Dissecting the Sinews of Power: International Trade and the Rise of Britain's Fiscal-Military State, 1689–1823

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We evaluate the role of taxes on overseas trade in the development of imperial Britain's fiscal-military state. Influential work, for example, Brewer's *Sinews of Power*, attributed increased fiscal capacity to the taxation of domestic, rather than traded, goods: excise revenues, coarsely associated with domestic goods, grew faster than customs revenues. We construct new historical revenue series disaggregating excise revenues from traded and domestic goods. We find substantial growth in revenue from traded goods, accounting for over half of indirect taxation around 1800. This challenges conventional wisdom, attributing the development of the British state to domestic factors. International factors mattered, too.

British expansion from the seventeenth to the nineteenth centuries established a global empire and set the stage for the emergence of modern economic growth. In those centuries, Britain's capacity to wage and win wars relied on the expansion of the fiscal capacity of its state (O'Brien 1988). Where did Britain get the revenue required to pay

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for its ships and men, and to repay the debts it incurred in fighting its wars? Historical scholarship on the development of the British fiscal-military state—most notably Brewer's (1989) *Sinews of Power*—has emphasized the importance of increased indirect tax revenue, in particular excise revenue. The excise tax has been treated by many historians as a tax on goods produced (and consumed) *domestically*. The importance of excise tax revenue suggests a central role for revenue generated from domestic economic activity, as opposed to revenue generated from overseas trade passing through customs. The emphasis on domestic taxation also suggests a primary role for an excise bureaucracy described by Brewer (1989, p. 82) as "a body of men widely regarded as the most proficient revenue officers in government." These officers traveled the British counties, in contrast to customs officers concentrated in ports. This account rhymes well with a broader literature that considers domestic institutions to be the primary drivers of Britain's development (e.g., North and Weingast 1989; Acemoglu, Johnson, and Robinson 2005; Acemoglu and Robinson 2012). This perspective continues to influence the literature on the political economy of historical development (e.g., Besley and Persson 2011; Acemoglu and Robinson 2019; Koyama and Rubin 2022; Angelucci, Meraglia, and Voigtländer 2022).

In this paper, we challenge the conventional wisdom emphasizing domestic forces and institutions. Although often overlooked, the excise was a tax on goods produced and consumed domestically, and *also* on goods traded overseas (henceforth, "traded" goods). O'Brien (1988) observed that excise revenue included taxes collected on traded goods, but incorrectly believed that this began only around 1790.[1] In fact, from its inception in the seventeenth century, the excise tax was applied to both domestic and traded goods. Its collection occurred not only in the interior of Britain, but also in its ports—especially the port of London.[2] Evaluating the role of traded goods in Britain's increased tax revenues thus requires richer data than those that have been used in the literature. In particular, one needs time series that are more disaggregated than the coarse categories (e.g., "Customs," "Excise," "Stamps," …) reported in

[1] O'Brien (1988) writes in the note to his table 4, "In the late 1780s, Pitt transferred a large part of the responsibility for the assessment and collection of duties on foreign spirits, tea, tobacco and wine from Customs to the Excise department." The primary sources we reference, along with the data collected by Hoppit (2017), make clear that these goods were taxed under both customs and excise as far back as the seventeenth century.

[2] Hoppit (2017) presents snapshots of excise revenues collected in London, suggesting that taxes on traded goods like tea, tobacco, and foreign spirits made up a significant share of excise tax revenue across the eighteenth century.

the primary source relied on by the reference work on Britain's fiscal development (Mitchell 1988; Brewer 1989).[3]

We construct such disaggregated data from sources in the National Archives (TNA) collection "Records of the Board of Customs, Excise and Customs and Excise, and HM Revenue and Customs" (these are referenced under *CUST 145*).[4] These sources allow us to calculate yearly excise revenue raised *by commodity*.[5] Thus, we can decompose the excise revenue according to whether the good being taxed is produced and consumed domestically (henceforth "domestic"), or instead produced abroad but consumed domestically, or produced domestically but consumed abroad (i.e., goods imported or exported or "traded"). We also construct new disaggregated customs revenue series that allow us to identify customs taxes on traded goods as well as customs taxes on domestically-produced coal. To construct the customs revenue series, we relied primarily on the National Archives collection "HM Treasury – Accounts and Ledgers" as well as the collection "Board of Customs: Statistics: Revenue."[6]

That domestically-produced coal was taxed at customs is further evidence that the distinction between customs and excise reflected the management of the tax collection process, not the origin of the goods being taxed. This is clear when directly consulting the primary sources. These sources, however, present several challenges that perhaps contributed to historians' longstanding reliance on secondary, more aggregate sources. The archival sources often present revenues at different levels of aggregation and often have ambiguous labels. For example, *CUST 145/22* includes a category labeled "Excise," which is evidently not all of the traditional excise (i.e., that reported by Brewer (1989)), because it also lists categories like "soap" and "candles" separately, which are part of the traditional excise. The "Excise" subcategory in *CUST 145/22* is disaggregated in *CUST 145/12*. Yet, it is clear that *CUST 145/12* alone is insufficient because it leaves out categories like soap and candles that are reported in *CUST 145/22*. Thus, constructing a comprehensive excise

[3] Mitchell's and Brewer's historical source was a compilation produced for Parliament in the second half of the nineteenth century, "Accounts of public income and expenditure 1688–1869," (PP 1868–9, xxxv), referenced by Brewer as "British Parliamentary Papers, vol. 35 (1868–9)." This is also the source relied on by O'Brien (1988), referred to as the "Chisholm Report."

[4] This collection is part of the larger set of documents stored at the British National Archives, "Board of Customs and Excise and predecessors: Excise Duties, Receipts, Payments and Rates." We rely primarily on *CUST 145/8, CUST 145/12, CUST 145/18, CUST 145/20,* and *CUST 145/22.*

[5] In addition to producing and making available our constructed revenue series, we will make publicly available the transcribed primary source data as well as statistical software packages needed to convert these primary source data into final series.

[6] We primarily rely on *T 35/55, T 38/357,* and *CUST 37/50.*

series disaggregated by product requires careful cross-referencing of categories across primary sources.

In some cases, categories may be too broad to allow unambiguous assignment into domestic or traded categories (e.g., salt and vinegar). We thus construct estimates of disaggregated excise revenue reflecting conservative assumptions regarding the revenue raised from traded goods. For example, we compute revenues collected on salt as domestic, though some salt was certainly imported. Nor do we make an effort to decompose the tax revenue on domestically-produced goods with a traded component to their value added. For example, taxes on domestically processed textiles are treated as domestic taxation even when the main input (e.g., a less processed textile) was produced abroad and represented a significant share of the value added.[7]

Using our newly constructed data, we re-evaluate the contribution of taxes on overseas trade to Britain's indirect tax revenue.[8] Even under our conservative assumptions, these data overturn the conventional wisdom regarding the importance of taxes on overseas trade to Britain's fiscal development. The data in Mitchell (1988) and Brewer (1989) suggest that in the early eighteenth century, taxes on traded goods represented a *minority*—around 40 percent—of total indirect taxes (i.e., taxes on both traded and domestically produced goods). Over the eighteenth century and into the early nineteenth century, total revenues greatly expanded, and Mitchell (1988) and Brewer (1989) suggest that the tax share of traded goods fell in this period to around 30 percent of total indirect taxes. In contrast, our series show that the tax share of traded goods *grew* from around 40 percent of indirect taxation early in the eighteenth century to more than 50 percent around 1800. During the first quarter of the nineteenth century, traded goods provided a *majority* of the revenue from taxed goods. This share further increases if we account for revenues collected from traded goods and then used to subsidize exports and promote other national objectives (i.e., revenues spent on "bounties").[9] The increase in

[7] We leave for future work a more complete accounting of the role of trade in the rise of the British state and the British economy. This would require not only addressing the challenges noted earlier, but also more precisely estimating spillovers across sectors and the dynamic consequences of trade for the British economy.

[8] Our focus on indirect taxation follows Brewer (1989), who writes, "[After 1714,] indirect taxes, most notably the excise, were overwhelmingly the most important source of the state income." The importance of indirect taxation to British revenues in the eighteenth century is reflected in Online Appendix Figure B.1 (reporting data from Mitchell (1988)), showing that indirect taxation accounted for 50 percent or less of total British tax revenue in the late seventeenth century, while accounting for two-thirds or more of total revenue in the eighteenth century.

[9] The revenues used for bounties did not reach the Exchequer and so were excluded from the revenue figures in Mitchell (1988) and Brewer (1989).

revenues from traded goods from 1689 to the early nineteenth century accounts for more than half of the overall increase in indirect tax revenues. Tax revenues from overseas trade thus represented a substantial component of the fiscal expansion that funded Britain's imperial dominance.

Our analysis makes several contributions to the literature on British and global economic history. Most directly, we contribute new data on British revenues over time that improve upon the standard references (Mitchell 1988; Brewer 1989). We join Hoppit (2017) in arguing against the traditional treatment of excise as taxation of domestic production and provide improved, disaggregated data on both excise revenue and customs revenue from 1689 to 1823. In so doing, we contribute fundamental new evidence to the literature analyzing Britain's fiscal development in the seventeenth–nineteenth centuries (e.g., O'Brien 2011; Murphy 2013; Cox 2016; Dickson 2017).

Our disaggregation of the excise allows us to connect Britain's rising fiscal capacity in the eighteenth and nineteenth centuries to specific goods traded overseas. We show that the taxation of products with inelastic demand—so-called "drug foods" (Mintz 1985)—provided a large share of Britain's rising tax revenue. Trade in many of these products, for example, tea, tobacco, coffee, spices, and sugar, was supported by the application of Britain's coercive power—whether directed toward the colonized or toward competing powers. Taxation of these "imperial" goods accounted for over 50 percent of revenues collected from traded goods as of 1818.[10] Thus, we add to a literature that emphasizes the importance of trade and colonies to the development of the modern Atlantic economies (e.g., O'Brien 1982; Pomeranz 2000; Acemoglu, Johnson, and Robinson 2005; Findlay and O'Rourke 2007; Palma 2016; Hersh and Voth 2022).

More broadly, by placing international trade at the center of the fiscal changes experienced in Britain in the seventeenth–nineteenth centuries, our descriptive evidence has important implications for our understanding of both the domestic and international dimensions of British state development. Domestically, our findings suggest an important role for tax collection by a traditional bureaucracy based in ports, with a particular concentration in London (this reinforces the argument made by Hoppit (2019)). This is distinct from the narrative in Brewer (1989), which emphasizes revenue collection by excisemen across Britain's interior

[10] We define a conservative set of imperial goods, including tea, tobacco, coffee, other habituation goods (such as pepper and other spices), and sugar. This set accounts for 50 percent of revenues from traded goods. This fails to account for the contribution of rum, which is included with other foreign spirits in our data. When we include revenues from foreign spirits, the share of revenues from traded goods coming from imperial goods rises to over 60 percent.

at myriad points of consumption. Internationally, we show that overseas trade contributed substantial means to building the fiscal capacity of Britain during an era in which war among European nations in the sixteenth to nineteenth centuries shaped the rise of modern states (Tilly et al. 1975; Bonney 1999; Dincecco 2011). Wars matter because they induced investments in fiscal capacity that could then be used to fund a growing state that supported the economy (Besley and Persson 2009). As war became more costly, it was the states able to raise more revenue that prevailed (Gennaioli and Voth 2015; Cantoni, Mohr, and Weigand 2022). Identifying the sources of Britain's fiscal strength is pivotal to understanding the process of the formation of the state that was victorious in this geopolitical competition.

Because much of the trade that shored up Britain's fiscal capacity was conducted within the institutional context of the British Empire, our work relates to the literature that emphasizes the role of empire and coercion in the historical development of capitalism (e.g., Williams 2021; Findlay and O'Rourke 2007; Beckert 2014; Levy 2021; Heblich, Redding, and Voth 2022).[11] These authors consider that a strong fiscal-military state helped Britain dominate trade. Findlay and O'Rourke (2007) also propose that trade fed back into the fiscal-military state through the taxable wealth it created. This, they argue, established a mutually-reinforcing relationship between economic activity and the development of the coercive power of the state.[12] In the case of Britain, the possibility of such a mutually-reinforcing relationship was negated by the conventional wisdom seeing domestic goods as the main contributors to Britain's fiscal might. Our finding that international trade provided a substantial share of indirect taxes not only counters the conventional wisdom on fiscal matters. Our finding also increases the plausibility of explanations in which empire was a driver of Britain's military and economic success.[13]

In the second section, we describe the role of excise and customs taxes in funding the British state, particularly in times of war. In the third section, we discuss the existing historical literature on the excise tax. In

[11] The concept of "empire" is fuzzy: it was in some cases formal and in others (e.g., trade with India in the eighteenth century) informal. It was generally "overseas," but in other cases was very close to home (e.g., Scotland and Ireland, brought into union with England in 1707 and 1801, respectively). We generally use the term "empire" to refer to overseas trade beyond the British Isles, whether with formal colonies or others. However, we note that Ireland is a source of exports to Britain for much of the period under study.

[12] See also Acemoglu and Robinson (2019), Sánchez de la Sierra (2020), Beraja et al. (2023), and Dal Bó, Hernández-Lagos, and Mazzuca (2022).

[13] Of course, there were other important contributors to the emergence of the Industrial Revolution in Britain: from resource endowments (Allen 2009), to culture (Mokyr 2010), to political institutions (North and Weingast 1989; Acemoglu and Robinson 2012).

the fourth section, we describe the historical data sources we rely on to construct new, disaggregated excise and customs revenue statistics. In the fifth section, we present our newly constructed revenue time series. We conclude in the sixth section.

BACKGROUND: WAR AND TAXES IN SEVENTEENTH–NINETEENTH-CENTURY BRITAIN

Britain's fiscal capacity, like that of many early-modern European states, was developed in a context of recurrent warfare. In the seventeenth to nineteenth centuries, Britain's wars were increasingly conducted overseas, facilitating Britain's mercantilist economic policy.[14]

Brecke (1999) provides comprehensive information on conflicts since 1400. From this data, we constructed time series of Britain's military activity, as well as that of other Atlantic trading powers: France, the Netherlands, Portugal, and Spain. We also identify which conflicts involve fighting away from the European continent. From the eighteenth century on, Britain became the most belligerent power and the one most frequently involved in overseas wars. In the 1600–1850 period, Britain fought 273 wars compared to 229 for France, the second most belligerent European power during the period. Moreover, England is the nation that shifted most aggressively toward fighting wars overseas. During the period 1600–1700, England fought 39 percent of its wars overseas, but this percentage increased to 65 in the period 1700–1850.

Britain's empire was built on winning these wars, that were so frequently overseas, with its dominant navy. Glete (1993) provides detailed information on the capacity of Britain's navy and the navies of its European rivals. We transcribed and harmonized the data on navy strengths in Glete (1993) and found that during the period 1600–1800, when Britain developed its fiscal capacity, fought wars, and expanded its empire, its naval strength overtook that of all of its European rivals. First, it overtook the Dutch in the second half of the seventeenth century, and then the French in the early eighteenth century.

Such naval superiority was expensive. For example, Findlay and O'Rourke (2007, p. 256, citing Baugh (2004, p. 238)), note that "[A] 74-gun ship costing £50,000 to build in 1780 when the largest factory

[14] Britain also expanded its "empire" close to home, in particular in Unions with Scotland (1707) and Ireland (1801). These territorial expansions of the state had important consequences for policymaking and state-building across the British Isles: for example, fully incorporating Scotland into an economic union with England and Wales and extracting revenues from Ireland without integrating its fiscal system into Britain's. However, because the unions' impacts on British revenues were limited (Hoppit 2021), we do not examine them in depth here.

in England cost only a tenth of that amount." It is thus unsurprising that each major war Britain fought was associated with an increase in its stock of government debt (see Online Appendix Figure B.2). This debt was backed by the promise of government tax revenue, and new taxes were regularly issued in a manner explicitly linked to the demands of war. For example, in 1689, Parliament passed "An Act for granting to Their Majesties a Subsidie of Tonnage and Poundage and other Sums of Money payable upon Merchandizes Exported and Imported" (2 W&M, sess. 1, cap. 4). Parliament passed this bill "for the better enabling your Majestyes to prosecute the present Warr against the French King and for the reduceing of Ireland."

THE EXCISE: EXISTING SCHOLARSHIP AND AN ASSESSMENT OF HISTORICAL FISCAL MOTIVES

The conventional wisdom on the excise tax is built on three pillars, all of which are well summarized by Brewer (1989).[15] First, its *domestic scope*: Brewer (1989, p. 56) writes that, "The excise was an indirect commodity tax on domestically produced goods, levied either at their point of production or distribution." Second, compared to the customs tax, its great and *increasing relative importance*: Brewer (1989, p. 80) presents data showing approximately equal levels of excise and customs revenues collected around 1700, and excise revenue levels that are more than double the customs revenues in the late 1700s. Third, its *contribution to state development*: Brewer (1989, p. 56) writes that, "Excises became the largest category of taxes, excisemen the biggest body of officials, and the Excise Office a byword for administrative efficiency. . . . [T]he English Excise more closely approximated to Max Weber's idea of bureaucracy than any other government agency in eighteenth-century Europe."[16] There is some truth in this conventional wisdom:

[15] Our focus on the excise tax during the eighteenth century mirrors that of Brewer (1989, p. 79), who writes, "Put in its simplest terms, the fiscal history of the period between 1688 and 1714 was dominated by direct taxation in the form of the land tax; thereafter indirect taxes, most notably the excise, were overwhelmingly the most important source of state income." This is not to ignore the occasional importance of direct taxation in this period, especially in response to acute revenue needs (e.g., wars fought in the late eighteenth century).

[16] Brewer is not alone in taking these positions. Mathias and O'Brien (1976, p. 630) write, "In Britain excise taxes were imposed on a large number of commodities at the place of production and the state levied import or custom duties upon foreign products at the point of entry into the country." Beckett and Turner (1990) and Ashworth (2003) also treat excise as a tax on domestic production. The data series on customs and excise taxation in Mitchell (1988) are constructed from precisely the same coarse historical source as Brewer: the "Accounts of public income and expenditure 1688–1869." The efficiency and importance of the excise administration are emphasized by Coffman (2013).

excise revenues did grow throughout the eighteenth century, and the excise administration was an early example of an efficient government bureaucracy.

However, the conventional wisdom is incorrect in viewing the excise tax or the growth in excise revenues as entirely driven by domestic forces. This is evident, qualitatively, in the first excise bill passed by Parliament in 1643, which imposed a tax on, "[A]ll and every the Merchants and **Importers** of the said **Forraign** Commodities in the said Schedule mentioned."[17] In a history of the excise, the Boards of Customs and Excise describe how "At the Accession of James II [in 1685], the Temporary Excises were renewed for his life, and increased by additional duties on Wine, Vinegar, Tobacco, and Sugar." Needless to say, Britain did not produce tobacco or sugar domestically in 1685.[18]

To move beyond this initial assessment, we more systematically examine the military motives behind tax bills, as well as the importance of taxes on trade during the later Stuart reigns (those of William and Mary and Queen Anne), when the excise and customs regimes of the eighteenth century were established.[19] We read and classify every tax bill in 1689–1714 according to its mention of war and/or trade. Roughly 40 percent of bills across both rulers were "Public," and could involve matters of taxation.[20] We find that around 80 percent of public tax bills mention military, colonial, or defense (i.e., "war-related") objectives in their text; during the rule of William and Mary, 36 percent of tax bills mentioned *both* war and taxes on traded goods, and this simultaneous mention rises to 50 percent during Queen Anne's reign (see Table 1).[21]

One may still worry that even if many excise bills mentioned trade, traded goods could still have been marginal to the excise. Hoppit (2017) has collected evidence suggesting not only that excise taxes were collected on traded goods as Britain's fiscal capacity expanded, but also that the role of traded goods was substantial and growing. Hoppit

[17] Emphasis added by the authors. The bill is TNA/*CUST 145/15*, "An Ordnance of the Lords and Commons, In Parliament, for the speedy Raising and Levying of Monies by Way of Charge and New Impost, upon the several Commodities in a Schedule annexed," 11 September 1643.

[18] The history of the excise quoted is *CUST 155/7*, "Some Account of the Excise Duties," 1829.

[19] Studying the Hanoverian monarchs of the eighteenth century is less revealing. Because the systems of excise and customs were already established, there were fewer tax bills. In addition, because the purpose of taxation—to pay for war—became self-evident, it also became implicit, rather than explicit, in tax bills.

[20] "Private" bills, in turn, affected some particular interests more circumscribed than the general public. Examples are bills affecting communal rights of passage or roads.

[21] It is important to note that taxes on imported goods also had aims other than funding wars. For example, import duties protected domestic producers from competition (see, e.g., Davis 1966; O'Brien, Griffiths, and Hunt 1991).

TABLE 1
CLASSIFICATION OF TAX BILLS IN 1689–1714:
FINANCING WARS AND TAXING TRADE

	(1)	(2)	(3)	(4)
		Tax Bills:	Tax Bills Mention:	
Reign:	Public Bills	Share of Public	War	War and Trade
1689–1702: William and Mary	341	0.22	0.81	0.36
1702–1714: Queen Anne	338	0.2	0.77	0.5
Total:	679	0.21	0.79	0.43

Notes: This table reports the classification of bills passed during the reigns of William and Mary and Queen Anne. The coding is based on the authors' reading of the bills. Column (1) reports the count of public bills (excluding "private" bills, with circumscribed effects). Column (2) reports the share of public bills that are tax bills, Column (3) reports the share of tax bills that mention military aims, and Column (4) reports the share of tax bills that mention military aims and also include traded goods. Bills from the reign of William III are included in row 1 with William and Mary. See the third section for a discussion of the coding.
Source: Authors' calculations.

(2017, p. 293) presents data showing that in 1741, of the excise revenue collected in London (one-third of all British excise), imported tea and liquors accounted for nearly 40 percent. In 1796, imported tea, spirits, wine, tobacco, and snuff accounted for nearly two-thirds of London's excise revenue. These data points, as well as our analysis of excise legislation, suggest the need to re-examine the historical evidence that sustains the conventional wisdom. As noted previously, such a re-examination requires disaggregated data from archival sources that have not yet been systematically used.

CONSTRUCTING NEW SERIES OF EXCISE AND CUSTOMS REVENUES

Excise Revenues

To construct our disaggregated excise tax dataset, we begin with *CUST 145/22*. This source is sufficient to construct, by individual good, yearly revenue series from 1788 onward, allowing us to classify revenues as originating in trade or from domestic production (for complete replication materials and more details, see Dal B**ó** et al. (2024)). Prior to 1788, *CUST 145/22* is not fully disaggregated. It presents good-level excise and inland revenues for many goods that fall under the traditional heading of "excise." These include glass, soap, paper, tea, and chocolate, among others (see Figure 1 for an image of *CUST 145/22*). Unfortunately, *CUST 145/22* also includes a category labeled "Excise," which requires further

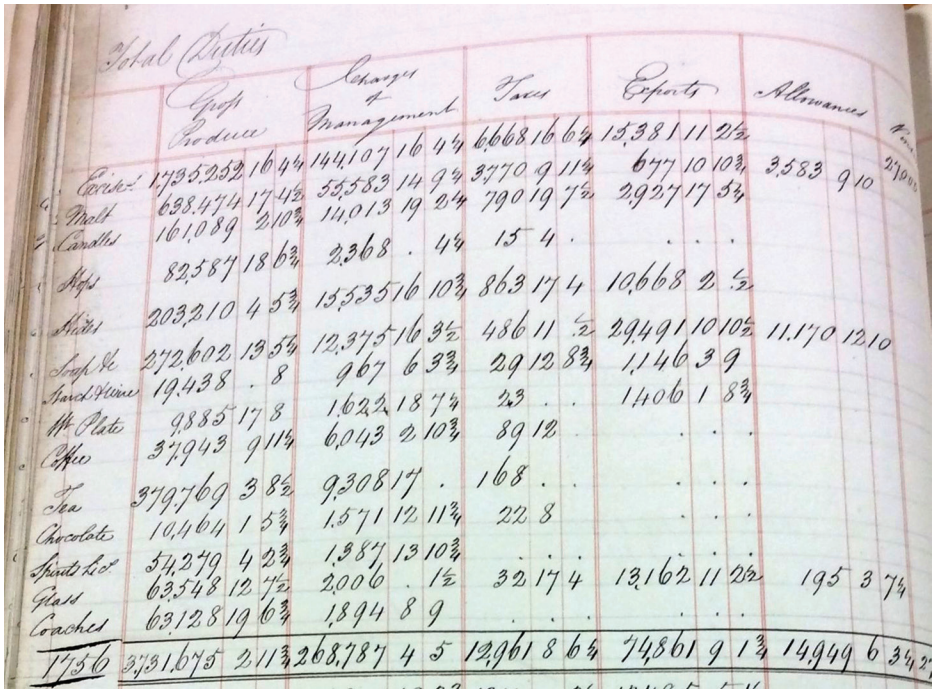

FIGURE 1
EXCISE REVENUES BY TAXED GOOD IN 1756, SAMPLE OF *CUST 145/22*

Notes: This figure reproduces a sample of the archival records organized under *CUST 145/22*. These records report excise revenues by taxed good from 1788 forward. For earlier years (e.g., 1756 in this figure), the category of narrow excise (cf. row 1 of this figure) needs to be further disaggregated.
Source: Authors' photo from the U.K. National Archive.

disaggregation. It is a subcategory of what is traditionally regarded as excise, and it aggregates revenues from different types of alcohol.

To disaggregate the "Excise" category from *CUST 145/22*, we turn to *CUST 145/8* and *CUST 145/12* for the years up to 1787 (see Figure 2 for an image of *CUST 145/12*).[22] These sources include revenues information on various categories of alcohol, which add up to the "Excise" category from *CUST 145/22*. However, they do not include the other disaggregated revenues that are reported in *CUST 145/22* (glass, soap, paper, tea, etc.), meaning that we need to combine information from *CUST 145/22, CUST 145/8,* and *CUST 145/12*.

The next step is to convert the revenues information on various types of alcohol from *CUST 145/8* and *CUST 145/12* into revenue data by good

[22] *CUST 145/8* and *CUST 145/12* include the same information; we rely on both sources to overcome the challenge of illegible documents.

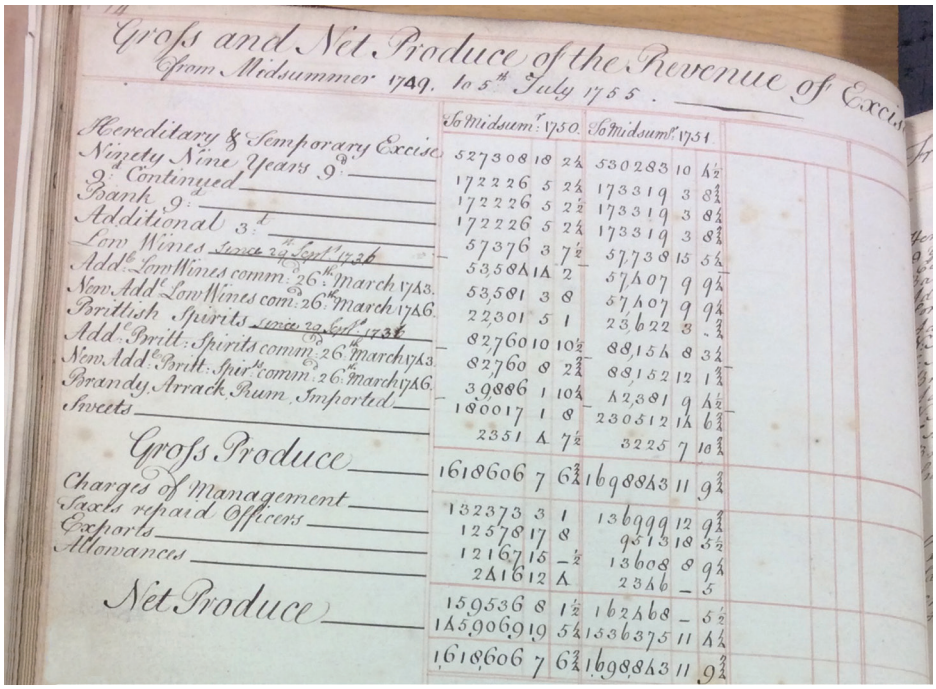

FIGURE 2
EXCISE REVENUES BY GOVERNMENT ACT IN 1750–55, SAMPLE OF *CUST 145/12*

Notes: This figure reproduces a sample of the archival records organized under *CUST 145/12*. These records report excise revenues by government act.
Source: Authors' photo from the U.K. National Archive.

at a disaggregated enough level to allow assignment to traded or domestic categories. In some cases, for example, "British Spirits," this can be done directly from the source. However, most of the revenue reported in *CUST 145/8* and *CUST 145/12* is organized *not* according to good, but according to the acts under which taxes were collected (e.g., "IX Continued quarto Annae") or allocated (e.g., "Hereditary and Temporary Excise").

To convert act-level revenues into revenues by good, we first identify which goods are taxed under a given act. Then, we rely on data on taxed *quantities* by good and year, as well as tax *rates* by good and year, to calculate the revenues by good and year that fall under a particular act.[23]

[23] This is not always trivial: for example, rum is in some years implicitly taxed at the same rate as imported brandy and sometimes taxed as a distinct commodity. For quantities of taxed goods, we relied on *CUST 145/20*. For rates, we relied on *CUST 145/3, CUST 145/4, CUST 145/11, CUST 145/12, CUST 145/18,* and *CUST 145/20*, as well as printed primary sources and Parliamentary bills (e.g., Crouch (1731), Baldwin (1770), and 6 Geo. II, cap. 17). It is important to note that this "bottom up" approach may miss some revenues (e.g., temporary excises). Such measurement error is likely small, however: in Figure 3, we show that our aggregate Excise and Custom revenues are extremely close to those in Mitchell (1988) and Brewer (1989).

When rates are ambiguous (e.g., imported brandy might be taxed under the French brandy rate or as generic foreign brandy), we assign the lower rate to calculate the revenue from traded goods conservatively.

A final obstacle in identifying revenue from traded versus domestic goods is the temporary revenue category, "P Cent" (a percentage tax temporarily levied on selected commodities). This category of excise appeared in the *CUST 145/22* series between 1779 and 1787 and included both traded and domestic goods. To disaggregate the category, we use *CUST 145/20*, which shows the yearly contributions of each of the goods charged "P Cent" duties (e.g., tea and foreign spirits, among others).

Customs Revenues

The vast majority of customs revenues were collected from traded goods, as one would expect. The primary domestic good that was taxed under customs was coal. In addition, other domestically produced goods were taxed under customs as "carried coastways goods."[24] We assign these revenues to domestic production, along with taxes levied on coal.[25] In addition, from 1786–1806, a tax on windows (under the Commutation Act of 1784) was included in the customs revenues, and we assign these revenues to domestic production as well.[26]

Disaggregated customs revenues data come from multiple historical sources. To disaggregate total customs revenues into revenues from traded goods and revenues from domestically produced goods, we mainly rely on *T 35/55, CUST 37/1, T 38/357,* and *CUST 37/50*. These series end in 1806. From 1807 onward, we supplement these sources with detailed tables on revenues by good or by act from the Parliamentary Papers.

Methodological Choices

We first identified goods that were undoubtedly traded internationally and taxed under the excise. Some of these goods, like foreign spirits, are labeled as such. Others are not labeled as foreign, but were certainly produced outside Britain, like tea, coffee, cocoa nuts, tobacco, and

[24] Such goods included, for example, corn and wine; however, they appear only rarely and their revenue contribution was small, typically not larger than £2,000 per year.

[25] While the vast majority of customs revenues collected from coal are on domestic consumption, a small share of customs revenues are collected from the international export of coal. We count the latter revenues as revenues on traded goods. Customs were also collected from domestically produced and exported tin and lead.

[26] The tax on windows is included under customs because it was enacted alongside a reduction in the tax rate on tea under the Commutation Act and was managed by customs.

pepper. We also treat wine as traded—in contrast with "low wine," which was recorded separately, and which may have included some domestic production.

This makes for an extremely conservative calculation of revenues from traded goods—a lower bound. When it is possible that a positive share of a good may have been domestic, we assign it to the domestic category. For example, we do not include in our estimated revenues from trade those revenues collected on hides or salt, though some hides and salt were certainly imported. In addition, taxes on domestically processed textiles are treated as domestic taxation even when the raw input (e.g., a less processed textile, or raw materials like silk or cotton) was produced abroad and represents a significant share of the value added.

We follow the approach of Mitchell (1988) and Brewer (1989) in that we report revenues net of: (i) the costs of running the respective tax administrations (i.e., "management costs"); (ii) refunds on import duties paid to re-exporters (called "drawbacks"); and (iii) revenues used directly to subsidize domestic producers' exports or to pay for other national objectives (called "bounties") that never reached the Exchequer. To be precise, we collect information on the "Payments into Exchequer" for both customs and excise.[27] As our goal is to assess the contribution of taxes on traded goods to Britain's fiscal strength, it is natural to consider revenues net of tax administration costs and net of refunds paid to re-exporters (re-exported imports may not have arrived in the first place without the refund of the import duties).[28] However, netting out bounty payments, while standard practice, is more questionable: bounty payments may not have reached the Exchequer, but they supported the state's strategic objectives, nonetheless. For example, bounty revenues were collected by customs officers from traded goods and used to pay domestic corn producers and to support the civil government of Scotland (to give two prominent examples). There is thus a good argument to include these revenues in the contribution of traded goods to revenue. Information on these bounty payments was not available in the primary sources consulted

[27] We also follow Mitchell (1988) and Brewer (1989) in reporting revenues collected in Britain (but not Ireland), and we report these revenues in millions of pounds in nominal terms. It is worth noting that the revenue increases over the time period we cover were not driven by higher price levels. Inflation over the period studied was low—below 1 percent per year (Thomas and Dimsdale 2017).

[28] One category of re-exported goods deserves specific mention: textiles that were imported from India solely for re-export. The import duty was set at 5 percent of the imports' value for finished textiles imported by the East India Company (see Baldwin 1770). There was then a refund of this duty (i.e., a "drawback") upon re-export, which varied depending on the good and the export's destination, from 5 percent of the duty paid to 100 percent. The net revenues from these re-exports are included as revenue from (traded) customs in our series.

by Mitchell (1988) and Brewer (1989), but we are able to identify this category of revenue. We thus construct separate series of revenues from traded and domestic goods that include the bounty revenues in addition to the "Payments into Exchequer." In order to keep our exposition as close as possible to that in the received literature, in the main text we focus on revenue series corresponding to "Payments into Exchequer" and include bounties in alternative series reported in the Appendix.[29]

EMPIRICAL PATTERNS

New vs. Old Series: Comparison in the Aaggregate

We begin by comparing our total excise revenue and customs revenue series for the years 1689–1823 with those in Mitchell (1988), the standard reference (which is based on the same historical source as Brewer (1989)). In Figure 3, Panel A, one can see that our construction of total excise revenue closely matches the aggregate excise data reported previously by Mitchell (1988).[30] Including the bounties in our excise data series has a minimal effect (see Online Appendix Figure B.3). In Figure 3, Panel B, one can see that our construction of total customs revenue again closely matches aggregate data that have previously been collected (Mitchell 1988). Adding the bounties to our customs data series has a more noticeable effect, but again the broad patterns of total revenue match those in Mitchell (1988). It is worth emphasizing that our data come from a different set of far more disaggregated historical sources; it is reassuring that these data yield aggregate patterns that match the established historical data sources.[31]

New vs. Old Series: Comparison of Disaggregated Data

We next decompose aggregate revenues into revenues collected from traded goods and revenues collected from domestic goods. Let $RevenueTrade_t$ denote the tax revenue raised on internationally traded goods, $RevenueDomestic_t$ denote the tax revenue raised on domestic

[29] All data series are provided in tables included in Appendix A. Figures plotting data series including bounties are shown in Online Appendix B. It is worth noting that our data series on bounties is incomplete (starting only in 1711), due to archival data limitations (see also Hoppit 2017).

[30] Our yearly total excise, total customs, bounty, and disaggregated customs and excise data are provided in Appendix Tables A.1–A.4.

[31] Note that the disaggregated data sources for customs are missing for a small number of years, accounting for the observed gaps in our series in the 1810s.

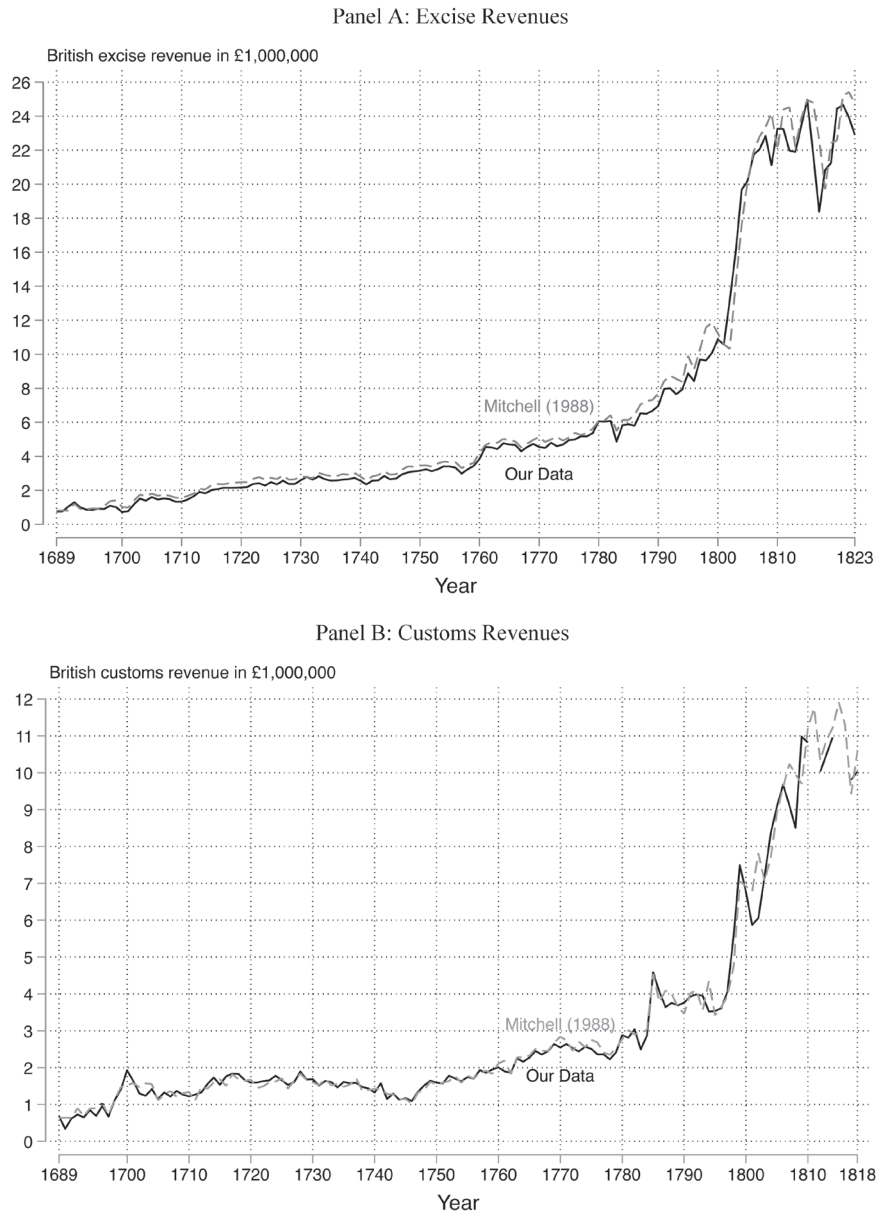

FIGURE 3
COMPARISON OF AGGREGATE EXCISE AND CUSTOMS REVENUES WITH MITCHELL (1988)

Notes: This figure compares the aggregate patterns of excise and customs revenues of the British government (in £1,000,000) as calculated by the authors (black, solid lines) with those reported in Mitchell (1988) (as grey, dashed lines). Panel A reports the excise revenues for 1689–1823, and Panel B reports the customs revenues for 1689–1818. Gaps in the lines indicate years with missing data. See the fourth section for a description of the data and methodology. See Online Appendix Figure B.3 for a version of this figure, which includes revenues spent to finance bounties.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

goods, $Customs_t$ the tax revenue collected by customs, and $Excise_t$ the tax revenue collected as excise, all during year t. The approach in Brewer (1989) (using the same data as Mitchell (1988)) is to assume the following two equalities hold:

$$RevenueTrade_t = Customs_t$$

$$RevenueDomestic_t = Excise_t.$$

Then, following Brewer (1989), the trade-related share of total indirect tax revenue (i.e., the sum of taxes from traded and domestic goods) would be calculated as:

$$ShareTrade_t = Customs_t / (Customs_t + Excise_t).$$

But as we have argued, it is incorrect to equate taxes on traded goods to taxes generated by customs, and taxes on domestic goods to the excise. It is necessary to define $CustomsCoal_t$ to denote tax revenue collected by customs on coal (a domestic product), $ExciseDomestic_t$ to denote excise taxes raised on domestic goods, and $ExciseTrade_t$ to denote excise taxes on traded goods. Then, using our disaggregated excise and customs data, we can calculate:

$$RevenueTrade_t = Customs_t - CustomsCoal_t + ExciseTrade_t$$

$$RevenueDomestic_t = ExciseDomestic_t + CustomsCoal_t.$$

As a result, the trade-related share of total revenue is:

$$ShareTrade_t = RevenueTrade_t / (RevenueTrade_t + RevenueDomestic_t).$$

Importantly, we can construct these time series restricting revenues to those paid to the Exchequer (as in Mitchell (1988) and Brewer (1989)) or including also the revenues used to pay bounties.

In Figure 4, Panel A, we first show the levels of revenues from customs and excise as presented in Mitchell (1988) and Brewer (1989). Revenues are stacked on top of each other to sum to total revenue from indirect taxes. One can see two patterns. First, that excise revenue is substantially larger than customs revenue throughout the time period. Second, in the Mitchell (1988) and Brewer (1989) treatment, taxes on "domestic production"—to be precise, excise revenues—account for the bulk of the

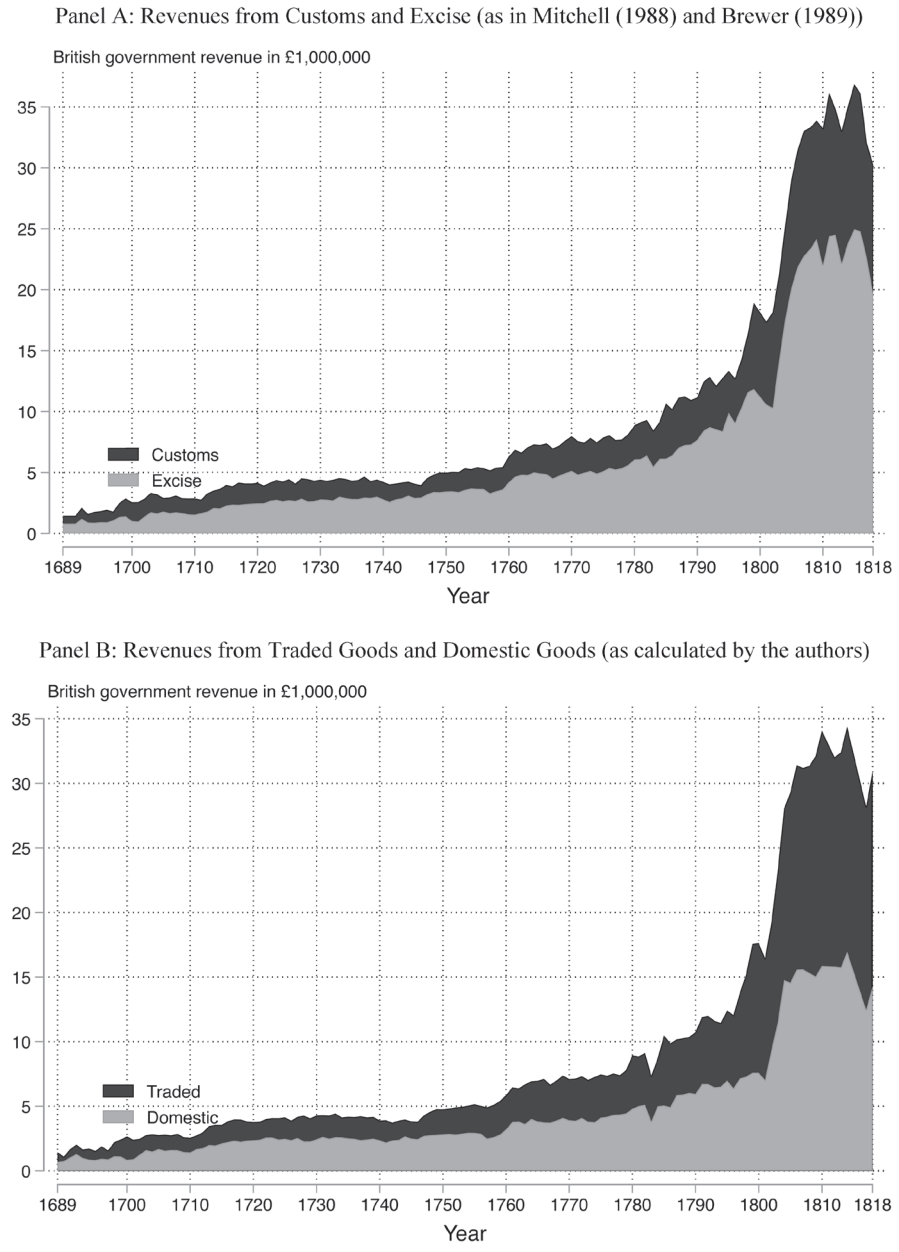

FIGURE 4
DECOMPOSITION OF EXCISE AND CUSTOMS REVENUES

Notes: This figure decomposes the excise and customs revenue of the British government (in £1,000,000). Panel A decomposes the revenues as presented in Mitchell (1988) and Brewer (1989) into revenues from customs and excise. Panel B plots the levels of revenues from traded goods and domestic goods as calculated by the authors. Years with missing customs data are linearly interpolated. See the main text for a description of the data and methodology. See Online Appendix Figure B.4 for a version of Panel B, which includes revenues spent to finance bounties. *Sources*: Authors' calculations. Refer to the fourth section of the main text for details.

enormous increase in revenues in the late eighteenth and early nineteenth centuries.

In Figure 4, Panel B, we show the levels of revenues from *traded* and *domestic* goods as we calculate them.[32] A very different pattern of revenue growth appears. Revenue from traded goods *increased*, rather than declined in importance as the British state developed over the eighteenth century. At the height of the Napoleonic wars in the early nineteenth century, traded goods provided *more* revenue than domestic goods. If we take the entire period under study, increasing revenues from traded goods in 1689–1818 account for 54 percent of the overall increase of excise and customs revenues. The growth of the British fiscal-military state was not financed by the taxation of domestic goods alone. Rather, tax revenues from international trade represented a substantial component of the fiscal expansion that funded Britain's imperial dominance.

In Figure 5, we plot the share of British customs and excise revenue from traded goods calculated using the approach and data in Mitchell (1988) and Brewer (1989) (i.e., treating customs revenue as coming from traded goods and excise as coming from domestic production), as well as the share of revenue from traded goods calculated using our disaggregated data.

One can see in the figure that the traditional narrative of a modest and declining role for taxes on traded goods as Britain expanded its fiscal capacity is overturned when examining disaggregated data on the excise. Indeed, our data show that as revenues expanded enormously over the second half of the eighteenth century, the share of revenues from traded goods actually increased and was over 50 percent of total excise and customs revenues in the late eighteenth and early nineteenth centuries. The share of revenues from traded goods reached a peak of over 60 percent in 1800, when additionally considering revenues spent on bounties (see Online Appendix Figure B.5).[33]

What Traded Goods Contributed to Fiscal Revenues?

An obvious threat to the success of the excise tax would have been charging rates that discouraged imports. A standard result in public

[32] Figure B.4 in the Online Appendix reproduces the graph, including revenues raised to be spent on bounties.

[33] Naturally, the share of total revenue (i.e., the sum of indirect and direct taxation) attributable to taxes on overseas trade is smaller than the share of indirect tax revenue alone. In Online Appendix Figure B.6, we plot the share of *total* taxes from overseas trade using our approach as well as that in Mitchell (1988) and Brewer (1989). The divergence between our series and theirs remains the same, with both series shifted down in proportion to the share of total income from direct taxation.

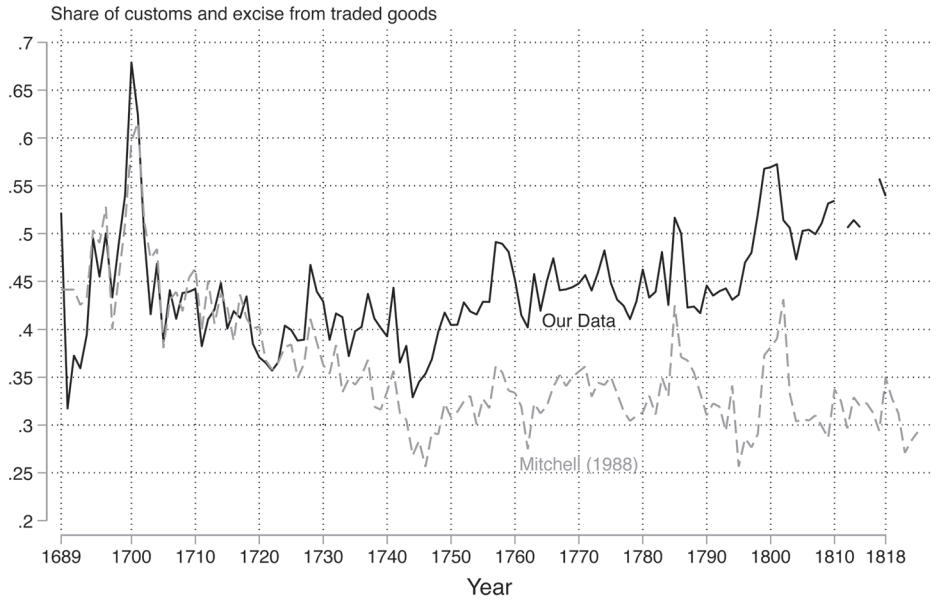

FIGURE 5
REVENUES FROM TRADED GOODS AS SHARE OF EXCISE AND CUSTOMS

Notes: This figure compares the share of British customs and excise revenue from traded goods as computed by the authors with the share as reported in Brewer (1989) and using the data in Mitchell (1988). The grey, dashed line plots the share following Brewer (1989) in treating customs revenue as coming from traded goods and excise as coming from domestic production. The black, solid line plots the share of revenue from traded goods following the authors' calculations and using disaggregated customs and excise data. Gaps in the lines indicate years with missing data. See the main text for a description of the data and methodology. See Online Appendix Figure B.5 for a version of this figure, which includes revenues spent to finance bounties.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

finance due to Ramsey (1927) is that optimal taxes should bear an inverse relationship to the elasticity of demand. To gain insight into what made a high fiscal revenue possible, we examine the nature of the traded goods that were taxed.

In Figure 6, Panel A, we further decompose, by good, excise revenues from trade.[34] Tea and foreign spirits were the most important components throughout the eighteenth and early nineteenth centuries, with wine and tobacco playing an increasingly important role in the early nineteenth century. The other goods are cocoa, chocolate, coffee, and pepper. The *entirety* of traded excise goods are consumption items that create habituation and have been noted to have relatively inelastic demands—actual drugs like alcohol and tobacco, as well as what Mintz (1985) called

[34] We provide the data underlying Figure 6 (both Panels A and B in Appendix Tables A.5–A.8).

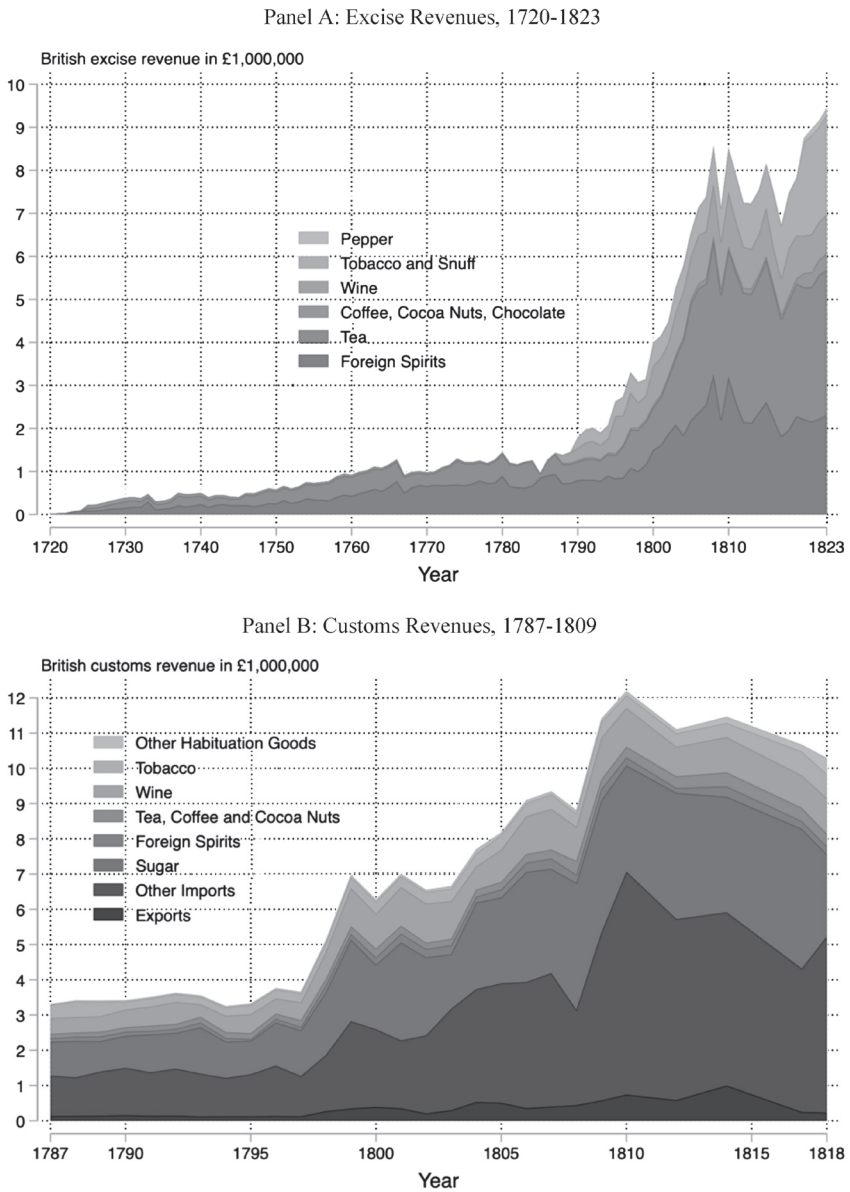

FIGURE 6
DECOMPOSITION OF REVENUES FROM TRADED GOODS

Notes: This figure decomposes British government revenues from traded goods (in £1,000,000). Panel A plots excise revenues by traded good for 1720–1823. Panel B plots customs revenues by traded good for 1787–1818. Excise revenues from tea and wine include revenues from tea and wine licenses. Excise revenues from imported beer have been included with the revenues from foreign spirits, since revenues from imported beer are too small to be visible independently. Customs revenues from other habituation goods come from opium, licorice, pepper, spices, etc. The "Other Imports" category of Panel B includes all the customs revenues from imports other than the habituation goods enumerated in this figure.
Source: *Sources*: Authors' calculations. Refer to the fourth section of the main text for details.

"drug foods."[35] Figure 6, Panel B, decomposes the customs revenues from traded goods.[36] The set of goods includes imports that were taxed under both excise and customs (foreign spirits, tea, tobacco, etc.). The most important contributor to customs revenue was sugar, which was not taxed under excise, and which accounted for a third of customs revenues. A majority of customs revenues also came from habituation goods with highly inelastic demand.

These findings help us understand why the combination of taxation and trade activity provided a high volume of fiscal revenue.[37] They also highlight the importance of Britain's coercive power in its fiscal expansion. One can see that a substantial share of revenues from traded goods was due to goods whose trade (and, in some cases, production) depended on the application of coercive power against colonized peoples, slaves, and competing European powers.

CONCLUSION

We provide new data on British excise and customs revenues over time that improve upon standard references. The data make clear that: (i) excise taxation was not only a tax on domestically produced goods, but was also a tax on traded goods; (ii) taxes on traded goods were a large share of indirect taxation, ranging from 40 to 55 percent; and (iii) taxes on traded goods were a growing share of total revenues from the early eighteenth century to the early nineteenth century, as Britain's fiscal-military state developed. These results are evident even under the conservative assumptions guiding the construction of our data.

The patterns revealed by the data we collect should change the narrative regarding the growth of Britain's fiscal state. First, it had roots in the massive expansion of British trade—especially across the Atlantic and in Asia—that occurred in the seventeenth–nineteenth centuries (as documented by, e.g., Schumpeter (1960) and Davis (1962)). Similar to the change in Britain's institutional trajectory identified by Acemoglu, Johnson, and Robinson (2005), overseas trade was a shock that changed

[35] Pomeranz (2000) leverages Mintz's characterization to argue that the trade on these goods gave the British economy an additional boost by expanding labor supply: to afford these goods, individuals altered their labor-leisure choices toward longer working hours (see also de Vries (1994)).

[36] Before 1787, our customs data are disaggregated by the tax act, which does not allow for a simple decomposition of goods.

[37] It is notable that this high volume of revenue was collected despite the fact that the excise tax was not expanded to cover a wide variety of goods (as proposed by Walpole in 1733) and despite the elimination of taxes on exports.

the state's fiscal trajectory as well. Second, it relied to a significant extent on a traditional bureaucracy located in ports—even in the case of the excise.[38] This shifts both the geographic and administrative dimensions of Britain's fiscal development. Finally, it depended on war and empire, which facilitated overseas trade in the goods essential to the rise in revenues. The more general implication is that the coercive power of the state was both an input to and an outcome of taxable economic activity.

[38] The case of tea is instructive: as Hoppit (2017, p. 294) writes, "Tea duties could have been charged to the customs, but they came under the excise. … 99 percent of British tea excise was collected in London, but in the late eighteenth century the capital had only 7 per cent of Britain's' 53,000 licensed tea dealers."

Appendix

TABLE A.1
BRITISH EXCISE AND CUSTOMS REVENUES (IN £1,000), 1689–1720

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Excise Revenues				Customs Revenues			
	Paid to Exchequer:				Paid to Exchequer:			
Year:	Total	Trade	Domestic	Bounties	Total	Trade	Domestic	Bounties
1689	750	63	687		687	687	0	
1690	760	11	749		338	338	0	
1691	1,050	3	1,047		618	618	0	
1692	1,297	0	1,297		728	728	0	
1693	998	0	998		649	649	0	
1694	870	4	867		846	846	0	
1695	849	9	840		692	692	0	
1696	927	6	921		960	937	22	
1697	902	9	893		674	674	0	
1698	1,093	5	1,088		1,119	1,076	44	
1699	1,016	16	1,000		1,406	1,292	114	
1700	727	22	704		1,928	1,780	148	
1701	769	13	755		1,638	1,489	149	
1702	1,176	13	1,163		1,299	1,216	82	
1703	1,513	10	1,503		1,236	1,134	103	
1704	1,396	25	1,371		1,418	1,294	124	
1705	1,606	32	1,573		1,151	1,035	116	
1706	1,461	26	1,435		1,327	1,203	124	
1707	1,523	19	1,504		1,217	1,107	109	
1708	1,481	18	1,463		1,368	1,230	138	
1709	1,328	10	1,319		1,267	1,130	137	
1710	1,334	16	1,318		1,222	1,114	108	
1711	1,459	10	1,449		1,268	1,033	235	44
1712	1,650	24	1,625		1,328	1,199	129	40
1713	1,902	19	1,883		1,557	1,436	121	101
1714	1,825	23	1,802		1,732	1,572	161	44
1715	2,012	26	1,986		1,536	1,397	139	82
1716	2,075	25	2,050		1,764	1,584	180	46
1717	2,146	22	2,124		1,836	1,619	217	50
1718	2,143	21	2,122		1,829	1,704	125	63
1719	2,150	15	2,135		1,664	1,453	211	86
1720	2,169	15	2,155		1,593	1,381	213	71

Notes: See Table A4.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

TABLE A.2
BRITISH EXCISE AND CUSTOMS REVENUES (IN £1,000), 1721–1757

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Excise Revenues				Customs Revenues			
	Paid to Exchequer:				Paid to Exchequer:			
Year:	Total	Trade	Domestic	Bounties	Total	Trade	Domestic	Bounties
1721	2,196	26	2,170		1,597	1,359	238	67
1722	2,375	30	2,346		1,633	1,402	232	98
1723	2,416	70	2,345		1,658	1,421	237	99
1724	2,283	87	2,196		1,781	1,555	227	89
1725	2,481	225	2,256		1,658	1,428	230	125
1726	2,350	227	2,124		1,531	1,281	250	100
1727	2,569	272	2,297		1,608	1,354	254	60
1728	2,376	309	2,066		1,894	1,686	209	39
1729	2,376	352	2,024		1,678	1,429	249	31
1730	2,594	387	2,207		1,686	1,449	237	53
1731	2,790	404	2,386		1,514	1,271	244	85
1732	2,631	374	2,257		1,639	1,406	233	79
1733	2,826	472	2,354		1,608	1,358	249	125
1734	2,661	304	2,357		1,463	1,231	232	202
1735	2,571	315	2,256		1,613	1,351	261	124
1736	2,581	365	2,216		1,575	1,308	267	69
1737	2,631	504	2,128		1,588	1,339	249	123
1738	2,655	467	2,188		1,476	1,233	244	197
1739	2,737	478	2,258		1,433	1,197	236	167
1740	2,569	500	2,069		1,324	1,029	295	58
1741	2,346	402	1,944		1,572	1,335	238	38
1742	2,565	451	2,114		1,150	907	243	111
1743	2,587	448	2,139		1,295	1,038	257	156
1744	2,846	413	2,433		1,129	895	234	138
1745	2,648	402	2,246		1,173	917	256	153
1746	2,697	500	2,197		1,096	841	254	129
1747	2,942	489	2,453		1,344	1,092	252	156
1748	3,056	549	2,507		1,516	1,268	247	220
1749	3,117	608	2,508		1,646	1,381	265	261
1750	3,153	578	2,575		1,592	1,342	250	314
1751	3,239	666	2,574		1,570	1,282	288	212
1752	3,127	602	2,525		1,779	1,498	282	242
1753	3,243	653	2,590		1,708	1,421	287	308
1754	3,412	751	2,661		1,631	1,345	286	227
1755	3,407	733	2,675		1,744	1,475	268	263
1756	3,326	752	2,573		1,701	1,401	300	200
1757	2,984	774	2,211		1,932	1,641	291	120

Notes: See Table A4.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

TABLE A.3
BRITISH EXCISE AND CUSTOMS REVENUES (IN £1,000), 1758–1794

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Excise Revenues				Customs Revenues			
	Paid to Exchequer:				Paid to Exchequer:			
Year:	Total	Trade	Domestic	Bounties	Total	Trade	Domestic	Bounties
1758	3,236	884	2,352		1,858	1,608	249	115
1759	3,431	946	2,485		1,948	1,642	307	188
1760	3,848	919	2,929		2,007	1,726	281	231
1761	4,555	990	3,565	0	1,899	1,688	211	293
1762	4,523	1,024	3,499	3	1,858	1,542	316	460
1763	4,432	1,110	3,322	9	2,250	1,947	302	485
1764	4,770	1,084	3,686	8	2,160	1,824	336	565
1765	4,696	1,166	3,530	8	2,271	1,972	299	339
1766	4,665	1,282	3,383	10	2,448	2,090	358	354
1767	4,303	915	3,388	5	2,356	2,019	337	192
1768	4,548	987	3,561	5	2,445	2,102	343	175
1769	4,731	1,005	3,726	6	2,639	2,267	372	186
1770	4,554	982	3,572	7	2,546	2,198	348	234
1771	4,492	1,000	3,492	6	2,642	2,257	385	294
1772	4,793	1,099	3,694	6	2,526	2,125	401	223
1773	4,601	1,156	3,445	4	2,439	2,078	361	172
1774	4,689	1,300	3,390	4	2,568	2,201	367	218
1775	4,951	1,220	3,732	8	2,510	2,125	385	
1776	4,991	1,215	3,776	7	2,359	1,951	408	
1777	5,176	1,254	3,922	7	2,359	1,945	414	
1778	5,171	1,192	3,979	7	2,225	1,847	378	
1779	5,366	1,274	4,092	6	2,415	2,063	352	230
1780	6,059	1,444	4,614	6	2,878	2,687	191	
1781	6,040	1,199	4,841	12	2,813	2,635	178	
1782	6,081	1,165	4,916	20	3,040	2,840	200	
1783	4,861	1,229	3,632	11	2,495	2,307	188	
1784	5,828	1,258	4,570	7	2,872	2,443	429	
1785	5,891	955	4,936	11	4,586	4,457	130	
1786	5,795	1,273	4,521	8	4,063	3,655	408	
1787	6,526	1,430	5,096	7	3,641	2,867	774	304
1788	6,498	1,382	5,115	12	3,756	2,962	795	317
1789	6,674	1,448	5,225	11	3,687	2,874	813	314
1790	6,967	1,790	5,177	9	3,764	2,991	773	236
1791	7,970	1,966	6,005	11	3,925	3,210	715	264
1792	8,005	2,017	5,988	10	3,989	3,256	732	333
1793	7,651	1,900	5,751	5	3,947	3,233	714	224
1794	7,918	2,073	5,845	2	3,521	2,854	667	264

Notes: See Table A4.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

TABLE A.4
BRITISH EXCISE AND CUSTOMS REVENUES (IN £1,000), 1795–1823

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Excise Revenues				Customs Revenues			
	Paid to Exchequer:				Paid to Exchequer:			
Year:	Total	Trade	Domestic	Bounties	Total	Trade	Domestic	Bounties
1795	8,882	2,630	6,253	5	3,535	2,784	751	387
1796	8,421	2,735	5,686	2	3,613	2,918	694	881
1797	9,690	3,305	6,385	2	4,056	3,292	763	279
1798	9,635	3,080	6,555	6	5,571	4,834	737	256
1799	10,069	3,140	6,929	15	7,499	6,834	665	295
1800	10,869	3,994	6,875	32	6,763	6,047	716	259
1801	10,581	4,148	6,433	19	5,871	5,271	600	1,661
1802	13,165	4,473	8,692	21	6,059	5,406	652	992
1803	16,040	5,283	10,757	18	7,180	6,465	715	261
1804	19,670	5,777	13,893	12	8,358	7,481	877	304
1805	20,207	6,551	13,656	31	9,084	8,177	907	270
1806	21,735	7,132	14,603	27	9,673	8,697	977	317
1807	22,049	7,377	14,672	20	9,124	8,188	935	546
1808	22,829	8,568	14,261	7	8,508	7,443	1,066	792
1809	21,122	7,119	14,003	14	10,981	9,941	1,039	720
1810	23,261	8,510	14,750	13	10,819	9,698	1,121	847
1811	23,247	7,881	15,366	8				
1812	21,980	7,239	14,740	24	10,030	8,956	1,073	602
1813	21,894	7,231	14,663	21	10,495	9,418	1,077	590
1814	23,425	7,541	15,884	20	10,961	9,879	1,082	579
1815	24,949	8,151	16,798	25				
1816	21,786	7,480	14,306	13				
1817	18,383	6,721	11,662	18	9,808	8,997	811	425
1818	20,836	7,471	13,365	17	10,035	9,176	859	411
1819	21,257	7,819	13,438	4				
1820	24,439	8,751	15,688	4				
1821	24,660	8,958	15,702	4				
1822	23,922	9,154	14,767	4				
1823	22,888	9,449	13,440	6				

Notes: These tables report the yearly excise and customs revenues of the British government (in £1,000). Columns (1)–(3) report the revenues paid to the Exchequer collected by the excise, and Columns (5)–(7) report the revenues paid to the Exchequer collected by the customs. These exchequer revenues are net of management costs, drawbacks, and bounties or other charges paid out of the revenues. Columns (2)–(3) for excise and Columns (6)–(7) for customs disaggregate the exchequer revenues into those collected from traded and domestic goods. Columns (4) and (8) report the revenues that finance bounties or equivalent charges for national objectives. These revenues never reached the Exchequer and are therefore not included in the totals of Columns (1) or (5). The excise revenues paying for bounties (in Column (4)) are solely derived from traded goods. All the customs revenues paying for bounties (in Column (8)) are collected from traded goods. Cells are left empty whenever data is missing.
Source: Authors' calculations. Refer to the fourth section of the main text for details.

TABLE A.5
BRITISH EXCISE REVENUES FROM OVERSEAS TRADE (IN £1,000), 1720–1757

Year	(1) Foreign Spirits	(2) Tea	(3) Coffee etc.	(4) Wine	(5) Tobacco	(6) Pepper
1720	15					
1721	26					
1722	30					
1723	70					
1724	87					
1725	85	71	69			
1726	89	65	72			
1727	103	92	76			
1728	131	104	74			
1729	138	134	80			
1730	154	156	77			
1731	180	152	72			
1732	175	124	74			
1733	302	109	61			
1734	121	122	61			
1735	130	123	62			
1736	152	148	65			
1737	212	228	64			
1738	184	224	60			
1739	202	218	58			
1740	242	197	60			
1741	171	175	57			
1742	226	171	54			
1743	241	152	55			
1744	218	147	49			
1745	215	146	42			
1746	215	243	42			
1747	190	258	41			
1748	217	289	42			
1749	264	301	43			
1750	256	280	42			
1751	330	294	42			
1752	270	295	37			
1753	300	313	40			
1754	373	337	40			
1755	346	345	41			
1756	341	370	41			
1757	321	410	43			

Notes: See Table A8.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

TABLE A.6
BRITISH EXCISE REVENUES FROM OVERSEAS TRADE (IN £1,000), 1758–1794

Year	(1) Foreign Spirits	(2) Tea	(3) Coffee etc.	(4) Wine	(5) Tobacco	(6) Pepper
1758	410	433	41			
1759	460	430	55			
1760	431	447	41			
1761	489	460	42			
1762	535	448	41			
1763	594	472	44			
1764	546	494	44			
1765	648	479	39			
1766	776	460	46			
1767	509	366	40			
1768	629	316	42			
1769	683	281	41			
1770	659	282	41			
1771	687	274	39			
1772	678	381	39			
1773	685	435	36			
1774	694	573	33			
1775	677	507	35			
1776	718	462	36			
1777	788	430	35			
1778	730	429	33			
1779	741	500	34			
1780	896	519	29			
1781	658	498	42			
1782	633	509	23			
1783	618	588	23			
1784	678	555	24			
1785	853	101	2			
1786	912	362	0			
1787	942	469	4	15		
1788	720	448	28	186		
1789	731	439	34	244		
1790	797	432	35	276	250	
1791	805	482	40	340	298	
1792	803	491	38	377	309	
1793	777	476	39	324	284	
1794	904	499	35	320	314	

Notes: See Table A8.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

TABLE A.7
BRITISH EXCISE REVENUES FROM OVERSEAS TRADE (IN £1,000), 1795–1823

Year	(1) Foreign Spirits	(2) Tea	(3) Coffee, etc.	(4) Wine	(5) Tobacco	(6) Pepper
1795	834	545	47	866	338	
1796	857	733	28	680	437	
1797	1,085	887	48	820	465	
1798	1,006	965	52	577	480	
1799	1,158	991	53	555	384	
1800	1,504	989	62	901	538	
1801	1,613	1,112	58	848	517	
1802	1,873	1,296	67	749	489	
1803	2,090	1,569	70	973	581	
1804	1,846	2,214	71	1,061	584	
1805	2,187	2,732	90	986	556	
1806	2,369	2,885	112	1,120	646	
1807	2,547	2,820	115	1,104	792	
1808	3,260	3,118	103	1,213	875	
1809	2,206	2,910	132	1,098	774	
1810	3,194	2,959	75	1,270	1,013	
1811	2,608	3,017	92	1,092	1,072	
1812	2,147	3,002	110	959	1,020	
1813	2,125	3,001	122	919	1,063	
1814	2,363	3,125	91	928	1,034	
1815	2,621	3,303	80	1,131	1,017	
1816	2,226	3,016	97	834	1,307	
1817	1,816	2,727	106	843	1,230	
1818	1,971	2,991	113	1,108	1,288	
1819	2,288	3,077	122	1,001	1,330	
1820	2,212	3,068	326	871	2,186	88
1821	2,156	3,127	348	881	2,305	141
1822	2,221	3,347	351	883	2,209	143
1823	2,317	3,375	378	899	2,320	159

Notes: See Table A8.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

TABLE A.8
BRITISH CUSTOMS REVENUES FROM OVERSEAS TRADE (IN £1,000), 1787–1818

Year	(1) Exports	(2) Sugar	(3) Foreign Spirits	(4) Tea, etc.	(5) Wine	(6) Tobacco	(7) Other Habit.	(8) Other Imports
1787	137	965	99	123	445	381	21	1,140
1788	137	1,033	122	118	439	441	30	1,093
1789	142	863	132	133	444	408	35	1,254
1790	157	909	117	129	504	222	38	1,344
1791	138	1,075	103	144	545	231	40	1,235
1792	145	1,013	117	138	625	224	35	1,334
1793	121	1,317	136	160	356	213	39	1,214
1794	127	1,031	98	167	468	242	31	1,089
1795	124	950	49	169	535	266	40	1,193
1796	135	1,225	106	144	433	252	42	1,430
1797	125	1,300	98	185	508	261	36	1,144
1798	272	1,795	189	175	769	283	50	1,594
1799	349	2,322	156	214	1,089	304	68	2,477
1800	393	1,835	204	252	989	340	65	2,201
1801	354	2,782	248	227	1,098	303	68	1,925
1802	208	2,211	239	176	1,114	328	60	2,217
1803	298	1,551	255	182	1,067	352	79	2,876
1804	533	2,458	166	199	662	369	116	3,201
1805	510	2,440	226	215	913	419	69	3,388
1806	358	3,124	264	243	1,072	377	81	3,578
1807	403	2,959	290	255	1,156	420	79	3,786
1808	442	3,600	236	387	972	376	94	2,706
1809	577	3,751	316	278	1,182	451	88	4,766
1810	743	3,014	230	299	1,104	363	114	6,325
1812	587	3,580	140	329	839	386	108	5,134
1814	1,000	3,277	296	396	1,000	403	174	4,916
1817	250	3,967	221	377	915	681	192	4,067
1818	232	2,331	220	360	1,015	687	454	4,996

Notes: These tables decompose British government revenues from traded goods (in £1,000), corresponding to Figure 6 in the text. Tables A.5–A.7 provide excise revenues by traded good for 1720–1823. Table A.8 provides customs revenues by traded good for 1787–1818. Excise revenues from tea and wine include revenues from tea and wine licenses. Excise revenues from imported beer have been included with the revenues from foreign spirits. Customs revenues from other habituation goods come from opium, licorice, pepper, spices, etc. The category of Table A.8 includes all the customs revenues from imports other than the goods enumerated here.
Sources: Authors' calculations. Refer to the fourth section of the main text for details.

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