

**Economic interdependencies and political conflict: the political economy of taxation
in eighteenth-century Britain**

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ABSTRACT

The recent financial crisis has highlighted conflicts of interests between socio-economic groups over economic policy. We use representations of economies as systems of interdependencies among productive sectors to conceptualize economic and political cleavages in terms of the contingent interplay of economic interdependencies between sectors and political conflict between the groups that represent those sectors. In doing so, we propose a structural and historical approach, which is illustrated with reference to three moments in the evolution of the eighteenth-century British fiscal system. Each of these case studies (the Beer Taxes of the 1690s, the Excise Crisis of 1733, and the Income Taxes of the Napoleonic Wars) reveals a different dimension of our approach. We close with some reflections on the conditions under which political conflict may be sustainable and provide directions for further inquiry.

JEL: N13, L16, P16, H22, B11

I. Introduction

The recent financial crisis has highlighted conflicts of interests between socio-economic groups over economic policy. The disputes over who does and who should bear the greatest burden of taxation have been particularly important both in terms of absolute levels of income taxation and their progressivity and in view of proposals to raise or lower value-added taxes either to balance budgets or as fiscal stimulus. These debates are particularly pressing in Britain and France but also resonate with Italian, Spanish and German voters.

This essay makes the case for conceptualizing such cleavages in terms of the interplay of economic interdependencies between sectors and political conflict between the groups that represent those sectors. It proposes a structural and historical approach, which is illustrated with reference to three moments in the evolution of the eighteenth-century British fiscal system. It closes with reflections on the conditions under which political conflict may be ally sustainable and provides directions for further inquiry.

Structural economic analysis has represented economic systems as structures of economic interdependencies among productive sectors (Quesnay, 1759 [1972]; Leontief, 1941; Pasinetti, 1981). Such representation may be used as a heuristic for the structure of economic interest of a given society, which can help uncover the configuration of political interests and the relative positions of the groups that hold those interests (Cardinale, 2012, 2014a,b). The method used to explore the interdependencies between the economic and political domains is that of multi-level correspondences between economic sectors and interest groups (Quesnay, 1759 [1972]; Hobson, 1902). Any structural configuration of the economy leaves space for conflict between interest groups, conflict that is nevertheless bounded by the necessity to maintain the viability of the economic system. This approach provides a vantage point to understand both contemporary and historical political-economic processes. A particular compelling instance of this involves debates about the political economy of taxation in eighteenth-century Britain.

Since the financial crisis, historians of eighteenth-century Britain have revisited earlier assumptions about factional conflict and economic interest (Pincus, 2009; Dudley, 2013; Pettigrew, 2013). Unfortunately, these recent discussions have not paid sufficient attention to the underlying interdependencies and so have produced equally schematic accounts of the aims of the groups they have identified. Our approach is to analyze three moments in the evolution of the eighteenth-century British fiscal system to articulate these dynamics. It becomes apparent that the comparatively high levels of taxation in Britain by the middle of the eighteenth-century are the result of two specific conditions: firstly, the extent to which the chief revenue ordinances are legal collateral of the servicing of public debt, and secondly, the process of negotiation by interest groups of the enrichment of the fiscal mix is done without sacrificing the economic viability of the sectors involved. The growth of the fiscal-military state in the period from 1660-1815 depended on the state's capacity to borrow from an ever-growing supply of public creditors, who in turn faced increasingly high levels of direct taxation as individuals and indirect taxation as participants in varied economic domains. What makes this case interesting today is that the per capita debt/GDP ratios and the degree of fiscal capture (percentage of commodity output which was successfully taxed) were far higher at the end of the Napoleonic Wars than any period since. 'British exceptionalism', contra North and Weingast (1989) and more recently Pincus (2009), is thus less about specific institutions, let alone constitutional arrangements, and more a function of the manner in which the general interest, i.e. the servicing of a comparatively democratized and widely held debt (Murphy, 2012; Macdonald, 2003), was reconciled with specific political-economic interests.

If by the end of the Napoleonic Wars, Britain emerged as the most successful fiscal-military state, this outcome was by no means certain. Despite the fiscal experimentation of the Interregnum (Coffman, 2013b), Charles II was restored to a comparatively impoverished kingdom and relatively under-funded crown. This was so much the case that the English king was the subject of French charity and Dutch ridicule in the 1660s (Scott, 2003; t'Hart, 1997). The establishment of parliamentary supremacy over crown

finance in the 1690s might have as easily hamstrung the British fiscal state, as similar constitutional conditions did in the Netherlands in the eighteenth century (Gelderblom, 2009).

Thus Britain's development occurred against the backdrop of similar, if less successful, processes in continental Europe. Much contemporary economic writing, including that of those who are often called Mercantilists and those who are classified as Physiocrats, was concerned with how to maximize tax revenues without impairing either agricultural production or the growing commodity economies (Vaggi, 1987; Reinert, 2011). In a discursive domain of an eighteenth-century 'republic of letters,' these economic writings were widely translated, read, and commented upon by writers in all European nations. On the continent, in most of these accounts, including Quesnay's *Tableau Économique*, the aristocratic class (including, at times, the crown, insofar as the crown estates accrue rents) was identified with the absolutist state (Anderson, 1974). In the British tradition, the 'state' had, on the other hand and by virtue of the constitutional crisis of the Civil Wars and Interregnum, become an artificial person that was not dependent on the idea of monarchy, much less on the feudal system, but instead had a distinct role in the circulation of the economic system by exacting charges (in the form of taxation) that would defray the costs of securing the whole (Skinner, 2000 [1978]; Coffman, 2013a). Yet, at the same time, the eighteenth-century British Whigs and Tories represented competing social and sectoral interests in their battles to control the fiscal apparatus of the state (Stasavage, 2003; Stasavage, 2007). What is striking is that although elements of these factional alignments remain constant over time, both parties were subject to internal divisions, which reflected the evolving nature of the sectoral interests and the orientation of production and trade geographically and in terms of the products. This dynamism, rather than being counter-productive, actually contributed to the flexibility of the system, by offering possibilities for alterations of the fiscal mix and by generating overlapping and variable political cleavages. The potential for contingent re-configuration of factional alignments in turn reinforced the participants' perception of the need to preserve systemic sustainability. For example, financial historians have recently shown that the spectre of collective creditor action by government bondholders (in a system where particular branches of the revenue served as legal collateral for the servicing of specific public

debts) was sufficient to remove the threat of debt default as a policy option (Murphy, 2012; Macdonald, 2003).

For Quesnay, Mirabeau, Turgot and their contemporaries, just as for those writing from across the English Channel such as Davenant, Hume and Smith, the challenge was to impose taxation in a way that satisfied competing interest groups (land owners, great merchants, and still powerful leading artisans) without damaging the overall productive capacity of the kingdom. British debates about excise taxation of beer and ale turned on whether or not the duty would be shifted backwards onto the landowner (in the form of lower prices paid for the agricultural products used in the production of excisable liquors) forwards onto the consumer (in the form of higher retail prices), or capitalized by the manufacturers. In fact, theoretical formulations of tax incidence use these debates as their point of departure (Seligman, 1899; Hicks, 1968).

In an environment in which general equilibrium analysis is increasingly subject to caveats which turn on sectoral frictions, as well as those of wages and prices, the partial incidence analysis of the economic vs. legal incidence of taxation have a renewed importance. It is not always obvious that taxation falls where policy-makers, let alone the public, would infer from the parties liable to pay it. For example, depending on the elasticity of demand, a hypothetical excise on domestic wine might fall on the consumer, the grower, or the wholesaler, notwithstanding which party actually remits the duties to the state. Yet our approach does not amount to building sectoral frictions into a general equilibrium framework, but rather in adopting an analytical scheme that makes interdependencies, rather than equilibrium, the focus of attention.

II. Theoretical Formulation

Many of the eighteenth-century economic commentators discussed above apprehended the concept of economic interdependencies more directly than many practicing economists do today. Economic analysis carried out at the aggregate level of analysis does not allow us to see the internal structure of the economy. This is equally true for micro-founded macroeconomic models. In fact, those models show the aggregate

economy as the sum of individual actors (households and firms). Whether actors are homogeneous (e.g. Kydland - Prescott, 1982) or heterogeneous (see Krusell - Smith 2006) these classes of models of the economy have no intermediate levels of aggregation, hence no internal structure.

In order to appreciate the internal articulation of an economic system, we need to excavate the structural representations suggested by contemporary writers. In English writings on the political economy of taxation, the existence of these internally differentiated sectoral interests was taken for granted and is evident from the mid-seventeenth century. Writers such as Henry Parker and William Petty even formulated standards of 'equality' in taxation, which respected the need to mediate amongst these competing groups (Parker, 1643; Petty, 1662) and which analysed species of taxation in terms of their probable consequences for different groups. By the late seventeenth-century, writers in what became the 'political arithmetik' tradition deployed significant empirical evidence in support of their proposals (Davenant, 1698; Petty, 1663; Houghton, 1727; King, 1696), none of them presented a formal model. That one might do so is illustrated by a recent attempt to construct an input-output table based on Gregory King's estimates (Dodgson, 2013).

The first analytical representation of the internal structure of the economy was in French not English. François Quesnay's 1759 *Tableau Économique* represents the economy as the circulation of money and commodities between socio-economic groups. It thus makes evident the sectors that constitute the economy and their interdependencies (see Phillips, 1955; Hishiyama, 1960; Candela, 1975; Vaggi, 1987; Pasinetti, 2002).

Figure 1: Quesnay's *Tableau Économique*

Tableau Économique

Objets à considérer, 1°. Trois sortes de dépenses; 2°. leur source; 3°. leurs avances; 4°. leur distribution; 5°. leurs effets; 6°. leur reproduction; 7°. leurs rapports entr'elles; 8°. leurs rapports avec la population; 9°. avec l'Agriculture; 10°. avec l'industrie; 11°. avec le commerce; 12°. avec la masse des richesses d'une Nation.

DÉPENSES PRODUCTIVES <i>relatives à l'Agriculture, &c.</i>	DÉPENSES DU REVENU, <i>l'impôt prélevé, se partage aux Dépenses productives et aux Dépenses stériles.</i>	DÉPENSES STÉRILES <i>relatives à l'Industrie, &c.</i>
<i>Avances annuelles pour produire un revenu de 600^{ll} sont 600^{ll}</i> 600 ^{ll} produisent net.....	<i>Revenu annuel de 600^{ll}</i>	<i>Avances annuelles pour les Ouvrages des Dépenses stériles, sont 300^{ll}</i> 300 ^{ll}
<i>Productions</i> 300 ^{ll} reproduisent net.....	<i>Revenu</i> 300 ^{ll}	<i>Ouvrages, &c.</i> 300 ^{ll}
<i>Les 200^{ll} passent</i> 150 reproduisent net.....	<i>moitié</i> 150	<i>moitié passe icy</i> 150
<i>Les 100^{ll} passent</i> 75 reproduisent net.....	<i>moitié</i> 75	<i>moitié, &c.</i> 75
<i>Les 50^{ll} passent</i> 37. 10 reproduisent net.....	<i>moitié, &c.</i> 37. 10	<i>moitié, &c.</i> 37. 10
<i>Les 25^{ll} passent</i> 18. 15 reproduisent net.....	<i>moitié, &c.</i> 18. 15	<i>moitié, &c.</i> 18. 15
<i>Les 12. 5^{ll} passent</i> 9. 7. 6 reproduisent net.....	<i>moitié, &c.</i> 9. 7. 6	<i>moitié, &c.</i> 9. 7. 6
<i>Les 6. 2. 5^{ll} passent</i> 4. 13. 9 reproduisent net.....	<i>moitié, &c.</i> 4. 13. 9	<i>moitié, &c.</i> 4. 13. 9
<i>Les 3. 1. 2^{ll} passent</i> 2. 6. 10 reproduisent net.....	<i>moitié, &c.</i> 2. 6. 10	<i>moitié, &c.</i> 2. 6. 10
<i>Les 1. 5^{ll} passent</i> 1. 3. 5 reproduisent net.....	<i>moitié, &c.</i> 1. 3. 5	<i>moitié, &c.</i> 1. 3. 5
<i>Les 0. 11. 8^{ll} passent</i> 0. 11. 8 reproduisent net.....	<i>moitié, &c.</i> 0. 11. 8	<i>moitié, &c.</i> 0. 11. 8
<i>Les 0. 5. 10^{ll} passent</i> 0. 5. 10 reproduisent net.....	<i>moitié, &c.</i> 0. 5. 10	<i>moitié, &c.</i> 0. 5. 10
<i>Les 0. 2. 11^{ll} passent</i> 0. 2. 11 reproduisent net.....	<i>moitié, &c.</i> 0. 2. 11	<i>moitié, &c.</i> 0. 2. 11
<i>Les 0. 1. 5^{ll} passent</i> 0. 1. 5 reproduisent net.....	<i>moitié, &c.</i> 0. 1. 5	<i>moitié, &c.</i> 0. 1. 5
<i>Et c.</i>		

REPRODUIT TOTAL..... 600 ll de revenu; de plus, les frais annuels de 600 ll et les intérêts des avances primitives du Laboureur, de 300 ll que la terre restitue. Ainsi la reproduction est de 1500 ll compris le revenu de 600 ll qui est la base du calcul, abstraction faite de l'impôt prélevé, et des avances qu'exige sa reproduction annuelle, &c. Voyez l'Explication à la page suivante.

Mid-twentieth century economists, von Neumann (1945), Sraffa (1960) and Leontief (1941), built upon Quesnay's insight. Leontief even described his *Structure of the American Economy* as an attempt to construct a modern *Tableau*. The structure of interdependencies thus became the basis of multi-sectoral models of economic dynamics (Pasinetti, 1981, 1993; Quadrio Curzio, 1967, 1975; Baranzini - Scazzieri, 1990; Landesmann - Scazzieri, 1996; Hagemann - Landesmann - Scazzieri, 2003). This approach has provided the conceptual foundation of statistical models of multi-sectoral growth (Stone - Brown, 1962) and is the foundation of input output tables regularly produced by statistical offices worldwide (Wixted - Yamano - Webb, 2006).

An input-output table of the Quesnay-Leontief type, in Pasinetti's (1977) formulation, is presented in Figure 2 (where q_{ij} is the input of commodity i in industry j , and p is the price).

Figure 2: An Input-Output Table

Inputs	Outputs					
	Industry 1	Industry 2	...	Industry j	Final sector (Consumption)	
Commodity 1	$q_{11}p_1$	$q_{12}p_1$	...	$q_{1j}p_1$	...	d_1
Commodity 2	$q_{21}p_2$	$q_{22}p_2$	...	$q_{2j}p_2$	...	d_2
	\vdots	\vdots		\vdots		\vdots
Commodity i	$q_{i1}p_i$	$q_{i2}p_i$	...	$q_{ij}p_i$	...	d_i
	\vdots	\vdots		\vdots		\vdots
Final sector (Value added)	v_1	v_2	...	v_j	...	v_n

Source: Pasinetti (1977)

As is well known, the table breaks down aggregate output into the output of n industrial sectors (x_1 to x_n). Each equation shows the output of a sector (e.g. 1) as an input into the other sectors (the input of good 1 into process 1, process 2, process 3, process n) and a final demand of good 1 (d_1). This representation allows us to visualize both the sectors

that make up the macroeconomy and the interdependencies among those sectors. For example, sector 1 and sector 2 are interdependent as each sector uses the output of the other sector as an input, and its own output is an input to the other sector. Of course not all sectors depend on all other sectors, so that some coefficients may be 0 (or very small).

Thus when eighteenth-century authors spoke of the probable effects on particular industries, interest groups, or on the economy as a whole of adjusting rates of taxation on beer, malt, hops and land, or on French wines and Caribbean molasses, sugar or rum, their analyses could be mapped onto our analytical scheme.

In modern terms, this framework facilitates the insight that economic sectors potentially correspond to political groups (Cardinale, 2012, 2014a,b). Economic sectors have interests, for instance in obtaining tax policies that favour them, and, at least in principle (Truman, 1962), may compete for political influence to protect those interests. In the modern literature of eighteenth-century Britain, scholars have tried to map these political interests onto competing economic interests, but most attempts have been crude and ultimately unsatisfactory. An analysis of the interests of groups that respects contemporary understandings of these economic interdependencies can overcome the limitations of these approaches. Moreover, the modern formulations of the *Tableau*, as well as the analytical tools that were built upon it, provide us with a vantage point from which to reconstruct alternative political cleavages in a way that is both more rigorous and liable to be adapted to a variety of analytical contexts. For instance, models of structural dynamics in the presence of non-produced resources (Quadrio Curzio, 1986; Quadrio Curzio – Pellizzari, 1999) may be used to investigate the interests of groups in the transition from one resource bases to another (Cardinale, 2014a), and structural models of economic fluctuations, such as Aftalion's (1913) *Crises Périodiques de Surproduction*, may be used to reconstruct political cleavages between sectors along the business cycle (Cardinale - Coffman - Scazzieri, 2014).

In the context of this essay, the structural representation of the economy based on sectoral interdependencies as represented in the input-output table is particularly apposite to the

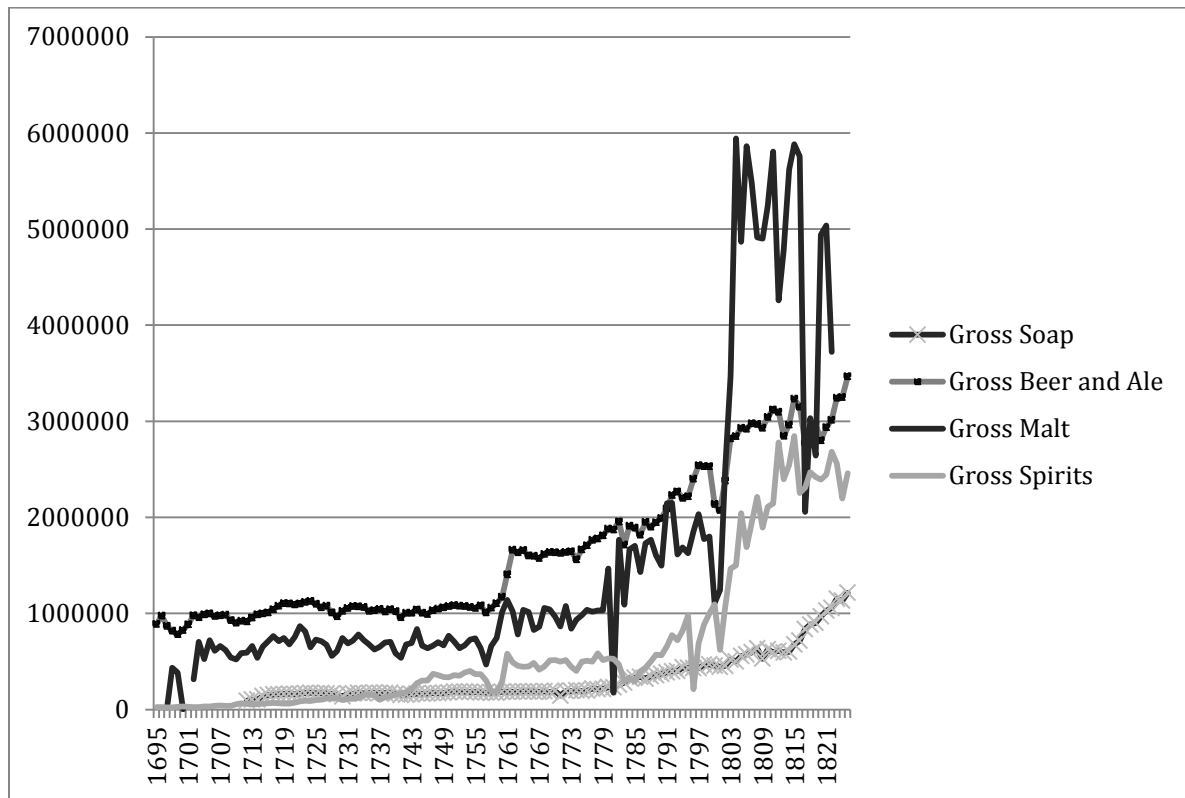
most remarkable feature of the eighteenth-century British economy, which is its rapid growth. As a general principle, under the technological conditions expressed by the determinant of the matrix of technical coefficients (the Hawkins-Simon condition), the ability of the system to reproduce itself and produce a surplus – that is, its ability to grow – is compatible with different sectoral proportions (see Schwartz, 1961; Pasinetti, 1977). Theoretically the system could be preserved and could grow with different relative weights of sectors. Contra the tone of much of the recent literature (Pincus, 2009; Dudley, 2013), we do not claim that the particular outcome of the sectoral conflicts we describe was either optimal or uniquely suited to the growth of an industrial economy, nor do we see any particular party or faction as more pro-social in the advancement of its interests than its competitors. Rather if there are any remaining claims to be made for positive externalities generated by constitutional structure or for institutional quality (about which we are agnostic), these outcomes in our model are the result of the commitment to systemic interests. No serious political party in this period wanted to alter fundamentally the rules of the game. Even proposals for a sinking fund, which would reduce the national debt, seldom anticipated its extinction.

From the political-economic point of view, this means that there is potential for conflict between sectors: a sector might want to grow relative to others, and, within limits, this would not compromise the viability of the system. Taxation is one arena in which this conflict plays out. In eighteenth-century Britain, the emergence and growth of new manufacturing sectors ran parallel to the extension of the fiscal system into newly emerging arenas of economic and even social life, which generated both opportunities for new forms of taxation and created conflicts between stakeholders who saw their interests threatened or who perceived favourable treatment being meted out to older or newer sectorial interests.

For instance, take the central role of excisable liquors to excise tax revenues (O'Brien, 1988; O'Brien - Hunt, 1997). In the mid-seventeenth century, the excises on beer, ale, as well as cider and mead, were the mainstay of the excise system (Coffman, 2013b).

Because the tax was collected from common brewers and brewing publicans, home-brewed beer escaped the levy. Once the excises on malt and hops were established in 1696 and 1711 respectively, the burden shifted over time to these constituents, though the common brewers also remained an important source of revenue. Equally distilled liquors, including gin and whiskies, gained in significance over the eighteenth-century, as eventually did salt, glass, soap and printed matter.

Figure 3: Gross Revenues from Different Excisable Items, 1695-1825



Source: National Archives, CUST 145/4-CUST 45/13); see also appendices, S.E. Fine (1937)

Because contemporaries were aware that in the longer term, the effects of the changes in tax policies would ultimately be felt on wages (though they recognised frictions that would favour back-shifting or forward-shifting in the short and medium term), they were aware of possible effects on demand (Seligman, 1899; Kennedy, 1913). Equally they

understood that some industries were better suited than others to capitalising the costs of a particular tax, which is one possible impetus to industrialisation in sectors such as brewing or glassmaking (Mathias, 1959; Ashworth, 2003; Coffman - Gao, 2011).

Contemporaries were equally aware that high levels of taxation were compatible with the strategy of capitalising costs only so long as the system remains within sectoral proportions that are compatible with its capacity to reproduce itself. In fact, one reason for abolishing a more generalised excise tax in 1660 was that the Lord Treasurer's advisors believed that the costs to newly emerging industries were so prohibitive as to reduce employment in these sectors and to even render domestic manufacturers unviable. (Coffman, 2013b). Beyond those limits, the crisis of some sectors can affect other sectors through interdependencies, so the latter may be damaged too. Eighteenth-century observers understood this perhaps better than modern theoreticians because subsistence crises, though rare, were not unheard of or even outside the bounds of living memory. There was even a social consensus around the infrequent use of draconian social regulations (such as temporary prohibition on the use of wheat and barley in distilling in the 1760s) to ensure that such sectoral crises did not spread (Baker, 1970; Ormrod, 1985).

The representation of the economy based on sectoral interdependencies thus concisely describes a system in which there is the possibility of conflict as well as the necessity of keeping that conflict within a systemically sustainable level.¹ This, in turn, preserves the system as a whole. Under these conditions, each sector has a particular interest in its own survival and expansion, as well as a 'systemic' interest in the preservation of the system to which it belongs, which is itself necessary for its survival. Systemic interest derives from interdependencies, and expresses the fact that in a structural view, the economy is a *system* in the strong sense of the term.² It is worth reiterating that sectors may well constitute potential rather than manifest interest groups (Truman, 1962): whilst interests

¹ Systemic interests does not require a *deus ex machina*, but the fact that actors have an interest in the viability of the system as a whole, which is necessary for the pursuit of their particular interests (Cardinale, 2014b).

² Following Simon's (1962, 2002) criterion of near-decomposability, we can define a system as a set of sectors in which interdependencies within the set are stronger than interdependencies with sectors outside the set (see Cardinale, 2014b).

are grounded in the structure of the economic system, not every sector may be aware of them and act accordingly at the political level. Formulated in this fashion, it should be possible to see why eighteenth-century Britain was, indeed, fundamentally stable, viewed *ex post*, despite what modern scholarship now recognises as the manifold contingent political and economic threats to that stability, *ex ante* (Plumb, 1967; Langford, 1989). Although it is beyond the scope of the present discussion, we eventually hope to show that these systemic interests were not perceived as such by political actors in eighteenth-century France, despite other conditions (material and political) that might have been more favourable to development and growth. Recent work on the tobacco and salt monopolies by a leading scholar of eighteenth-century France points in this direction (Kwass, 2013).

A major limitation of recent scholarship on eighteenth-century politics is the difficulty in bridging literature that emphasises the normative commitment of political actors to the public interest and the literature that recognises the ongoing role of ‘Old Corruption’ in eighteenth-century politics (Graham, 2013; Yamamoto, 2011). We reconcile this division by positing that the existence of a systemic interest depends on sectoral interdependencies and the resultant conflicts they entail. In the absence of interdependencies, the misfortunes and decline of one group have no effect on other groups. Our approach thus aims to contextualise explicitly ideological accounts of the character of a ‘public interest’ with accounts that depend on increasingly detailed explications of the internal structuring of contemporary political culture.

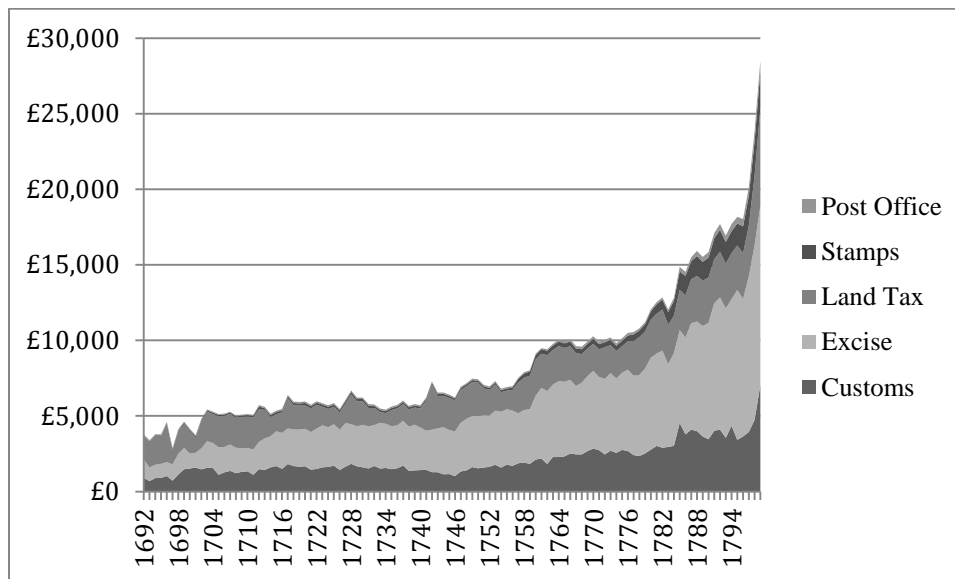
A striking feature of the gradual enlargement of the fiscal system in eighteenth-century Britain, especially in the sphere of indirect taxation, is the manner in which it simultaneously progressed horizontally and vertically. Both an increasing variety of intermediate goods were taxed throughout the value chain leading to the final good and an increasing variety of final goods, which were produced through the inputs of an ever larger number of sectors, are added to the duty schedules. Such a fiscal system anticipated a modern value-added tax, but preserved a domain in which the precise duty levels were subject to competition and contestation. Economic writers, in turn,

celebrated this system of ‘compensatory taxation’ as superior to an older model where taxes were to be assessed independently as just or unjust on their own terms (Kennedy, 1913).

III. Historical case studies.

The framework outlined above can be illustrated through three historical case studies that show the role of the enlargement of the fiscal mix in guaranteeing sustainability of rising taxation. The eighteenth-century British public revenue was a mix of direct and indirect taxation. As Figure 4 demonstrates, over time the indirect taxes (excise and customs, as well as postal duties and the stamp duties) eclipsed the land tax as revenue sources. Of these, the domestic excise was clearly the most important.

Figure 4: Composition of British Public Revenues in £000s pounds sterling



Source: Mitchell (1987), pp. 575-577

As many historians of early modern public finance have noted, there is a paradox about British attitudes towards domestic excise taxation (Brewer, 1988; Ashworth, 2003; Coffman, 2013). Despite the colourful and forbidding rhetoric of the early opponents, the excise rapidly became a mainstay of the British public revenue after adoption in 1643 and

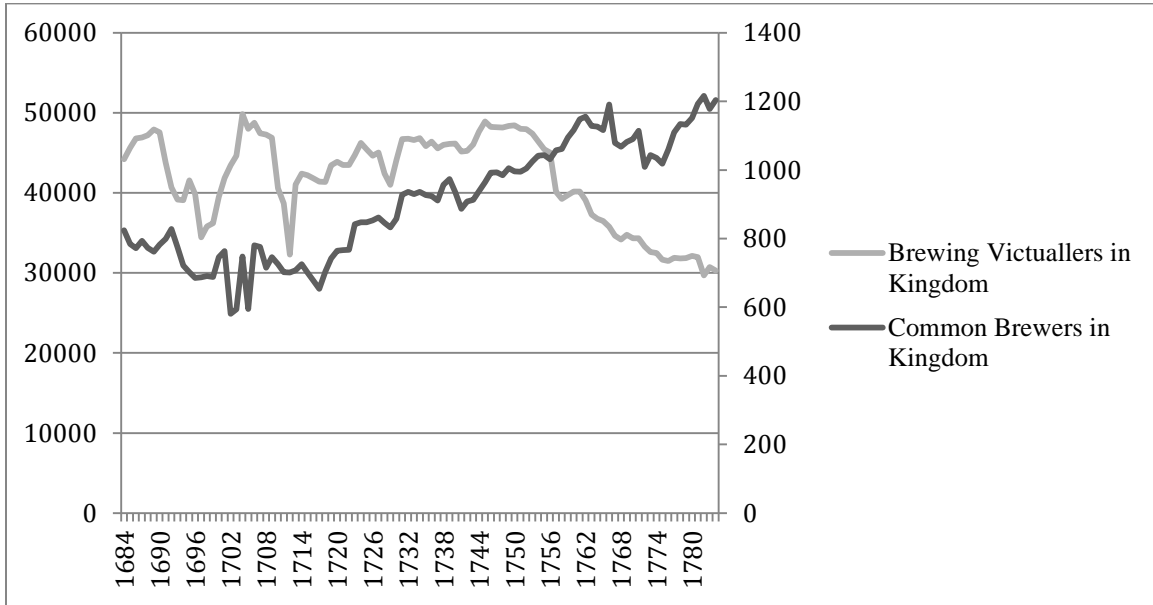
was the envy of other continental powers (Coffman, 2013). Whether or not the eighteenth-century excise was consistently less prone to smuggling and evasion than customs remains an open question, but the excise was widely perceived as more transparent, more productive and more efficient (Brewer, 1988; Ashworth, 2003). Excise taxation was so firmly established by the Revolution of 1688 that it became reliable collateral for new species of government debt in the 1690 just as it had been during the Civil Wars and Interregnum (Coffman, 2013b).

A) The Beer Excises

The Williamite succession vastly increased the revenue requirements of the British crown as the new king mounted a series of continental wars (Brewer, 1988). The Treasury's response was to recommend additional excise duties, which had enjoyed some success in the 1670s to finance the third Anglo-Dutch War. Not surprisingly, the imposition of a double and then triple duty on beer and ale in the early 1690s temporarily caused contraction within the brewing industry (Figures 5-6), damaging both common brewers and brewing victuallers and sharply reducing the output of barrels of strong beer by the large common brewers. Contemporaries had access to this data and were worried about it.

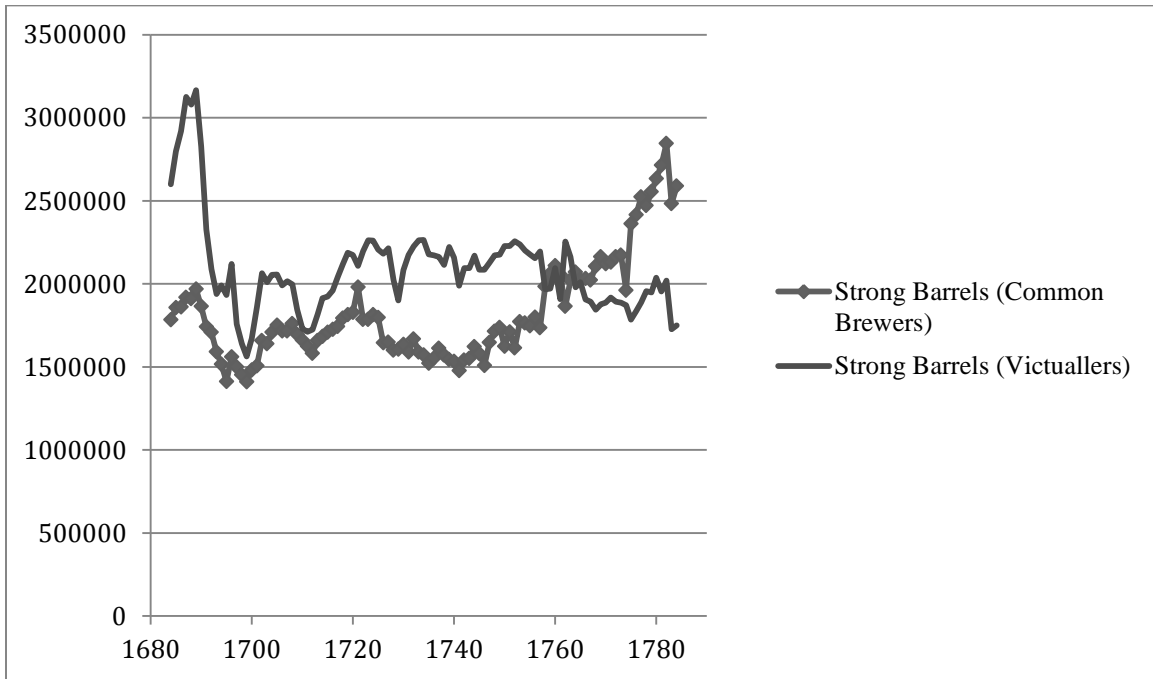
The adoption of the Malt Duty in 1697 or the Hops Tax in 1711 was the result of an extended debate amongst government advisors and special interests about how to optimise beer taxes and it, in turn, triggered another shake-out of the brewing industry, but no popular outcry in England or Wales, despite the fact that both malt and hops duties represented an extension of the excise on beer and ale (though ale in this period was defined by the absence of hops) to home-brewed products (Brewer, 1988, 132). The new Tory Parliament's commitment in 1710 to honouring the debts incurred by the previous Whig Parliaments further paved the way for acceptance of the tax on hops as a means to that end. The Scottish malt tax of 1725 did provoke violence, but the opponents, who harnessed Jacobite sympathies against the Hanoverians, nevertheless justified their objections on the basis that the malt tax violated the terms of the fiscal union of the crowns rather than resistance to the excise as such (Brewer, 1988, 132).

Figure 5: Organisation of the Brewing Industry



Source: National Archives, CUST 145/4-CUST 45/13); see appendices, S.E. Fine (1937)

Figure 6: Domestic Production of Beer and Ale by Common Brewers



Source: National Archives, CUST 145/4-CUST 45/13); see appendices, S.E. Fine (1937)

Over the 1690s and 1700s, there were repeated calls for malt and hops taxes. Especially with the malt taxes, advocates appealed to both systemic and specific interests. Two such pamphleteers, Robert Murray (1696) and Richard Stockton (1694), repeatedly argued that malt duties would be more equitable to the brewing industry, especially as malting operations often had stronger cash positions than brewers and brewing victuallers. Shifting the tax to malt producers would also remove the advantages that the old system conferred to home brewers, who were the wealthier gentry households. Moreover, it would more evenly distribute the downward effect on corn prices experienced when levels of excise taxation became so high as to require back-shifting onto landowners. Some of these authors, for instance Stockton, had made substantial private fortunes in the 1670s speculating on the effect of the additional excises on beer and ale on corn prices.

There were several ramifications of the adoption of the malt and hops duties. First, as Figure 3 illustrated, revenue collected from the combination of the single excise, malt duties, and hop taxes was considerably larger, even in the early days of these duties, than from the single or double or treble excises. Also the brewing industry became a lot more industrialized in the period from 1690-1730 (Matthias, 1959) to capitalize the costs through the advent of porter. Opponents to the malt and hops taxes objected on a variety of grounds (Burnaby, 1696). One of the complaints was that this effectively shifted the incidence to the consumer from the producer as taxes on malt and hops also affected those who produced beer privately in homes. This was particularly contentious because a previous iteration of the tax on private brewing in the 1650s had led to attempts to convert it into a poll tax, which had revived dormant associations of the excise with arbitrary government in both the parliamentary and popular imagination (Coffman, 2013b, p. 145).

Landowners were ambivalent at first but subsequently came to support these taxes, especially as they coincided with an extension of the excises in other directions as well: hides, candles, paper, textiles. Significantly, whereas these taxes had been unsuccessful in

the 1650s, in the 1710s they succeeded because they were seen as needed to service the debt (Coffman, 2013b). In short, the Harley ministry's decision to honor its predecessors' commitments in 1710 while extending the fiscal mix (malt taxes and hop taxes) was well tolerated. By contrast the Excise Crisis of 1733 caught the government flat-footed.

B) The Excise Crisis of 1733

As we have seen above, ninety years after the introduction of excise taxation in England and Wales, the domestic excise on beer and ale was no longer contentious (Brewer, 1988). Yet Walpole's proposal in 1733 to revive of the notion of 'foreign excises,' which had been briefly imposed during the English Civil Wars and Interregnum but were merged with customs by the Cavalier Parliaments in December 1660, caused a major political crisis. The Excise Crisis of 1733 can only be understood in its Atlantic context, against the backdrop of shifting attitudes to Caribbean trade and an evolving political economy of taxation.

Before looking at the specifics, it is useful to rehearse the chronology of the controversy, which has been described in full in other literature (Langford, 1975). At the heart of the matter was Walpole's determination to effect a permanent reduction in the land tax from four to one shilling in the pound. The actual excise proposal, introduced to Parliament in March 1733, called for the reclassification of duties on tobacco and wine, the first a New World import and the second still chiefly of Spanish and French origin. The scheme did not represent the wholesale abolition of customs, nor did it differ categorically from Walpole's successful introduction of excise duties on tea, chocolate and coffee in 1724. The East India Company had paid those duties under protest but without incident, which no doubt reassured Walpole that his new scheme was realistic when he had begun to float the idea in January 1733. The government's strategy was to introduce to the tobacco bill first and then to consider the matter of imported wines.

Despite the March print campaigns against the tobacco bill, which consisted of 'instructions to MPs', the government had secured a healthy majority in mid-March in

advance of the Easter recess. Yet afterwards, renewed pressure by Walpole's opponents succeeded, at very short notice, in mobilising further resistance to the measure from a great many traders and shopkeepers who would never have been affected by the legislation. In the weeks that followed, MPs were besieged by further campaigning from both the provinces and London. The public pressure was so great that Walpole's majority began to collapse, and when he withdrew the legislation on 11 April, London crowds burned him and the queen in effigy (Langford, 1989, pp.30-31). Although Walpole retained his grip on power and the support of George II, his supporters struggled in the general election of 1734 when lists were circulated of how MPs voted on the bill. More surprisingly yet still, Walpole had encountered resistance from the very landed gentry whose land taxes he had wanted to lower, and his claims that 'honest tradesman' would benefit from more vigorous prosecution of frauds and evasion had fallen on deaf ears. At least one young MP, William Pitt the elder, would later regret his opposition to the bill, which has furthered the suspicion that this was just another tawdry example of the heat of faction in Hanoverian politics (Langford, 1975, p.3). Yet despite the fact that Pitt himself would subsequently reintroduce the foreign excises during his own ministry, which gives grist to the charge of hypocrisy and opportunism, the dispute also revealed fundamentally irreconcilable visions of taxation.

Forty-five years after the Revolution of 1688, the challenge for Parliament was how to tax imported goods from the Atlantic economies. As can be seen in Figure 4, the Customs were a well-established if increasingly stagnant source of revenue. The overseas merchants were used to a system whereby the shipmaster declared the value of his cargo and was assessed on that basis. Walpole's plan was to move certain key imported goods (wines, teas, tobacco, etc) from Customs to the Excise, where Excise officers would assess the duty on the wholesaler or first buyer as had been done during the Interregnum.

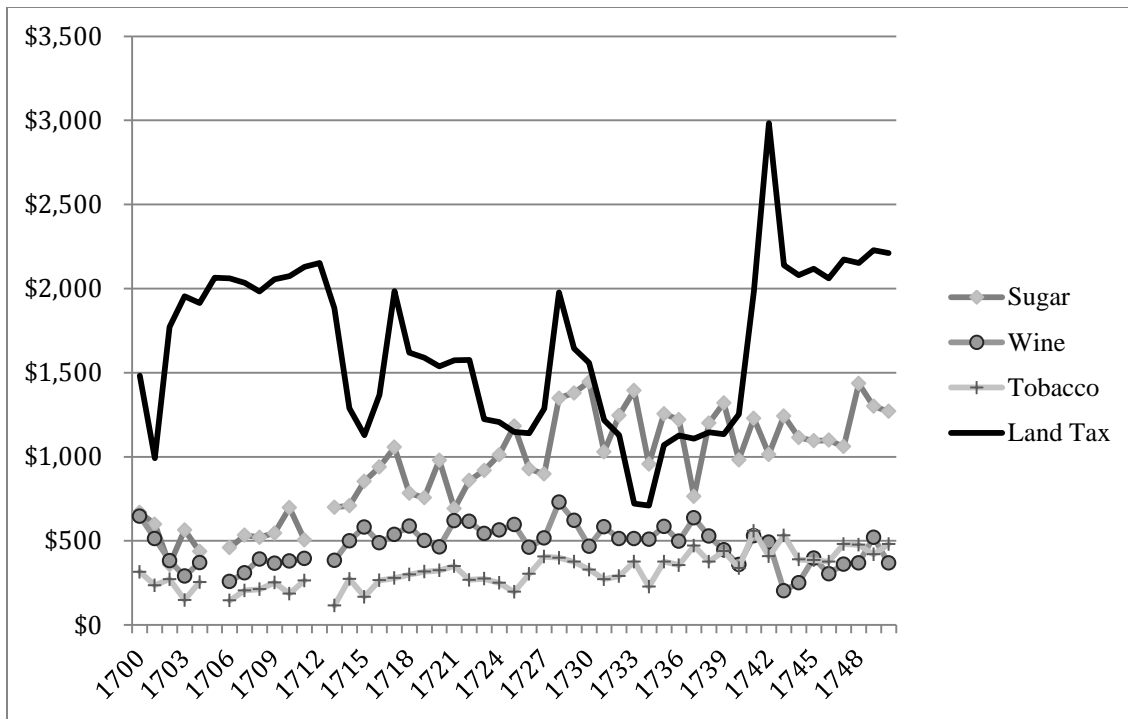
On a *prime facie* level, there were some obvious problems with the plan. Firstly, it exposed a much larger number of people to direct interaction with the state. Whether or not the actual incidence of the tax would be shifted onto the consumer, the opponents to this measure felt it was an unacceptable extension of state power. There was a resistance

to reframing what was seen as a tax on a specific sector (importers of particular goods) onto consumption more broadly. The systemic interest of public bondholders was less effective in 1733 than in 1710. Partly this was because there were those who wanted to see the public debt paid off rather than made perpetual (Langford, 1975).

The Excise Scheme was catastrophic for Walpole's parliamentary management, but it should not be considered in isolation. Although the tobacco bill was withdrawn in April 1733, the Molasses Act was passed and finally given royal assent in May of that year. Walpole's strategy for fiscal reform had been two-fold: to pay for the reduction of the land tax through an excise on imported tobacco from North America and wine from continental Europe, while simultaneously imposing a high tax on imports of foreign molasses from the Spanish and French West Indies into colonial North America and Ireland. In this incidence, high customs duties became a weapon of economic warfare rather than solely a source of revenue, precisely because they were understood to be a deterrent to importation. Walpole's project was one of reshaping the terms of trade within the British overseas empire as much as it was about changing the composition of the fiscal mix in the metropole.

The records of the Board of Trade in the National Archives are replete with attempts to understand domestic commodity taxation and to apply it to the imperial frame (TNA CO 390/3-5). Yet the problem facing Walpole was rather stark indeed. In order for his scheme to work, either the inland duties on wine and tobacco had to be set, as his critics complained, at a level that would double their cost basis, or the scale of evasions and smuggling in Customs had to be such as to mean that half the revenue to which the state was entitled went uncollected (see Figure 7). By contrast, the domestic duty on strong beer and ale was consistently well under a fifth of its retail price, and conventionally represented no more than a third of its total cost. This was perhaps more alarming because imports of tobacco and wine had largely stagnated, compared, for instance, to sugar, which had steadily risen.

Figure 7: Value of Selected Imports and Land Taxes in £000 Sterling



Source: *British Historical Statistics*, pp. 462-3; 570-1.

Despite their volatility, sugar imports might have been a more sensible target of the scheme, but that would have put Parliament afoul of the same plantation owners who were so fiercely lobbying for the Molasses Act. In the late 1640s and 1650s, when the duties on tobacco and wine were just as high, by contrast, were less than a quarter to a third of the total excise revenues, and nowhere near sufficient to replace the revenue from the assessments (Coffman, 2013, p.102). What remains unclear is why there was no room for compromise, in the form of a more modest reduction of the land tax and a more modest inland duty on tobacco and imported wine? There is no archival evidence that anyone suggested such a compromise, so a definitive answer is beyond the scope of this essay. Yet the question paints up another paradox, which was the heart of debates about taxation in March 1733. And that is how to reconcile the non-fiscal and fiscal consequences of tax policy. The prohibitive duties of the Molasses Act were meant to discourage importation of foreign manufactures in North America and Ireland, whereas the Excise Scheme's equally onerous duties on wine and tobacco were not supposed to damage trade. MPs and their constituents alike could be forgiven for doubting the plausibility of such a claim.

Ultimately the measure failed and Walpole had to find other means of raising additional revenues. The solution to the problem of Atlantic trade was found instead in enlargement of the Sugar Acts and the imposition of the Molasses Act. The episode threw into relief the beginnings of divisions within the Tories and Whigs that would lead to reconfigurations of these parties in the later eighteenth century. Twenty years later, in the 1750s, foreign excises were reintroduced, but not in lieu of customs. Rather they were imposed on commodities that were thought to or in fact did ordinarily escape the customs office. By the outbreak of the American Revolutionary wars, nearly half the excise revenue came from foreign goods. This is not at all well understood. The consequences of this for domestic manufacturing is yet to be properly researched, but the ad hoc nature of these additional impositions reflects the process of negotiation described above.

C) The Income Tax

Direct taxation in England and Wales also has a long history. Tudor subsidies operated on the theoretical basis that the king was the largest landowner and should be able to ‘live on his own,’ but might be subsidized by lesser landowners, especially to make effectual defense of the kingdom (Coffman, 2013b). Thus while the customs revenue had traditionally gone to the navy (a principle that continued into the eighteenth century) and the excise revenue went to service the debt (which was largely the result of the crown needing to keep armies in the field), direct taxation was seen in terms of ordinary supply in the sense of supplementing crown income and as extraordinary supply in the sense of raising additional revenue in wartime. This was the theoretical basis for the very high level of Assessments during the Interregnum and also of the land taxes, which were settled in the late seventeenth century, as is evident from Figure 4. Income taxes were virtually unheard of in the British Isles and elsewhere in Europe, except insofar as the Commonwealth and Cromwellian regimes had used them as punitive measures against royalists.

The problem facing the regime during the Napoleonic Wars was two-fold. First, the continental blockade had produced a boon to British domestic manufacturers (provided

they could get raw materials) and to British agriculture. Marginal lands that had not been cultivated since the Black Death were brought back into production and grain prices were higher than they had been in two generations (Mingay, 1989). This meant that high levels of taxation were comparatively well-targeted, but once 60-70% of domestic commodity taxation was captured by the excise, additional impositions became both unrealistic and widely recognized to be destructive to trade (Bordo, 2005, p.369). Although it is much harder to estimate the level of smuggling and evasion, it is not difficult to imagine that it increased as well.

Contemporaries were also aware that the Revolutionary and Napoleonic Wars and especially the blockade had produced some windfalls to certain sectors. Continued high levels of indirect taxation, however, threatened the viability of particular sectors at the risk of widespread economic hardship (O'Brien, 1988). The imposition of the income tax thus represented not so much redistribution in the modern sense but rather an attempt to extend fiscal capture in directions that had, ipso facto, escaped the state's reach. One thing that made it more realistic than it might have been otherwise was that the suspension of convertibility made it possible to pay income taxes with bank notes. Otherwise, the scarcity of small coin, which had been a feature of British economic life for over a century, would have interfered with the tax's collection (Neal, 1998). Politically it was accepted under the reasoning that stakeholders had an obligation to assist the regime in defending the kingdom. This emphasis on stakeholders, on the one hand, mimicked the character of the franchise, which was very far from universal, but on the other hand had the feature of ensuring a level of progressivity that was not the natural outcome of indirect taxation.

Whether or not property qualifications meant that landowners suffered the effects of the tax disproportionately remains an open question, but the aim was to impose an extraordinary (i.e. temporary) level that would meet an immediate necessity (Daunton, 2007). Ironically, this was the original logic for the excises during the Interregnum (that they fell equally on malignants and neutrals as well as those loyal to the regime) (Coffman, 2013b), but unlike the excises the income taxes were, indeed, repealed after

Waterloo. A much more serious issue for sectoral interests in the 1820s was the manner in which the return to gold convertibility was managed in a way that favored some sectors at the expense of others, but that was largely a product of the Bank of England's ambiguous role as a para-statal with several different constituencies: its own shareholders, government bondholders, and the other financial institutions with which it simultaneously cooperated and competed (Neal, 1998). The crisis of 1825 could profitably be further explored in this way.

IV. Discussion

We have proposed a structural and historical approach to explore the cleavages between political groups over taxation, and particularly the conditions under which rising taxation is politically sustainable. Models of structural economic analysis, notably those based on modern formulations of Quesnay's *Tableau Économique*, represent the internal structure of an economy by showing its sectors and their interdependencies. They thus allow conceptualizing political cleavages in terms of the interplay of economic interdependencies between sectors and political conflict between the groups that represent those sectors. We have explored the ability of this approach to illuminate political and economic processes by referring to taxation in eighteenth-century Britain.

Our approach provides specific insights into the sustainability of taxation. In particular, we have shown that what matters is not the absolute level of taxation but rather how it is structured. In eighteenth-century Britain, the incremental rise of excises and the income tax were seen as serving a 'systemic interest' in the context of the fiscal-military state. This, in turn, depended on an awareness of interdependencies. Because the franchise was still relatively limited, there were no political parties that operated outside this system of interdependencies. The fact that most (though not all) of the public debt was held domestically and that domestic bondholders had realistic prospects of creditor action may differentiate this somewhat from the situation in Europe or the developing world today.

This essay also suggests that, contrary to received wisdom, high levels of taxations do not necessarily hinder economic growth. In 1814-1820 British debt peaked at 260% of GDP (Reinert - Rogoff, 2009) and the domestic excise was 60-70% of output (Bordo, 2005). Yet Britain was on the verge of a period of sustained economic growth. Much of the current work on public sector crowding out private investment ignores sectoral interdependencies in favour of aggregates, and this may be a reason why it finds it difficult to explain sustained growth in the presence of high taxation.

In conclusion, our approach suggests that the awareness of and commitment to systemic interest in the construction of the particular interests of political groups, as well as the building of fiscal systems that favour such awareness and commitment, may be a fundamental element for the political sustainability of taxation – and one that is arguably just as relevant today.

References

- Anderson P. (1974), *Lineages of the Absolutist State*, London, New Left Books
- Ashworth W. (2003), *Customs and Excise: Trade, Production and Consumption in England, 1640-1845*, Oxford, Oxford University Press
- Baker D.A. (1981), *Agricultural Prices, Production and Marketing, with Special Reference to the Hop Industry: North-East Kent, 1680-1760*, New York, Taylor & Francis
- Baranzini M. – Scazzieri R. (1990), *The Economic Theory of Structure and Change*. Cambridge; New York, Cambridge University Press
- Becker G.S. (1983), A Theory of Competition Among Pressure Groups for Political Influence, *The Quarterly Journal of Economics*, vol.98, n.3, pp.371-400
- Blyth M. (2003), Structures Do Not Come with an Instruction Sheet: Interests, Ideas, and Progress in Political Science, *Perspectives on Politics*, vol.1, n.4, pp.695–706
- Bordo M. (ed.) (2005), *Gold Standard and Related Regimes: Collected Essays*, Cambridge, Cambridge University Press
- Brewer J. (1988), *The Sinews of Power: War, Money and the English State, 1688-1783*, New York, Alfred A. Knopf
- Buchanan J.M. - Tullock G. (1962), *The Calculus of Consent, Logical Foundations of Constitutional Democracy*, Ann Arbor, University of Michigan Press
- Burnaby A. (1696), *An essay upon the excising of malt*, London, Wing B5741

- Candela G. (1975), Il modello economico di François Quesnay, *Giornale degli Economisti ed Annali di Economia*, voll.1-2
- Cardinale I. (2012), The Political Economy of Circular Interdependencies and Vertical Integration: Opening the Black Box of ‘National Interest’, SSRN Scholarly Paper ID 2357981, Rochester, NY, Social Science Research Network, <http://papers.ssrn.com/abstract=2357981>, *mimeo*
- Cardinale I. (2014a), Towards a Structural Political Economy of Resources, in Baranzini M. - Rotondi C. - Scazzieri R. (eds.), *Resources, Production and Structural Dynamics*, Cambridge: Cambridge University Press, forthcoming.
- Cardinale I. (2014b), Towards a Structural Political Economy of the Eurozone, in Cardinale I. - Coffman D. - Scazzieri R. (eds.), *The Political Economy of the Eurozone*, Centre for Financial History, University of Cambridge, *mimeo*
- Coffman D. (2013a), Credibility, Transparency, Accountability and the Public Credit under the Long Parliament and Commonwealth, 1643-1653, in Coffman D. - Leonard A. - Neal L. (eds.), *Questioning Credible Commitment: Perspectives on the Rise of Financial Capitalism*, Cambridge, Cambridge University Press, pp. 76-103
- Coffman D. (2013b), *Excise Taxation and the Origins of Public Debt*, Basingstoke, Palgrave Macmillan
- Coffman D. - Gao Y. (2011), Capitalizing Costs: The Excise and Industrialization, a Case Study of the Brewing Industry, University of Cambridge, *mimeo*
- Daunton M.J. (2007), Trusting Leviathan: The Politics of Taxation in Britain, 1799-1914, Cambridge, Cambridge University Press
- Davenant C. (1698), *Discourses on the Public Revenues and on the Trade of England in Two Parts*
- Dodgson J. (2013), Gregory King and the Economic Structure of Early Modern England: An Input-Output Table for 1688, *Economic History Review*, vol.66, n.4, pp.993-1016
- Dudley C. (2013), Party Politics, Political Economy, and Economic Development in Early Eighteenth-Century Britain, *Economic History Review*, vol.66, n.4, pp.1084-1100
- Fine S.E. (1937), Production and excise in England, 1643-1825, Unpublished Ph.D. dissertation, Harvard University, *mimeo*
- Finnemore M. (1996), *National Interests in International Society*, Ithaca, NY, Cornell University Press
- Gelderblom O. (ed.) (2009), *The Political Economy of the Dutch Republic*, Aldershot, Ashgate
- Graham A. (2013), Auditing Leviathan: Corruption and State Formation in Early Eighteenth Century Britain, *English Historical Review*, vol.128, n.533, pp.806-838
- Hagemann H. - Landesmann M.A. - Scazzieri R. (2003), *The Economics of Structural Change*, Cheltenham, UK; Northampton, MA, Edward Elgar.
- Hicks U.K. (1968), *Public Finance*. Welwyn, J. Nisbet. 3ed.

- Hishiyama I. (1960), *The Tableau Economique of Quesnay*, *Kyoto University Economic Review*, vol.30, n.1, pp.1-46
- Hobson J.A. (1902), *Imperialism: A Study*, London, James Nisbet.
- Houghton J. (1969) *A Collection, For Improvement of Husbandry and Trade*, London, Nos. 1-582, 1692-1703 (Farnborough, reprint, 1969)
- Janeway W.H. (2012), *Doing Capitalism in the Innovation Economy: Markets, Speculation and the State*, Cambridge, Cambridge University Press
- Kennedy W. (1913) *English Taxation 1640-1799: An Essay on Policy and Opinion*. London, Frank and Cass, Ltd.
- King G. (1696), Of the naval trade of England anno 1688 and the national profit then arising thereby, in Barnett G.E. (ed.) *Two Tracts by Gregory King*, Baltimore, The Johns Hopkins Press, 1936, pp.113- 24
- King G. (1973), Notebook (the Burns Journal), (c. 1696), in Laslett P. (ed.), *The earliest classics: John Graunt and Gregory King*, Farnborough, Gregg, 1973
- Krusell P. - Smith A.A. (2006), Quantitative Macroeconomic Models with Heterogeneous Agents, *Econometric Society Monographs*, vol.41, pp. 298-340
- Kwass M. (2013), Court Capitalism, Illicit Markets, and Political Legitimacy in Eighteenth-Century France: The Salt and Tobacco Monopolies,” in Coffman D. - Leonard A. - Neal L. (eds.), *Questioning Credible Commitment: Perspectives on the Rise of Financial Capitalism*, Cambridge, Cambridge University Press, pp.228-251
- Kydland F.E. - Prescott E.C. (1982), Time to Build and Aggregate Fluctuations, *Econometrica*, vol.50, n.6, pp.1345–1370
- Landesmann M.A. - Scazzieri R. (1996), *Production and Economic Dynamics*, Cambridge; New York, Cambridge University Press
- Langford P. (1989), *A Polite and Commercial People: England 1727-1783*, Oxford, Oxford University Press
- Langford P. (1975), *The Excise Crisis: Society and Politics in the Age of Walpole*. Oxford, Clarendon Press
- Leontief W. (1941), *The Structure of the American Economy*, New York, Oxford University Press.
- List F. (1885), *The National System of Political Economy*, London, Longmans, Green
- Macdonald J. (2003) *A Free Nation Deep in Debt: the Financial Roots of Democracy*, New York, Farrar, Straus and Giroux
- Mathias P. (1959), *The Brewing Industry in England 1700-1830*, Cambridge, Cambridge University Press
- Mitchell B. R. (ed.) (1988), *British Historical Statistics*, Cambridge, Cambridge University Press
- Morgenthau, H. J. (1954), *Politics among Nations: The Struggle for Power and Peace*, New York, Knopf
- Murphy A.L. (2013), Demanding ‘Credible Commitment’: Public Reactions to the Failures of the Early Financial Revolution’, *The Economic History Review*, vol.66, pp.178-197
- Murray R. (1696), A proposal for translating the duty of excise. From malt-drinks to malt, London, Wing M3122

- Neal L.D. (1998), The Bank of England's First Return to Gold and the Stock Market Crash of 1825, *Federal Reserve Bank of St. Louis Review*, vol.79, 53–76
- North D. C. - Weingast B. (1989), Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England', *Journal of Economic History*, vol.43, pp.803-832
- O'Brien P.K. (1988), The Political Economy of British Taxation, 1660-1815, *Economic History Review*, 2nd ser., vol. 50, pp.1-32
- O'Brien P.K. - Hunt P.A. (1997), The Emergence and Consolidation of the Excises in the English Fiscal System before the Glorious Revolution, *British Tax Review*, vol.1, pp.35-58
- Olson M. (1965), *The Logic of Collective Action*, Cambridge, MA, Harvard University Press
- Ormrod D. (1985), *English Grain Exports and the Structure of Agrarian Capitalism 1700-1760*, Hull, Hull University Press
- Ormrod W. M. - Bonney M. - Bonney R. (1999), *Crises, Revolutions and self-Sustained Growth: Essays in Fiscal History, 1130-1830*, Stamford: Shaun Tyas
- Parker H. (Philo-Dicaeus) (1647), *The standard of equality in subsidiary taxes & payments*, London, Printed by D.H
- Pasinetti L.L. (1977), *Lectures on the Theory of Production*, New York, Columbia University Press
- Pasinetti L.L. (1981), *Structural Change and Economic Growth: A Theoretical Essay on the Dynamics of the Wealth of Nations*, Cambridge; New York, Cambridge University Press
- Pasinetti L.L. (1993), *Structural Economic Dynamics: A Theory of the Economic Consequences of Human Learning*, Cambridge; New York, Cambridge University Press
- Pasinetti L.L. (2002), Il Tableau Économique e le economie moderne, Paper Presented at the Fondazione Mattioli, Milan.
- Persson T. - Tabellini G.T. (2002), *Political Economics: Explaining Economic Policy*, Cambridge, MA, MIT Press
- Pettigrew W.A. (2013), *Freedom's Debt: The Royal African Company and the Politics of the Atlantic Slave Trade, 1672-1752*, Chapel Hill, NC, University of North Carolina Press
- Petty W. (1662), *A treatise of taxes and contributions*, London, Printed for N. Brooke
- Pincus S. (2009), *1688: The First Modern Revolution*, New Haven, Yale
- Phillips A. (1955), The Tableau Économique as a Simple Leontief Model, *The Quarterly Journal of Economics*, vol.69, n.1, pp.137–144
- Plumb J.H. (1967), *The Growth of Political Stability in England, 1675-1725*, London, Macmillan
- Quadrio Curzio A. (1967), *Rendita e distribuzione in un modello economico plurisetoriale*. Milan, A. Giuffrè
- Quadrio Curzio A. (1975), *Accumulazione del capitale e rendita*, Bologna, Il Mulino
- Quadrio Curzio A. - Pellizzari F. (1999), *Rent, Resources, Technologies*, Berlin-Heidelberg, Springer-Verlag

- Quesnay F. (1759), *Quesnay's Tableau Économique*. Edited by Meek R.L., London, New York, Macmillan; A.M. Kelley for the Royal Economic Society and the American Economic Association
- Reinert, S. A. (2011), *Translating Empire: Emulation and the Origins of Political Economy*, Cambridge, MA, Harvard University Press
- Reinhart C. - Rogoff K. (2009), *This Time Is Different: Eight Centuries of Financial Folly*, Princeton, Princeton University Press
- Rogowski R. (1987), Political Cleavages and Changing Exposure to Trade, *The American Political Science Review*, vol.81, n.4, pp.1121-1137.
- Schwartz J.T. (1961), *Lectures on the Mathematical Method in Analytical Economics*, New York, Gordon and Breach
- Scott J. (2003), 'Good Night Amsterdam.' Sir George Downing and Anglo-Dutch Statebuilding, *English Historical Review*, vol.118, n.476, pp.334-356
- Seligman E.R.A. (1899), *The Shifting Incidence of Taxation*, New York, Augustus M. Kelley, 1969
- Simon H.A. (1962) The Architecture of Complexity, *Proceedings of the American Philosophical Society*, vol.106, n.6, pp.467-482
- Simon H.A. (2002), Near-Decomposability and the Speed of Evolution, *Industrial and Corporate Change*, vol.11, n.3, pp.587-99
- Skinner Q.R.S. (2000) [1978], *Foundations of modern political thought*. 2 vols. Cambridge, Cambridge University Press
- Sraffa P. (1960), *Production of Commodities by Means of Commodities; Prelude to a Critique of Economic Theory*, Cambridge, University Press
- Stasavage D. (2007), Cities, Constitutions, and Sovereign Borrowing in Europe, 1274-1785, *International Organization*, vol.61, pp. 489-525
- Stasavage D. (2003), *Public debt and the birth of the democratic state: France and Great Britain, 1688-1789*, New York, Cambridge University Press
- Stockton W. (1694), The humble informations and motions of William Stockton on Gent, touching the present state of the Excise of Beer and Ale in England, British Library Harley MS 1223, f. 192, 1694
- Stone R. - Brown A. (1962), *A Computable Model of Economic Growth*, London, Chapman and Hall
- t'Hart M. (1991), The devil or the Dutch: Holland's impact on the financial revolution in England 1643-1694,' in *Parliaments, Estates and Representations*, vol.11, n.1, 39-52
- Truman D. B. (1962), *The Governmental Process: Political Interests and Public Opinion*, New York, Knopf
- Vaggi G. (1987), *The Economics of François Quesnay*, London, Macmillan
- Von Neumann J. (1945), A Model of General Economic Equilibrium, *The Review of Economic Studies*, vol.13, n.1, pp.1-9
- Wixted B. - Yamano N. - Webb C. (2006), Input-Output Analysis in an Increasingly Globalised World, OECD Science, Technology and Industry Working Papers. Paris: Organisation for Economic Co-operation and Development. <http://www.oecd-ilibrary.org/content/workingpaper/303252313764>
- Yamamoto K. (2011), Piety, Profit, and Public Service in the Early Financial Revolution, *English Historical Review*, vol.126, pp.806-834

