inputs because a subset of tangible ones are taxed), it is a mistake to see physical and digital products as occupying independent spaces. Every business consumes digital products, even if it sells tangible goods.

## Part 6: Taxing Business Inputs Transforms the Sales Tax into a Tax on Production and Disproportionately Affects Smaller Firms

It is widely recognized that taxing business inputs leads to tax pyramiding. Less commonly understood is how it transforms the sales tax from a tax on consumption to, at least in part, a tax on capital. In the process, it takes a tax that is neutral with regard to in-state investment and turns it into a discriminatory tax on a state's own businesses, disproportionately affecting smaller firms with less capacity to vertically integrate services.

When a sales tax is destination-sourced (meaning it is imposed where the product is purchased or used, rather than at the location of the producer or seller), as is almost invariably the case, and when the base is limited to final consumer transactions (which, in practice, is not always the case), the rate in a particular jurisdiction can induce cross-border shopping. While cross-border shopping can be detrimental to in-state, brick-and-mortar retailers who lose business to retailers in other states, it does not otherwise impede a business's ability to compete with out-of-state competitors, since out-of-state customers are taxed at their own local rate, or are legally required to remit use taxes at their own local rate, not at the rate in the business's jurisdiction.<sup>8</sup> As soon as taxes are imposed on a business's own purchases, businesses in that jurisdiction are placed at a disadvantage against competitors not subject to such taxes in their own states. These taxes represent an additional cost of production that is not borne by their competitors based elsewhere, even if they sell into the same markets.

Depending on the market for a given product, the result of taxes on business inputs is either to (1) increase consumer prices or (2) reduce the profitability of the taxed business activity—or both. Estimates vary, in the latter case, on how much of the cost will be borne by labor in the form of lower wages and how much by capital in the form of lower investment returns, though both effects are real and of importance to public policy.<sup>9</sup> Firms in states that tax an inordinate amount of business inputs are at a disadvantage with out-of-state competitors.

It is often asserted that tax pyramiding means that the tax is embedded in the final price several times over, and this is mostly true. Tax represents a disproportionate amount of the final price of the good because it is imposed at multiple levels of production.<sup>10</sup> Whether, and how much, this raises the final price of the product—rather than cutting into profitability, reducing wages, or eliminating the production activity entirely or moving it across state lines—will depend on whether regionality is integral to the product.

8 For most goods purchased in person, sales tax is imposed at the point of sale. A Kentucky resident making a purchase in Ohio will pay Ohio sales tax on that good and not pay a separate tax to Kentucky, though if that good was shipped to them in Kentucky, or a service supplied to them was used in Kentucky, it would be subject to Kentucky's sales tax, not Ohio's. Similarly, if no sales tax was applied at the point of sale, a Kentucky resident would be obligated to remit use tax to Kentucky. For certain goods, most notably automobiles, states have special provisions ensuring that sales tax is paid to the destination state (where the vehicle will be titled and registered) even if it is physically purchased elsewhere.

9 Much of the literature on the sales taxation of business inputs focuses on the first possibility, where the economic incidence is borne by consumers in the form of higher prices. But under many circumstances, as described below, businesses will be unable to pass these tax costs along to consumers, partly due to price elasticities but mostly because they are competing with other businesses from across the country (or world) which may not be subject to the same taxes. To the extent that the additional burden falls on businesses as a tax on capital accumulation, the literature on corporate taxation can provide relevant estimates on the shares borne by investors, in the form of lower returns, and workers, in the form of lower wages. Tax Foundation analysis, supported by a survey of the literature, suggests that labor typically bears about 70 percent of the burden of capital taxes. See Stephen J. Entin, "Labor Bears Much of the Cost of the Corporate Tax," Tax Foundation, Oct. 24, 2017, <https://taxfoundation.org/research/all/federal/labor-bears-corporate-tax/>.

10 Although value-added taxes are also imposed at multiple levels of production, they allow credits for expenditures earlier in the value chain and are only on the added value at each stage, avoiding tax pyramiding.

Milk, for instance, is almost always sourced within a few hundred miles of the grocery stores in which it is sold to consumers, due to the costs of transporting it and the rate of spoilage, whereas cereal crops can be sourced from and processed anywhere in the country, and it is often cheaper to ship produce across oceans than across a few hundred miles of road. If multiple layers of sales tax were imposed on the dairy industry by applying the tax to milking machines, the services of milk processing plants, and the services of milk distributors, then most of the additional tax would likely be borne by consumers, as milk from Iowa is not a competitive economic substitute for milk from California for a family living in Los Angeles.<sup>11</sup>

If, however, a state were to levy multiple layers of tax on the processing of grains into breakfast cereal or granola, then over the long run, we might expect the tax to be borne in greater proportion by producers (both investors and employees), because these producers sell in a competitive national marketplace with other enterprises that are not similarly taxed. Either they will be forced to accept lower wages and lower investment returns (which may affect future business decisions), they will move some of their operations to another state (which has economic costs), or they will find themselves increasingly boxed out of the market by firms located elsewhere, which will take over their market share.

When the effects of pyramiding are absorbed by businesses, moreover, the impact is far from uniform—and the most economically rational response may be to adjust business decisions in ways that would otherwise be inefficient. For instance, a company may choose to vertically integrate more of its processes, bringing the production of machinery or component parts in-house, or building out its own distribution operations, even if it might otherwise be more efficient to contract with other firms with greater expertise and economies of scale in these areas, all to avoid the additional layer of tax imposed if these activities constitute a taxable transaction rather than an internal process.

Alternatively, businesses may move some or all of their operations to states with better treatment of costly inputs. This can mean physically relocating a facility, but it might also mean expanding elsewhere, or purchasing from suppliers that have more consolidated processes or operate in states where their intermediate transactions are untaxed.

And businesses lacking the capacity to make these adjustments—particularly smaller operations—can find themselves at a competitive disadvantage. A small business can be very good at one particular thing and may choose to outsource many processes that are not at the core of what it does. But their larger rivals, which may be better positioned to vertically integrate (or may have already found it economically advantageous to do so independent of sales tax considerations), receive more favorable tax treatment.

Finally, pyramiding causes consumption taxes to discriminate across not only firms but also industries and types of products. It favors some manufacturing processes over others, regardless of whether those processes are consistent with other goals (durability, aesthetics, sustainability, local market conditions, etc.), and it favors *kinds* of products that either have shorter production chains or have intermediate transactions that are better shielded from sales taxation. This shifts both investor and consumer behavior toward inferior options: inferior as a matter of revealed preference, since consumers and investors favored another option until tax differentials nudged them in a different direction.

---

<sup>11</sup> It is not that milk *cannot* be shipped that far (there's milk on grocery shelves in Alaska, which only has one remaining commercial dairy operation and largely imports its dairy) but that it is typically cost-prohibitive (milk in Alaska costs about a dollar more per gallon than the national average), likely well over the costs imposed even by several layers of sales tax.

This is not what a consumption tax is for, and it works to the detriment of producers, consumers, and the overall competitiveness of states imposing these taxes. States must raise tax revenue, and all taxes affect economic behavior at some level, but the goal should be to interfere with the market as little as possible. Occasionally, states may wish to promote specific goals, but it is doubtful that policymakers taxing business inputs believe that anyone is better off if the tax code influences the size of businesses, or how specialized they are. And certainly, no state legislator ever thinks that the tax code would be better if only it encouraged jobs and production to take place in other states, or if it put in-state businesses at a disadvantage against regional or national rivals, or if it drove up consumer costs in highly nonneutral ways. Yet this is what the sales tax does whenever it is levied on business inputs.

Research shows that taxing business inputs does precisely what economists would predict. One study described in the Appendix finds that if states were able to reduce their taxation of business inputs by even 25 percent—that is, to go from about 40 percent of their base falling on intermediate transactions to about 30 percent—while making up the revenue with a commensurately higher rate applied to the rest of the sales tax base, they would boost capital accumulation (the amount of machinery, equipment, and overall capital investment in the state) by 1.2 percent and increase gross state product by 0.4 percent.<sup>12</sup> For Kentucky, that would be an additional \$2 billion of economic activity each year.

These findings should be compelling enough, but they substantially understate the economic benefit because they are only focused on the direct effects of reducing the tax burden on production. The calculation is based on what is known as a closed system, which assumes no competition and no ability to shift activity—production or consumption—to other states. In reality, states that do a better job of exempting business inputs not only increase the productivity of their own firms but also make the state more attractive for investment compared to their peers and give in-state companies an edge against out-of-state competition faced with additional levels of taxation. Conversely, states that expand to new categories of business inputs make their state less attractive for affected businesses that may otherwise wish to operate in the state and make it harder for in-state firms to compete with their less-taxed interstate rivals.

## Part 7: The U.S. Is a Global Outlier in Taxing Business Inputs

Sales taxes are so firmly entrenched in U.S. state and local tax systems—levied in 46 states and the District of Columbia<sup>13</sup> and generating over 29 percent of all state tax revenue—that Americans can be forgiven for not realizing how *unusual* the American approach to consumption taxation is, and how beholden the U.S. model is to the unique circumstances into which it was born, in the midst of the Great Depression. Understanding these dynamics is especially important for states—like Kentucky—that are seeking to attract foreign direct investment and foreign companies into the state.

Consumption taxes are near-universal, imposed by 180 of the 193 UN member states.<sup>14</sup> But sales taxes like those imposed in the United States are quite rare; excepting Canada, which has a mix of provincial

<sup>12</sup> Benjamin Russo, “An Efficiency Analysis of Proposed State and Local Sales Tax Reforms,” *Southern Economic Journal* 72:2 (2005): 443-462.

<sup>13</sup> Including Alaska, where sales taxes are exclusively imposed at the local level.

<sup>14</sup> Jacinta Caragher, “How Many Countries Have VAT or GST?,” Jun. 6, 2023, <https://www.vatcalc.com/global/how-many-countries-have-vat-or-gst-174/>; author’s analysis.

sales and value-added taxes, the most populous country with a sales tax after the United States is Myanmar.<sup>15</sup> And while many Americans are understandably skeptical of European models of taxation, the rest of the world—including, but by no means limited to Europe—is onto something with the value-added tax (VAT) model, which is frequently misunderstood. American critics often assume it contains egregious features that are instead redolent of the U.S. sales tax. So, while states are unlikely to consider a VAT, efforts to improve state sales taxes can benefit from a better appreciation of what the VAT gets right and what the sales tax, as it exists in Kentucky and elsewhere, gets wrong.

While the design of value-added taxes varies, the most common version is what is known as a credit invoice method VAT, where tax is imposed at each stage of production, but a credit is provided against taxes paid at all prior levels. The legal incidence of the tax falls on businesses (at each stage of production) as well as consumers (at retail), but economically, this is identical to simply imposing a tax at retail on nearly all consumer transactions. Consider the following simple example of a VAT compared with a sales tax that falls exclusively on final consumption, both contrasted with a gross receipts tax (GRT) that is imposed each time the product “turns over,” with all rates set to 10 percent.

**Table 2. Sales Taxes and VATs Are Economically Identical if Designed Correctly, but GRTs Are Not**

Production Stage	Price		VAT	SUT	GRT
	Incremental	Aggregate			
Raw Materials	\$50	\$50	\$5	\$0	\$5
Manufacturing	\$30	\$80	\$3	\$0	\$8
Distribution	\$10	\$90	\$1	\$0	\$9
Retail Markup	\$10	\$100	\$1	\$10	\$10
<b>Total</b>			<b>\$10</b>	<b>\$10</b>	<b>\$32</b>

Source: Tax Foundation calculations.

While tax is remitted at multiple stages under the VAT, only the added value (as the name implies) is subject to tax at any given stage. So if a manufactured good is sold to a distributor at \$80 and that distributor sells it to a retailer at \$90, the distributor only pays tax on the incremental amount (\$10), whereas if a sales tax were imposed on that intermediate stage, it would fall on the full \$90—even if some of that value had already been taxed, or if all of it would be again at the retail level.

A gross receipts tax, meanwhile, would fall on every stage of production. In practice, gross receipts taxes tend to have relatively low rates—no real-world gross receipts tax would be set at 10 percent, as shown in the above example—because of how much they pyramid.

While an ideal sales tax is identical to an ideal VAT and differs sharply from a GRT, in the real world, state sales taxes feature a hybrid of the economic effects of these other two taxes. The VAT model is not realistic for states. (Even if desired, it would be difficult to implement one in a single state without the ability

<sup>15</sup> As of 2023, the UN member states with a sales tax are Cuba, the Democratic People’s Republic of Korea (North Korea), East Timor, Eritrea, Liberia, Malaysia, Myanmar (Burma), the Solomon Islands, Somalia, South Sudan, Tuvalu, and Yemen, in addition to the United States and (partially) Canada.



to piggyback on a federal system, and many policymakers fear that the ability of a VAT to raise substantial revenue at deceptively low rates would make it easier to raise taxes.) But it does serve as an important reminder that most of the world does far better at exempting intermediate transactions from consumption taxes. There is no reason U.S. states should rank among the worst in the world on this score. Indeed, this may give foreign companies a strong argument for choosing not to invest in certain states, with states missing out on valuable job creation opportunities as a result.

## Part 8: A Recent History of Sales Tax Base Broadening in Kentucky

In recent years, Kentucky lawmakers have made a concerted effort to broaden the sales tax base to numerous services that were historically untaxed, bringing more new categories of services into the base than most other states have done.

Kentucky's first notable expansion of the sales tax base to services occurred with the enactment of H.B. 366 in April 2018, with those base-broadening changes taking effect on July 1, 2018.<sup>16</sup> This law, which also consolidated six individual income tax brackets into one and lowered the rate, expanded the sales tax to many services purchased primarily as final personal consumption, including admissions to sporting events and performances, fitness and recreational sports participation, pet care services, small animal veterinary services, dry cleaning services, tanning salon services, non-medical diet and weight reducing services, limousine services, and extended warranty services. Also included in this base expansion law were a few categories of services that are either usually or sometimes purchased as business inputs, including janitorial services, industrial laundry supply services, landscaping services, linen supply services, and maintenance, repair, and installation labor and services.<sup>17</sup>

Shortly after H.B. 366 was enacted, H.B. 487, a technical corrections bill, was also enacted. Among other provisions, this law specified that maintenance, repair, and installation labor and services are not taxable when applied to tangible personal property used directly in manufacturing or industrial processing, thus reinforcing a key exemption for business inputs despite H.B. 366's broader shift to taxing more final personal consumption.<sup>18</sup>

More recently, H.B. 8, a second sales tax base-broadening bill, was enacted in April 2022. This law expanded the sales tax base to more than 30 categories of previously untaxed services,<sup>19</sup> some of which are primarily consumer services, some of which are purchased regularly by both consumers and businesses, and many of which are primarily purchased as business inputs. For example, massage services, cosmetic surgery services, and household moving services fall sufficiently within the realm of final personal consumption and are appropriate for inclusion in the sales tax base. However, telemarketing services, lobbying services, private mailroom services, and executive employee recruitment services are among

<sup>16</sup> Morgan Scarboro, "Kentucky Legislature Overrides Governor's Veto to Pass Tax Reform Package," Tax Foundation, Apr. 16, 2018, <https://www.taxfoundation.org/blog/kentucky-tax-reform-package/>.

<sup>17</sup> H.B. 366 (2018).

<sup>18</sup> "Enacted Kentucky Legislation Provides for Mandatory Combined Reporting for Unitary Businesses and Additional Sales Tax Changes," Deloitte, May 29, 2018, <https://www2.deloitte.com/us/en/pages/tax/articles/enacted-ky-leg-provides-for-mandatory-combined-reporting-for-unitary-businesses-and-additional-sales-tax-changes.html>.

<sup>19</sup> Fiscal Note to H.B. 8 (2022).

the services newly exposed to taxation that are almost exclusively purchased as business inputs. Several other newly taxable goods and services, like prewritten computer software, social event planning services, space rental services, interior design services, photography and photo finishing services, and security system monitoring services, should ideally be taxed when purchased by final consumers but not when purchased for business purposes.

Finally, H.B. 360, enacted in March 2023, made certain technical corrections and policy improvements to H.B. 8. The law clarified and narrowed the definitions of various newly taxable services, like lobbying services and laboratory testing services, respectively, and removed marketing services, a notable business input, from the sales tax base. (Marketing services were newly exposed to taxation in H.B. 8 but, importantly, were removed from the base after businesses expressed their concerns.)<sup>20</sup>

Kentucky's recent sales tax base-broadening efforts are laudable. By broadening the sales tax base to additional consumer services, Kentucky's sales tax has become more neutral in its application to final personal consumption, creating a more level playing field in the treatment of consumer goods and services. These base-broadening reforms have also generated revenue to help pay down the ongoing individual income tax rate reduction.

For the most part, Kentucky policymakers have been careful to avoid exposing highly pyramiding categories of business inputs to the sales tax. For example, in 2018, legislators were responsive to industry concerns about the taxation of services to install, repair, or maintain tangible personal property (TPP) used in manufacturing and industrial processing. In 2022, while advertising and graphic design services were initially proposed for taxation in H.B. 8 as introduced, those business inputs were removed from the base before the final bill was passed, and in 2023, marketing services were removed from the base after their initial inclusion as part of H.B. 8. Moving forward, continued sales tax base modernization is an appropriate way to generate revenue to reduce more harmful taxes elsewhere in the code, but any further base-broadening efforts should focus exclusively on final consumer services and goods, not business-to-business transactions.

While exposing business inputs to taxation could generate a large amount of revenue, it could put more of a damper on productivity than Kentucky's current tax structure, where a relatively smaller number of business inputs are taxed and relatively low, flat individual and corporate income tax rates of 4 percent and 5 percent, respectively, apply.

Individual income taxes are economically harmful because they reduce returns to labor and investment, including capital investment. They also reduce taxpayers' ability to save for the future. A well-structured retail sales tax is much less economically harmful, by comparison, because it falls on consumption, not labor, investment, or savings. However, a sales tax on business inputs, as argued above, is purely a tax on production in the state in which the production takes place. Taxing business inputs doubles down on one of the worst features of an income tax—taxing capital investment and productive activity—and it does so in a highly concentrated manner. Furthermore, it exposes certain categories of inputs to taxation but not others, creating nonneutral treatment that can distort economic decision-making.

---

<sup>20</sup> Joe Sonka, "State Worker Raises, New Tax Exemptions Clear Kentucky House Committee," *Louisville Courier Journal*, Mar. 7, 2023, <https://www.courier-journal.com/story/news/politics/2023/03/07/kentucky-state-worker-raises-tax-breaks-clear-house-committee/69981249007/>.

## Part 9: Comparing Kentucky's Sales Tax Base to Key Economic Competitors

Because sales tax bases differ from state to state, comparing sales tax bases at face value is like comparing apples to oranges. As such, one of the best ways to compare sales tax bases is to measure sales tax breadth, which can be done by calculating the share of the state's economy, as measured by state personal income, that is included in the sales tax base.

Using this definition, Kentucky's sales tax breadth was 37.17 percent in FY 2021, representing a base that was broader than the national mean and median even before H.B. 8's sales tax base-broadening provisions took effect on January 1, 2023. As shown in Table 3, compared to key economic competitors,<sup>21</sup> Kentucky's sales tax base is broader than in Virginia, Illinois, Missouri, Georgia, West Virginia, North Carolina, and Iowa, but as of FY 2021 was narrower than in Tennessee, Indiana, and Ohio. Also shown in Table 3 is each state's combined state and local sales tax rate as of July 1, 2023. Notably, each of the states with sales tax bases broader than Kentucky's also have combined state and average local sales tax rates that are higher than Kentucky's.

**Table 3. Sales Tax Breadth and Combined State and Average Local Rates, Kentucky and Key Economic Competitors**

	Breadth	Rate
Kentucky	37.17%	6.00%
Georgia	29.09%	7.39%
Illinois	26.18%	8.84%
Indiana	37.96%	7.00%
Iowa	36.67%	6.93%
Missouri	28.66%	8.36%
North Carolina	35.23%	7.00%
Ohio	37.62%	7.24%
Tennessee	41.28%	9.55%
West Virginia	32.46%	6.57%
Virginia	23.61%	5.77%
National Mean	29.71%	7.14%
National Median	35.72%	7.02%

Note: Sales tax breadth data are for FY 2021. Rates shown are the combined state and average local sales tax rates as of July 1, 2023.

Sources: U.S. Census Bureau; state revenue departments; the late Prof. John Mikesell (sales tax breadth methodology); Tax Foundation research and calculations (rates and current breadth estimates).

### Business Inputs Taxation in Kentucky and Elsewhere

When evaluating the potential economic effects of taxing business inputs, it is important to consider that Kentucky does not operate in a vacuum; each of Kentucky's neighboring states and key economic competitors also levy a sales tax, and most of those states currently tax fewer business inputs than Kentucky.

<sup>21</sup> In this report, Kentucky's "key economic competitors" are its bordering states (Illinois, Indiana, Missouri, Ohio, Tennessee, West Virginia, and Virginia), as well as several other comparable states (Georgia, Iowa, and North Carolina).

In a 2019 study prepared for the State Tax Research Institute (STRI) and the Council on State Taxation (COST), Phillips and Ibaid of Ernst & Young LLP estimated the share of state and local sales taxes falling on business inputs in each of the states with a statewide sales tax.<sup>22</sup> Using state-by-state estimates of the dollar amount of sales taxes falling on business inputs in each state in FY 2021,<sup>23</sup> as well as Census state and local sales tax collections data for FY 2021,<sup>24</sup> we calculated updated estimates of the share of state and local sales taxes falling on business inputs as of FY 2021, shown in Table 4.

#### **Table 4. Kentucky Relies More on Business Inputs Taxation Than Most Economic Competitors**

*Estimated Share of State and Local Sales Taxes Falling on Business Inputs, Kentucky and Key Economic Competitors (FY 2021)*

Kentucky	43%
Georgia	43%
Illinois	40%
Indiana	32%
Iowa	47%
Missouri	39%
North Carolina	41%
Ohio	36%
Tennessee	41%
Virginia	41%
West Virginia	44%

Sources: COST/EY (methodology); Census Bureau; Tax Foundation calculations.

Among the states shown in Table 4, only Iowa and West Virginia generate more of their sales tax revenue from business inputs than Kentucky (which is on par with Georgia). In Iowa, 47 percent of sales tax revenue is generated from taxing business inputs, in West Virginia, this share is at approximately 44 percent, while in Kentucky and Georgia, the share is only slightly lower, at 43 percent. Notably, Kentucky relies significantly more on business inputs taxation than neighboring Indiana, where only 32 percent of sales tax revenue is generated from business inputs. In COST's 2022 Sales Tax Scorecard, entitled *The Best and Worst State Sales Tax Systems*, Kentucky receives a letter grade of C+ for its overall sales tax system but a grade of F for its exemptions for business inputs. Meanwhile, each of Kentucky's key economic competitors receives a higher letter grade for their exemptions for business inputs.

To illustrate more specifically which inputs are taxed in each state, Table 5 shows 26 major categories of transactions that are either exclusively or frequently purchased as business inputs. The table also shows whether each type of transaction is subject to the sales tax in Kentucky and in some of Kentucky's economic rival states. As shown in the table, under current law, more of these major categories of business inputs are exposed to the sales tax in Kentucky than in any of Kentucky's key economic competitors except West Virginia.

<sup>22</sup> See Figure 4, Andrew Phillips and Muath Ibaid, "The Impact of Imposing Sales Taxes on Business Inputs," Ernst & Young LLP, May 2019.

<sup>23</sup> See Table 3, "Total State and Local Business Taxes: State-by-State Estimates for FY21," EY, STRI, and COST, October 2022.

<sup>24</sup> U.S. Census Bureau, "Annual Survey of State and Local Government Finances (FY 2021)," <https://www.census.gov/data/datasets/2021/econ/local/pub-lic-use-datasets.html>.

## Table 5. Tax Treatment of Notable Business Inputs, Kentucky and Key Economic Competitors

As of January 1, 2024

Legend	Taxable (T)		Nontaxable (N)		Mixed (M)		No Guidance (NG)				
	KY	GA	IL	IN	IA	MO	NC	OH	TN	VA	WV
Office Furniture	T	T	T	T	T	T	T	T	T	T	T
Computers	T	M	T	T	M	M	T	T	M	M	T
Information Services	N	N	N	N	N	N	N	T	N	N	T
Data Conversion Services	NG	N	N	M	T	N	NG	M	N	M	N
Data Processing Services	N	N	N	N	N	N	N	T	N	N	N
Data Center Business Inputs Generally*	N	N	N	N	N	N	N	N	N	N	N
Software as a Service (SaaS)	T	N	N	N	N	N	N	T	T	N	NG
Infrastructure as a Service (IaaS)	T	N	N	N	N	N	N	T	N	N	NG
Platform as a Service (PaaS)	NG	N	N	N	N	N	N	T	N	N	NG
Accounting Services	N	N	N	N	N	N	N	N	N	N	N
Consulting Services	N	N	N	N	N	N	N	N	N	N	T
Graphic Design	N	N	N	M	N	N	N	N	N	N	T
Lobbying Services	T	N	N	N	N	N	N	N	N	N	T
Management Services	N	N	N	N	N	N	N	N	N	N	T
Payroll Processing	N	N	N	N	N	N	N	T	N	N	N
Security Services	T	N	N	N	M	N	N	T	N	N	T
Commercial Laundry and Linen Supply Services	T	T	N	T	M	N	T	T	M	T	M
Landscaping	T	N	N	N	M	N	M	M	N	N	M
Printing and Copying Services	T	M	M	T	M	T	N	T	M	T	T
Packaging and Mailing Services	N	N	M	M	M	N	N	N	M	N	M
Event Planning	T	N	N	N	N	N	N	N	N	N	T
Manufacturing Machinery and Equipment	M	N	N	N	N	M	N	N	N	N	N
Manufacturing Repair and Replacement Parts	T	N	N	M	M	N	N	N	N	M	N
Steam for Consumption in Manufacturing	N	N	N	N	N	N	N	N	M	N	T
Power Generating Machinery/Equipment	N	N	T	N	N	N	M	N	N	N	N
R&D Business Inputs Generally	M	T	N	N	N	N	N	N	N	N	N

\*Nontaxable (or offered a sales tax refund) for large data centers.

Note: Table shows whether service is generally taxable when purchased by a business for business related purposes. Taxable business inputs are depicted with a "T" and nontaxable inputs with an "N." Some inputs listed as "nontaxable" may be taxable in limited instances, and some inputs listed as "taxable" may be nontaxable in limited instances. In Illinois, services are generally not taxable under the sales tax, but service providers instead pay the service occupation tax on all tangible personal property transferred as an incident to the sale of a service.

Sources: Bloomberg Tax; state statutes; Tax Foundation research.

If Kentucky substantially increased its taxation of business inputs, then the Commonwealth would risk losing business investment to economic competitor states that avoid taxing inputs. For example, many technology companies are capital-intensive; a disproportionate share of their expenditures are on equipment, computing power, and digital products. Much of this work—and certainly a great deal of the digital



work—can be performed anywhere. As such, if Kentucky were to impose a tax on more of the key transactions and investment activities technology companies make in the course of doing business, that would create a strong disincentive for tech companies to locate in Kentucky, as these tax burdens could be avoided if such companies located elsewhere.

This same principle applies to businesses in other industries; if one state imposes its sales tax on only 10 percent of a firm’s capital investment transactions but another state taxes 50 percent of such transactions, the latter state will face a significant competitive disadvantage in its ability to attract and retain firms that rely heavily on those taxable business inputs. As a result, lawmakers in many states have gone to great lengths to offer robust exemptions to highly favored industries (like data centers, as illustrated in Table 5).

While this is good news for data centers and other favored industries, this process often leaves small and mid-sized businesses on the hook to pay taxes on their inputs. This process of carving up the tax code to offer exemptions for some business inputs but not others undermines tax neutrality while adding a great deal of complexity in defining which business activities are eligible for an exemption. As such, the simplest, most neutral, and most structurally sound solution is for states to maintain properly structured sales taxes that apply to a broad base of final personal consumption transactions while maintaining broad exemptions for all business purchases made while doing business.

Notably, Table 5 also illustrates the complexity that exists in many states due to the “mixed” treatment of various goods and services, where a business input may be taxed for one type of business but not for another. For example, in Georgia and many other states, computer hardware is taxable unless the purchaser is a data center or a high technology company.<sup>25</sup> In Missouri, architectural and engineering firms headquartered in the state are eligible for a sales tax exemption for their computer purchases, but other firms are not.<sup>26</sup> The result is that states’ business input exemptions are haphazard and nonneutral in their application, creating high compliance costs for businesses and administrative and enforcement costs for states. For several categories of business inputs, states do not yet offer guidance on whether certain transactions are taxable, leaving taxpayers to their own devices in trying to interpret vague and complex statutory language.

The relative competitive disadvantage for Kentucky businesses of taxing additional business inputs would be reflected in the Commonwealth’s ranking on the *State Business Tax Climate Index*. In the 2024 edition of the *Index*, Kentucky ranks 18<sup>th</sup> overall and 13<sup>th</sup> on the sales tax component. The *Index* penalizes Kentucky for applying the sales tax to office equipment and business leases and rentals and partially penalizes Kentucky for applying sales taxes to manufacturing machinery in some instances.<sup>27</sup> Meanwhile, the *Index* credits Kentucky for exempting or mostly exempting farm equipment, manufacturing raw materials, manufacturing fuel and utilities, and information services.

<sup>25</sup> Georgia Department of Revenue, LR SUT-2014-06 (July 9, 2014).

<sup>26</sup> Missouri Department of Revenue, Missouri Letter Ruling LR6417 (Aug. 27, 2010).

<sup>27</sup> Jared Walczak, Andrey Yushkov, and Katherine Loughead, 2024 *State Business Tax Climate Index*, Tax Foundation, Oct. 24, 2023, <https://taxfoundation.org/research/all/state/2024-state-business-tax-climate-index/>.

## Part 10: Notable State Reforms to Reduce the Taxation of Business Inputs

All state sales taxes depart from the ideal structure in that they expose some business purchases to taxation, but several states have taken intentional steps to reduce their taxation of business inputs over time.

For example, over many years, Utah legislators have taken a sequenced approach in removing business inputs from the base one industry at a time. In 1979, legislation was implemented that phased in a sales tax exemption for most types of farm equipment, and in the early 1980s, several key business inputs used by motion picture exhibitors, commercial radio broadcasters, and airlines were removed from the base.<sup>28</sup> Importantly, starting in 1985, a major new sales and use tax exemption was implemented for purchases and leases of manufacturing machinery and equipment used in new or expanded manufacturing operations.<sup>29</sup> The following decade, that exemption was expanded to include replacement equipment. More recently, in 2017, a sales tax exemption was created for machinery, equipment, and repair and replacement parts used in automobile manufacturing, as well as an exemption for hydrogen gas manufacturing equipment and repair and replacement parts with a useful life of less than three years.

While Iowa exposes many *tangible* business-to-business transactions to taxation, state lawmakers recently adopted a substantial new exemption for digital products based on the identity of the purchaser (with business purchases being exempt while consumer purchases are taxable). Specifically, effective as of January 1, 2019, Iowa exempts sales to commercial enterprises of specified digital products, pre-written computer software, and several services, including electronic or tangible file or document storage services, information services, services related to installing or maintaining certain digital products, and software as a service (SaaS).<sup>30</sup> Commercial enterprises are broadly defined and include all for-profit businesses, professions, and occupations, along with nonprofit insurance companies and financial institutions.<sup>31</sup> (Other nonprofits enjoy existing, broader exemptions from sales tax.) Iowa is currently the only state that offers a broad sales tax exemption for business purchases of digital products and services, and other states would do well to follow Iowa's example.

As other states modernize their sales tax bases to account for final consumer purchases of services and digital products, they should heed Iowa's example and ensure business-to-business transactions remain exempt. Going a step further, Kentucky and other states that already tax numerous business inputs should ultimately consider how they, like Utah, could systematically remove from the base those business inputs that cause the greatest amount of economic harm while broadening the base to additional categories of personal consumption that remain untaxed.

---

28 "History of the Utah Tax Structure," Utah State Tax Commission, 2023, 19-21, <https://tax.utah.gov/esu/history/history.pdf>.

29 *Ibid.*, 23, 33, 79-80.

30 I.C.A. § 423.3(104).

31 "Taxation of Specified Digital Products, Software, and Related Services," Iowa Department of Revenue, accessed Nov. 10, 2023, <https://tax.iowa.gov/taxation-digital-products>.

Furthermore, state lawmakers across the country should draw lessons from Florida's failed attempt at taxing broad new categories of business inputs nearly three decades ago. In April 1987, legislation was enacted in Florida extending the sales tax to numerous services purchased either primarily or to a large extent by businesses, including advertising, construction, legal, and accounting services.<sup>32</sup> This change was met with swift backlash from businesses, including advertisers, the media, and homebuilders. It was quickly repealed, remaining in effect only from July 1 to December 31, 1987. Following this failed attempt to expand the taxation of major categories of business inputs, lawmakers instead raised the sales tax rate by one percentage point on the previously existing sales tax base that was comprised primarily of goods.

While every state's sales tax base departs from the ideal structure to varying degrees, an examination of most states' sales tax bases reveals that many policymakers have historically understood, and have attempted to avoid, egregious tax pyramiding. As Walter Hellerstein, a leading tax scholar, has written:

While no state has adopted a theoretically pure retail sales tax, all states have provisions that are designed to achieve its underlying theoretical purposes. Every state excludes sales for resale from the retail sales tax base. Similarly, states commonly exclude sales of ingredients or components of property produced for sale from the retail sales tax. [...] Other provisions reflect the broader view that all business inputs should be excluded from the retail sales tax base, even though such costs cannot be tied directly to the item ultimately sold or to some component of that item. Exclusions or exemptions for purchases of machinery and equipment used to produce tangible personal property for sale illustrate these sorts of provisions.<sup>33</sup>

Kentucky policymakers should strive to maintain a tax code that looks like it was designed on purpose, with intentionally broad taxation of final personal consumption and intentionally broad exclusion of business inputs.

## Conclusion

Kentucky's recent pro-growth tax reforms remain the envy of lawmakers in many other states. By converting from a graduated-rate to a single-rate individual income tax, reducing the rate on several occasions, and writing into statute a plan for revenue-contingent future reductions, lawmakers in Frankfort have secured a competitive advantage that will serve the Commonwealth well for many years to come.

But as policymakers continue efforts to improve Kentucky's tax structure and competitiveness, they should keep in mind that not all offsets are created equal. Applying the retail sales tax to major new categories of business inputs would transform Kentucky's sales tax from a relatively well-designed tax on final personal consumption into an economically harmful, ill-designed tax on in-state production. Doing so would raise prices for Kentucky consumers, put in-state businesses and their employees at a competitive disadvantage, and could swiftly wipe out the economic gains from recent and future income tax cuts.

---

<sup>32</sup> John J. Siegfried and Paul A. Smith, "The Distributional Effects of a Sales Tax on Services," *National Tax Journal* 44:1, 48-9.

<sup>33</sup> Jerome Hellerstein and Walter Hellerstein, *State Taxation* (Valhalla, NY: WG & L/Thomson Reuters, 2023).

As Kentucky lawmakers continue building upon the tax reform progress they have made in recent years, there is continued room for pro-growth reform, including reforms to modernize the sales tax base. But in any future sales tax base broadening efforts, lawmakers should use caution to preserve, and perhaps even enhance, existing exemptions for business-to-business purchases, as such transactions were never meant for inclusion in a properly structured retail sales tax base.

## Appendix: Reviewing the Economic Literature on Business Inputs Taxation

This Appendix provides further context and a more detailed overview of the economic literature on business inputs taxation. Those interested in getting into the weeds of academic and policy discussions on business inputs and their role in the sales tax system can find references and links to many relevant articles, monographs, and reports below.

### Taxing Business Inputs Creates Economic Distortions

John Mikesell, a leading public finance scholar who specialized in state sales taxes, emphasized that business purchases, while not constituting final consumption, are “the lure of revenue” for state governments.<sup>34</sup> He estimated that business inputs make up approximately 40 percent of the aggregated sales tax base in the United States.<sup>35</sup> Mikesell argued that the existing sales tax system is nonneutral, as it influences the choice of the method of production (favoring less capital-intensive methods with fewer intermediate business purchases). Moreover, it discourages the timely replacement of machinery and equipment by increasing the after-tax price of new equipment, while also encouraging vertical integration as a means of tax avoidance. Consequently, these factors lead to lower rates of investment, hinder economic growth, and result in fewer jobs for the residents of affected states.

### Taxing Business Inputs Turns the Sales Tax into an Economically Harmful Tax on Production

Alan Viard agreed that existing sales taxes in the United States significantly deviate from the textbook vision of the proportional consumption tax, primarily because they exclude a wide range of consumer services from taxation, while taxing many business services. The taxation of business purchases, especially capital goods, imposes a penalty on saving and investment, akin to the effects of corporate income taxes. He concluded that reforming the taxation of business inputs should be a top priority for all states seeking to improve their tax systems.<sup>36</sup>

### Taxing Business Inputs Leads to Nonneutral Tax Burdens

On the consumer side, as highlighted by Mikesell in another article, taxing business inputs can create a non-uniform sales tax burden across different households.<sup>37</sup> Effective tax rates not only exceed statutory rates but also vary among different types of consumer goods. In an earlier paper, Jeffrey Schaefer noted that if sales tax exemptions become widespread (while business inputs remain taxable), the sales tax becomes non-uniform and transforms into a “series of special excise taxes with the associated discrimi-

<sup>34</sup> John L. Mikesell, *Fiscal Administration, Tenth Edition* (Cengage Learning, 2018).

<sup>35</sup> Similar estimates in the range of 40-43 percent are provided in Timothy J. Besley and Harvey S. Rosen, “Sales Taxes and Prices: An Empirical Analysis,” *National Tax Journal* 52:2 (1999): 157-178; Raymond J. Ring, “Consumers’ Share and Producers’ Share of the General Sales Tax,” *National Tax Journal* 52:1 (1999): 71-90; and Robert Cline, John Mikesell, Tom Neubig, and Andrew Phillips, “Sales Taxation of Business Inputs,” COST Special Report, Jan. 25, 2005, <https://documents.ncsl.org/wwwncsl/Task-Forces/SALT/Business-Inputs-Study.pdf>. An earlier analysis for Illinois (Richard R. Fryman, “Sales Taxation of Producers’ Goods in Illinois,” *National Tax Journal* 22:2 (1969): 273-281) revealed that the share of taxable sales made to businesses varied by sector and ranged from 8 percent in retail to 90 percent in mining and manufacturing.

<sup>36</sup> Alan D. Viard, “Sales Taxation of Business Purchases: A Tax Policy Distortion,” *State Tax Notes*, Jun. 21, 2010, <https://www.aei.org/articles/sales-taxation-of-business-purchases-a-tax-policy-distortion/>.

<sup>37</sup> John L. Mikesell, “Reversing 85 Years of Bad State Retail Sales Tax Policy,” *State Tax Notes*, Feb. 4, 2019, <https://www.taxnotes.com/tax-notes-state/sales-and-use-taxation/reversing-85-years-bad-state-retail-sales-tax-policy/2019/02/04/291rj>.



nation among persons similar in ability to pay,”<sup>38</sup> which is contrary to the principle of horizontal equity. This argument was further developed by Bruce, Fox, and Shute, who argued that taxes on intermediate goods and services can lead to tax pyramiding and create differential effective tax rates for in-state and out-of-state purchases, violating neutrality but “creating a series of competitive opportunities” for some sellers.<sup>39</sup>

Mikesell agreed with scholar John Due’s standard for sales tax structure, asserting that a “sales tax structure should produce a uniform distribution in consumption, should be neutral regarding methods of production and distribution, and should be collected at a reasonable cost.”<sup>40</sup> Taxing business inputs works contrary to that ideal.

## Taxing Business Inputs Causes Tax Pyramiding, Increasing Regressivity

Derrick and Scott estimated the magnitude of tax pyramiding across different categories of goods and services in Maryland using the regional Input-Output model.<sup>41</sup> They found that the share of indirect (hidden) taxes in effective sales tax rates was significant for most goods and services. In fact, in the late 1980s, effective sales tax rates on items like apparel, furniture and appliances, and alcohol exceeded 7 percent, while the statutory rate stood at 5 percent. Even food purchased for personal consumption, which was statutorily exempt from sales tax, was effectively taxed at 2.3 percent. The authors argued that sales taxes continue to be regressive precisely because taxing business inputs leads to tax pyramiding, thereby increasing regressivity. They concluded that broadening the consumer sales tax base and reducing the share of sales taxes paid by businesses may affect the incidence of the sales tax and lead to a more proportional allocation of the tax burden.

Siegfried and Smith, while arguing that the overall distributional effect of taxing intermediate goods and services may be proportional, highlighted that sales taxes on certain business inputs, such as electric and gas utilities, can be highly regressive.<sup>42</sup> It is worth noting that the ultimate sales tax burden depends more on competition, the market power of producers vis-à-vis consumers, and the scope of vertical integration within a specific industry, rather than just on where sales taxes are collected. As noted by Quick and McKee, “individuals are not freer of their tax burden if sales taxes are initially applied to sales of goods and services to businesses; nor do businesses escape if only consumer purchases are taxed.”<sup>43</sup>

## Taxing Business Inputs Disguises the True Cost of Government

Charles McLure argued that an ideal sales tax would exempt all business purchases, capital goods, goods for resale, fuels, utilities, office supplies, and other intermediate goods and services.<sup>44</sup> According to McLure, taxing business inputs leads to a lower perceived cost of government. Since sales taxes on business inputs are not visible to final consumers, they may not realize that their effective tax rate is, in fact, much higher than the statutory rate.

38 Jeffrey M. Schaefer, “Sales Tax Regressivity under Alternative Tax Bases and Income Concepts,” *National Tax Journal* 22:4 (1969): 516-526.

39 Donald Bruce, William F. Fox, and Alannah M. Shute, “Wayfair: A Step Towards the Destination, but Sales Tax Competition Remains,” NBER Working Paper 31074, March 2023, <https://www.nber.org/papers/w31074>.

40 John Mikesell, “States of Mind: A Quality Index for State Sales Tax Structure – Measuring the States Against an Ideal Standard,” *Tax Notes State*, Jan. 26, 2005, <https://www.taxnotes.com/tax-notes-today-state/sales-and-use-taxation/corrected-full-text-states-mind-quality-index-state-sales-tax-structure-measuring-states-against/2005/01/26/4c5r>.

41 Frederick W. Derrick and Charles E. Scott, “Businesses and the Incidence of Sales and Use Taxes,” *Public Finance Quarterly* 21:2 (1993): 210-226.

42 John J. Siegfried and Paul A. Smith, “The Distributional Effects of a Sales Tax on Services,” *National Tax Journal* 44:1 (1991): 41-53.

43 Perry D. Quick and Michael J. McKee, “Sales Tax on Services: Revenue or Reform?” *National Tax Journal* 41:3 (1988): 395-409.

44 Charles E. McLure Jr., “Rethinking State and Local Reliance on the Retail Sales Tax: Should We Fix the Sales Tax or Discard It?,” *BYU Law Review* 77:1 (2000): 77-137.

## Taxing Business Inputs Departs from Ideal Consumption Tax Structure

Andrew Phillips and Muath Ibaid empirically demonstrated that sales and use taxes currently imposed by U.S. states differ significantly from an ideal household consumption sales tax. In the existing system, too many business input purchases are subject to taxation (amounting to \$2.1 trillion or 13 percent of all business inputs), while a substantial number of final consumption goods and services are exempt from sales tax (only \$2.9 trillion or 21 percent of household personal consumption expenditures are subject to sales tax).<sup>45</sup> Consequently, the total sales tax base is just \$5 trillion compared to \$13.5 trillion under the ideal household consumption sales tax. Furthermore, in line with Mikesell's findings, Phillips and Ibaid showed that business inputs, on average, constitute 42 percent of the sales tax base. State-level estimates vary, ranging from 32 percent in Indiana and Idaho to 60 percent in New Mexico.<sup>46</sup>

## Removing Business Inputs from Sales Tax Bases Would Promote Growth Even if Rates Increased

Several attempts have been made to estimate the effects of eliminating business inputs from the sales tax base. One notable effort was made by Benjamin Russo, who employed a standard Ramsey growth model calibrated to the parameters of an average U.S. state.<sup>47</sup> His analysis demonstrated that rescinding the sales tax on tangible business inputs would require the average state and local sales tax rate to be increased to 8.3 percent to maintain revenue neutrality.<sup>48</sup> However, even with the increased tax rate, this reform would lead to a 0.5 percent increase in gross state product and a 1.7 percent increase in the physical capital stock by removing the distortion to business inputs and reducing tax pyramiding. Russo conducted several sensitivity tests and found that even a partial reform, involving the removal of only 25 percent of business inputs from the sales tax base, would still accelerate state-level economic growth by about 0.4 percent (requiring a state and local tax rate increase to 7.9 percent). The author concluded that substantial economic gains could be achieved by moderately reducing the share of taxable business inputs, even without a comprehensive reform of the state sales tax.

---

45 Andrew Phillips and Muath Ibaid, *The Impact of Imposing Sales Taxes on Business Inputs* (Ernst & Young, 2019).

46 As of 2019, prior to the sales tax broadening reform, the estimated business share of state and local sales taxes in Kentucky was 43 percent, slightly above average.

47 Benjamin Russo, "An Efficiency Analysis of Proposed State and Local Sales Tax Reforms," *Southern Economic Journal* 72:2 (2005): 443-462.

48 Viard argues that even a 10 percent statutory rate on final consumption goods would be less burdensome than a 6 percent statutory rate in the current sales tax system where business inputs are taxed.

## About the Tax Foundation

The Tax Foundation is the nation's leading tax policy research organization. Since 1937, our research, analysis, and experts have informed smarter tax policy at the federal, state, and global levels. Our Center for State Tax Policy uses research to foster competition among the states and advises policymakers on how to improve their tax systems.

## Authors

**Jared Walczak**  
Vice President of State Projects

**Andrey Yushkov**  
Senior Policy Analyst

**Katherine Loughead**  
Senior Policy Analyst & Research Manager

## About the Kentucky Chamber of Commerce

The Kentucky Chamber of Commerce provides bold leadership as the major catalyst, consensus builder and advocate for economic growth and for expanding the business community of the Commonwealth of Kentucky.

Charles Aull  
Executive Director, Kentucky Chamber Center for Policy and Research

## About Commerce Lexington

Commerce Lexington represents nearly 2,000 business members in Greater Lexington and serves as a leader in economic development, public policy and workforce development for Kentucky's Bluegrass Region.

Andi Johnson  
Chief Policy Officer & Director of Regional Engagement

## About Greater Louisville Inc.

Greater Louisville Inc. (GLI) is the Metro Chamber of Commerce providing business-to-business connections, economic development, advocacy, and talent attraction and workforce initiatives for 15 counties in Kentucky and Southern Indiana.

Shelby Somervell  
Vice President of Government Affairs & Communications

## About the Northern Kentucky Chamber of Commerce

The Northern Kentucky Chamber of Commerce promotes and supports the development of strong businesses and a vibrant economy in the Northern Kentucky region through leadership and advocacy, resulting in a better quality of life for all.

Tami Wilson  
Vice-President of Public Affairs

Kentucky legislators have demonstrated commendable leadership on pro-growth tax reform in recent years, with base-broadening, rate-reducing reforms that improved tax competitiveness and caused Kentucky's *State Business Tax Climate Index* ranking to soar 19 places.

Now, policymakers have their sights on the future. There is continued momentum in Frankfort to tackle additional reforms, but getting the details right is essential.

This publication, authored independently by the Tax Foundation with the support of a grant from the Kentucky Chamber of Commerce, Commerce Lexington Inc., Greater Louisville Inc., and the Northern Kentucky Chamber of Commerce, zooms in on the sales tax as a follow-up and companion to *Aligning Kentucky's Tax Code for Growth*, a comprehensive tax reform options guide published in 2021.

Diving deep into the elements of proper sales tax design, *Kentucky Sales Tax Modernization: Keeping the Sales Tax on Sales, Not Production* demonstrates that taxing additional business inputs would put Kentucky businesses at a disadvantage versus out-of-state competitors and raise prices for Kentucky consumers in a nontransparent manner. Specifically, this report reviews the economic literature on business inputs taxation, illustrates in real dollar terms how tax pyramiding hurts businesses and consumers, shows how Kentucky's taxation of business inputs already exceeds that of most competitor states, and explains how business inputs taxation transforms the sales tax from an economically competitive tax on consumption into an economically harmful tax on production.

Preserving and even enhancing the proper tax treatment of business inputs is critical. With tax reform, getting the details right matters, and a thorough understanding of the economic effects of business inputs taxation is critical to ensuring any further reforms build upon—rather than undercut—the competitive gains Kentucky lawmakers have worked so hard to achieve.



©2024 Tax Foundation

Tax Foundation  
1325 G Street, N.W. Suite 950  
Washington, D.C. 20005  
202-464-6200

[taxfoundation.org](http://taxfoundation.org)