Evolution of Taxation in England, 1700-1850: a Period of War and Industrialization

Robert M. Kozub

University of Wisconsin-Milwaukee

Introduction

The period from 1700 to 1850 represents an important period in British history. During the period from 1700 to 1850, Britain was involved in a series of wars and rebellions for 89 of the 150 years, necessitating increased governmental expenditures (See Appendix One for a list of the military involvements).[1] As a result of the additional level of expenditures and revenue needs, Britain developed a tax system that has basically remained intact to the present day.[2] During this same period, Britain was also engaged in industrialization. Since the generally accepted beginning of the Industrial Revolution in England was 1780, and the completion of the first phase of industrialization in 1830, Britain's industrialization coincided with war. The British Industrial Revolution was a transition from organic to mineral fuels, from natural to mechanical power, from wood to iron, from individually crafted items to mass production, and the expansion of a capacity of heavy industry.

[1] The periods of conflict between 1700 and 1850 account for approximately 59 percent of the time under study. This creates problems for classical economic analysis with its Ricardian legacy. Classical economists prefer to discuss "normal" situations and treat wars or crop failures as abnormalities which temporarily disturb the economy, and as such are ignored in order to analyze the fundamental issues facing an economy. Since war occurred during more than half of the period leading up to and including the Industrial Revolution, war may be considered the norm during this period, and the interaction of industrialization, taxation, and war with its resulting increase in governmental expenditures cannot be ignored.

[2] For example, the county quota system of distributing the Land Tax remained in effect from 1798, less amount thereafter redeemed, until 1949. (Turner and Mills, 1986, p. 2).

In analyzing the economic history of a nation, the ability to levy taxes must not be overlooked. The levying of a particular tax or a set of taxes will affect a nation's economy by placing constraints on demand and may limit the capacity of the economy to development of the British tax system from the beginning of the eighteenth century through the mid-nineteenth century. The effects on a nation's economy are important considerations in the development of the tax system. Such limitations may be the result of implementing national economic policy or simply the result of financing governmental operations. This article will briefly discuss the military and civil administration in Britain so the environment for imposing addition taxes can be understood; then the majority of the article will discuss the development of taxation, the magnitude of the taxes, and the effects of taxation on the economy. In determining the effects of taxation on the economy, a macro-economic model is used to demonstrate the interaction of taxation and government expenditures.

British Military

Britain was a peripheral power in Europe and a minor participant in the wars occurring in sixteenth and seventeenth century Europe. In the late seventeenth and early eighteenth centuries, Britain became a military marvel of the age. (Brewer, 1989) After 1688, British military involvement in continental wars changed dramatically. Now Britain was at war more frequently and for longer periods of time, deploying armies and navies of unprecedented size. Protracted conflicts and the greater scale of these conflicts posed logistical problems. In comparison, war in the eighteenth century dwarfed civilian enterprises. Britain's military was the most important single factor in the domestic economy, as it became the largest spender and borrower, and the largest single employer. Public spending, fuelled by costs associated with the military, rose at a tremendous pace. To support the additional spending, taxes and public debt grew rapidly. As the need for increased public revenue and spending grew, the need for civil administration supporting the military effort increased dramatically.

Civil Administration

The British military achievements of the eighteenth and nineteenth centuries would not have been possible without adequate resources in terms of manpower and money. In order to achieve military success, resources had to be mobilized before such resources could contribute to military prowess. Mobilization of resources requires some degree of systematic administration. Prior to the middle of the eighteenth century most European states lacked such organization and relied on private entrepreneurs to manage their war efforts, using military private entrepreneurs to raise and command troops and financial middlemen to raise loans and collect taxes. After the middle of the eighteenth century the European states began to exercise an unprecedented control over fighting and financing war, due to their improving administrative capability. Britain was a member of this group of states. In Britain there was a growing number of office-holders, organized on departmental lines and run by committees, which came to dominate the fiscal and administrative operations of government. In the beginning, this mode of government was neither a modern bureaucracy nor a quasi-feudal special interest concerned with privilege and individual gain. Much of this form of government was efficient in the sense that it was active. Table 1 shows the number of employees in administrative departments from 1692 to 1755 and the number of full-time employees in the fiscal bureaucracy from 1690 to 1783.

While some departments had more rapid rates of growth, the greatest increase in the total number of employees occurred in the departments of revenue. Luckily Britain had a solid core of employees in the departments of revenue around which subsequent expansion was built.

The Development of British Taxation

From 1700 to 1850, Britain created a tax system, which still remains to this day. Britain's tax system evolved over time and was not present in its current form early in this period. The prominent features of this tax system included an annual accounting by the Chancellor of the Exchequer

TABLE 1: Employees in Administrative Departments, 1692-1755

	1692	1708	1716	1726	1741	1745	1748	1755
State	11	35	29	25	40	46	42	43
Clerks	4	16	12	7	20	19	21	23
Trade	–	30	65	73	109	120	115	122
Clerks (head office)	3	6	7	7	8	8	8	6
Clerks total	–	6	–	8	16	18	10	16
Clerks in the field	–	–	37	51	87	98	93	100
Office of the High Lord Admiral	8	12	11	16	20	18	37	32
Clerks	–	1	1	7	7	6	20	13
Navy Board	54	18	13	17	59	63	64	200
Clerks (head office)	16	1	1	2	3	3	3	68
Clerks total	16	1	1	2	14	15	15	101
Employees in the field	30	5	3	3	42	43	37	106
Treasurer of the Navy	–	–	–	–	26	28	29	29
Office								
Clerks	–	–	–	–	17	19	20	20
Commissioners for Victualling the Navy	5	8	24	10	16	16	15	36
Clerks	–	1	7	0	3	3	3	36

FULL-TIME EMPLOYEES IN THE FISCAL BUREACRACY, 1708-1783

	1708	1716	1726	1741	1748	1755	1763	1770	1783
Customs	1839	1750	1911	1925	1939	1832	2290	2244	2205
Excise	2247	2778	3466	3745	3360	3294	3973	4066	4908
Salt*	298	404	465	476	484	468	410	401	364
Stamps**	73	84	112	119	115	117	110	110	120
Post Office**	158	231	232	155	162	253	200	200	200
Treasury & Exchequer**	124	180	109	137	234	220	200	200	200
Wines etc.**	41	29	47	56	56	55	50	50	50
Other	NA	491	155	155	245	245	245	245	245
Total	4780	5947	6497	6765	6595	6484	7478	7525	8292

* 1763 and 1770 figures are estimates.

** 1763, 1770 and 1783 figures are estimates.

Sources: Edward and John Chamberlayne, *Angliaes Notitia or the Present State of Britain*, 17th ed (1692); 22nd ed (1708); 24th ed (1716); 27th ed (1726); 34th ed (1741); 37th ed (1748); 38th ed (1755).

to Parliament; direct and indirect taxes, which permitted large and variable increases in revenue; and the creation of a tax administration or bureaucracy. In times of extraordinary need of revenues, the financial system made use of both long and short term borrowing as is the case today.

During the seventeenth century, the financial needs of the British government outgrew the traditional financial system. Prior to the eighteenth century, the British Crown paid for the cost of their government partially from the income from the royal estates and partly from special imposts and taxes (Dowell, 1884; and Seligman, 1921). As late as 1765, legal experts were distinguishing between the ordinary income of the King and taxes, which were classified as extraordinary revenue (The *Student's Blackstone*, 1887, p. 60). Monarchs before the Civil War, the Glorious Revolution, raised some revenues by selling off state or crown land, manipulating the currency or coinage, vending public offices and honours, and levying forced loans. These techniques were recognized as either economically undesirable or as politically unfeasible after the Civil War (Glorious Revolution). (Brewer, 1989, p. 88)

The Civil War and political revolution of the seventeenth century effectively transferred governmental financial responsibility from the Crown to Parliament. After 1668, the House of Commons was responsible for raising the government's needed revenue. When revenues were to be considered, the Commons usually resolved itself into a committee of ways and means. After Parliament assumed this responsibility, almost all "royal revenue" gradually became known as "public revenue," since the revenue was raised by Parliamentary statute. The only revenue for which Parliament was not absolutely responsible was from those revenue sources reserved to the Crown by ancient prerogative. During this same period, the royal departments of state became public departments. As Parliament consolidated its control over revenue, it also began to control governmental expenditures. In the process of controlling expenditures, Parliament began to require the submission of budget requests. By the last quarter of the eighteenth century, the government's appropriations were aggregated and presented to Parliament by the Chancellor of the Exchequer in an Annual Appropriation Act (Binney, 1958).

In response to increasing expenditures, the British government experimented with a variety of direct and indirect taxes, including custom duties, excise taxes, stamp duties, poll taxes, and a land tax.[3] Traditionally, taxation in England had been direct by means of poll taxes or forms of an income tax and property taxes. Of the property taxes, the "tenths", an urban tax on property, and the "fifteenth", a rural tax on the rental value of land were the most important. Customs duties were imposed during the reign of Edward II. Excise taxes were introduced in the seventeenth century (Seligman, 1914, pp. 58-59). Charles II introduced a property tax, which was assessed on real property, personal property, and public offices. This property tax evolved into the eighteenth century land tax. While England was mainly an agricultural community, the land tax was suited to the economic conditions. This eighteenth century land tax was intended to be a general tax on property (Seligman, 1914, p. 57). The tax was collected by means of rigid county quotas, where a total sum was to be collected with the lands charged at a rate necessary to produce the revenue quota (Seligman, 1921, pp. 45-47; and Petty, 1667, pp. 61-62). Effectively, the land tax was transformed into an inelastic rent-charge. The incidence of the tax varied on a county-by-county basis. While the incidence of the land tax was based on the value of the land, the quota per county system distorted, on a national basis, the relationship between the amount of tax due and the value of the land, and the ability to pay. The land tax was bitterly resented by the landowners (Seligman, 1914, p. 48). The yield of the land tax remained constant during the eighteenth century. When the need for additional revenue outgrew the yield from the land tax, the government reluctantly switched from this tax to an income tax in 1798 (Ward, 1953, pp. 136 and 175). The yield stagnated on other assessed taxes including the window tax (1769); the carriage, stagecoach and cart taxes (1746 and 1776); the servants tax (1777); the inhabited house tax (1778); the horse tax (1784); the communication tax (1784); and the shop taxes (1786)

[3] The Land Tax was a real estate and property tax, including buildings as well as land, and moveable goods, and was also a form of income tax on salaries of certain public offices and tithes. (Turner and Mills, 1986, p. 2).

(Dowell, 1884).[4] Some of these taxes were apparently enacted in order to shore up the revenue yield in order to meet the increased revenue needs while expenditures were increasing. Each of these taxes was incapable of solving the long-term fiscal problems of the government, and probably delayed the implementing of the income tax (Dowell, 1884).

Until the 1790's, the British government mainly used a combination of borrowing and customs and excise taxes to solve its financial problems. The system of public debt that developed included the use of Exchequer bills to meet daily expenditures, and long-term borrowing to meet the costs of the various wars. The creation of this system of short-and long-term borrowing was a milestone in the development of the modern state. This system of public borrowing allowed the government to make expenditures far greater than its tax revenues, but proportional to the country's growing wealth. Taxation, as practised during the eighteenth century, could not produce enough revenue to finance the eighteenth-century wars. If the only source of financing the wars had been taxation, drastic, if not radical, changes would have been needed. This alternative would have been politically unacceptable at the time. In addition, the government's borrowing created new investment opportunities, and presented the lending public with a variety of new short-and long-term securities. The existence of the government debt contributed directly to the development of London as a financial centre.

While borrowing provided the necessary funds to fight the various wars, it was the custom duties and excise taxes that funded the service of the public debt and the peacetime armed services. Custom duties were first imposed in 1275, when import duties were levied on wool and leather. By the seventeenth century, custom duties were enacted not only for protective purposes but also as a source of revenue. After 1700, custom duties were considered to be an ordinary tax on consumer goods, and were often enacted solely for revenue purposes. Despite that, some

[4] Not surprisingly, similar taxes were levied in the thirteen British colonies in North America that declared their independence in 1776, but not necessarily at the same time the tax was imposed in Britain (Crum and Kozub, 1986; and Kozub, 1983).

customs retained their protective nature until the nineteenth century. By 1760, there were more than 800 acts pertaining to custom tariffs. Mainly in response to the revenue needs of the government, 1,300 additional acts were added by 1820. In 1840, custom duties were imposed on 872 articles. The majority of these duties generated relatively little revenue. Specifically, 85 percent of the custom revenue was due to nine items, and 95 percent of the receipts were generated by the tariffs on only 17 items (Buxton, 1888, vol. 1, p.49). Custom revenues doubled between 1700 and 1780, then doubled again by 1800, and trebled between 1800 and 1850. Reform of the tariff system was attempted in 1842 when the duties on more than 750 items were repealed or reduced. In 1845, the custom duties on an additional 520 items were repealed. Despite these modifications, custom revenues remained stable from 1842 to 1850 (Dowell, 1884).

The first excise tax was imposed on beer in 1643, and became an important and consistent generator of revenue. After 1690, the number of excise taxes increased rapidly. Between 1700 and 1780, the revenue from the various excise taxes increased almost 600 percent, and then it further increased by approximately 70 percent by 1800. Between 1800 and 1821, the revenue from the excise taxes almost trebled; however, the yield declined by 50 percent by 1850, due to a reduction in the rate and the repeal of the excise tax on various items (Dowell, 1884; and Kennedy, 1913). The revenue from the excise taxes was twice the revenue from the customs taxes in 1780. While the yield from the excise taxes continued to grow, by 1800 excise taxes accounted for only 50 percent more than the revenue from custom tariffs. In 1820, the excise taxes generated twice the amount of custom taxes. As the yield from excise taxes declined between 1820 and 1850, excise generated 30 percent more revenue then the custom tariffs (Dowell, 1884; and Kennedy, 1913). In the period of increased governmental financial need in the eighteenth century, the excise taxes were very important. The eighteenth-century excise taxes were imposed on a wide variety of consumer goods and raw materials, including beer, malt, spirits, wine, soap, salt, coal, glass, leather, tea, coffee and tobacco. During the Napoleonic Wars, the number of excise taxes was

increased and some rates were increased. Excise taxes were very popular with the government since they were easy to collect; inelastic in yield since they taxed necessities, which were insensitive to price increases, and easily multiplied. In effect, excise taxes presented a flexible source of revenue.

During the eighteenth century, the main source of government revenue was the land and assessed taxes, custom duties, and excise taxes (Seligman, 1914, p. 57). Smaller amounts of revenue came from the stamp duties and the post office. Table 2 presents the sources of government revenues from 1700 to 1850, and the total amount collected from each source.

By 1780, the British tax system was in crisis. The war with the American colonies required that the government find ways of expanding the tax base to meet its financial needs. The odious task of expanding the British tax base fell on Prime Ministers North and Pitt. Both North and Pitt chose to increase the coverage and rates of the assessed taxes. During Pitt's administration, these changes did not meet the revenue requirements once the Napoleonic Wars began. When Pitt became the Prime Minister and Chancellor of the Exchequer in 1784, the excise taxes and custom duties were the prime source of revenue. Pitt first increased the assessed taxes, customs, and excise taxes. In order to

TABLE 2: Tax revenue from all taxes

in £ million

Tax	1700	1750	1780	1801	1811	1821	1831	1851
Customs	1.520	1.540	2.770	6.790	14.400	11.900	19.400	22.000
Excise	1.030	3.450	6.080	10.590	27.400	29.600	20.000	15.300
Stamps	.089	.136	.542	2.602	6.200	6.900	7.300	6.700
Post Office	.077	.093	.136	1.200	1.900	2.100	2.200	2.300
Land & Assessed	1.480	2.210	2.520	5.090	7.700	8.200	5.400	4.600
Taxes on property & income tax	–	–	–	5.800	13.500	–	–	5.500
Total	4.340	7.470	12.520	31.590	73.000	59.900	54.500	57.100

Soruce: Mitchell and Deane, 1962.

increase the yield of the excise taxes, Pitt not only increased the tax rates, he also consolidated the excise taxes, increased the number of items covered by them, and placed them under one central taxing authority. Pitt convinced Parliament that most of the cost of the war with France should be funded by taxation. In 1797, it became obvious to Pitt that existing taxes could not meet the cost of the war. Thus, Pitt proposed a trebling of the assessed taxes, the infamous Triple Assessment (Seligman, 1914, pp. 57-72). This move was both unpopular and unprofitable, with the yield falling far short of expectations (Seligman, 1914, pp. 67-72). In response, Pitt proposed the introduction of an income tax. Pitt considered the change from assessed taxes to the income tax as a move from a tax based on a presumption of income to a general tax upon income (Smart, 1910). A new era of taxation had begun with the introduction of the income tax. This income tax was in effect from 1799 to 1816, not used between 1817 and 1841, and then reintroduced by Peel in 1842, and it has continued in effect since then. During the wars, the income tax generated nearly 20 percent of the tax revenue, but by 1850, it accounted for less than 10 percent of the total tax revenue (Shehab, 1953).

The Magnitude of the Taxes, 1700-1850

In order to analyze the role and effect of taxation from 1700 to 1850, the amount of total tax revenues and the amount of revenue from each source needs to be known. Fortunately the figures for the British government's revenues and expenditures are well documented (Deane and Cole, 1962; and Mitchell and Deane, 1962). There are, however, no accurate figures for the population before the census of 1801. A number of estimates of the population may be found (Mitchell and Deane, 1962). In addition, there are no firm statistics on national income. A number of modern estimates of British national income have been made (Crafts and Harley, 1992; Hoppit, 1990; and Jackson, 1990). Each estimate of national income has been criticized by other estimators (Crafts and Harley, 1992; Hoppit, 1990; and Jackson, 1990). Table 3 presents the sources of government revenues from 1700 to 1850, and the total amount collected

from each source. Table 3 shows the total tax revenue per capita and the estimated gross national income per capita.[5]

Estimated per capita income rose from £8 in 1700 to £12 in 1750, to £18 in 1801, and £25 by 1850. In nominal terms, income per capita rose 50 percent in both the first and second half of the eighteenth century, and then rose by approximately 39 percent in the first half of the nineteenth century. Allowing for price increases, there was a 50 percent increase in real income during the eighteenth century with the largest portion being realized after 1750, and in the first half of the nineteenth century, real income rose 100 percent, with the bulk of the increase being realized after 1815.

By matching the income estimates with the tax revenues from 1700-1850, the national tax revenue is shown to have fluctuated between 9 and 13 percent of national income throughout most of the eighteenth century. Only during the Napoleonic Wars did the tax yield rise rapidly to over 20 percent of national income in the early nineteenth century, and after the war the yield fell to 11 percent of national income by 1850. These figures do not include local tax revenues, which totaled between

TABLE 3: National income and taxation

(Selected Years)

	1744	1779	1799	1812	1832	1841	1846
National Income (£million)	64.0	52.5	272.0	430.0	559.0	450.0	488.0
National Income per capita	8.0	7.5	18.0	25.0	23.1	24.3	24.4
Total tax (£million)	5.75	10.0	31.6	73.0	54.5	51.6	57.1
Tax per capita	0.72	1.43	2.12	4.29	2.25	2.78	2.83

Source: Mitchell and Deane

[5] A severe limitation of this or any study dealing with the national economy and industrial or sectoral movements during this time is insufficient and possibly questionable data. For example, the data may omit relevant factors. The population estimates come from Mitchell and Deane, 1962. The national income estimates used in this study are the revised estimates by Crafts and Harley, 1992. All statements based on these estimates are made with the understanding that uncertainty exists. All efforts were made to find the best estimates. The population and national income figures used in this paper were selected, since in the opinion of the author, they represent the best estimates after considering the soundness of the estimation procedures.

10 and 17 percent of the national tax revenues (Mitchell and Deane, 1962). If local tax revenue were included in the total revenue figure, national and local tax revenue yield varied between 10 and 15.8 percent of national income throughout most of the eighteenth century. During the Napoleonic Wars, the combined tax yield rose rapidly to over 23 percent of national income in the early nineteenth century, and after the war the yield fell to 12 percent by 1850.

Considering only the national tax, the percentage yield of national taxation did not vary greatly during this period, except for the period of the Great War. In real terms, the tax revenue increased more than ten times, while national income increased only seven times. During the period of the Industrial Revolution, 1780 to 1830, tax revenue increased five times while national income rose only four times. Thus, the real burden of taxation per capita increased continuously. Table 3 presents the total national tax revenues and the estimated national income during the period, 1744-1846 (Mitchell and Deane, 1962, pp. 386-387 and 392-393).

The aggregate tax revenues, in terms of percentages, are shown in Table 4. By analyzing the percentage of the total tax revenue generated by each tax, an understanding of the importance of each revenue source is revealed. Between 1700 and 1850, custom duties accounted for 20.3 percent to 44.8 percent of the tax revenue. During the same period, the excise taxes yielded between 23.7 and 49 percent of the government's revenue sources. Combined, these two sources yielded between 55 and 73.7 percent of the revenues. Excise taxes and custom duties grew in importance throughout the eighteenth century; and, except for during the Napoleonic Wars, were the main contributors to government revenues. The land and assessed taxes accounted for slightly more than 34 percent of the tax revenue in 1700, falling to 15.8 percent in 1770, and then increasing slightly to 17.6 percent in 1790. The land and assessed taxes fell in relative importance as the customs and excise taxes became more important. The government's relatively slight reliance on the land and assessed taxes indicate the political influence of the individuals owning land during this period. The income tax yielded 18.36 percent of the government's revenue in 1801, 17.9

percent in 1810, then fell to 3.4 percent of the total tax revenue before being repealed it 1816. After Peel reintroduced the income tax in 1842, the proportion of tax revenue due to the income tax rose again to 9.0 percent in 1850.

War and the financing of war debts dominated the expenditures of the British government for most of the years between 1700 and 1850. While the expenditures for the civil government increased after 1801, such expenditures remained a small portion of the total expenditures, and never were an important determinant of tax policy. The servicing of the national debt varied between 30 to 40 percent of government

TABLE 4: Individual Tax Sources As a Percent of Total Tax Revenue

	1700	**1710**	**1720**	**1730**
Customs	35.0	25.5	26.4	31.3
Excise	23.7	29.5	39.2	44.8
Stamp	2.1	1.9	2.8	2.5
Post Office	1.8	1.2	1.5	1.5
Land & Assessed Taxes	34.1	34.9	24.4	24.9
	1740	**1750**	**1760**	**1770**
Customs	24.7	20.6	22.9	25.0
Excise	49.0	46.2	45.8	45.2
Stamp	2.3	1.8	3.1	3.0
Post Office	1.5	1.2	.9	1.4
Land & Assessed Taxes	26.4	29.6	29.2	15.8
	1780	**1790**	**1801**	**1810**
Customs	22.1	20.3	21.5	21.1
Excise	48.5	45.3	33.5	35.8
Stamp	4.3	7.8	8.3	8.7
Post Office	1.1	2.2	3.8	2.5
Land & Assessed Taxes	20.1	17.6	16.1	12.1
	1820	**1830**	**1840**	**1850**
Customs	22.4	34.7	44.8	39.1
Excise	45.5	38.0	28.2	26.3
Stamp	12.0	13.4	13.9	12.3
Post Office	3.6	4.0	2.5	3.9
Land & Assessed Taxes	14.1	9.6	8.1	7.9

Source: Based on Mitchell and Deane (1962), pp. 386-387 and 392-393

expenditures during the eighteenth century, and as the result of the Napoleonic Wars, debt servicing composed more than 50 percent of the expenditures through 1850. Table 5 presents the major categories of the national governmental expenditures between 1700 and 1850 (Mitchell and Deane, 1962), pp. 389-391 and 396-397).

Effects of Taxation

Throughout the period from 1700 to 1850, the majority of the British governmental expenditures were mainly concerned with the costs of war and the armed services, and as a result, the government was concerned with how to tax and how much to tax. Modern governments are much more concerned with social programmes and the bureaucracy to

TABLE 5: Government Expenditures 1700-1850

(in £000 Sterling)

	1700	1710	1720	1730	1740	1750
Debt Charges	1,251	1,754	2,276	2,280	2,102	3,218
Civil Government	699	857	980	935	846	1,016
Army & Ordnance	432	4,479	1,073	1,326	1,605	1,566
Navy	819	2,422	1,181	1,033	1,607	1,385
Collection Costs	N/R[1]	N/R	N/R	N/R	N/R	N/R
	1760	**1770**	**1780**	**1790**	**1801**	**1810[2]**
Debt Charges	3,372	4,836	5,995	9,370	16,749	24,200
Civil Government	1,152	1,223	1,251	1,703	2,072	5,200
Army & Ordnance	1,031	1,781	8,540	2,742	16,900	28,900
Navy	4,539	2,082	6,329	2,482	14,707	19,400
Collection Costs	N/R	N/R	N/R	N/R	N/R	3,600
	1820	**1830**	**1840**	**1850**		
Debt Charges	31,100	29,100	28,900	29,200		
Civil Government	5,400	5,400	5,600	7.000		
Army & Ordnance	10,300	9,300	8,500	9,000		
Navy	6,400	5,900	5,300	5,700		
Collection Costs	4,400	4,000	3,800	5,000		

[1] N/R = Not Reported
[2] Beginning with 1802, Mitchell and Deane started reporting the gross public expenditures in £000,000.

Source: Mitchell and Deane (1962), pp. 389-391 and 396-397.

administer the programmes. During this period, England had no state-financed welfare services. The Poor Law was financed through local taxation. Since the national government did not provide welfare services, the effects of national taxation during this period must be determined with reference to those who were taxed and not by reference to those who received the tax money. Since the government provided stability and national defence, it can be argued that the benefits of the expenditures equally benefited the entire population (Musgrave and Musgrave, 1980, p. 175).

The emphasis of the government was on the capacity to pay and the efficient manner for raising the necessary revenue without harming the economy, which, of course, is composed of individuals. This concern is exemplified in the writings of such classical economists as Smith (1904), Ricardo (1961) and Mill (1921). Smith, in his maxims of taxation, was concerned with the equity of incidence and the efficiency in the collection of taxes. Smith favoured taxes on expenditures, preferred excise taxes to custom duties, opposed taxes on wages, and did not like public debt. Ricardo was concerned with the effect of taxation on economic progress. He firmly believed that all taxes lessen the ability to accumulate wealth, and the greatest evil of taxation is the amount of its collective effects (Ricardo, 1961, pp. 169-170). Mill was concerned with the incidence of the undesirable coercive nature of taxation. In addition, he condemned progressive taxation because of its disincentive for accumulating wealth. In general, the classical economists condemned taxation for its tendency to impede economic progress.

The primary effect of taxation was to reduce the income of individuals and increase that of the government. By altering the balance of spending and saving between individuals and governments, taxation influenced the pattern of aggregate demand. The production of goods and services was altered as well as the distribution of income and wealth. Although British taxpayers complained about taxation, there is little evidence that the citizens were not willing to pay the taxes so long as they were used to finance war (Smart, 1910, p. 37). During this period, the government was providing a public good - defence. Using the winning of wars as a test of efficiency, that good was being provided efficiently, with the

exception of the American Revolution. With the apparent willingness of the British taxpayers to "purchase" defence and to win the various wars, the British populace should have been well satisfied. The efficiency of the British tax system should be evaluated on its ability to provide sufficient revenue for the government and the ability to achieve the aims for which it was originally collected. Taxation along with public borrowing comprised the British public finance system. This public finance system was able to provide the British government with sufficient funds to wage war successfully without arousing political opposition sufficient to bring down the government. Use of public debt permitted the spending of larger sums than would be possible through taxation alone. A secondary aspect of the British government's use of public debt was the development of a financial infrastructure during a period of economic growth and war. The British ability to wage war and expand its economic base is remarkable, especially in comparison to France, its chief military and commercial rival. Its enemies, including Napoleon, did not recognize the sophistication of the British fiscal system. After Napoleon's first abdication, he saw England's £800 million national debt as the "poisonous dart" he planted in the vitals of England (Smart, 1910, p. 433).

The importance of the income tax was also overlooked. The French did not enact an income tax for more than a century after Pitt introduced it in England. While the income tax did not contribute large sums to the war effort, it helped to bridge the gap between expenditures and tax revenues during the Napoleonic Wars. At the time of these wars, it would have been politically difficult and economically harmful to increase the other taxes (Hope-Jones, 1939). In the long-term analysis of this period, national tax revenue as a percentage of national income remained relatively constant except for the period of the French and Napoleonic Wars. As the impact of the wars subsided, the percentage of national income consumed by taxation returned to the pre-war levels. The critical period for taxation was from 1790 to 1830, the major portion of the Industrial Revolution, which occurred between 1780 and 1830. Between 1780 and 1830, the tax revenue increased five times with most of the increase occurring between 1790 and 1830. Since national income rose only four times between 1780 and 1830, the real burden of taxation per

capita continuously increased. During the height of the Industrial Revolution, taxes resulted in the transfer of more than 20 percent of national income from the private sector to the public sector. Taxation affected the private sector in several ways. First, customs on imported goods and raw materials, such as cotton and silk, increased the cost of manufactured goods as did excise taxes. Second, stamp taxes increased the cost of commercial transactions, thus generally increasing prices. The assessed taxes, land and income taxes reduced the income of all but the poor thereby reducing the ability to accumulate wealth and to invest. Finally, taxation and borrowing permitted the government to spend. Government expenditures on munitions, uniforms, arsenals, barracks, ships, and ordnance had a large positive impact on the development of certain industries. There is little evidence to suggest that the British government's demand for war materials had any long-term structural effects on industrialization that made the various industries less adaptable to peacetime needs. In the relatively simple technological development of 1790-1830, the items produced during war or peace did not require vastly different technologies. In the economically important industries of steel and textiles, wartime demand stimulated those industries or, at least, maintained the demand that, in absence of the French blockage of continental ports, would have come from abroad. In the pre-Keynesian world of 1700-1850, government stimulation of demand through direct purchases and subsidies to its allies was not a politically acceptable role. Thus, the British government was not faced with having to decide between investing in war-oriented or consumer-oriented goods. The government's decision, if it had a choice, was between stimulating the war-oriented sector and not stimulating investment at all. The decision was actually one of survival. With the advent of peace, British industries were able to take advantage of the expanding markets in postwar Europe, and to monopolize the markets in South America, which were opened during the war (Crouzet, 1964).

From 1700 to 1850, the Chancellors of the Exchequer were concerned primarily with two criteria in selecting a tax policy, namely incidence and yield. In the late eighteenth century a third criteria, economic effects, entered into tax policy discussions. In regards to incidence, there was

shift during the eighteenth century in the attitude as to who should pay taxes. Prior to 1700, it was accepted that the poor should not pay any taxes. This attitude was replaced with the belief that all citizens should be subject to taxation as a *quid pro quo* for services rendered by the government (Kennedy, 1913). This belief gathered more support as England's economy grew. The government's capacity to tax was highly dependent upon the population's capacity to pay. As the economy grew, the working classes were more able to afford taxation (Parnell, 1830, p. 11). In the later portion of this time period, the Chancellors of the Exchequer grew bolder and taxed both consumer goods and income in part due to the increased income of the nation and in part due to increased revenue requirements. The second criteria in determining tax policy were yield. The government favoured taxes that were easy to collect, flexible in yield, and productive. Customs duties and excise taxes were popular due to the ease of collection and the high yields. Finally, economic effects were the third criteria. Smith, Ricardo, and Mill argued that taxes should not harm the economy. These three were in general agreement as to the incidence of taxes. In addition, Smith, Ricardo, and Mill argued that all forms of taxation fell on wealth and therefore tended to reduce production. Thus, they felt that taxation was intrinsically harmful to the economy and should be kept at the lowest possible level.

Macro-Economic Analysis of the Effects of Taxation

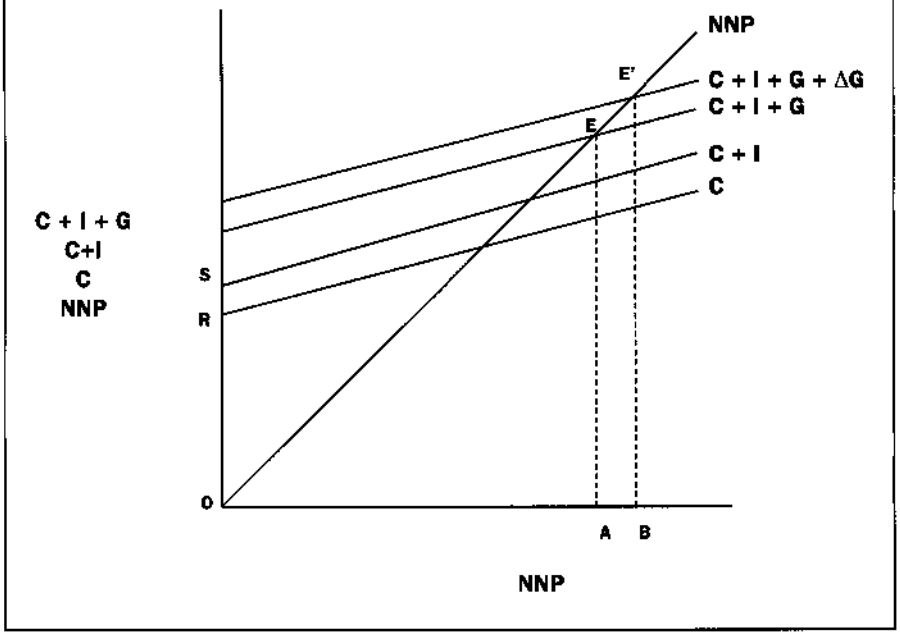
Reliance on *post hoc ergo propter hoc* reasoning would not be adequate to show causality. A macro-economic model is presented to demonstrate the course of events that occurred in the increased government expenditures and increased taxation due to the various wars. The economy represented in Figure 1 is a simple closed economy. In this economy, government spending (G) and investment (I) are autonomous, and are added to consumption (C) to produce Britain's net national product. It is reasonable to assume that government spending (G) does not change automatically as a result of changes in the net national product (NNP). Instead government spending (G) is the outcome of a political decision. At intervals, the amount of British government

spending is increased or decreased. If government spending is increased the effect on the NNP will be an increase in the NNP through the multiplier in the same way as a change in investment.

Equilibrium would be achieved at point E, where C + I + G = NNP or aggregate demand equals aggregate supply. At this point NNP is equal to OA. As government spending G changes to G + AG, the C + I + G line shifts upward to the position shown by C + I + G + AG. As a result the equilibrium point would shift to point E. At point E, the amount of the increase in government spending AG results in an increase in NNP from OA to OB. When taxes are increased it results in a lowering and flattening of the C line.

When war occurred, the necessary increase in government expenditures (AG), which *ceteria paribus* would increase net national product to E, was met with heavy borrowing. Under the rules of classical economics, the heavy government borrowing would have only been a temporary expedient. The government would be forced to take measures to increase its revenue by imposing new taxes, increasing the rates of

FIGURE 1: Macro-economic analysis of the effects of taxation



existing taxes, and improving the efficiency of collection. In effect, the scale of the government's budget would be increased, and the level of net national product (point E') would be considerably higher than it was at the outbreak of war (point E).

If the assumption of *ceteris paribus* were not made, and it were assumed that either consumption or investment fell due to exogenous reasons, the increase in national output would not be as great. In effect, the government's increased expenditures would support the economy rather than stimulating the economy. This model supports the theory that taxation and the related increased government expenditures substantially supported and led to the expansion of the British economy. This support led to the prosperity of the British economy in the post-war period.

Political Determination of Tax Rates

During the time period under consideration, the British government did not attempt to maximize the tax revenue from the income tax. This section develops a justification for not maximizing tax revenue. To analyze the political determination of tax rates, the economic theory of public choice is used.[6] The theory of public choice is based on the Laffer curve and requires certain assumptions be made concerning taxpayer behaviour and government decision-making. Under this theory, government decision-making behaviour is based on two assumptions. First, government officials consider tax revenue desirable and taxes undesirable. Ideally, governments would like to make expenditures without raising the needed revenues, however, since this is not possible government officials must impose unwelcome taxes on the populace. The second assumption is that government decisions on tax rates are made on a short time horizon. This assumption is more applicable to republican settings than in a totalitarian situation.

It is assumed that taxpayers lack sufficient information to assess the long-run impact of taxation decisions made by elected officials. In

[6] The seminal works in this theory are: Anthony Downs, *An Economic Analysis of Democracy* (New York: Harper & Row, 1957); and James M. Buchanan and Gordon Tullock, *The Calculus of Consent* (Ann Arbor: University of Michigan Press, 1962).

addition, taxpayers are assumed unable to assign responsibility to the appropriate officials when the consequences of tax rates become evident. The effect of the second assumption concerning government officials and the assumptions about the taxpayers is that the decision-making horizon of politicians is shorter than the time period that taxpayers need to make long-run adjustments in tax-rate changes.

Taking all of these assumptions into consideration, the theory of public choice states that politicians will attempt to enact legislation that provides short-term benefits for their constituents in order to increase their chances for reelection. This near-sighted behaviour is intensified by the fact that the benefits are often awarded to special-interest groups but the costs of these benefits are paid for by all taxpayers. Special-interest groups are aware of the elected officials who help their cause: however, the average taxpayer is unaware of the marginal tax increment a particular politician has added to his or her tax bill.

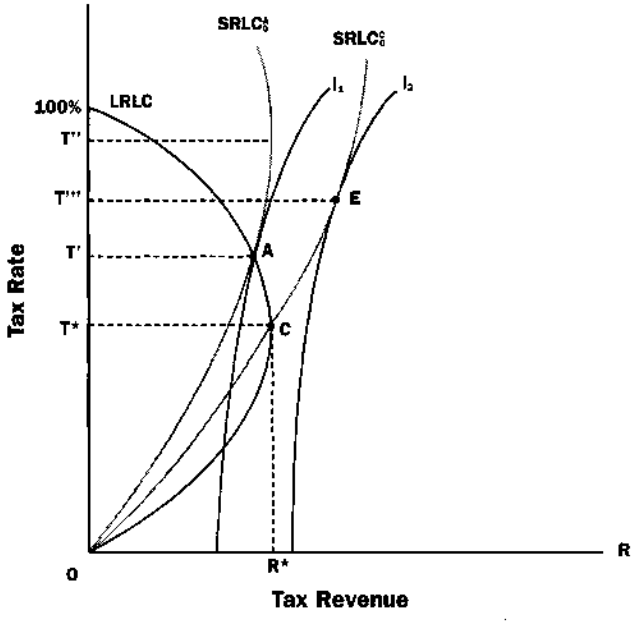
Figure 2 illustrates the points to be discussed. In determining the tax rate that results in political equilibrium, it is necessary to invoke the prior assumption that government officials enjoys tax revenues but tax rates are not enjoyable. This assumption allows the construction of the government's indifference curves I_1 and I_2 with respect to taxes and revenues. These curves are drawn so that, for a given tax rate, the I_2 curve lies to the right of the I_1 curve. Therefore, the indifference curve I_2 represents the combination of tax revenues that are always preferred to the combinations of tax revenues represented by I_2 curve.

The government's indifference curves are plotted against a long-run Laffer curve (LRLC) and various short-run Laffer curves (SRLC). Political equilibrium occurs when the highest possible government indifference curve is tangent to a short-run Laffer curve at a point on the long-run Laffer curve. Tangency occurs on the short-term Laffer curve because politicians are concerned with maximizing their own short-run welfare. Tangency between the short-term Laffer curve and the government's indifference curve must occur at a point on the long-run Laffer curve because taxpayers will adjust their behaviour to create a long-run equilibrium, which can only occur on the long-run Laffer curve. A possible equilibrium position is point A. Given tax rate T the required short-run

tangency condition for politicians is fulfilled at point A. The required long-run condition for taxpayers is achieved in that they are fully adjusted to the tax rate and will not alter their behaviour.

Since the short-run Laffer curve $SRLC^{A}_{0}$ passing through point A is positively sloped, politicians could increase revenue in the short-run by raising the tax rate to T'''. If the politicians were to do this, however, the government would immediately move to a lower indifference curve, and the revenue picture would progressively worsen as taxpayers make long-run adjustments in response to the higher tax rate. If the tax rate happens to be T* given by point C, the government's tax revenue would be maximized. The short-run Laffer curve $SRLC^{C}_{0}$ is tangent to the government's indifference curve I_2 at point E. Thus, maximizing tax-rate setters will raise the tax rate from T* to T'''. Initially, short-run tax revenues will exceed maximum long-run tax revenues R*. This condition cannot be maintained, it is inconsistent with taxpayer equilibrium, since point E is not on the long-run Laffer curve (LRLC). Adjustments will be made over

FIGURE 2: Political determination of tax rates



time by both taxpayers and tax-rate setters, and the tax rate will be the political-equilibrium tax rate T'. In this illustration the condition of sustainable equilibrium is where the equilibrium point lies above the maximum revenue-generation tax rate, T*, on the long-run Laffer curve (LRLC). Given a different set of governmental indifference curves, the condition of sustainable equilibrium is where the equilibrium point lies below the maximum revenue-generation tax rate, T*, on the long-run Laffer curve (LRLC). It would be only by chance that a government would select the tax rate T* that would maximize revenues in the long-run. As long as a government's planning horizon is shorter than its taxpayers' planning horizon, the government will seek to exploit the taxpayers' ignorance and will probably not maximize long-run revenues. As long as politicians consider taxes undesirable, the political equilibrium will always be below the short-run maximum revenue point on the short-run Laffer curve (SRLC).

REFERENCES

BINNEY, J.E.D., (1958), *British Public Finance and Administration*, 1774-92, (Oxford: Oxford University Press, 1958).

BONNEY, R. (ed.), *Economic Systems and State Finances*, (Clarendon Press, 1995).

BREWER, JOHN, *The Sinews of Power: War, Money, and the English State, 1688-1783*, (Unwin Iman, London, 1989).

BUXTON, S., (1888), *Finance and Politics: A Historical Study, 1783-1885* 2 vols. (London: Murray, 1888).

CHAMBERLAYNE, EDWARD and JOHN, *Angliae Notitia or the Present State of Britain*, 17th ed., (London, 1692).

CHAMBERLAYNE, EDWARD and JOHN, *Angliae Notitia or the Present State of Britain*, 22nd ed., (London, 1708).

CHAMBERLAYNE, EDWARD and JOHN, *Angliae Notitia or the Present State of Britain*, 24th ed., (London, 1716).

CHAMBERLAYNE, EDWARD and JOHN, *Angliae Notitia or the Present State of Britain*, 27th ed., (London, 1726).

CHAMBERLAYNE, EDWARD and JOHN, *Angliae Notitia or the Present State of Britain*, 34th ed., (London, 1741).

CHAMBERLAYNE, EDWARD and JOHN, *Angliae Notitia or the Present State of Britain*, 37th ed., (London, 1748).

CHAMBERLAYNE, EDWARD and JOHN, *Angliae Notitia or the Present State of Britain*, 38th ed., (London, 1755).

CRAFTS, N.F.R., and C. K. HARLEY, (1992), "Output Growth and the British Industrial Revolution: A Restatement of the Crafts-Harley View", *Economic History Review* vol. XLV, 1992, pp. 703-730.

CROUZET, F., (1964), "Wars, Blockade and Economic Change in Europe, 1792-1815" *Journal of Economic History* 1964, pp. 567-588.

CRUM, R.P. and R.M. KOZUB, "Ad Valorem Transaction Taxes in the Colonial Era," *Essays in Economic and Business History*, E.J. Perkins ed., (University of Southern California: Los Angeles, 1986, pp. 47-58.

DEANE, P. and W.A. COLE, (1962), *British Economic Growth, 1688-1959, Trends and Structure*, (Oxford: Oxford University Press, 1962).

DOWELL, S., (1884), *A History of Taxes and Taxation in England from the Earliest Times to the Present Day* 4 vols., (London: Longmans, 1884).

HOPE-JONES, A., (1939), *Income Tax in the Napoleonic Wars*, (Cambridge: Cambridge University Press, 1939).

HOPPIT, J., (1990), "Counting the Industrial Revolution", *Economic History Review* vol. XLIII, 1990, pp. 173- 193.

JACKSON, R.V., (1990), "Government Expenditure and British Economic Growth in the Eighteenth Century: Some Problems of Measurement", *Economic History Review* vol. XLIII, 1990, pp. 217-235.

KENNEDY, W., (1913), *English Taxation, 1640-1799: An Essay On Policy and Opinion*, (London: Bell, 1913).

KOHN, G.C., *Dictionary of Wars*, (New York: Facts on File Publication, 1986).

KOZUB, R.M., (1983), "Antecedents of the Income Tax in Colonial America," *Accounting Historians Journal*, Fall 1983, pp. 99-116.

MILL, J.S., (1921), *Principles of Political Economy*, (London: Longmans, 1921).

MITCHELL, B.R. and P. DEANE, (1962), *Abstract of British Historical Statistics*, (Oxford: Oxford University Press, 1962).

MUSGRAVE, R.A. and P.B. MUSGRAVE, (1980), *Public Finance in Theory and Practice*, (New York: McGraw-Hill Book Company, 1980.)

PARNELL, H., (1830), *On Financial Reform*, (London: Murray, 1830).

PETTY, W., (1667), *A Treatise on Taxes and Contributions*, (London, 1667).

RICARDO, D., (1961), *Principles of Political Economy,* (London: Penguin Books, 1961).

SELIGMAN, E.R.A., (1914) *The Income Tax* ,(New York: Macmillan & Co., 1914).

SELIGMAN, (1921), *Essays in Taxation,* (New York: Macmillan & Co., 1921).

SHEBAB, F., (1953), *Progressive Taxation,* (Oxford: Oxford University Press, 1953).

SMART, W., (1910), *Economic Annals of the Nineteenth Century, 1801-1820,* (London: Macmillan & Co., 1910).

SMITH, A., (1904), *The Wealth of Nations,* (New York: Punam, 1904).

TURNER, MICHAEL and DENNIS MILL, *Land and Property: The English Land Tax 1692-1832,* (Gloucester: 1986).

The Student's Blackstone, R. M. Kerr ed., (London: Clowes, 1887).

WARD, W.R., (1953), *The English Land Tax in the Eighteenth Century,* (Oxford: Oxford University Press, 1953).

WINCH, D., O'BRIEN, P.K., (eds.), (1953), *The Political Economy of Britain's Historical Experience, 1688-1914* (Oxford University Press, 2002).

APPENDIX ONE

BRITISH WARS AND REBELLIONS 1700-1850

War or Rebellion[1]	Years
War of the Spanish Succession	1701-1714
(Queen Anne's War)	(1702-1713)
The Jacobite Rebellion	1715-1716
War of the Quadruple Alliance	1718-1720
War of the Austrian Succession	1740-1748
(King George's War)	(1744-1748)
(First Carnatic War)	(1744-1748)
Bengalese-Mogul War	1742
The Jacobite Rebellion	1745-1746
Second Carnatic War	1749-1759
French and Indian War	1754-1763
(Seven Years' War)	(1756-1763)
Bengalese-British War	1756-1757
Rohilla War	1774
First Maratha War	1775-1782
American Revolution	1775-1783
(Dutch War)	(1775-1783)
French Revolutionary Wars	1782-1802
(War of the First Coalition)	(1792-1798)
(War of the Second Coalition)	(1798-1801)
Second Maratha War	1803-1805
Napoleonic Wars	1803-1815
(War of the Third Coalition)	(1803-1807)
(Peninsular War)	(1808-1814)
(Anglo-Dutch War in Java)	(1810-1814)
(War of 1812)	(1812-1813)
(Hundred Days' War)	1815
Gurka War	1814
Third Maratha War	1817-1818
Barrackpore Mutiny	1824
First Anglo-Burmese War	1824-1826
Naning War	1831-1832
First Afghan War	1839-1842
First Opium War	1839-1842
Rebecca Raids	1842-1844
First Sikh War	1845-1846
Second Sikh War	1848-1849

[1]. Items that are indented and listed in parenthesis are part of the larger conflict under which they are listed.

Source: Kohn, (1968).