

WAR, THE CENTRAL GOVERNMENT AND THE SCOTTISH ECONOMY 1750-1830

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To Margaret

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COMMON ABBREVIATIONS

BM	British Museum
EHR	Economic History Review
GD	Gifts and Deposits, Scottish Record Office
NLS	National Library of Scotland
OSA	Old Statistical Account
PP	Parliamentary Papers
SHR	Scottish Historical Review
SM	Scots Magazine
SUSM	Scottish United Services Museum

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ABSTRACT

The aim of this Thesis is to examine the relative costs and benefits accruing to Scotland from war related government activity. This aim is pursued through an examination of central government expenditure, taxation and borrowing. The primary approach adopted throughout is macroeconomic. The main objective is to view the Scottish experience relative to that of the rest of Britain. Subsidiary objectives are to discuss the regional impact within Scotland and, in the field of taxation, the implications of the way in which taxes were raised.

Chapters one to four examine expenditure. Figures relating to military activity suggest a relatively low per capita share of military spending for Scotland. This is most clearly the case for capital items. Within Scotland the Edinburgh area enjoyed a disproportionately large share of military spending. Analysis of the implications of government demand in general suggests a few areas in which Scotland noticeably benefited but overall no sign of marked participation by Scottish industries in government supply.

Chapters five to seven present taxation data. One conclusion reached is that the traditional view, both of contemporaries and historians, that the Scottish contribution to British tax revenue was relatively insignificant requires statistical measurement and subsequently qualification. Analysis of the incidence of tax within Scotland suggests a tax base dominated by indirect taxes mainly of a regressive nature.

Chapter eight examines government borrowing and identifies a relatively insignificant Scottish share throughout. In that share

the City of Edinburgh - the financial capital - dominated.

Owing to the nature of eighteenth century government accounts it is difficult to relate the various aspects of government activity to one another to arrive at the net regional impact in Scotland.

The final chapter however reviews the findings in terms of what are thought to be the most meaningful comparative indicators. It is not contended that the subsequent interpretation is the only one possible, it is suggested though that it is the most appropriate.

INTRODUCTION

The interest of economists and historians in the relationship between war and economic change has tended to ebb and flow over time. In the wake of the First World War for instance A.C. Pigou declared: "To the Political Economy we have read hitherto [that of peace] there is needed a companion volume, the Political Economy of War."¹ B.H. Sumner, then Professor of History at the University of Edinburgh stated after the Second World War: "If I were asked what is the biggest gap in British history of the last two centuries, I think I would reply, Great Britain during the Napoleonic Wars."² Since 1945 a growing body of literature has gone some way towards filling the latter gap and widening knowledge of war and historical change in general.³ Yet two hundred years after American Independence was declared Professor Butt in examining short term economic fluctuations in Scotland and the war of 1775-83 felt himself to be delivering: "essentially a preliminary salvo in what might well become a revival of the cut-and-thrust of historical debate."⁴ Despite investigation of specific areas such as T.M. Devine's The Tobacco Lords⁵ the influence of war on Scotland's economic development has not been well discussed. Most general works concentrate on a British or English perspective with the result that they are of limited use to the historian of Scotland.

Yet in the eighteenth and early nineteenth centuries war was almost as normal a state of affairs as peace in Britain and involved Scotland as well as England. Moreover the period 1750-1830 was, by almost any measuring rod, one of significant economic change in Scotland. Sustained economic growth accompanied the first stage of

(Footnotes to Introduction appear on page 11)

industrialisation, agricultural improvement, population increase and urbanisation. During this period Britain was involved in three major wars: the Seven Years War of 1756-1763, the American War of Independence of 1775-1783 and the 'Napoleonic' or 'French' Wars of 1793-1815. Many basic questions relating to the impact of these wars on Scotland remain unanswered. This thesis examines arguably the most basic question of all: how was Scotland affected by the central government activities of taxing, borrowing and spending? It is realised that investigation of this area offers evidence on only one aspect of the impact of war on the Scottish economy. Other areas, in particular the implications for patterns of trade and shipping and their associated costs, should be taken into consideration in arriving at a balanced view of how war affected the economy. However this thesis addresses itself to the area which arguably had the most immediate and certainly the most sustained impact over time.

Of the wars fought between 1750 and 1830 those of 1793-1815 are of particular interest. During the latter Britain was, apart from brief interludes of peace from March 1802 to May 1803 and May 1814 to March 1815 engaged continuously in hostilities with France and her allies. A separate war with the United States of America was conducted in parallel between June 1812 and December 1814. The length of the French wars and the magnitude of the resources required to wage them dominated the minds of contemporaries.⁶ At the same time economic change during them was more significant than it had been during earlier wars. Therefore where possible the whole period 1750-1830 will be discussed in this thesis but the primary emphasis will be on the French wars. The decision to concentrate on the latter was also influenced by the nature of much of the evidence relating to

expenditure.

Consideration of central government activity does of course involve analysis of public sector relations between Scotland and England. During the eighteenth century war was considered by most contemporaries to be the only acceptable excuse for government expenditure and hence taxation and borrowing on a large scale. The Union of 1707 directly tied Scotland to British foreign policy and the costs and benefits associated with it. Whilst it is known that the acceptance of part of the burden of the English national debt at the time of the Union resulted in payment of compensation to Scotland in the years following 1707⁷ the implications over time have not been subjected to detailed scrutiny. R.H. Campbell for example, in examining the financial implications of the Union, does not take his examination of the public sector beyond 1750.⁸ Lythe and Butt having commented on the immediate aftermath of 1707 state:

"Economic and social policy henceforth was largely determined at Westminster and was increasingly British rather than Scottish in its objectives. For that reason it has not been extensively treated here."

No doubt part of this neglect stems from the fact that there are no readily available figures which allow the isolation of the Scottish component of central government activity. Yet this remains almost as much of a problem in present times as it was in the eighteenth century and has not prevented interest being shown in the subject in periods subsequent to the one being discussed.¹⁰

James A.A. Porteous for instance, writing in 1947, lamented that:

"Chasing bawbees up and down the Scottish Estimates is a notoriously barren pursuit."¹¹ Moreover recent findings on the importance of

the public sector in quantitative terms in the British economy during the eighteenth century¹² highlight the need to examine one of the conditions under which economic change in Scotland took place i.e. that created by government war related activity.

In what follows the likely order of magnitude of the Scottish contribution to British taxation and borrowing and Scotland's share of expenditure will be examined and the implications of the figures will be discussed. Owing to the nature of much of the statistical evidence the findings are subject to constraints and therefore the emphasis is on order of magnitude and likely direction rather than precise measurement. Given this object the approach is mainly aggregative in nature. Where necessary, though, to sustain the argument certain areas are considered in more detail such as an investigation of naval expenditure in Leith. First however, to provide a context for later discussion, the British experience with respect to government activity in the period 1750-1830 must be briefly examined.

It has been noted that patterns of public expenditure in Britain between 1715 and 1815: "reflect the overwhelming emphasis on the military function of government."¹³ This view is confirmed by an examination of figures relating to government spending given in Table I.1 below.

Bearing in mind that additions to long term debt mainly occurred in connection with the financing of military expansion during wars, Table I.1 shows that war related expenditure dominated total expenditure throughout this period. It is not necessary to manipulate these figures to show increased expenditure resulting from each particular war as only the broad picture is required for background. It should be noted however that since the finance of war

TABLE I.1: THE COMPOSITION OF GOVERNMENT EXPENDITURE 1750-1830 (£)

<u>PERIOD</u>	<u>CIVIL GOVT.</u>	<u>INTEREST AND MANAGEMENT OF THE PUBLIC DEBT</u>	<u>ARMY, NAVY ORDNANCE AND WAR</u>	<u>TOTAL</u>
1750-55	6,300,055	17,456,720	15,991,273	39,748,048
% SHARE OF TOTAL	15.9	43.9	40.2	100.0
MEAN P.A.	1,050,009	2,909,453	2,665,212	6,624,675
1756-63	9,326,979	27,673,842	89,252,228	126,253,049
% SHARE OF TOTAL	7.4	21.9	70.7	100.0
MEAN P.A.	1,165,872	3,459,230	11,156,529	15,781,631
1764-74	14,394,278	52,530,149	45,344,414	112,268,841
% SHARE OF TOTAL	12.8	46.8	40.4	100.0
MEAN P.A.	1,308,571	4,775,468	4,122,219	10,206,258
1775-83	16,124,249	52,993,047	109,364,610	178,481,906
% SHARE OF TOTAL	9.0	29.7	61.3	100.0
MEAN P.A.	1,791,583	5,888,116	12,151,623	19,831,323
1784-92	18,470,611	83,622,256	64,549,534	166,642,401
% SHARE OF TOTAL	11.1	50.2	38.7	100.0
MEAN P.A.	2,052,290	9,291,362	7,721,170	18,515,822
1793-1800	20,138,993	104,247,042	208,791,338	333,177,373
% SHARE OF TOTAL	6.0	31.3	62.7	100.0
MEAN P.A.	2,517,374	13,030,880	26,098,917	41,647,172
1801-1815	131,723,667	363,097,215	705,495,604	1,200,316,486
% SHARE OF TOTAL	11.0	30.2	58.8	100.0
MEAN P.A.	8,781,578	24,206,481	74,033,040	80,021,099
1816-30	147,146,741	457,794,706	248,572,327	853,513,774
% SHARE OF TOTAL	17.3	53.6	29.1	100.0
MEAN P.A.	9,809,783	30,519,647	16,571,488	56,900,918

SOURCE: PP 1868-69, Vol. XXXV, pp. 148-149, 432-433.

NOTE: Figures for 1750-1801 relate to net public expenditure of Great Britain, figures for 1802-1830 relate to gross public income of the United Kingdom.

required an expansion in the revenue administration, part of the increase in civil government expenditure can also be ascribed to war.

Another interesting feature of Table I.1 is the large proportion of total expenditure devoted to the national debt. Whilst this share was overshadowed by direct military expenditure in periods of war it gained pre-eminence in peace years accounting for over 50% of total expenditure in the periods 1784-92 and 1816-30. Clearly then it is necessary to examine the implications for Scotland of the transfers of wealth associated with the national debt in both war and peace periods. Consideration of the mean per annum figures in Table I.1 also reveals the 'ratchet' or 'displacement' effects of war. In terms of current values annual expenditure rises with each war falling in each peace period, but remaining above the previous pre-war level. Here the spillover effects of debt expenditure from war to peace play a prominent role.

Table I.1 gives the army, ordnance and navy shares of government expenditure as a total figure. Analysis of the shares of each part reveals a rough equality between army and ordnance expenditure on the one hand and naval expenditure on the other until the lengthy land campaigns of the Napoleonic Wars when the former increased in importance. Therefore it will be necessary to attempt to examine each segment of expenditure in this thesis.

The foregoing has stated the picture in monetary terms at current values. However it is obvious that the real significance of the figures can only be understood in comparative terms. The work of other researchers has shown that when viewed in per capita terms, and measured in constant prices, public revenue progressively increased

in each war period during the eighteenth century with the wars of 1793-1815 proving more costly than anything which had gone before.¹⁴ Moreover it would seem from the work of Mathias that the share of taxation in British national income also expanded via wartime augmentation in the eighteenth century as is shown in Table I.2.

TABLE I.2: TAXATION, POPULATION AND NATIONAL INCOME (G.B) 1700-1812

<u>YEAR</u>	<u>TAXES AS SHARE OF NATIONAL INCOME %</u>	<u>INDEX 1700 = 100</u>
1700	9.1	100
1710	8.9	98
1720	12.9	142
1730	13.0	143
1740	10.7	118
1750	12.9	142
1760	12.5	137
1770	13.1	144
1780	12.9	142
1790	15.1	166
1800	13.4	147
1803	20.5	225

SOURCE: Peter Mathias, The Transformation of England, (London, 1979), p. 121.

Table I.2 again reveals the dominant role played by the Napoleonic Wars.

Clearly then the importance of the amount of resources involved in waging war in the eighteenth century can hardly be overstressed. This should be constantly borne in mind in the following examination of the Scottish experience. The absence for example, of national income statistics make it impossible to directly compare

Scotland with Britain as a whole in terms of Table I.2. Nonetheless vast sums associated with war created the opportunity for transfer payments on a large scale. It is well known that the costs and benefits associated with war fall unevenly on sectors of the economy, sections of the population and geographical regions of the country. In terms of the latter, an attempt will be made to relate Scotland's experience to that of Britain as a whole. Similarly the implications of the aggregate Scottish picture for areas, industries and groups of population will be investigated.

The thesis will proceed by examining expenditure, taxation and borrowing in isolation before attempting to combine the findings. The analysis of expenditure will be largely confined to the wars of 1793-1815 whilst the examination of taxation and borrowing - where reliable runs of data have been produced - will cover the whole period 1750-1830. Throughout, however, the main concern will be the all-important Napoleonic Wars.

NOTES TO INTRODUCTION

1. A.C. Pigou, The Political Economy of War, (London, 1921), p. 2.
2. B.H. Sumner, War and History, (Edinburgh, 1945), p. 19.
3. See for example Clive Emsley, British Society and the French Wars, 1793-1815, (London, 1979); J.M. Winter, (ed.), War and Economic Development, (Cambridge, 1975), and bibliography of this thesis.
4. John Butt, "The American War of Independence and the Scottish Economy", in Owen Dudley Edwards and John Shepperson, (eds.), Scotland, Europe and the American Revolution, (Edinburgh, 1976).p.57.
5. T.M. Devine, The Tobacco Lords, (Edinburgh, 1975).
6. R.M. Hartwell, (ed.), David Ricardo, On the Principles of Political Economy, and Taxation, (London, 1971), pp. 7-8.
7. S.G.E. Lythe and J. Butt, An Economic History of Scotland 1100-1939, (Glasgow, 1975), p. 85.
8. R.H. Campbell, "The Union and Economic Growth", in T.I. Rae, (ed.), The Union of 1707 Its Impact on Scotland, (Glasgow, 1974), p.61.
9. Lythe and Butt, Economic History of Scotland, p. 85.
10. E.W. Hamilton, Scotland's Financial Relation to England and the estimated relative Resources of the two Countries, (London, 1897), pp. 1-5; James A.A. Porteous, Scotland and the South; economic and financial relations, (Stirling, 1947), pp. 1, 19-42; T.L. Johnston, N.K. Buxton, D. Mair, Structure and Growth of the Scottish Economy, (London, 1971), pp. 164, 174-175, 179; a recently published book on the military presence in Scotland in the 1980's is Malcolm Spaven, Fortress Scotland, (London, 1983).
11. Porteous, Scotland and the South, p. 1.
12. Peter Mathias, The Transformation of England, (London, 1979), pp. 116-129.
13. Peter Mathias and Patrick O'Brien, "Taxation in Britain and France 1715-1810. A Comparison of the Social and Economic Incidence of Taxes Collected for the Central Governments", Journal of European Economic History, Vol. 5, 1976, p. 603.
14. Mathias, Transformation, pp. 116-129; P.K. O'Brien, Government Revenue, 1793-1815, Oxford Univ. D. Phil., 1963, pp. 3-4.

CHAPTER ONE

MILITARY ACTIVITY IN SCOTLAND 1793-1815

1. Introduction

A suitable mode of analysing the implications for Scotland of war related government expenditure is to focus on two inter-related considerations:

- 1) the level of government spending in Scotland directly resulting from military activity within its borders.
- 2) the extent to which military requirements in general in terms of goods and services were fulfilled by the utilisation of Scottish factors of production.

Unfortunately, the sources do not permit a straightforward investigation of either. There are no statistics revealing exactly how much was spent in Scotland, on what, and when. Total expenditure accounts give no details of aggregate military expenditure in the country.¹ Ordnance, admiralty and paymaster general ledgers and bill books do not allow the gap to be filled. Moreover there are no central aggregate data which permit the final sources of military supply to be identified. Material relating to contracts more often than not omits the vital information of residence and/or place of operation of contractors. Appendix 1² expands on these assertions by outlining the major sources examined.

It may be the case that prolonged research on specific goods and services will overcome some of the problems, but aggregate analysis - already identified as the object of this thesis - is complicated by these data deficiencies; for example an analysis (Footnotes to Chapter One appear on pages 33-36)

of the geographical scatter of contract holders would be unlikely to repay the time and effort involved. Were such an investigation undertaken it would be necessary to determine whether contractors were themselves manufacturers or primary producers, or merely middle men or agents. If the latter was found to be the case it would then be necessary to establish the contractor's source of supply. Even if the contractor was himself a manufacturer, knowledge of his sources of raw materials would be required before conclusions could be made concerning the geographical impact of government demand. Two examples of the types of problems associated with such analysis can be given.

On 29 December 1803 C.H. Turner of London revealed in a letter to the Navy Board that he had been informed that: "the supply of Hammocks for H.M. Navy is in future to rest wholly with me."³ To conclude on the basis of this however that Scottish producers were excluded from the supply of this article would be erroneous as Turner wrote on 22 December 1803:

"I have been prevented by the weather alone sending Hammock canvas to Woolwich Yard. I have this day loaded...canvas...for the above purpose. I also send between 2 & 300 Hammocks & shall increase the quantity made day by day. Hammocks are invoiced from Scotland, and I anxiously wait a large supply."⁴

Similarly according to Beveridge in the period 1638-1828, Navy victualling contracts for rum were made almost exclusively at London.⁵ From treasury papers however, it is clear that at least some London contractors such as Thomas Pinkerton, a London merchant, contracted to supply the Victualling Board with thousands of gallons of West India rum in the 1790's and 1800's which was in fact lying

in bonded warehouses in Greenock, Glasgow, Port Glasgow and Leith.⁶ The rum was subsequently shipped to English Yards duty free. On one level then, at least part of the supply of rum to the Navy involved the use of Scottish port facilities.

Moreover there is reason to believe that on occasion the government deliberately sought to obtain supplies of goods through middle men. T. Howell, Director of Contracts in the War Department, stated in the 1850's that in the purchase of timber, brokers were employed in an attempt to keep prices down.⁷ He also admitted that whilst agents were obtaining contracts they themselves were not necessarily manufacturing the goods.⁸

Such problems, specific to the isolation of the Scottish component, are further complicated by the difficulties of establishing in general terms exactly what goods and services were purchased on account of military expenditure. One scholar's prolonged research on Army, Navy, and Ordnance ledgers in the Napoleonic period failed to enable him to classify the expenditure of those departments into categories : "meaningful for an analysis of its possible effects on the economy."⁹

There is no doubt therefore that there are problems to be faced in attempting to examine the two considerations mentioned at the start of this chapter. In the absence of all embracing statistics isolating the exact Scottish share of military expenditure it has been necessary to use a wide variety of material as a substitute. This chapter is concerned with that part of it which allows the investigation of government expenditure directly resulting from military activity within Scotland.

In order to examine the level of government expenditure

resulting from military activity in Scotland a collection of statistical and literary data has been utilised. The statistical data takes the form of several accounts of aspects of military expenditure which do isolate the Scottish share and other material of less direct value. The literary evidence has been drawn from a variety of sources in an attempt to establish a contemporary view of the magnitude of the military presence in Scotland. The aim of the use of the surrogate material like the number of troops stationed in Scotland, has been the establishment of the rough order of magnitude of the military presence in the country as a guide to the likely level of expenditure resulting from it. In other words a direct functional relationship between the two is being assumed. The views of fairly recent commentators of the Napoleonic era in a British¹⁰ and Irish¹¹ context have implicitly or explicitly postulated such a relationship, whilst the importance of the whereabouts of the fleet for local suppliers of one commodity in wartime has been stressed by Mathias.¹² In a Scottish context T.C. Smout has pointed out that the demand placed on the Edinburgh provision trade by the arrival of two fleets in 1781 had not been forgotten by the compiler of the Old Statistical Account.¹³ Certainly the expected impact of the scale of the military presence on local provisions markets was commented upon in the Scottish press¹⁴ whilst Lord Stonefield mentioned to the Board of Manufacturers in 1793 his concern that: "the want of farthings in Scotland is attended with much inconvenience...to soldiers purchasing vegetables etc..."¹⁵ Such examples could be multiplied but those given are sufficient to give credence to the somewhat obvious relationship assumed above.

To place the analysis in perspective it is obvious that some sort of comparative measure is required. The one which has been chosen involves viewing the Scottish figures relative to those of Britain as a whole using the Scottish proportion of British population as a guide to establishing the extent to which the Scottish share was disproportionate in either direction. What is then produced is a measure of relative per capita military expenditure in Scotland. It was decided to concentrate on the British rather than the global picture because to a large extent whilst the force within the latter would vary according to whether the country was on the offensive or defensive, presumably these uniform factors would determine the number within Britain.¹⁶ Thus it was felt that consideration of the distribution of the total force would confuse rather than clarify. Similarly Ireland was ignored on the grounds that to a greater extent than in Britain internal turmoil was a determinant of the size of the military establishment within its borders. The Channel Islands were ignored on the grounds that they formed an important rendezvous for military forces and their inclusion might bias the results towards minimising the Scottish share of the military presence. Measurement by per capita is a normal means of gauging the importance of regional government expenditure. It should be stressed, however, that no rigid relationship between population and regional variations in military presence should be anticipated. Military strategy was, of course, the main determinant in the distribution of armed forces. The purpose of the population indicator is merely to establish the relative significance for Scotland of her share of military expenditure. The population indicator has been used on all the

statistical data whether the latter counts heads, buildings or money.

An attempt will be made to give an overall view of army expenditure in chapter 1 and navy expenditure in chapter 2. Evidence will be presented on the number of troops stationed in Scotland and the garrisons, barracks and ordnance buildings which housed them. Then the number of ships stationed at Scottish ports will be investigated together with evidence on the servicing of ships and catering for their sailors. The inner consistency of the findings will then be discussed. First of all however, contemporary comment on the military presence in Scotland will be examined.

2. A Contemporary View

An examination of various government and private papers as well as the contemporary press has allowed some insight into the contemporary view of the scale of the military force in Scotland. It is worthwhile briefly reviewing this evidence to ascertain the extent to which it supports or refutes the more quantitative evidence to be presented.

Earlier it was argued that Britain would be the base for the comparative analysis because conditions within it would tend to be uniform in England, Scotland and Wales. It is perhaps fitting though to pose the question - what determined these conditions, in other words, why have a military force in Britain and more particularly in Scotland at all? Arguably, at least part of the answer is provided by the comments of an "Old Sea Officer" who wrote on 13 January 1794: "In all Wars the first thing is to provide for domestic Security, I mean to prevent Insurrection, and guard against Invasion..."¹⁷ These motives for having a military presence,

this time argued in a specifically Scottish context, were put forward in a letter from John Orr to Henry Dundas dated 16 February 1793 on the outbreak of anti-war sentiment in Glasgow:

"I sincerely wish that the measure of raising some Batalions [sic] of fenceable men in Scotland, which I am told is intended, were carried into execution, for I really think we want troops both to secure internal peace and quietness [and] to prevent danger from any wild attempts which may be made by the French to land & destroy the sea ports & shipping which are all at present quite defenceless."¹⁸

In the opinion of "J.B." the two factors could be interrelated, the declaration of war perhaps promoting insurrection.¹⁹

Invasion scares meanwhile received ample coverage in the Scottish press.²⁰ Thus from a government point of view there were reasons why a military force should be maintained in Scotland. It has been found that when contemporaries discussed the magnitude of that force it was mainly to make complaints about it.²¹ These complaints took several forms. Fears were expressed at different times as to the safety of public and private property as well as to the security of trade and shipping. There is nothing unusual in any of this per se but what is interesting is that complaints about the paucity of land and sea forces in Scotland seem to have come from a fairly wide range of commentators including successive Lord Advocates and army and navy personnel. It might be expected that such complaints would be especially vociferous at particular periods like at the outbreak of war - this was exactly the case.

From Edinburgh in early 1793 came complaints about the total absence of a naval vessel on the Scottish coast leaving the country open to the activities of privateers,²² from Glasgow came

the news of a lack of a naval and land force in the vicinity,²³ and like complaints came from Thurso²⁴ and Orkney and Shetland²⁵ among other places. Similarly when war broke out again in May 1803 the exposed state of the Clyde trade with America and the West Indies was the subject of a petition from the Glasgow Chamber of Commerce to the Admiralty.²⁶ However it would seem that the bulk of complaints in that year were concerned with the possibility that:

"...a' the French are coming owre
as fast as they can bang,
To spoil our' lands an' seize our gear,²⁷
an' young an' auld to hang."

Charles Hope, the Lord Advocate, wrote from Edinburgh on 28 July 1803 of the relative Scottish share of the regular forces intended to defend the country in the eventuality of a French invasion thus: "...we have only one Reg^t of Dragoons in all Scotland - & only one weak Battⁿ of the 26th, of regular Infantry - I stated to Lord Hobart some time ago, that this very defective state of the regular forces in Scotland gave great disgust here."²⁸ By October of the same year his criticism had broadened to the extent that: "We are not all together pleased at the general force allotted to us."²⁹ His complaints are substantiated by the view of a soldier that:

"Upon the declaration of War, [in 1803] one of the regiments of Cavalry, and all the Regiments of Infantry of the Line were ordered from hence to England or Ireland, so that this Country [Scotland] remained in a very defenceless state such as, it³⁰ may be hoped, will not again occur."

However, it can be argued that complaints about the inadequate state of the military force in Scotland were sufficiently recurrent

outwith these periods to lend weight to the view that the military presence in Scotland was disproportionate to that of the rest of Britain. The idea that Scottish complaints were not always automatic responses is supported by the observation c 1801 that:

"The Proportion of Naval Defence which has been hitherto Allotted for the protection of the East Coast of Scotland and the Security of the Capital of that part of the Kingdom has more than once given occasion to serious Representation and Complaint from high Authorities, And...in justice to the People of Scotland it must be admitted that they have made ample Allowance for the more urgent, necessity of providing for the safety of the Metropolis of the Empire, [London] even at³¹ the Hazard of all inferior objects."

This would suggest the recognition of a set of priorities which even once allowed for left something wanting. The opinion of this commentator was that greater use should be made of local resources. On 31 October 1794 the Glasgow Advertiser complained of the number of captures in the North Sea owing to the want of a proper naval force there. The harassment of trade around Peterhead and Aberdeen was the subject of a memorial to the Admiralty from the Convention of Royal Burghs in July 1799.³² Robert McDouall, Rear Admiral of the Red, on a tour through the west of Scotland, drew attention to the unprotected state of the whole entrance into the Clyde and the existence of unprotected transports in Loch Ryan on 27 July 1804. Further "...as every situation where men of War rendezvous is at such a distance should any Privateer or Armed ship come into these seas, they may range at ease a whole week before any of his Majts Ships can possable [sic] get to disturb them."³³

At other times the lack of military forces was revealed

by perhaps more unusual circumstances. A. Colquhoun in a letter to Viscount Sidmouth discussing the outbreak of civil disorder in Sutherland in 1813 argued that a force other than local militia was required to handle the matter yet: "There are...few troops in the North of Scotland, and of those in the South, the Aberdeenshire Regiment of Militia is now on its march for England. But General Wynyard is to order for Sutherland such forces as can be afforded."³⁴ Once the troops had been found to send there was then apparently a shortage of suitable naval vessels in the vicinity to send them in and thus plans for embarkation had to include a Revenue Brig.³⁵ Whilst geographical remoteness was no doubt a factor here the evidence does support the thesis. Even near the end of the wars when invasion at least was no longer a threat there was a lack of enthusiasm about the magnitude of the military presence in Scotland. Thus on 18 March 1815 The Lord Advocate lamented to Sidmouth on the outbreak of mob activity in Glasgow: "The Military force in Scotland is indeed very small at present."³⁶ Such comments on the situation in Scotland contrast sharply with glowing accounts of the arrangements made for the defence of the south of England.³⁷

3. A Statistical View

In what follows an attempt will be made to statistically test this view of the distribution of forces in Scotland as well as to examine such areas as the construction of barracks and ordnance buildings. The exposition can begin by a perusal of table 1.1.

TABLE 1.1: DISTRIBUTION OF THE ARMY IN GREAT BRITAIN 1799-1811

Date ^{1.}	Unit of ^{3.} measurement	A. Regulars ⁴		B. Militia		Total A + B		C. Fencibles		D. Provis. Cavalry		Total A+B+C+D ^{9.}		6. $\frac{(1)}{(1)+(2)}$	Population ^{8.} Indicator
		(1) In Scotland	(2) In England & Wales	(1) In Scotland	(2) In England & Wales	(1) In Scotland	(2) In England & Wales	(1) In Scotland	(2) In England & Wales	(1) In Scotland	(2) In England & Wales	(1) In Scotland	(2) In England & Wales		
A 1799	Number of Battalions	4	42	12	88	16	130	9	16	0	6	25	152	14.1%	15.2%
B 1800	"	3	62	12	72	15	134	2	10	0	6	17	150	10.2%	15.2%
C 1801	"	2	47	12	74	14	121	0	3	-	-	14	124	10.1%	15.2%
D 1802	"	5	51	10	76	15	127	5	3	-	-	20	130	13.3%	15.2%
E 1803	"	6	49	15	76	20	126	-	-	-	-	20	126	13.7%	15.2%
F 1/1/1806	Number of men	3,085	47,559	8,026	47,877	11,111	95,436	-	-	-	-	11,111	95,436	10.4%	15.2%
G 1/12/1807	"	5,972	66,076	5,723	35,411	11,695	101,487	-	-	-	-	11,695	101,487	10.3%	15.2%
H 25/11/1801	"	-	-	6,180	41,548	-	-	-	-	-	-	-	-	-	15.2%
I 25/11/1810	"	-	-	6,995	51,449	-	-	-	-	-	-	-	-	-	15.2%
J 29/11/1811	"	5,385	33,862 ^{7.}	5,950	43,816	11,335	77,678	-	-	-	-	11,335	77,673	12.7%	15.2%
K Mean ^{2.}	"	-	-	-	-	-	-	-	-	-	-	-	-	28.8%	11.9%

TABLE 1.1: SOURCES & NOTES

SOURCES:

Row A	<u>SM; Edinburgh Evening Courant, 1799.</u>
Row B	<u>Edinburgh Evening Courant, 1800.</u>
Row C	<u>Edinburgh Evening Courant, Glasgow Courier, 1801.</u>
Row D	<u>Edinburgh Evening Courant, Glasgow Courier, 1802.</u>
Row E	<u>Edinburgh Evening Courant, Glasgow Courier, 1803.</u>
Row F	BM ADD MSS 38359 f. 47. Liverpool Papers.
Row G	BM ADD MSS 38359 f. 47. Liverpool Papers.
Row H	BM ADD MSS 38378 f. 112. Liverpool Papers.
Row I	BM ADD MSS 38378 f. 112. Liverpool Papers.
Row J	BM ADD MSS 38378 ff. 182-183. Liverpool Papers.

NOTES:

1. As far as can be ascertained these are the dates to which the figures apply. Where a year rather than a specific date is given several statements of army distribution have been discovered for that year, the figures given are the mean of those distributions. The Scottish press which forms the source for the figures for 1799-1803 gave such statements only intermittently and a careful search of a sample of Scottish newspapers for the period 1792-1816 revealed no other figures.
2. This is the mean of the per centages given in the appropriate columns.
3. It is assumed that the number of men in each battalion in Scotland and England did not systematically diverge to the extent that would consistently favour one or the other and thus bias the results. It is realised that numbers of men in a battalion could vary but the fact that the figures specifying numbers of men present a similar relative picture to those giving battalions goes some way towards justifying the assumption.
4. In sources where only militia and other sources are specified it has been assumed that other forces are regulars. For ease of presentation cavalry and infantry battalions have simply been added to give a total.
5. In sources where no separate Welsh figures are given, or where Wales is not mentioned, it has been assumed that Wales is included under England.
6. Blank boxes indicate that no figures were given in the source under this heading or that no such figures were given separately.
7. This figure includes 9,000 rank and file, being detachments at home belonging to regiments abroad.
8. This figure is the Scottish proportion of British population. It is the mean of the census figures for 1801, 1811 and 1821 given in B.R. Mitchell and P. Deane, Abstract of British Historical Statistics, (Cambridge, 1962), p. 6.
9. This table does not include other military groups such as volunteers. For exclusions from the individual figures see the original sources.

Column 6 reveals that the proportion of the army based in Scotland seems to have fluctuated over time but within fairly narrow limits. Consistently below the population indicator, the average share of the total force was 11.9% some 22% short of it. Column 1 suggests that regular regiments may have been particularly scarce in Scotland whilst the militia force revealed by column 2 was more substantial. Interestingly perhaps whilst on 25 November 1809 12.9% of the number of militiamen in Britain were in Scotland, 18.2% of the effective number of rank and file militiamen in Britain belonged to Scottish regiments.³⁸ As Scottish militia regiments could serve elsewhere in Britain and vice versa this could suggest that the net result on balance was that the militia force in Scotland at times was less than that actually raised in the country. This assertion is strengthened by the fact that on 8 August 1807 Scottish regiments accounted for 17.2% of the effective rank and file of the British militia and on 8 March 1809 16.6%. Both of these figures are higher than any of the percentages given in column 3.

Column 4 however shows that on average the Scottish share of fencible regiments was in excess of the population indicator. In fact the averaging process by which column 6 was produced conceals the fact that at specific times the Scottish share of the army was as high as 19.2%.³⁹ This was solely owing to the number of fencibles in Scotland, a fact probably explained by the number of such regiments raised in the country.⁴⁰ The relatively high number of fencibles in Scotland in 1802 was most likely as a result of their return to the homeland after the temporary cessation of hostilities in March of that year. Despite the existence of the fencibles the table

does give some credence to the contemporary view outlined earlier.

The bulk of the evidence presented above would seem to suggest that the per centage of army forces stationed in Scotland on average was short of Scotland's proportional share of British population. Other miscellaneous statistical data strengthens this view. Thus on 4 May 1810 11.4% of the number of the effective strength of the regiments of the line stationed in Scotland and England were in the former.⁴¹ In February 1797 of the 22 companies of the Royal Regiment of Artillery distributed in England and Scotland, the latter accounted for two or 9.1%.⁴² At the same date all 51 troops of the Horse Brigade were stationed in England.⁴³ In February 1799 of the 29 companies of invalids in Britain four or 12.1% were in Scotland.⁴⁴ In addition an indication of an official view of the manpower requirements of Scotland is given in a letter written by a Commander in Chief dated 13 January 1804 though referring to a plan apparently originally drawn up on 25 August 1803. In it he outlines his opinion of the force required in Great Britain during the "existing danger." The Scottish component was to be 13,000 men or 9.1% of the total.⁴⁵

If it can be assumed that barrack capacity within a country can be taken to be some measure of the likely magnitude of the troops stationed within it, a further piece of evidence can be presented. Of course this is not a comprehensive measure of Scotland's troop holding capacity as soldiers could be, and were, quartered on the inhabitants. It is culled from a Barrack Office map dated 16 January 1807 entitled "Map of Great Britain showing the situation of all the Barracks belonging to the Public and likewise those which are Hired".⁴⁶ This gives among other things "the

Number of Men each barrack is constructed to contain." By totalling this figure it was found that Scottish barracks were designed to hold 14,711 men out of a total of 150,824 or 9.8%.⁴⁷ This ties in fairly well with the number of men which it was planned to place in Scotland in 1803 as mentioned above. Thus these miscellaneous strands of evidence all suggest an army presence in Scotland whose order of magnitude was below the population indicator.

A second body of evidence relating to the land forces in Scotland but which counts money rather than heads allows an analysis of some aspects of military expenditure in the country in a comparative light.

The scale and appearance of military buildings was a factor which caught the contemporary eye. Thus Svedenstierna, the Swedish traveller noted in 1802-3 that: "Glasgow is not so well built as the new town of Edinburgh, but better than the old, and one finds here fine massive buildings, among which the military hospital and the new theatre are especially distinguished."⁴⁸ According to an article on Dundee published in June 1806: "The buildings lately added...are in a modern and elegant style; and the barracks erected at the west end of the town are particularly handsome."⁴⁹ In the Old Statistical Account for Glasgow the building of barracks was held to be "Among the improvements proposed at present in the city."⁵⁰ In Banff it was hoped that: "The jarring interests of contending parties...will not...interfere to deprive us of the advantages of military barracks...the measure is fraught with beneficial consequences to the community."⁵¹ Clearly an effort must be made to place such construction in a comparative light.

Some useful data on ordnance construction is to be found in

the Seventh Report from the Select Committee on the Public Expenditure, ... of the United Kingdom.⁵² This report concerned with civil and military buildings noted that: "The expense of military Works and Buildings has unavoidably been conducted upon a much more extended scale, on account of the particular circumstances attending the present War."⁵³ The Scottish component of such an extension is to some extent revealed in three accounts contained in this report. In a summary account of all works and buildings "now carrying on" under the directions of the ordnance the Scottish component of the British total, in terms of the estimate of the expense, was £3,934 out of £1,396,599 or 0.3% and with respect to the expense already paid or incurred £3,934 out of £1,349,374, again 0.3%.⁵⁴ A second account gives some clue as to the Scottish share of the construction of Martello Towers, perhaps one of the most well remembered legacies of the Napoleonic era. It is "An Account of the Particulars of the Expense incurred since the commencement of the present War, in building, repairing and making Fortifications, Martello Towers and the Purchase of Lands connected with the aforementioned Matters throughout the U.K. to 5th January 1809." The Scottish share of the British total was £16,835 out of £1,808,951 or 0.9%.⁵⁵ Meanwhile an abstract of the expenditure for ordnance buildings in Great Britain since 1 January 1805 derived from papers furnished by the Ordnance Department between November 1809 and March 1810 revealed the Scottish proportion to be £37,838 out of £1,271,960 or 3.0%.⁵⁶ When account is taken of additional sums which had already been expended for ongoing works and buildings the Scottish share dropped to 1.4% (£37,834 out of £2,735,193).⁵⁷ Additional material is to be found in an account presented to

parliament stating: "How the money received by the Office of Ordnance in the Year 1812 has been expended."⁵⁸ One section of this account refers to current service and contingencies, repairs, buildings etc. The total under this heading for Scotland and England was £518,627 which was 10.1% of the money spent in the whole account. The Scottish share of the £518,627 was £31,090 or 6.0%.

There can be no doubt that the building of barracks could involve construction on a considerable scale employing large quantities of men and materials.⁵⁹ Less evidence has been discovered on expenditure upon it although the Eleventh Report from the Select Committee mentioned earlier did give "An Account of all Works and Buildings, now carrying on under the directions of the Barrack Office."⁶⁰ It contained however only 11 entries one of which related to work going on in Edinburgh. The estimated expense of the latter was £10,409 out of a total of £154,157 or 6.8%, the sum which had already been spend upon it was £7,666 out of a total of £107,838 being 7.1%.⁶¹ Little concrete can be concluded on the basis of this but more indirect evidence of barrack expenditure can be presented in the form of numbers of barracks built. A return from each barrack in the United Kingdom presented to parliament in the 1840's gives among other details its date of erection.⁶² Whilst this of course relates to barracks in existence over 30 years after the close of the Napoleonic wars it does nevertheless provide a sample of the number and distribution of barracks built between 1792 and 1815 in which there is no reason to suspect bias. From the barracks whose date of erection could be clearly identified 11 out of a total of 108 (10.2%) were built in Scotland between these dates. A longer view chronologically of barrack construction i.e.

of the number of barracks in existence in January 1807, can be had from the map mentioned earlier. It contains a total of 226 barracks of which 27 were in Scotland making a per centage of 11.9.⁶³ Using the barrack capacity figures mentioned earlier an indication can be given of the relative size of these Scottish barracks compared to those of Britain. Thus on average barracks in Scotland in early 1807 were designed to hold 545 men ($\frac{14711}{27}$) British ones in general 667 men, ($\frac{150829}{226}$). By this measure then it would seem that Scottish barracks were 18.3% smaller than their British counterparts.

Recapitulating it appears that in terms of expenditure on ordnance building and barracks the Scottish share was relatively insignificant and certainly fell well below the 15.2% population indicator, ranging from 0.3% to 7.1%. It would also seem that a smaller relative per centage of British barracks were built in Scotland. When consideration is made of barracks built up to the early 1800's the same conclusion is reached with the additional one that those in Scotland are likely to have been smaller on average. However with respect to expenditure on garrisons army ledgers present a somewhat different picture.⁶⁴ They reveal that in 1793 of the 31 garrisons to which payments were made seven or 22.6% were Scots and the latter received £8,230 out of total garrison payments of £25,834 i.e. 31.8%.⁶⁵ In 1813 the number of garrisons was unchanged though the Scottish share of payments had dropped to £4,015 out of a total of £21,650 or 18.5%.⁶⁶ Whilst it is realised that two years is hardly a representative sample the fact that the numbers of garrisons did not change gives the findings a degree of continuity and seems to justify the statement that the Scottish

share of garrisons and payments to them exceeded the population indicator.⁶⁷ This finding seems out of step with the general conclusion of this section thus far but its existence can be readily explained. It can be argued that it was largely a historical accident unrelated to the Napoleonic era and perhaps not really representative of the military presence in Scotland during it. Of the seven garrisons four (probably Edinburgh, Stirling, Dumbarton and Blackness castles) owed their existence to the articles of union which stipulated their upkeep.⁶⁸ The origin of the other three (Forts George, Augustus and William) judging from their situation, probably had much to do with the relatively war-like past of the highlands and the anxiety of the British authorities to ensure a nearby military presence. The existence of these garrisons is unlikely to have been of sufficient scale or significance to challenge the general tone of the conclusions thus far reached.

One final piece of evidence relating to the land forces remains to be presented. Colquhoun in "An attempt to estimate the public and private property in Great Britain and Ireland...(1812)" estimated the value of "Public arsenals, castles, forts, and all other places of defence, with the artillery, stores etc. thereto belonging" at £1,000,000 in Scotland and £12,000,000 in England and Wales, making the Scottish proportion of the British total 7.7%.⁶⁹ This suggests to some extent that cumulative expenditure on such items prior to and including the Napoleonic era fell well short of 15.2%. Whilst the data (if any!) on which Colquhoun's calculation was based is not known, the order of magnitude it suggests is interesting more particularly so in the light of his estimate of the value of all other property in Scotland at £280,080,000, 13.2% of

his British estimate. Interestingly his estimate of the Scottish share of the other entry in his public sector category - public buildings as palaces etc. - was 9.1% again higher than his estimate of the Scottish military per centage. Even if this is a contemporary guess and nothing more it suggests Colquhoun's implicit impression that the Scottish share of military capital was not proportional to her share of total capital. Of course it should be noted that like the information derived from the barrack map Colquhoun's estimate is cumulative rather than specific to the period 1793-1815. Both however complement and reinforce the findings of the specifically Napoleonic data suggesting that a similar conclusion may be reached on patterns of government military expenditure in the period 1750-1792.

In terms of material function most of the evidence which has been presented thus far arguably fits into a rounded picture relating to the stationing of troops, and expenditure on and construction of the barracks and ordnance buildings which housed at least some of them. It does not exhaust all the possibilities in the search for surrogates of relative military expenditure in Scotland. No evidence was discovered however of other areas of major involvement which might be pursued, for example, the P.R.O. SUPP 5 classification embodies the factory records of the Royal Ordnance Factories. In it are, for the period 1750-1830, records for establishments at Woolwich, Faversham, Waltham Abbey, Purfleet, Lewisham and Enfield, but no indication of an establishment in Scotland.

Admittedly the data which has been presented are not free of problems. Some of it relates to a point in time, some to a

number of years but none of it relates to the whole period 1793-1815 and it is thus chronologically incomplete. In addition, given the somewhat diverse nature of the evidence despite the overall pattern within it, it was unlikely that as a body it would point to totally uniform conclusions. Despite such drawbacks however the bulk of it does suggest the per capita level of military expenditure on land forces in Scotland was lower than in Britain as a whole.

NOTES TO CHAPTER ONE

1. The most often quoted expenditure figures, those given in Chisholm's report published in PP 1868-69, Vol. XXXV, give no Scottish-British breakdown.
2. Vide infra Appendix 1. pp. 257-261.
3. PRO ADM106/1782, Navy Board In Letters.
4. Ibid.
5. Lord Beveridge and others, Prices and Wages in England From the Twelfth to the Nineteenth Century, 2nd impression, (London, 1965), Vol. 1, p. 517.
6. See for example SRO RH2/4/490 f. 257, Treasury Records, Entry Books of Out-Letters, Scotland.
7. PP 1857, Vol. II, p. 639.
8. Ibid., p. 635.
9. O'Brien, D. Phil, p. 32. He spent nine months on the exercise.
10. Emsley, French Wars, p. 170.
11. A.J. Fitzpatrick, The Economic Effects of the French Revolutionary and Napoleonic Wars on Ireland, Univ. of Manchester Ph.D. 1973, Chapters 1, 2 and Conclusion.
12. Peter Mathias, The Brewing Industry in England, (Cambridge, 1959), p. 195.
13. T.C. Smout, introduction to OSA Vol. II Lothians, p. XXIII. It should be noted that both the original volumes of the OSA edited by Sinclair and the reissued volumes edited by Withrington and Grant have been used in this thesis. In the notes volumes with Roman numerals refer to the latter, those with arabic the former.
14. SM Vol. LVI, March, 1794.
15. SRO NG1/1/28 Board of Manufactures minutes, 6 Feb. 1793.
16. J.R. Western, The Recruitment of Land Forces in Great Britain, 1793-99, Univ. of Edinburgh Ph.D. 1953, Chapter 1, for a discussion of such phases in the 1790's.
17. NLS MSS 1048 f. 7, Melville Papers, Papers relating to home defence.

18. SR0 RH2/4/69 ff. 323-324, Home Office : Correspondence and Papers, Scotland.
19. SR0 RH2/4/70 , Home Office : Correspondence and Papers, Scotland.
20. See for example Glasgow Advertiser, 22-25 November, 1793, 17 November 1794; Glasgow Courier, 4 February, 20 June, 24 June, 6 July, 1797, 8 November, 19 November, 1803.
21. This is not to deny that at times the efforts of the military forces were praised, for example, see Glasgow Courier, 21 October 1797, for approval of action against privateers.
22. SR0 RH2/4/69 f. 319, Home Office : Correspondence and Papers, Scotland.
23. SR0 RH2/4/69 ff. 323-324, Home Office : Correspondence and Papers, Scotland.
24. SR0 RH2/4/69 ff. 20-21, Home Office : Correspondence and Papers, Scotland.
25. SR0 RH2/4/69 ff. 29, 31, 51, 61, Home Office : Correspondence and Papers, Scotland.
26. Strathclyde Regional Archives TD 76, Minute Books of the Glasgow Chamber of Commerce, 20 May 1803.
27. Anon., The Defence of Scotland, (Glasgow, 1803).
28. SR0 RH2/4/88 ff. 215-219, Home Office : Correspondence and Papers, Scotland.
29. SR0 RH2/4/88 f. 338, Home Office : Correspondence and Papers, Scotland.
30. NLS MSS 1754, Memoir of the Military State of North Britain in 1803.
31. SR0 GD51/2/1056, Melville Castle Muniments, Memorandum on the naval defence of the east coast of Scotland.
32. SR0 GD51/2/1055/1-3, Melville Castle Muniments, Letters from Sir James Stirling Lord Provost of Edinburgh to Henry Dundas.
33. SR0 GD51/2/1072, Melville Castle Muniments, Letter from Robert McDouall, Rear Admiral of the Red to Lord Melville. See also GD51/2/1069 Letter from Captain William Henryson to Lord Melville.
34. SR0 RH2/4/88 ff. 82-83, Home Office : Correspondence and Papers, Scotland.
35. SR0 RH2/4/88 ff. 381, 383, Home Office : Correspondence and Papers, Scotland.

36. SRO RH2/4/106 f. 78, Home Office : Correspondence and Papers, Scotland.
37. See for example SRO GD51/2/1057, Melville Castle Muniments, Memorandum on the proposed invasion of Britain by the French, 27 October, 1803.
38. BM ADD MSS 38759, Huskisson Papers.
39. According to a return of 1 July 1802, Edinburgh Evening Courant, 5 July 1802.
40. The Scottish fencible regiments were originally raised in 1793 in place of a militia. They were to serve in Scotland but could go to England in the event of an invasion. In 1794, after an initial refusal, four regiments were persuaded to serve in England. Thereafter all fencible regiments by a gradual process were 'encouraged' to serve in Ireland and abroad, the alternative being disbandment. Western, Ph.D. pp.10, 12, 18, 57, 289, 291; For a discussion of provisional cavalry see Western, Ph.D., pp. 29, 241.
41. BM ADD MSS 38377 f. 175, Liverpool Papers.
42. PRO H050/373, Home Office , Correspondence and Papers, Military.
43. Ibid.
44. SM Vol. LXI, February 1799.
45. BM ADD MSS 38377 f. 175, Liverpool Papers.
46. NLS Accession 4798, Map of Great Britain showing the situation of all the barracks belonging to the Public and likewise those which are hired.
47. According to 'An Account of the number of Infantry and Cavalry for which the several Barracks, mentioned in the accounts presented to the hon. House of Commons...are to be provided' Scotland was to receive 20.0% of the total men for the (British) places mentioned and 12.6% of the horses. However this excluded many of the barracks in Britain at the time and nothing can be concluded from it about the likely relative size of the military force in Scotland. The account is to be found in SM Vol. LVIII, February 1796.
48. Eric T. Svedenstierna, Svedenstierna's Tour, Great Britain 1802-03, (Newton Abbot, 1973), p. 156.
49. SM Vol. LXVIII, June 1806.
50. OSA Vol. VII, p. 310.
51. OSA Vol. 20, p. 336.

52. PP 1810, Vol. II, p. 523.
53. Ibid. p. 523.
54. Ibid., p. 536.
55. Ibid., p. 537.
56. Ibid.
57. Details of individual items of expenditure are not given in these accounts but it is noted that the three accounts include many of the same goods and services.
58. PP 1812-13, Vol. XII, pp. 139-145.
59. NLS MSS 10694, Board of Ordnance Account-book 1757-1760, comprises an excellent detailed account of the materials and labour used and the money spent on them during the building of Fort George in 1759 and 1760. It is clear from it that for example labouring tasks could involve hundreds of men at a time.
60. PP 1810-11, Vol. III, p. 1055.
61. Ibid.
62. PP 1847, Vol. XXXVI, p. 321.
63. NLS Accession 4798, Map of Great Britain showing the situation of all the barracks belonging to the Public and likewise those which are hired.
64. PRO PMG2, Army Establishments: Ledgers.
65. PRO PMG 2/56, Army Establishments: Ledgers.
66. PRO PMG 2/105, Army Establishments: Ledgers.
67. It is unclear from the ledgers for what purpose exactly the payments were made. At least part of them are likely to have been the garrison battalion's pay for the year.
68. OSA Vol. II, p. 721. The compiler for the parish of Cruden remarked - "In this parish stands the ancient fort of Blackness, one of the oldest forts in Scotland, and one of the four that are to be kept in repair by the articles of Union."
69. P. Colquhoun, A Treatise on the Wealth, Power, and Resources of the British Empire, etc. 2nd edn. (London, 1815) Reprinted (London, 1965), p. 60.

CHAPTER TWO

NAVAL ACTIVITY IN SCOTLAND 1793-1815

To perhaps an even greater extent than the existence of land forces the successful waging of the Napoleonic Wars required a large British naval presence on the seas and thus a great deal of expenditure upon it. The result of this expenditure was, according to the Navy Office in January 1819:

"At no similar period after a war of any length had this country such a Navy as at present as it respects their number and good state, and if all the Fleets in the world were, at this time, given in return for that of Britain, England [sic] would be much the loser by the exchange."¹

It is the object of the following analysis to assess the relative importance of the naval force in Scotland by presenting a range of data including aspects of expenditure to outline the likely magnitude of the latter's total.

The naval equivalent to the army habit of imparting information on its whereabouts in terms of battalions or numbers of men was apparently to describe fleet dispositions in the form of numbers of ships. It is unfortunately the case from the point of view of this study that much of the more accessible material revealing the disposition of the navy gives general headings such as vessels stationed in the North Sea, rather than vessels stationed in Scottish ports.² Nevertheless it has been possible using material relating to the early 1800's in the Melville Papers in the Scottish Record Office to build up a picture of the relative magnitude of the naval presence in terms of ships during those years. It should be noted that this material takes account of ships in

(Footnotes to Chapter Two appear on pages 54-57)

commission and not those in ordinary (i.e. not on active service). It is almost certain however that all those in the later state were to be found in yards in the south of England. For instance a table in the Glasgow Courier dated 6 November 1802 revealed a total of 343 vessels in ordinary at Portsmouth, Plymouth, Chatham, Sheerness and the "River". The relatively large total number was possibly owing to the cessation of hostilities at that date. In addition it would seem that ships were put into and out of commission mostly at the same ports.³ Thus as regards the whereabouts of the entire navy the following figures exaggerate the Scottish share.

Some notion of the overall general disposition of the active fleet can be had from an Admiralty Office paper of 8 April 1805 showing the "Disposition of His Majesty's Ships and Vessels in Commission, at Home, and Abroad, and of Hired Armed Ships and Vessels employed in the Publick Service."⁴ In this the number of each type of ship on each "station" is specified. By the crude method of counting ships irrespective of their size the broad picture of the per centage distribution which emerges is as follows,⁵ on Table 2.1 below.

Owing to the absence of figures giving a simple Scottish-British breakdown it has been necessary to start with the global picture. Whilst several headings in Table 2.1 are imprecise it appears that there was no Scottish 'station' which housed part of the fleet. This perhaps implies that the scale of the Scottish component is unlikely to have been significant, particularly as places in England and Ireland are specified, though a ship stationed in Scottish waters could be masked under a heading such as "On

Table 2.1: DISPOSITION OF THE NAVY 8 APRIL 1805:

<u>STATION</u>	<u>SHIPS DISTRIBUTED IN</u> <u>NUMBERS AS A % OF TOTAL</u>	
A North Sea Squadron	196	29.4
B Channel Squadron	63	9.4
C Jersey & Guernsey	22	3.3
D Cork	22	3.3
E Squadron off Cadiz	11	1.6
F Mediterranean	44	6.6
G Nova Scotia	9	1.4
H Newfoundland	6	0.9
I Leeward Islands	54	8.1
J Jamaica	51	7.7
K East Indies	25	3.8
L Convoys	9	1.3
M On Particular Services	12	1.8
N In Port, ready for sea unappropriated	19	2.9
O Portsmouth employed as Cruizers and Convoys under the orders of the Port Admiral	16	2.4
P Plymouth ditto	18	2.7
Q In Port, Fitting from a state of Ordinary	22	3.3
R In Port, Ordered to be paid off	5	0.7
S In Port, vizt at Portsmouth, Plymouth Chatham & Sheerness	23	3.5
T Stationed at various outposts & in the River Thames as Receiving ships General ships Hospital ships & Tenders	13	2.0
U Hired Armed Tenders Employed in the Impress Service	26	3.9
	TOTAL	666 100.0

SOURCE: SRO GD51/2/869, Melville Castle Muniments, Disposition of H.M. ships and vessels at home and abroad.

NOTE: The dates of the dispositions given in Tables 2.2 and 2.3 do not correspond exactly to that given in Table 2.1 This is unimportant as the latter is only being used as a general base.

Particular Services". Using Table 2.1 as a base however and with the aid of additional information and by a process of elimination it is possible to be more precise, within certain limits, about the number of ships in Scotland. Ships in foreign places can be regarded as irrelevant for present purposes thus stations E, F, G, H, I, J and K totalling 200 ships can be eliminated. Stations O, P and S specify English places and total 57 ships. These were unlikely to involve Scotland and an examination of for example ships on the Portsmouth station on August 4 1804⁶ and at Spithead and in Plymouth harbour on 3 August 1804⁷ confirmed this. Thus for the moment these stations can be disregarded. For the same reason, station C, Jersey and Guernsey, can be ignored. Not surprisingly an examination of ships on that station on 1 August 1804⁸ confirmed an absence of ships in Scotland. It might be expected that station O, the Cork station, might contain a Scottish component. An examination of the 29 ships and vessels on that station on the 28 July 1804⁹ however revealed that none was mentioned in connection with a Scottish port and therefore this can also be disregarded. One would not expect a mention of Scotland in association with the Channel Squadron and this was certainly the case on 6 August 1804.¹⁰ This leaves stations L, M, N, O, R, T and U totalling 106 ships which give no specific geographical location, and the numerically significant North Sea station. Unfortunately no more specific information was discovered on the former group, but there is no reason to assume they housed a substantial Scottish presence. Perhaps the one most likely to is station T, relating to outports. But since there were only 13 vessels on it, including those on the Thames, it does not leave much scope for a numerous

Scottish fleet.

That leaves then only the 196 ship North Sea squadron to be accounted for. It would be imagined a priori that this might contain a Scottish element especially as its jurisdiction apparently stretched to Shetland.¹¹ The size of that element was uncovered using papers specific to the distribution of that squadron. A "List and Disposition of His Majesty's Ships & Vessels employed under the Orders of the Right Honourable Lord Keith K.B. Commander in Chief in the North Sea... 11th May 1804"¹² gives among other things, where such vessels were stationed and the services they were employed in. For the bulk of the 200 vessels specified one of these two columns revealed their geographical position. It did not prove possible to identify all the places mentioned despite an attempt to trace all ambiguous names using gazetteers.¹³ The result of the attempt to classify these places is shown in Table 2.2.

TABLE 2.2: DISPOSITION OF THE NORTH SEA SQUADRON 11 MAY 1804

<u>STATION</u>	<u>SHIPS DISTRIBUTED IN</u>	
	<u>NUMBERS</u>	<u>AS % OF TOTAL</u>
England	112	56.0%
Scotland	12	6.0%
England and Overseas	24	12.0%
Overseas	39	19.5%
Unspecified	8	4.0%
Untraceable	5	2.5%
	<u>200</u>	<u>100.0%</u>

SOURCE: SRO GD51/2/778, Melville Castle Muniments, List and disposition of the North Sea Squadron.

The unspecified column includes such entries as "has not joined". The interpretation of this in terms of geographical disposition has not been speculated upon. The column England and overseas is mainly made up of 19 vessels "on the station of Boulogne and Dungeness". Only five vessels were untraceable and it is unlikely that any of these were stationed in Scotland. It is immediately obvious from the table that the Scottish share of this fleet was relatively insignificant. More precisely, ignoring the England and overseas figure, the Scottish proportion of the British total is 12 out of 24 or 9.7%. The dozen were located as follows: four in Leith Roads, two in Aberlady Bay, one in Burntisland Roads, one cruising off the Fair Isle between Orkney and Shetland, one on convoy from Leith and Long Hope Sound to the Baltic and a further three at Leith, two of which were on convoy to the Baltic. If consideration were to be made of ships in other squadrons specified as being stationed in England, the Scottish percentage would drop drastically. On the basis of this evidence then it is apparent that the naval presence in Scotland as measured by the number of ships stationed there was well below the order of magnitude of the 15.2% population indicator.

It would appear that the source for Table 2.1 was fairly comprehensive in scope including, for example, ships for defence, convoy, troop ships and store ships. However there are dispositions in the Melville papers which give the whereabouts of vessels under certain functional headings such as hired armed ships, rather than under "stations". Some of these failed to yield geographical information but others proved more useful. The function of defence ships was apparently to remain in a port and protect it in

the eventuality of an enemy raid or even invasion. A list of those ships dated 14 August 1804 reveals the following disposition.

TABLE 2.3: DISPOSITION OF DEFENCE SHIPS 14 AUGUST 1804

<u>STATION</u>	<u>SHIPS DISTRIBUTED IN</u>	
	<u>NUMBERS</u>	<u>AS % OF TOTAL</u>
England	25	83.4
Scotland	4	13.3
Ireland	1	3.3
TOTAL	30	100.0

SOURCE: SRO GD51/2/809, Melville Castle Muniments, List of defence ships.

The Scottish share of the British total (excluding Ireland) is four out of 29 or 13.8%, just short of the population indicator. The situation of the quartet was three at Leith Roads and one en route from Sheerness to Aberdeen.

Evidence is particularly abundant for vessels in the transport service but most of it contains too much imprecise information to make a general British breakdown more illuminating than misleading. A survey of it did however suggest that quite a large proportion of the vessels in this service in Britain lay in Loch Ryan in Wigtownshire in the early 1800's, even if one account does specify Loch Ryan as being "In England".¹⁴ On 12 May 1804 seven armed defence ships lay there¹⁵ and on 17 Sept. 1804, 21 troop ships¹⁶ though these were smaller than their English counterparts in terms of tonnage.¹⁷ Despite the fact that other lists relating to transports showed a lack of a Scottish component¹⁸ the Loch Ryan aspect seems out of step with the general picture of the disproportionately small naval presence in Scotland thus far outlined. For

example on 1 September 1804 whilst there were 22 coppered troop transports in England there were 21 in Loch Ryan.¹⁹ It is uncertain exactly why there should be a concentration of such vessels in the Loch. However it was an excellent anchorage and it could be that ships simply rode anchor there until required elsewhere. In June 1804 a division of eight defence ships which had been lying there were ordered to the Downs.²⁰ With respect to troop transports it could be that they lay there with a view to transporting troops to or from Ireland. In any event it is unlikely that this presence produced much of an economic spin off around the Loch Ryan area. In the victualling ledgers consulted there was no evidence of a significant level of victualling there until after 1815.²¹ Admittedly by 1807 there was an infantry barracks at Port Patrick but it was only constructed to hold 24 men.²² As a place where troops might congregate this can hardly compare to a return of the 47 Companies of the first division of Royal Marines at Chatham Barracks dated 20 August 1804.²³ Since the infantry barracks at Chatham were designed to hold only 2774 men it is not surprising that the majority of these were "On Board Ships".²⁴ Arguably such a comparison puts the Loch Ryan presence into perspective and thus does not seem to call into question the view that the naval force in Scotland was relatively insignificant.

Owing to the somewhat unwieldy and unaccomodating nature of the evidence used thus far the exposition has had to be a painstaking one rather than a quick tabulation. However it is possible to check the validity of its conclusion using material relating to the servicing of that small number of ships in Scotland, for it would be expected that a relatively slight amount of that

took place. The two main aspects of servicing were the maintenance of men and that of ships. The naval administration was split more or less along these lines, the Victualling Board being concerned with supplying provisions and the Navy Board materials and equipment. The comparative Scottish aspect of each can be considered in turn.

The general importance of Scottish ports in victualling the navy is perhaps suggested by the 10th²⁵ and 11th²⁶ reports of the Commissioners for Revising and Digesting the Civil Affairs of His Majesty's Navy. The former discussed the victualling office in London, the latter the establishments "at home", that is Deptford, Portsmouth, Plymouth, Chatham and Dover, which could imply a lack of a victualling establishment in Scotland. The comments of Beveridge have the same implication for in the period 1683 to 1828:

"As formerly the bulk of purchases was made at the principal victualling ports, namely, London, with branches at Deptford and Rotherhithe, Portsmouth and Plymouth, but some provisions were bought at the minor victualling ports of Dover, Chatham and Kinsale. Ships were re-stocked at other ports at home and abroad by agents to the Victualling Board." 27

He states more explicitly: "About half the...numbers [of seamen and marines] were victualled on putting to sea from London and Deptford, a quarter between Portsmouth and Plymouth and the remainder from other ports."²⁸ There can be no doubt that victualling was concentrated in the south of England; however the Scottish share can be investigated more precisely by use of the victualling ledgers.²⁹ These give, among other things, the value of bills

numbered in a particular year in payment for the victualling of H.M. ships and give such details for individual ports. Bills numbered in a particular year is not synonymous with total payments for ships victualled in that year but it would seem that for example the majority of bills numbered in a year were for ships victualled during that year. Thus the figures in these ledgers give a fair indication of the level of navy victualling needs fulfilled by Scottish ports during a particular year. A sample was therefore taken from these ledgers and the results obtained are contained in Table 2.4.

TABLE 2.4: TOTAL VALUE OF BILLS PASSED FOR NAVY VICTUALLING IN SCOTTISH PORTS 1792-1818³⁰

<u>YEAR</u>	<u>PORTS</u>	<u>VALUE</u> (to nearest £)	<u>TOTAL VALUE</u>
1792	Leith	3,218	4,286
	Greenock	1,068	
1793	Leith	7,776	12,218
	Greenock	4,442	
1798	Leith	20,998	23,055
	Greenock	2,057	
1803	Leith	15,186	15,484
	Greenock	298	
1808	Leith	45,932	48,060
	Greenock	2,128	
1813	Leith	41,037	45,141
	Greenock	4,104	
1818	Leith	15,095	15,655
	Greenock	340	
	Stranraer & Loch Ryan	179	
	Campbeltown	41	

SOURCE: P.R.O. ADM 112/178, ADM 112/179, ADM112/184, ADM112/189, ADM112/194, ADM112/199, ADM112/204, Victualling Department, Contracts Ledgers.

It can be seen that as might be expected the total rose after 1792, fell again in 1803 a year of partial peace, rose again and then dropped in the post war years. It is possible to place these totals in some relative light by comparing them to other British ports³¹ with the exception of the major ports of Deptford, Portsmouth, Plymouth, Chatham, Dover and London.³² The other British places were, Bristol, Dartmouth, Exmouth, Falmouth, Harwich, Hull, Isle of Wight, Margate, Milford Haven, Penzance, Seaford, River Thames, Torbay, Tynemouth Haven, Weymouth and Yarmouth. The highest total for the years sampled occurred in 1808 and the Scottish proportion for that year was £48,060 out of £254,937 being 18.9%. Though this is above the population figure if the major English victualling ports were included the Scottish proportion would pale into insignificance and drop well below the indicator. Assuming for the moment that Beveridge's estimate of 25% of seamen being victualled at ports other than London, Deptford, Portsmouth and Plymouth has some validity and that there is a direct correlation between numbers victualled and expenditure on victualling the Scottish share at most can be estimated at 18.9% of the 25%, that is around 4.7% of total victualling. It was probably less as Beveridge seems to have included Chatham and Dover in his 25%.

It is likely that the concentration of victualling in the south of England had considerable spin off effects in terms of construction and employment. No Scottish equivalent was found of the victualling mills, bakehouses, brewhouses and cutting houses whose presence in an English context has been identified.³³

In the sphere of ship maintenance according to Albion:
"A dockyard served several purposes. It was a strategic naval base for the fleet, ships were built and repaired there, and it housed the various stores required for naval purposes."³⁴ Whilst private yards shared in such activity clearly the possible Scottish share of the naval dockyard establishment is worthy of attention. Scotland indeed was not without a legacy in such matters, a Royal Dockyard having been established at Newhaven by James IV.³⁵ However the Scottish component in the Napoleonic era and its relative standing are indicated in a statement made by the Commissioners for Revising and Digesting the Civil Affairs of His Majesty's Navy in their 6th report:

"After we had prepared instructions for the guidance of the superior and inferior officers... in Your Majesty's principal Naval Establishments (at Deptford, Woolwich, Chatham, Sheerness, Portsmouth, and Plymouth)...we directed our attention to the smaller Establishments; or, as they are generally termed, Out-ports, at Deal, Harwich, Leith, Falmouth and Kinsale."³⁶

Thus Leith was the only Scottish naval dockyard and it was one of the "smaller Establishments."³⁷ A more precise indication of Leith's standing is given in the Sixth Report from the Select Committee appointed to inquire into and state the Income and Expenditure of the United Kingdom etc.³⁸ This compares the "Establishment" of the dockyards "at home" in 1813 and 1817 the figures are reproduced in Table 2.5, overleaf.

TABLE 2.5: ESTABLISHMENT OF THE NAVAL DOCKYARDS IN 1813 AND 1817³⁹ (£)

<u>YARD</u>	<u>1813</u>	<u>1817</u>
Deptford	26,709	27,582
Woolwich	30,411	32,440
Chatham	33,240	36,883
Sheerness	23,870	26,659
Portsmouth	54,250	59,969
Plymouth	43,659	45,299
Deal	2,394	1,018
Leith	1,116	575
Yarmouth	"has been totally put down since 1813" [no figures given]	
Pater near Pembroke	1,940	6,631
Total	217,589	237,056

SOURCE: PP. 1817, Vol. IV, p.

The Leith (and hence Scottish) share of the above totals is in 1813, 1,116 out of 217,589 (0.5%), in 1817, 575 out of 237,056 (0.2%). Assuming that the establishment at a yard reflected the order of magnitude of naval activity there it can be concluded that the Scottish share of such naval dockyard activity was almost negligible and certainly fell well below the 15.2% population indicator. This is hardly surprising for as will be seen⁴⁰ naval shipbuilding was heavily concentrated in England. Whilst it is known that refitting took place at Leith⁴¹ the same apparently applied to that activity. According to a list of ships refitted between 15 May and 26 December 1804 which totals to 146 ships, 67 were refitted at Sheerness, 47 at Portsmouth, six in Chatham, four in Woolwich and two at Deptford.⁴² The list reveals that such refits could take from days to weeks or longer, for example one vessel was taken

in hand on 10 July and not completed until the beginning of October.

There is further circumstantial evidence which suggests the facilities at Leith were not extensive. The correspondence of its naval officer does not suggest that the government had facilities there for constructing vessels.⁴³ Nor is there any indication of the type of activity which could take place at the major yards. For example owing to occasional imperfections in copper supply, in 1803 the Admiralty determined on the erection of machinery for remelting old sheathing and for manufacturing copper sheets much to the chagrin of private English suppliers.⁴⁴ Leith was not among the places remelting copper sheathing. In addition there is no indication Leith was a relatively significant employer of labour.⁴⁵

It is thus likely that Scotland did not share proportionately in total dockyard expenditure and probably mostly missed out on the more subtle spin offs, for example, owing to the chip allowance to shipwrights in the yards which permitted the removal of pieces of wood not more than three feet long:

"We are told that this limitation had a considerable effect on the style of domestic architecture at Portsmouth, and no doubt at other dockyard towns as well; stairs were just under 3ft. wide; doors, shutters, cupboards, etc. were made of pieces of wood slightly under the maximum limit." 46

As in the case of the evidence relating to the land forces in Scotland that presented pertaining to naval activity is open to criticism. It is chronologically incomplete and selective (but inevitably so), the material relating to fleet disposition showing

a particular bias towards the early 1800's. It is obvious that the geographical whereabouts of the navy could vary with strategic necessity. Nonetheless there is no reason to assume that any such change lead to a marked alteration in the order of magnitude of numbers of vessels stationed in Scotland to the one which has been outlined. Other sources consulted revealed that in general disposition statements a Scottish station was never specifically mentioned⁴⁷ whilst the proportion of the North Sea fleet stationed in Scotland was comparable to the dozen craft at other times.⁴⁸ One exception to the former is to be found in the Glasgow Courier 24 December 1803. It sought to assure its readers that:

"Those who in former wars have been accustomed to hear of the principal part of our maritime force riding for months together at Spithead and Torbay, may easily form incorrect notions of its present strength and disposal."

Whether the existence of 1 ship in Scotland, the H.M.S. Roebuck at Leith, in the disposition the newspaper gave reassured its Scottish readers is another matter. Again an examination of more literary comments in the press which frequently recorded the movements of naval vessels in Leith did not suggest a substantial naval presence in Scotland at other times.

Nevertheless the stated object of this analysis should be kept in mind. Its purpose has merely been to establish an order of magnitude. For example it does not deny naval ships were to be found on the west coast of Scotland⁴⁹ or that naval ships could be repaired in such places as Burntisland.⁵⁰ But the various evidence which has been presented concerning the level of naval activity in Scotland in general does seem consistent. The

relatively slight portion of the British force stationed in Scotland or coming into contact with Scottish ports, would lead a priori to the conclusion that this would not require a significant dry land presence in the country to service it. Material which has been presented on victualling and dockyard activity gives credence to this conclusion. That naval activity should be concentrated in the south of England had been determined by strategic necessity long before 1707.⁵¹ But it would seem that warfare after the Union did not lead to a great transfer of such activity to Scotland. The stationing and servicing of the fleet was to remain concentrated in England. More particularly during the Napoleonic era it is likely that the Scottish share of any expenditure from these activities was well below that elsewhere in Britain.

Summarising the findings of chapters 1 and 2 there is no obvious reason why all the diverse evidence, both literary and statistical, should be biased in one direction to the extent that it would give rise to misleading conclusions. Indeed where it has been possible to choose, a conscious attempt has been made to weight the data towards maximising the Scottish share of government activity. Yet its bulk does point to the conclusion that Scotland's proportion of British army ordnance and naval activity viewed in the light of her relative population was disproportionately small. It seems likely that capital expenditure on items like ordnance buildings and dockyard facilities and to a lesser extent barracks was conspicuously slight. Revenue expenditure emanating from the stationing of troops and victualling of sailors may have been higher. By some measures however the Scottish shares is so slight

as to make the population indicator irrelevant. It is in the light of this order of magnitude that the impact of the Napoleonic wars on the Scottish economy must be viewed.

Moreover material relating to barrack construction and Colquhoun's estimate of military capital formation would suggest that at least for these capital items Scotland's relative share of military expenditure in the period 1750-92 and probably earlier, was likewise slight. Such was the high share of the traditional naval dockyards in the south of England that the same is probably true of naval expenditure.

NOTES TO CHAPTER TWO

1. SRO GD51/2/894/2, Melville Castle Muniments, Comparative account of the number of ships of the line and frigates building and ordered to be built in January 1787 and January 1819.
2. See for example Glasgow Courier, 7 October 1797, 8 April 6 November 1802; Edinburgh Evening Courant, 10 January 1814; BM ADD MSS 38359 f. 51, Liverpool Papers.
3. SRO GD51/2/823, Melville Castle Muniments, List of H.M. ships put into commission between 15 May 1804 and 31 August 1804; GD51/2/824, List of H.M. ships put out of commission between 15 May 1804 and 31 August 1804; GD51/2/830, List of ships and vessels commissioned since 18 May 1804; Also see NLS MSS 1045 ff. 112-115, Melville Papers, Papers relating to the Royal Navy.
4. SRO GD51/2/869, Melville Castle Muniments, Disposition of H.M. ships and vessels in commission at home and abroad and of hired armed ships and vessels employed in the public service.
5. This assumption distorts the picture of course. For example while the table shows the North Sea squadron as being numerically more significant than that of the Channel squadron the former had three ships of the line to the latter's five. For present purposes however such refinements are largely irrelevant.
6. SRO GD51/2/803, Melville Castle Muniments, Disposition of ships and vessels under the Commander in Chief at Portsmouth and Spithead 4 August 1804.
7. SRO GD51/2/800, Melville Castle Muniments, Disposition of ships and vessels under the Commander in Chief at Plymouth, 3 August 1804.
8. SRO GD51/2/799, Melville Castle Muniments, Disposition of H.M. ships and vessels under the Commander in Chief at Guernsey and Jersey.
9. SRO GD51/2/789, Melville Castle Muniments, Letter from George Smith to William Budge Secretary to Lord Melville with returns of ships and vessels.
10. SRO GD51/2/804, Melville Castle Muniments, Disposition of the Channel fleet, 6 August 1804.
11. BM ADD MSS 38359 f. 51, Liverpool Papers.
12. SRO GD51/2/778, Melville Castle Muniments, List and disposition of H.M. ships and vessels under the Commander in Chief of the North Sea, 11 May 1804.
13. Cassell's Gazetteer of Great Britain and Ireland (1899) and Oliver and Boyd's Pronouncing Gazetteer of the World (1879) were used.

14. SRO GD51/2/833, Melville Castle Muniments, General statement of the tonnage now in the transport service, 17 September 1804.
15. SRO GD51/2/780, Melville Castle Muniments, List of the regular tonnage now in the transport service, 12 May 1804.
16. SRO GD51/2/833, Melville Castle Muniments, General statement of the tonnage now in the transport service, 17 September 1804.
17. Ibid.
18. SRO GD51/2/765/2, Melville Castle Muniments, Letter from Evan Nepean to William Huskisson; GD51/2/766 List of armed transports employed in the service of the Transport Board, 18 January 1798; GD51/2/831, List of hired armed cutters, luggers etc.
19. SRO GD51/2/835, Melville Castle Muniments, List of coppered troop transports in England, 18 September 1804.
20. SRO GD51/2/790, Melville Castle Muniments, List of the division of defence ships ordered from Loch Ryan to the Downs, 16 June 1804.
21. Vide supra p. 46.
22. NLS Accession 4798, Map of Great Britain showing the situation of the barracks belonging to the public and likewise those which are hired.
23. SRO GD51/2/818, Melville Castle Muniments, General weekly return of the First Division of Royal Marines at Chatham Barracks, 20 August 1804.
24. Ibid.
25. PP 1809, Vol. VI.
26. PP 1809, Vol. VI.
27. Beveridge, Prices, p. 45.
28. Ibid., pp. 530-531.
29. PRO ADM112/162 to 112/212, Victualling Department, Contracts ledgers.
30. This table however does not quite represent all payments made for victualling at Scottish ports contained in the ledger. In most cases there are pages headed "Bills of exchange" and "Promiscuous supplies". These detail payments for victualling at Leith as well as places not specified in the table like Aberdeen, Cromarty, Kirkwall, Shetland, and other places in Britain. They seem however to be mostly for small amounts.

31. PRO ADM112/194, Victualling Department Contracts Ledger.
32. Totals are not given in the ledgers for these places. As in the categories mentioned in note 30 above it would take a great deal of work to categorise and total the individual entries. For present purposes this was not felt to be a worthwhile undertaking as it would merely confirm the obvious.
33. Beveridge, Prices, p. 528; Mathias, Brewing, p. 201.
34. Robert Greenhalgh Albion, Forests and Sea Power, (Harvard, 1926), reprinted (1965), p. 68.
35. David Bremner, The Industries of Scotland Their Rise, Progress and Present Condition, (Edinburgh, 1869), reprinted (1969), p. 74.
36. PP 1809, Vol. VI, p. 101.
37. More modern comment confirms this view. Albion, Sea Power, p. 68; Beveridge, Prices, p. 605.
38. PP 1817, Vol. IV, p. 203.
39. Haulbowline in Cork harbour has been ignored in line with the earlier practice of disregarding Ireland. It will be noted that there had apparently been some change in the places designated naval yards among the outports since 1809.
40. Vide infra pp. 110-116.
41. Glasgow Courier, 10 October, 1801.
42. SRO GD51/2/847, Melville Castle Muniments, List of ships refitted since 15 May 1804, 26 December 1804.
43. PRO ADM106/1978, Navy Board In Letters.
44. NLS MSS 1045 f. 60, Melville Papers, Papers relating to the Royal Navy.
45. For information on employment in the yards which ran into thousands see SRO GD51/2/814 Melville Castle Muniments, Account of the number of apprentices borne in Chatham Yard; GD51/2/815 Account of the number of artificers in Chatham Yard; GD51/2/817/2 Account of the number of persons in Chatham Rope Yard; GD51/2/857 Account of the number of artificers borne in H.M. dock and rope yards; GD51/2/891/4 Letter from Joseph Tucker, Surveyor of the navy to Lord Melville; SM, Vol. LXX, December 1808; The Glasgow Courier, 10 October, 1801 referred to various tradesmen only "occasionally employed in the refitment of his Majesty's ships at Leith.", though it mentioned numbers of 250 and upwards.

46. H.E. Richardson and N. Macleod, "Wages of Shipwrights in H.M. Dockyards, 1496-1788", Mariner's Mirror, Vol. XXXIII, 1947 pp. 266-267. In 1801 the practice was discontinued and 6d. was added to shipwrights' pay as chip money. Ibid, p. 268.
47. See footnote 2 to this chapter.
48. SRO GD51/2/788, Melville Castle Muniments, List and disposition of H.M. ships and vessels under the Commander in Chief of the North Sea 25 May 1804; GD51/2/837 as GD51/2/788 for 5 October 1804; GD51/2/856 as GD51/2/788 for 15 February 1805.
49. Glasgow Courier, 6 September, 1803.
50. PRO ADM1/696, Admiralty Secretary's Department: Letters from Admirals at Naval Stations.
51. Albion, Sea Power, pp. 68-69.

CHAPTER THREE

WAR EXPENDITURE IN THE REGIONS OF SCOTLAND 1793-1815

1. The Armed Forces

Chapters 1 and 2 have presented evidence on Scotland's share of military expenditure in aggregate terms. It is realised however that just as expenditure varied on a national level it is likely to have been unevenly concentrated within regions of the country. The first part of this chapter examines this question with regard to the distribution of land forces within Scotland. It has already been noted¹ that the port of Leith dominated naval activity in Scotland. The second part of this chapter investigates the nature of expenditure there.

Earlier it was argued that the fear of invasion and/or internal insurrection were probably the major determinants of domestic military strategy.² The perception of the likely places where an invasion attempt might be concentrated had obvious implications for the disposition of troops within Britain. Thus David Dundas, Quarter Master General, in a report on invasion in 1796 stated that:

"In no country so much as in this does its fortune depend on that of the capital [London]. While danger is distant its resources and exertions are inexhaustible. If suffered to approach too near, its artificial system may give way to such a degree as to endanger the whole fabric."

The French, dominating ever increasing parts of the European coastline, could launch an attack from several points and even if

(Footnotes to Chapter Three appear on pages 86-88)

only a small force were successfully landed might cause considerable confusion in the capital - if it could be reached - which might incite rebellion, and cause credit to collapse, thus threatening the financial structure and political stability.⁴

The economic base of French intentions was stressed: "In short, they come against us, as Mr. Sheridan most justly and forcibly expressed it in the House of Commons, not for glory, territory, or dominion; but for our ships, commerce, credit, and capital. They come for the sinews, the bones, the marrow, the very heart's blood of Great Britain."⁵ It was certainly the case that the invasion threat was taken seriously and London as the political and monetary nerve centre of the country seemed an obvious primary target for the enemy. It will be seen that similar consideration in a Scottish context had an influence on troop disposition there.

The question of the invasion of Scotland, under what circumstances it might take place, from whence it might be launched, and where a force might be landed, were subjects carefully considered in a military memoir of 1803 drawn up in accordance with the wishes of Major General Brownrigg, Quarter Master General of H.M. Forces.⁶ According to this Scotland had been divided into four military districts to facilitate defence and the duties of inspection.⁷ These were made up of the Southern, Western, 'Center', and Northern districts with headquarters at Edinburgh, Glasgow, Dundee and Aberdeen respectively.⁸ The latter quartet were connected with the main objects of defence in Scotland being the firths of Forth, Clyde and Tay and the 'town' of Aberdeen.⁹ It was felt however that since the Tay was difficult to access and the coast around Aberdeen dangerous, neither was likely to be a

major invasion target; in any event a landing at either would not endanger the general safety of Scotland.¹⁰ Moreover since Ireland lay between the enemy and the west coast of Scotland, invasion of the latter could only occur if the enemy first had a foot in Ireland or if a proposed invasion of Ireland went askew and Scotland was invaded almost by accident.¹¹

The Firth of Forth in general and Edinburgh in particular, however, were exposed to enemy ports and coastal areas and the fall of Edinburgh could be followed by that of Glasgow which would provide the enemy with a launching pad for an attack on Ireland.¹² There were thus strategic reasons why Edinburgh's defence should be important and also, as in London, practical ones for:

"Wherever an Enemy may land an Army in Scotland it is evident that the attack of the Capital must be his main and ultimate object, as it is only by its fall that he expect [sic] to subdue the Country or to make an impression that would be materially felt by our Government. It contains the public Records by which the rights of landed and other property are ascertained; the Depository of the treasure of our National Banks and the Emporium of our¹³ Commerce."

Thus: "a large portion of the Regular and Militia forces should in time of danger be concentrated in and near the Capital."¹⁴ Certainly this Edinburgh bias in strategic thought is recorded elsewhere¹⁵ and there is evidence that when invasion seemed imminent it provoked a greater response in the east than the west. The Glasgow Courier in 1797 declared that:

"While all ranks of people in the eastern coasts of Scotland are making every laudable preparation for effectually repelling the attack which, there is too much reason to fear, the French are meditating on this

country... We cannot help thinking that the inhabitants of this part of the country are, in general, not sufficiently aware of their danger."¹⁶

Increased enrolment in the volunteers was called for.

Nonetheless it is important to ascertain the extent to which such considerations were reflected in a bias of the statistical distribution of the forces. The memoir gave the "Disposition of the Forces under the Command of Lieut General Vyse for Campaign 1803" by military district. By adding the population of the countries in each district according to the 1801 census a population control similar to that used earlier is produced. The result of the exercise is shown in Table 3.1.

TABLE 3.1: DISPOSITION OF THE FORCES IN SCOTLAND IN 1803

<u>Military District</u>	<u>Total no. of effective rank & file</u>	<u>(1) % of total</u>	<u>Total pop. of counties in military district⁴</u>	<u>(2) % of total</u>	<u>(1)-(2)</u>
Southern	3,901	55.2	303,074	19.4	+35.8
Northern	1,398	19.8	395,428	25.3	-5.5
Western	910	12.9	455,597	29.2	-16.3
Centre	856	12.1	407,497	26.1	-14.0
Total	7,065 ³	100.0	1,561,596 ⁵	100.0	

SOURCES: Military - NLS MSS. 1754 f. 52, Memoir of the military state of North Britain in 1803, by Colonel Dirom, Deputy Quarter Master General of H.M. Forces in North Britain. Population - James Kyd, (ed.) Scottish Population Statistics, (Edinburgh, 1952), p. 82.

NOTES

1. Given the numbers involved this appears to include only regular forces and excludes the militia.
2. These figures are the product of the numbers of cavalry and

infantry.

3. Excludes 254 artillerymen whose exact geographical location is not given.
4. Excludes military personnel in Scotland at the time of the census.
5. Excludes counties of Orkney and Shetland as the source does not give to which military district they belonged. The counties in each military district were:
 - Southern: West Lothian, Mid Lothian, East Lothian, Berwick, Peebles, Selkirk, Roxburgh, Dumfries.
 - Northern: Caithness, Sutherland, Ross, Inverness, Cromarty, Nairn, Moray, Banff, Aberdeen, Mearns (Kincardine).
 - Western: Argyll, Bute, Renfrew, Lanark, Wigtown, Kirkcudbright, Ayr.
 - Centre: Angus, Perth, Kinross, Fife, Clackmannan, Stirling, Dumbarton.

It can be seen at a glance that in absolute as well as relative terms troops were heavily concentrated in the Southern district, an area which had less than 20%¹⁷ of total population but over half the total number of troops stationed within it. Whilst the proportion of troops in all the other districts fell short of their population indicator, those in the Northern district were most proximate to it, those in the Western furthest away. Though Table 3.1 most likely excludes the militia there is evidence that it too was biased in favour of the Southern district. The memoir gave a proposed 1803 disposition of the latter which placed 40% in the Southern and 20% in each of the other districts. The other major component of the land forces of the time was the group which

can be loosely termed volunteers. Their area of duty varied from the locality, to the county, to the military district according to individual circumstances, their role being to provide defence as well as carrying out local policing activities.¹⁸

Thus to some extent the determinant of the number of volunteers in a district was the number raised within it and it is thus interesting to compare the latter with the district's relative population. The memoir did give the number of volunteers embodied in the districts, the figures are reproduced in Table 3.2

TABLE 3.2: DISTRIBUTION OF VOLUNTEERS EMBODIED IN 1803

<u>Military District</u>	<u>Number of volunteers embodied therein</u>	<u>% of total</u>	<u>% of total pop.</u>
Southern	9,468	19.7	19.4
Northern	12,162	25.3	25.3
Western	13,716	28.6	29.2
Centre	12,654	26.4	26.1
Total	48,000	100.0	100.0

SOURCES: Military - NLS MSS. 1754 f. 55 Memoir of the Military state of North Britain in 1803.
Population - Kyd (ed), Population Statistics, p. 82.

The almost identical nature of the two percentages in the Table is quite striking. This would suggest that any government expenditure on such regiments is unlikely to have been biased regionally and that the higher absolute number of volunteers in the Northern, Western, and Centre districts helped to some extent to counterbalance the Southern district's disproportionate share of the regular and militia regiments. It should be remembered though that volunteer regiments given their nature are unlikely to have

generated much central government expenditure.¹⁹

Recalling the bias of the distribution of the regular and probably the militia troops in Scotland in favour of the Southern district which had Edinburgh as its headquarters, this would in fact suggest the possibility of a concentration of military activity in and around the capital. However it can be argued that since the foregoing evidence refers only to a point in time and there was an invasion scare in 1803, it could be the figures present a biased picture of the distribution of the land force over time. To gain some indication of the latter the distribution of barracks according to the map dated January 16th 1807 can be taken account of and the number of men they were designed to hold noted. The result is contained in Table 3.3, below.

The Table portrays an almost identical pattern to that in Table 3.1. Again the Southern district whilst containing under 20% of the population, contained well over 50% of the facilities for accomodating troops whether in terms of number of barracks, or more significantly numbers of men they were designed to hold. It can be seen that the three other districts all contained the same number of barracks but when consideration is made of the number of men they were designed to hold, again the Northern district's proportion, whilst like the others below its population indicator, is closest to it and again the greatest relative deficiency occurs in the Western region. Given the high degree of similarity in the Figures in Tables 3.1 and 3.3 it can be argued that they probably give a fairly representative picture of the geographical dispersion of the land force activity in Scotland in the Napoleonic period.

However these 'districts' cover a relatively wide geograp-

TABLE 3.3: DISTRIBUTION OF THE BARRACKS WITHIN SCOTLAND IN 1807

Districts	Number of barracks in district	% of total	Total no. of men barracks in each designed to hold	(1) % of total	(2) % of total pop.	(1)-(2)
Southern ¹	16	57.1	9,005	58.9	19.4	+39.5
Northern	4	14.3	3,022	19.8	25.3	- 5.5
Western	4	14.3	1,628	10.6	29.2	-18.6
Centre	4	14.3	1,632	10.7	26.1	-15.4
Total	28	100.0	15,287	100.0	100.0	

SOURCES: Barracks - NLS Acc. 4798, Map of Great Britain showing the situation of all the barracks belonging to the public and likewise those which are hired. Population - Kyd (ed.), Population Statistics, p. 82.

NOTES:

1. Includes a barracks in Berwick which although in England seems to have fallen into this military district.
2. It is not known what the cartographer defined as a 'barracks' but this map excludes some buildings which housed troops such as at Bernera in Invernesshire and Corgarff in Aberdeenshire. It is doubtful however whether these places housed troops on a large scale.

hical area, thus in order to be more precise about local concentrations of troops it is worthwhile examining the exact location of the troops enumerated in Table 3.1 and to ascertain where the major barracks lay.

In 1803 the troops in the Southern district consisted of the "Garrison of Edinburgh" being three troops of dragoons at Piershill barracks and one battalion of infantry in the castle, one troop of cavalry in Dunbar and three battalions of infantry near the town, one troop of cavalry in Musselburgh and three battalions of infantry in camp there. The largest barracks in the district (i.e. those designed to hold over 1,000 men) were at Edinburgh (1,900), Haddington (1,372), Dunbar (1,361), and Musselburgh (1,084).

The 1803 Northern district force was made up of one troop of cavalry in Aberdeen and two battalions of infantry there, one in barracks and one (presumably billeted on the population) in the town, and one battalion of infantry at Fort George with detachments at Fort Augustus and Fort William. The only barracks within it designed to hold over 1,000 men was Fort George (1,760).

The Centre district's force in 1803 consisted of one troop of dragoons in Dundee and Montrose and one battalion of infantry in Dundee barracks, one battalion at Kirkcaldy and Dysart and one battalion in Stirling Castle, of which apparently one company were at Dumbarton Castle. No barracks in this district were designed to hold over 1,000 men, the largest being at Stirling Castle (798 men).

Finally, the Western district had one troop of dragoons at Hamilton and Glasgow, one battalion of infantry at Glasgow barracks, one battalion at Paisley and Greenock and one battalion in Ayr

barracks.²⁰ Its largest barracks was that at Glasgow designed to hold 1,000 men.²¹

Thus it would seem that like the naval force, the land forces in Scotland tended to be concentrated around its capital where the largest and most numerous barracks were also to be found. The summer encampments at Musselburgh and Dunbar contributed to the concentration of troops in the area. There appears to have been a similar though not so extensive military presence in Aberdeen, however it should be kept in mind that the Northern district's total was boosted by the inclusion of the highland forts within it, particularly Fort George which seems to have been a reception point for highland troops and a place where highland regiments might await shipment to places outwith Scotland.²² Dundee, Stirling Castle and to a much lesser extent Dumbarton Castle, formed the hub of activity in the Centre district, whilst in the West the populous urban areas of Glasgow and Paisley and the important port of Greenock formed the major points of troop concentration.

To the extent that the greater the local military presence the more likely it is to have boosted regional income it would appear that in the main the major urban districts benefited most and without doubt the Edinburgh area to the greatest extent. Judging from the victualling ledgers and material relating to dockyard activity it seems certain that it was also the major ports of Leith and to a much lesser extent Greenock, which attracted most naval expenditure, though it is likely that most ports 'enjoyed' a naval presence at some time. In more general terms it would seem to be misleading to argue that: "one of the obstacles to the effective deployment of troops in the 1790's was the fact that

Scotland's garrisons had been sited with a view to controlling the Highlands and putting down the Jacobite risings: the Lowlands were relatively unprotected."²³ In fact the defence of the capital was the major consideration though perhaps the fact that the other major city in Scotland, Glasgow, was within 40 miles of it and thus could be supported by its land force in a time of emergency (and vice versa)²⁴ and that to a large extent Scotland's wealth and population were concentrated in a geographically fairly small central belt were factors which allowed forces to be centred in Edinburgh to an even greater degree. In any event it is unlikely that in the important Napoleonic period the regional income of the west of the country, where industrialisation was proceeding most rapidly, was boosted to any large extent by military activity within it. Rather the capital formed the hub.

2. Naval Activity in Leith

The importance of Leith as the centre of naval activity in Scotland has already been alluded to.²⁵ It is therefore proposed to examine the nature of such activity there. This exercise is considered to be of great importance to this study for two main reasons. Firstly, whilst evidence presented thus far has suggested a relatively low level of military activity in Scotland if it was found that for example, the naval dockyard at Leith had considerable spin off effects in terms of demand for local factors of production, this would perhaps qualify the earlier findings. It could be that what was unimportant nationally was of great local significance. Secondly, by taking such a case study it is hoped to show in what way military activity could create demand for factors

of production thus giving at least some explicit detail of the implicit relationship between the magnitude of the military presence and its demand generating capacities which has been assumed. It is thus to be hoped that such analysis will complement the mainly statistical section providing a contrast in terms of content and detail. The exposition is based mainly on the records of the naval services²⁶ and will commence with a consideration of the physical needs of the navy in terms of facilities and space.

Naval activity at Leith resulted in a demand for facilities owned privately. In the Napoleonic era that demand was fulfilled by rental and purchase. On the outbreak of war in February 1793 the Navy Board were anxious to gauge the amount of additional stores the Leith magazines were capable of holding.²⁷ The storehouses were leased and the expiration of their lease caused considerable alarm to the Naval Officer who submitted on 10 June 1793: "If it will not be proper to enter into a new lease to prevent any consequences which might accrue from the rise of rent which is every day taking place in the neighbourhood, & from the property being disposed of and converted to other uses." Clearly the navy were competing for rather than monopolising such facilities. By 1795 an extension of magazine facilities was required, the Naval Officer reporting on 2 March that the existing ones were "very nearly full." He enclosed a plan for a warehouse which was to be built which would be convenient for holding stores for larger ships and could be given up when no longer necessary without interfering with the magazines at present under lease. This would imply that a war time stop-gap was envisaged. The proposed cost for additional warehouses and lofts was to be £65 per annum. It would thus seem that the

facilities were to be constructed privately and leased by the navy rather than built by the latter.

It would appear also that war time needs resulted in an expansion of the physical extent of the yard or at least that part owned by the navy. On 11 October 1797 the Officer informed the Board that in consequence of their orders he had purchased that part of the yard belonging to Mr. McLean, a Leith merchant, at the price of £3,400. The purchase had been made with the object of keeping the price down, through a third party, John Anderson, a Writer to the Signet. It was to stand in his name until an opportunity arose for purchasing "Mr. Forrester's part upon more reasonable terms" than he had hitherto offered. On 26 April 1803 the Officer declared he had completed the purchase of that part of the yard belonging to Mr. Forrester "of St. Petersburg". It is unclear at exactly what price the purchase was made but the sum of £4,581.17.4d is mentioned. Given the time lag between purchases it would seem that they were not of pressing necessity. By 1814 a plan was afoot to move the naval establishment at Leith to a more convenient situation, the navy declaring in January of that year that they had purchased land at Jessefield near Newhaven for the purpose.²⁸ But, still requiring a space of water line, they applied to the Lord Provost of Edinburgh to make a grant of the lands of Newhaven Green. This was readily agreed to.²⁹ However how much progress was made in the period is uncertain, in October 1816 the completion of the purchase of lands at Jessefield was still a topic of discussion.³⁰

Such activities were clearly connected with the naval presence at Leith, however, there was also an extension of facilities at the port in general, for which several Acts of Parliament were

obtained,³¹ where the military role is less clear. The Lord Provost of Edinburgh for example was reported in October 1809 to have declared that:

"Owing to the spirited and enterprising exertions of our merchants, and particularly those of the port of Leith, its accomodation has become too limited for its trade; it has therefore been necessary, upon the part of the Corporation of the City of Edinburgh, to enlarge the docks; and the foundation stone which your Lordship has now laid, is not only intended to be a continuation of the great plan originally designed by... John Rennie Esq. but also to be the commencement of those military works suggested by your Lordship when resident among us, which, out of gratitude...the Corporation...name King George III's military works..." 32

From this it could be that to some extent civil and military reasons combined to produce expansion. Certainly a close watch was kept by the Naval Officer on intended harbour improvements to ascertain their impact on naval requirements. For example, Rennie's plan for deepening the entrance of the harbour and forming wet docks was the subject of a report submitted by him to the Navy Board in December 1798. In 1805 the government granted £25,000 for the completion of wet docks and other works in Leith harbour which may suggest that naval as well as civil considerations were a determinant of expansion.³³ The same theme is apparent in a post 1815 dispute. By an Act of Parliament of 1826 the Town of Edinburgh was required to lay out £28,000 on the erection of 'the Eastern pier' on the understanding that 'the Western pier' would be simultaneously constructed by the public, which given the close involvement of the Navy Board, was intended to be of service to the navy. By December 1811 however the Board had apparently changed its mind about the

usefulness of the pier leaving the council with the burden of constructing the Eastern part which would be allegedly useless without its Western counterpart.³⁴ Clearly then the military presence at Leith is likely to have played some role in the extension of harbour facilities at the port in general, however negotiations between naval and civil authorities concerning the nature of such extensions were not always smooth.

Since the building and maintenance of ships were primary functions of any naval yard it is now proposed to examine such activities at Leith, though the question of shipbuilding will be considered in more general terms elsewhere.³⁵ From a wide variety of sources consulted, no evidence was found that the navy possessed extensive shipbuilding facilities at Leith. It would appear that any construction, repair, or fitting out work to be done was carried out by means of contracts with local firms. Furthermore there is no evidence of construction on any scale, the vessels themselves tending to be relatively small craft mostly intended for local purposes. The Naval Officer's correspondence reveals that cutters had been built by March 1795 at the port, Alexander Hill being the contractor, whilst in July 1794 he transmitted a contract with Messrs. Menzies and Goalen for building two gun brigs in their yard. The launching of such vessels was perhaps novel enough to attract the attention of the press: "On 9 January [1805] were launched from the building-yard of Messrs. Menzies and Goalen, Leith, two new gun-vessels built for government, for the protection of the coast. They are about 150 tons burden, and constructed to carry 12 guns."³⁶ It could be though that constructing for the navy was not always attractive to Leith builders. On 2 April 1806 the

Naval Officer informed the Board that: "none of the Builders in this place will undertake to build Cutters for the Prices mentioned in the [Deal] Contract", though he did enclose the two lowest tenders recommending that of Menzies and Goalen who would use superior men and materials. In addition changing conditions over the period of contracts caused concern. The Naval Officer in a letter to the Board dated 5 March 1795 transmitted the view of Alexander Hill "the contractor for boats at this port" that:

"The great increase of price in every material used in Boat-building, since the time I entered into my Contract, together with the very high wages I am obliged to give my people, on Account of the scarcity of Hands at this time, makes it impossible for me to continue to serve the Honble Navy Board with Cutters at the present prices."

Apparently naval recruitment had an impact on his operations as he requested protections for five people which was the minimum, he argued, with which the demands of the board could be executed. The officer supported his appeal for higher prices praising his work. The Board however would not grant any increase observing that Hill's prices for the largest cutters were already higher than those built at Deal and that: "as we cannot suppose that neither materials or workmanship at Leith cannot be greater than at Deal & being satisfied that the Boat[s] built at Deal are not inferior to those built at Leith, for these reasons we do not approve of any increase of price." Such difficulties may have made builders reluctant to enter into contracts or at least caused them to evaluate the prices offered closely. In any event all the evidence would seem to point to the conclusion that naval demands for shipbuilding at Leith was

not of sufficient scale or perhaps regularity as to employ large amounts of men and materials.

The latter however could be utilised in repairing and fitting ships as well as building new vessels. Again the impression gained is that such activities were limited in terms of scale and frequency of occurrence. An example of the type of repairs carried out at Leith is provided by the work required to be done to H.M. sloop Kingfisher in October 1795 which the Leith Naval Officer directed to be taken in hand immediately:

two of the Channel Stools to be shifted
A new hanging after Stern port
A new catch to the Stewart [sic] room
The Topsides, Bends, round the ride Bits and coverings of the Hatchways to be caulked
The Lead & Tin work in the Galley with the Cooks boiler want repairing
A new top to the Cooks Lockers
The Fore & Main Mast to be new wedged and the Main Mast new coppered
A new back to the Cross piece
A new Bowsprit wanted the other sprung

The name of Mr. Menzies again crops up in connection with repairs. In 1808 he was presenting the Navy Board with bills for repairs done to the Bellette and the Rover.³⁷

In the early years of the war vessels of the Russian navy were also repaired in Leith, as well as being supplied with stores from the magazines. Menzies and Goalen "shipwrights here" were again involved, the Naval Officer on 17 November 1795 transmitting their bills to the Board for the repair of the Russian frigates Venus (£322) and Constadt (£129). Early in 1796 the firm estimated the cost of repairs to the Russian frigate Raphael at £360, "that in addition to work already performed in consequence of former orders,

which amounts to £240 Sterling." In 1799 too a Russian vessel was being supplied with stores at Leith and another was repaired in the port.

With respect to the fitting and refitting of vessels again the evidence suggests that this took place at Leith on a limited scale. The work seems to have acquired additional importance when there was a threat of invasion. Thus in May 1797 the Naval Officer was forced into giving carpenters employed in fitting gun vessels a temporary allowance for drink money owing to the urgency of the business. In March and April 1797 the fitting out of 10 vessels at Leith which had been purchased to serve as gun boats employed a fair number of men. On 21 March 40 shipwrights were employed on five of the vessels, on the 28 March, 58, and by 18 April 128 shipwrights were employed on eight of the vessels. Again a familiar name crops up in connection with this activity, it was Mr. Goalen who had assisted in the inspection of these vessels before they were purchased. Similarly in May 1808 the officer informed the Board that "...the Nightingale is now fitting, by Mr. Menzies Shipbuilder in Leith, for the reception of Cannonades on the recoil principle." The invasion scare of 1803 seems to have carried over into 1804 for on 12 June the officer acknowledged a warrant directing him "to cause the Fishing boats at Leith... and other ports adjacent to be armed for the defence of the Eastern Coast of Scotland." However despite such bursts of activity there is no evidence of the sustained fitting of vessels on a significant scale. Indeed on 10 August 1804 the Naval Officer in trying to convince the Navy Board that a cutter being built at Berwick should be sent to Leith to be masted and fitted out instead of to Sheerness wrote in apparently

frustrated tones: "There are a great many stores in the Magazines adapted for vessels of this class, which it is full time, was [sic] brought into immediate use as well as a sufficiency of copper to copper her."

Given the fact that materials were used for military purposes at Leith it is of obvious importance to attempt to establish from whence they were supplied to ascertain the extent to which the existence of the yard generated demand for locally produced materials. In fact the evidence overwhelmingly suggests that normally the Leith yard was supplied with the bulk of necessary materials from yards south of the border. It would appear that the usual practice was for the Naval Officer at Leith to provide the Navy Board with periodic accounts of the state of his stores on the basis of which the Board arranged for any deficiencies to be shipped to Leith.³⁸ Stores issued to fleets in bulk also brought requests for supply from England. On 31 October 1795 the officer enclosed a list of articles of stores wanted to replace those issued to Rear Admiral Pringle's fleet, the list being made up of quantities of tar and paint brushes, oak and elm boards, black varnish, canvas, pendants, ensigns, wheelrope, hanging locks, main and fore top-masts, linseed oil, paint and sails, which he requested "may be sent down with all possible dispatch." This would seem to be a fairly comprehensive list and there is evidence that cable and cordage, and beds and hammocks if required at Leith, were also supplied from England.³⁹ More specifically a Navy Board memorandum revealed that: "The stores for Leith are always shipped at Woolwich"⁴⁰ and all the evidence suggests that this was in fact the case.

There is nothing unusual in the shipment of stores between yards as stores were also sent from Woolwich to Plymouth,⁴¹ however in the case of Leith it does suggest that since there is little evidence of stores being acquired at Leith and sent elsewhere the potential demand for local products was to that extent reduced.⁴² There is some evidence however that certain articles were supplied locally and that on occasion the services of the Naval Officer were utilised to secure supplies of Scottish products for the use of the navy in general.

The main exception to the rule that Leith was supplied from Deptford appears to have been the provision of masts which was probably related to the problem of timber shortage which constantly haunted the navy. On the outbreak of war though cost differentials played a role, the Board informing the officer that, since Norway masts of 12 hds. and 11 hds. on the officer's information could be purchased at Leith more cheaply "than our last Contract Prices in the Dock Yards", the masts wanting to complete the establishment at Leith should be purchased locally. There is evidence also that at other times masts were being supplied locally or that the possibility of this taking place was being investigated.⁴³ Another exception seems to have been rope which was at least partially supplied in the vicinity. On 27 October 1795 the Naval Officer transmitted to the Navy Board an offer from Messrs. John Hutton & Co. and David Ogilvy & Co. the "principal" ropemakers at Leith "to make together by joining the workmen of both, the large cables now wanted here to complete the present establishment and of which particular sizes no single ropework has strength enough to make by itself." The Board however considered the prices proposed too high. Nevertheless

both firms had apparently held contracts previously and by 12 December 1795 Messrs. John Hutton & Co. had "contracted for the delivery of twenty tons of cordage at this yard [Leith]." In addition though it seems that most of the stores required for fitting the gun boats purchased in 1797 were shipped from Deptford the two deal cutters which were required for each were supplied by the local contractor whilst the fire hearths and iron ballast required for them were supplied locally by Messrs. Cooper & Son.

Finally, consideration can be made of the limited evidence of purchasing in Scotland possibly for use outwith the country. Not surprisingly one commodity mentioned in this context is timber. The officer on 18 June 1801 having been ordered to examine samples of trees which were to be sold in Aberdeenshire wrote that they were too small and sappy for naval purposes. However, later he was ordered to collect timber to be purchased from the Duke of Atholl to which he replied on 10 February 1810 that he was having difficulty procuring a vessel in the Tay for the purpose and wondered if one should be hired at Leith. In addition in late 1808 and 1809 the Navy Board was clearly testing the worthiness of Sir Archibald Grant's timber through the officer at Leith supplying it to H.M. ships. Several vessels were issued with masts and yards made from the Scotch fir spars delivered to the yard by Grant, the commander of the recipient ship being ordered after sufficient trials had been made of the timber to report "how it is found to answer." One of these replies has come to light. The captain of a sloop who had been asked to test a main top gallant mast and a topmast studding sail boom gave his opinion on 30 November 1808 that: "as far as I have been able to judge...these spars cannot be depended on in cases

of emergency" apparently not handling well, and that they were in any case too short - though it was later admitted this was because they were not intended for the sloop. There is no evidence at least from this correspondence of further timber being had from Grant. The chronology of the evidence of timber supply is interesting as both instances are dated c 1809 which was a period when much alarm was being expressed about timber supply, U.S.A. and Baltic supplies having almost ceased.⁴⁴ This would suggest an effort to obtain supplies from Scotland in an emergency rather than that timber was a commodity important quantities of which were supplied from Scotland.

An attempt was also made to obtain cordage yarn from Leith. In March 1795 the officer was instructed to inquire if anyone in the vicinity who might not be willing or able to make cordage was willing to spin yarn from their own hemp. The Navy Board were to be informed of offers and prices. On the 30 March however the officer reported that having made "every possible enquiry among the ropemakers in this neighbourhood for persons willing to contract for a supply of yarns, ...I am sorry to say, that there are none to be met with, who have any hemp that they can spare for that purpose, as all they have on hand is but in very trifling quantities, and for which they have an adequate demand among their usual cordage customers." In November 1807 in the light of a shortage of rope the Leith officer was instructed to ask the ropemakers there to give estimates to supply a small amount of the commodity. He replied on 5 December however that he had received only one offer being from the Edinburgh Roperie Co. Scanty as this evidence is, it does suggest that Leith manufacturers were not accustomed to supplying such

articles to the navy on any scale.

There is also evidence that the Navy Board requested on occasion the procurement of men as well as of materials. In a letter of 5 January 1807 the officer revealed that Nash, the Regulating Captain at Leith had received orders from the Admiralty "to procure, from the different Ports in the Firth of Forth, Carpenters, to work in His Maj^S Dockyards in England and to take the Master Shipwright of this yard to assist him in the Examination of them." In May of the same year there is news of the arrival at Leith of shipwrights and joiners who had lately been employed in H.M. yard at Portsmouth. Despite the obvious difference in description, in the absence of other data on the subject, this could have been the same men.

Thus far primary emphasis has been placed on examining spin off effects at Leith mainly caused by the needs of His Majesty's Navy. However part of the necessary services carried out by the navy involved the hiring or purchase of privately owned vessels which could subsequently be sold back. It is now proposed to examine this question in the case of Leith.

Leith may have provided a focal point for the navy's attempts to hire vessels in Scotland - John Flinn "Agent for Transports in Scotland" had an office at no. 4 Constitution St. in the port from whence he issued adverts in the Scottish press offering to contract for the hire of ships fit for the transport service.⁴⁵ Certainly there is evidence that ships were hired at the port to serve as tenders⁴⁶ and on 16 November 1808 the Naval Officer could report that he had received 19 offers of vessels to serve as tenders but that none of the shipowners at Leith would let their vessels

into service at 8/- a ton. This could again suggest that ship-owners at the ports were not vitally dependent on leasing their ships on government service.

The need to convey recruits to the major mustering points in England resulted in use being made of private shipping. In December 1793 the officer informed the board that an obstacle to young men entering in the service was the delay which they sometimes experienced waiting for transport in one of H.M. ships or a tender going to the Nore. The officer therefore suggested sending them in the Carron Armed Ships which sailed once a fortnight and would charge a carriage of not more than two guineas. The board approved of this step. Vessels were also hired to transport troops from Leith. In February 1813 the Transport Department hired the Trusty smack to carry detachments of the 12th Light Dragoons and the 1st Foot from Leith to Gravesend at 1 guinea per head for passage and 1s 3d per day for victualling. In addition the Queen Charlotte, Caledonia and Nimble smacks were hired to carry detachments of other regiments from Leith to Gravesend "on the usual terms of Passage and Victualling", and a hired vessel also conveyed a detachment of the 21st Foot from Fort George to Gravesend at 25s per man for passage and 1s 3d per day for victualling in the same month.⁴⁷

Similarly the shipment of ordnance stores to Leith and Edinburgh was at least partially done in private vessels. Thus in January 1793 Thomas Stevenson master of the Edinburgh was paid £2 10s 4d for the freight of 2 tons 16cwt of ordnance stores from London to Edinburgh whilst in February of the same year John Thompson master of the William was paid £19 14s for the freight of 19 tons 14cwt of ordnance stores over the same route.⁴⁸

In addition vessels could be hired for perhaps less conventional purposes. In December 1812 the Naval Officer at Leith, having been directed to hire two lighters for the purpose of assisting H.M.S. Danemark supposed to have gone on shore in the Forth in a fog, hired two of the Kinghorn Passage Boats belonging to Leith. These were sent off with the yard lighter but got no further than Inchkeith where they were informed that the ship was out of danger. But because he had hired the two boats for the passage, the officer paid them the amount of a freight to the roads being £3 10s. The board however approved of this measure.

As well as hiring vessels the navy purchased them for its own use. This trend was apparently most marked with respect to Leith in the year of 1797 when the board decided that gun boats should be procured to be stationed at the port. The original plan in February 1797 was to have the boats built in Leith by the ship-builders there but after negotiations with the latter it was concluded that they could not be built quickly enough. The board thus ordered that they should be purchased in Leith and fitted there but then quickly changed its mind stating they should be hired if possible. The Leith reply was that: "it will be perfectly impossible to hire vessels for the purpose intended - on account of the absolute refusal of the owners to hire their vessels to be cut down, without which, they could not be made capable of carrying the guns..." It was stressed that a large expense would be involved in hiring as the owners would want the vessels returned to their original state or compensated for any alterations and there was of course the risk of damage, and the fear was expressed that exorbitant demands would be made for hiring. Ultimately ten vessels were

purchased seven of which had apparently belonged to Leith and three of which were "belonging to Fife." The prices paid for the vessels ranged between £1,310 and £2,225, their tonnage between 150 tons and 168 tons. Throughout the venture the officer assured the board that he had encouraged competition among the owners to keep their demands "as much within bounds as possible" and there seems to have been no shortage of offers.

Whilst this was perhaps a special case of purchasing in an emergency there is evidence that the board did consider buying Leith vessels at other times. On 14 September 1808 the Naval Officer reported that there was a vessel building at Leith of c 148 tons which was very "fit" to be employed as a tender on the Thames. The officer as well as arranging the purchasing of vessels also seems to have sold off a fair number in Leith. He himself in December 1801 advocated the sale of the gun boats purchased in 1797 as such vessels were much in demand for the Mediterranean trade and well known in Leith and would therefore fetch a high price. On 31 May 1802 it was reported that the Rattle had been sold for £955. There is evidence also that in 1811 ships were being dismembered and sold and "wrecks" being sold off.

In conclusion whilst it is difficult to make comparative statements from this type of evidence it would seem that a study of the type of activity which went on at Leith in the Napoleonic era does not imply that it had any major economic spin offs. It is difficult to ascertain how it could have given the scale of operations there. When asked to state the sum likely to be required for the services of the port during the year 1812 the Naval Officer replied £7,500 "including the probable amount of Tradesmens Bills

for Repairs to Ships, during the same period." There is no evidence that there was any large scale demand for such services as shipbuilding or the repair of ships, though it could be that such activities were of consequence to Messrs. Menzies and Goalen as a company or as individuals. There is little evidence of stores for the yard being supplied locally perhaps because demand was not significant enough to encourage specialist producers for example, the size of cables required by the navy were outwith the capabilities of the ropeworks in Leith to produce individually. Certainly the reluctance of local men to contract on occasion would suggest that they depended on 'normal' channels of trade rather than on the supply of naval needs. Perhaps because of this the Navy Board, somewhat paradoxically in a time of war, sent supplies from the south to be sure that they would be available when required so that the war effort would not be held up by the possible difficulties of procuring local supply. In 1797 when the gun boats were being fitted the officer's son on a visit to Woolwich advised that certain stores required for the business at Leith should be sent from the former "rather than to trust their being procured at Leith." During the same period the Naval Officer had to assure the board that in procuring fire hearths for the vessels there were those skilled enough in the business locally for them to be provided in Leith.

It is probable that the naval presence did promote the extension of dock facilities in the port but it is likely that it was the expansion of commerce in Leith which brought them about. The officer himself remarked in December 1801: "there is now a considerable West India trade establishing at Leith for the furtherance

of which the wet docks forming there are well calculated." With respect to naval demand for Leith shipping there is evidence that private vessels were hired and purchased and naval vessels sold. Again though there is little evidence that overall this took place on any scale during the period and certainly such matters were only mentioned occasionally in the officer's correspondence.

In sum the case study of Leith suggests that economic spin offs created by naval activity there do not seem to have been of any great consequence. To that extent this case study does not appear to contradict or even qualify the view that military activity in Scotland was a relatively low key affair.

NOTES TO CHAPTER THREE

1. Vide supra pp. 42, 46, 48.
2. Vide supra, pp. 17-18.
3. Quoted in Western, Ph.D. p. 14.
4. Ibid.
5. Anon, Two Questions Considered, (London, 1798).
6. NLS MSS 1754, Memoir of the Military State of North Britain in 1803.
7. Ibid., f. 15.
8. Ibid., f. 55.
9. Ibid., f. 59.
10. Ibid., f. 59.
11. Ibid., f. 13.
12. Ibid., f. 60.
13. Ibid., f. 68.
14. Ibid., f. 112.
15. SR0 RH2/4/88 f. 338, Home Office : Correspondence and Papers, Scotland.
16. Glasgow Courier, 14 February, 1797.
17. There is no reason to assume that the 1801 census figure does not give a fairly representative breakdown of Scottish population in the Napoleonic era. For example in 1811 the breakdown was almost identical - Southern 19.7%, Northern 24.0%, Western 31.1% Centre 25.3%.
18. Western, Ph.D., pp. 2, 237-239, 274; For the conditions of service for regiments formed in 1797 see Glasgow Courier, 21 February 1797; In 1808 the volunteer system was replaced by that of the local militia, James Cleland, The Annals of Glasgow, (Glasgow, 1816), Vol. 1, p. 288.
19. See note 18. It would seem that the amount of money paid by the government could vary from corps to corps. Some served without pay and found their own uniforms, others received pay and uniforms. For the variation among corps in Glasgow see Cleland, Glasgow, Vol. 1, pp. 281-288.

20. NLS MSS 1754, f. 52. Memoir of the Military State of North Britain in 1803.
21. NLS Accession 4798, Map of Great Britain showing the situation of all the barracks belonging to the public and likewise those which are hired.
22. Western, Ph.D. pp. 90, 296. Also see SM Vol. LVI, April 1794; SM Vol. LXXIV 1812; Glasgow Advertiser, 22-25, November, 1793.
23. C.M. Burns, Industrial Labour and Radical Movements in Scotland in the 1790's, Univ. of Strathclyde M.Sc., 1971, p. 137. The author was discussing internal disorder in the country rather than invasion. As has been shown of the seven Scottish garrisons extant in 1793 four were at Edinburgh, Stirling, Dumbarton and Blackness Castles. It is difficult to see how the siting of this quartet could have been influenced by any 'highland problem'. Vide supra p. 30.
24. NLS MSS 1754 f. 60, Memoir of the Military State of North Britain in 1803.
25. Vide supra pp. 42, 46, 48.
26. In particular extensive use is made of the letters of the Naval Officer at Leith, PRO ADM106/1978. Unless otherwise cited all material is drawn from this source.
27. PRO ADM106/2808, Minute Books of the Surveyor's Office (Navy Board).
28. SRO GD51/2/977/1, Melville Castle Muniments, Letter from Sir John Marjoribanks to Lord Melville.
29. SRO GD51/2/977/2, Melville Castle Muniments, Letter from Sir John Marjoribanks to Lord Melville.
30. Ibid.
31. 45 Geo 3 c. 32; 47 Geo 3 Sess 2 c3; 53 Geo 3 c33; 45 Geo 3 c 114.
32. SM Vol. LXXI, October 1809.
33. Colquhoun, British Empire, p. 228.
34. SRO GD51/2/1051/1, Melville Castle Muniments, Document concerning seamen's grievances and mutinies at the Nore.
35. Vide supra p. 110-116.
36. SM Vol. LXVII, 1805.
37. PRO ADM106/2748, Minute Books of the Navy Board, 4 October 1808.

38. PRO ADM106/2808, Minute Books of the Surveyor's Office (Navy Board), 11 February 1793.
39. PRO ADM106/2808 April 1793; ADM106/2842 Minute Books of the Office for Stores (Navy Board); ADM106/2861 Minute Books of the Office for Stores (Navy Board).
40. PRO ADM106/2808, Minute Books of the Surveyor's Office (Navy Board), April 1793.
41. PRO ADM106/2861, Minute Books of the Office for Stores (Navy Board).
42. There is no reason of course why the stores sent from Deptford could not originally have been produced in Scotland. However in view of the fact that certain goods were supplied locally and that from the evidence of the Naval Officer's correspondence at least, economy was always a main objective of the navy this does not seem likely.
43. PRO ADM106/2861 2 August 1810; PRO ADM106/1978 12 December 1812.
44. Albion, Sea Power, p. 63. The question of the contribution of Scottish timber to naval requirements is discussed more generally in chapter 4, Vide infra pp. 122-125.
45. Edinburgh Evening Courant, 13 April, 1807.
46. Glasgow Advertiser, 18 October, 1803.
47. PRO ADM108/105, Transport Department In Letters 12, 16, 18 February 1813.
48. PRO W048/138, Ledgers of the Treasurer and Paymaster of H.M. Ordnance; Also see PRO W047/2629, Minute Books of the Board of Ordnance; SM, Vol. LVIII, February 1796.

CHAPTER FOUR

GOVERNMENT MILITARY DEMAND AND THE SCOTTISH ECONOMY 1793-1815

1. Introduction

At the outset of this study it was argued that the most suitable focus for analysing the question of government expenditure is provided by two interrelated considerations:

- 1) the level of government expenditure in Scotland directly resulting from military activity within its borders 1793-1815
- 2) the extent to which military requirements in general were fulfilled by Scottish factors of production.¹

The latter can now be considered.

As has been noted there are considerable difficulties in attempting to measure precisely the allocation of war induced expenditure among individual goods and services on the one hand and the Scottish "share" of this distribution on the other. One possible approach would be to attempt to establish the origins of individual government contractors and then to investigate their operations. To this end details of 42 contracts entered into by the Commissary General between 1 July and 30 September 1809 for barrack supplies were taken from PRO WO 58/44 (Commissariat Department, Out Letters, Contracts). An attempt was made to trace the names and relate the contract details to appropriate Glasgow and Edinburgh directories. The problems of positive identification proved insurmountable.

The Scottish United Services Museum however holds a catalogue (Footnotes to Chapter 4 appear on pages 137-152)

of 'makers' being suppliers of clothing and accoutrements to the military which has been compiled from a wide variety of sources. From this the names and addresses of 180 individual suppliers in the Napoleonic period were identified. Of these 13 were Scottish addresses and 167 English, making the Scottish share of the total 7.2%. Extension of the search to the period 1750-1830 revealed a total of 18 Scottish and 254 English making the Scottish share of the total 6.6%. How representative a sample this is of each country's share of military supply however cannot be established. For example there is no way of knowing whether one Scottish supplier was more important quantitatively than say 15 English ones or vice versa. Nor are the sources of supply of these suppliers known. However to the extent that it can be taken at face value this source is unlikely to understate the Scottish share given that it was found in the Scottish United Services Museum.

The conclusion to be derived from the foregoing can only be that whilst to approach the problem in terms of individual suppliers may reveal interesting details about that individual or the good(s) which he supplied, little of general macroeconomic interest is likely to emerge. An alternative approach is therefore required in order to tackle the question of the role of Scottish factors of production in meeting government military demand. It is possible to provide an approximate answer to this question by taking a wider, less precise view of government demand. It is well recognised that the weight of this demand was biased in favour of certain industries. It is proposed to briefly outline these before examining the extent to which that demand is likely to have been fulfilled by such industries north of the border.

There has been a trend among several economic historians to attempt to analyse the impact of war on the British or English economy by carrying out a form of cost-benefit analysis. This has led to conclusions such as that forwarded by Mathias: "Undoubtedly, a sectional benefit accrued through military spending but it is impossible to determine precisely to what extent this was balanced by contractions elsewhere in the economy."² Whatever the shortcomings of this approach³ for the purposes of this study a crucial observation must be made. Most of the debate surrounds the way in which the costs and benefits should be balanced. However there is a degree of unanimity among economic historians as to which industries were stimulated. Thus A.H. John felt it unnecessary to limit himself chronologically in declaring that: "In all wars the demands of government fall mainly on the heavy metal industries, the allied manufacture of munitions, shipbuilding and on certain sections of the textile industries."⁴ Ashton observes that in the French wars of 1793-1815: "Expenditure on men-of-war, munitions, and uniforms gave a stimulus to shipbuilding, to the manufacture of iron, copper, and chemicals and to some branches of the woollen industry", a view to be found in more than one of his publications.⁵ According to Mathias also: "Net gain resulted nationally for the iron industry as well as ship-building...In textiles, canvas, cheaper shirtings and woollens gained from government contracts;"⁶

Analysis can therefore proceed by examining the Scottish share of the national gain in the following industries; the heavy metals, shipbuilding, small arms, chemicals, coarse woollens, canvas and leather. The approach involves concentrating on what were obviously the important areas of supply. It is not suggested

that this gives a comprehensive picture of all military expenditure during the period. The latter would be an almost impossible task.

2. The Iron Industry

Within the metals grouping it would appear that the iron industry was the one most likely to benefit from war demand. Among historians however there are to be found conflicting views on the exact degree of importance that should be attached to war demand both in the development of the British industry in the eighteenth century in general, and in periods of warfare in particular.⁷ Part of the disagreement of course emerges from the difficulties of attempting to isolate the impact of war from other factors affecting supply and demand even during wars themselves.⁸ There would seem to be no doubt though that considering the wars of the eighteenth century as a whole their potential for stimulating the iron industry reached a peak during the French wars of 1793-1815. In this light it should be stressed that the primary purpose of this study is to determine the likely extent to which the Scottish iron industry was in a position to benefit from this war orientated stimulus rather than to analyse the relative weight which should be attached to 'war' and 'peace' factors in the long run development of the industry.

Owing to the existence of comparative figures it is possible to illustrate the degree of expansion in the Scottish iron industry relative to its British counterpart during the period as well as to suggest its comparative size. Arguably both of these give some indication of the likely magnitude of the Scottish share of government orders, and the extent to which the industry benefited from the stimulus of war.

Table 4.1 suggests that after 1796 the Scottish share of British pig iron output⁹ began to fall from c 12.8% in that year to under 6.4% in 1812 falling further by 1820 and thereafter remaining fairly stable until 1830. Her share of the number of furnaces, though of course a less precise measure, suggests a similar development. It would seem then, as has been noted by several authors, expansion in the Scottish iron industry failed to keep pace with developments in Britain in general during the French wars.¹⁰ Thus whilst Ashton writes of "spectacular" increases in output in the English iron industry¹¹ and Birch notes: "spectacular growth from the 1780's"¹² in that of Britain, Scottish historians have pondered the fact that: "the relative lack of prosperity in the Scottish iron industry cannot be denied."¹³ The exact reasons for this comparative failure on the part of the Scottish industry have been the subject of much controversy, one school of thought placing primary emphasis on high production costs leading to a lack of competitiveness,¹⁴ the other stressing a lack of effective domestic demand.¹⁵ However the major question for the purpose of this study is whether or not, given the unanimous stress which has been laid on the stimulating role of war demand in the French wars the Scottish industry is likely to have been able to satisfy that demand. A priori its failure to keep pace with British expansion would suggest at the least that it was not in a position to especially benefit. It is possible though to give a very crude indication of the extent to which the Scottish industry could have satisfied war demand. According to Birch the only detailed estimate extant of how pig iron produced in Britain was consumed available for the period is that supplied by David Mushet.¹⁶ This estimate -

TABLE 4.1: STATISTICS RELATING TO THE OUTPUT OF, AND NUMBER OF FURNACES IN, THE BRITISH IRON INDUSTRY 1780-1830

YEAR	OUTPUT OF PIG IRON (TONS)		(1) AS A % OF (2)		NUMBER OF FURNACES		(1) AS A % OF (2)
	(1) SCOTLAND	(2) BRITAIN	(1) AS A % OF (2)	(1) AS A % OF (2)	(1) SCOTLAND	(2) BRITAIN	
1780	4,000	-	-	-	4	-	-
1788	7,000	68,000-68,300 ¹	10.2%-10.3%		8	85	9.4%
1796	16,000-16,100	125,079-125,400	12.8%-12.9%		17-21	121	14.0%-17.4%
1805-6	22,000-23,240	243,851-250,507 ²	8.5%-9.5%		18-20	216-222	8.1%-9.3%
1812 ³	15,000	236,100	6.4%		29	159	18.2%
1813	11,000	-	-		29	-	-
1820	20,000	368,000-400,000 ²	5.0%-5.4%		-	-	-
1823	24,000-24,500	452,000-469,561 ²	5.1%-5.4%		22	266-277	7.9%-8.3%
1825	29,000-33,540	581,367-618,236 ²	4.7%-5.8%		25	364-374	6.7%-6.9%
1827	36,500	690,000-690,500 ²	5.3%		18	284	6.3%
1828	36,500-37,700	702,584-703,184 ²	5.2%-5.4%		25	367	6.8%
1830	37,000-40,000	653,417-678,417 ²	5.5%-6.1%		27	333-376	7.2%-8.1%

SOURCES: T.S. Ashton, Iron and Steel in the Industrial Revolution, 3rd edn., (Manchester, 1963), p. 98; Allan Birch, The Economic History of the British Iron and Steel Industry 1784-1879, (London, 1967), pp. 46-47, 124, 128, 131; John Butt, "The Scottish Iron and Steel Industry before the Hot-Blast", Journal of the West of Scotland Iron and Steel Institute, Vol., 73, 1965-6, p. 202; S.G.E. Lythe and J. Butt, An Economic History of Scotland 1100-1939, (Glasgow and London, 1975, p. 192; B.R. Mitchell and Phyllis Deane, Abstract of British Historical Statistics, (Cambridge, 1962), p. 131; Harry Scrivenor, History of the Iron Trade, (London, 1854), pp. 134-5.

Cont.....

NOTES:

1. For some years the sources gave different figures. Where more than two figures are given for the same year those given in the table are the lowest and the highest. Where more than one per centage for a year is given the two represent the lowest and highest figures derived from every combination of the Scottish and British figures.
2. These figures relate to the U.K. rather than Britain.
3. The figures in column 2 are the totals for Scotland, South Wales and Staffordshire only.

probably relevant to the mid to late 1790's or early 1800's - suggests that government demand accounted for 11.3% of output, other war demand for guns a further 12.7% making a total of 24%. Since Table 4.1 suggests that at best in this period Scottish pig iron output only accounted for some 12.9% of the British total, clearly there was a limit to Scotland's ability to satisfy war demand,¹⁷ though it would appear that government demand was roughly equal to its total output. Turning away from the aggregate picture it is possible to carry the analysis forward via a discussion of individual ironworks.

The work of various authors would suggest that government war demand fell on only a few ironworks in Scotland. Thus according to Hamilton: "A study of the records of the most important concerns in Scotland shows that the main market for the produce of the blast furnaces was home industry, and we hear very little about the demand for cannon, except in the case of Carron and Clyde"¹⁸ whilst munitions demand in the period 1793-1815: "was not sufficient to cause prosperity to all or even most Ironworks."¹⁹ Lythe and Butt comment: "Certainly the demands for armaments stimulated the iron industry, but only the largest firms such as Carron received substantial war orders."²⁰ Slaven contributes: "The disadvantages of Scottish iron were so pronounced that even during the long Napoleonic wars with their sustained military demands for iron, only the Carron works prospered, and the others limped along supplying local needs..."²¹ Campbell contrasts the struggling state of the rest of the Scottish iron industry with Carron "where it might be argued special military products placed it during the war years in a uniquely favourable position."²²

The uniqueness of Carron in a Scottish context, the significance of its scale in a British one and its importance in the supply of ordnance have of course been well recognised by contemporaries and historians. It has been variously described as the greatest foundry/arsenal in the country during the period, Birch going so far to comment that: "The question to consider...is the effect of the war [1793-1815] on the development of the industry. Of actual production of war-like stores, such as cannon and shot, there is, of course, the outstanding example of Carron, which was the arsenal of Europe."²³

Carron has thus stimulated the interest of several historians and it has been the subject of detailed investigation, most noticeably that carried out by R.H. Campbell.²⁴ However there are aspects of its development which require discussion here.

Given the unanimous testimony to Carron's importance it is worthwhile attempting to quantify it. According to figures supplied by Scrivenor²⁵ relating to 1796 Carron was the only works in Britain to have as many as four blast furnaces and it is known that a fifth was added in the 1790's.²⁶ Its output at that time was 5,616 tons being exceeded only by Old Park in Salop (5,952) and Cyfarthfa (7,204 tons). Certainly then Carron was one of the largest works in Britain even if by 1803 Cyfarthfa had six furnaces, the claim being made for it that it was: "by far the largest in the kingdom."²⁷ Thus Carron's output in 1796 was 4.5% of the British total and 34.9% of the Scottish.

The importance of ordnance and shot demand to Carron can be placed in perspective using figures of the Company's sales for the years in which these are extant. These can be averaged to reveal

the share of ordnance and shot of total sales in war and peace periods.

TABLE 4.2: MEAN PER ANNUM VALUE OF EXTERNAL SALES AND SALES OF ORDNANCE AND SHOT OF THE CARRON WORKS IN WAR AND PEACE (1773-1812) (£)

<u>PERIOD</u>	<u>(1) ORDNANCE & SHOT</u>	<u>(2) EXTERNAL SALES</u>	<u>(3) TOTAL SALES</u>	<u>(1) AS A % OF (3)</u>	<u>(2) AS A % OF (3)</u>
1773-74	27,220	22,202	49,422	55.1	44.9
1775-83	29,646	28,043	57,689	51.4	48.6
1784-92	12,709	51,547	64,256	19.8	80.2
1793-1808	71,953	56,730	128,683	55.9	44.1
1809-12	93,178	68,202	161,380	57.7	42.3

SOURCE: R.H. Campbell, Carron Company, (Edinburgh, 1961), p. 329.

Table 4.2 reveals that despite Carron's reliance on military demand sales of other goods were of great significance. In the period 1784-92 when military sales fell markedly total sales continued to expand suggesting that Carron's growth was by no means a simple function of demand for ordnance and shot.

Moreover as has been observed,²⁸ meeting demand for ordnance and shot could mean refusing orders for other goods. The letter books of the Company reveal that in periods when military demand was particularly heavy such as in 1793 and 1804 this was the case. For example in January and February 1793 orders for pig iron were refused,²⁹ whilst on 18 June of that year George Drummond of Blair Drummond was informed:

"covering the drawing of a Gate...at our earliest convenience we will begin to execute the Gate ...but we cannot promise it speedily being at

present engaged with extensive orders...for 30
Government which must not be delayed."

In addition there is evidence that would be customers were turning to other suppliers. Thus two Aberdeen merchants were told on 26 March 1804:

"Government demand have prevented our proceeding with the Malt Mill Rollers & [Carron will] not now put them in hand as we observe you have a 31 prospect of being otherwise supplied."

The foregoing would suggest that it was Government demand in particular which was causing resources at Carron to be stretched. This is borne out by an analysis of the composition of customers in 1804 and 1805 years of peak sales of military goods.

TABLE 4.3: THE GEOGRAPHICAL DISTRIBUTION OF SALES OF THE CARRON WORKS IN 1804 AND 1805 (£)

<u>YEAR</u> <u>DESTINATION</u> <u>OF SALES</u>	<u>1804</u>	<u>CATEGORY AS</u> <u>A % OF TOTAL</u> <u>SALES IN YEAR</u>	<u>1805</u>	<u>CATEGORY AS</u> <u>A % OF TOTAL</u> <u>SALES IN YEAR</u>
BOARD OF ORDNANCE	126,344	68.1	92,584	55.2
OTHER GOVERNMENT	1,107	0.6	214	0.1
TOTAL GOVERNMENT	127,451	68.7	92,798	55.3
WAREHOUSE LONDON	20,845	11.2	33,024	19.7
WAREHOUSE LIVERPOOL	8,602	4.6	8,807	5.3
OTHER ENGLAND	4,461	2.4	5,375	3.2
TOTAL ENGLAND	33,908	18.2	47,206	28.2
WAREHOUSE GLASGOW	3,141	1.7	4,940	2.9
OTHER SCOTLAND ¹	21,088	11.4	22,645	13.5
TOTAL SCOTLAND	24,229	13.1	27,585	16.5
TOTAL SALES	185,588	100.0	167,589	100.0

SOURCE: S.R.O. GD58/6/27, GD58/6/28. Carron Company Records, Invoice Books.

NOTE: 1. This figure is derived by deducting the totals of other categories from total sales and includes "petty sales."

Table 4.3 reveals that in 1804, the year of highest recorded sales value in the years for which figures are available the Board of Ordnance accounted for over 68% of sales. Government rather than private demand therefore accounted for the bulk of ordnance and shot sales. It should be borne in mind though that in meeting government orders the Carron Company refused private orders for armaments: "Our Engagements with Government put it out of our Power to execute any Guns for Merchants Service."³² Such was the level of demand for military goods at peak periods that Carron was unable to meet it as Sumervill Gordon & Co. of Glasgow were informed on 20 March 1793: "the Demands for small shot have been so great that we have not been able to satisfy them."³³

Information on the value of sales therefore suggests that in the Napoleonic era the Board of Ordnance was a significant customer to Carron. It is a more difficult matter however to estimate the importance of Carron in total government supply. It is possible though using the Company's sales figures to provide a cautious estimate of the per centage of the Board of Ordnance's iron ordnance and shot requirements fulfilled by Carron in 1812. According to a return presented to Parliament the Board spent £211,027 on these items in that year.³⁴ Unfortunately sales figures for Carron in 1812 are available only for alternate months but in 6 months sales to the Board of Ordnance totalled £45,263.³⁵ Thus it seems the Company accounted for at least 21% of the Board's expenditure and if it is assumed the 6 months given were representative of the whole year and that therefore total sales to the Board in 1812 were around £90,526 that per centage reaches the startling figure of 43%.³⁶ Whilst it is of course dangerous to generalise from an

estimate of this nature which applies only to a single year, if the order of magnitude it suggests has any accuracy then it is difficult to see how government ordnance demand (though not privately purchased warlike goods) could have acted as the major stimulant to the rest of the British Iron industry in general during the French wars. Certainly the Walkers were supplying the Board of Ordnance in the period³⁷ and Ashton cites that firm and the Wilkinsons as well as Carron as major beneficiaries of government orders³⁸ though other English firms were involved in ordnance casting during the wars.³⁹ Birch observes that ironworks in Derbyshire and Yorkshire "participated to a great extent in the demand for shot and shell."⁴⁰ Perhaps importantly though it would seem that the large ironworks in South Wales and the industry there in general did not enter as heavily into the ordnance market in the Napoleonic wars as they had done in the American war of 1775-83, though they did cater for the Navy Board's demand which it would seem Carron did not.⁴¹ It could be that if Carron's share of government orders was as impressive as suggested above that fact is consistent with the view that the vast bulk of such orders fell into the hands of a small number of ironworks. With respect to other ironworks in Scotland, although as noted cannon were cast at the Clyde Ironworks⁴² and shot at Bonawe⁴³ certainly the latter was not large enough to be a significant supplier to government.

It can be suggested then that the relevance of government war demand for the Scottish iron industry lies in the following. The fact that the latter failed to expand apace with its British counterpart alone makes it unlikely that such demand was a peculiar stimulant to it. There is further little evidence that it created

circumstances which especially encouraged new entrants into the industry. For example taking the foundation of works as some indication of the latter in the nine peace years of 1784-92, four new works were founded. The same number were founded in the twenty three war years 1793-1815.⁴⁴ Nevertheless there is evidence to suggest that Carron was a significant supplier to at least the Board of Ordnance and its existence in Scotland (albeit unrepresentative of the industry there) was probably sufficient to give the country a greater per capita share of such orders than the rest of Britain.⁴⁵ It should be borne in mind though that in the Scottish (and perhaps British) case in terms of direct government orders, it is more accurate for the discussion to take place in the context of individual firms rather than that of an 'industry'.⁴⁶

3. Other Metals Industries

After their introduction in 1761 the main war consumption of copper was in the form of sheets used in the sheathing of ships. Copper bolts was another source of demand in the shipbuilding industry.⁴⁷ However, copper was also used for this purpose in mercantile as well as naval vessels and thus it is difficult to weight the relative importance of these two sources of demand. Nonetheless, its use in naval circles causes Ashton to argue that: "It is probably this use of copper that was responsible for the high level of production during the war with revolutionary France", though on the supply side he cites the role of technical improvements which may have been the "dominant influence."⁴⁸ Hamilton too stresses the role of war demand: "It is true...that from 1792 till the end of the century the demand for copper increased, owing to its

demand for ship sheathing and for various war purposes..."⁴⁹ and John stresses marine demand in general: "During the Napoleonic Wars the demand for sheet copper for marine purposes more than offset the decline in the Birmingham market."⁵⁰ The latter refers to the fact that in the period 1793-1815 several factors including high copper prices owing to war demand, foreign rivals, changing fashions and Commercial Decrees, copper and brass goods industries in general, and those of the Midlands in particular, suffered depression.⁵¹ Thus "In general there was a diversion, in the use of copper, from brass manufactures to ships' sheathing."⁵² It would seem that at least in the Napoleonic era in the sphere of government war demand it was the smelters who gained, other copper users suffering through competition for its use.

Having established then that there is some agreement as to the significance of government war demand for the development of the copper industry in this period, the question can now be asked what is the likelihood that this demand was satisfied from Scottish sources? The answer is readily available - very unlikely. This can be derived from the lack of a significant Scottish share in the British copper industry in general. The main British sources of ore were Cornwall and Anglesey,⁵³ Swansea being the main smelting centre⁵⁴ and Bristol being also notably engaged in the business.⁵⁵ Thus Bremner whilst noting widespread traces of ore in Scotland and attempts to work them concluded: "the quantity of metal obtained at any one time has never been great."⁵⁶ The Clows remarked of an earlier period: "Scotland was not important as a copper producer."⁵⁷ McCulloch gives some indication of just how small the Scottish contribution is likely to have been. According to him the produce

of Scottish copper mines "in pure metal" in 1823 was 13 tons compared to a British total of 9458 tons, a percentage of 0.14.⁵⁸ In view of such evidence therefore it is difficult to imagine that government war demand had much relevance for the development of a copper industry in Scotland either in smelting or ore production.⁵⁹

A further metal in demand by government for war purposes was lead from which shot was made. However as in the case of copper it is unlikely that Scotland figured significantly in supply. There is evidence though that high prices stimulated expansion in the lead industry in Scotland during the Napoleonic wars,⁶⁰ whilst Smout remarks: "it reached its peak of prosperity at the beginning of the nineteenth century."⁶¹ The industry however was insignificant in terms of the Scottish economy and the British lead industry. According to contemporary estimates it accounted in the 1820's "for less than five per cent of British output"⁶², though the industry was heavily concentrated in south-west Scotland.⁶³ Scholars have been frustrated in their search for evidence of the way in which lead mined in Scotland was utilised.⁶⁴ Nonetheless there are indications that shot was made in the country a shot mill having been erected in Creetown c 1780⁶⁵ and one at Minigaff⁶⁶ about the same time. Donnachie writes of exports of lead shot to the London market⁶⁷ and Smout identifies London as a main market for the industry's output.⁶⁸ However there is no evidence that shot production absorbed a significant proportion of output, or at least that the government was an important customer. Smout notes that Holland was also a chief market⁶⁹ and according to the Old Statistical Account the "chief vents" for the output of lead mills were Holland and Russia⁷⁰ though according to another contemporary: "The chief

sources of demand for the lead [of Scotland] are the works for the manufacture of red and white leads for paints. The plumbers also make use of very considerable quantities; and some of the lead is exported by the India ships, and finds its way as far as China."⁷¹

Whatever may have been the exact market breakdown of the Scottish lead industry, it is fairly certain that from its relatively small size and from the existence of domestic peace and overseas markets, lead or lead products were not supplied to the government by the Scottish economy on any scale.

War also brought demand for a relatively slight amount of tinfoil. Its overall significance should not be stressed for according to Minchinton "Unlike other sections of the iron industry, the tinfoil industry received no significant stimulus from the Napoleonic Wars."⁷² and John "[the tinfoil industry of Wales] did not benefit greatly from war demand as did the iron or copper industry."⁷³ Nevertheless its produce was in demand, the navy from the late sixteenth century using it to make food containers and to protect wood panelling.⁷⁴ Moreover in the late eighteenth century both in Britain and France, interest was shown in devising methods which would preserve foodstuffs, concern about scurvy in the navy in particular leading to the French government offering a prize for improved methods. This was received by Nicholas Appert after the testing by the French navy of his efforts in 1809.⁷⁵ In Britain too developments occurred and patents were taken out. In the war supply of government however, it would seem Scotland had no part. Nathaniel Miers of Ynysygerwn (N.W. Glamorganshire) was a supplier to the War Office.⁷⁶ In the supply of preserved food to the army

and navy Bryan Donkin and John Hall set up a factory at Bermondsey and were involved in such supply before 1815.⁷⁷ It was not until 1822 that Scotland became involved in this business when the Messrs. John Moir & Son enterprise was founded at Aberdeen.⁷⁸ Thus the country could not have been involved in government supply until that date, and it would appear that in any case the Aberdeen cannery concentrated on salmon for the upper classes rather than beef for the navy. It is likely that any government demand was fulfilled mainly from the areas where the tinsplate industry was concentrated in the Napoleonic era namely South Wales and the Midlands.⁷⁹

4. Weaponry

Although the popular concept of government war demand and the metals industries focuses on the casting of cannon it is obvious that other weaponry in the shape of small arms and such items as swords, bayonets and lances were required, probably in considerable quantities. For instance in 1812 Ordnance expenditure under the heading "Small Gun Office" was £899,882 compared to £228,607 under "Ordnance" and "Shot and Shells".⁸⁰

It is the case that there was some tradition of gun making in Scotland in the late eighteenth century. Lenman notes the production of luxury firearms in various locations like Dundee and places "along the Highland Line".⁸¹ The survival of the famous Doune highland pistol making industry is described by the compiler of the Old Statistical Account.⁸² Moreover such places as the Gorbals could boast "a number of gunsmiths" in the 1790's.⁸³ It would appear though that the word "luxury" is well chosen by Lenman for the

making of highland pistols at any rate was a craft industry and did not involve the 'mass production' of weapons. The rank and file highlander obtained his from outwith Scotland. The fact is that although there is evidence of "musquets" being obtained from abroad in the Napoleonic period,⁸⁴ the centres of the small arms industry were in England. According to Hogg the industry had been concentrated in London but in the eighteenth century Birmingham began to assume dominance.⁸⁵ Thus just as the Earl of Sutherland's highland regiment received 1,000 pistols from London in 1760⁸⁶ the Royal Aberdeen Volunteers procured muskets from Messrs. Ketlands and Walker of Birmingham in 1795.⁸⁷

The government's own small arms manufactories were at Lewisham where production commenced early in 1808⁸⁸ and Enfield Lock established at the end of the French wars,⁸⁹ with some activity also apparently taking place at the Tower. It would seem though the business of supplying government was heavily concentrated in Birmingham where the state had its own proofing house.⁹⁰ McCulloch puts Birmingham's share of supplying the firearms required by the Board of Ordnance at "more than two thirds"⁹¹ a figure also quoted by Allen.⁹² In the face of this evidence it is difficult to see how Scottish gunfounders could have shared in this business on any scale. Even in the case of the Doune pistol, demand was said to be declining partly owing to "the low price of pistols made in England."⁹³

Much the same is probably true of the making of swords, bayonets, etc. Although: "Edinburgh can furnish a long list of sword-cutlers",⁹⁴ until the early part of the nineteenth century, when a good deal of the manufacture was transferred to Birmingham,

sword-cutlery was a London trade."⁹⁵ Indeed by the 1830's the making of swords was described as a "staple trade" of Birmingham.⁹⁶ It is thus no surprise that Lt. General Ross could write to Charles Grenville in January 1797: "A great quantity of Cavalry swords have lately been commissioned from the Sword Makers of this place [London] and Birmingham."⁹⁷ In addition it is known that the government made such items on its own account for example bayonets at Lewisham and swords and lances at Enfield Lock.⁹⁸ It is thus likely that if war demand had much relevance for Scottish sword makers it was in the sphere of local supply, though even here there is evidence to the contrary. A sword belonging to a member of the East Lothian Cavalry [c 1797-1800] to be found in the National Maritime Museum, Greenwich, has on the scabbard Woolley & Co., Birmingham.¹⁰⁰ The specialist nature of weaponry production should also be borne in mind. In manufacturing arms at Enfield during the Crimean wars it was stated:

"Bayonets can only be made of a particular kind of steel, and the barrels of rifles can only be made of a particular kind of iron. There is but one man in England who manufactures that particular iron, and therefore we are confined in our demands ⁹⁹ to that particular party."

Whilst these wars took place some twenty years after the period being discussed there is no reason to assume that this influence did not operate in the period 1750-1830.

5. Gunpowder

Gunpowder was a commodity of extreme strategic importance to the war effort and an item in recurrent demand during the French

wars. In 1812 the Department of Ordnance spent £125,534 on "powder" besides expenses for carrying on the manufacture of gunpowder at Faversham and Waltham Abbey.¹⁰¹ Until the Seven Years War the government obtained supplies from private firms. During that period however Faversham, then a gunpowder works in private hands, was purchased. In fact the government later had three gunpowder works: the pair mentioned above and Ballingcollig¹⁰² none of these of course were in Scotland. It is uncertain whether in the French wars gunpowder was also being purchased from private manufacturers but if it was it is very unlikely that the Scottish gunpowder industry was involved in supply for there: "Gunpowder manufacture was essentially a small-scale business, linked with quarrying in Argyll and Aberdeenshire and with mining in Stirlingshire, Lanarkshire and Ayrshire."¹⁰³ The foundation of a gunpowder works at Stobs Mills near Edinburgh in 1794 by an English company said to be "the first of the kind in Scotland"¹⁰⁴ caused considerable excitement in the Scottish press. Remarks of the Glasgow Advertiser are relevant here:

"It is with pleasure we hear, that Gun Powder Works to a considerable extent, the first ever in Scotland, are now erecting...at Stobs...This, we have no doubt; will be of the utmost consequence to the country, as it will now not only be cheaper supplied with that article, but the powder will also be much stronger, if made of an equal quality with the English brought by sea, as it will not suffer the damp occasioned by the sea voyage." 105

Thus it would seem the works were set up for civil rather than military purposes and for domestic supply rather than shipment elsewhere. It would seem that in the French wars such a gunpowder

industry as there was in Scotland was serving to make that country self sufficient in terms of civil requirements rather than to make a product which might be significant in terms of British military supply.

6. Shipbuilding

Shipbuilding in the eighteenth century was a form of economic activity which could involve considerable amounts of men and materials and thus have an important multiplier effect in the locality. It is therefore significant that the waging of war in the eighteenth and early nineteenth centuries went hand in hand with an ever expanding wartime fleet. In particular the size of that fleet grew enormously and reached a peak in the years of the Napoleonic wars as Table 4.4 shows.

TABLE 4.4: SHIPS IN THE ROYAL NAVY AT SELECTED DATES 1756-1826

<u>YEAR</u>	<u>NO. OF SHIPS</u>
1756	320
1762	432
1775	340
1783	617
1793	411
1813	1009
1826	179

SOURCE: Christopher Lloyd, The British Seaman 1200-1860
A Social Survey (New Jersey, 1970), pp. 286-289.

Although the navy could purchase or capture vessels and thus expand by means other than new construction it is important to note that as ships could be destroyed or become worn out by

various means even a constant number of ships did not necessarily imply stagnation in building. Such difficulties of course became more acute in wartime. In 1817 it was estimated that it was necessary: "on an average of peace and war, to calculate on having to replace a ship in about twelve years."¹⁰⁶ Furthermore the building of the largest ships could involve costs which must have had few contemporary parallels in other areas of activity. The estimate for building the 120 Gun Brittania in Portsmouth in 1812 was £116,228.¹⁰⁷ It is a sobering thought given the traditional emphasis on the relationship between war demand and the development of the iron industry that the ordnance department spent only £211,028 of the money received by it in 1812 on iron ordnance and shot and shells.¹⁰⁸ Similarly the Carron Iron Company whose importance as the major arsenal of Britain in the period has often been stressed¹⁰⁹ achieved a peak of sales of ordnance and shot in 1804¹¹⁰ yet its sales to the Board of Ordnance in that year only totalled £126,344.¹¹¹ Given this relative significance of ship-building it is therefore of crucial importance for any study of the implications of war related government expenditure to establish the extent to which Scottish yards were involved in this activity.

The study of Leith suggested that whilst the construction of vessels there by private builders did take place there was no evidence of such activity on any scale or that the vessels themselves were anything but small in size.¹¹² There is other evidence to suggest that construction in Scotland was relatively insignificant. Scotts of Greenock "one of the most famous yards"¹¹³ did not commence building for the navy until 1803 and even then the vessel constructed, The Prince of Wales, was only a sloop.¹¹⁴ Similarly

it was April 1797 before the Scots Magazine could proclaim: "The Hope gun-boat was launched a few days ago at Dysart, which is the first vessel of that description ever launched in Scotland."¹¹⁵

It is however the object of this section to examine the likely scale of naval construction in Scotland more precisely using material relating to where such vessels were built.

Some indication of naval shipbuilding in Scotland in the pre-Napoleonic era can be had from a list giving details of naval vessels up to the 1780's.¹¹⁶ Containing over 700 entries, it gives among other things where and when vessels were built and includes for example, ships which had been sunk or otherwise come to grief. The oldest ships of which the list gives details are two built at Chatham in 1694 the newest two built in 1784, one at Gravesend, the other at Itchenor. Its chronological spread is thus considerable. Although for some vessels details are missing and for others they are ambiguous; apparently the only vessel which had been built in Scotland by the 1780's was the sloop Fury, built seemingly in 1779. It was constructed by Sims and Mackenzie a Leith firm¹¹⁷ and the expense of its hull, masts and yards was £3,212.¹¹⁸ Small wonder then that Pool refers to this as "a notable departure"¹¹⁹ in government shipbuilding policy. Certainly the construction of the ship merited a mention in Bremner's work on Scottish shipbuilding, which is perhaps an indication of its exceptional nature.¹²⁰ It would seem then that earlier wars had not provided Scotland with much of a naval shipbuilding legacy. The evidence would suggest that this picture did not substantially change during the Napoleonic wars.

The largest ships in the navy were the ships of the line.

It is reasonable to assume that since there is no evidence of such vessels being constructed directly by the government at Leith in the Naval Officer of that port's correspondence, any ships built in Scotland of that type must have been constructed at private yards.¹²¹ An indication of the extent of the latter is given in "A List of all Ships of the Line built in Private Yards, or by Contract, from the 1st January 1793, to the 31st December 1813:"¹²² This gives among other things when and where the ships were built, and of the 56 listed 38 were built on the River Thames, four at Bucklershard, three at Harwich, two each at Frindsbury, Upnor, Rochester and Turnchapel and one each at Paul, Northam and Bursledon but none in Scotland.

As will be seen it is hardly surprising that Scotland should not share in the construction of such vessels. However what of smaller ships? Using material relating to estimates for building smaller ships - but including the larger ones - the likely Scottish involvement can be outlined. A list of "Estimates for building ships" 1791-1807 gives information on a handful of ships none of which were apparently being built in Scotland.¹²³ The same applies to 39 "ships to be built" 1794-1807¹²⁴ and "Estimates by Contract" 1807-16 which gives details of 160 vessels.¹²⁵ Another account however of ships built in merchants yards¹²⁶ which, though not giving where these yards were situated, does mention the familiar name of Menzies and Goalen [Leith builders] in connection with two vessels seemingly gun vessels.¹²⁷

This material taken in total would suggest that naval building was comparatively rare in Scotland, confined to the occasional construction of small vessels. This view is reinforced by a

perusal of a paper giving details of "each of Her Majesty's Ships and Vessels of War...on the 1st day of January 1850."¹²⁸ Whilst this list examines the state of the navy 35 years after the end of the Napoleonic wars it does provide a sample of the place of construction of every class of ship during it besides demonstrating how insignificant naval building in Scotland was even by 1850. The paper is divided into various sections. One gives details of sailing ships which has 307 entries, the earliest built being 1784 and specifies 52 ships being constructed in the period 1793-1815. None of the latter was built in Scotland and in the whole section only two were built in the country, the 323 ton brig Pantaloon built at Troon in 1831 and the 450 ton surveying vessel Investigator built at Greenock in 1848. A second section relates to vessels and ships worn out and only fit for harbour service. Of the 132 listed the oldest being built in 1764, 83 were built between 1793 and 1815 but none of these or indeed of the 132 had been built in Scotland. A third gives details of 157 steam vessels. Although the earliest date of construction given is 1809 only five were built between 1793 and 1815 (none in Scotland) so that the era of naval steam vessels was clearly post Napoleonic. It is of interest to point out that only five of the total had been built in Scotland. These were the 1,418 ton Greenock built at that port in 1849 and the 1,980 ton Simoom (1849), 340 ton Jackel (1844), the 378 ton Bloodhound (1845), and the 244 ton Prospero (1829) all built in Glasgow. Recapitulating then, of the sample of vessels constructed between 1793 and 1815 none was built in Scotland whilst of the total tonnage of naval vessels on the 1st January 1850 5,133 out of 570,292 had been built in Scotland or 0.9%. Clearly Scotland's

later importance in naval construction had very little pre 1850 precedent.

Several possible reasons can be forwarded as to why the Scottish share of naval shipbuilding should be so totally insignificant. Despite the oft quoted example of the Great Michael there is little evidence of a naval shipbuilding legacy in the country by 1793. The location of the government's own yards had been established long before 1707 and there is no obvious strategic reason why a significant amount of their business should have been transferred to Scotland in the wars of the eighteenth century. If the government lacked shipbuilding facilities in the country it is likely in addition that private Scottish yards were incapable of supplying at least the largest vessels. All the ships of the line built in private yards or by contract between 1793 and 1813 had a tonnage of at least 1,703 tons.¹²⁹ Although there is evidence that the size of vessels launched in Scotland in the Napoleonic wars were reaching new peaks it is unlikely that many Scottish yards could build vessels whose tonnage approached one third of that.¹³⁰ Certainly the 700 ton vessel reported as being launched by the English Glenmore Company at Kingston on Spey in 1795 must have been exceptional in size and owing to English rather than Scottish entrepreneurship.¹³¹ However Scotland's share of building the smaller vessels was also apparently insignificant. It cannot simply be asserted in this case that this would have been expected on account of the relatively trivial nature of the Scottish shipbuilding industry. Between 1787 and 1792 19.7% of the number and 15.3% of the tonnage of vessels "built and registered" in Britain were built in Scotland.¹³²

It may be that lacking in experience in naval construction Scottish yards in the main found demand in normal channels of trade adequate. At the same time there was no obvious local advantage such as abundant supplies of suitable timber in the country which would lead one to expect that public or private initiative would set up naval shipbuilding facilities as a by product of wartime shortages of supply of that commodity.¹³³ It was also probably the case that the Navy Board preferred, where possible, at least its larger vessels to be constructed in fairly close proximity to its headquarters where the progress of building could be easily monitored.¹³⁴ Pool has noted that this was the case earlier in the century.¹³⁵ It was not desirable that perhaps unnecessary delays should inhibit the war effort. Certainly delays had been a troublesome factor in the building of the Fury at Leith during the American War of Independence.¹³⁶

Whatever the reasons there can be no doubt that Scotland failed to secure a significant share of naval shipbuilding nor is there any evidence that the scale of such vessels as were built was sufficient to have spill over effects like accustoming Scottish yards to building larger vessels.¹³⁷ It must be borne in mind that the significance of the war lies in the fact that its requirements were solely responsible for the marked increase in the size of the fleet. That such an important activity should be so concentrated outside Scotland obviously put a limit on the extent to which government demand could boost regional income in the country.

7. Sail-Cloth Manufacture

There can be no doubt that canvas was one commodity which was required in significant amounts for naval purposes during the French wars, demand for it probably increasing in line with the expanding size of the navy. It was stated for example that the quantity of that commodity: "which may be considered as annually requisite for the Supply and Maintenance of the Navy, equal in point of strength to what it was on 1st Feb^y 1801" was 95,585 bolts.¹³⁸ It is the case too that this was an item which the linen industry in Scotland was capable of supplying. The manufacture of sail-cloth was, for example, established at such places as Inverberrie, Jonshaven, Greenock, Aberdeen, Arbroath, Kirkcaldy, Montrose, Dundee and the parish of Dunotter.¹³⁹ It became an item of considerable importance in several of these places.¹⁴⁰

Moreover there is evidence that the navy did procure supplies of canvas from Scotland. It has been stated that: "The supply of sail-cloth to the Navy during the Napoleonic wars gave Baxters [of Dundee] their first real lift into prosperity."¹⁴¹ In addition it has been asserted that it is reasonable to conclude that: "phenomenal advances" in the wealth of the Gourock Ropework Company - who made sail-cloth also - in the period 1794-1804: "were due to heavy demands for naval equipment during the Napoleonic Wars."¹⁴²

It is clear that in the early 1800's manufacturers in Aberdeen, Arbroath, Brechin, Dundee and Montrose were supplying the Navy Board with canvas.¹⁴³ Moreover late in 1803 when there was an "extreme want of canvas...in H.M. Stores" C.H. Turner of Limehouse,

the inspector of canvas supplied to the navy, made a visit to Scotland but did not reveal to the manufacturers there his true object namely: "the navy must have all the canvas that can be procured and I am come to purchase it."¹⁴⁴ The latter reveals one method employed by the government to keep down the price of goods which it wished to obtain.

As always however it is one matter to establish that Scottish manufacturers enjoyed a share in this business and quite another to measure the relative significance of that share in the totality. On the one hand since sail-cloth, unlike other linens in Scotland was not stamped¹⁴⁵ figures relating to quantities of it stamped for sale are not available in the same way as they are for other species of linen. Thus it is difficult to trace the ebb and flow of its manufacture in the war period. On the other hand, even if an analysis of the origin of contract holders could be undertaken it is unlikely that this would reveal the complete picture. For example the above mentioned C.H. Turner of Limehouse near London held a monopoly in the early 1800's on the supply of hammocks,¹⁴⁶ which were made of sail-cloth,¹⁴⁷ to the navy, yet he was procuring supplies of that article from Scotland as has been noted.¹⁴⁸ Similarly there is evidence that the final product supplied to the navy could be the result of efforts of both Scots and English operators. The Baxters supplied their sail canvas to Haywards of Crewkerne in Somerset, a famous firm of sail-makers "who made it up into sail for the Navy."¹⁴⁹ A Limehouse firm said to be depressed in 1816 owing to a lack of demand, the number of ships in the navy having been reduced, had got their flax spun chiefly at a works in Kirkland in Fifeshire until 1812.¹⁵⁰ To

this problem with precision can be added the one that more impressionistic evidence of Scotland's relative share contains an element of contradiction. According to J.R. McCulloch writing in the 1830's: "Formerly, about half the sail-cloth required for the use of the navy was manufactured at Warrington; but the manufacture has declined since the peace."¹⁵¹ Yet Isaac Watt writing from Dundee in September 1804 claimed that: "the English manufacturers have in general declined the Navy Contracts and the Supplys [sic] have been from Scotland."¹⁵² Whatever the general truth of the latter there is positive evidence that in 1804 canvas was being supplied by manufacturers in such places as Bristol, Whitby, Plymouth and Stockton.¹⁵³ Nonetheless there is circumstantial evidence despite McCulloch's remark that perhaps the bulk of the navy's canvas requirements in the Napoleonic period came from Scotland.

For one thing McCulloch himself remarks: "Dundee is the chief seat of the Scotch, and, indeed, of the British, linen manufacture."¹⁵⁴ Dundee's prosperity in the 1790's is said to have "turned mainly on the manufacture of coarse linens and canvas for shipping."¹⁵⁵ A "view" of Dundee published in 1806 went further: "the demand occasioned by the war has greatly increased this manufacture, [sail-cloth] and made it the principal one in Dundee."¹⁵⁶

Moreover the alleged partiality of Turner in giving out contracts against Dundee manufacturers in 1803-04 was felt to be a great enough grievance for complaints to be made by Isaac Watt to Sir Peter Murray and Lord Melville¹⁵⁷ and for a report to be drawn up on the matter by the naval authorities.¹⁵⁸ Despite allegations

that Turner as a sail-cloth maker was promoting his own interests the bulk of the criticism seems to have centred around the way in which contracts had been distributed within Scotland. Watt complained that many well established suppliers to the navy in Dundee had been denied contracts, others with large manufactories had only been given contracts for small amounts, whilst some had received warrants for larger amounts than they could supply. Meanwhile manufacturers at other places in Scotland were fully employed.¹⁵⁹ Turner was in the meantime making the adoption of himself as agent a precondition of a manufacturer receiving a warrant.¹⁶⁰ As Watt concluded:

"The manner in which the Sail Cloth here had been conducted excited general complaint. The greater part of the Manufacturers were denied employment (for they do not consider themselves aggrieved as to the portion which England enjoy Labour in England being higher than in Scotland) while those of Arbroath, Montrose, and Brechin were fully employed and some particular persons had warrants to a greater extent than they could supply, and were buying¹⁶¹ from their neighbours."

There was no doubt an element of special pleading in at least part of Watt's case for in June 1804 he was offering to supply the navy with 36,000 pieces of sail-cloth and 200,000 hammocks. He proposed to parcel out the tender to various manufacturers in Scotland if successful,¹⁶² and in September of the same year he suggested himself as a superintendent of sailcloth in Scotland but "without any emolument whatever."¹⁶³ Perhaps then he hoped to encroach Turner's position with respect to agency and hammock 'monopoly'.

Nonetheless Watt's assertion as to the importance of

Scotland in total supply seems to have gone unchallenged, he suggesting in addition that: "During [the] last War [1793-1802] the Navy had the greater part of its supplies of Canvas from Dundee, where Government had Contracts with 70 to 80 persons."¹⁶⁴ Turner in replying to Watt's criticisms asserted that in fact 23 persons and not the 10 Watt suggested were employed in Dundee in March 1804 and that if there were 60 sail-cloth manufacturers in Dundee and its environs employing 1654 looms as a certificate supplied by Watt claimed¹⁶⁵ "600 looms are sufficient for the total supply of the Navy."¹⁶⁶ If there is any accuracy in these figures it may be inferred that the Dundee area clearly had the capacity to cope with naval demand in its entirety.

It would thus seem fairly safe to conclude that the supply of sail-cloth was one area in which the Scottish share was a significant part of the whole. It is likely also that government contracts were important to manufacturers of sail canvas mainly in the east of Scotland. One indication of this is the distress among this group after the Peace of Amiens in March 1802 owing partly to the failure of demand.¹⁶⁷ In addition it was stated that the holders of contracts in the 1790's "were at great expense erecting works"¹⁶⁸ implying the creation of productive capacity in direct response to government demand. There is also evidence of product specialisation during the French wars. James Hay & Son, Shetland merchants, were informed in February 1815 from Arbroath presumably when attempting to order a specific type of canvas: "there are none now manufactured, such canvas being formerly made for Naval Contracts only."¹⁶⁹ Here then was a sector of Scottish industry in a position to benefit from war induced government expenditure.

8. Timber

The question of shipbuilding has already been dealt with. This section will investigate the most significant raw material involved in that activity, that is timber, procurement of which was an omnipresent problem for the naval authorities. Clearly despite being a raw material timber still required manpower to market it and demand for it could have spin-off effects in the shape of, for example, the construction of saw mills. The Scots involvement in the supply of timber to the navy is therefore a matter of some interest.

There is evidence that much of Scotland was not particularly well endowed with accessible timber, as Hamilton notes: "Many contemporary observers remarked on the treeless state of large parts of Scotland."¹⁷⁰ Further, though the highlands possessed timber this was so inaccessible that importation was more convenient.¹⁷¹ Thus in the expansion of the east coast shipbuilding industry after 1783 most of the timber used was imported from the Baltic or England.¹⁷² Such evidence would suggest that Scotland is unlikely to have figured significantly in the question of timber supply. More specifically, it is well known that oak in general and that the growth of England in particular was the most favoured material in the construction of naval vessels.¹⁷³ According to Albion the great oak region of the southeast corner of England provided the lions share of such timber "The other parts of the British Isles were relatively unimportant in the matter of naval timber."¹⁷⁴ He attempts to give some idea of the proportions thus:

"During a large part of the sailing-ship era, the average ship of the line contained some 3200

loads of English oak, with a little planking from the Baltic, some elm or beech below the water line, and a little fir timber where less strength was required. These other timbers amounted ordinarily to scarcely 400 loads, and would probably have been dispensed with entirely if the supply of native oak had been sufficient."¹⁷⁵

In other words in normal times English oak represented almost 90% of the total used. However it is likely that in time of war this proportion fell as oak became scarce and thus the search for timber spread. Yet Scotland was a land of fir rather than oak¹⁷⁶ and "Scotch fir was held in low esteem by the naval authorities and was used by the Navy for masts and timber only in cases of emergency."¹⁷⁷ The work of Albion would suggest that in terms of total supply Scotland is unlikely to have been significant because it was not particularly abundant in the preferred type of timber and that type which it could supply was not well regarded. The historian of Scottish forestry does not challenge the tone of this conclusion.¹⁷⁸

However at specific times Scots timber, owing to scarcity elsewhere, was sought after. Such a time was 1809 when supply from the U.S.A. and the Baltic had almost ceased and alarm was expressed as to future supply: "A final attempt was made to round up any available timber near home. Timber and spars of fir and larch were brought from Scotland."¹⁷⁹ Certainly as was noted in the section on Leith¹⁸⁰ 1809 is the only year in which discussion of Scottish timber figures significantly in the correspondence of the naval officer of that port. It may then have been the exception rather than the rule.

However there is evidence that naval demand may have been of some significance to certain areas of Scotland namely Speyside

and Perthshire. In the former it was the forests of Abernethy and Rothiemurchas which attracted attention. The York Buildings Company made an early attempt to exploit this timber in the 1720's and naval supply was part of the plan but the timber was ultimately found to be unsuited to its intended purpose, that of being used for main masts.¹⁸¹ The exploitation of the Rothiemurchus fir by Osbourne of Hull and Dodsworth of York led to the foundation of Kingston-upon-Spey where the timber was used for shipbuilding.¹⁸² Whilst it seems that some of this timber found its way to the naval dockyards it cannot be imagined that this was of much quantitative significance timber also being shipped to other places in Scotland as well as Hull.¹⁸³

The year 1809 was also significant because it was in that year that larch was first sent to the naval dockyards from the Duke of Atholl's estates. It is likely that the long run problem of timber shortage in general had stimulated some oak planting in Scotland as well as larch, the Duke of Atholl being a primary promoter of the latter as a substitute for oak.¹⁸⁴ Certainly in 1792 the Commissioners of the Land Revenue in investigating the shortage of oak concluded that larch, as a tree which would grow quickly in England was the most fitting substitute which promoted the planting of larch.¹⁸⁵ According to Blance: "The result of this shortage in home timber was that the claims made on behalf of larch by the Duke were listened to with more attention than would have been the case if the shipping had not been diminished by war."¹⁸⁶ Thus in 1809 some 200 trees were sent to the Admiralty for trial. However almost by its nature such a move was not likely to produce an immediate result. After various trials both by the

navy and in merchant ships in Scotland the Admiralty ultimately did bring larch down from the country. In sum however it was a post 1815 phenomenon when the Admiralty began to use more varied types of timber than previously.¹⁸⁷ In 1818 the keel of the first ship to be built solely of Atholl larch was laid out at Perth. In the same year the keel of H.M.S. Atholl was laid at Woolwich. Launched in 1820, being 267 tons register this frigate was built of Atholl larch.¹⁸⁸ Thus: "The forests from 1815 onwards were planned with a view to growing timber [for] the Navy specifically", yet Atholl's long term strategy could not take account of the coming of iron ships.¹⁸⁹ Somewhat ironically therefore naval timber demand was perhaps to prove of greater significance to the growth of the Scottish economy after 1815, at least in this region, than demand during war itself had been. War indirectly contributed to this by providing a favourable environment for the adoption of larch. However since that had been contemplated in 1792 it cannot be regarded as wholly a phenomenon of the French wars.

Thus it would seem that in total terms the timber industry of Scotland was not in a position to especially benefit from war time naval demand. This is not to say that timber was not cut in Scotland for naval purposes or that naval demand may have been of local significance in some areas. It is merely to suggest that Scottish timber was insignificant in the sphere of general supply. The war, by depleting stocks of English timber, created opportunities for supply elsewhere to be expanded. It is almost certain though that it was from North America, the Baltic and more exotic places that such supplies were procured rather than Scotland.¹⁹⁰

9. Tar

It is worth considering another commodity connected with shipbuilding where the failure of a Scots firm to exploit its intended market - the navy - was a contributory factor to personal misfortune.

In the distillation of coal to produce tar and other products Scotland had a famous leading figure in the shape of Archibald Cochrane 9th Earl of Dundonald. According to Butt a lighter oil produced in Cochrane's process was sold to the Admiralty in the American War of Independence as a varnish to treat cordage.¹⁹¹ A contemporary noted of the process however: "Its principal recommendation...is, that it is excellently adapted for paying the bottoms of ships, and preserving wooden work, that is exposed to the weather, or liable to be worm-eaten."¹⁹² Cochrane though failed to convince the Admiralty, at least in the period of the French wars that tarring was preferable to coppering and "the Admiralty, to whom he had looked as a principal market, took from 1783 to 1822 to decide that Dundonald's tar was an efficacious covering for ship's bottoms. The panel of scientists, of whom Humphrey Davy was one, appointed to examine its suitability pronounced in favour of tar, but too late for Dundonald. Technically his venture was a success, commercially it was failure."¹⁹³ Indeed: "The stumbling block to the advancement Dundonald had hoped for [as he struggled against financial difficulties] was the refusal of the Admiralty 'to make use of his preservative'."¹⁹⁴

Despite the possibility of this being a Scottish industry which might have prospered on the basis of war demand that potential was, it would seem, not realised. Thus it was the English and Welsh

copper industry rather than the Dundonald interest which prospered on the basis of government demand.

10. The Woollen Industry

War demand had relevance for the woollen industry, indeed one commentator has remarked of the Napoleonic period: "For the next twenty-two years [after 1793] that war, with its demand for army cloth and blankets, was perhaps the most powerful single influence on the woollen cloth industry."¹⁹⁵

There is evidence that the Scottish woollen industry had some legacy of catering for military demand. A woollen company set up at Newmills in 1681: "made active attempts to secure the valuable government contracts [for uniforms]"¹⁹⁶ whilst after the Union "cheap serges were exported to places such as Germany where they were used to make soldiers uniforms."¹⁹⁷ However in examining the extent to which the Scottish woollen industry is likely to have benefited from this source of demand during the French Wars account of its relative significance in the period should be taken. There is a fair amount of evidence to suggest that despite its spread throughout the country¹⁹⁸ and expansion in the period c 1780-1825¹⁹⁹ the industry was relatively insignificant in terms of Scottish industry in general and the British woollen industry in particular.²⁰⁰ Owing to a lack of production figures it is difficult to isolate its exact position in either case.²⁰¹ Hamilton however argues that: "the manufacture of woollen cloth played but a small part in the Scots economy" and that: "all in all the woollen industry was in fact quite small."²⁰² The Board of Trustees summarised their view of the development of the coarse woollen industry in Scotland

throughout the period 1793-1815 in their annual reports to the Crown. Though noting the introduction of 'proper' machinery, better modes of production and increased capacity for preparing and spinning wool the picture drawn by them is overwhelmingly, of very slow advancement. In 1796 for instance it was observed that the coarse woollen industry "cannot yet be considered as an object of great consideration." In 1804 it was hoped that: "in a few years this manufacture will...become of importance to the public." Yet in 1813 "the quantity of cloth made cannot yet be said to be of very great consideration."²⁰³ Moreover it is the observation of Gulvin that despite nineteenth century developments the size of the industry was always insignificant compared to that of Yorkshire,²⁰⁴ a view also forwarded by McCulloch.²⁰⁵ The Scottish press noted in the early 1790's that coarse woollens were chiefly made in the west of England.²⁰⁶

It might be expected then that given the relative state of the industry it is unlikely that it would figure prominently in the supply of the military in total terms. This is exactly the finding of the most extensive study of the industry to date. According to Gulvin, when, in the late 19th century, Scottish mills began producing for government on any scale it was breaking with precedent to some extent for:

"as far as can be ascertained the Scottish woollen industry did not compete with Yorkshire manufacturers to secure large clothing contracts with the army or navy. It is known that occasionally regiments were supplied with high-grade uniform cloth for officer's wear; some Scottish regiments depended on home manufacturers for tartans; local corps were clothed usually by the local woollen producer, (who equally usually held rank within). But this sort of trade

was small and cannot be compared with the large-scale Government work carried out by English manufacturers." 207

There is circumstantial evidence to support this view. The role of Gloucestershire in supplying uniform cloth in the wars of 1756-63 and 1775-83 has been noted by J. de L. Mann.²⁰⁸ In addition "The demands for cloth for the troops in the various wars of the eighteenth century were met by the supply of Halifax kerseys, i.e. woollens"²⁰⁹ and "When the struggle with France began [in 1793] Yorkshire was flooded with orders from every part of Europe for fabrics for the clothing of troops;"²¹⁰ this was hardly surprising as: "The Yorkshire cloths were especially suited for military garments."²¹¹ Further a case study of Benjamin Gott [of Yorkshire] who was "one of the ten or twelve largest employers in the country during the first fifth of last century...[and]...had no rival in the woollen or worsted industries"²¹² argues that: "Two of the most important factors in building up Gott's trade were army supplies [of cloth and blankets] and the United States."²¹³ He indeed: "dressed and blanketed a large part of the armies of England, Russia Prussia and Sweden;"²¹⁴ Clearly in the field of army supplies Scotland did not rival Leeds where military demand in the Napoleonic period lead to an augmentation of productive capacity.²¹⁵ Similarly Messrs. John Trotter and Co., contractors for supplying blankets obtained supplies from Witney in Oxon before establishing their own manufactory in Essex to produce blankets in 1794 and by their own efforts (according to their own testimony) improved the product supplied by Yorkshire manufacturers so that supplies could be had from there.²¹⁶

But just as the woollen industry itself was unimportant to

the Scottish economy and that industry relatively insignificant in the total supply of woollen goods to the armed forces both the woollen industry and army supply were of local significance within Scotland. Hamilton cites Stirling as an example of a place where²¹⁷ the industry was important and perhaps the only examples of significant army supply are given by Mackay Scobie:

"At the end of the 18th and earlier part of the 19th centuries we find that both the Scottish tartan manufacturers (by then located mostly around Stirling), and the bonnet makers of Kilmarnock...were contractors to the British army on a large scale, not being confined to Scottish regiments only, and which continued, but to a somewhat lesser extent, long after the²¹⁸ above period."

The supply of tartan was according to MacPhail even further localised, for in the village of Bannockburn: "almost all the cloth required for the soldiers of the highland regiments was woven."²¹⁹ The compiler of the Old Statistical Account goes even further: "for a long time, all the tartan used by the army, has been manufactured at this village."²²⁰ This was significant for in the 75 years before 1815 over 100 battalions of the line, militia, fencibles, volunteers and local militia were raised in the highlands.²²¹ Perhaps dominant in this trade was the firm of William Wilson & Son alleged to have been an ongoing concern in 1724.²²² As Telfer Dunbar observes: "Practically every Highlander who fought at Waterloo...must have worn some item of clothing from the Bannockburn firm."²²³ It is obvious from the correspondence of this firm that they supplied tartan direct to many regiments²²⁴ as well as supplying such articles as forage caps, mitts and garters which they procured from other manufacturers.²²⁵ For example James McLean of Kilmarnock

on 12 June 1798 acknowledged orders for 50 dozen blue caps and covers and mitts.²²⁶ It would seem also that Wilsons supplied tartan for uniforms to other firms such as James Dewar & Co. of Edinburgh who were presumably supplying the regiments.²²⁷ There can be no doubt of the local importance of this trade, however, as has been noted, this is unlikely to have compared to the business enjoyed by Yorkshire. Even Wilsons did not concentrate exclusively on army supply; they also carried on "a flourishing business (some of it export to North America) in woollen carpets, curtains, men's dressing gowns, women's shawls, tartan novelties and night-caps."²²⁸ Moreover although as Mackay Scobie notes Wilsons supplied the Rifle Brigade with green cloth for jackets and trousers it is unlikely that this business was of much significance and certainly did not rival that with the Scottish regiments.²²⁹ The view that Wilsons did not concentrate exclusively on military supply and were mainly concerned with the highland regiments is supported by a representation to the Board of Trustees dated 4 December 1806 in which the firm stated:

"That the House of William Wilson & Son Manufacturers in Bannockburn have been long established and has carried on a considerable Manufacture of Tartans, Serges and other Woollen goods, and has been employed in furnishing this Highland Regiments with Tartan cloathing [sic] for more than Thirty years past."²³⁰

Furthermore there is evidence to suggest that as Gulvin implies not all 'Scottish' regiments were supplied 'locally'. Abercairney was told by an agent: "to buy his regiment's clothing mainly in London because only there did orders for uniforms reach a volume enabling firms to specialize in the business and execute

large orders."²³¹

However in this area as has been stated elsewhere it becomes difficult to distinguish the 'true' origin of the supplies, and agent or middle man from manufacturer from wholesaler from retailer. A study of correspondence of the Aberdeenshire militia has highlighted such difficulties.²³² There was apparently no fixed pattern to sources of supply over time. In July 1798 for example Alex^r Duguid of Aberdeen was supplying the regiment with full uniforms though he was clearly not manufacturing the material, but in 1805-6 coats were being procured from Alex^r Oswald of London who was probably an army supplier of some significance holding contracts with the Commissary General in 1809.²³³

With the exception then of the specialist products of the Stirling area and of Kilmarnock there is little evidence that war demand had much relevance for the development of the Scottish woollen industry or that the latter was in a position, or able, to secure a large part of orders financed ultimately by government expenditure.²³⁴ Furthermore there is evidence that this pattern was not peculiar to the Napoleonic wars. T. Howell, Director of Contracts in the War Department stated that a "great quantity" of army clothing contracted for in the winter of 1855 during the Crimean War: "were made in England entirely. Some few were made at Hawick in Scotland."²³⁵

11. Leather

One historian of the industry stresses the importance of leather and leather goods in the British economy in the Napoleonic era.²³⁶ The industry was largely dependant on the domestic

market.²³⁷ It would seem that those products most in demand for military purposes - boots, shoes, saddlery and harnesses - also provided the main sources of demand in this domestic market in general.²³⁸ There is evidence that whilst in tanning, shoe and saddle making London was predominant²³⁹ the leather industry was of importance in several places in Scotland.

According to Bremner: "Edinburgh has always been the chief seat of the leather manufacture in Scotland."²⁴⁰ Yet tanning and shoe and saddlemaking was carried on in Glasgow in the late eighteenth century though apparently to a lesser extent than had been the case when the tobacco trade was at its height.²⁴¹ Paisley was said to have four tan works.²⁴² Tanneries were extant in Perth, and London was said to be the main market for the boot and shoe industry of that town.²⁴³ Leather was a chief manufacture in Ayr²⁴⁴ and in Hamilton dressed leather was sent to London, saddle making took place, and there was: "a great manufacture for shoes."²⁴⁵ In Linlithgow shoemaking formed: "a chief branch of the trade."²⁴⁶

There is evidence too that the Scottish industry was catering for military demand for: "several British regiments raised after the American war were supplied with shoes from Edinburgh."²⁴⁷ Linlithgow shoe makers were producing 700 pairs in December 1793 these being a gift from the Earl of Hopetown to his regiment.²⁴⁸ Several officers of the Stirlingshire militia in 1813 ordered their military boots from Mr. Morehead a Falkirk maker.²⁴⁹ Perthshire regiments were receiving shoes in the locality in 1814,²⁵⁰ it being asserted by James Bisset, Quartermaster of the Central Battalion of Royal Perthshire Local Militia that: "no place in Scotland is better for furnishing shoes than Perth."²⁵¹ In 1801-02 leather

helmets were procured from Mr. Hunter of Edinburgh for the Berwickshire Yeomanry though John Spottiswoode, in Edinburgh apparently to secure supplies for the regiment, wrote to his father: "I have not spoke to Maxton of Saddles Bridles etc. as I have no doubt but you will get them on the most approved plan, and much cheaper in London than here."²⁵² Josiah Maxton of Edinburgh was a sporran maker c 1800 who no doubt benefited from military demand for that leather item.²⁵³

It is likely then that those involved in the leather trade in Scotland did benefit from military demand either by directly supplying shoes to the military, by sending them to London to be ultimately supplied to the military, or by exporting leather to London where it was made up into goods for military consumption. However it is unlikely that Scotland could rival London as a source of supply. for example it was in the latter during the French wars under the stimulus of the requirement to mass produce army boots a manufacturer pioneered the use of French rivets for attaching sole to upper.²⁵⁴ Moreover in the sphere of saddlery Spottiswoode's comment would suggest that London was the main source of supply. Church notes a marked expansion in the boot and shoe industry during the French wars in part owing to government contracts and that: "No other centre benefited more than Northampton."²⁵⁵ Certainly, a group of Northamptonshire villages had established themselves as the "chief centres" for supplying the army and navy by the second quarter of the 19th century. It would be indeed surprising to find a Scottish equivalent of Messrs. Gotch & Son of Kettering whose expansion on the basis of military demand has been well documented.²⁵⁶

12. Conclusion

It will be recalled that the object of this chapter was to analyse those industries which it is generally agreed were most stimulated by government war demand and to try to estimate the likely Scottish 'share' of such demand. It can be suggested that there are relatively few cases in which a significant share can be identified.

In some instances Scotland lacked sufficient quantities of the necessary raw material as in copper and lead. In others like timber the country did not possess those of the required type which would have enabled her to benefit. In the cases of shipbuilding, small arms and gunpowder where government produced on its own account it is likely that strategic reasons such as proximity to troop and naval concentration determined location in many cases long before the French wars. There is no obvious strategic reason why it should be expected that such manufacture should be transferred to Scotland. In such cases as small arms and shipbuilding it is likely that Scotland lacked the necessary private production capacity - and none arose - to cater significantly for government demand.

Moreover the likely implications of a military concentration in the south east of England should not be underestimated. As late as the 1850's John Robert Godley, Director-General of Stores, stated that the great additional expense of freight and carriage to contractors in sending goods to the Tower or Woolwich for inspection: "tells against getting many contracts from people at a distance... Practically, the result is that we do not often get from far-off people."²⁵⁷

There are a few cases however where Scotland did enjoy an important share of government demand. Carron was a peculiarity but its existence was probably sufficient to secure the 'iron industry' a disproportionate share of government orders. The relative importance of that share in total terms should not be exaggerated though. Figures quoted on ordnance expenditure suggested that small gun office expenditure was four times as large as that on ordnance, shot and shells. Moreover it is likely that Carron's peak sales to government came in 1804 when it sold £127,451 worth of goods. A single warship could cost as much to build. In sailcloth a long standing emphasis on coarse linens in the Dundee area created the capacity to enable manufacture for government. In the instances of tartan and bonnet making a traditional industry catered for a traditional source of demand.

With the exception of these few examples, mainly of local importance Scotland does not appear to have widely benefited from government expenditure. Direct government war demand cannot therefore be regarded as a factor exercising a significantly expansionary influence on the Scottish economy during the period.

NOTES TO CHAPTER FOUR

1. Vide supra, p. 12.
2. Peter Mathias, The First Industrial Nation, An Economic History of Britain 1700-1914, (London, 1969), p. 45.
Examples of studies where such an approach is implicit are: A.H. John, "War and the English Economy 1700-1763", EHR, Vol. VII, 1955 pp. 336, 343; Phyllis Deane, "War and Industrialisation", in Winter (ed.), War and Economic Development, p. 100.
3. Trebilcock is particularly critical of this quantitative approach. His alternative though, the examination of the: "possible qualitative effects of preparation for war" has little to offer this thesis. Clive Trebilcock, "'Spin-Off' in British Economic History: Armament and Industry 1760-1914", EHR, Vol. XXII, 1969, pp. 475-477.
4. John, EHR, p. 330.
5. T.S. Ashton, The Industrial Revolution 1760-1830, (London, 1968), p. 126.
6. Mathias, First Industrial Nation, p. 45; Mathias also notes the relevance of government demand in such areas as the copper and lead industries, Ibid p. 45; A.H. John notes how expansion in the industries specified in the quote had multiplier effects on such industries as coal-mining and engineering. John EHR p.333. But before any comment can be made on the likely importance of such secondary effects the direct demand for these 'key' sectors must be analysed and it can be argued that the industries chosen for examination are the most important ones in terms of government demand. For example according to Winter, Sombart went as far as to regard such industries as heavy metals and shipbuilding as "children of war". J.M. Winter "The economic and social history of war" in Winter (ed.) War and Economic Development, p. 5; Some idea of the wide range of goods and services required by the armed services or at least the navy and ordnance branches where there was more centralised purchasing can be had from the discharge section of the Audit Office declared accounts of the treasurers of the various armed services PRO A01. This really only involves though a listing of some of the goods and services rather than the revealing of amounts of expenditure on them individually.
7. Deane argues that direct government war demand was a major factor in stimulating a more rapid development of the industry than would have been possible in normal peace conditions. Deane, in Winter (ed.) War and Economic Development.p.100; According to Birch, A.H. John considers that home demand was always more important than the call for arms during eighteenth century wars, Alan Birch, The Economic History of the British Iron and Steel Industry 1784-1879, (London, 1967) p. 15; Birch himself stating

that as far as can be judged the demands of war, whether economic or technical, were not primarily responsible for the expansion of the industry, Ibid, p.56 ; T.S. Ashton lays greater emphasis on the role of war "Contracts for the Office of Ordnance operated as a Food of the Gods."

T.S. Ashton, Iron and Steel in the Industrial Revolution, 3rd edn. (Manchester, 1963) p. 128; whilst among the factors making for expansion "the demand of Government for ordnance must, perhaps, take first place." Ibid., p. 144; All such statements are however usually couched in careful language for example Ashton qualifies the expansionary impact of war by noting that: "War conditions resulted in a rapidity of development that was far from healthy." Ibid., p. 153; It is thus left to two social historians to provide perhaps the most blatantly contradicting views - according to Briggs in the expansion of the 1790's: "The demand for ordnance was the main cause of growth" Asa Briggs The Age of Improvement, (London, 1959), p. 163; Perkin on the other hand asserting that: "The peace-time market for heavy industry was clearly the foundation of success even in war." H. Perkin, The Origins of modern English Society 1780-1880, (London, 1969), p. 96.

8. Trebilcock, EHR, p. 477.
9. No output figures have been discovered for cast and wrought iron products.
10. J. Butt, "The Scottish Iron and Steel Industry Before the Hot-Blast", Journal of the West of Scotland Iron and Steel Institute, Vol. 73, 1965-66, p. 202; R.H. Campbell, Carron Company, (Edinburgh, 1961), pp. 156-157; R.H. Campbell, Scotland since 1707: the Rise of an Industrial Society, (Oxford, 1965), p. 118; Henry Hamilton, The Industrial Revolution in Scotland, (1932), new impression, (London, 1966), p. 173; Anthony Slaven, The development of the West of Scotland, (London and Boston, 1975), pp. 71, 116.
11. T.S. Ashton, Economic Fluctuations in England 1700-1800, (Oxford, 1959), p. 71.
12. Birch, Iron and Steel, p. 22.
13. Campbell, Scotland since 1707, p. 118.
14. Ibid., pp. 118-119; Hamilton, Industrial Revolution, pp. 174-175.
15. Butt, Journal of the West of Scotland Iron and Steel Institute, pp. 206, 217-220; J.R. Hume agrees with the Butt view, Ibid., p. 214.
16. Birch, Iron and Steel, p. 52.
17. According to the estimate government consumed 14,899 tons and other war consumption 16,700 tons out of a total of 131,599 tons (the total given by Birch is 111,599 tons which does not tally

with the individual entries). It was estimated by Nicholas Vansittart, 1804-05, that the consumption of iron by government did not exceed 15,000-20,000 tons which is comparable to Mushet's figure of 14,899 tons for the Board of Ordnance and the Navy Board, Birch Iron and Steel, p. 52. The exercise of comparing Scottish pig iron output with war demand is somewhat misleading for example, cannon were cast and thus Scottish producers could have imported iron and therefore satisfied a higher proportion of war demand for finished goods. Though it is known that Carron Company imported Welsh iron it is unlikely that in total terms such importation took place on a large scale given the emphasis placed by some Scottish historians on transport costs as a factor protecting the Scottish industry from English and Welsh competition in the domestic market, Campbell, Scotland Since 1707, pp. 118-119; Hamilton, Industrial Revolution, p. 175.

18. Hamilton, Industrial Revolution, p. 175.
19. Ibid.
20. Lythe and Butt, Economic History of Scotland, p. 191.
21. Slaven, Development of the West of Scotland, p. 115.
22. Campbell, Carron, p. 157.
23. Birch, Iron and Steel, p. 49; also see NLS MSS 1754 Memoir of the Military State of North Britain in 1803 f. 47; OSA, Vol. 3, p. 334; David Bremner, The Industries of Scotland, Their Rise, Progress and Present Condition, (Edinburgh, 1869), reprinted (1969), p. 41; Campbell, Carron, p. 199.
24. Campbell, Carron.
25. Harry Scrivenor, History of the Iron Trade, (London, 1854), p. 97.
26. OSA, Vol. 19, p. 94, Campbell, Carron, p. 219.
27. John P. Addis, The Crawshay Dynasty, (Cardiff, 1957), p. 15.
28. Campbell, Carron, pp. 83, 85, 88; Henry Hamilton, An Economic History of Scotland in the Eighteenth Century, (Oxford, 1963), p. 199.
29. SRO GD58/1/28, GD58/1/29, Carron Company Records, Letter Books.
30. SRO GD58/1/29, Carron Company Records, Letter Books.
31. SRO GD58/1/40, Carron Company Records, Letter Books.
32. SRO GD58/1/42, Carron Company Records, Letter Books.
33. SRO GD58/1/28, Carron Company Records, Letter Books.

34. PP 1812-13, Vol. XII, pp. 139-145.
35. SRO GD58/6/31, Carron Company Records, Invoice Book.
36. There is no reason to assume that the account is incomplete. According to it money received and spent by the Office of Ordnance in 1812 totalled £5,142,419, Chisholm's figure for expenditure on "Ordnance Services" in the year ending 5th January 1813 is £4,764,479. However there is no way of knowing whether expenditure on ordnance and shot was particularly low in 1812 though there is no indication that Carron's sales of these products were noticeably abnormal in any direction in that year. Moreover it could be that some expenditure on ordnance and shot were entered under other headings in the account. In particular a total of £646,228 appears under the ambiguous heading "stores". However there seems no obvious reason why separate headings of "Ordnance" and "Shot and Shells" should be given in the account if large amounts of expenditure on such items should be entered under other headings. It should be noted that it has been assumed in the calculations that "Shot and Shells" refers to iron shot and shells it being presumed that expenditure on lead shot was entered under "Small Gun Office"; Campbell by doubling up the six month figures gives total sales in 1812 of £37,656 of ordnance and £60,428 of shells for the Company, Campbell, Carron, p. 329. Assuming that the Board of Ordnance accounted for the vast bulk of these sales and noting the Board's purchases of them totalled £107,854 and £103,173 respectively it could be that Carron supplied up to 34.9% of the former and 58.6% of the latter.
37. PRO W052/408 Ordnance Office, Bill Books.
38. Ashton, Iron and Steel, pp. 128-129.
39. Ibid., p. 158; Birch, Iron and Steel, pp. 96, 159.
40. Birch, Iron and Steel, p. 160.
41. A.H. John, The Industrial Development of South Wales, 1750-1850, (Cardiff, 1950), pp. 99-102.
42. OSA, Vol. VII, p. 538.
43. Butt, Journal of the West of Scotland Iron and Steel Institute, p. 196; Fell notes that Bonawe supplied shot to the Board of Ordnance in 1781, Alfred Fell, The Early Iron Industry of Furness and District, (Ulverston, 1908), New impression, (London, 1968), p. 245.
44. Clyde (1786), Muirkirk (1787), Omoa (1787), Devon (1792), Glenbuck (c 1795), Calder (1800), Shotts (1802), Leven (1802).
45. It is probable that only large iron works had the facilities to fulfil large government orders. Svedenstierna noted in 1802-03 that Carron and Clyde were the two largest iron works in

Scotland, as has been noted according to Hamilton these were the only two significantly involved in cannon production. Vide supra p. 96; Svedenstierna, Tour of Great Britain, p. 149.

46. It could be that the casting of ordnance had some spillover effects on other producers, for example, Carron was a consumer of pig iron and it is known that the Clyde works subcontracted the making of cannon to a Dumbarton foundry.
47. John, Development of South Wales, p. 109.
48. Ashton, Economic Fluctuations, p. 70.
49. Henry Hamilton, The English Brass and Copper Industries to 1800, 2nd edn., (London, 1967) p. 212.
50. John, Development of South Wales, p. 109.
51. Ibid., p. 108; Hamilton, Brass and Copper p. 211.
52. Arthur D. Gayer, L.W. Rostow, Anna Jacobson Schwartz, The Growth and Fluctuation of the British Economy 1790-1850, (Oxford, 1953), Vol. II, p. 708.
53. Ibid.; John, Development of South Wales, p. 111.
54. Ibid., p. 108.
55. Ashton, Economic Fluctuations, p. 70.
56. Bremner, Industries of Scotland, p. 136.
57. Archibald Clow and Nan L. Clow, The Chemical Revolution, (London, 1952) p. 22.
58. J.R. McCulloch, A Statistical Account of the British Empire, (London, 1837), Vol. II, p. 15.
59. This does not necessarily mean of course that 'Scotsmen' were not involved in the business of supply. The Clows cite an interesting case which lends weight to what has been said in this thesis about the difficulties of establishing 'final' sources of supply to government. According to them "What Dundonald lost by the adoption of copper sheathing [and non adoption of tarring] by the Admiralty was gained by another Scot, William Forbes of Aberdeen." 'Copper-bottom Forbes' was a migrant to London who managed to buy up stocks of copper in anticipation of government contracts buying it back cheaply when it was found that iron nails used in fixing rendered copper a failure, reselling it after demonstrating success with copper nails. Clows, Chemical Revolution, p. 414. Of course what is important is that the implications of the two were entirely different. Dundonald's place of manufacture was in Scotland employing Scottish factors of production. On the other hand it is unlikely that the activities of Forbes involved the use of

Scottish factors of production meaning that despite his geographical origins his involvement in the business had little direct impact on the Scottish economy.

60. Ian Donnachie, The Industrial Archaeology of Galloway, (Newton Abbot, 1971), pp. 117-118.
61. T.C. Smout, "Lead-mining in Scotland, 1650-1850", in Peter L. Payne (ed.) Studies in Scottish Business History, (London, 1967), p. 103.
62. Ibid. p. 103; Donnachie, Industrial Archaeology, p. 116.
63. In particular at Leadhills and Wanlockhead. McCulloch, British Empire Vol. II p. 17; Donnachie, Industrial Archaeology, p. 116.
64. Clows, Chemical Revolution, p. 380.
65. Donnachie, Industrial Archaeology, p. 122.
66. Smout, in Payne (ed.), Scottish Business History, p. 107.
67. Donnachie, Industrial Archaeology, p. 120.
68. Smout, in Payne (ed.), Scottish Business History, p. 109.
69. Ibid.
70. OSA Vol. IV, p. 512.
71. Cited by Clows, Chemical Revolution, p. 380.
72. W.E. Minchinton, The British Tinsplate Industry, (Oxford, 1957), p. 42.
73. John, Development of South Wales, p. 105.
74. Minchinton, Tinsplate Industry p. 3.
75. Ibid., p. 254; Clows, Chemical Revolution, p. 573.
76. John, Development of South Wales, p. 105; Minchinton, Tinsplate Industry, p. 42.
77. Minchinton, Tinsplate Industry, p. 254-255.
78. Bremner, Industries of Scotland, p. 474.
79. Minchinton, Tinsplate Industry, pp. 17, 19.
80. PP 1812-13, Vol. XII, pp. 139-145. Besides £3,079.11s.4d. for "Cleaning and Repairing Small Arms, Tower."
81. Bruce Lenman, An Economic History of Modern Scotland, 1660-1976. (London, 1977), p. 42.

82. OSA Vol. 20, p. 86.
83. OSA Vol. VII, p. 376. Three are to be found in the Glasgow Directory for 1806 John Mann, William Mann, H. Miller.
84. BM ADD MSS 38734, Huskisson Papers; O.F.G. Hogg, The Royal Arsenal, (London, 1963), Vol. 2 pp. 1070, 1075.
85. Hogg, Arsenal, Vol. 2, p.1069; Frank Whitson Fetter refers to Birmingham in 1815 as "the centre of the armament industry". Frank Whitson Fetter (ed.), Selected Economic Writings of Thomas Attwood, (London, 1964), p. IX. The presence of the industry in Birmingham stimulated the manufacture of parts at such places as Wednesbury and Darlaston. G.C. Allen, The Industrial Development of Birmingham and the Black Country, 1860-1927, (London, 1929) p. 20.
86. Ian D. Murray, The Economic Effect of the Seven Years War in Scotland, Univ. of Edinburgh M.A. dissertation, 1979, p. 34.
87. NLS MSS 9363 f. 4, Letterbook of the Royal Aberdeen Volunteers.
88. Hogg, Arsenal, Vol. 2, pp. 1070-1071.
89. Ibid., p. 1072.
90. G.C. Allen, Industrial Development of Birmingham, p. 33.
91. McCulloch, British Empire, Vol. II, p. 108.
92. Allen, Industrial Development of Birmingham, p. 33;
93. OSA Vol. 20, p. 87.
94. Captain Henry T.A. Bosanquet, The Naval Officer's Sword, (H.M.S.O. 1955), p. 222.
95. Ibid., p. 139; This study gives another dimension to the problem of attempting to establish military sources of supply. Often the names to be found on blades and scabbards are not those of the makers but those who assembled and sold them. Ibid., p. 214.
96. McCulloch, British Empire, Vol. II, p. 108.
97. PRO H050/373, Home Office, Correspondence and Papers, Military.
98. Hogg, Arsenal, Vol. 2, p. 1072.
99. PP 1857, Vol. II, pp. 21, 649.
100. Bosanquet, Sword, p. 104.
101. PP 1812-13, Vol. XII, pp. 139-145.
102. Hogg, Arsenal, Vol. 2, p. 1062;

103. J. Butt, Industrial Archaeology of Scotland, (Newton Abbot, 1967), p. 152.
104. OSA Vol. 16, p. 503; also see Scots Magazine, Vol. LVI, Dec. 1794.
105. Glasgow Advertiser, 8 December 1794. It is unclear what "first ever" means for gunpowder was manufactured in Scotland long before 1794. It could be the intended scale which was the novelty or because as Butt notes it was the first works in Scotland to supply collieries. Butt, Archaeology, p. 152; Other works founded in the French wars include those at Lasswade in 1807 again apparently tied up with mining ibid., p. 289; and a works which was founded as the successor to the Goatfield Furnace on Loch Fyne when it closed down in 1813. Mark L. Anderson, A History of Scottish Forestry, (London, 1967), Vol. 2, p. 83.
106. PP 1817, Vol. IV, p. 221.
107. PRO ADM95/8, Controller of the Navy, Miscellaneous. Of course smaller vessels were much less expensive to construct. In 1808 the estimated cost of a cutter built on the Isle of Wight was £4,717, of a brig sloop at Upnor in 1811 £10,377 and of a frigate at Rochester in 1812 £32,052. Ibid.; For the rate per ton paid for building ships according to their class 1793-1804 see SRO GD51/2/772. Melville Castle Muniments, List of ships of the line built since 1780 and still in existence in 1804. The following demonstrates however that frigates and ships of a larger size seem to have formed numerically the most significant segment of the navy.

TABLE 4.5: COMPOSITION OF THE NAVY IN FEBRUARY 1795 AND MAY 1804

Date	Ships of the line		50s		Frigates		Sloops	
	no.	% of total	no.	% of total	no.	% of total	no.	% of total
Feb 1795	152	30.5	21	4.2	168	33.7	157	31.5
May 1804	188	22.5	38	5.1	197	26.7	315	42.7

SOURCE: Edinburgh Evening Courant, 14 Feb. 1795, 7 May 1804.

108. PP 1812-13, Vol. XII, pp. 139-145.
109. Birch, Iron and Steel, p. 49.
110. According to a table for the period 1773-1812 given in Campbell, Carron, p. 329.
111. SRO GD58/6/25, GD58/6/26, Carron Company Records, Invoice Books. Figure extracted from the company's invoice books for that year.
112. Vide supra pp. 73-74.

113. Hamilton, Economic History of Scotland, p. 287.
114. Anon, Two Centuries of Shipbuilding by the Scotts at Greenock, (Glasgow and Manchester, 1950) p. 55. Though there is evidence that the company launched a frigate for the Board of Excise in Scotland in October, 1794. Glasgow Advertiser, 31 October 1794.
115. Other piecemeal evidence of a lack of building in Scotland is extant. It has been assumed for example that ships built at Aberdeen by Alexander Stephen and Son before 1825 were chiefly ordered by local owners for fishing or trading. John L. Carvel, Stephen of Linthouse, (Glasgow, 1950), p. 177.
116. PRO ADM95/84, Controller of the Navy, Miscellaneous.
117. Bernard Pool, Navy Board Contracts 1660-1832, (London, 1966) p. 92. According to this source the order for the ship had been placed in July 1777.
118. PRO ADM95/84, Controller of the Navy, Miscellaneous.
119. Pool, Contracts, p. 92.
120. Bremner, Industries of Scotland, p. 74.
121. Vide supra, p. 72.
122. PP 1813-14, Vol. XI, pp. 357-58.
123. PRO ADM95/7, Controller of the Navy, Miscellaneous.
124. PRO ADM95/85, Controller of the Navy, Miscellaneous.
125. PRO ADM95/8, Controller of the Navy, Miscellaneous.
126. PRO ADM49/102 Miscellaneous. This is "An Account of Ships of War built in Merchants Yards since the 1st January 1801 for which Bills have passed this office pointing out those on which a Premium has been allowed for being launched before the expiration of time limited by Contract and those on which a Penalty has been inflicted for being launched beyond the stipulated period."
127. Ibid., Both these vessels were 82 days in excess of time which caused a penalty of £300 to be inflicted on account of each.
128. PP 1850, Vol. XXXV, pp. 440-57.
129. The smallest was the 1,703 ton Aboukir built at Frinsbury in 1807 the largest the 1,964 ton Kent built on the River Thames in 1798. PP 1813-14, Vol. XI, pp. 357-58.
130. Glasgow Courier, 6 April 1797, 27 August 1801, 6 November 1802; Glasgow Advertiser 5 October 1798; SM Vol. LVIII March 1796, Vol. LXVI, March 1804.

131. SM Vol. LVII, April 1795;
132. Figures extracted from PRO CUST 17, States of Navigation Commerce and Revenue.
133. Although it was apparently the existence of local fir which attracted the Glenmore Company to the Spey, Scots fir was held in low esteem by the Admiralty. Albion, Sea Power, pp. 15-16.
134. Under the pressures created by the Napoleonic wars ships were built for the navy in such places as Russia, Bermuda and India. Ibid., p. 68.
135. B. Pool, "Some Notes on Warship-building by Contract in the Eighteenth Century", Mariner's Mirror, Vol. XLIX May 1963, p. 107.
136. Ibid., p. 110.
137. In the sources given in note 130 where a ship is mentioned as being a record launching in terms of tonnage for a port in no case was it stated that that vessel was constructed for the navy.
138. SRO GD51/2/793/1, Melville Castle Muniments, Statement of the stores annually required for the supply of the navy and of the quantity now in store.
139. A.J. Warden, The Linen Trade, (London, 1864). pp. 489, 491, 498, 505, 538, 542, 565, 574, 584.
140. Ibid., pp. 542, 546, 574-5; Scots Magazine, Vol. LXVIII, June 1806.
141. Enid Gauldie (ed.), The Dundee Textile Industry, (Edinburgh, 1969), p. XVIII.
142. George Blake, The Gourock, Privately published (1963), pp. 30-31.
143. PRO ADM106/1782, Navy Board In Letters.
144. PRO ADM106/1782, Navy Board In Letters.
145. Warden, Linen, pp. 467, 470, 546.
146. SRO GD51/2/147/6 Melville Castle Muniments, Letter to Lord Melville on the supply of sailcloth & hammocks to the navy. PRO ADM106/1782 Navy Board In Letters.
147. SRO GD51/2/147/6 Melville Castle Muniments, Letter to Lord Melville on the supply of sailcloth and hammocks to the navy.
148. PRO ADM106/1782 Navy Board In Letters; Vide supra, p. 13.
149. Gauldie (ed.), Dundee Textile Industry, p. XIX.

150. Ibid., p. 12.
151. McCulloch, British Empire, Vol. II, p. 89. Since McCulloch was writing in the 1830's it is assumed "the peace" refers to that of 1815.
152. SRO GD51/2/147/6. Melville Castle Muniments, Letter to Lord Melville on the supply of hammocks and sailcloth to the navy.
153. PRO ADM106/1782 Navy Board In Letters.
154. McCulloch, British Empire, Vol. II, p. 90;
155. S.G.E. Lythe, "The Origin and Development of Dundee: A Study in Historical Geography", The Scottish Geographical Magazine, Vol. 54, November 1958, p. 355.
156. SM, Vol. LXVIII, June 1806.
157. SRO GD51/2/147/4; GD51/2/147/6, Melville Castle Muniments, Letters to Lord Melville on the supply of hammocks and sailcloth to the navy.
158. PRO ADM106/1782. Navy Board In Letters.
159. SRO GD51/2/147/6, Melville Castle Muniments, Letter to Lord Melville on the supply of hammocks and sailcloth to the navy. It was alleged that Turner having stated his requirements for canvas had been satisfied had his agent buy up large quantities of inferior canvas unstamped by the makers and not intended by them to be used by the navy. He then stamped this as Scotch so that: "The impression which the circumstance made upon the manufacturers here [Dundee] was that as Mr. Turner is a sail cloth maker in the neighbourhood of London this plan may have been adopted for the purpose of raising the credit of his own manufacture to their prejudice."
160. SRO GD51/2/147/4, Melville Castle Muniments, Letter to Lord Melville on the supply of hammocks and sailcloth to the navy.
161. SRO GD51/2/147/6. Watt continues: "The Contract for Hammocks too...being furnished by Mr. Turner; the cleansing of yarns, the agency in London and in short every department was monopolised, no competition of industry or talents was permitted and the Manufacturers had no alternative but either to remain idle, or to work (those few that were employed) on such conditions as were proposed to them however hard." The reference to the cleansing of yarns appears to be a criticism of Mr. Sandeman, "an eminent bleacher" operating within two miles of Dundee, being employed by the navy on Turner's recommendation "to prepare all the Yarns for the Canvas made for H.M. Navy in Dundee." The scarcity of water in Dundee was the main reason for Turner's recommendation and was also given by him as a reason why Dundee had suffered in the issuing of warrants. PRO ADM106/1782, Navy Board In Letters; SRO GD51/2/147/6.

162. SRO GD51/2/147/3, Melville Castle Muniments, Letter to Lord Melville on the supply of hammocks and sailcloth to the navy.
163. SRO GD51/2/147/7.
164. SRO GD52/2/147/6.
165. SRO GD51/2/147/10.
166. PRO ADM106/1782, Navy Board In Letters.
167. Warden, Linen, p. 599; SRO GD51/2/147/6, Melville Castle Muniments, Letter to Lord Melville on the supply of hammocks and sailcloth to the navy.
168. SRO GD51/2/147/6.
169. NLS Accession 3250 Box 19, Hay of Hayfield Papers.
170. Hamilton, Economic History of Scotland, p. 64.
171. Ashton, Economic Fluctuations, p. 72; Lythe and Butt, Economic History of Scotland, p. 59; Anderson observes that notices of timber for sale in the Edinburgh press 1805-14 reveal a great increase in imported timber. Mark L. Anderson, A History of Scottish Forestry, (London, 1967), Vol. 2, p. 2.
172. Hamilton, Economic History of Scotland, p. 290.
173. Albion, Sea Power, p. vii.
174. Albion, Sea Power, p. 98.
175. Ibid., p. 20; Yet masts by and large had to be procured from abroad ibid., p. VII.
176. Ibid., p. 98; Anderson notes nevertheless that in the Napoleonic era oak was widely distributed in Scotland and quantities of that timber suitable for shipbuilding were offered for sale, Anderson, Forestry, vol. 2, p. 91;
177. Albion, Sea Power, p. 98; for the inferiority of Scots timber and the fact that it was only used in emergencies as a last resort see Ibid., pp. 15-16, 30, 54; At the same time there was a legacy of Scottish timber being used for warlike purposes. Anderson, Forestry, Vol. I, pp. 162-3, 220, 246, 323, 404.
178. Anderson, Forestry, Vol. I, p. 126.
179. Albion, Sea Power, p. 361.
180. Vide supra, p. 79.
181. Hamilton, Economic History of Scotland p. 65; Anderson, Forestry, Vol. I, pp. 440-444; David Murray, The York Buildings Company, (Edinburgh, 1883) 1973 edn. pp. 57-58.

182. Hamilton, Economic History of Scotland pp. 65, 290; Gordon Jackson, Hull in the Eighteenth Century, (Oxford, 1972), p. 184; Lythe and Butt, Economic History of Scotland, p. 145.
183. Ibid., p. 145.
184. Thelma Blance, Some Geographical Aspects of the Blair Atholl Papers, Univ. of Aberdeen, Ph.D. 1956, p. 146. According to McCulloch: "The late Duke of Athol was the greatest planter of his time in the empire". McCulloch, British Empire, Vol. I, p. 527. Also see Anderson, Forestry, vol. 2, p. 3.
185. Albion, Sea Power, p. 32.
186. Blance, Ph.D., p. 147.
187. Albion, Sea Power, p. 401.
188. Blance, Ph.D., p. 149; Albion, Sea Power, p. 32.
189. Blance, Ph.D., pp. 152-153.
190. There is some evidence though that Scottish merchants were involved in procuring such supplies from abroad. The compiler of the OSA (Greenock) notes: "The largest merchant vessel, ever built in Scotland, was launched at Greenock about a year ago. She belongs to a company in the town, who have a contract with Government, for supplying the royal navy with masts from Nova Scotia, of which she has already delivered at one of the King's Yards 1100 tons." OSA vol. VII, p. 715.
191. Butt, Archaeology, p. 147.
192. OSA, Vol. IX, p. 279.
193. Archibald Clow, "Scotland's Contribution to Industrial Development through the Application of Chemical Science since the Seventeenth Century", Blackwell Prize Essay at the University of Aberdeen pp. 34-5.
194. Clows, Chemical Revolution, p. 414.
195. H. Heaton, "Benjamin Gott and the Industrial Revolution in Yorkshire", EHR, Vol. III, 1931-32, p. 54.
196. Lythe and Butt, Economic History of Scotland, p. 48.
197. C. Gulvin; The Scottish Woollen Industry, 1603-1914, Univ. of Edinburgh, Ph.D, 1969, p. 54.
198. Ibid., p. 55.
199. Mainly in the Borders and Aberdeen ibid., p. 107; Bremner, Industries of Scotland p. 155.
200. The woollen industry was however of considerable importance to the English economy. Ashton, Economic History of England, p. 59.

201. Gulvin, Ph.D, pp. 132, 389.
202. Henry Hamilton, Economic History of Scotland p. 157.
203. SRO NG1/7/8, NG1/7/9, Board of Manufactures, Copies of Annual Report to the Crown.
204. Gulvin Ph.D, p. 204.
205. McCulloch, British Empire Vol. II, p. 51; Writing in the late 1830's he reckoned that the woollen manufacture of Yorkshire accounted for $\frac{3}{4}$ of that of the U.K. "As compared with that of England the woollen manufacture of Scotland is quite inconsiderable." ibid., p. 55.
206. SM, Vol. LII, December, 1794; Glasgow Advertiser, 8 December 1794.
207. Gulvin, Ph.D, p. 302-303.
208. J. de L. Mann, The Cloth Industry in the West of England from 1640 to 1880 (Oxford, 1971), p. 52.
209. Herbert Heaton, The Yorkshire Woollen and Worsted Industries, (London, 1965), p. 270.
210. Ibid., p. 280.
211. Ibid., p. 276.
212. Heaton, EHR, p. 55.
213. Ibid., p. 64.
214. Ibid., p. 45; Briggs, Age of Improvement p. 162.
215. Heaton, EHR, p. 54.
216. SRO GD51/2/189/2. Melville Castle Muniments, Letter from William Dundas to Lord Melville.
217. Hamilton, Economic History of Scotland, p. 157.
218. Major I.H. Mackay Scobie, "The Scottish Tartan Manufacturers and Bonnet Makers", Journal of the Society for Army Historical Research, Vol. XXI, 1942, p. 64; McCulloch also associates Kilmarnock with the supply of forage caps to the army, McCulloch, British Empire, Vol. II, p. 56.
219. Introduction to OSA, Vol. VII, p. xxxvii.
220. OSA, Vol. IX, p. 579.
221. John Telfer Dunbar, History of Highland Dress, 2nd edn. (London, 1979); Dunbar argues that the Napoleonic wars helped to create an environment in which highland dress became fashionable and

- there was thus a spin-off in civilian demand, ibid., pp. 9-10.
222. NLS MSS9676 p. 110, Letters and Papers of William Wilson and Co., Bannockburn.
223. Dunbar, Highland Dress, p. 151;
224. The records of the company are fairly extensive. Incoming letters from the regiments (showing those involved) in the period 1795-1873 are to be found in the National Library of Scotland (MSS 9667-9669). Correspondence between Wilsons and the regiments are housed in the Scottish United Services Museum, Edinburgh Castle and the National Museum of Antiquities, Edinburgh.
225. NLS MSS 9676, pp. 110-112, Letters and Papers of William Wilson and Co., Bannockburn.
226. SUSM Document box 18.
227. NLS MSS 664 f. 130. Letters and Papers of William Wilson & Co., Bannockburn.
228. Mackay Scobie, Journal of the Society for Army Historical Research, p. 64; also see Dunbar, Highland Dress, p. 144;
229. In addition according to Dunbar the Bannockburn firm did not hold a monopoly on 'tartan' supply for, in the Napoleonic era "the Norwich tartan makers were offering stiff competition" although it is uncertain if this refers to military supply. Ibid., p. 146.
230. NLS MSS 9676 p. 64. Letters and Papers of William Wilson and Co., Bannockburn.
231. Western, Ph.D. pp. 73-74.
232. SUSM uncatalogued deposit box. There are even difficulties in establishing where officers' cloth was being made. Correspondence relating to the Stirlingshire militia reveals Lt. Col. Graham being informed in May 1813 that by sending his measure on a pair of pantaloons to James Young, a Falkirk tailor, he could order his grey pantaloons any time. The regimental cloth could be ordered from Mr. Adam a merchant of Falkirk or from Gibson Thomson & Craig, 104 South Bridge [Edinburgh]. It is unlikely that either of the latter pair made the cloth themselves. NLS MSS 10895 f. 75 Correspondence relating to the militia in Stirlingshire. In 1795 the clothing for the 116th Regiment of Foot quartered at Armagh was being supplied by Mr. Gloag of Edinburgh. SRO RH2/4/487 f. 295, Treasury Records Entry Books of Out Letters, Scotland.
233. PRO W058/44, Commissariat Department Out Letters, Contracts.
234. Some local regiments of course purchased their own uniforms, these perhaps were the ones most likely to be supplied in the locality.

235. PP 1857, Vol. II, p. 16.
236. Roy Church (ed.), The Dynamics of Victorian Business, (London, 1980), p. 199.
237. W.G. Hoffmann, British Industry 1700-1950, (Oxford, 1955) p. 86.
238. Church, Victorian Business, p. 200.
239. Ibid., p. 202.
240. Bremner, Industries of Scotland, p. 352.
241. OSA Vol. V, p. 298.
242. OSA Vol. VII, p. 828.
243. OSA Vol. 18, p. 517.
244. OSA Vol. 21, p. 45.
245. OSA Vol. II, p. 392.
246. OSA Vol. 14, p. 553.
247. Bremner, Industries of Scotland, p. 352.
248. OSA, Vol. 14, p. 553.
249. NLS MSS 10895 f. 75 Correspondence relating to the militia in Stirlingshire.
250. NLS MSS 1502 f. 194, Letters of James Bisset, Quartermaster Royal Perthshire Local Militia, Central Battallion.
251. NLS MSS 1502 f. 202.
252. SUSM 799.1. Berwickshire Yeomanry Letters.
253. It is unclear whether this is the same Maxton. SUSM. Makers.
254. Church, Victorian Business, p. 208;
255. R.A. Church, "Labour Supply and Innovation 1800-1860: The Boot and Shoe Industry", Business History Vol. XII, 1970, p. 27.
256. R.A. Church, "Messrs. Gotch & Sons and the Rise of the Kettering Footwear Industry", Business History Vol. VIII, 1966.
257. PP 1857, Vol. II, p. 659.

CHAPTER FIVE

THE CONTRIBUTION OF SCOTTISH TAXATION TO THE BRITISH WAR EFFORT

1750-1830

The differing quality and nature of the statistical material available has been the major determinant of the way in which the various aspects of public sector activity have been treated in this thesis. Thus in the sphere of government expenditure the paucity of information was one reason why overwhelming emphasis was placed on the wars of 1793-1815.¹ In the area of taxation however the existence of a separate Scottish tax administration is a main reason why revenue figures for the whole period 1750-1830 can be presented which makes it practical to examine the experience of particular wars in this period,² though the main emphasis will still be on the Napoleonic years. As will be seen to a greater extent than in expenditure, in taxation it is necessary to examine the long run and groups of war and peace years rather than confine the analysis to years of war alone.

Taxation is clearly a subject which, given the intricacies of legislation, would be difficult to cover comprehensively in anything other than a detailed manner. However it is the object of this study to examine what are felt to be the most important implications of war for taxation. It can be argued that these were exercised through the incidence of the latter in the aggregate and in detail. The decision to concentrate on these areas was reinforced by the fact that they have been largely ignored in a Scottish context. Thus in the main differences in the rates of duty on such articles as (Footnotes to Chapter 5 appear on pages 173-176)

for example spirits, salt, and malt between Scotland and England and reasons for them have not been analysed though they were subjects of contemporary interest³ especially when it was being felt that a legislative change was in violation of the agreements of the 1707 Union.⁴ Similarly it has not been an aim to examine the system of tax assessment and collection from an organisational viewpoint. Since there are various specific works which encompass such areas as the evolution of individual areas of taxation in Scotland,⁵ and general works on taxation often give the Scottish aspect of particular taxes, there would be little point in replicating this work here. At the same time there are to be found in several sources information on the administration of the Scottish exchequer and the various individual boards responsible for the taxes as well as details of Scottish financial records in general.⁶ Likewise there is little to be gained by summarising them here.

It is intuitively obvious that there would be a close relationship between war and taxation in the period 1750-1830 as the monetary costs of waging war cumulatively increased. Indeed Pablo Pebrer writing in the early 1830's viewed this period as a watershed in public finance closely associated with war:

"The greatest financial era, not only of England, but of all the civilized nations of the world, begins in the Reign of George III...We shall see thousands converted into millions - divisions into armies - squadrons into fleets...we shall see the British nation supporting burdens so₇ enormous, as had not even been imagined."

However it is another matter to state quantitatively the exact nature of the relationship, in other words, what the level of taxation would have been without war. Different methods of dealing

with this question have been adopted by various commentators. One method involves assuming that in the absence of war tax produce would have remained at the level of immediate pre-war years,⁸ another projects pre-war rates of growth in revenue into war years giving the problem a dynamic aspect.⁹ Such methods, it can be suggested, are most relevant to the study of taxation during a particular war. The latter however can only paint a partial picture for as 'The Calm Observer' noted in July 1793:

"I do not touch upon the burthens of war, especially of a land war, with allies in our pay, because you know and feel them; and you will know and feel them more; for every war has not only taxes to impose during its progress; but¹⁰ leaves a legacy of them after its close."

This comment can be understood in the light of eighteenth century British fiscal policy. From the early eighteenth century until at least the American war of 1775-83 the main characteristic of British war finance via the introduction of the funding system was to borrow to meet current requirements, at the same time imposing such taxes as might meet the interest on the loan. The consideration of making provision for the repayment of the debt took place in the ensuing peace years. It was with a view to introducing a degree of regularity into the latter that Pitt's Sinking Fund Acts of 1786 and 1792 were passed. During the French wars this policy was somewhat modified in the late 1790's when, with the introduction of the income tax and with the imposition of various other war taxes, it was intended to meet a large part of public expenses from taxation in the year in which they arose.¹¹ Thus when British tax revenue is viewed over the period 1750-1830 as a

whole the burden of interest payments in peace years resulting from war incurred debt is obvious, war having an effect on peace taxation which has been described as "ratchet"¹² or "hangover"¹³ but which is perhaps best described by the concept of "displacement" used by Peacock and Wiseman in a study of public expenditure.¹⁴

There are in any case considerable difficulties in attempting to distinguish 'war' from 'non war' expenditure, especially when war rather than a war is being discussed. For example it is normal to deduct peace time military expenditure from war to obtain the net military cost of war.¹⁵ Yet it could be argued that the previous war and fear of future wars had an enlarging impact on perceived peacetime military requirements. Similarly it is conventional to regard expenditure on civil government as 'non war'¹⁶ yet the same difficulties remain. War implied increased taxation which resulted in an enlarged government administrative machine in war and peace.

Mainly for these reasons it has been decided to treat the levels of taxation in the period 1750-1830, at least for this part of the examination, as mainly determined by war so that total levels can be regarded as war induced and need not be manipulated to calculate the net cost of war. For example assume for the moment 'civil government' expenditure can be regarded as non war. Splitting 1750-1830 into years of war and peace, its largest share in total expenditure was 17.3% (1816-30), its lowest 6.0% (1793-1800). The rest of the spending, quite clearly the vast bulk, was on military and debt.¹⁷ Civil government expenditure which was some £1,016,000 in 1750 had only increased to £1,565,000 by 1792, the major expansion in nominal terms coming during the Napoleonic wars.

The assumption being made here runs contrary to Wagner's so called 'law of increasing state activity'. Given contemporary views on the proper role of government and the lack of evidence that in the absence of war central government would have become involved in providing for an individual's needs on a large scale (which would have made permanently high levels of taxation inevitable) the 'law' does not seem particularly applicable to eighteenth century Britain.¹⁸ It is contended here that during these years population increase was a means by which higher tax receipts were obtained rather than a major autonomous cause of them. It follows then that in this section the British war effort is being loosely interpreted in terms of taxes raised in the whole period 1750-1830. Before considering the contribution of Scotland in this light it is worth briefly examining the concept of taxation and what is the best measure of the Scottish contribution.

In economic terms it can be argued that it is best to define a tax in terms of income flows so that it is:

"any leakage from the circular flow of income into the public sector, excepting loan transactions and direct payments for publicly produced goods and services up to the cost of producing these goods and services."¹⁹

The real significance of a tax can only be understood in terms of its incidence or burden, a term which will be applied in this thesis to both groups within Scotland and the country as a whole. Incidence can be defined as: "the decline in real income that is suffered as a result of the tax."²⁰ There are several basic approaches to the study of taxation. However it would seem that all in all there are only two of practical significance: the

'benefit' approach and the 'ability to pay' approach.²¹ By implying that it is valid to study taxation in isolation from government expenditure the former, which requires simultaneous determination of the costs and benefits of a tax, is being rejected in this section and reliance is being placed on the more traditional²² ability to pay approach which treats revenue and expenditure as separate matters.

Finally it is pertinent to consider which aspect of Scottish tax revenue gross, net, or London remittances, best measures the country's contribution to the British war effort. It has been decided that since expenditure out of Scottish taxation before remittance south was mostly on non war²³ items such as bounties, the required figure was that of remittances to London. The use of the latter also circumvents the dangers inherent in the contemporary criticism that Scottish revenue however large it looked on paper, contributed little to general British finances.²⁴ In fact this idea of deficiency is obviously one of interest and to place this chapter in context it is worth briefly considering some comments by contemporaries and historians on the subject of Scottish taxation in general.

It is not difficult to find criticism by both of these groups of almost every branch of Scottish taxation in this period. This even though Donnachie has made the assertion without testing its validity that: "by the 1720's the customs and excise system in Scotland was probably at least as efficient as that beyond the metropolis in the provinces of England and Wales."²⁵ Criticism revolved around such matters as delays in (i) assessing liability to tax (ii) collecting taxes and (iii) remitting the proceeds to

London as well as the magnitude of balances constantly withheld by Scottish Receivers General or debts left by the latter when quitting office. Fraudulent practices carried out by revenue officials in general also gave rise to comment. Parliamentary investigations and boards of inquiry found scope for improvement in several of these areas.²⁶ At times contemporary protest about apparent Scottish inefficiency spilled over into statements that the Scottish contribution to British finances was inadequate. In 1810 a Yorkshire M.P. inquired of the Lord Advocate of Scotland with respect to the property tax: "Could he explain why Scotland did not pay her fair share?"²⁷

In similar fashion historians in general in as much as they have had anything at all to comment on Scottish taxation have cast a critical eye upon it. The revenue difficulties of pre-Union Scotland have been well cited²⁸ whilst Atton and Holland in their review of customs refer to the Scottish contribution 1787-1800 as being "remarkably small."²⁹ In 1801-25 it was "still unimportant" with a comparison of gross revenue in England and Scotland revealing a proportion of 20 to 1.³⁰ Crucially lacking in their exposition however is the comparative barometer which would make their findings of more than superficial interest. The excise has found its critics in Mathias and O'Brien who argue that in the period 1715-1810: "In Scotland...where production units were individually small, widely scattered in small rural communities, with much household production for self-subsistence, the excise raised little revenue and could not cope with evasion."³¹

Scottish historians have paid remarkably little attention to this area. Professor Campbell in an analysis of the financial

implications of the 1707 Union limited himself to c 1750 so that in this period: "the amount [of tax receipts] remitted to London was not great"³² the c 15 to 20% of total revenue being in normal times "an insignificant burden to transfer."³³ Again lacking is a standard of significance. This reticence to examine the exact financial relationship between Scotland and England is no doubt closely linked to data deficiencies. Nevertheless Young, on the basis of scattered evidence of money being spent in Scotland for specific purposes makes the sweeping comment that: "Scotland was often [an]...expensive colony for the English government to hold down."³⁴

There is thus evidence to suggest that Scotland was not an efficient taxation unit and that its contribution to British taxation produce was in some imprecise way wanting. Yet in potential conflict with such a view are contemporary comments emanating from within Scotland itself. These focussed on the increase in the productiveness of Scottish revenue since 1707 in general, and the magnitude of the amounts remitted to London in particular. One contributor to the Old Statistical Account was convinced that: "perhaps no people have in so short a period, [these 40 or 50 years past] made so great advances in...public revenue."³⁵ William John Lawson in a history of banking in Scotland published in 1845 wrote of: "The great increase of the public revenue of Scotland since the Union."³⁶ In July 1802 Robert Scott Moncrieff wrote to William Simpson his Royal Bank of Scotland colleague: "I must keep your note of Public money remitted - it is a prejudicious sum...what would our fathers have thought of such a sum being squeezed from Scotland and sent to England?"³⁷ John Reid in the 1840's

referred to the remittance of public income from Scotland to England as: "that large and copious drain."³⁸

Clearly then there is an element of ambiguity in these different views of the matter arguably bolstering the assertion that this is an area ripe for the attention of the historian. Since the subject is essentially a quantitative one it requires the consideration of the magnitude of Scottish remittances 1750-1830 and the discussion of criteria by which their relative importance can be ascertained and 'fairness' judged. Table 5.1 presents in a comparative light the former in war and peace periods.

TABLE 5.1: SCOTTISH TAX REMITTANCES TO LONDON AS A PROPORTION OF 'BRITISH' TAX REVENUE 1750-1830 (£000)¹

PERIOD	SCOTLAND ⁴		BRITAIN		(5) (1) AS % OF (3)
	(1) TOTAL	(2) MEAN P.A.	(3) TOTAL	(4) MEAN P.A.	
1750-55	317	53	42659	7110	0.7
1756-63	631	79	69129	8641	0.9
1764-74	1132	103	117047	10641	1.0
1775-83	1703	189	108328	12036	1.6
1784-92	3601	400	148015	16446	2.4
1793-1815 ²	45650	1985	1076763	46816	4.2
1816-30 ³	40829	2722	878589	58573	4.6

SOURCES: SRO E201/1 to E201/12, Pipe Office Declared Accounts; SRO E321/15 to E321/22, King's Remembrancer Register of Declared Accounts; SRO E554/3, SRO E554/4, Accounts of all duties under the management of the Commissioners of Excise in Scotland.

NOTES: 1. All figures are given at current values
 2. Figures for 1750-1801 are net public income of G.B., those for 1802-1815 are gross public income of G.B.
 3. Figures for 1816-30 are gross public income of the U.K.
 4. In fact the per centages given in column 5 understate the Scottish contribution as the latter's figures exclude

stamps and post office, when these are deducted from the G.B./U.K. figures the proportions are
1750-55 0.8%, 1756-63 1.0%, 1764-74 1.0% 1775-83 1.6%
1784-92 2.4% 1793-1815 4.6%, 1816-30 5.3%.

Columns (2) and (4) above suggest that in both Scotland and Britain, at least in terms of current values, (though as will be seen later in real terms also), and as roughly measured by mean per annum figures, taxation revenue increased progressively in every war and peace group of years throughout the period. The displacement effect of war on taxation is thus amply illustrated. More interestingly however column (5) would suggest that beginning from a very low level the Scottish share made a slight progressive proportional gain until it showed a substantial increase in the Napoleonic wars expanding further in the period 1816-30. Thus irrespective of how 'fair' the Scottish contribution was in this period the implication is that in this group of 81 years the Scottish share of British revenue progressively increased in the light of war requirements and thus expanded at a faster rate.

These figures however contain a slight degree of distortion. Thus the more directly comparable material relating to the French wars can be presented. This data has the further advantage of giving some indication of the amount of fluctuation from one year to the next in taxation produce which is missed in the aggregating and averaging procedure carried out in Table 5.2 overleaf.

Table 5.2 suggests considerable growth in Scottish and British revenue in this short space of years at current prices. This was under the Pitt initiated policy of increasing taxation rather than borrowing to finance war. It seems also that Table 5.1 could underestimate the Scottish revenue contribution by c 1% in the

TABLE 5.2: SCOTTISH PAYMENTS INTO THE BRITISH EXCHEQUER AS A PROPORTION OF BRITISH EXCHEQUER PAYMENTS 1797-1810
(£000)¹

<u>YEAR</u> ²	<u>(1)</u> <u>SCOTLAND</u>	<u>(2)</u> <u>BRITAIN</u>	<u>(1) AS % OF (2)</u>
1797	997	20595	4.8
1798	1322	25336	5.2
1799	1470	28991	5.1
1800	1595	30522	5.2
1801	1544	30750	5.0
1802	1995	31801	6.3
1803	2048	34996	5.9
1804	2005	42145	4.8
1805	2367	46373	5.1
1806	2846	50068	5.7
1807	3315	54753	6.1
1808	3084	57214	5.4
1809	2892	59054	4.9
1810	3866	62642	6.2
TOTAL	31346	575240	5.4

SOURCES: PRO CUST 17/19 to CUST 17/21, States of Navigation Commerce and Revenue; PP Accounts and Papers, 1801, Vol. IV, pp. 4-41; 1801-02, Vol. III, pp. 4-43; 1802-03, Vol. VI, pp. 4-45; 1803-04, Vol. VI, pp. 4-49; 1805, Vol. V, pp. 4-45; 1806, Vol. IX, pp. 4-45; 1806-07, Vol. X, pp. 4-43; 1808, Vol. VIII, pp. 9-43; 1809, Vol. VIII, pp. 4-43; 1810-11, Vol. IX, pp. 4-23.

NOTES: 1. All figures are given at current values.
2. Year 1797 refers to the year ended 5 January 1798 etc.

French wars. At the same time the Scottish contribution fluctuated within fairly narrow limits the range being 4.8% to 6.2% and thus provided a steady flow of revenue for the British exchequer.

Having established the relative order of magnitude of the Scottish contribution and that it was progressively growing in this

period the question of assigning significance to that proportion can now be tackled. There were a few contemporary attempts to evolve objective criteria for this purpose. Not surprisingly perhaps Sir John Sinclair gave the matter his attention.³⁹ Comparing Scottish and Irish per capita revenue in the year ended 5 April 1822 using 1821 population figures he concluded that since the burden was higher in the former this was evidence that in terms of revenue England had derived benefits from her union with Scotland. When coming to compare Scottish and English revenue however, Sinclair abandoned the per capita principle reverting to the provisions of the Union of 1707 to calculate each country's proper share. Noting that the Scottish proportion had increased since 1707 he concluded that:

"There can hardly be a doubt, if Scotland had insisted, that it should not be subjected in future to heavier payments, than in proportion to those which it had agreed to pay at the Union, the stipulation, being a fair one, would have been acceded to;...[sic] and it is evident, that Scotland does now produce a revenue, in proportion, much larger than ever was contemplated at the Union."

An indignant Scottish excise administration made a similar point using the same standard of significance when the magnitude of Scottish excise revenue was allegedly criticised in the House of Commons by an English Member of Parliament.⁴⁰ Such a comparison was also made in the Scottish press. Union provisions are therefore one possible standard of significance. In view of Sinclair's comments on Scotland and Ireland relative population is another.

A further possible standard more explicitly tied in with the notion of a nation's taxable capacity is contained in the work

of E.W. Hamilton carried out in the 1890's.⁴¹ In the light of the recent Royal Commission focussing on a comparison of Ireland's taxable capacity relative to that of Britain he undertook a similar venture for Scotland with respect to England. Arguing that it was impossible to apportion British aggregate income between Scotland and England (which he implied was the best measure) he considered several alternatives, including population, in the end placing primary emphasis on gross assessments to income tax.

Table 5.3 gives the figures appropriate to the Scottish contribution according to these three possible indicators, Union, provision, population, and income tax assessments.

TABLE 5.3: POSSIBLE INDICATORS OF THE SIGNIFICANCE OF THE SCOTTISH REVENUE CONTRIBUTION

HEADING	UNIT OF MEASUREMENT	PERIOD TO WHICH FIGURES APPLY	(1) SCOTLAND	(2) BRITAIN	(1) AS % OF (2)
UNION ¹ PROVISION	£	c 1707	160,000	5,851,803	2.7%
POPULATION ²	NO OF PEOPLE	1751-1831	R A	N G E	14.5%-16.9%
GROSS ASSESSMENTS ³ PROPERTY TO INCOME TAX	£	1803-1814	R A	N G E	7.0%- 9.6%

SOURCES: Union of 1707 - Sir John Sinclair, Analysis of the Statistical Account of Scotland, (Edinburgh, 1825), Vol. 1, Appendix, p. 69; Population - B.R. Mitchell and P. Deane, Abstract of British Historical Statistics, (Cambridge, 1962), pp. 5-6; P. Deane and W.A. Cole, British Economic Growth, 1688-1959, (Cambridge, 1964) p. 6; Income tax assessments - PP 1812-13, Vol. XII, p. 235; PP 1814-15, Vol. X, p. 85; House of Lords Papers, 1846, Vol. XIX, p. 363.

NOTES:

1. According to Sinclair after adjustments to the land tax the Scottish gross revenue was to be raised to £160,000, whilst English revenue at the time of the Union was £5,691,803. The 9th article of Union laid down a precise proportional relationship between the land tax of the two countries. When the sum of £1,997,763.8s.4½d. was to be raised in England, £48,000 was to be raised in Scotland, a Scottish/British proportion of 2.3% only marginally different from Sinclair's wider figure. According to one contemporary the land tax stipulation was one "from which it was calculated that England was able to bear near forty two times more taxes than Scotland;" S.R.O. GD51/5/422, Melville Castle Muniments, Memo respecting the clause in the Land Tax Sale Bill relating to Scotland and the section of the Articles of Union connected therewith.
2. The range is derived from population estimates for 1751 and 1791 and census figures for 1801, 1811, 1821, 1831. The lowest per centage was 14.5 in 1831 the highest 16.9 in 1751.
3. The range is derived from gross assessments to the property tax separate Scottish figures being available for 1803, 1805, 1806, 1808, 1810, 1812, 1814. After 1805 the calculations are based on schedules A, B D and E only.

It is immediately obvious from Table 5.3 that the three vary in their usefulness for the purposes of this study. The severe drawback of the income tax measure is that it only applies to the Napoleonic era. More importantly though it can be seen that the Scottish contribution as outlined in Table 5.1 can be cast in a stunningly different light according to the measure chosen. Only the Union indicator though suggests that the contribution may have been in excess of what was 'fair' at least in the Napoleonic years and after. The other measures imply a relative deficiency, the population indicator suggesting that this can be applied to the whole period. Clearly then criteria must be evolved for judging the suitability of each of these measures. It is contended that what is required is a rough measure of the economic as opposed to the political taxable capacity of Scotland vis a vis Britain.

In considering the adequacy of the Union indicator though it is difficult to distinguish the political from the economic. Yet even if the relative tax shares were a measure of each country's economic taxable capacity in 1707 it would be hard to sustain the view that the relative picture had not changed by 1830. Even if there were perhaps political reasons for Scots to refer to the provisions of the Union in the 1750-1830 period in revenue matters, as a measure of the 'fairness' of the Scottish contribution there is little to recommend its use on economic grounds. It can be assumed that by our period under the prevailing political structure Scotland was integrated into Britain and therefore, at least for the purposes of this study, should not be treated as a special case on the grounds of former independence.

The measures of population and income tax assessments have more relevance to the object in hand. The concept of a 'fair' burden of taxation on an individual or 'class' basis was central to classical economic theory.⁴² The ability to pay approach to taxation was closely linked by them to a notion of a nation's taxable capacity which they despaired however of measuring in practice.⁴³ Nonetheless at least in the Napoleonic years it was often confidently asserted by contemporaries that this unspecified taxable capacity was being reached.⁴⁴ As has been noted earlier this idea of taxable capacity was applied at a national level in the late 19th century by the Royal Commission on Financial Relations between Ireland and Britain in the light of an allegation of the over-taxation of Ireland.⁴⁵ It was revamped in the post World War I controversy over German reparation payments. Addressing himself to the latter Sir Josiah Stamp considered that the "ultimate

test" of a nation's taxable capacity was "the aggregate income of its inhabitants"⁴⁶ yet at the same time "Everything depends on the number of inhabitants."⁴⁷ He pointed out that a certain level of national subsistence would have to be allowed for before the capacity could be measured. It immediately becomes obvious from this that increasing taxable capacity need not be a direct function of increasing population, indeed according to what is happening to national income and the distribution of that income it can be an inverse function. Given the likelihood that per capita income in England was higher than in Scotland throughout this period it does not follow that the population of Scotland relative to that of Britain per se is a useful indicator of the 'fairness' of the former's revenue contribution. Given that in assessing an individual's liability to property tax incomes not deemed large enough to be taxed were exempted and various allowances to some extent sought to discover an individual's true 'ability to pay' it would seem likely that assessments to this tax were probably the most accurate available contemporary measure of relative taxable capacity in the aggregate and it is the one which will be used here. If it is permissible to apply the principles of the analysis of the individual to the state this gives the approach a modern ring for according to Allan "...the most commonly used [measure of ability to pay taxes] by governments, is income after allowances for subsistence."⁴⁸ Table 5.4 therefore adopts this measure.

Owing to the criterion chosen this part of the analysis, as embodied in Table 5.4, is restricted to the 1800's, an unfortunate shortcoming. Nonetheless this was a crucial decade in as much as it probably encompassed the most rapid rate of increase in British

TABLE 5.4: SCOTTISH REMITTANCES TO LONDON AND THE GROSS PRODUCE OF SCOTTISH TAXATION COMPARED WITH GROSS ASSESSMENTS TO PROPERTY TAX 1803-10

YEAR	(1) REMITTANCES (£000)		(2) (A) as GROSS ASSESSMENTS TO a % of PROPERTY TAX (£000)		(3) (A) (B) SCOTLAND BRITAIN		(4) AMOUNT OF SCOTTISH DEFICIENCY (£000)		(6) GROSS TAX PRODUCE (£000)		(7) (A) as % of (B)		(4) % PROPERTY TAX ASSESSMENT		(8) AMOUNT OF SCOTTISH DEFICIENCY (£000)	
	(A) SCOTLAND	(B) BRITAIN	(A) SCOTLAND	(B) BRITAIN	(A) SCOTLAND	(B) BRITAIN	(A) SCOTLAND	(B) BRITAIN	(A) SCOTLAND	(B) BRITAIN	(A) SCOTLAND	(B) BRITAIN	(A) SCOTLAND	(B) BRITAIN	(A) SCOTLAND	(B) BRITAIN
1803	2048	34996	5.9	5.9	337	4820	7.0	402	2734	40942	6.7	6.7	7.0	132		
1805	2367	46373	5.1	5.1	455	6253	7.3	1018	3225	52358	6.2	6.2	7.3	597		
1806	2846	50068	5.7	5.7	803	9977	8.0	1159	3802	56127	6.8	6.8	8.0	688		
1808	3084	57214	5.4	5.4	995	10397	9.6	2409	4200	64150	6.5	6.5	9.6	1958		
1810	3866	62642	6.2	6.2	1045	11061	9.4	2022	4875	70529	6.9	6.9	9.4	1755		
MEAN P.A.	2842	50259	5.7	5.7	727	8502	8.6	1402	3767	56821	6.6	6.6	8.6	1026		

SOURCES: Tax Revenue - PP 1803-04 Vol. VI, pp. 4-49; 1806, Vol. IX, pp. 4-45; 1806-07, Vol. X, pp. 4-43; 1809, Vol. VIII, pp. 4-43; 1810-11, Vol. IX, pp. 4-23.

NOTES: 1. Columns (5) and (8) have been produced for each year by applying column (4)'s proportion to the British figures in columns (1) and (6) and deducting from the outcome the actual Scottish tax figures.

tax produce under the stimulus of war. To ensure that like is being compared with like the parliamentary as opposed to the Scottish exchequer figures have been used.

A comparison of columns (2) and (4) would suggest that the Scottish remittance contribution was consistently deficient in terms of her taxable capacity though as column (5) demonstrates this varied markedly from £402,000 in 1803 to £2,409,000 in 1808. Of course whilst it has been argued that remittance figures are the ones most relevant to the measurement of the Scottish war contribution, in general terms their use could be liable to the charge of being misleading in the sense that a larger proportion of payments could have been made from Scottish tax before it was remitted compared to its British counterpart. Thus columns (6) (7) and (8) give a comparison of Scottish and British gross tax revenue. The latter again suggest a persistent deficiency, though of a smaller magnitude but again a marked degree of variation.

What then of the earlier period? In the absence of comparative income estimates for Scotland and Britain nothing can be proven quantitatively. However in view of the rather small value of remittances until the late eighteenth century it would be surprising to find that the Scottish war contribution was in excess of her taxable capacity.

It would be very difficult indeed to present a convincing explanation for this relative deficiency without a close examination of the nature of the British tax structure and administration and the degree of tax evasion within the country and of the make up of the Scottish and British economies of the period, an exercise which, given the present state of knowledge on such matters, lies

outside the scope of this thesis. However it is necessary to comment on one obvious possible source of distortion in the figures presented. The Scottish tax figures used are those of tax collected in Scotland, not those of tax receipts which resulted from economic activity in Scotland. There is no way of measuring how much wealth, the produce of Scottish economic activity, went to the account of non-Scottish British tax revenue or vice versa.⁴⁹ Those Scotsmen assessed for taxes south of the border yet paying taxes with receipts from Scottish estates and businesses fall into this category and their consumption of taxable commodities would reinforce this. Henry Mackenzie wrote to Vansittart that one problem in implementing the income tax act effectively in Scotland was: "the scarcity of Persons fit to be Commissioners", which was partly owing to: "the extent of Property held by Non-residents."⁵⁰ Similarly the consumption of taxable commodities in Scotland which paid the tax in England but were passed on in the price charged to the Scottish consumer would work in the same direction. It was argued by contemporaries that this was the case with such items as porter and ale and many kinds of glass, candles, paper and drugs and above all tea. The latter was certainly an important contributor to English customs revenue and paid duty at the India House. On the other hand it was maintained that the balance was little redressed by similar goods flowing in the opposite direction, especially since the only important taxable goods going south were 'British made spirits' which were charged with the whole duty at the port of importation and thus went to the credit of English excise.⁵¹ Sir John Sinclair estimated the net balance of duties payable in England on goods consumed in Scotland at £150,000 in the early 1800's,⁵²

which if it has any degree of accuracy would qualify rather than cancel out the Scottish deficiency in view of the magnitude of the figures suggested by Table 5.4.

In the light of such difficulties all that can be claimed for the calculations which have been presented thus far is that they provide answers which suggest a rough order of magnitude to the questions posed rather than definite solutions in terms of quantification. Nonetheless, it is suggested that they enlighten rather than mislead. There can be no doubt that during this period the Scottish contribution to the war-induced British public burden progressively increased. If it is assumed that the Union settlement presented Scots with what they believed was a measure of the country's political taxable capacity, war had catapulted the contribution far in excess of that capacity by the Napoleonic era. However by the more economically meaningful measure of taxable capacity contained in Table 5.4 in the early 1800's Scotland was not contributing to the extent of that measure.

NOTES TO CHAPTER FIVE

1. Vide supra pp.4-5.
2. Appendix 2 pp. 262-264, outlines the sources from which the tax data used in this section were extracted. Vide infra Appendix 2.
3. For example for the controversy surrounding the lack of a stamp office in Scotland see SM LXVII, September 1805, Strathclyde Regional Archives TD76, Glasgow Chamber of Commerce Minute Books, 9 December, 1789; complaints surrounding the operation of the salt laws in Scotland, OSA Vol. 16, pp. 291-292, Glasgow Chamber of Commerce Minute Books, 19 February 1798, 17 April 1807; On the other hand the removal of the tax on coal carried coastwise in Scotland met with much approval within the country NLS MSS 1058 Melville Papers, Papers relating to Scottish revenue, OSA Vol. 15, p. 133.
4. See for example Sir John Sinclair's remarks on the land tax in a letter to Dundas in May 1798 NLS MSS 1058; and a letter from 'Rusticus' to the Glasgow Courier, 4 May 1802 on the malt tax.
5. Ian Donnachie, A History of the Brewing Industry in Scotland, (Edinburgh, 1979); Michael S. Moss, John R. Hume, The Making of Scotch Whisky; A History of the Scotch Whisky Distilling Industry, (Edinburgh, 1981); W.R. Ward, "The Land Tax in Scotland 1707-98", Bulletin of the John Rylands Library Manchester, Vol. 34, 1954, pp. 288-308; A.G. Thompson, The Paper Industry in Scotland, (Edinburgh, 1974).
6. Such as Stephen Dowell, A History of Taxation and Taxes in England, 3rd edn. 6 Vols. (London, 1965).
7. Pablo Pebrer, Taxation, Revenue, Expenditure, Power, Statistics and Debt of the Whole British Empire, (London, 1833), p. 66.
8. O'Brien, D. Phil. p. 384; Peter Mathias and Patrick O'Brien make a similar assumption with regard to expenditure, Journal of European Economic History Vol. 5, 1976, pp. 623-624.
9. A.J. Fitzpatrick, The Economic Effects of the French Revolutionary and Napoleonic Wars on Ireland, Univ. of Manchester, Ph.D., 1973, Chapter 1.
10. Glasgow Advertiser, 22-26 July, 1793.
11. BM Huskisson Papers, ADD MSS 38760 f. 36.
12. Mathias, Transformation of England, p. 121.
13. Mathias and O'Brien, Journal of European Economic History, pp. 605-606.

14. Alan T. Peacock and Jack Wiseman, The Growth of Public Expenditure of the United Kingdom, (Princeton, 1961), p. xxiv.
15. Mathias and O'Brien, Journal of European Economic History, pp. 623-624.
16. Fitzpatrick, Ph.D., Chapter 1.
17. Vide supra table I p. 7.
18. Wagner's law postulates that in a country with a growing aggregate output government expenditure must grow at a faster rate than that output. The driving force behind the growth is 'the pressure of social progress'. However it would seem that from all accounts in this period the prevailing view was that government's legitimate sphere of interest was largely confined to maintaining internal and external law and order it being assumed that government expenditure should be kept to a minimum. Within such constraints it is difficult to see how Wagner's law could have had much relevance. However there is no way of knowing what attitudes would have been in a Britain which did not fight any wars in the period 1750-1830. For more details on Wagner see Peacock and Wiseman, Expenditure, pp. 16-20.
19. Charles M. Allan, The Theory of Taxation, (Middlesex, 1971), p. 24.
20. Ibid., p. 45.
21. Ibid., p. 175; for a discussion of this matter in the light of the writings of the classical economists see D.P. O'Brien, The Classical Economists, (Oxford, 1975), pp. 240-259.
22. Michael Z. Hepker, A Modern Approach to Tax Law, (London, 1973), p. 3.
23. Expenditure on the militia and on apprehending deserters made from the land and assessed taxes did however take place especially in the Napoleonic period.
24. Sir John Sinclair, History of the Public Revenue of the British Empire, 3rd edn. (London, 1803-04), reprinted (New York, 1966), Vol. 3, p. 143.
25. Donnachie, Brewing, p. 21.
26. PP 1810 Vol. II, p. 507; PP 1810-11 Vol. III p. 1055; NLS MSS 3T05, Correspondence and Memorials 1802-1834; PRO T92/1, T92/220, Treasury, Revenue Inquiries; SRO GD51/5/334, Melville Castle Muniments, Observations for the Treasury by the Board of Customs in Scotland on the report of the Board of Inquiry into the Customs and Excise; SRO RH2/4/487 ff. 417, 427, RH2/4/489 ff. 38-39, 41-43, 118-119, 134, RH2/4/498 f. 102, Treasury Records Entry Books of Out-Letters, Scotland.

27. Quoted in A. Hope-Jones, Income Tax in the Napoleonic Wars, (Cambridge, 1939), p. 48; The Lord Advocate was apparently able to satisfy the house that this accusation had arisen on the grounds of an unfair comparison. Cobbett's Parliamentary Debates, 1st series Vol. 15 pp. 438-440.
28. Athol L. Murray, "Administration and Law", in T.I. Rae (ed.), The Union of 1707 Its Impact on Scotland, (Glasgow, 1974) p. 34; Robert S. Rait, The Parliaments of Scotland, (Glasgow, 1924), p. 493.
29. Henry Atton and Henry Hurst Holland, The King's Customs, (London, 1967), Vol. I, p. 411.
30. Ibid., Vol. II, p. 9.
31. Mathias and O'Brien, Journal of European Economic History, p. 639; There exists contemporary evidence which would tend to contradict this view particularly in the case of breweries and distilleries; OSA Vol. II, p. 622; OSA Vol. VII, p. 345; OSA Vol. 16, p. 14; Svedenstierna, Svedenstierna's Tour, Great Britain, p. 126.
32. R.H. Campbell, in T.I. Rae (ed.) Union of 1707, p. 61.
33. Ibid., p. 61; A similar view is to be found in another of his works: Campbell, Scotland since 1707, p. 56.
34. James D. Young, The Rousing of the Scottish Working Class, (London, 1979), p. 55.
35. OSA, Vol. II, p. 729.
36. William John Lawson, History of Banking in Scotland, (London, Newcastle upon Tyne, 1845), p. 9.
37. Glasgow University Business Records Store, Scott Moncrieff Letters, 6 July 1802.
38. John Reid, Manual of the Scottish Banks and British Funds, with a list of the joint stock companies in Scotland, 3rd edn. (Edinburgh, 1841), p. 29.
39. Sir John Sinclair, Analysis of the Statistical Account of Scotland, Vol. I, (Edinburgh, 1825), Appendix pp. 68-70.
40. NLS MSS 14 Melville Papers, Letters on Scottish Revenue.
41. E.W. Hamilton, Scotland's Financial Relation to England and the estimated relative Resources of the two Countries, (London, 1897), pp. 1-5.
42. D.P. O'Brien, Economists, pp. 240-241.
43. Ibid., p. 242.

44. O'Brien D. Phil., p. 313; Vansittart implied in a letter to Lord Castlereagh dated 26 November 1814 there was a limit to the extent to which war could be perpetually used as an excuse to increase taxation:

"Economy and relief from taxation are not merely the War Cry of Opposition, but they are the real objects to which public attention is turned. Neither continental arrangements nor even the Contest with America much affect the feelings of a Nation which, for so many years has been used to view & sometimes, to apprehend for itself, the most tremendous vicissitudes. The taking of Washington afforded indeed a momentary triumph: it was felt as a reparation for the supposed insults our Flag had suffered at sea. But to the final issue of the War, provided it be not dishonourable, the country is very indifferent."

BM ADD MSS 31231 ff. 184-185, Vansittart Papers.

45. Vide supra p. 165.

46. Sir Josiah Stamp, Wealth and Taxable Capacity, (London, 1922), p. 112.

47. Ibid.

48. Allan, Taxation, p. 131.

49. A problem which is common to studies of this kind. See for example Hamilton, Resources; Johnston, Buxton, Mair, Structure and Growth of the Scottish Economy, p. 175; Porteous, Scotland and the South, pp. 1-3.

50. BM ADD MSS 31229 ff. 21-24, Vansittart Papers.

51. NLS MSS 14, Melville Papers, Letters on Scottish Revenue; The Scottish Board of Customs for example in the early 1820's gave part of the reason why the rate of collection of revenue in Scotland was higher than in England as:

"The account of the receipt of this revenue, shows only a partial amount of duties paid upon goods actually consumed in Scotland, because no duty is paid on the delivery of foreign goods, brought coastwise from England; and these goods, particularly sugars, East India goods, fruits and other articles (which are subject to high duties on importation)...conveyed in large quantities from London and the ports in England, for home consumption in Scotland." PP 1812, Vol. XI, p. 12.

See also the remarks of the Lord Advocate in parliament Cobbett's Parliamentary Debates, 1st series Vol. 15 pp. 438-440.

52. Sinclair, History of the Public Revenue, Vol. 3, p. 139.

CHAPTER SIX

THE INCIDENCE OF TAXATION IN SCOTLAND 1750-1830

1. Aggregated

Thus far, since the study has been concentrating on attempting to present a comparative picture of the Scottish war contribution, aggregate figures of tax receipts at current values have been used. However in considering the incidence of taxation in Scotland over time these figures as such are of limited interest. As the compiler of the Old Statistical Account for the parish of Newlands noted:

"Taxation...though increased, may, to a certain proportion of its extent, prove...to be merely nominal: In so far as it is real, does it equal or exceed, or come short of the real increase of wealth, and the consequent ability to bear it?"¹

The other side of the coin is highlighted by the remarks of a Forfarshire justice of the peace in the years after 1815: "as the taxes remain nominally the same, a man who used to pay fifty pounds of taxes now actually pays the value of eighty."² Table 6.1 endeavours to give some indication of the real incidence of taxation in Scotland over time.

It can be seen from the Table that similar results are achieved whatever price index is used as a deflator. The only serious discrepancy arises in columns (7) and (8) where the burden

(Footnotes to Chapter Six appear on pages 207-209)

TABLE 6.1: THE REAL INCIDENCE OF TAXATION IN SCOTLAND AS REVEALED BY REMITTANCES 1750-1830

PERIOD	(1) MEAN P.A. TAX REMITTS (£000)	(2) ¹ POP ⁿ (000)	(3) INDEX OF FIARS PRICES (SCOTLAND)	(4) COST OF LIVING INDEX (BRITAIN)	(5) INDEX OF REMITS. AT CONSTANT PRICES (1) ÷ (3) 1750-55 = 100	(6) INDEX OF REMITS. AT CONSTANT PRICES (1) ÷ (4) 1750-55 = 100	(7) INDEX OF REMITS. PER CAPITA AT CONSTANT PRICES (5) ÷ (2) 1750-55 = 100	(8) INDEX OF REMITS. PER CAPITA AT CONSTANT PRICES (6) ÷ (2) 1750-55 = 100
1750-55	53	1265	100	100	100	100	100	
1756-63	79	1363	103	108	145	138	128	
1764-74	103	1434	132	117	147	166	146	
1775-83	189	1458	120	125	298	285	247	
1784-92	400	1500	132	132	572	572	482	
1793- 1815	1985	1707	199	199	1882	1882	1395	
1816-30	2722	2228	189	177	2717	2902	1648	

SOURCES:

Population - Sir John Sinclair, Analysis of the Statistical Account of Scotland, (Edinburgh, 1825), Vol. 1, p. 149; P. Colquhoun, A Treatise on the Wealth, Power and Resources of the British Empire etc., 2nd edn. (1815) Reprinted (1965), p. 10; P. Deane and W.A. Cole, British Economic Growth, 1688-1959, (Cambridge, 1964) p. 6; B.R. Mitchell and P. Deane, Abstract of British Historical Statistics, (Cambridge, 1964) pp. 5-6; Fiars prices index - M.W. Flinn, (ed.) Scottish Population History from the Seventeenth Century to the 1930's, (Cambridge, 1977) pp. 495-498. William Hector, Selections from the Judicial Records of Renfrewshire, (Paisley, 1878), pp. 46-47; British cost of living index - Mitchell and Deane, Historical Statistics, p. 469.

Cont....

TABLE 6.1 CONT.

- NOTES:
1. The population estimates are mostly for one single year within each group of years until census figures became available.
 2. Column (3) has been constructed by examining various county oatmeal prices (where available) and calculating average per annum prices for each in each war and peace group of years. The average for each period for each county was then summed (in an unweighted fashion) and averaged to produce a national average figure which was then converted into an index. The relevant counties and prices are: Fife - oatmeal, Perth - oatmeal, Midlothian - oatmeal, West Lothian - oatmeal, East Lothian - 2nd oats, Lanark - 2nd oatmeal, Aberdeen - oatmeal, Stirling - oatmeal, Perth - oatmeal, Roxburgh - oatmeal, Berwick - oatmeal, Renfrewshire - oatmeal. Where the county price data was incomplete in terms of the whole period 1750-1830, if the number of years for which prices were available was more or equal to one half of the total number of years in the particular war or peace period the mean price was included in the national index if not it was omitted.

as measured by real remittances per capita increases in 1764-74 compared to 1756-63 using the British cost of living index (8), and falls using the Scottish price index (7).

It is immediately clear from columns (5) and (6) that the Scottish war contribution in real prices grew cumulatively in each group of war and peace years, the growth being particularly spectacular in the Napoleonic era. Similarly column (8) at least would suggest that the per capita real burden also grew on a cumulative basis. Lacking in the Table however is an indication of how the tax revenue relates to growing wealth in Scotland over time. Obviously if such wealth was growing faster than the real war burden this would throw a different light on this picture of a cumulatively increasing incidence. However in a specifically Scottish context the question cannot be pursued further in the absence of Scottish national income estimates. Nonetheless Mathias has carried out such a calculation for Britain and his conclusion is that for the eighteenth century: "deflating to identify real trends, beyond monetary movements, shows tax revenue growing consistently faster than the national income;"³ Whilst he was not analysing the problem from a war/peace viewpoint in terms of chronology, it is very likely that the same is true of Scotland for as has been shown the Scottish contribution to British tax revenue was growing faster than the British total of the latter in the period 1750-1830.⁴ It would take a growth in Scottish national income above the British one greater than the tax differential before it could be concluded that the real remittance burden was not growing as quickly as wealth in Scotland. Thus at least in the aggregate the analysis would suggest that each war in the period 1750-1830

made progressively increasing real demands on the Scottish population.

It has been asserted already that attempts to isolate the exact proportion of tax revenue which can be attributed to the event of war are of limited significance. Using the indexes in Table 6.1 however and making the crude simplistic assumption that in the absence of war tax produce would have remained at its average pre war level⁵ it may be interesting to compare the experience of the three wars in this period during the years in which these wars took place. Using the Scottish index mean per annum real remittances (col. 5) increased by 45% during the Seven Years War, 203% during the American War of Independence and 329% in the French Wars of 1793-1815. By the measure of real remittances per capita the relevant per centages are (from col. 7) 35%, 199% and 289% respectively. Using the British index the real mean per annum increases are (col. 6) 38%, 172% and 329% and the per capita figures (col. 8) 28%, 169% and 289%. Clearly then by the limiting process of defining the costs of war as increases in revenue receipts during wars themselves these increases in real terms progressively increased during each war the mean per annum increase being of the order of 300% during the French wars.

2. Disaggregated

The question of disaggregating the picture can now be turned to. In order for the latter analysis to proceed however a brief digression must be made to consider the nature of the incidence of taxation, the classification of taxes and the concept of progressive, proportional and regressive taxation.

In discussing the disaggregated incidence of taxation a degree of complication is encountered which has given rise to historical controversy. The object is to provide an answer to the question, who really pays? Given that there may be a difference between the legal and social and economic incidence of taxation, in other words the formal burden may differ from the final one, there is no easy answer to this question. The key to the question is the extent to which the individual or group legally responsible for paying the tax can shift it on to other individuals or groups. Hicks gave an example of this namely British purchase tax in which he suggested that the formal incidence fell on wholesalers but the effective incidence in the main fell on consumers who paid higher retail prices. Thus the tax was shifted forward from wholesaler to retailer to consumer.⁶ Some idea of the difficulties of measuring de facto incidence is provided by Allan who notes that there are seven ways in which the burden of tax imposition can be distributed:

1. The formal taxpayer may bear it all.
2. The formal taxpayer may shift it all forward.
3. The formal taxpayer may shift it all backward.
4. The formal taxpayer may shift some of the burden forward and the rest backward.
5. The formal taxpayer may shift some of the burden forward some backward and bear the rest himself.
6. The formal taxpayer may bear some of the burden and pass the rest forward.
7. The formal taxpayer may bear some of the tax and shift the rest backward.⁷

Economists have pointed out that the exact extent to which any tax can be passed on depends on such factors as elasticities of demand and supply. However according to Hepker: "Unfortunately

this theoretical model is almost impossible to apply in practice."⁸ No doubt this fact underpinned a controversy which emerged in the 1970's between Mathias and O'Brien on the one hand and McCloskey on the other.⁹ The former duo in a comparative article on British and French taxation in the period 1715-1810 in effect assumed an almost identical relationship between formal and effective incidence which McCloskey took exception to. However McCloskey seems to have had little of practical value to contribute other than highlighting some of the difficulties outlined above. The fact is that it would be extremely difficult to investigate the determinants of effective incidence in a detailed manner in this period which would be necessary to allow the measurement of its exact incidence. Indeed similar considerations have caused econometric models to provide conflicting evidence on the question of the shifting associated with individual modern taxes.¹⁰ Mathias and O'Brien's assumption moreover is not without precedent. In a study of the contemporary burden of British taxes in the 1940's G. Findlay Shirras and L. Rostas stated: "It has been assumed that the burden of taxation is borne as it is intended to be."¹¹ Thus following Mathias and O'Brien it will be assumed here that indirect taxes were shifted on to the consumer and direct taxes were borne by those assessed to the tax.¹² The idea of indirect and direct taxes however itself requires some explanation.

It is well known that there are several methods of classifying taxes. In the United Kingdom taxes are officially classified according to their base, that is taxes on income, on capital, and on expenditure, the base being that on which the tax is levied.¹³ However perhaps the most usual¹⁴ form of classification takes account

of administrative arrangements for collecting the tax. A direct tax is that paid by the taxpayer to the revenue authorities and an indirect tax that in which a third party intervenes. For example, the final incidence of a sales tax may fall on the consumer but it is paid by the retailer to the government.¹⁵ Whilst Hicks has challenged the economic usefulness of such a classification preferring the tax base approach¹⁶ it is one which has relevance here. In an eighteenth century context direct taxes can be regarded as those on income or wealth, indirect those on outlay.¹⁷ The assessed taxes however introduce an element of ambiguity into such an association for they were taxes on expenditure which were directly collected from the taxpayer. For present purposes it will be assumed that such assessed taxes (for example on houses and horses) were in practice taxes on income or wealth or at least manifestations of them. They can thus be categorised as direct taxes on income or wealth.

Finally it is worth stating clearly what is meant by the terms progressive, proportional and regressive taxation, classifications used to describe the incidence of taxes or a tax system on individuals or groups of taxpayers. Again however the distinction between formal and effective incidence may cause confusion. As Hepker puts it:

"Looking at formal rates, it would be accurate to say that a tax is progressive, if the ratio of tax liability to income (or other tax base) rises as income (or other tax base) increases, proportional if the ratio remains constant, and¹⁸ regressive if it falls."

As he points out though the formal rates may differ from the effective. For example a customs duty on tobacco may be

TABLE 6.2: THE PERCENTAGE SHARE OF DIRECT AND INDIRECT TAXES IN REMITTANCES FROM SCOTLAND 1750-1830

<u>TAX</u>	<u>PERIOD</u>						
	<u>1750-55</u>	<u>1756-63</u>	<u>1764-74</u>	<u>1775-83</u>	<u>1784-92</u>	<u>1793-1815</u>	<u>1816-1830</u>
LAND	50.7	60.6	39.1	23.7	11.9	1.9	1.4
ASSESSED of which income and property taxes	0.3	3.5	4.1	5.2	9.5	29.3	13.1
	-	-	-	-	-	[17.3]	[4.4]
MISCELLANEOUS	-	1.1	3.2	1.7	0.7	0.2	0.2
TOTAL DIRECT	51.0	65.2	46.4	30.6	22.1	31.4	14.7
CUSTOMS	9.2	2.3	6.1	16.5	16.0	17.8	22.6
EXCISE	39.8	32.5	47.5	52.9	61.9	50.8	62.7
TOTAL INDIRECT	49.0	34.8	53.6	69.4	77.9	68.6	85.3
GRAND TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: SR0 E201/1 to E201/12, Pipe Office Declared Accounts; SR0 E321/15 to E321/22, King's Remembrancer Register of Declared Accounts; SR0 E554/3, SR0 E554/4, Accounts of all duties under the management of the Commissioners of Excise in Scotland.

levied at a flat or proportional rate of so much money per pound. Thus since everyone purchasing cigarettes pays the same proportion of the cost in tax the formal incidence is proportional. Yet in effect cigarettes and hence the duty on them account for a much larger proportion of small than large incomes and thus the tax is heavily regressive. It is crucial to bear in mind that progression does not mean simply that the rich pay more than the poor but that the relationship implied is a proportional one in terms of income.

Tables 6.2 and 6.3 which classify remittance contributions according to whether they resulted from direct or indirect taxes, assume that the effective implication is that direct taxes are progressive, indirect regressive.

TABLE 6.3: THE PERCENTAGE SHARE OF DIRECT AND INDIRECT TAXES IN REMITTANCES FROM, AND GROSS TAXATION PRODUCE OF, SCOTLAND 1797-1810.

<u>TAXES</u>	<u>PER CENTAGE SHARE</u>	
	<u>REMITTANCES</u>	<u>GROSS</u>
LAND AND ASSESSED	9.1	8.1
AID AND CONTRIBUTION	0.6	0.4
PROPERTY	11.0	8.1
1/-	0.3	0.1
6d.	0.1	0.1
TOTAL DIRECT	21.1	16.8
CUSTOMS	17.4	24.8
EXCISE	48.1	47.0
SALT	0.1	0.2
STAMPS	9.0	7.3
POST OFFICE	4.3	3.9
TOTAL INDIRECT	78.9	83.2
GRAND TOTAL	100.0	100.0

SOURCES: PRO CUST 17/19 to CUST 17/21, States of Navigation Commerce and Revenue; PP Accounts and Papers, 1801, Vol. IV, pp. 4-41; 1801-02, Vol. III, pp. 4-43; 1802-03, Vol. VI, pp. 4-45; 1803-04, Vol. VI, pp. 4-49; 1805, Vol. V, pp. 4-45; 1806, Vol. IX, pp. 4-45; 1806-07, Vol. X, pp. 4-43; 1808, Vol. VIII, pp. 9-43; 1809, Vol. VIII, p. 4-43; 1810-11, Vol. IX, pp. 4-23.

On the basis of the assumption above which allows a crude characterisation in terms of the social incidence of the Scottish war tax contribution Table 6.2 suggests that from a position of rough equality the contribution of direct taxes on income and wealth progressively fell after 1756-63 in each war and peace period with the exception of 1793-1815 when the property tax and increases in assessed taxes allowed a war time gain. The Table also highlights the dangers of neglecting the displacement effects of war for as has been shown the real burden of remittances reached a peak in 1816-1830 exactly when the direct tax contribution reached an all time low. Thus it would appear that increasingly as the period wore on each war brought with it a Scottish contribution of which the lion's share had been collected by taxes of a socially regressive nature. The Table also illustrates the share of each type of tax. The land tax from being initially important had slipped to an insignificant position by the Napoleonic years being superseded in the direct category by assessed taxes. Within indirect taxes it can be seen that as broadly measured by the headings of excise and customs, taxes on home produced goods remained consistently far more important than those on goods involved in overseas trade. The contribution of customs however had increased by the end of the period though throughout such items as bounties reduced the level of remittances to London.

As will be recalled, the Scottish exchequer figures neglect stamp and post office remittances: Table 6.3 gives the picture when these are included. Since both were indirect taxes their inclusion boosts the share of that classification in the total. The purpose of the inclusion of gross tax produce is merely to suggest that at least by this time the tax structure in Scotland in general was highly regressive so that concentration on remittance figures does not necessarily give a false picture of taxation in the totality. However owing mainly to the fact that a fairly high per centage of property tax receipts were remitted it can be seen that direct taxes play a greater role in remittances than in gross income. Yet whilst this method of characterising the produce of taxation is justifiable in terms of the assumptions which have been made it can be argued that it is of limited interest and may distort. For example a tax can be regressive in its incidence but might fall overwhelmingly on the expenditure of the very rich. Similarly Table 6.3 which includes stamps in the indirect category conceals the fact that the latter fell on items which can probably be described as 'luxuries'.¹⁹ Thus it is necessary in order to examine further the social and economic incidence of taxation the contribution of individual taxes.

Owing to a lack of information on such factors as income distribution and household budgets it is not possible in any precise fashion to examine the disaggregated incidence in terms of specific income groups. Contemporary debate however did not hinge on fine degrees of measurement, discussion on where the burden fell heaviest normally taking place in the context of crude groupings. Thus the contribution of agriculture to the war effort might be compared to

that made by commerce. The weight of tax falling on the 'poor' or mass of the population might be contrasted with that borne by the rich. In the following some attempt will be made to point out obvious opportunities for the comparison of agriculture and commerce with respect to specific taxes but in the main it is very difficult to distinguish the pair in taxation as in many other spheres. Arguably more useful for the discussion of incidence is the rich/poor distinction partly because it ties in more obviously with the notion of progressive, proportional and regressive taxation. However obviously, owing to data shortages, these categories as tools of analysis can only be used in a very rough manner, their use at all relying on 'common sense' observations. Their interpretation does involve a degree of circularity, nonetheless it is held that their use allows certain observations to be made. Thus in what follows taxes falling on the rich are assumed to be those on income, wealth, and goods or services which implied a certain degree of wealth. Those on the poor relate exclusively to consumption goods and encompass articles which it is likely were consumed by the mass of the population. It is proposed to deal with direct and indirect taxes in turn.

Among the direct taxes it is obvious that the land tax, based on a valuation of the country's land wealth, was not one which affected the mass of the population. Similarly the income and property taxes exempting incomes below a certain level²⁰ had a limited impact. Nonetheless in view of the importance of these taxes to the war effort in the Napoleonic years as suggested by Tables 6.2 and 6.3 it is worthwhile attempting to demonstrate, as revealed by the tax schedules, from what sources this tax was drawn

in the main.

Shehab makes a concise definition of the schedules of the 1803 Act as follows:

"Schedule A...covered incomes arising from the ownership of land and buildings; Schedule B, incomes from the occupation of land, that is, income of tenant farmers who were now assessed at three-quarters and half their rack-rent in England and Scotland respectively; Schedule C covered incomes from public securities; Schedule D, commercial and industrial profits, and incomes from vocational or professional practices; and finally Schedule E covered incomes from offices, employment, and pensions."²¹

From the Table assuming there is a close relationship between assessments and tax paid it can be seen that Schedule A remained consistently by far the most important contributor. Schedule D next in line in terms of importance made a contribution which was initially almost twice as large as Schedule B though the latter had significantly narrowed the gap by 1812. Schedules C and E which covered income from government stock and government income respectively were relatively insignificant in the aggregate. It is difficult to arrive at a precise agricultural/industrial/commercial/professional breakdown on the basis of these figures. Nonetheless it is likely that agriculture made a substantial contribution through Schedules A and B. Comparing Schedules B and D it is uncertain whether the relative contribution of farmers increased because agriculture was prospering more than industry and commerce or because businessmen found it easier to avoid paying their proper dues. Certainly it would seem that the latter group did find it easier to avoid taxation than landowners.²² Chalmers was convinced that even in the difficult times of c 1813: "we do

TABLE 6.4: GROSS ASSESSMENTS TO THE PROPERTY TAX UNDER THE VARIOUS SCHEDULES 1803-1812

YEAR	SCHED	A		B		C		D		E		TOTAL	
		AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL		
1803		176712	52.4	49410	14.7	8031	2.4	94818	28.1	8023	2.4	336994	100.0
1805		194854	53.6	53581	14.7	7014	1.9	98269	27.0	10194	2.8	363861	100.0
1806		470063	58.5	128733	16.0	-	-	180659	22.5	24010	3.0	803465	100.0
1808		542247	54.5	209401	21.0	-	-	210920	21.2	32568	3.3	995135	100.0
1810		593661	56.8	194966	18.7	-	-	219162	21.0	37246	3.5	1045035	100.0
1812		620935	56.2	206896	18.7	-	-	231382	20.9	46276	4.2	1105489	100.0
MEAN P.A.		433079	56.1	140498	18.2	-	-	172535	22.3	26386	3.4	772498 ²	100.0

SOURCES: P.P. 1812-13, Vol. XII, p. 235; 1814-15, Vol. X p. 85; House of Lords Papers, 1846, Vol. XIX, p. 363.

NOTES: 1. Total excludes £90,828 additional duty per 45 Geo III.
2. Total of the mean per annuus.

not see bankrupt farmers - on the Contrary they have been and still are...among the most prosperous members of the Community. They are known even in the present circumstances of expense and taxes to gain a reasonable profit..."²³

Turning to the broad category of assessed taxes, Tables 6.5 and 6.6 distinguish the main contributors in terms of individual taxes. Both Tables would suggest that the vast bulk of remittances (in 1829 net revenue) came from taxes which can be grouped under the broad heading of shelter, horses and locomotion, and servants. Whilst the latter two categories are unlikely to have had much relevance for the poorer masses the category of shelter cannot be so easily dismissed. The attempt to bring cottagers under taxes on dwellings resulted in the characterisation 'Beggars Tax'.²⁴ However it would seem that by and large direct taxes via the operation of certain exemptions had little direct impact on the lives of the bulk of the population, certainly, little revenue came from that source. It can be seen in addition from the tables that the various miscellaneous taxes such as that on armorial bearings introduced with a view to increasing revenue made a relatively minor contribution though the tax on dogs had increased in importance by 1829.²⁵

Turning to indirect taxes the category of those on stamps can be dealt with first. A consideration of their orbit would again suggest that they had little direct relevance for the mass of the population. Stamp duties were mainly imposed through the affixing of official stamps to legal and commercial documents although included under the heading were taxes on such items as hats, stagecoaches and racehorses. Table 6.7 embodies the main contributors to net produce in the period 1800-30.

TABLE 6.5: PERCENTAGE CONTRIBUTION OF INDIVIDUAL TAXES TO ASSESSED
TAX REMITTANCES 1750-1810¹

	1750	1756	1764	1775	1784	1793
	-55	-63	-74	-83	-92	-1810
<u>SHELTER</u>						
HOUSES & WINDOWS OR LIGHTS [additional duties on houses & windows]	100.0%	100.0%	100.0%	74.5%	22.5	24.8
COMMUTATION TAX	-	-	-	-	23.0	4.6
INHABITED HOUSES	-	-	-	14.3%	12.3	10.7
TOTAL	100.0	100.0	100.0	88.8	57.8	40.1
<u>HORSES & LOCOMOTION</u>						
HORSES	-	-	-	-	7.6	0.6
CARRIAGE & SADDLE HORSES	-	-	-	-	-	11.0
WORK-HORSES & MULES	-	-	-	-	-	16.1
HORSE DEALERS	-	-	-	-	-	0.1
COVERED CARTS & WAGONS	-	-	-	-	1.0	-
CARRIAGES WITH 2 & 4 WHEELS	-	-	-	-	16.6	2.1
CARRIAGES WITH 2 WHEELS AND TAXED CARTS	-	-	-	-	-	0.9
CARRIAGES WITH 4 WHEELS	-	-	-	-	-	5.3
SELLERS OF CARRIAGES BY AUCTION OR ON COMMISSION	-	-	-	-	-	-
COACHMAKERS & SELLERS OF COACHES	-	-	-	-	-	-
TOTAL	-	-	-	-	25.2	36.1
<u>SERVANTS</u>						
MALE SERVANTS	-	-	-	11.2%	11.2	8.1
FEMALE SERVANTS	-	-	-	-	4.7	-
TOTAL	-	-	-	11.2	15.9	8.1
<u>OTHER</u>						
SHOPS	-	-	-	-	1.1	-
DOGS	-	-	-	-	-	2.4

Cont...

TABLE 6.5 CONT.

	1750	1756	1764	1775	1784	1793
	-55	-63	-74	-83	-92	-1810
<u>OTHER (Cont.)</u>						
CLOCKS AND WATCHES	-	-	-	-	-	0.2
ARMORIAL BEARINGS	-	-	-	-	-	0.4
HAIR POWDER	-	-	-	-	-	0.6
TOTAL	-	-	-	-	1.1	3.6
<u>GENERAL LEVIES</u>						
10% ON ASSESSED TAXES	-	-	-	-	-	1.9
10% AND 20% ON ASSESSED TAXES	-	-	-	-	-	2.1
TOTAL	-	-	-	-	-	4.0
AID & CONTRIBUTION TAX	-	-	-	-	-	8.1
GRAND TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

SOURCES: SRO E201/1 to E201/12, Pipe Office Declared Accounts; SRO E321/15 to E321/21, King's Remembrancer Register of Declared Accounts; SRO E554/3, SRO E554/4, Accounts of all duties under the management of the Commissioners of Excise in Scotland.

NOTE: 1. Scottish exchequer accounts give details for each separate tax in individual accounts until 1810 after which accounts are presented in a consolidated fashion. To give an indication of the post Napoleonic period Table 6.6 has been drawn from annual finance accounts appearing in parliamentary papers. Although Table 6.6 relates to one year only it suggests conclusions similar to those which can be derived from Table 6.5.

TABLE 6.6: PER CENTAGE CONTRIBUTION OF INDIVIDUAL TAXES TO NET
PRODUCE¹ OF ASSESSED TAXES

<u>1829</u>	<u>PERCENTAGE SHARE</u>
<u>SHELTER</u>	
WINDOWS	26.0
INHABITED HOUSES	32.7
TOTAL	58.7
<u>HORSES AND LOCOMOTION</u>	
CARRIAGES	9.9
HORSES FOR RIDING	7.1
OTHER HORSES AND MULES	1.5
HORSE DEALERS	0.5
TOTAL	19.0
<u>SERVANTS</u>	10.0
<u>OTHER</u>	
DOGS	5.6
HAIR POWDER	0.3
ARMORIAL BEARINGS	1.2
GAME DUTIES	4.8
COMPOSITION DUTY	0.2
PENALTIES ON ARREARS LEVIED BY THE BARONS OF THE EXCHEQUER IN SCOTLAND	0.2
PROPERTY DUTY	-
TOTAL	12.3
GRAND TOTAL	100.0

SOURCE: P.P. 1830, Vol. XVII, pp. 86-87.

NOTE: 1. In parliamentary sources no evidence could be found relating to remittances from individual taxes, therefore net revenue has been used.

TABLE 6.7: THE PER CENTAGE SHARE OF THE MAIN CONTRIBUTORS TO THE NET PRODUCE OF STAMPS 1800-1830

<u>TAX HEADING</u>	1800	1803	1810	1815	1830
CONSOLIDATED STAMP DUTIES	22.5	18.0	-	-	-
DEEDS LAW PROCEEDINGS ETC.	29.4	27.2	49.8	41.5	24.8
BILLS OF EXCHANGE AND PROMISSORY NOTES	11.7	11.1	27.1	26.0	17.5
PROBATES ETC.	-	-	2.9	6.3	8.0
DUTY ON SMALL NOTES	7.0	0.6	-	-	-
LEGACY DUTY	2.1	5.6	3.3	8.9	11.5
INSURANCE DUTY	1.7	1.8	-	-	-
SEA INSURANCE	6.2	4.3	-	-	-
FIRE INSURANCES	-	-	4.8	3.7	9.4
MARINE INSURANCES	-	-	-	-	3.6
DUTY ON GOLD & SILVER PLATE	0.9	0.7	1.3	0.9	0.8
POST HORSE ETC. DUTIES	1.8	1.5	-	-	-
GAME DUTY	1.9	1.9	-	-	-
ATTORNIES LICENCES	1.6	2.4	-	-	-
LICENCES AND CERTIFICATES	-	-	-	-	3.8
ADDITIONAL DUTY GAME DUTY	1.1	1.1	-	-	-
ADDITIONAL STAGE COACH DUTY	2.3	1.5	-	-	-
STAGE COACHES	-	-	3.2	2.8	5.6
NEWSPAPERS AND ADVERTISEMENTS ETC.	-	-	4.4	6.7	10.0
RECEIPTS	2.4	1.9	3.1	2.9	3.8
HAIR POWDER CERTIFICATES	4.0	-	-	-	-
ADDITIONAL DUTIES 1801	-	18.5	-	-	-
ADDITIONAL DUTY IN SCOTLAND 1786	1.0	0.8	-	-	-
TOTAL	97.6	98.9	99.9	99.7	98.8

SOURCES: P.P. 1801, Vol. IV, pp. 30-33; 1803-04, Vol. VI, pp. 38-40; 1810-11, Vol. IX, p. 18; 1816, Vol. XI, pp. 28-31; 1830-31, Vol. V, pp. 66-67.

The Table would suggest that the main sources of revenue were taxes on deeds, or promissory notes and bills of exchange, on various insurances, on legacies and latterly on newspapers and advertisements.

Consideration can now be made of the two most important tax headings both in terms of indirect and total taxation, customs and excise. It will be recalled from Table 6.2 that this duo after 1763 always accounted for more than half of total remittances, with the excise contribution always being far more important than the customs.

In order to investigate the individual contributions to customs and excise revenue it has been necessary to use two sources for the data. For the excise it has been possible using Scottish exchequer material to ascertain remittances from individual taxes for the whole period on a sampling basis of one year per decade. For the customs owing to difficulties in extracting the required information from Scottish exchequer customs accounts and the fact that until the 1800's the customs contribution was rather slight, parliamentary material has been used to gain information on the net produce of individual taxes for the years given in Table 6.9.

Tables 6.8 and 6.9 categorise individual items of taxation according to whether they were obviously consumed by the rich or the masses or were borderline cases. As will be seen from the inclusion of other headings not all items can be meaningfully categorised in such a fashion. The placing of particular goods in a category has been influenced by the consideration of a range of comments by contemporaries and historians on how far down the social scale the consumption of certain articles had reached by

TABLE 6.8: THE PERCENTAGE SHARE OF THE MAIN CONTRIBUTORS TO EXCISE REMITTANCES 1750-1830

	1750	1760	1770	1780	1790	1800	1810	1820	1830
<u>ARTICLES IN MASS CONSUMPTION</u>									
MALT	82.0	100.0	35.8	31.2	14.8	14.9	10.1	10.4	7.4
BEER AND ALE	-	-	10.7	3.9	-	4.6	3.8	3.6	2.1
LOW WINES AND SPIRITS	-	-	10.5	27.3	-	-	-	-	-
BRITISH SPIRITS/DISTILLERY LICENCES	-	-	-	-	11.5	26.2	18.2	35.0	58.9
SPIRIT LICENCES	9.8	-	2.1	2.4	2.2	2.5	-	-	-
TOBACCO	-	-	-	-	6.6	4.8	7.8	13.6	-
CANDLES	-	-	-	-	4.0	1.6	1.1	1.1	1.0
LEATHER	-	-	-	-	3.7	1.5	2.1	2.8	0.6
SOAP	-	-	-	-	14.3	6.6	4.8	6.2	5.6
STARCH	-	-	-	-	2.2	-	-	-	0.2
SALT	-	-	-	-	1.1	5.1	6.8	4.9	-
TOTAL	91.8	100.0	59.1	64.8	60.4	67.8	54.7	77.6	75.8
<u>ARTICLES CONSUMED BY RICH</u>									
IMPORTED LIQUORS/FOREIGN SPIRITS	-	-	25.8	20.5	13.5	11.2	17.4	3.5	-
WINES	-	-	-	-	9.1	10.3	6.0	3.4	-
WROUGHT AND SILVERPLATE	4.1	-	2.1	0.5	-	-	-	-	-
WHEEL CARRIAGES	4.1	-	9.7	6.3	-	-	-	-	-
TOTAL	8.2	0	37.6	27.3	22.6	21.5	23.4	6.9	0

Cont.....

	1750	1760	1770	1780	1790	1800	1810	1820	1830
<u>INTERMEDIATE ARTICLES</u>									
PRINTED GOODS	-	-	-	-	8.4	5.2	11.3	3.0	11.8
COFFEE AND COCOA	-	-	-	-	0.2	-	0.3	1.0	-
TEA LICENCES	-	-	-	-	0.4	0.2	-	-	-
TOTAL	0	0	0	0	9.0	5.4	11.6	4.0	11.8
<u>OTHER GOODS</u>									
GLASS	-	-	3.2	2.9	2.9	0.4	2.1	2.4	2.8
PAPER	-	-	-	-	1.8	2.3	2.7	2.2	3.9
BRICKS AND TILES	-	-	-	-	0.9	0.7	0.5	0.6	0.3
AUCTIONS	-	-	-	2.0	0.9	1.3	1.2	1.8	0.8
£5 PER CENTUM 1779	-	-	-	2.9	-	-	-	-	-
LICENCES CONSOLIDATED	-	-	-	-	-	-	3.7	4.5	4.4
GENERAL LICENCES	-	-	-	-	1.1	0.4	-	-	-
FINES ETC.	-	-	-	-	-	-	-	-	0.2
TOTAL	0	0	3.2	7.8	6.6	5.1	10.2	11.5	12.4
GRAND TOTAL	100.0	100.0	99.9	99.9	98.6	99.8	99.9	100.0	100.0

SOURCE: SR0 E554/3, SR0 E554/4, Accounts of all duties under the management of the Commissioners of Excise in Scotland.

TABLE 6.9: THE PER CENTAGE SHARE OF THE MAIN CONTRIBUTORS TO NET PRODUCE OF CUSTOMS 1800-1829

	1800	1805	1810	1815	1829
<u>ARTICLES IN MASS CONSUMPTION</u>					
SUGAR ¹	29.7	26.6	37.0	31.6	35.4
TOBACCO/SNUFF	8.7	5.9	3.7	7.6	20.5
CORN, GRAIN MEAL & FLOUR		0.2	0.3		2.4
TALLOW		0.8	0.3	1.3	
TOTAL	38.4	33.5	41.3	40.5	58.3
<u>ARTICLES CONSUMED BY RICH</u>					
SPIRITS	3.9	1.4	1.7	2.5	8.5
WINE	12.8	7.7	6.6	6.8	7.0
TOTAL	16.7	9.1	8.3	9.3	15.5
<u>INTERMEDIATE ARTICLES</u>					
COFFEE	0.1	0.1	0.3	0.8	2.0
MOLASSES	0.1			0.6	4.9
TOTAL	0.2	0.1	0.3	1.4	6.9
<u>OTHER GOODS</u>					
WOOD	8.0	9.7	5.2	20.6	10.3
BAR IRON	2.3	1.8	0.7	1.2	0.1
HEMP	1.7	3.0	1.5	4.9	1.1
COTTON WOOL		5.7	6.6	8.7	0.9
SEEDS	0.1	0.2	0.1	0.3	0.8
TOTAL	12.1	20.4	14.1	35.7	13.2
<u>GENERAL LEVIES ON TRADE AND SHIPPING ETC.</u>					
DUTY BY ACT 38 GEO III ON GOODS AND SHIPPING	23.9				
TEMPORARY DUTIES ON GOODS AND SHIPPING INWARDS		22.3	24.8		
" " " " OUTWARDS		2.1			
CONSOLIDATED DUTY ON TONNAGE OF SHIPPING INWARDS			1.0	1.2	

Cont...

TABLE 6.9 CONTINUED

	1800	1805	1810	1815	1829
GOODS AND SHIPPING OUTWARDS			3.4		
TONNAGE OF SHIPPING OUTWARDS				0.7	
PERCENTAGE DUTY ON BRITISH GOODS EXPORTED					0.2
IMPREST MONEY REPAID			2.9		
TOTAL	23.9	24.4	32.1	1.9	0.2
GRAND TOTAL	91.3	87.5	96.1	88.8	94.1

SOURCES: P.P. 1801, Vol. IV, pp. 9-17; 1806, Vol. IX, pp. 9-19; 1810-11, Vol. IX, pp. 5-9; 1816, Vol. XI, pp. 6-19; 1830, Vol. XVII, pp. 38-49.

NOTES: 1. Perhaps the only potentially arguable categorisation in Tables 6.8 and 6.9 is that of sugar in mass consumption especially given the quantitative importance of that article. Yet there is evidence that this categorisation is justified. T.R. Gourvish in examining the cost of living in early nineteenth century Glasgow gave two indices purporting to represent the range of the city's working class and included sugar in both budgets even though the poorer families in all probability were consuming small quantities of it. (T.R. Gourvish, "The Cost of Living in Glasgow in the Early Nineteenth Century", Economic History Review, Vol. 25, 1972).
The work of Murray and Dowell support this view. (Norman Murray, The Scottish Hand Loom Weavers 1790-1850: A Social History, (Edinburgh, 1978), pp. 100-101; Stephen Dowell, A History of Taxation and Taxes in England, 3rd edn. (London, 1965), Vol. 4, pp. 22-23.

this period.²⁶

Recalling the importance of the excise, Table 6.8 illustrates that, significantly, throughout this period the lion's share of revenue came from articles in mass consumption with British spirits and malt being particularly productive. It can be seen that certain 'true' necessities also played a role, namely candles, leather, soap, starch and salt. The Table shows that taxes on goods consumed probably mainly, if not exclusively, by the rich were heavily weighted towards alcoholic beverages also, with foreign spirits and wine accounting for the vast bulk of remittances. There seems to have been relatively little variation in the contribution of the two groups in war and peace years though there does seem to have been a fair degree of fluctuation in the contribution of individual items of taxation. In the area of variation however perhaps the most interesting feature is the increasing importance of articles in mass consumption after 1810 and the decline in importance in articles consumed by the rich after the same year.

Table 6.9 shows the main contributors to customs revenue. Although this branch embraced a far wider range of taxable goods than excise it would appear that a relatively small number of goods provided most of the revenue. Again it can be seen that articles in mass consumption, especially sugar and tobacco, formed the most significant group being far more important than the spirits and wine consumed by the rich. As in the excise it would appear that judging from the 1829 figure taxes on goods consumed by the masses became more important after the end of the Napoleonic wars. It should be said though that in the years 1800-1810 the importance of general levies on trade and shipping clouds the precision of the

findings.

Having investigated individual items of taxation the building blocks now exist to examine further the character of the revenue which was drawn upon for war purposes in terms of its social and economic incidence. Firstly the Scottish case seems to have been similar to the British one²⁷ in the sense that because of the high share of indirect taxes which fell on consumption and the low share of direct taxes on income and wealth it is likely that the main burden of war needs fell on consumption rather than savings and investment. A contemporary soap manufacturer was convinced that this was one article where taxes were passed on to the consumer and their effect was to limit consumption for: "many labourers, from the nature of their avocations, would require a still larger consumption, but which, from the price to which the article is raised, they cannot encounter;"²⁸ Thomas Tooke writing in 1845 asserted: "That a reduction of duty is calculated to extend the consumption of most if not all commodities is a proposition as to which no doubt can be entertained."²⁹

It is however more difficult to go a stage further and examine the social incidence in terms of the extent to which taxation fell most heavily on the rich or the masses. It has been suggested that in all probability the stamp duties had little relevance for most of the population and the same was probably true of post office revenue and as has been asserted direct taxes. If the percentages contained in Table 6.3 are rearranged using this classification it is found that in the period 1797-1810 the direct taxes plus stamps and post office account for 34.4% of remittances, 65.6% being accounted for by customs, excise and salt duties. It has

been shown that to the extent that individual taxes can be meaningfully categorised in all probability a far higher proportion of this 65.6% came from taxes on articles in mass consumption rather than on items consumed exclusively by the rich.³⁰ Thus the social regressiveness suggested by the direct/indirect breakdown discussed earlier is borne out to some extent by the examination of individual taxes in the customs and excise.

It is as well at this point to pause and consider the different experiences in war and peace periods. It would seem that from 1750 to c 1800 there was a relatively smooth increase in Scottish taxation revenue with aggregate remittances remaining fairly small in magnitude. This smoothness was partly a result of the financing of wars by borrowing. The increase was largely had via additions to indirect tax revenue, the government displaying either a reticence or inability to tax effectively the nation's increasing wealth by direct taxes. In the Napoleonic era this policy altered somewhat as more urgency was shown in creating arrangements for increasing current tax revenue and largely through the imposition of an income and property tax the share of direct taxation increased. Yet whilst Pitt could inform Parliament: "in a war for the protection of property it was just and equitable that property should bear the burden",³¹ indirect taxes on outlay continued to form the backbone of taxation revenue. Indeed, concentrating on war time policy can be misleading. O'Brien has stressed that in the French wars the government showed a reluctance to increase taxes on 'necessities'.³² Yet in 1816-17, at the same time as the income tax was being repealed, duties on soap were being increased. This was merely repeating a manoeuvre which had been

performed at the end of the American War of Independence, for although rates of duty on this item were held constant during the war they were increased in 1783-84.³³ The period 1816-30 is perhaps more interesting than the preceding years of war. In those post war years as the real burden of taxation reached a peak so did the contribution of indirect taxes and within that the grouping of articles in mass consumption. The burden thus affected those with high marginal propensities to consume most of all. There can be no doubt that a severely regressive taxation system operated in Scotland in the post 1815 years, a system which had a depressive effect on the level of consumption in the economy. F.Y. Edgeworth perhaps had this point in mind in a wider sense when he wrote in 1915:

"we should guard against imposing on the poorer classes an undue proportion of the taxation necessary for payment of the interest on a war-loan. Let us avoid the error committed by our forefathers when, by abolishing income-tax immediately after the great war, they unduly³⁴ lightened the burden of the well-to-do."

Taking a long view it could be that the needs of war had little direct impact - at least in terms of indirect taxes - on those industries which were expanding most rapidly or were on, or about to be on, the vanguard of industrialisation. Among textiles only printed goods suffered an excise. Attempts to widen excise duties to include iron ended in failure for both Pitt and Petty. Despite the tax on raw cotton imposed during the Napoleonic wars and one or two other exceptions the raw materials of these industries again do not seem to have been particularly heavily taxed, certainly, they were not among the more important revenue contributors.

By and large exports were also allowed to expand on trend without being subject to duties, though in the Napoleonic period it would seem that merchants thought the convoy duty a fair charge for the naval protection of trade.³⁵ It would appear that the needs of war interfered little with the protective environment in which industrialisation took place indeed certain duties on imports probably enhanced it.³⁶

In addition there was a reluctance to tax what were deemed to be 'useful' articles of manufacture, the only justifications for imposing a tax on them appear to have been fiscal necessity and the lack of a viable alternative. A parliamentary enquiry into the excise asserted that the tax on bricks:

"was comprised in the list of new taxes posed by Mr. Pitt in his budget for 1784, in order to provide for the payment of the interest on the heavy debt incurred by the American war. It will be seen from the Parliamentary debates of the period, that amongst the taxes then proposed there were none (with the exception perhaps of that on coals) which met with a more decided opposition than that on bricks and tiles, and that it was ultimately adopted after a renewed discussion on a motion made with the view of proposing various substitutes for it."³⁷

In any event it is unlikely that this tax affected Scotland as much as England as in the former stone was widely used as a building material. In the mid 1830's there were only 128 brick makers in Scotland compared to 5711 in England. Per annum gross revenue at the same time amounted to only £8946 in Scotland compared to £395,080 in England.³⁸

NOTES TO CHAPTER SIX

1. OSA Vol. 21, p. 392.
2. A Conversation on the causes of our present distress, and on the remedies for it. By a Forfarshire justice of the peace, (Dundee, 1817); Also see for example SRO GD51/5/7/3, Melville Castle Muniments, Letter from John Dunlop to Henry Dundas.
3. Mathias, Transformation of England, p. 121.
4. Vide supra p. 162.
5. O'Brien argues that at least in the context of the 1790's such an assumption may not be too unrealistic, O'Brien D.Phil. p. 384.
6. Allan, Taxation, p. 45.
7. Ibid., pp. 45-46.
8. Hepker, Tax, p. 8.
9. Donald N. McCloskey, "A Mismeasurement of the Incidence of Taxation in Britain and France, 1715-1810", Journal of European Economic History Vol 6, 1977, pp. 209-210; Peter Mathias and Patrick O'Brien, "The Incidence of Taxes and the Burden of proof", Journal of European Economic History, Vol. 6, 1977, pp. 211-213.
10. Allan, Taxation, p. 60.
11. G. Findlay Shirras and L. Rostas, The Burden of British Taxation (Cambridge, 1942), p. 2.
12. For some contemporary comment on the degree of passing on associated with taxation see appendix 3, Vide infra pp. 265-266.
13. Hepker, Tax, p. 1.
14. Ibid., p. 2.
15. Allan, Taxation, pp. 27-28.
16. Ibid., p. 28.
17. Mathias, Transformation of England, p. 125; Mathias and O'Brien, Journal of European Economic History, pp. 611-12; O'Brien, D. Phil., p. 315.
18. Hepker, Tax, p. 2; Despite such a definition however most of the taxes taken in this section to be progressive contain only elements of progression. The income tax for example taxed incomes progressively only in the band £60-200 but had other aspects normally also associated with progression such as allowances for children.

19. O'Brien, D. Phil., p. 352.
20. Under the original income tax of 1799 (39 Geo 3 c13) and its 1803 property tax successor (43 Geo 3 c121) the income exemption limit was £60.
21. F. Shehab, Progressive Taxation, (Oxford, 1953), p. 53.
22. O'Brien, D. Phil., p. 424.
23. BM ADD MSS 18902 f. 163, Chalmers Papers.
24. SRO GD51/1/433 Melville Castle Muniments, Letter to Henry Dundas from John Dempster; NLS MSS 640 f. 91, Melville Papers, Letters and papers relating to taxation.
25. It was apparently the basis of the assessed taxes to tax outward signs of wealth. The triple assessment or aid and contribution merely used the existing assessed taxes structure to attempt to increase revenue and thus added nothing new to the structure described. The other direct taxes mentioned in table 6.3 the 6d and 1/- deductions were taxes on pensions and salaries on specific, in all probability above average, income groups.
26. OSA; Glasgow Courier; Dwall, Taxation; T.R. Gourvish, "The Cost of Living in Glasgow in the Early Nineteenth Century", EHR Vol. XXV, 1972.
27. Mathias and O'Brien, Journal of European Economic History, p. 621; Mathias, Transformation of England, p. 128.
28. PP 1836, Vol. XXVI, p. 129.
29. SRO GD45/7/71/3/40, Dalhousie Muniments, Letter from Thomas Tooke to G.R. Porter.
30. It is dangerous to attempt to combine taxation statistics which:
a) come from different sources b) do not measure the same thing c) one set of which is based on sampling and the other which is complete in details. For these reasons it is difficult to estimate the share of remittances resulting from taxes on articles in mass consumption in total remittances.
31. Parliamentary History, Vol. 32, p. 562.
32. O'Brien, D. Phil. p. 486.
33. PP 1836, Vol. XXVI p. 9.
34. F.Y. Edgeworth, The Cost of War and Ways of Reducing it, (Oxford, 1915), p. 16.
35. For a discussion of the convoy tax see for example Glasgow Advertiser, 23 February 1798, 22 March 1798; Glasgow Courier April 1802; William Forrest Macarthur, History of Port Glasgow, (Glasgow, 1932), p. 83.

36. According to Ralph Davis, in England, war needs may go a long way towards explaining the evolution of a protectionist atmosphere: "The strongest influence on the creation of a new tariff structure at the end of the seventeenth century was the need of government for money to pay for costly wars; tariffs were the response to those needs, rather than the implementation of policy derived from economic theories of that or any other day." Ralph Davis, "The Rise of Protection in England, 1689-1786", EHR Vol. 19, 1966 p. 306.
37. PP 1836, Vol. XXVI p. 151.
38. Ibid., p. 157.

CHAPTER SEVEN

A CONTEMPORARY VIEW OF TAXATION

This Chapter seeks to examine contemporary comment on taxation in the light of the findings of Chapter Six.

Taxation was of course a subject which was politically volatile especially in the 'seditious' atmosphere of the 1790's and in trade depressions. Lower taxes was a theme common to radicals of the 1790's and one to be found in seditious hand bills. Lowland radicals to the fore in the 'radical war' of 1820, "wanted to abolish taxes and divide private property among 'the many' by taking it from the 'few'."¹ It was thus politically expedient for supporters of the government not to deny the impact of war on taxation but to attempt to allay fears as to the wider implications of war:

"During a war in which Great Britain has made the most glorious efforts not only to maintain her own rank among the Nations, but likewise to preserve the liberties of Europe, it is not surely surprising that her debt has increased, or that, to pay the interest of that debt, and otherwise to support the national expenditure, heavy taxes should be laid upon the people. Such however as are strangers to the conduct of disappointed Statesmen, must be greatly surprised at the unworthy pains which have been taken to fill the minds of the multitude with the dread of ruined commerce and national bankruptcy. But this is no new practice of our pretended patriots. They acted the same part₂ during the American Wars..."

Indeed in an attempt to combat potential insurrection one contemporary went as far as to express a view, a more extreme version of which

(Footnotes to Chapter Seven appear on pages 220-222)

was to become Wagner's law: "As a nation improves in arts and manufactures; as it extends its commerce and empire, in that proportion the expense of government increases, and taxes must be multiplied..."³ Despite public appeal to nationalistic fervour however Dundas was advised to: "recollect what serious mischiefs have befallen every Country too much oppressed by Taxes, it has been the foundation of almost all Revolutions."⁴

Whether owing to fears about the possible repercussions of political discontent or from philanthropic motives there does seem to have been an almost unanimous opinion that 'necessities' of the poor should only be lightly taxed and taxes on them increased only in instances of utmost need. It was recognised that governments made a conscious effort to implement such a policy.⁵ Yet there was no shortage of suggested alternatives: "If Mr. Pitt would take the tax off Soap and Candle, and lay it upon kept mistresses, it would be a great benefit to the poorer sort of people."⁶ Taking the matter a stage further there were many contemporary efforts to demonstrate that the 'chief articles of life' were not heavily taxed. These concentrated mostly on the relatively small contribution of taxes on such articles as soap, salt and starch.⁷ Yet such interpretations required judgements, often value ones, of what were necessities and what were not. The assumption was that if spirits were to be consumed the taxes on them were willingly incurred. However attempting to demonstrate that 'working people' were little affected by taxes in general could require some questionable assertions. Thus a correspondent of the Glasgow Advertiser in attempting such an exercise suggested that in towns beer was consumed whilst in the country

"milk supplies the place of beer."⁸ Yet it was observed by another commentator that: "tea and dram drinking...pervade almost every town and great village."⁹ Indeed it was the finding of Chapter Six that much revenue was drawn from taxes on goods in general consumption. The fact was clearly perceived by Pablo Pebrer that most revenue in the 1830's: "is levied upon consumption - upon the necessities of life! - upon good, coals, malt, sugar, dress, household articles, raw produce, and the material of manufacturers." Although his definition of necessaries was almost all embracing he was convinced that "sugar malt and beer...are as much necessaries of life as bread, butter, cheese, soap, and coals..." He then took the next step: "By such taxes the productive classes of the state are overloaded; the poorer people, with less means, contribute a greater share than the wealthy."¹⁰

Whilst there was controversy as to what were or were not 'necessities' there seems to have been some measure of agreement on the importance of alcoholic beverages in general and whisky in particular in taxation revenue. As Robert Scott Moncrieff wrote to William Simpson in 1803: "These excise remittances of yours and a Consumption of whisky with which they are connected."¹¹ The adverse effects of spirit consumption on the morals of the people was lamented by several ministers in the Old Statistical Account and contemporaries advocated a change in tax laws which would promote the consumption of ale and retard that of spirits.¹² The point was strongly made by the compiler for Borrowstouness: "Perhaps, if the malt-tax were abolished and an adequate additional tax laid upon British spirits, as in the day of our fathers, malt-liquor would be produced to nourish and strengthen, instead of whisky,

which wastes and enfeebles the constitution."¹³ Yet that whisky consumption was a double edged affair was recognised in Kirkliston where it was observed that: "It must be allowed...that the depravity of the individual may be the temporary riches of the state, when depravity is the subject of taxation."¹⁴ Probably the revenue raising capacity of whisky rather than the moral implications of its consumption was uppermost in the government mind, though, as was noted: "Spirits are the best subjects for taxation. They are essentially luxuries they produce large revenue and if increase in price [sic] are not so much consumed by those to whom they are pernicious."¹⁵

It is of course to be expected that taxes which affected the livelihood of individuals would not be allowed to proceed without complaint. A study of the minute books of the Glasgow Chamber of Commerce is enlightening in this respect. These reveal memorials being sent to the London administrative machine against taxes or proposed taxes on a wide range of goods from pig iron to bleaching materials and from proposed taxes on inland navigation to ones on coal at the pit mouth.¹⁶ Further the tax on raw cotton was one which met with disapproval by this body,¹⁷ a tax which also aroused comment in the Scottish press.¹⁸ However opinion on the desirability of a tax could vary according to the source from which it emanated. Thus a man such as Robert Scott Moncrieff involved in finance could write: "I hear there is to be a tax of 1½% on cotton which I think is a good tax and will raise a great sum."¹⁹ The Chamber of Commerce also sought to ensure that Scottish interests in particular vis a vis those of London were not neglected. For example it was alleged in 1803 that London rum dealers received an

indulgence from the treasury with respect to the additional duty laid on rum refused to Scottish dealers.²⁰

Complaints of course did come from other sources. A licence duty on tanners was said to have wiped out a flourishing shoe industry in a Ross-shire parish²¹ whilst the tax on bricks was criticised.²² Taxes on salt and malt were complained about sometimes in a specifically Scottish context.²³ It was not only taxes per se but the way in which they were applied which caused rancour thus:

"The grievance which the farmers here complain most of is the tax upon saddle-horses. Few of them can afford to keep a horse for the purpose of riding: yet if they mount a labouring horse on a Sunday [to] go to church, they are charged. The rigorous execution of this act has done more towards souring their minds against Government, than all the seditious pamphlets that have been²⁴ published."

Yet not all areas of fiscal policy met with disapproval. The removal of the tax on coal carried coastwise in Scotland brought almost unanimous approval.²⁵ The tax on dogs was petitioned for by several parts of the country, for example: "in order to render the canine madness less hurtful."²⁶ Indeed the reception in Scotland of that most novel aspect of taxation policy in the whole period, the income tax, is perhaps the most interesting case.

Although the failure and inequality associated with the triple assessment brought criticism of it in the country,²⁷ the idea of raising more revenue within the year was well received.²⁸ At a meeting of the Royal Bank Directors Mr. Ramsay was alleged to have said that "it was the happiest thought that ever entered into a Minister's [Pitt's] head."²⁹ The failure of the triple assessment

resulted in opinion in several areas of Scotland lending support to the imposition of a property tax. Meetings in various parts of the country resolved to propose such a tax to parliament³⁰ whilst a petition in its favour was sent from the Glasgow Chamber of Commerce in May 1798.³¹ One writer to Henry Dundas however saw advantages in not publicising the extent of Scottish support: "It is very evident...if such a Petition was to originate in London, it would excite less jealousy in England, and be more likely to be followed throughout the country."³² There is evidence too that the idea of the tax retained some popularity once it was imposed. On 8 October 1801 Henry Mackenzie of the Office of Taxes in Edinburgh wrote to Vansittart that: "In Scotland the Principle of the Tax is very popular; but the Irregularity of Assessment in its Execution is much complained of."³³ The tax however did not meet with universal approval. It contained only elements of progression and its very acceptability was no doubt related to the fact that a conscious effort was made to avoid the redistribution of income which would have resulted from a steeply progressive tax.³⁴ The Glasgow Advertiser however quoting the Star declared that the progressive principle had not been carried far enough:

"If the man who has only £200 a year is to pay a tenth of his income, and the man of £60,000 a year to pay *only* a tenth of his, we have no hesitation in saying it is the most villainous, infamous, and diabolical piece of political swindling and robbery that ever entered the³⁵ mind of any state quack."

However there is no doubt that such an opinion, in influential circles at least, was in the minority.³⁶

It would seem that the aspect of the tax which aroused the

most sustained discussion in Scotland was arrangements for taxing farmers' profits (Schedule B in the 1803 Act). Although this income was defined as only $\frac{1}{2}$ of the rack rent in Scotland and $\frac{3}{4}$ in England it was the assumed relationship between profit and rent which caused concern. It would seem that the assumption emanated from a desire for administrative convenience, the difficulties and unpopularity of dealing with income returns from individual farmers - if indeed they kept accounts - being realised.³⁷ One commentator complained of the rigid nature of this provision i.e. that the tenant's profit was equal to $\frac{1}{2}$ of his rent: "no matter in what situation the lands may be; whether a large capital be employed in improving them, or whether the tenant is unfortunate in his management."³⁸ What, it was asked, would happen if the farmer made a loss?³⁹ The concept of an "imaginary" income resulted in the tax being levied on "an unjust and unfair principle."⁴⁰ However it would seem that whilst the tax was in operation parliament was little swayed by such viewpoints. In addition despite such drawbacks the tax seems to have maintained a certain durability in terms of popularity in some areas of Scotland. As early as December 1814 Vansittart was lamenting: "the prevailing clamour against the continuation of the Property Tax."⁴¹ Yet petitions from Scotland in favour of retention did reach parliament. Shehab highlights the petitions of Glasgow and Edinburgh as examples showing that opposition to the tax was not unanimous in Britain.⁴² Certainly one Glasgow petition presented by the Duke of Montrose which he knew to be signed "by many respectable persons, some of considerable property" stated that:

"The petitioners had no objection to the continuance of the property tax in order to wind up the war

expenditure, and they deprecated the clamour which had been raised by those who [prematurely] petitioned their lordships against the tax... If so large a sum as six millions must be raised, the property tax was, they thought, the most unobjectionable mode." 43

The suggestion that the tax had not been properly collected in Scotland in general and Glasgow in particular following the reading of this petition produced some heated exchanges with Earl Grey concluding that: "In...parts of Scotland, as well as also in some parts of England, the tax was not collected according to law."⁴⁴ Kirkman Finlay presented two further petitions from Glasgow, one for and one against the property tax. He supported the latter criticising the disclosures which merchants had to make under the tax.⁴⁵ A petition from Sir George Clarke from "the freeholders, justices of the peace, commissioners of supply, and heritors of the county of Edinburgh"⁴⁶ concluded that a modified property tax was "a better plan for raising the supplies than to resort to a loan." It was subsequently suggested though that the petition was not unanimously supported by the meeting and that its gist was: "if the property tax were renewed they [the petitioners] themselves should be exempted."⁴⁷

Whilst there is thus some evidence to support Shehab's case petitions were received from Scotland opposing the tax. At the same time those petitions in favour of it seem to have envisaged a short term expedient to bridge the gap between a war and peace establishment and seemed to find their justification in the fact that the tax was a lesser evil than borrowing. Similarly it was thought that modifications would have to be made to relieve a depressed agriculture of the tax burden. Thus it would seem that practical

observations rather than any particular love of the tax or the desire to stress any of its progressive qualities had initiated the petitions. In Britain in general it was only after the tax had been repealed and post war financial difficulties had been encountered that the concept of an income tax was viewed in a more favourable light.⁴⁸ It has been already suggested that in these post war years the real incidence of taxation in Scotland was relatively heavy.⁴⁹ This fact and its relationship with war was clearly perceived by contemporary Scots. An individual addressing a public meeting of inhabitants of the Royal burgh of Renfrew which was discussing post war distress, highlighted the squandering away of: "so many hundred millions on the late war, which has burthened us with an enormous load of debt...and a grinding taxation we can no longer bear."⁵⁰ A Forfarshire justice of the peace linked depression to the fact that:

"So large a sum is drawn from us in taxes, to pay the interest of the debt, and all our extravagant establishments, that we can no longer afford to lay out money on improvements, or what are called luxuries; and consequently we cannot give employment to so many people as⁵¹ we used to do."

The major conclusions which the examination of taxation point to in the main emanate from the statistics which have been presented. There can be no doubt that war was the major influence on levels of taxation in Britain in the period 1750-1830 as was asserted at a public meeting in 1816: "It was to this war [1793-1815] that Englishmen might be referred for the irredeemable debt, and insupportable taxation..."⁵² But war had implications for Scotsmen as well as Englishmen. In each successive war and peace group of

years in the period the Scottish tax contribution expanded more rapidly than the British total into which it was being paid. Each war similarly brought with it an ever increasing real per capita burden for Scotland. However there are considerable statistical and conceptual difficulties which inhibit any attempt to arrive at the 'fairness' of the Scottish contribution relative to her 'ability to pay'. The attempt made in this thesis would suggest that during the Napoleonic years the Scottish contribution fell short of her relative 'taxable capacity'. Whilst every tax system contains elements of progression and regression which makes it difficult to characterise in the aggregate the analysis would suggest that most of the revenue was raised by indirect taxes regressive in their incidence. Taxes on articles in mass consumption contributed much to the war effort. The consequent depressive impact on consumption was probably at its peak in the period 1816-30. On the other hand it seems that the products and raw materials on the basis of which industrialisation was to progress largely escaped heavy indirect taxation.

It is now proposed to examine the Scottish involvement in the government's war time borrowing operations before attempting to combine the findings of that section with those of the analysis of government expenditure and taxation. The object will be to present a systematic view of the major implications for Scotland of war induced public sector activity.

NOTES TO CHAPTER SEVEN

1. Young, Working Class, p. 45.
2. SRO GD51/1/414/2, Melville Castle Muniments, Letter to Henry Dundas from Sir William Murray of Ochtertyre.
3. OSA Vol. 16, p. 400; Vide supra p. 157.
4. NLS MSS 1058. Melville Papers, Papers on Scottish Revenue.
5. NLS MSS 640 f. 91, Melville Papers, Letters and Papers relating to Scottish Taxation.
6. Glasgow Advertiser, 1 November-4 November, 1793.
7. OSA Vol. II, p. 558; OSA Vol. II, p. 110; OSA Vol. 16, p. 38; Glasgow Advertiser, 22-25 February 1793.
8. Glasgow Advertiser, 22-25 February 1793.
9. OSA Vol. II, p. 558.
10. Pebrer, Taxation, pp. 481-482.
11. Glasgow University Business Records Store, Scott Moncrieff Letters, 12 March 1803.
12. OSA Vol. II, p. 496, OSA Vol. VII, p. 710, OSA Vol. IX, 628, OSA Vol. X, p. 149; Glasgow Courier, 31 October 1797.
13. OSA Vol. II, p. 703.
14. OSA Vol. 10, p. 71.
15. SRO GD45/7/42/2, Dalhousie Muniments, Papers concerning excise duties.
16. See for example Minute Books of the Glasgow Chamber of Commerce 13 March 1805, 28 March 1805, 25 December 1805, 8 October 1806, 27 March 1815, 2 May 1820, 20 June 1820, 4 June 1821, 9 January 1828.
17. Ibid., 4 March 1803, 6 April, 1813, 28 April 1819.
18. Glasgow Courier, 8 February 1803, 24 February 1803, 5 March 1803, 19 March 1803; The Glasgow Herald 27 January 1815 printed a petition against it.
19. Glasgow University Business Records Store, Scott Moncrieff Letters, 2 April 1802.
20. Strathclyde Regional Archives TD76, Minute Books of the Glasgow Chamber of Commerce, 22 November 1803, 12 June 1804. The petition is to be found at the latter date.

21. OSA Vol. 15, p. 620.
22. OSA Vol. 21 pp. 129, 179; For complaints concerning other taxes see for example SRO GD51/5/23; Melville Castle Muniments, Letter to Henry Dundas from John Stewart; GD51/5/270 Letter to Robert Dundas from William Cadell; GD51/1/439, Letter to Lord Melville from John Park.
23. OSA Vol. 16 pp. 291-292; OSA Vol. 17 p. 291; SRO GD51/1/433 Melville Castle Muniments, Letter to Henry Dundas from George Dempster; NLS MSS 640 f. 37, Melville Papers, Letters and Papers relating to taxation.
24. SRO GD51/1/439, Melville Castle Muniments, Letter to Lord Melville from John Park.
25. NLS MSS 1058 Melville Papers, Papers on Revenue; It was argued that it would help the farmers and especially labourers and the indigent. OSA Vol. 15, p. 135; According to one commentator the removal of the tax led to two minestone quarries being reopened which had been closed partly owing to the high price of coal. OSA Vol. 19, p. 157.
26. SRO GD51/1/375 Melville Castle Muniments, Letter to Henry Dundas from Robert Brisbane; Also see OSA Vol. VII, p. 522; Glasgow Advertiser, 26 December 1793.
27. Glasgow Advertiser, 21 December 1798.
28. SRO GD51/5/40/2, Melville Castle Muniments, Letter to Henry Dundas from Sir James Stirling; Glasgow Advertiser, 19 February 1798.
29. SRO GD51/5/232/2, Melville Castle Muniments, Letter to Henry Dundas from William Ramsay, Director of the Royal Bank of Scotland.
30. For such a meeting of the noblemen and gentlemen of the county of Lanark on 30 April 1798 see Glasgow Advertiser, 4 May 1798.
31. Strathclyde Regional Archives TD76, Minute Books of the Glasgow Chamber of Commerce, 14 May 1798.
32. SRO GD51/1/404 Melville Castle Muniments, Letter to Henry Dundas from Robert Findlay.
33. BM ADD MSS 31229 ff. 21-24 Vansittart Papers; He also pointed out that: "Zetland had hitherto escaped the income tax altogether because of the absence of a suitable administrative machinery."
34. Shehab, Taxation, p. 48;
35. Glasgow Advertiser, 22 October 1798.

36. Shehab, Taxation, p. 59.
37. O'Brien, D. Phil., p. 403.
38. Anon, View of the effect of the existing laws, imposing a tax on income, as applicable to tenants and occupiers of land in Scotland and suggestion of a mode of relief (Edinburgh and London, 1813) p. 16.
39. SRO GD46/4/89 Seaforth Muniments, Account of communications between the Prime Minister and a Parliamentary Committee on the Property Tax in Scotland.
40. SRO GD51/5/313/2 Melville Castle Muniments, Letter to Lord Melville from the Earl of Moray enclosing a petition from the County of Edinburgh.
41. BM ADD MSS 31231 f. 212, Vansittart Papers.
42. Shehab, Taxation, p. 65;
43. Hansards Parliamentary Debates, 1st series, Vol. 33, pp. 118-119.
44. Ibid., p. 119.
45. Ibid., pp. 124-125.
46. Ibid., pp. 129-130.
47. Ibid., p. 130.
48. Shehab, Taxation, pp. 72-82;
49. Vide supra, p. 205.
50. Account of the proceedings of the public meeting of the burgesses, householders and inhabitants of the Royal Burgh of Renfrew, held on the 23rd November, 1816 respecting the distresses of the country [etc.] (Glasgow, 1816) p. 5.
51. Distress, Forfarshire Justice of the Peace.
52. Account of the proceedings of the public meeting at Westminster, on the distress of the Country, held on September 11, 1816, with the petition to the Prince Regent (Glasgow, 1816) p. 4.

CHAPTER EIGHT

THE SCOTTISH CONTRIBUTION TO GOVERNMENT BORROWING 1750-1830

The close relationship between the need for funds to carry on eighteenth century wars and the growth of the national debt has been well noted both by contemporaries and historians.¹ The Treasury observes that: "Until relatively recent times, the growth of the national debt was usually associated with the cost of major and prolonged wars."² The 'Friends of the People' declared in 1793 that war would: "infallibly impose" an "additional load of national debt",³ whilst a meeting of weavers in Kilmarnock in the same year lamented: "that unprecedented load of debt which war had entailed upon the nation."⁴

It is known that a national debt may be self financing if the government expenditure which results from the borrowing is on capital goods which produce a net return in the future which in turn repays the debt. Such considerations however have little relevance to eighteenth century Britain. Where government expenditure is on the purchase of armaments this is classified as consumption rather than investment because it does not produce a future return in the same way as investment in capital goods. Therefore in the long run there were no war-related tangible assets to set against the growth of the national debt. Assets extant in the short run such as ships and military buildings were mostly depleted either by destruction or obsolescence. Such implications were not lost on contemporaries, though by and large, as noted below, they were captivated by the growth of the nominal value of the actual debt.

(Footnotes to Chapter Eight appear on pages 241-243)

The subject of the national debt was one which provoked considerable contemporary controversy with optimists and pessimists vying for supremacy. Adam Smith expressed the fear that public debt would be the "ruin of great nations in Europe."⁵ Tom Paine, Cobbett and other radicals made gloomy predictions but had their opinions coloured by a general opposition to the waging of the French wars. Yet other groups opposed the increasing power and influence that government borrowing bestowed upon the Bank of England, loan contractors and the stock exchange. Critics in general argued that national bankruptcy and the collapse of the financial infrastructure would be a result of the unprecedented scale of government borrowing and the associated burden of interest payments. Against this supporters of the government argued in more optimistic tones that the burden of the national debt could only be understood in terms of the ability of the country to honour it. National resources it was asserted were more than sufficient to save the country from ruin.⁶ It was noted that since investment by foreigners was not substantial what the national debt represented was a series of claims by members of the same country against each other and therefore in sum the debt neither had the effect of increasing the income or wealth of the community nor of reducing it. Given this fact it was argued that the payment of interest on the national debt was a much less serious matter than had been supposed. This of course was a substantially correct view in the aggregate. However an examination of the implications of government borrowing has relevance for this study for several reasons.

War brought about transfer payments on a massive scale. In historical terms, as Veverka notes, the magnitude associated with

the Napoleonic wars was significant: "In 1820 interest payments, not including the repayment of the principal, amounted to £31 million, which was equivalent to 8 per cent of the G.N.P. The same proportion immediately after the Second World War was only just over 5 per cent."⁷ The introduction to this thesis demonstrated that payments associated with the national debt accounted for over 50% of government expenditure in the period 1816-30.⁸ One implication of these transfer payments was that in paying interest in effect wealth was taken from the taxpayer and given to the debt holder (apart from the limiting case where an individual investor's additional debt related tax payments coincided with his interest receipts). In addition one way in which tax remittances could have returned to Scotland was by interest payments to Scottish residents who had invested in the Funds. Indeed it could be that if such investments were of a significant magnitude this was a means by which wealth could have been transferred to Scotland via taxes raised elsewhere in Britain. At the same time it has been argued again both by contemporaries and historians that war had the effect of channeling funds from private to public investments.⁹ In any event debt resulted in the setting of taxes at a higher level than they otherwise would have been which led to increased costs in their collection as well as incurring costs in the management of the debt and paying out the interest upon it. It seems likely that the potential importance of such considerations can only be understood in quantitative terms. Thus the main aim of this Chapter will be to make an attempt to quantify the order of magnitude of the Scottish involvement in the national debt. Since there are several sources which give statistical details of the growth of the

national debt over time and many studies have discussed such matters as its structure and how and on what terms loans were raised as well as the controversy surrounding the sinking fund, the same ground will not be covered here.¹⁰ Rather the focus will be on the Scottish aspect.

The picture of the relevance of central government borrowing for Scotland which can be sketched from literary and secondary sources contains elements of contradiction and ambiguity. On the one hand there is no doubt that Scotsmen, like their English counterparts, were in awe of the growth of the nominal sum of the national debt. One Glasgow newspaper remarked that:

"Two Hundred and Seventy millions is reckoned about the present amount of the National Debt, a sum, of which the human mind can hardly have an idea - were it laid in guineas, close together in a line, it would extend 4,300 miles in length - were it laid down in shillings, it would extend three times and a half around the world, and would require 60,400 horses to draw it, at the rate of Fifteen Hundred weight each,¹¹ horse!"

In similar vein when invasion threatened early in 1798:

"A correspondent recommends to Mr. Pitt the following certain method of sinking the French rafts - namely - to throw all the NATIONAL DEBT upon them."¹² A perusal of the Scottish press also reveals that such areas as the negotiations surrounding public borrowing were carefully reported,¹³ as were arrangements throughout Scotland for raising the 'voluntary' contribution and individual subscriptions to it in 1798.¹⁴ Political events and expected resulting movements in the price of the funds were likewise reported. One commentator reminded Dundas that: "the Funds are the great national

deposit of Money,"¹⁵ whilst another concurred: "The great depository [sic] of all the funds of the Country are the Government securities."¹⁶ In addition some historians have detected positive evidence of Scottish investment in the Funds. For the American War of Independence both Robertson¹⁷ and Devine¹⁸ note funds being diverted from trade to the national debt. Butt in an article on that war and the Scottish economy is convinced that: "The increasing diversion of capital into government loans was principally at the expense of investment in agriculture, construction and capital goods production."¹⁹ On the other hand there is evidence to suggest that in the totality any Scottish involvement was insignificant. P.G.M. Dickson has argued that: "Scottish ownership of English government securities was negligible even at the middle of the eighteenth century."²⁰ The findings of Clapham whilst admittedly on the proprietary of the Bank of England have some relevance:

"A few Scottish banks now appear on the list [in 1791]; but as the total number of addresses in Scotland, including theirs, is only thirty-two, [out of a total of 2465] it is evident that Scots' savings went - very properly - into that banking system of their own."²¹

William John Lawson writing in the 1840's felt: "it may justly be stated that the surplus wealth of England has been invested in the national debt - and that of Scotland in their Banks."²² Moreover there is no doubt that the actual floating of loans and receiving of contracts was a London dominated affair. Such names as Solomons, Goldsmids, Angerstein and the House of Barings who were all contractors were among the most famous in English financial history. The Bank of England, a private institution played a

key role in the business of government debt acting as an intermediary between the Treasury and the London capital market.

Clearly in view of this potential conflict this is an area ripe for consideration. It can be argued that what is crucially absent in the foregoing evidence is a precise quantitative statement of the Scottish involvement in the national debt. Whilst in practice owing to the nature of the available data this is a difficult measure to produce, a satisfactory approximation can be reached.

In the absence of an all embracing geographical breakdown of shares in the national debt perhaps the most comprehensive, albeit indirect, indication can be derived from property tax figures. Schedule C of the latter encompassed all income emanating from dividend and annuity payments by the exchequer, in other words, income derived from government stock. For certain years separate Scottish figures of income brought into charge for taxation purposes under that Schedule are available. The Figures for 1803 and 1805 are presented in Table 8.1.

TABLE 8.1: SCOTTISH INCOME BROUGHT INTO CHARGE UNDER SCHEDULE C
RELATIVE TO THAT OF BRITAIN IN 1803 AND 1805 (£)

YEAR	<u>INCOME</u>		(1) AS A % OF (2)
	(1) <u>SCOTLAND</u>	(2) <u>BRITAIN</u>	
1803	170742	6694766	2.6
1805	146597	4747382	3.1

SOURCE: P.P. 1812-13, Vol. XII, p. 235.

It will be recalled from the section on taxation that both these per centages are some way below the Scottish contribution to

British tax revenue in the Napoleonic years.²³

The above evidence is obviously extremely limited chronologically. It can be supplemented using the records of the Bank of England. The Bank was closely involved in the floating of short and long term government debt,²⁴ though it proved possible only to analyse long term debt using its alphabets and ledgers. The government employed both modes of borrowing. The first involved issuing bonds whereby the state committed itself to paying interest on the security indefinitely without agreeing to repay the principal. The second involved the issue of bills whereby the government agreed to pay both principal and interest within a certain short period of time. There is no doubt as will be seen that Scottish banks at least were investing in short term debt. However it could be that comprehensive information on this, were it available, may not reveal the extent of the Scottish involvement. This is suggested by one study of the holders of short term debt in the period 1793-1815 which shows that London banks were dominant but that this may distort the true picture as they were undoubtedly investing on behalf of clients.²⁵ It is perhaps the case that, given investment in long term debt was of a different nature, it is likely that individual Scotsmen and Scottish institutions held it under their own name.

Since in 1793 3% annuities accounted for 78% of the nominal capital of the unredeemed British funded debt and 3% stocks accounted for almost 80% of the nominal capital issued in loans and funding operations during the Napoleonic wars²⁶ samples were taken from the alphabets relating to 3% consols. The results are disclosed in Table 8.2.

TABLE 8.2: THE SCOTTISH SHARE IN THE 3% CONSOLS 1776-1818¹

<u>HEADING</u>	<u>PERIOD</u>	<u>5/7/1776 to</u> <u>5/7/1782</u>		<u>5/7/1792 to</u> <u>5/7/1798</u>		<u>5/7/1812 to</u> <u>5/7/1818</u>	
		<u>NUMBER</u>	<u>% SHARE</u>	<u>NUMBER</u>	<u>% SHARE</u>	<u>NUMBER</u>	<u>% SHARE</u>
ENGLAND		586	86.7	928	84.3	1633	85.6
SCOTLAND		2	0.3	12	1.1	29	1.5
WALES		1	0.1	11	1.0	21	1.1
IRELAND		1	0.1	5	0.5	6	0.3
CHANNEL ISLES		9	1.4	4	0.3	29	1.5
PUBLIC EMPLOYEES		5	0.8	5	0.5	8	0.4
MILITARY MEN		1	0.1	18	1.6	33	1.7
FOREIGN		46	6.8	50	4.5	84	4.5
NO INFORMATION		7	1.0	12	1.1	11	0.6
UNTRACEABLE		18	2.7	56	5.1	54	2.8
TOTAL		676	100.0	1101	100.0	1908	100.0
SCOTLAND AS A % OF SCOTLAND + ENGLAND & WALES		$\frac{2}{589} \times 100 = 0.34\%$		$\frac{12}{951} \times 100 = 1.26\%$		$\frac{29}{1683} \times 100 = 1.72\%$	

SOURCE: Bank of England, 3% Consols Alphabets sets 6, 9 and 12.

NOTES: 1. Appendix 4 discusses difficulties associated with the source and the derivation of this Table.

Table 8.2 would seem to reinforce the income tax findings for despite a progressive increase over the three periods the Scottish share of the British total never exceeded 2%. This order of magnitude is clearly well below the per centage Scottish contribution to British tax revenue.

Appendix 5 gives details of the 43 Scottish residents found in the sampling of the three alphabet sets. Whilst this is obviously a small number as a basis for generalisation certain

observations regarding the geographical location and general description of the Scottish investors can be made.

Firstly, despite the fact that places of residence seem to have been fairly widespread throughout Scotland from Berwickshire to Banffshire, Edinburgh accounts for 15 (including Robert Dundas) and Leith its port three. Glasgow on the other hand accounts for only three and Port Glasgow one. The two cities and their ports thus account for just over half of the total with Edinburgh enjoying a disproportionate share. The sample did suggest that a large proportion of the English total resided in London and its environs, a finding supported by the research of other scholars.²⁷ It could be that in Scotland as well as in England city dwellers, especially in the banking centre, were more likely to invest in the Funds than those resident elsewhere even though there is only one banker, James Ker, manager of the Leith Banking Company, among the Scottish residents in the sample.

In terms of sex 12 out of the 43 Scots were females: seven spinsters and five widows. It may be that Clapham's conclusion on Bank of England stock has Scottish parallels: "Both among British and foreign proprietors the proportion of widows and spinsters, always considerable, was extraordinarily high by the end of the eighteenth century. Bank stock had long since taken its place beside the Funds as an item in marriage settlements, jointures and portions for unmarried daughters."²⁸ The descriptions of the remaining thirty one males can be grouped as follows:

TABLE 8.3: GROUPINGS OF MALE SCOTTISH RESIDENTS IN SAMPLE OF 3% CONSOLS

ESQUIRE	13
GENTLEMAN	2
BARONET	2
LORD CHIEF BARON OF SCOTLAND	1
WRITER TO THE SIGNET	1
MILITARY MAN	3
'CAPTAIN'	2
BANKER	1
MERCHANT	2
SHIPBROKER	1
SHIPMASTER	1
NO INDICATION	<u>2</u>
TOTAL	31

In as much as the above groupings have any meaning it is likely that most of these individuals enjoyed a certain degree of wealth and status in the community. Clearly Scottish investors in the national debt were not among the poorer sections of the country's society.

Whilst the analysis thus far would suggest that in general the Funds did not attract a proportionate share of Scottish wealth there is evidence that they were attractive to institutions as a form of investment. Thus the records of the Board of Trustees²⁹ and the Glasgow Chamber of Commerce³⁰ reveal that those bodies invested apparently spare cash in the national debt. The Scottish treasurer of the Fund for the relief of the wives, widows and children of soldiers and marines who were killed, wounded or died in the expedition to Egypt revealed in 1802 that: "The fund, undivided, is laid out in Government securities, where it will remain until

they are able to make a final distribution; and so soon as that can be done, public notice will be given."³¹ The literature would suggest however that the most conspicuous investors were the banks. Historians of the Scottish public banks have revealed that that trio by the French wars had experience in investing in long and short term government debt.³² An analysis of the minute books of these banks in the period 1750-1830 reveals the three investing in a wide range of bills and bonds including the Bank of Scotland purchasing Navy and Victualling bills, exchequer bills, 3% consols and 5% annuities as well as Bank of England stock and East India stock; the Royal Bank purchasing Navy and Victualling bills, exchequer bills, 3% consols, Bank of England stock and India bonds; and the British Linen Company being involved in Navy and Victualling bills, exchequer bills, 5% annuities, 3% reduced stock, 3% consols, 3½%^s, 4%^s and again Bank of England and East India stock.³³ The memoirs of Sir William Forbes also show that his bank were investing both in long and short term debt.³⁴ The alphabets of the 3% consols reveal that for example James Brand, cashier of the Aberdeen Bank, had an interest in those annuities in the Napoleonic years.³⁵

Investment in the national debt was attractive to Scottish banks for several reasons. It has been noted for instance that the directors of the Royal Bank of Scotland perceived five advantages in investing in public debt; 1) it gave good security 2) it gave a reasonable return 3) it was a means by which gold could be easily acquired on the London market at short notice 4) it enhanced the prestige of the Scottish bank in London implying as it did prudent investment policies 5) on the whole this form of investment gave the banks a more secure liquidity base from which panics and runs on

the bank could be dealt with.³⁶

Certainly the fact that investment in the national debt was a means by which London gold could be acquired in an emergency and that Scottish banks were commonly investing in these assets was suggested by Lawson: "Most of the Scotch banks have large investments in the English public funds, as well as in the hands of their London agents; and they can at any time, obtain the amount of such investments in gold."³⁷ The relatively safe nature of certain government debt was implied by Forbes when he criticised Sir Robert Herries in his dealings with the French Farmers-general for indulging in "mercantile adventures" in goods like hops, rice and tobacco "instead of employing the money in discounts of bills, or India bonds, or navy or exchequer bills, which, while they bore moderate interest in the meantime, could always be commanded on a short notice in an emergency."³⁸ By the 1830's the national debt as an asset was playing a clearly defined role in the Scottish banking system. When the Western Bank of Scotland was launched in Glasgow in 1832: "It was soon learned that...[it]...was not observing any of the established rules of banking. With hardly any reserves, the capital was being used for speculations and it held no Government Securities."³⁹ In 1834 when the bank experienced difficulties four Edinburgh banks jointly advanced £100,000: "on condition that no further investments were made in anything but Government Securities."⁴⁰ Moreover in addition to these tangible advantages of bank investment in the national debt it could be that their actions were influenced by political considerations. Henry Dundas for instance was in correspondence with the public banks over support for public loans particularly the voluntary loan of 1798. In

connection with the latter he was informed by James Frazer, treasurer of the Bank of Scotland that that institution was subscribing £100,000 and the directors: "desire me to advise you that they will give to the measure their most strenuous support, [and will use their influence] in the Country, which the branches will enable them to do."⁴¹ On the other hand when there was some opposition among the stockholders of the Royal Bank and the Bank of Scotland it was pointed out to Dundas:

"It may be...justly argued, That it is of great importance to the Bank, to retain the favour of the Ministers of Government, and particularly of him, who has rendered to it...many and so great services, and who is pleased, As its Governor, still to watch over its Interests. A hint from him, directly or indirectly to the Directors or other proprietors, might counteract the Influence mentioned, and save the Bank... from the Selfish or political motives of 42 individuals."

It could be that within Scotland and in a British context investment in the national debt was one means by which banks could curry favour with government.

It is one matter however to establish that Scottish banks were investing in the national debt and discuss reasons for it and another to state quantitatively the nature and extent of that investment over time. The latter begs another question: did banks increase their investment in wartime?

Slaven is in no doubt that the magnitude of bank investment was significant for: "The Edinburgh banks followed a uniform policy of low and stable interest rates on deposits, of substantial investments in government securities, frequently up to one-third of their funds being so invested."⁴³ Sir William Forbes' memoirs

would suggest that his bank carried out a policy of selling out of the Funds in peacetime. He claimed that such a manoeuvre brought profits after the American War of Independence and during the peace of Amiens.⁴⁴ In general though data deficiencies unfortunately inhibit greater precision. One problem is a lack of statistics relating to banking assets over time; another the fact that the banks did not group their assets and liabilities into categories. Nevertheless using figures supplied by Checkland it is possible to give an indication of one public bank's investment in 'government obligations' as a per centage of total assets for certain years in the Napoleonic wars.

TABLE 8.4: THE SHARE OF 'GOVERNMENT OBLIGATIONS' IN THE ASSETS OF THE ROYAL BANK OF SCOTLAND 1794-1802 (£000)

<u>DATE</u>	<u>(1) GOVT. OBLIGATS.</u>	<u>(2) TOTAL ASSETS</u>	<u>(1) AS A % OF (2)</u>
29 SEPT. 1794	113	2080	5.4
30 MARCH 1795	212	2230	9.5
28 SEPT. 1795	341	2194	15.5
31 MARCH 1797	259	2272	11.4
16 AUGUST 1802	570	2549	22.4

SOURCE: S.G. Checkland, Scottish Banking A History, 1695-1973, (Glasgow and London, 1975), p. 738.

Certainly the Table would suggest a growth in the degree of investment in the first phase of the French wars, though the largest per centage figure is still some way short of the order of magnitude suggested by Slaven.

An alternative source for attempting to build up a picture of the magnitude and chronology of bank investment in the national

debt over time is the minute books of individual banks. It has already been shown that these reveal investment in a wide range of government bills and bonds. However there is no way of ascertaining how accurately or completely they record such transactions. For example one study has used the Royal Bank Minutes to quantify their investment in 3% consols in the period 1780-1800 producing a figure of £32,000.⁴⁵ However Bank of England ledgers reveal this bank bought £148,000 worth of 3% consols in the year 1782 alone and £100,000 in 1794 besides substantial buying and selling of these assets in other years in this period.⁴⁶ Therefore it was decided to use the 3% consol ledgers to trace the three Scottish public banks' investment in this annuity as a possible guide to the chronology of Scottish investment in the national debt. As has been demonstrated the bulk of the latter stood in this form in 1793 and it was the most common means by which loans were raised in the Napoleonic wars. It seems very probable in addition that these banks formed the largest single Scottish investors in the Funds. Table 8.5 maps out the findings.

Categorising their investment transactions into years of war and peace the Bank of Scotland and the Royal Bank did not begin purchasing on any scale until the American War of Independence, both selling off again in the ensuing peace years. The next phase of large scale investment took place in the Napoleonic wars this time the British Linen Company being a participant also. The total purchases of the latter and the Bank of Scotland during the period 1793-1815 both topped £1,000,000 though sales also took place on an extensive basis. However interestingly all three banks bought and sold on a larger scale in terms of nominal value in the period

YEAR	ROYAL BANK OF SCOTLAND			BANK OF SCOTLAND			BRITISH LINEN COMPANY		
	BOUGHT	SOLD	BALANCE AT END OF YEAR	BOUGHT	SOLD	BALANCE AT END OF YEAR	BOUGHT	SOLD	BALANCE AT END OF YEAR
1801	-	-	£322,850	£243,939.11s.4d	-	500,000	25,000	-	40,000
1802	£97,940.14s.4d	100,000	£320,790.14s.4d	70,000	-	570,000	70,000	5,000	105,000
1803	-	-	"	-	180,000	390,000	58,300	15,000	148,300
1804	£54,909.5s.8d	-	375,700	-	-	"	68,200	-	216,500
1805	25,000	-	400,700	-	-	"	£56,784.0s.2d	270,500	£2,784.0s.2d
1806	-	-	"	-	-	"	473,650	-	£4,764.34.0s.2d
1807	-	-	"	-	-	"	75,000	-	£5,514.34.0s.2d
1808	-	-	"	-	-	"	1,500	125,000	£4,279.34.0s.2d
1809	-	-	"	10,000	-	400,000	-	-	"
1810	-	200,000	200,700	60,000	190,000	270,000	-	130,000	£29,793.4.0s.2d
1811	200,000	-	400,700	-	-	"	-	100,000	£19,793.4.0s.2d
1812	-	-	"	30,000	-	300,000	16,800	50,000	£16,473.4.0s.2d
1813	56,000	-	456,700	£121,558.19s.8d	-	£421,558.19s.8d	50,000	110,000	£10,473.4.0s.2d
1814	-	-	"	£78,441.0s.04d	-	500,000	128,320	230,650	£2,404.0s.2d
1815	14,100	-	470,800	-	-	"	235,890	-	£23,829.4.0s.2d
1816	-	-	"	-	-	"	169,700	116,000	£29,199.4.0s.2d
1817	-	300,700	170,100	-	350,000	150,000	881,000	-	£1,172,994.0s.02d
1818	-	-	"	1,500	-	151,500	£723,745.14s.5d	100,000	£1,796,739.14s.7d
1819	160,000	120,100	210,000	140,000	-	291,500	£44,984.7s.6d	480,085	£1,361,639.2s.1d
1820	470,000	-	680,000	-	-	"	£106,361.1s.10d	100,000	£1,368,000.3s.11d
1821	-	230,000	450,000	-	45,000	246,500	-	£60,588.7s.0d	£762,117.16s.11d
1822	190,000	200,000	440,000	-	-	"	£256.8s.4d	83,870	£6,785.04.5s.3d
1823	330,000	200,000	570,000	288,500	300,000	235,000	-	£203,796.8s.3d	£4,747.07.17s.0d
1824	660,000	500,000	730,000	50,000	285,000	zero	16,000	-	£4,907.07.17s.0d
1825	-	415,000	315,000	171,000	-	171,000	52,000	80,000	£4,627.07.17s.0d
1826	-	5,000	310,000	-	£12,598.8s.7d	£158,401.11s.5d	£148,236.14s.8d	305,000	£3,059.44.11s.8d
1827	40,000	100,000	250,000	£42,598.8s.7d	£88,401.11s.5d	£112,598.8s.7d	-	-	"

SOURCE: Bank of England, 3% Consols Alphabets and Ledgers.

1816-27 than they did in the French wars the British Linen Company's total purchases exceeding £2,000,000. Thus whilst the main period of government borrowing came in the Napoleonic wars the public banks continued to deal in the Funds on a large scale after the cessation of hostilities. It is thus too simplistic to assume that the opportunity cost of wartime borrowing was confined to years of war for the legacy of war was the existence of an asset which attracted bankers' money in peace years.

The main aim of this chapter has been to attempt to establish the extent of Scottish involvement in the national debt. Both the tax data which counts money and the Bank of England material which counts heads suggest a meagre order of magnitude, below the relative tax contribution that is around 3% at most against around 6% at most. So low is the contribution that it is unlikely to have fluctuated significantly in war and peace. The analysis of banking investment patterns however suggest that it would be dangerous to concentrate on years of war alone. Armed with such information an attempt can now be made to combine the findings of the sections on government expenditure, taxation and government borrowing.

NOTES TO CHAPTER EIGHT

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6. O'Brien, D. Phil., pp. 221-223.
7. Veverka, Scottish Journal of Political Economy, p. 121.
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9. BM ADD MSS 38377, f. 94 Liverpool Papers; Sir John Sinclair, Hints Regarding the Means of Enabling Great Britain to Surmount Her Present Financial Difficulties, and to Provide her People with Food, from her Domestic Resources, (Inverness, 1812), p. 3; F. Crouzet, Capital Formation in the Industrial Revolution, (London, 1972), p. 213.
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21. Sir John Clapham, The Bank of England, (Cambridge, 1944) Vol. I, p. 287.
22. Lawson, Banking in Scotland, p. 38.
23. Vide supra p. 163.
24. For a discussion of the various forms of debt O'Brien, D. Phil., pp. 11, 34, 226-227.
25. Ibid., p. 60;
26. Calculated from tables given in ibid., pp. 492-493.
27. Clapham, Bank of England, Vol. I, p. 288 for proprietors of Bank of England stock; O'Brien D. Phil., p. 67.
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42. SRO GD51/1/405/2, Melville Castle Muniments, Letter and Memorandum from James Fraser to Henry Dundas.
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CHAPTER NINE

WAR, THE CENTRAL GOVERNMENT AND SCOTLAND - AN OVERVIEW

It is clear that the costs and benefits resulting from wars were not uniformly spread. According to Ashton: "The gains and losses arising from war were distributed unevenly. Some industries and regions benefited from government orders while others suffered from a decline in civilian demand...The rise in rates of interest enabled some men to grow rich by lending to the state."¹

Over the years various commentators have arrived at similar conclusions. John Lowell (1813) referred to: "soldiers, or other military men;...contractors, public officers and the thousand other leaches, who feed upon the blood of the nation, when it is once set flowing by war."² E. Grubb (1899) observed: "it is not the industry of the country *as a whole* that profits by Government spending, but only one section of the industrial community at the expense of others."³ John Mavrogordato (1917) concluded: "In every nation war diminishes the national wealth, but concentrates the residue with greater inequality in one particular class."⁴ It is necessary in conclusion to concentrate on the geographical aspect of this lack of uniformity drawing from the foregoing chapters information relevant to an assessment of the net impact of war induced public sector activity in Scotland.

Were data available perhaps the most obvious means, at least using accounting principles, of measuring the latter would be to deduct government revenue from government expenditure within

(Footnotes to Chapter Nine appear on page 251)

Scotland itself. Such a sum however were it subject to calculation would be of limited significance for its relevance could only be understood in comparative terms. It has been necessary in this thesis to examine expenditure, taxation and borrowing in isolation. In each a comparative indicator was used to elucidate the Scottish position relative to Britain as a whole. The question is which indicator best serves the purpose of allowing the findings of each of these three aspects of government activity to be combined.

There can be no doubt that throughout the period 1750-1830 Scotland was, in terms of per capita income, a poorer country than Britain considered as a whole. In terms of modern government policy it might well have been regarded as an area worthy of regional assistance where one might anticipate higher per capita government expenditure than Britain in general. Here though it will be assumed that relative per capita expenditure is the best measure of the extent to which Scotland was a beneficiary of government war demand. When revenue is considered greater problems are encountered. Since Scotland was poorer it would have been surprising to find that per capita tax revenue would be the same as in Britain. Indeed under the circumstances it is difficult to see how a straight comparison of per capita contribution would serve much purpose. The relative contribution can be understood only in terms of ability to pay. The latter measure therefore will be used. There is some evidence to suggest that such an approach rather than a straight per capita comparison of revenue and expenditure has precedent in terms of government thought. In his examination (issued by the Treasury) in the late 1890's of Scotland's financial relation¹ to England E.W. Hamilton used a measure of Scotland's taxable

capacity (ability to pay) to compare to her actual tax contribution to ascertain the latter's 'fairness'. In discussing relative expenditure however he compared actual expenditure against what it would have been had it been proportional to Scotland's relative population.⁵

Government borrowing whilst a part of revenue also accounted for a considerable proportion of expenditure particularly in post war years. To the extent that (with the exception of moral persuasion) individuals were free to choose whether to invest in it or not the act of purchasing government stock was a business transaction in which the individual expected to make a profit either by capital gain on selling or by interest receipts. The gain to the individual was a loss to government in the long term paid for by tax receipts. Thus for present purposes it is most meaningful to consider the relative Scottish contribution to government borrowing on the expenditure rather than the revenue side of the public sector equation. Thus in solving the latter equation actual expenditure should be thought of in per capita terms, actual tax contribution should be compared to ability to pay.

Of course, given the difficulties of measurement all that this study can suggest is the likely direction of the transfers involved. In the chapters on expenditure it was suggested that in the Napoleonic years the Scottish population was some 15.2% of the British total. The analysis of spending resulting from direct military activity suggested that the Scottish share to a greater or lesser extent was consistently below that proportion by some measures being less than 1% of the total. Her share of naval expenditure seems to have been conspicuously slight. In terms of government

demand in general with the exception of Carron Ironworks, tartan and bonnet making and canvas manufacture for those items of expenditure for which useful evidence was discovered there was no case in which a significant Scottish component was discovered. It is difficult to imagine that in the aggregate Scottish per capita expenditure was anything like as high as that in Britain as a whole.

Similarly the analysis of government borrowing would suggest that throughout the whole period 1750-1830 the Scottish share was relatively insignificant. It probably increased as the period progressed yet even at its peak it is unlikely that its proportionate share was much above 3%.

Examination of the relative Scottish tax contribution suggested a progressive increase in each war and peace group of years 1750-1830. It was not until the French wars of 1793-1815 however that the share became significant in scale. For the 1800's it was found that the Scottish contribution to exchequer remittances was, on average, 5.7%, to gross tax produce 6.6%. This compares to a relative taxable capacity of 8.6% as measured by property tax assessments.

Since relative expenditure was short of the Scottish share of population and tax contribution was less than taxable capacity both lie in the same direction which does not facilitate the balancing of regional expenditure and revenue. However it is obvious from the foregoing that it is likely that Scotland's tax contribution was far closer to her taxable capacity than her share of war expenditure was to her population. To the extent that war expenditure in the aggregate was capable of stimulating the economy, and there can be little doubt that it was, it can be suggested that during the French

wars, the most costly and longest of all eighteenth century wars, the economy of Scotland as a region of Britain enjoyed less of a net benefit than the country as a whole.

The repetition of the numerous caveats which must be borne in mind when considering the latter conclusion is unnecessary. It is not out of place though to highlight some of the more important. Firstly no excuse is made for the aggregate approach adopted. It is likely that government demand could have been disproportionately important in Scottish regions or localities either owing to demand for certain goods or the concentration of military activity within them. Some investigation was made of the latter with the analysis of Leith and the distribution of the military presence within Scotland. As an example of the latter, demand for lead may have been important in parts of south west Scotland though insignificant in total terms. However even if the data were extant it would be a formidable task to examine the impact of government demand in each locality and to attempt to sum them.

Secondly it cannot be claimed that the examination of government demand is comprehensive. No doubt Scotsmen made profits from supplying cattle to the navy to be made into salt beef⁶ or from hiring ships to government.⁷ There is no reason to suspect however that such a Scottish share was disproportionate. For instance Ireland is likely to have benefited to a far greater extent than Scotland from the former.⁸ What are felt to be the crucial areas of government demand have been investigated.

Thirdly the analysis is confined to the primary impact of public sector activity. There is no way of ascertaining for example the extent to which the stimulation of the English economy by war

demand may have increased the English demand for Scottish non war goods. The possibility of such secondary implications cannot be denied but it would be difficult to trace them, gauge their significance or separate them from other influences on English demand.

Fourthly the material on government expenditure is largely confined chronologically to the Napoleonic wars. The tax data suggests that despite an increase 1750-92, the Scottish contribution remained slight in relative and aggregate terms. However it may be that despite this an investigation may lead to parallel conclusions to those reached about the French wars. The Royal Bank and Bank of Scotland agreed that: "From the Union to about the year 1766 there was a constant Drain of Specie from Scotland to England owing to the Balance of Trade and public Remittances being against the former Country."⁹ The banks were stressing their own role in stabilising the economy under these circumstances so that hyperbole is a possibility. Sir James Steuart however reached similar conclusions for the period 1762-65 citing troops normally stationed in Scotland being absent and remittances to London increasing from wartime augmentation of taxation as two reasons for the Scottish balance of payments deficit of these years.¹⁰ Moving to the latter end of the period covered in this thesis, Sir John Sinclair remarked on the paucity of the military presence in Scotland in 1821 and insignificance of the expenditure which resulted from it.¹¹

War induced public sector activity was indeed uneven in its implications for the Scottish economy. Its opportunity cost was perceived by contemporary Scots as the Glasgow Advertiser remarked in 24-28 June 1793:

"Dundas's late Tax upon Scots Spirits, however we may approve of the object, is certainly a local

burthen, and drawing off a hundred thousand pounds annually from this country. A hundred thousand pounds annually employed upon the internal improvement of Scotland, might be productive of great national benefit. How many navigable canals and great useful public roads might be accomplished with a hundred thousand pounds a year?...and how lost and ineffectual is this very sum, when applied to the destructive purposes of war?"

While strategic necessity had determined that there should be a concentration of men, ships and materials in the south east of England the Union of 1707 had indirectly ensured that Scotland, as a part of Great Britain, was committed to share the war induced taxation burden. As the magnitude of that burden reached a peak in the French wars so too did the ability of Scotland to make a greater contribution.

NOTES TO CHAPTER NINE

1. Ashton, Economic Fluctuations in England, p. 68.
2. John Lowell, The road to pence, commerce, wealth and happiness, (1813), p. 1.
3. E. Grubb, Does War Promote Industry? (London, 1899) p. 8.
4. John Mavrogordato, The World in Chains: some aspects of war and trade, (1917), p. 82.
5. Hamilton, Scotland's Financial Relation to England, pp. 1-5.
6. Laura E. Cochran, Scottish Trade with Ireland in the Eighteenth Century, Univ. of Stirling Ph.D. 1980, p. 207.
7. For a discussion of the hiring of vessels to government by Glasgow merchants during the American War of Independence see Devine, Ph.D. pp. 280-282.
8. For details of the extent of the Irish share see Fitzpatrick, Ph.D. Chapter IV.
9. Glasgow University Business Records Store UGD129/1/1/3, Extracts from the Minute Books of the Court of Directors of the Bank of Scotland 15 October 1810.
10. Cited in Charles W. Munn, The Scottish Provincial Banking Companies 1747-1864, (Edinburgh, 1981), p. 18.
11. Sir John Sinclair, Analysis of the Statistical Account of Scotland, (Edinburgh, 1825), Vol. 2. Appendix.

CONCLUSION

This thesis has examined in turn central government expenditure, taxation and borrowing. An attempt to combine the findings to provide an overview of the implications for Scotland was then undertaken.

In reviewing government expenditure there is no doubt that Scotland's per capita share was consistently below that enjoyed by the rest of Britain. The evidence would suggest that this was particularly the case for items of capital expenditure especially construction associated with naval dockyards, shipbuilding, ordnance building and to a lesser degree barracks building. To a large extent particularly for naval spending it is likely that the pattern of such expenditure had been determined before 1750 and even before 1707. This pattern certainly persisted into the long and expensive French Revolutionary and Napoleonic Wars as the traditional dockyards in the south of England continued to dominate and expenditure in Scotland was negligible. It would appear though that Scotland's share of items which can be loosely termed revenue expenditure may have been greater. Certainly data relating to numbers of troops stationed in the country and to a much lesser extent victualling expenditure would support this view. In comparative terms though even for such items regional per capita expenditure was relatively low in Scotland.

The evidence is less clear cut for military demand in general where the difficulties of measurement are greatest. Examination of those industries most likely to have benefited from government expenditure revealed that only in certain well known examples is Scotland likely to have enjoyed a marked share. These

can be listed as iron (i.e. the Carron Company), tartan manufacture, bonnet making and sail cloth manufacture. In other areas such as timber, gunpowder, weaponry, army clothing in general, leather, copper, lead and importantly, shipbuilding both by naval and private yards, Scotland's aggregate share ranged from the slight to the almost non-existent. There is no evidence therefore to suggest that overall Scotland secured a conspicuously large share of government expenditure or that the latter provided a disproportionate boost to her economy. It should of course be borne in mind that certain areas within Scotland are likely to have benefited from regional expenditure to a greater degree than others. Thus per capita military expenditure was probably highest in the Edinburgh area. However detailed examination of the naval dockyard at Leith suggested only very limited economic 'spinoffs' for the local economy.

If the Union of 1707 provided no guarantee that Scotland would enjoy a proportional share of British military expenditure it did ensure that the country would be directly affected by any developments in the area of taxation. Evidence would suggest that despite contemporary criticism which was largely London based and adverse comment by historians concerning the apparently unproductive nature of taxation in Scotland her relative contribution to the British war effort progressively increased throughout the period 1750-1830. Real mean per annum remittances exceeded their pre war level by some 300% during the most expensive years of war in the eighteenth century, the French Revolutionary and Napoleonic Wars of 1793-1815. The real per annum per capita burden also grew during the eighty years under discussion expanding with each war and peace group of years. Apart from a brief lull during the Napoleonic wars indirect taxes accounted

for the bulk of the revenue raised with articles in mass consumption playing a dominant role.

The Scottish investment in the national debt also grew during this period. It remained however at a relatively insignificant level being at its highest of the order of 3% during the Napoleonic years. This would suggest on the face of it that the constraining effect on the amount of funds available for domestic use is unlikely to have been large. On the other hand perhaps more significantly it meant that a relatively small amount of tax remittances percolated back to Scotland via interest payments to holders of the national debt.

It can be argued that investigation of expenditure taxation and government borrowing, each in isolation, is merited by the importance of the magnitude of the resources involved as the introduction to this thesis demonstrated. Historians indeed, have often been content to concentrate on one of the three areas. Moreover any attempt to reconcile expenditure, taxation and borrowing is hampered by the fact that revenue cannot simply be compared to expenditure to measure the net regional impact of war induced government activity. The following interpretation of the evidence can however be forwarded.

It is clearly evident that Scotland's relative tax contribution was in excess of her holdings in the national debt. Whether military expenditure tipped the balance either way is more difficult to judge owing to the absence of aggregate figures. Almost certainly the influence of the three areas of government activity varied over time. There is no evidence however to suggest that war resulted in large scale spending in Scotland. Moreover it is likely that in

peace periods when debt payments assumed the dominant role the chances of a net benefit accruing to Scotland were remote. This is especially the case with the years after 1815. It was then that Scotland's relative tax contribution to the British exchequer reached a peak as did her real per capita tax burden. Moreover the share of regressive indirect taxes also peaked during these years. This was a time when debt related expenditure accounted for over 50% of total government expenditure. It can be suggested then that the debt legacy of the Napoleonic wars exerted a severely depressive influence on the post 1815 Scottish economy.

Throughout the main emphasis of this thesis has been on the macroeconomic side of government activity. A reasoned attempt at interpreting the findings in relative terms suggests the following implications for Scotland. An ever increasing war induced tax contribution represented a growing leakage from the Scottish circular flow of income in the period 1750-1830. The relative injection provided by government war related expenditure was certainly less than that enjoyed by the rest of Britain. War did not result in a noticeable government expenditure financed expansion via the multiplier in Scottish gross national product during the period. Such economic growth as took place during this important phase in Scottish economic history was achieved in spite of, rather than because of, central government activity associated with the waging of war. Ultimately the location of the effects of such activity had no great advantages for Scotland. Whereas any changes in taxation had widespread effects throughout the country changes in expenditure could to a greater extent stimulate particular industries or regions. As a Select Committee noted, the setting up of a naval dockyard at Pater

near Pembroke could have benefits other than reducing labour costs in shipbuilding:

"Some advantage may also accrue to the Country from spreading its establishments into remote parts, and by thus introducing new sources of¹ industry where they are most required."

This idea of 'remote parts' fits very well the Scottish experience of this period.

1. PP 1817 Vol. IV p. 223.

APPENDIX 1. EXPENDITURE RECORDS

On the assumption that records in the Public Record Office, London under the classifications Paymaster General of the Army (PMG), War Office (WO), and Admiralty (ADM) were most likely to yield the relevant information, various records under these classifications for the Napoleonic period, where extant, were sampled. The materials were approached specifically with the intention of ascertaining the extent to which their contents would enable the investigation of one or both of the considerations mentioned on page 12. The survey included ledgers, bill books and minute books among other material. That more statistical in nature can be considered first.

In the PMG group the most relevant records seemed to be the ledgers of the paymaster general of the army, (PMG 2). These record payments to regiments, troops and companies and fencibles, militia and volunteers etc., as well as payments to garrisons. The latter has been made use of. Among the former each regiment is isolated by its number, its commander is usually given as is its agent. Most of the payments were made for the troops' pay. To the extent that 'Scottish' regiments could be identified, payments to them could be distinguished. But it was decided that these were of little use per se as there are no details in the ledgers for example of offreckonings or where the regiments were stationed and thus how and where the money was spent. Information given in Table 1.1 therefore on the distribution of the army was felt to be more useful.

The ledgers also contain a vast number of payments under the heading "extraordinaries". Some of these entries record payments to individuals for, for example, camp equipment and some for payments for troops in specific places such as to contractors for forces encamped

in 'North Britain'. In the case of the former one cannot tell the geographical origin of the recipient; in the latter the recipient is not even named. Moreover the existence of non specific entries make the ledgers almost useless from the point of view of this study. The latter take the form, for example of payments for stores and forage at "sundry places", or just bills drawn without any indication whatsoever of why they were drawn.

More voluminous are the W.O. records. Those surveyed fell into three main groups: ledgers, bill books and material relating to contracts; each can be considered in turn.

The ledgers of the Treasurer and Paymaster for the Office of H.M. Ordnance (W0 48) at first seemed useful. Among other things they record payments for instance to named individuals or firms for stores delivered for the most part to Woolwich or the Tower, or to tradesmen in 'North Britain' for specific services. However the ledgers contain thousands of entries for a single year and their layout prevented sampling as Scottish payments tended to be grouped together. Moreover, fatally from the point of view of this study, the ledgers do not consistently record such information. For example W048/51 (1803 Part 1) only gives the name of the individual receiving the payment, and where an explanation of the service for which it was made is given at all it is usually a single word like 'saltpetre'.

Ordnance bill books (W051 and W052) give the type of information which was thought to be useful in the ledgers. Their bulk however makes them unmanageable. An attempt was made to sample some of them but little impression could be made, the opportunity cost in terms of time (and hence money) proving too great. According to the P.R.O. catalogue a whole or part of over 50 volumes contain

information on the year 1814 alone.

Much of the material relating to contracts in the W0 series proved irrelevant to this study, W049/2, W060/51, W060/52, and W0/53 all relating to overseas or Ireland. The exception proved to be W058/44 which gives some details of contracts for the supply of certain articles to troops in Scotland but little indication of the geographical origin of contractors.

Admiralty material if anything is even more voluminous than War Office, though more of it seems to relate to victualling than naval stores. In the Treasurer's accounts (ADM16), payments to individuals are given. Unfortunately exactly for what service the payments were made is not always given, nor can one tell the origin of recipients or where deliveries were made to. Treasurers ledgers (ADM20) present a similar picture but in addition to the problems in the accounts, among others there is no indication of the services involved with imprests. Bill books (ADM18) proved to be of little practical value for similar reasons to ordnance ones, like them they give no indication of the geographical origins of recipients of payments.

Of more value are admiralty records relating to contracts. Victualling ledgers have been used in the text though again there is no way of knowing if payments were being made to Scotsmen or Englishmen. Contracts relating to naval stores are to be found under the miscellaneous (various) heading (ADM49). Abstracts of contracts 1762-1796 (ADM49/34) give in chronological order contracts entered into for a variety of goods and services with an indication of where presumably goods were being delivered to. There is however no mention of the origin of contractors, or services being performed in

Scotland or goods being delivered in Scotland. ADM49/35 is an abstract of clothing contracts which appears only to run to 1793. It names the contractor and gives various details relating to the contract, only sometimes are the places of delivery given. Again there is no way of telling the origin of contractors.

From this brief survey it appears that the major problems surrounding the use of such material to answer the considerations mentioned on page 12 lie generally in the unsystematic recording of information such as where expenditure took place geographically, what the money was spent on, where goods were being delivered to, and the almost total absence of information on the nationality of contractors. The number of ambiguous details or lack of details discovered at various points in the ledgers perhaps suggest one reason why O'Brien could not classify them as mentioned earlier.¹ The only way in which one could tackle the question of the Scottish share of contracts in a wide sense (not the more crucial question of origin of final supply) using this material would be to take a sample of their names where these are mentioned and to try to identify them using sources such as local directories. A preliminary attempt showed the problems of positive identification to be enormous.² In any event there are major difficulties involved in drawing up a comprehensive sampling frame.

The above records probably form the only 'comprehensive' central semi-statistical data which in theory could be used for the objects of this thesis. On discovery of its shortcomings it was decided to sample the minute books of the branches of the armed services. The minutes sampled were those of the Admiralty (ADM3),

1. Vide supra p. 14.

2. Vide supra p. 89.

of the proceedings of the Paymaster General of the Forces (PMG66), of the Surveyor General (W047), of the Board of Ordnance (W047), of the Navy Board (ADM106), of the Committee of Accounts, (Navy Board) (ADM106), of the Surveyors Office (Navy Board) (ADM106), of the Office for Stores (Navy Board) (ADM106), of the Victualling Board and Committee (ADM111), the Victualling Board (ADM111) and of the Committee for General Business (Victualling Board) (ADM111). The findings can be briefly summarised. In terms of considerations 1 and 2 some of these minutes proved irrelevant, others gave odd snippets of information on expenditure on military activity in Scotland but nothing which would allow comprehensive analysis. Whilst contracts are often mentioned in several the holders' geographical origin was seldom mentioned and in the sample no evidence was found of supplies coming from Scotland. Sometimes the omissions are tantalising, for example

"Lieutenant Colonel W.P. Smith Commanding the Royal Artillery at Leith Fort having enclosed to the Board an Estimate of Messrs. Horton and Son for supplying certain articles therein specified wanting to Compleat the Proportion allotted by Lieutenant General Drummond - Ordered that Lieutenant Colonel Smith be acquainted the Board approve of his causing the Articles required for the Field Train in Scotland to be provided according to the estimate he has transmitted." (W047/2576 16th Sept. 3. 1803).

Thus it is to be hoped that enough detail has been given of the contents of these records to substantiate the assertion made on page 12.

3. PRO W047/2576, 16 September 1803.

APPENDIX 2. TAXATION STATISTICS

It has been pointed out on several occasions in this thesis that an omnipresent problem has been the absence of readily available statistical material. This is also the case with respect to taxation. In spite of the fact that figures relating to remittances to London from Scotland for the excise and land tax 1707-1770 are to be found in R.H. Campbell and J.B.A. Dow, Source Book of Scottish Economic and Social History, (Oxford, 1968), p. 107; and the gross and net produce of excise 1707-1800 in Henry Hamilton, An Economic History of Scotland in the Eighteenth Century, (Oxford, 1963), pp. 401-403, and various other fragmentary data and some runs of figures are to be found in other secondary sources and parliamentary papers there is nowhere to be found a complete picture of the produce of Scottish taxation. The most often quoted source for British tax figures, Chisholm's twelve year study published in PP 1868-9 Vol. XXXV gives no separate Scottish figures. For reasons given in the text¹ it was decided that the most precise indication of the Scottish contribution to war finance was given by remittances to London in the period 1750-1830.

To construct such a run of data manuscript Scottish exchequer sources were used. For the excise the source was abstracts of such duties (E554) for all others the basic source was the Kings Remembrancer Register of Declared Accounts (E321). Since the latter gives only abstracts of certain accounts after 1744 their comprehensiveness was checked against the more detailed individual scrolls to be found in the declared accounts of the Pipe Office (E201-E212).

1. Vide supra p. 158.

One problem with summarised cash accounts is that it is difficult to tell exactly when remittances were made. A further one especially in land and assessed taxes accounts is that a single declared account can cover several rather than one year. In the light of these difficulties it was decided that rather than attempting to track down every single tally for each remittance, where a remittance figure was given for an account of a specific period to assume the remittance relates to that period. Where single accounts for more than one year for a tax existed the pipe office accounts were used to determine the exact dates of remittance.

Since the interest of this thesis is war it was decided to present the figures in the text in terms of groups of war and peace years rather than specific years which helps to minimise any distortion associated with the above difficulties. It should be pointed out though that since stamps and post office revenue were not accounted for in the Scottish exchequer that source gives no details of remittances arising out of them.

For the Napoleonic period however more information on Scottish revenue on a yearly basis is to be found in the PRO CUST 17 group of records and the finance accounts published annually in parliamentary papers. These have been used to give more detail for the period on which this thesis concentrates and to act as a general cross check for the Scottish exchequer statistics. The source is also more comprehensive giving as it does figures for stamps and post office revenue. Thus unless otherwise stated the sources in the Tables in the text for Scottish tax revenue are Scottish exchequer accounts, CUST 17 and parliamentary papers.

Unfortunately there does not seem to be readily available

for the whole period 1750-1830 directly comparable accounts showing exchequer payments for Britain to which the Scottish figures can be related. In their absence figures of gross and net revenue compiled by Chisholm have been used, their use understating slightly the relative Scottish contribution. As pointed out Chisholm's figures are to be found in PP 1868-9 Vol. XXXV and are reproduced in B.R. Mitchell and P. Deane, Abstract of British Historical Statistics, (Cambridge, 1962) pp. 368-392. In the text both sources have been used. With respect to the other set of figures for the Napoleonic years drawn from CUST 17 and annual finance accounts the Scottish and British figures within it are directly comparable and thus give an indication of the degree of understatement in the other comparative figures.

It should be pointed out that the statistics which have been used relate purely to central government taxation. So far as can be ascertained there are no readily available aggregate figures for local taxation in Scotland in this period.

APPENDIX 3. CONTEMPORARY COMMENTS ON THE AMOUNT OF PASSING ON OF
THE TAX BURDEN

It is difficult to make a judgement on the realism of this assumption* by way of reference to concrete examples as the evidence is often contradictory. For example with respect to the land tax according to the compiler of the Old Statistical Account for Longforgan, Perth: "the Scotch farmer pays literally nothing but his rent. All taxes, both King's and parochial, minister's stipend and every kind of public burden, is paid by the heritor."¹ His equivalent for Campsie, Stirlingshire however noted that: "Tacks in this parish are commonly let for nineteen years, with a clause that the tenant shall bear the public burdens, which, considering the land tax, the statute labour, and sometimes the minister's stipend [etc.]... the poor man's rent is considerably augmented by such items."² However there are a number of contemporary comments on indirect taxes which suggest the perception of the passing on of the burden. The Glasgow Advertiser of 14 May 1798 complained of: "The shameful practices of the retail-dealers in Salt, who have advanced the price of that article before the new duty has taken place." William Taylor a Leith soap manufacturer did not conceal the fact that in the 1830's with respect to soap:

"...the poor are made liable for many additional profits arising out of the duty, which enhance the value of their purchases; for, if the manufacturer pays the duty, he should in return have not only his profit on the original cost, but a remuneration likewise for the outlay of duty. And a similar charge is incurred not only for the wholesale, but, to a greater extent, for the retail dealer also, before the poor can be ³ supplied."

1. OSA Vol. 19, p. 526.
 2. OSA Vol. 15, p. 342.
 3. PP Vol. XXVI, p. 129.
- *Vide infra p. 183.

John Watts remarked of the tax on imported raw cotton that: "the import duty raised the prices of raw cotton greatly beyond the amount of the tax"⁴. whilst Thomas Pemberton was convinced that one factor which had increased the number of poor was: "the great advance in the price of the necessaries of life, arising in part from increased taxes."⁵.

4. John Watts, The Facts of the Cotton Famine, (1866), p. 24.
5. Thomas Pemberton, An Attempt to Estimate the Increase of the Number of poor during the interval of 1785 and 1803, (1811) p. 129.

APPENDIX 4. BANK OF ENGLAND ALPHABETS AND LEDGERS - 3% CONSOLS

The alphabets for the 3% consols give the name, place of residence and a description of all those who had a share in this stock. Owing to the frequency of the use of terms such as 'Gent' or 'Esq' however these descriptions are of limited use. Beside each name are folio numbers by which that individual, group, or organisation's transactions can be found in the corresponding ledger. The material is however in an unworked state. So far as I am aware the Bank never calculated the number of names which appear in the ledgers nor made an attempt to examine their geographical breakdown. There are moreover difficulties in attempting to count the number of people involved as John Reid observes:

"From a return laid before Parliament, in the session of 1833, it appeared that the number of public creditors was 279,751, but, as many of the accounts were in joint names, and in the names of incorporated associations, it is not easy to ascertain the precise number of persons interested ¹. in the public funds."

In surveying the material, owing to the fact that each entry is unnumbered and because of the large numbers involved, taking a sample using a random numbers table was out of the question. A systematic sample was therefore taken by noting the name nearest to the top left hand corner of each double page. This method was employed whether the individual had a share in his own right or held it with others. Where the name turned out to be, for example, a London institution this was counted in the total as an English entry. Using gazetteers it proved possible to trace the vast number of

1. John Reid, Manual of the Scottish Stocks and British Funds, with a list of the joint stock companies in Scotland, 3rd edn. (Edinburgh 1841), p. 136 .

places of residence of those in the sample and allocate them to the categories used in Table 8.2 though for some entries, owing to a lack of information or problems of legibility, this did not prove possible. It is extremely unlikely however that any of the latter were Scottish residents - where presumably not well known Scottish places were involved the initials 'N.B.' or words North Britain were normally used in the alphabets. There are two categories in Table 8.2 "public employees", and "military men", which require some discussion. Where an individual was described as, for example, 'of the Exchequer' a London address was probably implied. However rather than designating these to the English category and run the risk of minimising the Scottish involvement it was decided to create a new category. In the case of the military where the regiment had an obvious geographical association such as a local militia group that association was taken as an indication of residence. Where the regiments involved were general ones such as a regiment of foot the individual was placed in the military category.

The sample was taken from three sets of alphabets, set 6 covering the dates 5 July 1776 to 5 July 1782, set 9 5 July 1792 to 5 July 1798 and set 12 5 July 1812 to 5 July 1818. This seemed to provide a fair coverage chronologically as well as being in keeping with the aim of this thesis to concentrate on the Napoleonic years. According to O'Brien there were 48,495 separate accounts in Consols at 5 July 1792.² Using this information and various spot checks on individual pages it can be estimated the numbers in the sample taken from each set represent around 2% to 3% of the total number of

2. P.K. O'Brien, *Government Revenue, 1793-1815*, Oxford Univ. D. Phil, 1963, p. 261.

individual accounts in each set. The main disadvantage of the sample drawn apart from its ad hoc rather than scientific origins is that it counts heads rather than money. Ideally each individual's holding in the stock should have been traced in the ledgers but given the numbers involved this would have been impractical. Strictly speaking by simply counting heads it is being implicitly assumed that the average monetary holdings of the numbers in each category did not significantly diverge. For the findings to be invalidated Scotsmen would have to have had much larger investments than their British counterparts. Judging from the income tax figures this is unlikely. Since the income tax data suggests a similar order of magnitude to that produced via the ledgers it would appear that the sampling process did produce reasonable results. Finally it should be noted that the figures take account only of the investment of those resident in Scotland. It says nothing about wealth created by Scottish economic activity being invested by, for example, Scottish estate owners resident in England or vice versa.

APPENDIX 5. INDIVIDUALS APPEARING IN THE SAMPLE TAKEN FROM THE
ALPHABETS OF THE 3% CONSOLS WITH PLACES OF RESIDENCE
IN SCOTLAND

Set 6 1776-1782

1. Mackechnie of Glasgow, Merchant.
2. Andrew Thomson of Glasgow, Esq.

Set 9 1792-1798

1. Roger Aytoun of Inchdairnie, North Britain, Gent.
2. James Armstrong of Dumfries, Esq.
3. Mary Cunningham of Edinburgh, Spinster.
4. James Fyffe of Glasgow, Esq.
5. George Graham of Kinross, Esq.
6. John Johnson, Quarter Master Berwickshire Light Dragoons.
7. John Kay of Leith, Ship Broker.
8. Mary Logan, Spinster, Housekeeper to Lady Dundee, North Britain.
9. William McNaughton of North Britain, Gent.
10. Gilbert Meason of Edinburgh, Esq.
11. James Paton of Perth, Esq.
12. George Richie of Leith, Shipmaster.

Set 12 1812-1818

1. Archibald Alexander of Boydstown [?] Ayreshire [sic] Esq.
2. Isabella Aird of Nicholson Street, Edinburgh, Widow.
3. Mary Campbell of Cowaith, Irvine, North Britain, Spinster.
4. Mary Cullen, wife of Robert Cullen, Esq. deceased, one of the Senators of the Coll. of Justice, Edinboro [sic].
5. Adam Duff of Edinburg [sic].
6. David Dory, deceased, of the parish and county of Stirling.

7. Sir John Pringle Dalrymple of Edinburg, Bart.
8. Susannah Doull of Turriff in Bamff [sic], widow.
9. Rt. Hon. Robert Dundas Lord Chief Baron of Scotland.
10. Catherine Duthy of Arduthy, Kincardine in Scotland, spinster.
11. John Fulton of Kilmarnock, North Britain, Merchant.
12. Captain James Fraser of the Edinburgh Regiment of Militia.
13. Colonel Andrew Fraser deceased of George Street, Edinburgh.
14. John Graham of Micklewood near Stirling, North Britain, Esq.
15. Alexander Gunn of Wilson Town, Scotland, Esq.
16. George Johnston of Low [?] Hill near Dumfries, Esq.
17. Christian King of Port Glasgow, widow.
18. James Ker, Manager of the Leith Banking Company.
19. Charles Lyell of Kennordy, [?] North Britain, Esq.
20. Hannah Loraine of Duns, Berwickshire, spinster.
21. John Macffarquhar of Edinburo [sic] Esq.
22. Captain James McKonuchie, deceased, of Keith, North Britain.
23. Sir John Shaw Heron Maxwell of Springbell, Dumfrieshire, North Britain, Bart.
24. Magdalen Maubray of Argyle Square, Edinborough [sic] spinster.
25. Keith Milnes, Writer to the Signet, Edinburgh.
26. Rebecca Pringle, deceased, of Edinburgh, spinster.
27. Captain Henry Erskine Somerville of Edinburgh.
28. John Thomson, deceased, of Montrose, North Britain.
29. Elizabeth Wardlaw of George Street, Edinbro' [sic] widow.

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