Innovation and pragmatism in tax design: Excess Profits Duty in the United Kingdom during World War One

Mark Billings* and Lynne Oats

University of Exeter Business School, Exeter, UK

In this article we examine the design and administration of Excess Profits Duty, introduced in the United Kingdom in 1915. This represented a significant innovation as the country's first comprehensive attempt to tax 'excessive' business profits. Excess Profits Duty was a complex tax which had two objectives: to generate additional revenues to help fund dramatically-increased wartime government expenditure and to curb 'profiteering'. Although criticised on numerous grounds, we argue that the tax was surprisingly successful. For all its defects, it generated very substantial revenues, and its design and administration proved flexible and robust in coping with the uncertainties of war.

Keywords: corporate taxation; Excess Profits Duty; World War One

* Email: m.billings@exeter.ac.uk

Introduction

National emergencies create the conditions in which new tax regimes emerge, as Brownlee notes in a US context: '[e]very new regime has always been an integral part of a larger transformation of government that, in turn, was bound up in the resolution of a national emergency' (1996, 150). World War One brought a pressing need in the UK and elsewhere to modify the tax system and place it on a wartime footing. The quest for efficient new sources of revenue therefore took on considerable urgency. But new taxes are usually unpopular, particularly those which increase the overall burden of taxation. In this article we examine the introduction of a new tax which might be considered at least a partial exception to this generalisation: Excess Profits Duty (EPD), the UK's first comprehensive attempt to tax 'excessive' business profits, and 'probably the [UK's] most significant wartime fiscal innovation' (Broadberry and Howlett 2005, 217). Its design was a remarkable feat; a product of careful research and investigation of prevailing economic and commercial conditions as well as the judicious use of existing mechanisms for determining profits through general accountancy practice and income tax provisions. Also significant was the degree of flexibility built in to the tax through providing choice and control over the computation of the liability on taxpayers.

The principle of introducing EPD in 1915 was widely supported across the economic, social and political spectrum, and similar taxes were introduced during World War One in many other countries, both combatants and non-combatants. There were two main objectives for EPD: to generate additional revenues to help fund the government's dramatically-increased wartime expenditure; and to curb 'profiteering' by those businesses which benefitted from the war, thereby contributing to social harmony.

The literature on EPD has addressed aspects such as its impact on corporate profits during the 'transwar' period (Arnold 1999), its general role in war finance (Daunton 2002), its relationship to corporate reporting (Maltby 2005), its impact on a complex shipping group (Napier 1991), and its relationship to the short-lived postwar corporation tax and the much-debated but never-introduced capital levy (Whiting 1990). EPD generated very substantial revenues, but it has been widely argued that the tax was far less effective than it might have been (see, for example, Hicks, Hicks, and Rostas 1941), not least due to widespread avoidance, i.e. taxpayer behaviour within legal limits intended to minimise its burden. The particular focus of this article is those aspects of the design and administration of EPD which made the tax more acceptable to those who were directly liable i.e. businesses. We therefore contribute to the literature by arguing that these features of EPD reflected pragmatic compromises intended to ensure its effectiveness and acceptability and mitigate unintended consequences such as disincentive effects which would have frustrated the war effort.

EPD was complex, shaped in large part by case law as British taxes often are, with over 170 appeals, the last of which was heard in 1935 (Ridd 2007, 103). Many of these cases remain relevant today because the overlap between EPD and income tax established principles in key areas such as the nature of trading activities and the distinction between capital and income. Important aspects in the design and administration of EPD included its reliance on established principles drawn from the long-established income tax, a variety of bases of assessment intended to treat businesses 'fairly', the setting of tax rates at levels intended to limit avoidance behaviour and disincentive effects, and the creation of a Board of Referees, a body which consisted of experienced businessmen independent of the tax authorities, to settle contentious issues. We use material from the UK's National Archives (hereafter TNA), which, to our knowledge, has not previously been used for this purpose. Our sources also include the various accounts of EPD's principal 'designer', Josiah Stamp, and other secondary literature.

The remainder of this article is structured as follows. We begin with a brief consideration of the design of wartime profits taxes. We then examine the background to EPD in the UK. In the two sections which follow we address the detailed design of EPD and consider the interaction between its design and administration and its effectiveness and consequences. Finally, we discuss and conclude.

The design of the taxation of wartime profits

General considerations in the design of taxes

In his detailed analysis of contemporary tax policy design, Stamp (1921, 1) observed, '[t]he defects in a photographic negative are often negligible … until we enlarge the picture, when they become clear to all'. With reference to developments in the early years of the twentieth century, he continued:

> it is not merely that the existing structure of taxation methods is stretched to its upmost limits and shows every crack and every patch, but the search for new methods and

> untapped resources also leads men to ask for statements of the principles upon which taxation can be properly based. (Stamp 1921, 2)

At this time, principles of taxation were undergoing some reconsideration following significant change in tax policy in the preceding century. While Adam Smith's canons of taxation still held sway, there were attempts to bring them up to date for a world in which income taxes had become more prominent. The concept of imposing taxes by reference to ability to pay prevailed, although not without debate. Jones, for example, writing in 1914, put forward 'economy' and 'equity' as the two most important features of tax design. In his view, 'economy' is concerned with the production and distribution of economic goods, and leads to:

> a graduated rather than to a proportional scale; to direct rather than to indirect taxes; to taxes on income, and on things that directly imply income; to the avoidance of tax burdens on necessities or upon processes of production or means of transport. (Jones 1914, 244)

He describes 'equity' as an ethical principle:

> the limitations of the principle of economy in taxation are the boundary lines between the domains of economics and the domains of politics and ethics; and it is only because the chief effects of taxation are economic that its fundamental principle is one of economics. If we consider taxation chiefly as a thing of ethics or of politics, then indeed our chief principle should be equity or convenience, or some precept of the moralist or the politician. (Jones 1914, 240)

Stamp was critical of Jones, whom he argued 'only achieved a verbal synthesis' by bringing all principles under the head of 'economy', losing sight of the practicalities of the design, implementation and operation of taxes. He noted that 'there is no country in which the whole system of taxation is one logically worked out from first principles. Everywhere the accidents of political and commercial considerations in past history are perpetuated, and condition the present systems' (1921, 24). This tension between economic efficiency and political expediency is reflected in the need to secure taxpayer consent to tax innovation, sufficient to secure maximum possible compliance.[1] Writing in more modern times, but with an eye to history, political scientist Margaret Levi (1988, 2) for example acknowledges the constraints

[1] See, for example, a recent study on business taxation in interwar Sweden (Eriksson 2014).

on states' revenue-raising capacities flowing from the political constitution. Rulers, she observes, participate in both making the rules and making decisions within the rules, but, importantly, are also responsible for enforcing the rules, inhibiting free riding and enforcing compliance.

The development of British tax policy is often criticised for both administrative inertia and piecemeal change (Kay and King 1980; Robinson and Sandford 1983). Hood (1985) explores the long-term adaptation of tax structures by reference to British developments from 1939 to 1982. He finds evidence of the influence of 'administerability' (Hood 1985, 6) on the evaluation of the feasibility of tax innovations and their implementation. He reflects on the extent to which administrative imperatives shape the process of fiscal development and design and observes that 'taxation is a field of policy in which development might reasonably be assumed to be heavily shaped by administrative factors, given the substantial apparatus of regulations and bureaucracies that the process of taxation normally involves' (Hood 1985, 4).

Hood (1985, 20 ff.) argues that the desire to adopt tax design with an eye to practicality leads to three maxims. First, 'start from where you are', that is a style of innovation that builds on what already works with incremental adaptation, described, metaphorically, as 'cell division'. The second maxim is 'borrow a working model', including models from other countries. The third maxim sounds a note of caution to 'avoid prototyping', which may entail embarrassing (to the government) initial failures, although admittedly in some circumstances there may be no choice. As we demonstrate below, the UK's efforts to tax wartime 'excess profits' illustrate all three of these maxims, but Levi (1988) notes that political acceptability is arguably a stronger constraint on tax design than ease of administration.

An overview of profits taxes in World War One

The general purpose of wartime profits taxes was to capture additional profits made in consequence of war. The first such taxes were introduced in neutral Denmark and Sweden in May and June 1915 respectively in response to a sharp rise in import prices and 'the insatiable German demand … above all for Swedish iron and Danish butter' which led to 'the emergence of war profiteering' (Hicks, Hicks, and Rostas 1941, 165). A variety of approaches were adopted (Stamp 1917, 27–31). For example, in Bremen, Germany, excess profits were deemed to be 'war profit' unless contrary proof was offered, whereas Denmark determined that the tax would not be payable if the profits were not due to the war.[2] It soon became apparent that defining ‘war profits’ in particular was problematical, and many countries moved towards a more expansive tax, by reference to a prewar or ‘normal’ standard. Most countries chose to use an average of two or three years’ prewar profits as the standard against which to compare wartime profits to determine whether and how much ‘excess profits’ arose. The German standard took the five prewar years, eliminated the best and worst years and averaged the remaining three. The Canadian model did not use a prewar profits standard as the basis for the tax, but instead set a percentage return on capital as a standard, an alternative standard used by nearly all countries which imposed a tax. Not all industries were subjected to excess profits taxes, with agriculture or husbandry the most common exemption. Most countries also provided a de minimis exemption to remove businesses with low profits from the scope of the tax.

Background to Excess Profits Duty in the UK

The UK’s financing of World War One can be split into two sharply contrasting periods (Sabine 1980, 138). The first period encompassed the November 1914 and May 1915 budgets of David Lloyd George, Chancellor of the Exchequer prior to his transfer to the Ministry of Munitions, during which no discernable attempt was made to adopt a war footing (Wrigley 1976, 86–90). The second period followed the appointment of Reginald McKenna, Chancellor of the Exchequer from May 1915 to December 1916. ‘McKenna’s fiscal policy rested on a new principle of war finance that informed policy for the rest of the war – the concept of the “normal year” ’ (Daunton 2002, 41), which essentially meant financing the war through much-increased borrowing, significant increases in existing income and consumption taxes, and new taxes such as EPD. The so-called ‘McKenna rule’, with debt-servicing and peacetime levels of expenditure covered by permanent taxes such as income tax, was aided by the UK’s ability to borrow overseas, particularly in the US. This contributed to a semblance of normality, which helped sustain confidence in national finances and prevent postwar inflation from rising to levels seen elsewhere in Europe (Peden 2000, 97). Government expenditure was largely funded by borrowing, but in the latter part of the war EPD was close to matching income tax and super

[2] There was no excess profits tax at a federal level in Germany until June 1916, with direct taxes normally a monopoly of the states (Hicks, Hicks and Rostas 1941, 135–137).

tax as the main category of tax revenue and far exceeded customs and excise duties, the most important prewar source of revenue (see Table 1).

INSERT TABLE 1

The war placed considerable strains on the economy and forced much wider state intervention than ever seen before (Hurwitz 1968). The armed forces increased dramatically in size, initially on a volunteer basis, but later through conscription, introduced from January 1916. There were labour shortages as unemployment fell to very low levels and the working population failed to expand to meet manpower needs, but wages and wage rates were outpaced by price inflation for virtually all the war (see Table 2).

INSERT TABLE 2

The significantly-increased profits earned by a number of companies began to attract scrutiny as early as late 1914.[3] Conspicuous consumption provided further evidence of the gains accruing to some:

> I hear in the Midlands and the North people who are making money out of the War are indulging themselves freely in cheap American cars, and the Board of Trade Returns for June [1915] give striking evidence to the truth of this statement, the number of complete cars imported being 2,740 against 750 in the corresponding month of 1914. (TNA T171/121, undated 3-page note, c. July 1915, 'Proposed Excess Profits Tax', author unidentified)

Widespread public resentment arising from shortages of goods, price inflation and perceptions of profiteering acted as a catalyst to industrial unrest and generated political pressures which led to consideration of the need for a mechanism to impose some form of tax on war profits: 'There is considerable unrest among the working men owing to their thinking that unreasonable profits are being made. A profits tax would do more to increase production than anything else

[3] The example of Spillers and Bakers is particularly well-known (Stamp 1932, 146). As the war progressed, shipping became a particular focus of allegations of profiteering, with much-increased freight rates contributing to cost-push inflation (Stamp 1932, 100; Searle 1987, 285–286).

could do' (Sir Arthur Markham in the House of Commons, cited in Stamp 1932, 147).[4] The political critics of profiteers and profiteering came from across the spectrum: Searle (1987, 289) divides them 'for convenience … into four main groups: Socialists, Tory aristocrats, intellectual Liberals, and the Radical Right'.

It was apparent that the social strains imposed by war and the burden of existing and new taxes (increased income tax on employees; new taxes on entertainment, consumer staples such as beer, spirits, tea and tobacco, and less obvious products such as hats and musical instruments) required action on business profits (Stamp 1932, 196–197; Whiting 1990; Daunton 1996, Daunton 2002; Maltby 2005, 151–154). But the terms 'profiteers' and 'profiteering' were slippery. Searle (1987, 273) suggests that 'profiteering' focused on two related but separate issues: 'the involvement of businessmen in the running of the Departments of State, and the level of profit earned by contractors who supplied the Government with munitions of war and other essential goods and services'.[5] Boswell and Johns (1982), who address the difficulties of defining 'profiteering', suggest broader definitions and examine the contradictions in public attitudes.

In these complex circumstances it is perhaps unsurprising that the design of EPD took some time. The analysis of trading results in a series of reports on 'Exceptional Profits due to the War' by Josiah Stamp, Assistant Secretary to the Board of Inland Revenue and the principal designer of EPD, revealed large gains across a range of industries (Stamp 1932, 148–149).[6] The Treasury was initially reluctant to tax war profits, in the belief that it would disrupt the

[4] Markham, a Liberal MP and consistent supporter of EPD, was also a colliery owner, an industry considered particularly subject to profiteering (Stamp 1932, 85; Searle 1987, 299).

[5] The government made considerable use of businessmen to support the war effort in senior executive and administrative roles, notably at the Ministry of Munitions, and occasionally in ministerial roles (Searle 1987, 275–276), not least because Lloyd George 'became increasingly impressed with the self-made entrepreneur' (Wrigley 1976, 236). The wartime increase in labour militancy and state intervention in business also encouraged businessmen to organise collectively to represent their interests to government (Tomlinson 1994, 78–79).

[6] Stamp became a prominent businessman, economist, statistician, taxation expert and director of the Bank of England in the interwar period, published several books, and served on various official committees and enquiries.

equity of the existing system and create unnecessary distortions (Daunton 2002, 55). The counter-argument was that equity dictated that the special conditions led to excess profits and constituted a special ability to pay and that such a tax should therefore be imposed.

Under the Treasury Agreements of March 1915 trade union representatives agreed to recommend to their members the suspension of the right to strike, the lifting of restrictions on output, and ‘dilution’ in munitions manufacture – the use of semi-skilled and female labour to expand the labour force and replace workers who had joined the armed forces – in exchange for limitations on profits in these businesses (Hurwitz 1968, 95–97; Peden 2000, 87). Initially a levy on the profits of munitions firms only (the Munitions Exchequer Payment, known as the munitions levy) was introduced in the Munitions of War Act in July 1915. This act also introduced manpower controls including constraints on labour mobility such as ‘leaving certificates’, which gave employers a much-resented means of retaining employees, limiting their ability to seek out higher-paying jobs (Hurwitz 1968, 107–108). The munitions levy was to absorb all the profits of these firms in excess of 120% of the standard, usually the average profits of the last two prewar financial years. It was administered by the Ministry of Munitions, and munitions firms did not become fully liable to EPD until August 1917, when administration passed to the Inland Revenue (Peden 2000, 96).

The comprehensive EPD applied to all trading and manufacturing concerns other than those subject to Ministry of Munitions control (‘controlled establishments’, which eventually numbered in excess of 4,000 (TNA IR73/10)). It was administered by the Inland Revenue from the outset and was implemented in the Finance (No. 2) Act 1915, which received royal assent on 23 December of that year (Mallet and George 1929, 91). Its basic mechanics required comparison between profits of a wartime accounting period and a prewar standard, either based on profits or a percentage of capital. The excess so determined was then taxed at the prevailing rate. The design of EPD therefore required decisions about which businesses would be liable, how the base of the tax would be calculated, the rate at which the tax would be levied, and the manner in which the tax would be collected and administered, including appeal mechanisms.

EPD was not confined to businesses conducted within the UK and extended to those conducted abroad by persons ordinarily resident in the UK. Profits from husbandry, the professions, offices or employments were exempt, although subject to other taxes, principally income tax. The rationale for exempting the professions was that few professionals would exceed the £200 per year exemption level and that their incomes were attributable to 'their energy, brain power and health' rather than physical or financial capital, thus defeating any attempt to set a prewar standard based on a measure of capital (Mallet and George 1929, 87). Some of the categories of activity exempted from EPD appeared arbitrary. The exemption for husbandry for instance covered specialised production of carnations under glass, but not horse dealing unless carried on as part of farming operations (Stamp 1932, 151). Those who supported heavy taxation of wartime profits were not immune from arguing for special treatment for businesses they favoured. For example, Labour Members of Parliament fought unsuccessfully to have co-operative societies exempted from EPD (Mallet and George 1929, 139–141; Stamp 1932, 120). Beneficiaries of the war not subject to EPD included the Church, which received higher tithes '… owing to higher prices of agricultural produce. If this large bonus is allowed to go to the Church, we cannot expect its prayers for peace to be as sincere and vigorous as they might be' (TNA T171/121, undated 3-page note, c. July 1915, 'Proposed Excess Profits Tax', author unidentified).

In the next section we focus on the design of the base for the prewar standard against which wartime profits were to be compared under EPD.

The design of EPD

The profits standard

The starting point in determining 'standard' profits against which 'excess' profits could be measured for EPD purposes was generally profits for income tax purposes. But two features of the UK income tax system created particular difficulties in relation to establishing the base (or 'datum') line.

The first was the schedular system under which different categories of income were subjected to different rules of base determination and recognition. To capture a 'prewar profit' against which wartime profit could be compared, it was therefore not possible to simply adopt the 'trade or business profits' figure assessed to income tax under Schedule D. This essentially used accounting profits as a starting point, but then made a series of adjustments purely for tax assessment purposes, including reassignment of particular sources of income to other Schedules. That part of the return on capital attributable to the annual or rental value of business premises was excluded from Schedule D, being dealt with under Schedule A. Difficulties in determining this element of capital employed could delay the assessment and collection of EPD, so 'as a practical course, it was decided to restore to the category of "profits" this element which had been assigned for income tax purposes to "property" and by the addition of the Schedule A value and the Schedule D value to obtain a comprehensive commercial aggregate of profits' (Stamp 1932, 153).

The second problematic feature was the system of taxation at source. Since its inception UK income tax relied heavily on the notion that wherever possible, tax should be collected from the payer of the income rather than the recipient. Initial ideas for a special war tax on income were hampered by this system, because income tax assessments could include payments made as a 'collection agent', i.e. on amounts that were not the income of the person being assessed, in particular interest on loans. The inclusion of borrowed funds as capital employed would create disparities between tax borne by different companies depending on their capital structure. The course taken was to treat loan interest as a business expense and exclude loans from the capital computation needed for the alternative percentage standard (Stamp 1932, 152; see discussion below).

Profits of which years?

The UK system of income tax is not prescriptive as to year-end date for the determination of taxable profits, and follows the accounting convention adopted by the business concerned. Schedule D assessments of business profits for 1914/15 were based, with a few exceptions, on an average of the three years trading ending on or before 31 March 1914, and Stamp (1932, 151) found that approximately half of businesses made up accounts to 31 December It was decided that the first chargeable period for the new duty was the first period of account which ended after 4 August 1914, which for some businesses included a period of time before the commencement of the war. This led to protestations that this entailed 'retrospective taxation', and no apportionment between prewar and wartime profits was allowed, which resulted in unequal treatment between businesses.[7]

[7] Although the dominions followed the UK practice in this regard, the US used a system by which each year was looked at in isolation which caused problems for periods of falling prices (Stamp 1932, 165).

But the evolution of the legislation softened the profits standard from the taxpayer's perspective. The initial Treasury suggestion was that: 'the special tax should apply in cases where the actual profits of the year of assessment exceed the profits of the average of the three years ended 5th April 1914 or the profits of the year ended 5th April 1914 whichever of these two is the higher' (TNA T171/121, 18 June 1915, 'Taxation of War Profits Preliminary Memorandum' to Chancellor of Exchequer from E.E. Nott-Bower and N.F. Warren Fisher). The original Finance Bill proposal to base the profits standard on the average of the last three prewar years' profits (i.e. adopting the averaging basis for Schedule D assessment) was replaced by the average profits of any two out of the three prewar years chosen by the taxpayer (Mallet and George 1929, 88). Only excess profits above £200 were subject to the tax, higher than the original proposals in Parliament (£100) and of officials (£50), who had also suggested that EPD should not be payable unless profits exceeded the prewar standard by more than 10% (TNA T171/121, 18 June 1915, 'Taxation of War Profits Preliminary Memorandum' to Chancellor of Exchequer from E.E. Nott-Bower and N.F. Warren Fisher; Mallet and George 1929, 72, 87).

Stamp (1932, 156) described the use of profits for income tax as the basis for the profits standard as containing 'an element of retributive justice', and observed that:

> not a few who had pressed hard and successfully in prewar years for particular reductions in profits for income tax, lived to regret their skill and enterprise when they found that, in getting the profits so reduced as a standard, they had adversely affected their liability to EPD for a number of years.

In several cases, taxpayers pleaded with the Revenue for increases to income tax assessments in order to reduce their subsequent liability to EPD, for example by not taking deductions to which they were otherwise entitled (Stamp 1932, 156).

The 'average of two out of three years' rule was modified in two main situations. The first was a concession to declining businesses, offering an 'abnormal depression' standard when a taxpayer could show, to the satisfaction of the Commissioners of Inland Revenue, that average profits of the second half of a six-year period were at least 25% lower than those of the first three-year period (Finance (No. 2) Act 1915, Fourth Schedule, Part II, Rule 3). In these circumstances a choice of four out of six years was given and the taxpayer was not required to demonstrate special depression in the particular trade or business (Spicer and Pegler 1920, 81).[8] The second situation was where the prewar period was less than three years. If the business had only been in existence for two years, an average of those two years could be used, or, at the option of the taxpayer, the profits of the latter year (Finance (No. 2) Act 1915, Fourth Schedule, Part II, Rule 4). If the business had only one year of trading prior to the commencement of the war, the profits arising in that year were to be used as the datum line. If the business was in existence for more than one but less than two years, apportionment was possible.

At a fundamental level, the profits standard raised uncomfortable issues at the interface between accounting and taxation. The requirement to establish a standard prewar profit benchmark, against which war profits were matched by year to establish tax liability at high rates, gave heightened significance for tax purposes in particular to timing decisions about, for example, revenue recognition for long-term contracts, bad debt write-offs and the valuation of closing stocks.[9] Prudence took on a different blush in this context; and was even viewed with suspicion. As Stamp (1932, 158–159) observed:

> '[i]n every debate, however, in successive years, proposals were put forward for allowances to be made based on the action that the "prudent trader" might see fit to take, which displayed a touching faith that "prudence" was absolute in character, and would remain uninfluenced by surroundings, in the hands of legions of traders all qualified to supersede St. Anthony. The Crown Surveyor found frequently that a given principle was being violently advocated by one group of taxpayers, and as vigorously opposed by another, because in the one case it affected a pre-war year and in the other an accounting period.'

Statute did not specify the length of the period covered by the accounts, or whether or not those accounts had to be 'issued'. Taxpayers showed considerable ingenuity in drawing up interim

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[8] The profits records of merging companies were amalgamated to generate the profits standard of the combined entity for EPD purposes, which created 'a "lively trade" for companies that had been prosperous before the war but had struggled from then on' (Cheffins and Bank 2007, 788).

[9] Stamp (1932, 195–206) analyses in detail the issues and controversies involved in stock valuation.

accounts where these would be beneficial in terms of reduced liability to EPD by creating separate, short accounting periods for duty purposes (Stamp 1932, 161). Parliament debated this question, with the conclusion that any initial inequity would be resolved when the duty ceased to operate. In the end, the charge applied for seven full years from the date of the beginning of the first accounting period, although the dates at which rates changed throughout the course of EPD were fixed for all taxpayers.

The potential for manipulation by taxpayers, given the close link to accounting profits, highlights the special considerations required when designing a temporary tax compared to one that is expected to continue. Stamp (1924, 33) observed that great care had to be taken in making changes to EPD:

> Often it had to be urged upon Ministers that it was impossible to do anything prospectively in a tax like Excess Profits Duty. Any change had to be retrospective, otherwise accounts could be closed or carried on without closing at the will of the taxpayer, and business could be adjusted with the full light of the actual liability upon it and, therefore, not a process strictly according to nature, but conditioned by these artificial considerations.

The percentage standard

One concern in the design of EPD was to maintain fairness in its application and thereby improve its acceptability. The original idea that a comparison should be made between profits in a prewar period with profits during the war in order to tax the excess fell down in two situations, first and most obviously new businesses established after the outbreak of the war, but also unsuccessful businesses. As observed by Mr. Clark[10] in the Paint, Colour and Varnish Manufacturers application to the Board of Referees, which we discuss in the next sub-section, using actual profits for an unsuccessful trader:

> would produce a hardship … Instead of saying to him "You shall hand over to the State the difference between profits you have made, or … [actually] 50% of those profits, you shall hand over and be taxed on the difference between the profits you have made and some reasonable standard". (quoted in Stamp 1932, 232)

[10] W.F. Clark, a mining engineer of the Aldridge Colliery Company, was appointed to the Board of Referees in 1918 (TNA T1/18545).

The alternative datum line was devised to represent ‘a fair return on the capital which a proprietor had in the business’ (Stamp 1932, 166). It applied to all new businesses commenced after 4 August 1914 and, importantly, it could also be used at the option of the taxpayer where it could be shown to the satisfaction of the Commissioners that the profits standard was less than the percentage standard (Finance (No. 2) Act 1915, s40 (2)).

There were various possible alternatives for computing the total capital of a business such as the total money contributed, or the value of the assets, which could be either at cost less wear and tear, or present market value. The method adopted for the purpose of the percentage standard was defined in a series of Rules (Finance (No. 2) Act 1915, Fourth Schedule, Part III). The aim was to calculate invested capital, by reference to the asset side of the balance sheet, essentially the value of assets employed in the business at a given date, rather than the share capital or partners’ capital shown in the accounts. A contemporary study on behalf of the American Economic Association praised the relative stability of these rules and definitions throughout the life of EPD, in contrast to the US where there was significant change to the definitions of both taxable profits and invested capital (Haig 1920).

The statutory percentage was initially set at 6% for a trade or business carried on or owned by a company, and 7% otherwise (such businesses referred to as ‘firms’) (Finance (No. 2) Act 1915, s40 (2)). For new businesses, which did not have a prewar standard, the statutory percentage was applied to the capital employed during each accounting period, i.e. it potentially varied from period to period. Otherwise, the percentage standard was based on the capital employed at the end of the last prewar accounting period. In 1917 the statutory percentage was increased for accounting periods ending after 31 December 1916, by 3% for all businesses and a further additional 1% for firms (i.e. to 9% for companies and 11% for firms). This increased percentage applied only to increases in capital above the original capital on which the percentage standard was based. In the computation of EPD, a deduction was made from the profits of the wartime accounting period at the statutory percentage on the amount by which capital increased. If capital decreased during the accounting period, an addition was made to the profits for EPD purposes. To determine such increase (or decrease) in capital, a comparison was made to the average capital employed during the prewar trading year(s) forming the basis of the profits standard.

A degree of flexibility was built into the system, to allow taxpayers to apply for an increase in the statutory percentage, claiming that additional factors should be taken into account. Such applications could be made only in respect of a particular *class* of trade or business, not an *individual* business. Application was made initially to the Commissioners of Inland Revenue, and then referred to the Board of Referees, which set the statutory percentage for approximately 150 trades or industries (Spicer and Pegler 1920, 187–189). We next discuss the Board of Referees in more detail.

The Board of Referees

The specially-constituted Board of Referees external to the Inland Revenue was a particularly novel feature of EPD which reflected the government's desire to minimise parliamentary objections to the detailed provisions of EPD by appearing receptive to the views of businessmen (Stamp 1932, 76–81). The Board comprised 'persons sufficiently experienced in general business to appreciate the issues involved … a task for which the House of Commons itself was quite unsuited' Stamp 1932, 170). Edwin Montagu, Financial Secretary to the Treasury, announced the appointment of the Board and its initial membership to the House of Commons on 7 December 1915, declaring that it 'was designed to bring to bear what is known as business knowledge upon these problems, and to give confidence to the traders who carry on the trades and businesses concerned' (House of Commons Hansard, George V, Year 6, Fifth Series, Volume 76, Col. 1292). Nine of the 29 members of the initial Board were accountants and successive senior partners of Price, Waterhouse & Co., J. Gurney Fowler and Albert Wyon, served as members Jones 1995, 106, 117; TNA T1/11964/3152, Treasury Minute, 18 January 1916).

Stamp describes the Board of Referees as a 'bold experiment' in which Parliament delegated power not to decide points of law as would a court, but rather to decide questions of fact, dealing with cases in which special consideration was necessary because the flat percentage applicable to ordinary business was not, for some reason, appropriate. The Board was not empowered to increase the liability to EPD beyond that calculated under the usual rules. As noted above, rulings applied to all businesses within the relevant class, and attempts by taxpayers to narrow the construction of 'class of trade or business' so as to effectively obtain individual rulings were unsuccessful, as were 'many attempts … by isolated Members of Parliament to extend this delegated power of deciding the taxation of the subject by giving the Referees, or even the Board of Inland Revenue, power to deal with *individual* cases, or hard cases' (Stamp 1924, 34, emphasis in original). The Board of Inland Revenue were able to prevent 'frivolous or vexatious' applications from reaching the Board of Referees. In Stamp's words, 'It was thought that an insignificant or hare-brained individual might, by premature application, prejudice the case for a whole class, and it was also desired to prevent the Referees from being snowed under' (1932, 172).

The Board was empowered to use a factor other than capital of the trade in appropriate cases, for example in relation to marine underwriting, banks and shipping. The Board did not publish reasons for its rulings, but word spread of its decisions and a small group of advisors became specialists in applications. In addition, during interlocutory hearings the Inland Revenue disclosed departmental viewpoints and over time a body of knowledge emerged that reduced the number of potential applicants (Stamp 1932, 174–175).

In the next section we consider issues relating to the administration of EPD.

The administration of EPD

Practical concerns figured heavily in the Inland Revenue's views on EPD. The war brought dramatic changes in the machinery of government: new ministries were created and some existing ministries expanded. The Ministry of Munitions, created in June 1915, had over 25,000 headquarters staff by the end of the war (Wrigley 1982, 42). The capacity of other departments was more limited. The Treasury had only 33 men of the administrative class in 1914 (Burk 1982, 85) and the Inland Revenue considered itself disadvantaged by having far fewer expert accountants than the Ministry of Munitions (TNA MUN/105, note of 10 May 1917). Nevertheless, the American Economic Association's study expressed considerable admiration for the Inland Revenue's administration of EPD, when compared to the Internal Revenue Service in the US (Haig 1920).

The number of income tax payers increased from 1,130,000 in 1913/14 to 3,547,000 in 1918/19, and this extension of income tax down the social scale and the resistance it encountered greatly increased the administrative burden on the Inland Revenue (Whiting 1990; Peden 2000, 95). Late in the war Inland Revenue officials dismissed the question of 'whether it would be advantageous or practicable to apply the Excess Profits Duty to (a) Farmers, (b) Office-holders and Employees and (c) Professional Men' on the grounds that:

> what would the Exchequer gain by scrapping a tax the efficiency of which has been proved and experimenting with a new tax which by its character would involve an enormous expenditure of energy but would lack the saving grace of concentrating where the money really is? (TNA T171/151, 14 December 1917, memorandum with covering letter by E.E. Nott-Bower and N.F. Warren Fisher)

The Inland Revenue appears to have demonstrated reasonable efficiency in assessing and collecting EPD. Stamp documented progress at 6 March 1918 on EPD on 'uncontrolled establishments' (i.e. those businesses not subject to control by the Ministry of Munitions). For accounting periods to 31 December 1916, 81,652 assessments had been made, with only 471 assessments still to be made, and only 2,190 assessments had not yet been paid. For the period 1 January 1917 to 30 June 1917, 24,772 out of approximately 28,000 assessments had been made. For uncontrolled establishments in England and Wales, of the £179.5 million assessed to 19 December 1917, £166 million had been paid, which implied an 'arrears' rate of only 7.5% (TNA RECO/412). By comparison, at the Ministry of Munitions 'As late as June 1919, some 58,000 contractors' accounts still awaited confirmation and settlement' (Marriner 1980, 139). Senior Treasury officials noted the stark contrast between EPD and munitions levy:

> By 31st March 1917 the Munitions Levy had produced to the Exchequer only about £4½ millions, having become law on 2nd July 1915: by the same date the Excess Profits Duty at 50% and 60% which became law on 23rd December 1915 had secured about £135 millions, and, whilst it is true that the latter tax covered all trades and businesses, it must not be forgotten that, by arrangement, it left untouched the largest profit-making concerns, i.e. the "controlled establishments". (TNA T171/151, 14 December 1917, memorandum with covering letter by E.E. Nott-Bower and N.F. Warren Fisher)[11]

Lloyd George, Prime Minister from December 1916, complained to his successor at the Ministry of Munitions, perhaps disingenuously:

[11] Mallet and George (1929, 329) note that munitions levy was not '… chargeable on profits made before July 12th, 1915, the earliest date at which any concern became a controlled establishment', in contrast to EPD, which could capture profits as early as August 1913, depending on the date to which accounts were made up.

> The return of the Munitions Profit Tax has been most disappointing. Whether this is due to the conditions of the Tax, or to its administration, it reflects in either event great discredit upon the intelligence and efficiency of the Department who have this task in hand. Please let me know whether there is any explanation. (TNA T171/151, 9 April 1917)

Inland Revenue officials believed the explanation was the imposition of the 100% rate of munitions levy on profits exceeding the standard:

> … the removal of incentive must spell the absence of supply. The success of the Ministry of Munitions in the pursuit of their essential objective, viz: the output of munitions had as its corollary conspicuous failure in its taxation efforts. The two roles were inherently antagonistic … [with] the Munitions Levy … diluted by the various concessions designed to remove any deterrent to output. (TNA T171/151, 14 December 1917, memorandum with covering letter by E.E. Nott-Bower and N.F. Warren Fisher)

The disincentive and cash flow effects of EPD

Undesirable effects of EPD were becoming clear before Lloyd George's criticism of his former ministry's failure to generate munitions levy revenues. Companies, individually and collectively, met with Ministry of Munitions and Inland Revenue officials to clarify aspects of the EPD regulations and plead their special cases, and many of these representations brought to light detailed issues which had not been considered in the design of EPD (TNA IR73/10; MUN/105).

An early example was a meeting attended by Stamp on 25 August 1916 with three Dundee jute manufacturers who paid £700,000 in tax, of which £450,000 was EPD. 45 jute companies were operating in India, of which 38 were registered there and therefore not subject to EPD. Lord Inchcape, the P&O shipping magnate, had urged companies to remain in the UK in 1915, but had later been instrumental in the transfer of two jute companies to India. The three companies in the delegation therefore felt obliged to examine whether they too should transfer their businesses. Stamp, with his colleague C. Gordon Spry, advocated a policy of benign neglect rather than exemption from EPD for those companies whose business was situated outside the UK:

> If matters are allowed to take their course and the worst examples of this particular anomaly are left to be remedied on the individual initiative of the taxpayer (as will

probably happen in this case), the loss to the Revenue will at any rate be kept to a minimum and it appears that a policy of laissez faire is without doubt the most satisfactory for the present at all events. (TNA IR74/61, notes of meeting, 25 August 1916)

Concerns over the cash flow implications of EPD emerged at an early stage. An understanding between government departments that EPD payment could be postponed was suggested, as some controlled establishments used funds which would eventually be needed to pay undisputed EPD liabilities to fund extensions of buildings and plants in order to secure increased munitions output (TNA IR74/227, 21 June 1916 letter from Owen H. Smith, Ministry of Munitions, to R.V.N. Hopkins, Assistant Secretary, Inland Revenue). These concerns prompted later meetings and correspondence involving Ministry of Munitions, Inland Revenue and Treasury ministers and officials. A meeting on 30 April 1917 discussed whether inducements could be offered to 'contractors in exceptional circumstances', which might take the form of grants or other payments to be exempted from EPD (TNA MUN/105). A note dated 10 May 1917 discussing the increase in the rate of EPD from 60% to 80% considered 'Special cases where production may be interfered with owing to the burden of taxation' (TNA MUN/105). A meeting on 4 June 1917, which included the Chancellor of the Exchequer, the Minister of Munitions, and Stamp, discussed various ideas (TNA MUN/105). The possibility of differential rates of EPD, or discretion which amounted to this, was dismissed as impossible, as was the possibility of deeming the payment of EPD on behalf of contractors by the Ministry of Munitions as outside the scope of taxation. The same meeting noted that contractors were incurring losses on essential new production (for example in Cumbrian iron ore mines), finite assets were being depleted more rapidly due to war demands, and EPD payments were exhausting working capital while production was expanding.

The question was raised whether government finance would be available if EPD payers were unable to raise additional capital from banks or other sources. Various possibilities were discussed, including corporate securities issues (such as some kind of income bond or preference shares) and government capital grants and loans in payment of EPD (TNA MUN/105, 7 August 1917 memorandum). By the beginning of 1918 it seemed that allowing taxpayers to retain 20% of 'excess profit' offered insufficient incentive for some risks given uncertainties in relation to output and contracts, and put upward pressure on prices if contractors were to secure adequate returns. Creative solutions were contemplated: instalment payments for EPD, grants to pay EPD, or 'loans' back to taxpayers after they had paid EPD (TNA MUN/105, January 1918, memorandum from Sir John Main, Contracts Department). Marriner (1980, 137) found evidence that 'In some cases the [EPD] was waived in lieu of a subsidy for capital expenditure (much to the annoyance of Treasury officials who regarded this as improper procedure)'. In a small number of cases (around 20 mainly mining companies) specific arrangements in respect of EPD were necessary to secure production (TNA MUN/105, 28 February 1918, memorandum from Dannreuther; 4 March 1918, Baldwin letter to Worthington Evans).

But as evidence was emerging of the negative effects of EPD on business the political pressures to increase the rate of tax were growing. Much higher rates of personal income tax and conscription encouraged the view that the rate of EPD should be lifted to 100% of 'excess profits'. EPD applied at a rate of 50% of excess profits for the first accounting period. In April 1916 it was increased to 60% of excess profits arising in subsequent periods until the end of 1916, and in April 1917 increased again to 80%, a rate which applied to excess profits arising in the calendar years 1917 and 1918. For calendar 1919, the rate was reduced to 40%, but then returned to 60% for 1920 until the end of the final of the seven accounting periods for which it was levied (Mallet and George 1929, 404).[12] The postwar changes caught out some taxpayers (Stamp 1932, 164). The reduction in the rate to 40% in 1919:

> … generated expectations of the removal of the tax and this led to a fall in declared profits. Some of these were postponed by "one dodge or another", in the expectation that if brought into 1920 they would be tax free; that proved a mistake since the tax went up to 60%. (Thomas 1978, 97–98)

At the beginning of 1918, Andrew Bonar Law (Chancellor of the Exchequer from December 1916 to the end of the war) circulated to the War Cabinet Stamp's strongly-argued memorandum against an increase in the rate of EPD to 100%. Stamp anticipated the 'Laffer curve' arguments of the 1970s (Fullerton, 2008) with his suggestion that the rate of 80% was 'probably already *beyond* the point at which the maximum productivity of the tax would be found' (emphasis in original) and that an increase 'would give rise to endless complications in its administration, and have far greater inequalities in its incidence than the existing duty' as well as eliminating any incentives for businessmen to increase production or control costs. He

[12] EPD was abolished in the Finance Act 1926.

noted that there were already 'all kinds of expedients for giving "tax-free" incentive which really amount to circumvention of the tax' and contrasted EPD to munitions levy, apparently a 100% tax on the above-standard profits of munitions firms only, which 'by delay in assessment and payment … ceased to be an effective tax at all' (CAB24/38, memorandum of 7 January 1918; the draft can be found on TNA T171/151).

Other officials, who considered the arguments for a 100% rate naïve, supported Stamp. The rise in the rate of EPD from 60% to 80% in the 1917-18 budget had led businesses to seek concessions which mitigated its effect:

> the principal of which was … the substitution for the present scientific rule of valuing stocks at cost or market value (whichever is the lower) of a purely artificial arrangement under which stocks could be written down to the pre-war price (or value) and the pre-war price (or value) being allowed as a deduction in calculating excess profits. Labour and its representatives … [would] be gratified by the illusion of 100% … [but] … the rate of tax would begin to destroy industry by removing incentive and encouraging restriction of output or wastefulness in expenditure. (TNA T171/151, 14 December 1917, memorandum with covering letter by E.E. Nott-Bower and N.F. Warren Fisher)[13]

These arguments prevailed. An increase to 100% – 'so attractive in appearance, but so highly dangerous to the State in its probable results' – was avoided (TNA T171/151, 9 February 1918, note by Stamp). Stamp was to remain consistent in his criticism of the disincentive effects of taxation of 'excess profits' at a rate of 100%, being fiercely critical of the increase in the World War Two Excess Profits Tax (EPT) to that rate in 1940. In this he found support from J.M. Keynes (Sayers 1956, 86).

Discussion and conclusions

It is often claimed that wars stimulate innovations. These are not always scientific or technical, but sometimes administrative and financial. Daunton (2002, 12) observes that World War One 'put [the UK's] fiscal system under huge strains, on a scale unknown since the Napoleonic

[13] The Labour Party had favoured a rate of 80% when EPD was introduced (Mallet and George 1929, 79).

wars'. These strains forced the government to innovate in the introduction of EPD in an effort to raise revenue and maintain social harmony.

The opinions expressed by subsequent commentators as to the effectiveness of EPD are mixed, perhaps inevitably given the government's difficulties in reconciling its various objectives and the problems in defining 'profiteering'. Hicks, Hicks and Rostas (1941, 71–72) argued that although '[t]he yield of E.P.D. was enormous … it was not nearly so much as it should or might have been', with an effective rate of 34% compared to the average statutory rate of 63%. But EPD was much more successful in raising revenue than munitions levy, which was levied at a statutory rate of 100% over the standard, and 'to the end of 1924 [raised] about £50 millions, a fantastically small sum when the activity of the munitions industry is borne in mind' (Hicks, Hicks and Rostas, 89). EPD revenues far exceeded Stamp's early estimates of £20 million to £50 million in a full year (TNA IR63/63, reports of 2 July, 27 July and 17 September 1915), in part due to wartime inflation. EPD was also much more important as a source of government revenue than in other combatant nations such as France and Germany, although for differing reasons (Daunton 1996, 896–897). Criticisms of EPD went beyond suggestions of avoidance or evasion: 'there was a marked time lag in collection; EPD was still coming in fifteen years after its repeal; and an overworked staff found it difficult to administer' (Sabine 1966, 152).

Arnold's study of the transwar period of 1913-24 is the most systematic attempt to assess the impact of wartime taxation on corporate profitability, based on 'the internal accounting records of 30 quoted companies operating in a range of industrial sectors' (1999, 46). He concluded that when the effects of inflation and the postwar slump are taken into account the benefit of wartime profits to business was illusory (Arnold 1999, 66–67). Factors which offset the beneficial effects of wartime business, for at least some businesses, included the loss of export markets, diversion from peacetime domestic markets, the loss of skilled labour to the armed forces, wage inflation, and inefficiencies and depreciation of assets forced by the need to expand production without regard to normal business considerations (Jones 1987, 389). It is perhaps not surprising, therefore, that the initial acceptance of EPD by business was replaced by growing antagonism as the war continued (Maltby 2005, 160). Such sentiments would have been compounded by the increases in the rate of EPD, the realities of its application, and the various vices Sutcliffe (1920, iii) identified:

> It has helped to encourage unwarrantably high wages and prices … It has a clogging effect upon industry, and particularly it acts as a deterrent in the risking of money in new ventures … It has abstracted from many businesses the profits which under ordinary circumstances would have been put by … and when the bad times come many will be seriously hit.

The effectiveness of EPD must also be considered in the context of the balance between capital and labour. Boswell and Johns (1982, 444) conclude that '[a] minority of businessmen profiteered both deliberately and effectively … usually … legally but in flagrant contravention of the public consensus … [but] [a]lmost certainly, they formed a small percentage of businessmen overall'. Although EPD contributed to curbing business profits, popular resentment against profiteering remained a significant factor in the later stages of the war, as the Spring 1917 Commission on Industrial Unrest found (Boswell and Johns 1982, 427). The 1915 and later Munitions of War acts, in part a tool for 'conflict management' and the curbing of profiteering, were a key component of government strategy. These acts also provoked working class resentment, but did facilitate some benefits for labour in the form of 'industry-wide bargaining and wider trade union recognition' (Rubin 1987, 250) and enhanced welfare provision by at least some employers.

Notwithstanding the distaste of Stamp and other politicians and officials (Rollings 2001), a significant consequence of the experience of EPD was that the heavy taxation of business profits was less controversial in World War Two, both in principle and in detail. EPT was introduced earlier (during the prewar rearmament phase of a war which was more widely-anticipated than World War One), at a higher rate (60%), and raised to 100% early in the war (May 1940), with objections addressed by the promise of a refund of 20% of the tax paid at the end of the war, subject to unspecified conditions (Sayers 1956, 47–48). EPD's features, including the Board of Referees, were clearly recognisable in EPT, but 'detailed enactment' was favoured over 'administrative discretion'. There were also fewer exemptions, a higher minimum exemption level, a more restrictive choice of years on which to base the profits standard, and less scope to use a percentage standard (Hicks, Hicks and Rostas 1941, 93–99, quote from 93). With a lengthy war in prospect and a coalition government including Labour and trade union representatives, 'Industry has learnt to bear more and Labour to ask it' (Hicks, Hicks, and Rostas 1941, 94).

For all its defects, we argue that the design of EPD balanced considerations of economic efficiency and social equity. It therefore largely met Jones's criteria of 'economy' and 'equity' in tax design and Levi's need for 'political acceptability'. Hood's three maxims of 'start from where you are', 'borrow a working model', and 'avoid prototyping' were not neglected. The Inland Revenue was largely successful in combining familiar and new elements to generate considerable revenues, grafting EPD on to a longstanding and effective income tax system which was generally held to be fair and legitimate, unlike other countries where income tax itself was a very recent introduction (Daunton 2002, 12). Some elements of the EPD rules were complex, others innovative, in order to try to deter avoidance activity and secure acceptance of the tax by business.[14] It proved more acceptable than possible alternatives such as a capital levy (Hicks, Hicks, and Rostas 1941, 252–285). Overall, it might be considered surprising that the tax worked as well as it did, given the considerable difficulties that its designers faced in reconciling and balancing the tax with the multiple and potentially-conflicting objectives of government policy, uncertainties about the duration of the conflict, and the revenue and the complications that the tax would generate.

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[14] Price controls were the counterpart to taxation in the control of profits. Also 'fairly generously administered', similar trade-offs applied, notably the need to encourage production (Tomlinson 1994, 66).

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Table 1. UK government revenue and overall fiscal position, 1913/14-1918/19.

Tax year	1913/14	1914/15	1915/16	1916/17	1917/18	1918/19
Government revenue as percentage of government expenditure (1)	100.5	40.5	21.6	26.1	26.2	34.5
Government deficit as percentage of GDP (2)	-	14.0	43.1	47.9	46.9	34.6
Government debt as percentage of GDP (3)	26.2	40.6	64.4	99.9	116.3	127.5
Excess Profits Duty as percentage of government revenue (4)	-	-	0.04	24.4	31.1	32.1
Income Tax and Super Tax as percentage of government revenue (5)	23.8	30.6	38.1	39.2	33.9	32.8
Customs and Excise as percentage of government revenue (6)	37.9	35.8	35.9	22.1	15.6	18.3

Sources: (1), (2), (3): Broadberry and Howlett 2005, 216, Table 7.7, 219, Table 7.9; (4), (5), (6): Mallet and George 1929, 390, Table I.

Table 2. Wages, prices and employment, 1913-1919.

Year	1913	1914	1915	1916	1917	1918	1919
Index of average weekly wage rates (1913=100)	100	101	108	118	139	179	215
Index of average weekly wage earnings (1913=100)	100	101	117	133	170	211	241
Index of retail prices (1913=100)	100	101	121	143	173	199	211
Food price index (1913=100)	100	96.3	123.5	149.6	192.1	219.5	226.7
Working population (000s)	20,740	20,910	21,090	21,270	21,450	21,630	21,820
Percentage of working population in civil employment	96.0	93.0	87.2	83.2	79.7	78.9	87.2
Percentage of working population in armed forces	1.9	3.9	11.8	16.5	19.8	20.5	9.8
Percentage of working population unemployed	2.1	3.1	1.0	0.3	0.5	0.6	3.0

Source: Feinstein 1972, T127 (Table 57), T134 (Table 62), T140 (Table 65).