What Made Income Taxes Possible?

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A note for NYU readers: Many thanks for engaging with this early draft on the theory and history of income taxation. This subject—a mixed project of intellectual history, legal history, and data gathering—is something that Ed, Wojciech, and I have been thinking about for years, but that we only started working on in a dedicated fashion at the end of the summer. One thing to note is that we will almost certainly split this project into two papers: One that is more focused on the broader intellectual and legal history of income legibility (intended for a law review), and one that is more focused on empirically exploring the size and scope of early income taxes, particularly the share of national income reached by the tax base (intended for a specialized economics journal). On the share of national income reached by the income tax: We have some prototype figures that do this for the British case (see in particular Figure 2), and are working on similar figures for the American case (and especially the Civil War income tax). I am looking forward to discussing it with you soon.

— Conor Clarke

Abstract

Why do governments impose taxes on "income" rather than (and in addition to) other things? Large literatures in economics, history, and political science answer versions of this question. For example, a literature in economics and law considers the policy tradeoffs of taxing income versus consumption. Yet another literature considers the conditions that are likely to make a government adopt an income tax in the first place—such as war-fighting or the extension of the franchise. And numerous histories tell the story of the rise of the income tax in specific countries. But virtually nothing has been written about related but antecedent questions: How did "income" become identified and available as a tax base in the first place? We describe what makes this question interesting and suggest some possible answers. We make several points. First, income taxes are a relatively recent historical phenomenon—and, in some respects, so is the underlying concept of income itself. Prior to the eighteenth century, there are virtually no discussions of the income concept in English-language scholarly work. Second, there was a period of time—from the middle of the eighteenth century into the early nineteenth—during which income was identified as a desirable tax base, but also considered politically and administratively infeasible to pursue. Adam Smith (and many of his contemporaries) considered income taxes ideal but impossible. Third, we hypothesize about the improvements in administrative technology that were most significant for the rise the income tax—most notably, the rise of large financial institutions and firms, which allowed for withholding (a legal development that emerged piecemeal over the nineteenth century) at scale. In the case of Britain, we show that these developments allow the early income tax to capture a surprisingly large share of national income (especially capital income) in the nineteenth century. Fourth, we sketch some implications of this theory and history—which highlights the relationship between economic development and administrative technology to the availability of a tax base—for debates over tax policy and the income concept today.

1 Introduction and some motivating mysteries

Taxation—some method for organizing or transferring resources for a collective purpose—is as old as collective human activity. Taxes that are designed to be fair—that is, designed to reflect one's ability to contribute to the collective cost—also have a history that runs back many hundreds, if not thousands of years. "That a man should contribute to the public burdens in proportion to his ability or faculty is a principle that dates back to the middle ages," wrote Edwin Seligman in 1914, "and may even be found in its main outlines in the writings of the Greek philosophers" (Seligman (1914)). There is nothing new about calls for fairness in taxation.

But income taxes are far more recent. The first attempt to tax income—or at least the first attempt that was self-conceptualized as such—is generally considered to be the British Income Tax of 1799, introduced many hundreds of years after Parliament and the Crown had started raising centralized revenue, and long after fairness in taxation (defined by ability to pay) had entered public discourse as a worthy goal. And even this 1799 effort was a temporary measure, sometimes considered a failure. As one early commenter put it, the nineteenth century opened with "an Income Tax which was considered in its main features distributively just," yet "a mere temporary expedient for an emergency" (Kennedy (1913)). It was not until the nineteenth and early twentieth centuries that income taxes took root on a permanent and stable basis in Europe and (eventually) much of the rest of the world (Aidt and Jensen (2009)). For example, British experimentation with the income tax begins in 1799, sputtered out, and then was reintroduced in 1842 and eventually proved permanent. The United States considered a prototype income tax in 1814 (during the War of 1812), began an experiment with the income tax in 1861 (during the Civil War), and made it permanent in 1913 (Brownlee (2016)). Table 1 displays this trend—temporary experimentation and later permanent adoption—in a broader selection of countries. Today (as Table 2 suggests), virtually all advanced democracies are substantially reliant on the income tax. What accounts for this slow, and then sudden, shift?

The mysteries do not end there. To our knowledge, there is virtually no discussion of the income concept in the works of western enlightenment thinkers before the advent of the income tax concept itself—despite some extensive discussions of taxation more generally. For example, Thomas Hobbes's *Leviathan* (Hobbes (1651)) contains a relatively well-developed discussion of taxation; Hobbes outlines still-familiar concepts, such as ability to pay, and seems to have some early grasp of other concepts, such as incidence and elasticities. But his work contains no mention of income, and his discussion suggests that taxes on consumption (such as excise taxes on the trade of goods) and property would form the logical tax base. Other English-language resources suggest a similar absence. There is no record of the use of the term "income" in British case law before 1572 (though such records go back to 1220). And it is not until the seventeenth century that "income" seems to have taken on a meaning that resembles something like revenue, profit, or salary. Why is it only then that a concept of income began to emerge?

We consider a series of questions related to the emergence of the income concept and the income tax. A major theme in our inquiry is that the state cannot tax what it cannot observe. Some changes in economic organization and administrative technology are required to make income legible to the government as a tax base (Scott (1998)). In our view, fundamental economic changes during the age of mercantilism—and, later, the industrial revolution—began to make income a financial concept in ordinary language. Later, the rise of large firms and financial institutions made withholding possible at scale, allowing for the British government to reach almost half of national income and well over half of national capital income—a result that is itself surprising, given that today we generally regard *labor* income as the easier factor to reach.

We proceed in four parts. First, we briefly consider the origin of the income concept. While income is a concept with many near and distant historical antecedents—for example, the Roman Law concept of "fructus," used to describe the yield of property—its proximate modern antecedent comes from the development of new commercial and accounting practices, which is itself connected to broader economic changes and the rise of something resembling modern finance. It is after the rise of these new commercial concepts and practices that the income concept emerges in enlightenment tax policy discussions in the early eighteenth century.

Second, we consider the initial status of the income concept in enlightenment tax-policy discussions. Our central touchstone here is Adam Smith. Smith, and many of his contemporaries, considered a tax on income the ideal form taxation—but, alas, one that was simply impossible to pursue. For Smith and his contemporaries, an income tax would require an 'intolerable inquisition'—that is, learning an individual's income would require cumbersome and privacy-invading administrative machinery that was neither politically nor administratively feasible. In the presence of this apparent impossibility, Smith favored—and the central government pursued—proxies for ability to pay that were administratively feasible but equitably rough, such as 'faculty' taxes, license fees, land taxes, and community taxes. These early-modern attempts at means-based taxation can be regarded as prototypes for the income tax—aimed at measuring ability to pay in a world of severe administrative constraints.

Third, we consider key factors that led to the change in, and the gradual defeat of Smith's view. We focus on several key moments in the history of the British and American experience. As noted above, the British income tax is generally regarded as the first, and, as Seligman put it (Seligman (1914) at 105), "[t]he fame of the income tax spread to the Continent." We highlight key trends that allowed for the growth and spread of withholding—or "stoppage at the source," as it was originally called. Gradually, over the course of the nineteenth century, the growth and spread of withholding followed a predictable pattern. First came withholding for immovable property in the early nineteenth century (e.g., rent withheld by tenants). Then came withholding for salaries of subsidiary units of government and for interest and dividends on government securities and from publicly chartered companies in the decades that followed (large organizations over which the state had extreme leverage). Finally, withholding came for employees of particularly large private-sector firms—first railroads and then other large conglomerates in the mid- and late-nineteenth century. Moreover, the same changes to the British economy that allowed for widespread withholding, also reinforced the need for an income tax. Without it, the old tax system–which relied heavily on real property taxes–would have reached a smaller and smaller share of the economy as it grew and wealth increasingly took the form of interests in firms, etc.

While our data-gathering about these trends is still early, we combine historical British tax records with modern estimates about the British economy to highlight several striking–and to our knowledge, novel–empirical regularities. The mid-century British income tax base contained as much as 40% of GDP (a surprisingly high number from our perspective) and one comparable to many developing countries today. Likewise, the base contained well over half of capital income, a number higher than current estimates for the U.S. Most of this income was withheld.

Fourth, we consider the relevance of this history for thinking about the income concept today. Among other things, this theory and history suggests a relationship between the way law defines the reach of "income," and the available administrative technology for reaching the tax base. History suggests a kind of race or dependence between commercial economic practices and administrative tax-gathering practices, with the latter lagging behind (but trying to catch up to) the former. In the early taxes, direct withholding—stoppage at the source—appears much more important than third-party information reporting to the development of the income tax, despite the emphasis on third-party reporting in the theoretical literature. Finally, our story suggests a relationship between the gradual emergence of the income concept and the search for the best way to measure ability to pay. The two concepts—income and income taxation—appear to evolve in tandem, with the concept of ability to pay in the background.

2 The gradual emergence of the income concept

To understand how income taxes became possible, we first briefly trace the emergence of the income concept itself—a concept that evolved slowly, from a vague linguistic notion that meant nothing more than a general "coming in," to a financial category with a still broad and ill-defined meaning. This transformation took centuries, and its rise appears to coincide with changes in accounting technology and economic organization more broadly.

The English word *income* long predates its modern financial meaning. In late medieval usage, it simply meant a "coming in" or "arrival," whether literal or figurative. The Oxford English dictionary gives the full definition that dominated in the fifteenth century as a "[c]oming in, entrance, arrival, advent; beginning (of a period of time, or an action)" (Oxford English Dictionary Online (2025)). (For example, "at the income of the first month," Joseph went to Nazareth (Morris (1875)).)

While this (now-outdated) usage persisted for several hundred years, by the early sixteenth century a financial shade of meaning began to emerge as well: "income" could refer to something paid, as in a fine or cost. The records of the city of Oxford could therefore refer (in 1549) to the "Proffitts and Incumbs . . . due to the Bailiffs" (Turner (1880)). Or, more evocatively, Shakespeare could write (in his poem *The Rape of Lucrece*) that "Pain pays the income of each precious thing" (Shakespeare (1594)). By the eighteenth century, its primary usage appears to have been primarily financial, as when Smith could refer in the *Wealth of Nations* to the "ordinary income of labourers and out-servants to be fifteen pounds" or refer to the general (and desirable) "disposition of people to live within their income."

What accounts for the change? As with any slow linguistic development like this, it is hard to attribute the change in meaning to any one cause. More broadly, the change in the meaning of "income" is an example of how economic terms acquire technical senses as administrative and financial practices change in early modern Europe. (For a more general account of this, see Tribe (2015).) As economic practice changes, nascent conceptual categories emerge to describe those new dimensions of commercial life.

The changes we have in mind here are many, and affected both Britain specifically and Europe more broadly. Monetization and market integration in the sixteenth-century encouraged people to think in terms of measurable inflows. Craig Muldrew's *The Economy of Obligation* (Muldrew (1998)) shows—among other things—how the proliferation of market transactions created a new culture in which households began to conceptualize social relationships in more explicitly contractual and financial terms. At the same time, the rise of "enclosures"—the literal closing of land that was previously common-access, which accelerated during the Tudor period of 1485 to 1603—reorganized landholding and rental relations into units that yielded regular rents and returns. The rise of enclosures shifted the British economy away from traditional agricultural practices and toward a market-driven system (see Yelling (1977)). Also under the Tudors—especially after Henry VII's reforms and Henry VIII's consolidation of the Royal Mint—England organized coinage production under direct royal control, replacing dispersed medieval mints and marking the rise of a centralized, state-managed currency (Elton (1953)).

These commercial shifts encouraged—and were encouraged and enabled by—a growth in formal record-keeping. Under the Tudors, government money began to move through more formal systems of record. At the Exchequer of Receipt, clerks kept detailed "Receipt Rolls" and "Issue Rolls" that tracked what money came in and what went out. Meanwhile, Henry VIII strengthened "Chamber Finance," creating a more centralized and systematic way to oversee royal income (see Elton (1953)). These financial recording practices helped shape the language of money itself. Words such as "receipt," "issue," and "revenue" became technical accounting terms, and helped to define income as a regular flow of funds.

Parallel developments outside of the central government expanded the use of ledgers and the revised income concept. One set of developments was in the Reformation and post-Reformation church. Church record-keeping expanded in the sixteenth century, and churchwardens kept annual parish accounts of income from pew rents, rates, bequests, and tithes and expenditure (see Burgess (1995)). The parish was not merely a religious body but, after the Reformation, the primary unit of local administration—responsible for poor relief, road maintenance, and local taxation (among many other things). As ecclesiastical and civic functions merged, parish books became a main instrument of fiscal measurement in everyday life.

The broadening of the income concept also appears closely tied to broader accounting reforms, such as the Italian invention of double-entry bookkeeping, first described by Luca Pacioli in 1494 (Pacioli (1494)). By tracking debits and credits systematically, double-entry allowed a much more precise calculation of profit, loss, and equity—turning the abstract idea of gain into a tangible, repeatable financial measure. This method spread slowly beyond Italy, aided by works such as Simon Stevin's 1604 Dutch translation and Richard Dafforne's *The Merchant's Mirrour* (Dafforne (1636)), which translated Dutch and Italian accounting principles for an English audience. As mercantilist capitalism expanded—driven by joint-stock enterprises like the English East India Company—the demand for standardized accounting systems grew, and with it the ability to calculate and verify "income." At least one historian of accounting has tied the development of this new accounting technology to the rise of the income concept (see Littleton (1953)).

These shifts—in royal finance, parish administration, and private commerce—belong to a broader transformation in how economic life was conceptualized. Across the fifteenth, sixteenth, and seventeenth centuries, money, account-keeping, and authority were being re-aligned: The state centralized its receipts, local parishes balanced annual ledgers, and merchants began to systematize transactions on paper. But the process was slow—which helps explain why income never comes up in Hobbes (1651), notwithstanding his extensive discussion of taxes more generally.

By the mid-eighteenth century, however, "income" was a stable term in personal finance, public accounts, and political economy. The early twentieth-century British commenter William Kennedy has written that "[i]ncome as the rough standard of taxation was a seventeenth-century conception, and it was frequently referred to in the eighteenth century before Adam Smith" (Kennedy (1913)). Indeed, policy proposals in popular pamphlets—such as Thomas Andrews's 1738 call for a tax on "ability and income" (Andrews (1738)) show that it was already considered a plausible tax base—at least in theory. Yet the ability to measure income comprehensively across the population lagged far behind its conceptual development. The state lacked the administrative tools to observe income directly without costly and invasive inquiries, a problem that would apparently dominate later Enlightenment tax-policy debates.

3 The impossibility of reaching income and reliance on proxy

By the middle of the eighteenth century, then, income was an established concept in economic writing, and the income tax was prominently discussed as a policy idea. Yet early discussions of the income concept and its relationship to taxation also contain a discouraging theme: Income was considered a difficult—and often simply impossible—tax base for the government to reach.

The most prominent (and likely also the most extensive) discussion of taxation that raises this issue is Adam Smith's classic treatment of tax policy in *An Inquiry into the Nature and Causes of the Wealth of Nations* (see Smith (1776)). The fifth book of the work's five books is largely devoted to taxation, and it is where Smith offers his classic early statement of the (now standard) tax-policy notion that taxes should be efficient, simple, and fair. Smith spends relatively little time in *The Wealth of Nations* discussing income, though he does refer to related concepts—like individual revenue—that are sometimes edited to income in modern editions (and referred to as income in some quotes below).[1] Curiously, however, in book five Smith also suggests that something like an income tax would be the *ideal* tax—but not one that can be implemented.

Smith arrives at the ideal nature of the income tax via his opening maxim of tax policy—a familiar principle of fundamental tax fairness: "The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities." By "respective abilities," Smith means "in proportion to the revenue which they respectively enjoy under the protection of the state." Smith offers an analogy to justify this principle: "The expense of government to the individuals of a great nation is like the expense of management to the joint tenants of a great estate, who are all obliged to contribute in proportion to their respective interests in the estate." Smith's rough idea is that—as in a jointly-owned private business—shared expenses should track individual stakes.

So why not impose a tax "in proportion to the revenue" that individuals "enjoy under the protection of the state"? Smith argues that such a tax would be impracticable, largely because the state lacked the technology to observe it directly in an acceptable fashion—or, perhaps more precisely, because observing income at the present state of administrative technology would require brute-force investigative measures that were neither cost-effective nor politically palatable. For Smith, "the whole amount of the capital stock [that a subject] possesses"—the basis of virtually all income in his time—"is almost always a secret, and can hardly ever be ascertained with tolerable exactness." In addition, "it is liable to almost continual variations." Ascertaining income under these circumstances would require, in Smith's telling, "[a]n inquisition into every man's private circumstances [that] would be a source of such continual and endless vexation that no person could bear it." In Smith's telling, "an inquisition more intolerable than any tax"—by which he presumably means a tax procedure more burdensome than the substantive financial burdens of the tax itself—would be

[1] In our view, Smith generally uses the terms "income" and "revenue" as synonymous. Indeed, this is explicitly so often in the same passage, as when he refers to a man who "lives upon his income" generated from an estate and then refers to the same amount as "the revenue of such a man."

necessary for the government to understand and reach individual income.

There are two related themes in Smith's discussion of the impracticality of an income tax. The first is a concern about privacy. As a matter of political culture, the notion of the Crown's agents searching through an individual's business dealings to discern income struck Smith as politically intolerable, perhaps similar to the widely reviled hearth tax of 1662.[2] But the concern about privacy also seems to merge with concerns about administrability. In the eighteenth century, for Smith, there appeared to be no way for the state to see the overall income of any individual without resorting to costly and invasive individual-level inquiries. It would require an individual agent showing up at the estate of an individual taxpayer and conducting, in essence, a kind of adjudicatory proceeding on the total assets and activities that contributed to individual income. Both the privacy and administrability concerns are unified by the term that Smith uses frequently to describe the idea of an income tax: that it would require "inquisitorial" proceedings—the "inquisition more intolerable than any tax."

Smith was hardly alone in these concerns. The early French economist Anne Robert Jacques Turgot had a similar view of individual means-based taxes. For Turgot, a "tax proportional to [an individual's] revenue would have considerable advantages"—among them, providing a more precise dimension for resolving tensions between citizens and the state concerning tax burdens and tax fairness. (Especially, Turgot noted, if the tax in question "fixed one proportion [of taxation] for war and one for peace.") If "it were possible to succeed in establishing a tax like this," he continues, "there could be no hesitation in preferring" it. But he confesses that such a tax "seems completely impossible," since everyone would be "interested in hiding the value of his wealth" that generates the income subject to tax (see Anne Robert Jacques Turgot (2011) p. 198-99). And, as discussed more below, this basic criticism of the income tax—that it was administratively infeasible—remained a prominent criticism even long after early experimentation with the income tax began.

For Smith and others, because income could not be reached, alternative tax bases were needed. Indeed, it was "[t]he impossibility of taxing the people in proportion to their income," in Smith's telling, that "seems to have led to the invention of taxes on consumable

[2] The Act repealing the hearth tax after the Glorious Revolution, I William and Mary, c. 10, declared in the preamble that the tax was "not only a great oppression to the poorer sort, but a badge of slavery upon the whole people, exposing every man's house to be entered into and searched at pleasure by persons unknown to him."

commodities." Why? Because "[t]he state, not knowing how to tax directly and proportionally the income of its subjects, tries to tax it indirectly"—in this case, by taxing "their expenditure, which it is supposed will in most cases be nearly proportional to their income." This is done by "taxing the consumable commodities on which their expenditure is laid out," on the assumption that it "will in most cases be nearly proportional to their income." In this regard, Smith differs fundamentally from how Hobbes had conceptualized the purpose of consumption taxes. In *Leviathan*, Hobbes treats excise taxes as the most equitable form of contribution because they fall on voluntary consumption: The subject pays taxes based on what he spends, and thus bears only a burden that (in Hobbes's telling) he chooses through his own expenditure. ("[W]hen the impositions are laid upon those things which men consume, every man payeth equally for what he useth.") For Smith, by contrast, consumption taxes are a proxy for *ability* to pay.

Indeed, much of the tax-policy discussion in Smith's *Wealth of Nations* is devoted to the idea of proxies for an ideal—proxies developed to avoid the political and administrative hurdles of an individual inquisition. Governments "that have tried to tax the income arising from stock have avoided any severe inquisition," he notes, "by resorting to some very loose and therefore somewhat arbitrary estimation,"[3] In other words, in the presence of administrative difficulties, early governments that had some concern with fairness simply used proxies with a rough connection to ability to pay. Many of these can be regarded as kind of prototype income taxes—implemented to track individual means under conditions of profound administrative limitation.

Such efforts were an attempt to measure economic capacity without measuring income itself. Some of the most widespread of these early proxies include:

Faculty taxes and license fees. Perhaps the simplest method of individual taxation is to count heads and charge a fixed amount per person. In a society with limited administrative capacity and generally low inequality—where individual ability to pay is broadly equal—it may be, as Edwin Seligman once put it, that taxes based on "[m]ere numbers suffice . . . to answer the requirements of justice" (Seligman (1914)). A more complex

[3] When Britain eventually adopted an income tax during the Napoleonic era, it used a formula for taxing deemed farm incomes of the sort Smith criticized. The income tax owed by farmers was based on a ratio of the rent of the land, rather than actual income accrued.

version of this approach is to organize individuals into tiers based on profession or social status—both of which may be understood as rough measures of ability to pay that require little sophisticated administrative apparatus. Observing what kind of shingle hangs over the door (lawyer, doctor, carpenter) is easier and less oppressive than the more specific "inquisition" into means that Smith and his contemporaries feared. As Keen and Slemrod note (Keen and Slemrod (2021) at 98), in the absence of a more sophisticated administrative apparatus, "social rank was a reasonable proxy for potential ability to pay."

Many early means-based taxes adopted this proxy approach. This was one of the earliest forms of taxes used in the American colonies, for example. A 1634 law in Massachusetts Bay provided for the assessment of each individual "according to his estate" (more on that below) but also with "consideration of all other his abilityes whatsoever," an apparent reference to professional status (Seligman (1914)). This early Massachusetts effort was extended in other colonies. A 1650 Connecticut law provided that every inhabitant "contribute proportionally to his ability to all common charges," and distinguished on the basis of "ability" between (among other things) "manual persons," "artists," and the like. Later commenters (e.g., Rabushka (2008) at 182) have rightly described these early faculty taxes as a kind of prototype income tax. But they made no attempt to track actual profits or gains; individuals were simply assessed according to a schedule of fixed amounts based on professional tags. Indeed, some laws in this area seemed to make the explicit connection to administrative ease, such as a Plymouth Colony law that looked to "*visible* estates and faculties" of individuals taxed. These early colonial faculty taxes survived into the state governments and early federal taxes, and were somewhat interchangeable with annual professional license fees. Before the advent of the modern income tax, systems of license fees in the United States became increasingly complex and detailed, requiring different licensing amounts for a wide variety of different professions—including modest annual licensing fees for the likes of auctioneers, bowling alley attendants, and jugglers—among dozens of others.

Land taxes. For much of human history, the most visible proxy for one's ability to pay was land. Land—in contrast to money and other inputs in productive human activity—cannot be moved, and it is easy to see and measure. In Smith's view, a tax on land therefore presented an instructive contrast with the nascent idea of a tax on the more elusive concept of income. In his 1763 *Lectures on Jurisprudence*—echoing themes that he would develop in the following decade in the *Wealth of Nations*—Smith argues that it is "easy to lay a tax upon land, because it is evident what quantity every one possesses," while it is "very difficult to lay a tax upon . . . money without very arbitrary proceedings." This difference in ease translated into difference in administrative expense: "Taxes upon land possessions have this great advantage, that they are levied without any great expense" (Smith (1896)). Before the widespread adoption of the income tax, land taxes were among the most common sources of revenue. In Britain, land taxes have roots in medieval assessments, and a more modern land tax emerged in the late seventeenth century—first imposed by the Land Tax Act of 1692 to fund the Nine Years' War against France—and continued in one form or another for hundreds of years (see Beckett (1985)).

Apportioned taxes. Another tax policy tool that achieved widespread use before the invention of the modern income tax was apportionment: the practice of assigning a tax quota to a local community, and then letting that community figure out for itself how to raise the revenue. When a central revenue authority cannot effectively administer an individual means-based tax—because of administrative hurdles, privacy concerns, or some combination of the two—one plausible revenue strategy is for the central administrator to give discretion to local officials, but limit that discretion with a quota (see Clarke and Wiedenbeck (2025)). In Britain, some form of local apportionment was common between the fourteenth century and the end of the eighteenth, when rudimentary attempts at income taxation began. The apportionment system migrated to many American colonies, where legislatures imposed colony-wide quotas on towns or counties—such as Massachusetts's seventeenth-century military levy—while leaving local officials discretion over individual assessments. Some vestige of this long tradition continues to survive in the apportionment requirement of the U.S. Constitution. But the tradition of apportionment was not limited to Britain and the United States and seems to have been adopted in rough fashion in many other places. As Keen and Slemrod note (Keen and Slemrod (2021) at 99), "taxes have often been set in the form of a quota, with the central ruler fixing an amount to be raised in some locality or region and then leaving it, in effect, to the regional or local elite to decide precisely how to come up with the money."

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In sum, by the late eighteenth century, the financial concept of income had taken form, and the conceptual case for taxing income followed closely behind it. The normative appeal of aligning tax burden with ability to pay enjoyed increasingly wide scholarly approval. Yet, the fiscal state's inability to observe income without "intolerable inquiry" meant that governments relied on cruder proxies—faculty and license fees, land taxes, apportioned quotas—that approximated individual fairness while remaining administratively feasible. Overcoming those barriers would require concrete changes in the economy and in administrative technique that made income visible to the state—changes that would emerge only gradually in the nineteenth century.

4 The gradual success of reaching income

We begin by describing how the income tax, once deemed impossible, was gradually made feasible through wartime experimentation and administrative innovation. We proceed in three stages. First, we trace the British experience during the Napoleonic Wars, when the first self-consciously modern income tax emerged as a temporary fiscal expedient—but established an important framework for later reforms. Second, we follow the nineteenth-century evolution of the British income tax, showing how improvements in withholding ("stoppage at the source") expanded the state's practical reach. Finally, we consider the broader pattern of diffusion, as other countries adopted similar techniques, transforming the income tax from an emergency measure into a permanent feature of fiscal systems across the world.

4.1 The British Income Tax during the Napoleonic Wars

Britain's first experiments with a self-styled income tax in 1798 and 1799 were driven by two distinct pressures. The first was longstanding: dissatisfaction with the imperfections of the proxies used to assess individual means described above. Among other things, the locally apportioned quotas that dated back to the seventeenth century had not been re-equalized, and the burdens fell disproportionately on landowners in poorer counties (Clarke and Wiedenbeck (2025)). The second was more urgent: the extraordinary fiscal demands of the war against France. By the late 1790s, traditional revenue sources—customs duties, excise taxes, and the long-standing land tax—were insufficient to cover the soaring costs of military mobilization and debt service (Sabine (1966)).

The so-called "Triple Assessment" of 1798 was something of an intermediate evolutionary step: not yet an attempt at a broad income tax, but a surcharge on existing assessed taxes—mainly those on luxury goods, servants, carriages, and other visible indicators of ability to pay. The law required taxpayers to pay up to three times the amount of their previous year's assessed taxes, but also gave taxpayers the option to declare their total income if they believed the triple assessment overstated their liability. This measure aimed to raise substantial wartime revenue quickly while relying on the familiar machinery of assessed taxes—though it was criticized for inequities and for encouraging under-declaration of income. Nevertheless, it was self-consciously understood at the time as a step toward an income tax. Indeed, one pamphlet from the era defending the Triple Assessment described it as "the nearest possible mode of taxing individuals according to their real income, without obliging them to disclose what that income is" (Anonymous (1798)).

In 1799, Britain replaced the Triple Assessment with something that more closely resembled a general income tax, levied on all incomes above £60 a year at graduated rates up to 10 percent. Shortly thereafter, in 1803, for the first time—but certainly not the last—the income tax was divided into "schedules" covering different income sources, such as land, professions, trades, and public offices, allowing the state to tailor assessment and collection methods to each category. Unlike the Triple Assessment, the 1799 and 1803 income taxes sought to measure total annual income directly, signaling a move toward a more comprehensive wartime revenue system—though with a sufficiently large exemption to exclude most labor income.

This initial attempt at measuring total income, however, suffered from serious administrative weaknesses. Most importantly, there was no systematic information-forcing mechanism: no routine third-party reporting and no withholding of income at the source of payment. The procedure amounted to little more than self-assessment and self-declaration. Individuals filed a return stating what they believed they owed; only if local officials were suspicious could they demand "a schedule of particulars of property from which his income ought to be estimated" (Parliament (1799)). In practice, enforcement capacity was thin, and few such demands were issued. Moreover, the law imposed narrow rules for deducting business expenses—making no allowance for capital improvements or long-term investment—and thus often overstated taxable income. The yield fell far short of expectations: Prime Minister William Pitt anticipated £10 million in the first year of the new income tax, but collection amounted to about £6 million instead (Seligman (1914)).

Early experience with the British income tax therefore lent some support to the skeptical views of income taxation expressed by Adam Smith and others. The government lacked an adequate administrative apparatus for measuring ability to pay. Prime Minister Pitt himself—both an admirer of Adam Smith and the first income tax's champion—admitted in a speech introducing the income tax, "[i]f the amount of every man's property could be ascertained, it would be a most desirable thing to make the people contribute to the public exigence in proportion to their wealth," but "there existed no means of ascertaining the property of individuals, except such as were of a nature that could not be resorted to." The existing assessed taxes, Pitt believed, were the best "visible criterion" of ability to pay.

This concern—the impossibility of accurately measuring ability to pay—remained a live objection to the British income for many decades. Prime Minister Robert Peel, in his 1842 budget speech, acknowledged "the great objection to the income tax, that which arose from its necessarily inquisitorial character" (quoted in Seligman (1914)). John Stuart Mill, while conceding the "theoretic justice" of the income tax, likewise emphasized in his 1848 *Principles of Political Economy* "the impossibility of ascertaining the real incomes" in "the present low state of public morality." Mill concluded that the income tax "in practice [is] unequal in one of the worst ways, falling heaviest on the most conscientious" (Mill (1848)). The author of the anonymous anti-tax pamphlet *The People's Blue Book* went further, declaring it "manifestly an impossibility ever to impose a tax on incomes . . . which will not be unequal and unjust, and in direct violation of every rule and maxim which should govern taxation" (Tennant (1853)).

These doubts—doubts about administrative capacity to measure ability to pay that persisted even decades after the income tax was first tried—were not confined to Britain.

In Philadelphia in 1787, Gouverneur Morris—one of the most influential delegates to the constitutional convention and the one most responsible for crafting the American Constitution's taxing language—used the lack of administrative capacity to reassure delegates who were skeptical of the potentially broad reach of the new federal taxing power. Morris argued that "[i]t is idle to suppose that the [federal government] can stretch its hand directly into the pockets of the people scattered over so vast a Country" (Farrand (1911)). Historians of U.S. taxation have noted that the temporary Civil War income tax confronted similar obstacles: "The government had no scientific way to measure personal income" (Brownlee (2016)). Even as late as 1883, a state auditor could still report that such taxes "are in the very nature of things attained by processes inquisitorial in character . . . [and] probably never will be properly executed, and consequently [do] not bear equally alike upon all" (Seligman (1914)). Congressman Justin Morrill made the same point in more colorful terms: income taxes are "inquisitorial of necessity in [their] character, and Americans, like people elsewhere, though not averse to a knowledge of the secrets of others, are quite unwilling to disclose their own" (Seligman (1914) at 450).

Administrative weakness was a main reason the British income tax was abandoned at the end of the Napoleonic Wars. Martin Daunton has noted that the first British income tax had particular difficulty "assessing incomes from various commercial and financial activities" (Daunton (2018)). Similarly, Patrick O'Brien has characterized the administration and collection of the first income tax as "amateur and indulgent" compared to the much more professional administration of the excise taxes (O'brien (1988)).

At the same time, the limitations of the British income tax during the Napoleonic era should not be overstated. For much of the war, the income tax produced about 20% of British revenues (see Bank of England (2023)), making it a central source of revenue for the British state in its fight with France and her allies. Historical data also enables us to say something rough about the share of British national production that was subject to tax in this era. We combine–for the first time so far as we are aware–contemporary British records of gross income subject to tax, net income subject to tax, and modern estimates of GDP during the period. We estimate that the total income tax base averaged about 30%

of British gross domestic product during the the Napoleonic Wars.[4]

For some, this is perhaps a surprisingly *high* fraction of national product that the earliest income tax is able to reach. For context, in the U.S. today, the base of total taxable income is around 60% of the national income concept used by the U.S. national accounting system (see Piketty, Saez and Zucman (2018), Clarke and Kopczuk (2025)). In other words, the U.S. income tax system sees and considers about 60% of national income when it calculates taxpayers' ability to pay. The early nineteenth-century British fraction is roughly comparable to developing countries today. For example, in India in 2017, total declared income on tax returns was about 30% of GDP (Hindustan Times (2020)). In addition, as we discuss in more detail shortly, the primary reason the early British tax base fell well short of GDP was intentional: This was a class tax—and, as such, it contained a large exemption that covered the vast majority of labor earnings (and thus a majority of GDP).

4.2 The British Income Tax of 1842 to 1913

By 1842, the income tax was restored—and ultimately proved permanent. The force of Smith's objection waned. By the late nineteenth century, James Gurney Burt could dismiss the claim that the income tax was unjustifiably "inquisitorial" as "no more than dust in the balance" (Burt (1871)). This improvement reflected both the growing professionalism of the government and the steady refinement of administrative tools—most notably the wider use of withholding. By 1896, another influential commenter claimed that "the machinery for assessing and collecting the income tax is much more effective to-day than fifty years ago" (Burns (1896)). By the end of the nineteenth century, a British government report noted (quoted in Seligman on 192) that "the feeling formerly entertained against the income tax system as inquisitorial and oppressive has, we believe, largely died away."

[4] We convert the gross income figures for Schedules A-E in (O'Brien, 2016) to net income using the average ratio of gross income to net income for each of the schedules in 1842-1845, as listed in the Report of the Commissioners of Inland Revenue (1870)). We use GDP estimates in the denominator because historical estimates of national income are not readily available for Britain in this period. Estimates in this area typically compare a taxable income concept to a national income concept (see, e.g., Clarke and Kopczuk (2025)), although there is obviously a close relationship between what a country's produces and what it earns.

4.2.1 Measuring Success

The British income tax in this period looked very different from the one we are familiar with today. In particular, the tax looked much more like a tax on capital income with relatively little labor income being taxed as shown in Figure 1.

In 1842, only 6% of salaries and wages were subject to the income tax. As late as 1913, that number was still only 14%. By contrast, using the GDP estimates of Solomou and Thomas (2023), we find that, by 1842, over 80% of British rents were taxable. By 1913, upwards of 90% of self-employment income and corporate profits were likewise subject to income tax.[5] This contrasts sharply with Piketty, Saez and Zucman's estimate that today in the U.S. roughly 70% of labor income is taxable under the income tax, while only about 25% of capital income shows up directly on personal tax returns (in the form of dividends, interest, rents, and so forth).[6] In other words, the British income tax after 1842 was relatively effective at reaching a large share of national capital income.

The primary way in which labor income was excluded from tax was the large personal exemption of £100 to £150 (depending on the year), as shown in Figure 2. During the entire period, the personal exemption excluded at least 50% of GDP in the form of salaries, wages, and self-employment income below the exemption. The tax remained a levy paid, at least as a statutory matter, only by the rich. As late as 1913, there were only 1.15 million taxpayers (or 5% of potential taxable units, as reported in Atkinson (2002)).

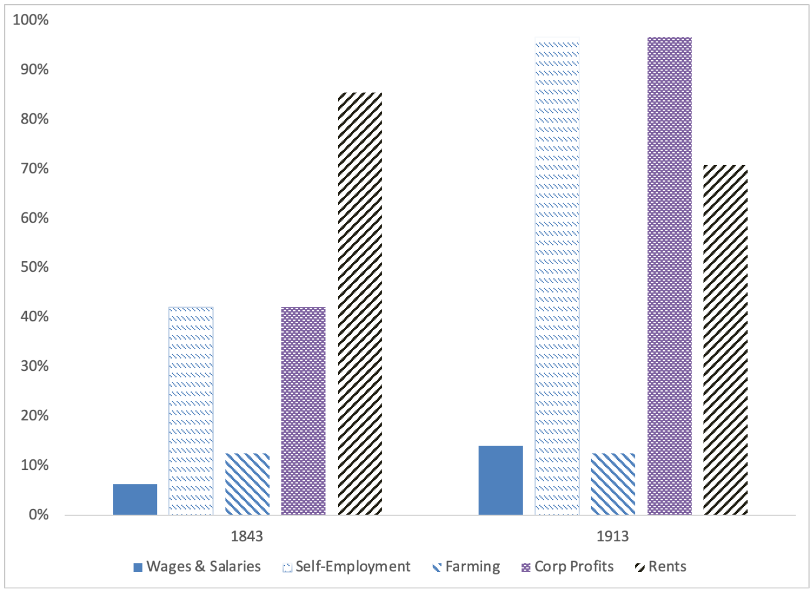
Figure 2 also shows that the tax base as a fraction of GDP expanded slowly over this period, going from about 35% at the start of the period to 45% by the end. The primary driver of this increase is the estimated decrease in evasion by the self-employed and of corporate profits over time in Solomou and Thomas (2023)'s data (which is the declining dark maroon slice in Figure 2).

The data also suggest that as a class tax, the income tax filled an important gap that

[5] Some important caution is warranted in comparing the tax statistics to the GDP statistics which are drawn in large part from the tax statistics themselves. The primary mechanism which increases the fraction of self-employment and corporate profits subject to tax from 1842 to 1913 is the authors' estimates that tax evasion fell substantially over the period from about 50% to about 5%, but to our eye that conclusion is based on fairly thin evidence. With that said, the general takeaways are unlikely to be reversed by different assumptions about evasion etc.

[6] After factoring in corporate tax returns, that fraction rises to close to 50% in Piketty, Saez, and Zucman's data with the rest being untaxed owner-occupied housing and pensions.

Figure 1: Fraction of Income Taxed By Source in the British Income Tax

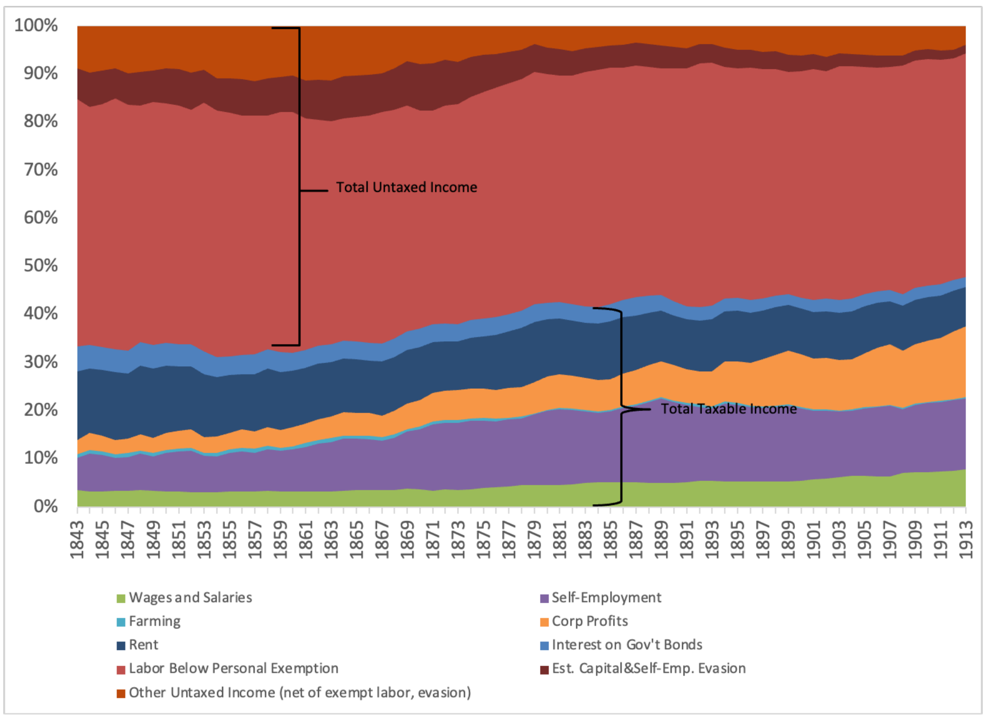


Note: This figure shows the share of different income sources on British income tax schedules that the income tax reached in both 1843 (the first full year after the income tax was reintroduced) and 1913 (when the First World War further transformed the British fiscal state). See appendix for details.

emerged as the British economy shifted over time. As noted earlier, the land tax was an integral source of government income: it composed about 40% of central government receipts in the first decade of the 18th century. The land tax was also one whose (statutory) incidence was on the wealthy. As the British economy grew and shifted toward increasing industrial and service-based production, however, the fraction of wealth in land would have dropped, with the fraction in the form of bank accounts or equity or debt in a business rising sharply. As a proxy of that, we show in Figure 3 the fraction of British domestic product arising from agriculture and the ownership of houses. These represent the portion of economic activity a land tax could reach most directly. As shown in that figure, there is a rapid fall in this measure over the course of the 18th and 19th centuries.

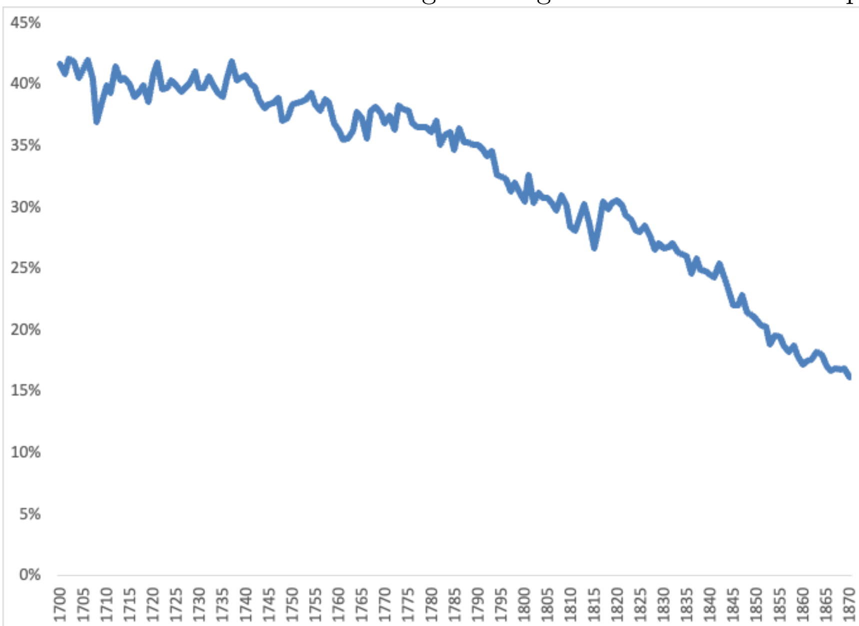
In general, during this period, income tax rates were quite low compared to modern periods—with British rates rising to about 6.67% in 1856-1857, and generally well below that. Given the relative stability of our estimates of the tax base as a share of GDP, the primary driver of changing income tax revenue as a share of GDP—as shown in Figure 4—is the change in tax rates.

Figure 2: Sources of Taxable and Untaxed Income as a Fraction of British GDP



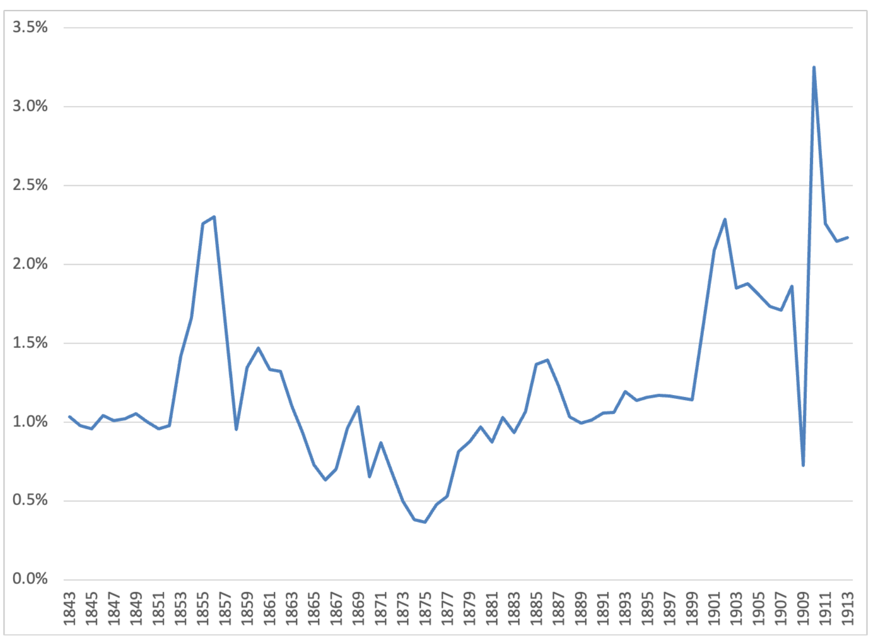
Note: This figure shows the share of British national income (estimated from historical data) that is taxable between 1843 and 1913, with taxable and untaxed further divided into categories either in the historical national accounts data or the schedular income tax categories. See appendix for details.

Figure 3: Fraction of British GDP Accruing from Agriculture and Ownership of Houses



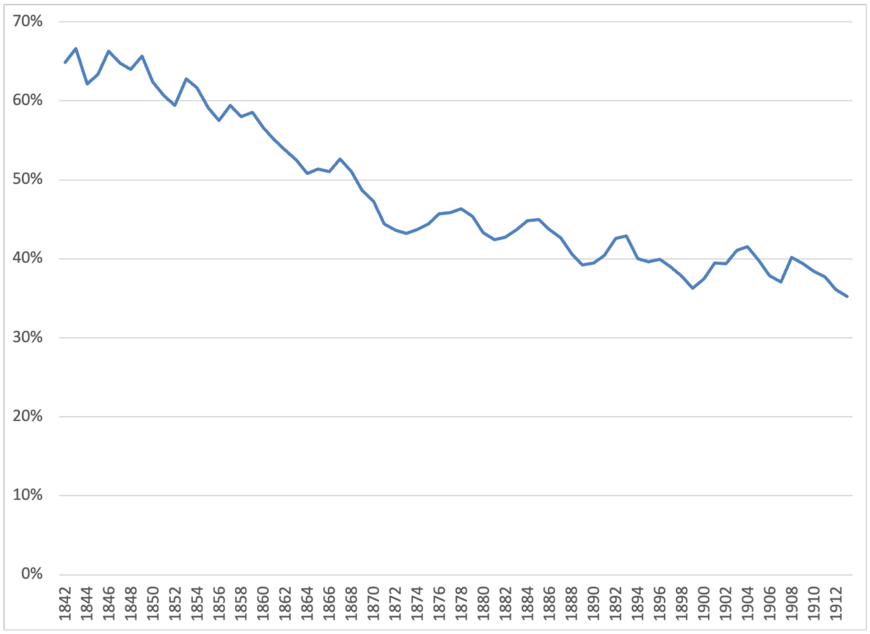
Note: This figure shows the share of British gross domestic product (estimated from historical data) that arises from agriculture and ownership of houses as a proxy for the declining share of wealth or income reachable by a land tax.

Figure 4: Income tax as a Fraction of GDP, British Income Tax



Note: This figure shows national income tax revenue as a share of GDP.

Figure 5: Fraction of Income Tax Withheld at Source in British Income Tax



Note: This figure shows the percentage of British taxable income that is subject to withholding. See appendix for details.

One of the sources of the success of this income tax (which we discuss in more detail in the next section) was the invention, use, and gradual expansion of withholding—or "stoppage at the source," as it was called. As shown in Figure 5, the British managed to withhold a large fraction (over 65%) of income tax at the source at the start of the period. This is similar to what we see in the U.S. today. [7] It is particularly impressive because the British tax base was mostly capital income, a category of income on which there is less withholding in the U.S. today than for labor income.

In the earlier part of this period, a larger fraction of taxable income came from rents, interest on government securities, and government offices on which withholding was mandatory, with limited exceptions.[8] As the period progressed, a greater and greater fraction of

[7]In FY 2020, non-withheld income tax payments made up about 19% of total federal tax revenue according to Reuters, which implies it was 37% of income tax revenue, implying withholding was 63% of income tax payments in that year Reuters (2020)

[8]For simplicity, we assume that all income on Schedules A-C and E was withheld, while none was withheld on Schedule D. In fact, in some cases in Schedule A there was no withholding. This would occur when a person occupied real property they owned themselves. By contrast, in some cases in Schedule D there would have been withholding. This would happen with interest payments or corporate dividends. While our analysis is thus a rough approximation, we think it to be useful and hope to try to refine it in the future if data allow division of Schedule A and Schedule D income into sub-categories on which we can tell whether

income came from "Schedule D" which was a residual category covering self-employment profits, corporate profits and dividends, and interest (other than from government securities). There was limited withholding of Schedule D income, which came primarily from self-reported profits of businesses (self-employed, partnerships, and corporations). The net result fraction of withholding actually likely decreased meaningfully during the study period, though it remained considerable, even by the end averaging around 40%. Still, stoppage at the source was considered a cornerstone of the tax system: a 1906 select Parliamentary committee found that "[t]he limits of prudent extension [of tax progressivity] would be reached when a large increase in the rate of tax to be collected at the source was necessitated and the total amount which was collected in excess of what was ultimately retained became so large as to cause serious inconvenience to trade and commerce and to individual taxpayers...Abandonment of the system of 'collection at the source' and adoption of the principle of direct personal assessment of the whole of each person's income would be inexpedient."

4.2.2 What changed? A brief history of withholding

In this section, we discuss factors that led to the relative success of the British income tax in the nineteenth century. We also discuss similar trends that can be seen in the history of the United States income tax.

One standard answer given by historians is the general rise in the competence of the administrative state (Sabine (1966), Seligman (1914)). It is no doubt true that the general expansion and professionalism of government—the rise of the modern administrative state, the expansion of a professional salaried bureaucracy, the growing robustness of general rule of law values—also affected the professional administration of the income tax. But there is also nothing specific to the income tax about this trend; put differently, the general competence of government may be a necessary but not sufficient explanation for the rise of income taxation across the nineteenth century. Can anything more specific to income be said?

Our goal here is to highlight—and, at this early stage, theorize and hypothesize about—changes in the real economy and in tax administration that made the income tax more legible

withholding likely occurred.

to the government.

A particular focus is economic changes that enabled third-party withholding—the practice of collecting tax at the time income is paid by someone who deducts the tax from the payment and remits it directly to the government on the recipient's behalf. This is typically done by employers today, but can also apply to other payers. Withholding (and third-party reporting) are now understood to be a key component of the efficiency and administrative success of the income tax. As Keen and Slemrod (2021) note, "[i]t is much more efficient to collect the money from employers or other enterprises making payments, as they can handle remittance as part for their payment process. And it is easier for the tax administration to pursue a relatively small number of recalcitrant employers than to go after each evading employee."

Today, we are inclined to think of the central focus of withholding as being salaries and employers. But the history of withholding suggests a complex story that leads up to this point. A particularly important potential reason for the spread of withholding is the rise of large financial institutions—often subject to the oversight and control of the government—and then later the rise of large firms. Both sets of large institutions enable the more efficient collection of income.

The spread of tax withholding also mitigated the main initial objections to the income tax—that it required intrusive and administratively cumbersome inquisitions into personal finances—by shifting the point of assessment from the individual's private accounts to the transaction in which income was generated. By reducing the need for direct inquiries into taxpayers' affairs and concentrating enforcement on a smaller number of intermediaries, withholding both eased administrative burdens and blunted the privacy objections that had long dogged the tax. The alternative before this, recall, was some kind of self-certification—which had limited effectiveness.[9]

To our knowledge, in the context of an income tax, the first limited form of withholding was introduced in Britain in 1803. While this initial effort at withholding applied to only a modest percentage of "income" in the economy as a whole, it was a sufficiently large

[9]One early state income tax that relied on self-certification was (in the words of that state's attorney general) regarded as "a farce" that is "not workable or practicable for lack of machinery to make it work" (Seligman (1914) at 418).

innovation that the law was accompanied by a pamphlet explaining the new theory, called "stoppage at the source" (Great Britain. Commissioners for the Affairs of Taxes (1803)). The principle here was that the tax would be laid "as far as possible, upon the source of the income; that is, upon the person who paid the sum which became the income of the party in question."

But, while the law intended stoppage at the source to apply "as far as possible," the schedules of the 1803 law suggest interesting limits to its application that contrast with the scope of withholding today, and tell us something about the administrative constraints of the early income tax. There was, for example, no withholding for salaries. Instead, the early categories of withholding seem to follow a particular logic of applying to large institutions and certain categories of easily observed or verifiable sources of income. (As we explain below, these basic trends also applied in other jurisdictions that developed a nascent withholding framework.)

Rents on real property. Under the 1803 law, tenants were required to pay the landlord's property tax liability directly to the tax authorities and then deduct that amount from the rent otherwise owed. This arrangement ensured that the tax on rental income was collected "at the source," using the tenant as an intermediary and relieving the government of the need to assess and collect it from the landlord after the fact.

Government salaries and similar payments. Government departments and other public bodies (such as certain publicly chartered corporations) withheld the tax due on salaries and pensions before making payment to recipients.

Dividends and interest payments from large financial institutions. The law required banks, public funds, and other large financial institutions (publicly chartered companies like the South Sea Company) to deduct the tax before making payments to investors. The institution then remitted the deducted amount directly to the revenue authorities, meaning the taxpayer received only the net sum and the state collected its share "at the source" without relying on individual returns.

These income types appear to offer some distinctive administrative advantages. First, each involved a clear payer—either fixed and easily identifiable (e.g., a tenant on a plot of land) or large and subservient (e.g., a government department or a public corporation)—who could be readily identified and compelled to withhold before disbursing income. Second, the payments were predictable in both schedule and amount, making the withheld portion easy to calculate and verify. Third (and as explained above), landlords, the Treasury, and large corporations already kept detailed records of what was due and paid, allowing tax authorities to piggyback on existing accounting systems. Fourth, the underlying income sources—real property rents and registered securities—were relatively fixed and visible, reducing opportunities for concealment. Finally, the state had direct legal leverage over many these intermediaries—through public service hierarchies or corporate charters—and could therefore ensure a relatively high degree of compliance.

While not broadly applicable to wages, this initial effort at withholding appears to have been successful. According to Seligman (1914), the introduction of withholding roughly doubled the revenue collected at little administrative cost. Moreover, Figure 5 shows that already upon resumption of the tax in 1842 Britain reached a fraction of tax revenue that was withheld that is not far out of line with modern income taxes.

This basic theory also seems to have applied to other early brushes with the income tax. The first consideration of the income tax in the United States, for example, would have limited the applicability of that tax to "all salaried officers, and on the professional income of lawyers, solicitors, and counsellors, and on the legal proceedings of courts of justice" (United States Congress (1832)). Again, the administrative logic is straightforward: these payments originate from a reasonably centralized source under government control, allowing easy withholding before funds reach recipients. When the United States first introduced a prototype income tax during the Civil War, the first effort at withholding followed a similar logic; the 1862 income tax, for example, applied withholding first to the salaries of government employees (United States Congress (1862)).

4.2.3 The expansion of modern withholding: large firms and some speculation

For withholding to spread even more broadly, however, it required something else: large corporations. To our knowledge, the first efforts at withholding at the corporate level applied (in the 1860 British income tax) to a distinctive kind of corporation: the railroad. Railroad corporations were likely the first truly large-scale, managerial enterprises in both

Britain and the United States (see Chandler (1965)). In Britain, the mid-1840s “Railway Mania” produced hundreds of millions of pounds in new capital expenditure and created vast firms that employed tens of thousands by mid-century and set the template for large joint-stock enterprise (see Clapham (1926)). In the United States, they quickly became the biggest corporate employers: by 1870 railroads employed more than any other non-farm sector (Licht (1983)).

In Britain, the scope of withholding expanded in step with the growth of large corporate enterprises. By 1860, railway profits were assessed directly by the Commissioners for Special Purposes, and the tax on the salaries of railway officials and employees under Schedule E—also assessed by the Special Commissioners—was remitted by the company itself (see Seligman (1914) at 156). Railways were thus among the first large-scale, non-governmental employers to become routine tax intermediaries, illustrating how centralized payroll and accounting systems could make stoppage at the source both administratively feasible and fiscally productive.

A similar pattern appeared in the United States during the Civil War income tax. As Seligman notes, the 1864 law’s dividend and interest tax, as well as its salary tax, were functionally a part of the income tax and thus embodied the withholding principle to some extent. But the American application was narrow, but in a way that tracks the basic logic described above: withholding was limited to federal salaries and to securities of a few specified classes of corporations (banks, insurance companies, and—once more—railroad companies) (see United States Congress (1864)). [Details here need to be checked and explored further.]

The railways’ role was significant not only because they were early adopters of large-scale withholding, but also because their operational complexity spurred advances in accounting technology. The late nineteenth century saw the development of depreciation accounting and more sophisticated treatments of business losses—innovations closely associated with the reporting needs of large enterprises and readily adaptable for tax administration (Seligman (1914) at 177–78, 190–92). In this way, the rise of large firms did more than supply the state with convenient collection points: it also produced the very accounting tools that made income a more visible, verifiable, and administrable tax base. [Likewise needs to be checked and expanded, but generally it seems to be the case that early income taxes had no sophisticated way of dealing with costs, losses, or capital expenditures; these things seem to arrive at the end of the nineteenth century when accounting technology became more formalized.]

4.3 Other Countries

While our discussion above focuses on developments in the early British income tax and related developments to the United States, a few words on international comparisons are in order.

First, many of the overall trends appear highly similar. In Table 1, we show rough trends in the dates of temporary and permanent income tax adoptions in select countries, based on an expanded version of what appears in Aidt and Jensen (2009). Across Europe and the wider industrial world, income taxation emerged first as a temporary wartime expedient—often struggling in initial practice—and only later as a permanent fiscal instrument. By the early twentieth century, every major European power had some form of permanent income tax.

Today, income taxation is effectively universal among developed economies. In Table 2, we show the importance of the income tax to the twelve largest OECD economies, both in terms of national tax revenue generated—all of these economies rely on the income tax for at least a quarter of their tax revenue—and as a share of national GDP. The twelve largest OECD members each derive at least one-quarter of total tax revenue from income taxes, and the income tax typically accounts for between 11 and 18 percent of GDP. This convergence masks considerable variation in composition—some, such as Australia and Canada, lean heavily on personal income taxes, while others, such as France or Japan, rely more on social-security contributions—but the broader pattern is unmistakable: the income tax has become the fiscal backbone of modern, developed democracies.

What about our specific story on the rise and gradual spread of withholding? While a full global consideration of the history of withholding is beyond this draft, we offer a few details of some of these early adopters—France, Austria, and Italy—that seem to support our overall hypotheses about the rise of the income tax and improvements that make income

Table 1: Adoption of the Income Tax in Selected Countries

Country	Temporary Adoptions	Permanent Adoption
United Kingdom	1799–1816	1842
United States	1861–1872	1913
Austrian Empire	1811	1849
Italy	None	1864
Norway	1809	1892
Netherlands	1797	1893
Sweden	1809–12	1902
Denmark	1789, 1809, 1848, 1864, 1867	1903
France	1793	1911
Germany	1808	1920
Belgium	1797	1922
Switzerland	1915–19, 1934	1941

Note: This is based on an expanded slightly modified version of what appears in Aidt and Jensen (2009).

Table 2: Share of Total Tax Revenue from Income Taxes (selected OECD)

Country	% of Total Tax Revenue	Income Taxes (% of GDP)
United States	51	14.2
Japan	33	11.2
Germany	33	13.1
United Kingdom	38	13.4
France	27	12.5
Italy	33	14.0
Canada	50	17.5
Korea	38	11.9
Spain	31	11.8
Mexico	33	7.7
Australia	62	18.3
Netherlands	32	12.5

Note: Middle column shows taxes on income, profits and capital gains as a share of total tax revenue in OECD statistics. The right column shows the same category as a share of national GDP.

legible to the government:

France. The history here is complicated; there was no real withholding in France until somewhat recently. But during the War of the Spanish Succession, Controller-General Nicolas Desmaretz—confronting a fiscal emergency—ordered deductions at the treasury from payments the crown itself made, notably rentes (annuities), pensions, and gages (state salaries), creating a wartime, at-source collection that functioned like proto-withholding. Poncet (2019), McCollim (2012). France's modern income tax—the *impôt sur le revenu*—was created in 1914 and operated on a declaratory/assessment basis rather than withholding. But withholding at source for capital income pre-dated 1914 under the impôt sur le revenu des valeurs mobilières (IRVM, 1872), where distributions were "retenues sur le coupon" (withheld on the coupon) for certain income (including interest and dividends).

Austria. Austria's first proto–income tax (the *Klassensteuer* of 1811) was assessed rather than withheld. The *Klassensteuer* was based on presumptive or declaratory income classes rather than actual receipts. Taxpayers self-declared or were locally assessed; we are aware of no withholding mechanism. The 1849 *Einkommensteuer*—the first comprehensive Austrian income tax—introduced withholding for certain government salaries. Withholding gradually spread during the second half of the nineteenth century, starting with interest and dividends. Withholding became more universal in the twentieth century.

Italy. The first Italian income tax was established in 1864, shortly after unification. This tax followed the British schedular model and generally functioned largely on the basis of self-declared income. But, by 1870, public salaries were subject to withholding (see Manestra (2010) at p. 34). In 1877, a limited additional form of withholding was at least contemplated for certain forms of capital income.

5 Some Implications

We conclude by offering a few thoughts on why this history and theory matters. At this preliminary stage, we offer three sets of thoughts—though we are certainly open to developing more.

5.1 The definitions of income

Today, the concept of "income" that economics and legal scholars are most accustomed to thinking about—for both economic measurement and tax law and policy—is the concept of Haig-Simons income, named after the work of American academics Robert Haig (see Haig (1921)) and Henry Simons (see Simons (1938)). Broadly, Haig-Simons defines personal income as all increases in one's ability to save or consume gained in the relevant administrative time period. But there is a 200-year history of debating the income tax before Haig and Simons write. Some legal definitions of income for the purpose of the income tax—like the 1814 proposal in the United States to impose an income tax that would have applied only to lawyer income and government salaries—are a far cry from a comprehensive Haig-Simons definition. But this may also suggest the perils of looking to legal history for a definition of income—a tax that the U.S. Supreme Court has recently expressed interest in—given that the scope of early income-tax law was self-consciously styled under conditions of great practical constraint. In short, the fact that income is for centuries not a fully reachable goal—critics long noted that it was not possible to reach this or that element of it—should serve as a warning to those who look to moments in law and history to define income.

In addition, one lesson of this history is that income is always a kind of aspirational concept, with its full potential never quite reachable as a result of practical difficulties. Adam Smith does not define income, and there are no early treatise-length treatments of the concept that may help shed light on it (unlike, say, wealth or capital). But Smith is interested in income because of the ideal that it represents—the best measure of ability to pay. Any attempt to define income today should also keep this fact in mind—that the reason income is of interest in early tax-policy discussions is precisely because it is thought to be coterminous with ability to pay.

5.2 The evolution of tax legibility

Second, the story of the income tax is a story in which administrative obstacles are overcome—in a sense, the story of the slow defeat of Adam Smith's view that income taxes were impossible. Smith and others identified a tax policy ideal that they thought unreachable; gradually, commercial practice and administrative technology developed to the point where it became reachable, and a new tax base was developed.

This is surely an instructive story: the available tax bases—and the degree to which a particular tax base may be available—are not static things. We may regard other tax bases (such as wealth, or a realization-free income tax) as difficult today, but the availability of the tax base may change with changes in the economy and administrative technology. It may be, for instance, that changes in administrative technology render realization no longer a matter of administrative convenience.

5.3 The development of tax systems

Finally, the general story of the income tax may tell us something about the evolution of tax systems more broadly, and may have particular relevance for developing economies. One set of research questions in public finance concerns why developing countries have tax structures that are dramatically different from tax policy in developing countries—with relatively low taxes on labor and with taxes occupying a relatively low share of GDP (see in particular Gordon and Li (2009)). In certain respects, the British case looks similar—and may therefore supplement the existing story about developing countries.

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A Data Appendix

This appendix offers a general overview of our data sources and some more description of how each of the figures and tables are constructed. [For the time being this is brief.]

In general, our historical income side GDP estimates for Britain are from Solomou and Thomas (2023), who recently updated Feinstein's original estimates of the years from 1841 and 1920 (though we stop our series at the start of WWI when the income tax system was transformed). Solomou and Thomas (2023) also reports a variety of British income tax data, which we supplement as needed with primary source data from the Reports of the Commissioners of the Inland Revenue, including about the period 1799-1815.

We also use data from the Bank of England (2023) for GDP estimates prior to 1841, expenditure side estimates of GDP, data on non-income tax central government receipts and sundry other data series.

In Figure 1, taxable wages and salaries are government salaries taxable under Schedule E and the salaries exceeding the personal exemption taxable under Schedule D. The economy-wide denominator for wages and salaries includes those taxable payments as well as estimates of wages and salaries excluded by the personal exemption in Solomou and Thomas (2023). Taxable self-employment income comes from the portion of Schedule D net income flowing from that source, while the denominator includes that income as well as estimates of self-employment income below the personal exemption and evasion. Taxable rents come from the net income under Schedule A, while the denominator includes those rents, as well as various untaxed rents, including the imputed rent for public and charitable buildings minus depreciation (which was generally not allowed as a deduction under the income tax). Finally, taxable corporate profits come from Schedule D, while the economy-wide figure includes estimates of evasion, depreciation and the untaxed yearly surplus of charities and co-ops.

In Figure 2, is based on the same data as Figure 1, with the taxable and non-taxable series follow the definitions laid out in Figure 1.

In Figure 3, we rely on Bank of England (2023)'s estimates of gross value added by sector in Table A.15 which in turn are derived from Broadberry et al. (2015). The Bank of England (2023) data are reported by sector relative to 1700 and do not contain direct information on the sector sizes in that year. We infer those sector sizes using the growth rates in the "Spliced Index" (which are based on Broadberry et al. in this period). We pin down sector sizes using 2013 as the base year from Table A.14 and the growth rates from the Spliced Index for each sector going backward in time.

In Figure 4 we rely just on the Solomou and Thomas (2023) estimates of income-side GDP and income tax revenue as listed in the Bank of England (2023) Table A.27.

Figure 5 relies just on the British tax data reported in Solomou and Thomas (2023) and supplemented with hand collected data from the Reports of the Commissioners of Inland Revenue on Schedule B and E data not in that dataset.

The two tables in the paper are based on Aidt and Jensen (2009), supplemented with our own historical research, and OECD data on income taxes and GDP.