‘Nipcheese’ the Beancounter: Purser accounting and accounting change in the Royal Navy 1665-1832

by

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Abstract

This historical accounting study is concerned with exploring and explaining the development of record-keeping, control and governance in the British Royal Navy mainly in the late 18\textsuperscript{th} and early 19\textsuperscript{th} centuries. During this period, the Navy was one of the largest enterprises in Europe with worldwide operations. The victualling of ships, the provisioning and administration of supplies on board ships have not previously been examined from the perspective of accounting, controls and governance. Research in military accounting has examined influences on accounting and accounting developments in war-time. This study augments knowledge of naval accounting and looks beyond accounting development in wars.

The thesis considers the purser as a key participant in naval accounting. It examines archival records, maritime history, and other available sources to investigate the roles of the purser. Accounting practices were adopted to control food and other rations, and the purser’s (short) measure allowed for waste, early examples of cost accounting and waste allowances.

These records detail allowances for rations and related controls, which illuminate how pursers on board ship accounted for rations, alcohol, and related expenses. Early internal controls are observed in senior officers’ authorisations. These controls were mandated by centrally administered regulations and instructions.

The Regulations and Instructions for navy officers (1731-1808), are investigated. The requirements increased substantially from 1808 following external pressures on the Navy for increased accountability for acceptable expenditure control and accounting-led governance.

The study explores the next major accounting development in the Navy – the introduction of double entry bookkeeping, which first occurred in the Navy before other government organisations. The correspondence, governmental debates and reports around this development in governmental accounting are examined.

The thesis contributes to the literature on accounting emergence and change, particularly governmental and military accounting history, identifies the influences for emergence and change and elucidates the political nature of accounting.
Declaration

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.

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Table of Contents

List of Tables........................................................................................................................................... 4
Abbreviations ............................................................................................................................................... 5
Acknowledgements ................................................................................................................................... 6
Dissemination ........................................................................................................................................... 7
CHAPTER 1 Introduction ................................................................................................................................... 8
Table 1 – Summary of articles included in this thesis.............................................................................. 16
Table 2 – Content of articles included in this thesis............................................................................... 20
CHAPTER 2 A rum deal: The purser’s measure and accounting control of materials in the Royal Navy, 1665-1832......................................................................................................................... 26
CHAPTER 3 What shall we do with the drunken sailor? Accounting and controls for alcohol in the Royal Navy in the time of Nelson .................................................................................................................. 50
CHAPTER 4 Minding their Ps and Qs; the Royal Navy purser and accounting and governance, 1731-1808 ............................................................................................................................................... 69
CHAPTER 5 The French connection; paths to a ‘new system’ of accounting for the Royal Navy in 1832 ...................................................................................................................................................... 93
CHAPTER 6 Concluding remarks ................................................................................................................. 107
Table 3: Contributions to knowledge from the studies comprising the thesis......................................... 111
Appendices .................................................................................................................................................. 115
Appendix 2. Ethical review checklist ........................................................................................................ 118
Appendix 3. Ethical approval letter. ....................................................................................................... 123
## List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Summary of articles included in this thesis.</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Content of articles included in this thesis.</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Contributions to knowledge from the studies comprising the thesis</td>
<td>111</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
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<td>------</td>
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<tr>
<td>ADM</td>
<td>Admiralty</td>
<td>For records at the National Archives, Kew</td>
</tr>
<tr>
<td>CeO</td>
<td>Commissioners for executing the Office of lord High Admiral of the United Kingdom of Great Britain and Ireland.</td>
<td>Publishers of Navy instructions</td>
</tr>
<tr>
<td>FIFO</td>
<td>First in first out</td>
<td>A method of stock/inventory management or valuation</td>
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<tr>
<td>HC Deb</td>
<td>House of Commons debate</td>
<td>For records of House of Commons/ Lords, sittings, debates or reports.</td>
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<td>HC Rep</td>
<td>House of Commons report</td>
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<tr>
<td>HC Sit</td>
<td>House of Commons sitting</td>
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<td>HL Rep</td>
<td>House of Lords report</td>
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<tr>
<td>HL Sit</td>
<td>House of Lords sitting</td>
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<tr>
<td>HMS</td>
<td>His Majesty’s Ship</td>
<td>used in the names of ships in the Royal Navy.</td>
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<tr>
<td>Lb</td>
<td>pounds</td>
<td>The weight system at the time.</td>
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<tr>
<td>R&amp;I</td>
<td>Regulations and Instructions</td>
<td>Regulations and Instructions relating to his Majesty’s Service at Sea. London: Privy Council.</td>
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<tr>
<td>RN</td>
<td>Royal Navy</td>
<td>The British navy.</td>
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<tr>
<td>UK</td>
<td>United Kingdom</td>
<td></td>
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<tr>
<td>Viz</td>
<td>videlicet</td>
<td>Abbreviation for the Latin which means ‘namely’.</td>
</tr>
<tr>
<td>£ s d</td>
<td>Sterling pounds, shillings and pence</td>
<td>The monetary system at the time.</td>
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Acknowledgements

Firstly, I would like to express my sincere gratitude to my supervisor Dr Tony Hines, for the continuous support of my PhD study and related research, for his patience, dry sense of humour and friendship. His guidance has helped me from when I first came into academe, in all my time of research and in the writing of this thesis. I could not imagine having a better advisor and mentor for my PhD study.

Besides my first supervisor, I would like to thank the rest of my thesis supervisory team: Prof. Lisa Jack and Prof. Russell Craig, for their insightful comments and encouragement, Russell thank you for always demanding more of me and my research, I have grown as an academic thanks to your persistence.

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My appreciation goes to my Heads of Department and Prof Andy Thorpe, who have provided me with opportunities to do research, without their support it would not have been possible to conduct this research. I am lucky to work in collegiate team environment, in an Accounting and Financial Management subject group with great colleagues.

To the Economic History Society who provided a bursary to help fund the latter stages of the research and conference attendance.

Sadly, my dad passed away before I finished my thesis, he always believed his girls could do anything they put their minds to, there was no glass ceiling in our world. You were right dad, we can achieve anything. Mum, thanks for your love and support too, another ‘certificate’ to be proud of.

Finally, last but never least, Francesca, Nathan, Alexander, aim high, try hard and you will succeed in whatever you want. Things may not always go to plan, but if you persevere, anything is possible. Martin, you are the best, for all your love and support, this thesis is dedicated to you.
Dissemination

Peer-reviewed publications

McBride K. (2020) A French Connection; paths to a ‘New System’ of Accounting for the Royal Navy in 1832. British Accounting Review (3*) online prior to publication at time of submission.


Conference presentations

2019 Italian international accounting history conference, Siena Wed 22nd Nov – Fri 24th Nov – A French Connection; paths to a ‘New System’ of Accounting for the Royal Navy in 1832 paper presented.

2019 European Accounting Association Conference, Paphos, Wed 31st May – Fri 2nd Jun – Minding their Ps and Qs; the Royal Navy purser and accounting and governance paper presented.


2016 World Congress of Accounting Historians, Pescara, Fri 24th – Sun 27th June 2016 – A Rum deal: The pursers measure and accounting control of materials in the Royal Navy 1665-1832 paper presented.
CHAPTER 1

Introduction
CHAPTER 1 - INTRODUCTION

Introduction

The research presented in this historical accounting thesis considers accounting development and control within the Royal Navy (hereafter Navy) from the 17\textsuperscript{th}, across the 18\textsuperscript{th} and early 19\textsuperscript{th} centuries. An understanding of accounting development and control in this context, is primarily explored through the roles and accounting of the purser (Article 1, Chapter 2 and Article 2, Chapter 3); by examining changes in the applicable Regulations and Instructions\textsuperscript{1} (hereafter, Regulations) (Article 3, Chapter 4 and Article 4, Chapter 5) and by studying the introduction of double entry bookkeeping as a major accounting development in the Navy during this period (Article 4, Chapter 5).

The purpose and aims of the research are as follows:

- To outline the roles of the purser, a ship’s supply officer and in effect the on-board accountant, to identify the practices of accounting for rations at this time and to explore control of rations given the situation of separation of ownership and control. (Article 1, Chapter 2 and Article 2, Chapter 3)
- To consider a more general overview of the accounting regulations within the Navy and to explain accounting change – particularly the substantial changes to the Regulations in 1808, and to provide rationales within the historical context for these changes. To elucidate the subsequent change to a ‘new system’ of accounting, especially premised on double entry bookkeeping, or a mercantile system of accounting. To consider the drivers of this fundamental accounting development; the impact of that change and the actions or influence of a number of key players who instigated the change. (Article 3, Chapter 4 and Article 4, Chapter 5)

This introduction sets the scene for the different chapters outlined in connection with the above aims. Following this identification of the research purpose and aims, the significance, originality and contribution of this PhD research is highlighted. The theoretical grounding of

\textsuperscript{1} The Regulations and Instructions relating to his Majesty’s Service at Sea were originally issued in 1731, a publication which included previously issued instructions by the Duke of York in 1662 (ADM 7/827, ADM 2/1733, ADM 7/639). These Regulations and Instructions (1731-1808) described the duties of each officer, but mainly in terms of accounting responsibilities (Rodger, 1986). The Regulations applied to: the Flag Officer/Commander in Chief and the Captain/Commander in the first section, then the Lieutenant, the Master, the Boatswain and Master Sailmaker, the Gunner and Gunsmith, the Carpenter, the Purser, the Surgeon, the Master at Arms and the Corporal, the Schoolmaster and the Cook.
the research is subsequently outlined. After this depiction, the philosophical assumptions and
the research design for each of the studies is discussed and clarified. Finally, the structure of
the thesis is specified by means of the provision of an introduction to each of the articles and
a table illustrating this.

**Significance, originality and contribution**

The articles within this historical accounting research, making up this thesis, collectively
constitute a significant theoretical and conceptual contribution to the understanding and
knowledge around accounting and accounting change within the Navy between 1665 (when
Samuel Pepys became Surveyor General of Victualling) and 1832 (the abolition of the
Vicualling Board). This PhD contributes to the literature on accounting development and
change in the context of accounting history, focusing on the military, specifically in the
Navy, and on the political nature of accounting in exploring the determinants of accounting
changes and the roles of key players in influencing the accounting change examined. It
contributes to the maritime history literature by highlighting the influence, use and impact of
accounting in the Navy and for the institution’s victualling. It also contributes to theory of
organisations, in extending the use of theories such as agency theory, beyond an
organisational, business or economic situation and by the innovative use of historical
institutionalism by focusing more specifically on the roles of key actors.

Accounting history research includes a small but not insignificant subset of studies in British
military history (Walker, 2005; Carnegie and Napier, 2012) with a further subset of
accounting and the effects of the British Empire (Sian and Poullaos, 2010). With calls for
further research in the area of accounting history focusing on the military (Chwastiak and
Funnell, 2010), research in accounting for the military and for wartime activity has increased
and become more diverse (Cobbin and Burrows, 2018). It is argued (see, for example, Cobbin
and Burrows, 2018) that accounting has previously been shown to be reactive and thereby
featured as adapting to the requirements of the military, both during war and in peacetime.
However, most of the accounting history studies published to date focus on the needs of
wartime accounting development and change (Funnell and Chwastiak, 2015). Most relevant
literature in these areas is concerned with military and military settings outside of the Navy.
Of the 55 recent articles (published in academic accounting journals during 2000 to 2017)
alysed in the review article by Cobbin and Burrows (2018) only three (less than 6 %) were
concerned with accounting in the context of the British Navy, with no other navies being
CHAPTER 1 - INTRODUCTION

specifically considered in that period. Similarly, whilst the area of naval history is prolific, it is rare to find a publication on accounting in the Navy in the period covered by this thesis. Although maritime historians (specifically Lewis, 1960; Davey, 2009, 2014; Gonzalez Enciso, 2017; Graham, 2011; Knight and Wilcox, 2010; MacDonald, 2004, 2010; Robson, 2014; Rodger, 1986) have investigated the victualling (supply of provisions) for ships, including the purser’s duties and the provisioning and administration of supplies on board, there is very little or no attention given to the underlying accounting associated with such developments. In exploring the development of Navy accounting, this thesis intends to develop the literature in the area of military accounting history from the perspective of the operational and provisioning requirements of the Navy and the related accounting requirements.

Investigations are carried out of the purser’s roles and the specific accounting conducted (over the period between 1665 and 1832), giving an overview of the purser and the accounting placed under the direct influence of this role. Control of consumable rations within the Navy is investigated, providing clarification on the roles of accounting for control of rations and waste, and for standard costing purposes, as well as for internal accountability and audit processes (Article 1, Chapter 2). These accounting methods and controls are then identified and analysed by consideration of their application in accounting for alcohol in the Navy, enabling a reflection on the perceived key role of accounting in the important task of provisioning the seafarers (Article 2, Chapter 3). Whilst naval historians have focused attention on the provisioning of rations for the personnel in the Navy, there is no specific, detailed literature on the accounting undertaken to facilitate this provisioning, a gap in the literature filled by this thesis. The role of governance is further explored in considering accounting and governance in the Navy between 1731, the date of publication of the first consolidated Regulations, and 1808, the time of application of major changes to those Regulations (Regulations, 1731-1808) (Article 3, Chapter 4). This notion of accounting change is then developed by examination of the paths that led to the key development in the form of the introduction of double-entry bookkeeping in the Navy (Article 4, Chapter 5). In the accounting history literature on the military, no previous studies have considered accounting change in the Navy over this extended period, whilst there are studies exploring the introduction of double entry bookkeeping, these are more focused on when and where the method was introduced (for example, Edwards, 1989). This thesis seeks to view two periods of change, the period to 1808 and from then, to the eventual adoption of double entry
bookkeeping within the historical narrative and context of events within this long study period and of the key actors involved in the changes to accounting.

The thesis thereby contributes to the literature in accounting development and change and military accounting history. It contributes to literature on the political nature of accounting, the determinants of accounting changes and the roles of key players in influencing change. It contributes to maritime history literature in highlighting the influence and use of accounting in the context of the Navy. It also contributes by extending the use of the theories included, beyond more usual business situations and by an innovative use of historical institutionalism and the roles of key actors.

**Theoretical grounding of the research**

Research in accounting history has a tradition from the mid-1980s of the use of various theories to provide insight as to why and how accounting has affected and been affected by organisations and their development and change. In this thesis, theories are used to provide conceptual frameworks for historical narratives, to explain and theorise the accounting, controls and governance. Placing accounting in its social and historical context (see, for example, Napier, 1989), to explicate change or lack of change in accounting in the Navy. Accounting is seen as being more than a technical practice, but is also a key social practice (Carnegie and Napier, 1996, 2012) and thereby explanations need to be situated in recognition of accounting also as a social practice and within the context of the subject organisation, in this thesis, the Navy.

Each of the articles that comprise the thesis makes use of different theories, in order to elucidate the differing aspects of the research. The first article, specifically applying the lens of agency theory (Eisenhardt, 1989; Jensen, 1983; Shapiro, 2005; Wiseman, Cuevas-Rodriguez and Gomes-Mejia, 2012), explains the role and objectives of Navy Pursers and their relationship with the Navy Board. Agency theory aims to give a clearer or more specific explanation of

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2 The Navy Board (responsible for dockyards, shipbuilding, repairs and naval stores) was established in the sixteenth century. With the Victualling Board as the second subordinate board established by the Admiralty, this board supplied food, drink and other provisions for naval ships. The distribution was carried out mainly through its victualling yards in the dockyards. Victuials were supplied to Pursers on board ships who ensured those on board were fed and they accounted for these provisions. The focus on the purser’s role is in provisioning and issuing stores, and in the associated accounting for these to the Navy Board.
the Purser’s local, time-specific actions and the accounting and controls that were imposed upon them for adoption (Article 1, Chapter 2). The second article is informed by Foucault’s ideas of ‘governmentality’(Foucault, 1980, 1991) to interpret the Regulations and the accounting to be carried out to control provisioning of the seafarers, particularly regarding the management and use of alcohol of all forms. With the government of the Navy and the formalising of the rules under which it operated, the research is informed by means of the analytics of government and its related discourse, recognising that government is motivated to establish agents, interests and identities via accounting (Article 2, Chapter 3). Article three, utilises institutional theory (Fogarty, 1992, 1996; Meyer and Rowan, 1977, 1991; Power and DiMaggio, 1991) acknowledging that a public organisation needs to retain or develop support and funding by responding to external pressures and social expectations and by managing and maintaining legitimacy with both external groups and the government (Article 3, Chapter 4). The final article explores the introduction of double entry bookkeeping in the Navy by means of historical institutionalism (Mahoney, 2000; Pierson and Skocpol, 2002; Araujo and Harrison, 2002) to view this accounting change in historical context and to identify the alternatives considered at the time. Historical institutionalism pinpoints key critical junctures where change could occur, explores the options available, and the paths that are indeed taken. A theoretical contribution is made here by identifying the key actors and their individual contributions, based on the surviving evidence, to extend historical institutionalism in the local, time specific context whilst examining the paths to the introduction of this key change in Navy accounting (Article 4, Chapter 5).

A fundamental premise of accounting history is that accounting should be studied in the contexts in which it operates (Hopwood, 1983), this includes the historical, organisational and social contexts. This work in this thesis aims to do this with both historical narratives to provide the socio-historical context and using forms of organisational theory, as articulated, to broadly provide the interpretation of the findings within the social and organisational contexts.

**Philosophical assumptions and research design**

The role of theory in historical accounting research is part of an ongoing debate (see, for example, Carnegie, 2014). New accounting history was promoted enthusiastically as a diverse discipline both theoretically and methodologically (e.g. Miller, Hopper, and Laughlin, 1991). Espousing the use of social theories of various types to contribute to the explanation of
findings of historical accounting research broadly under the conception of accounting as social practice with implications for human behaviour in organisations and society (Armstrong, 1987; Bryer, 1991; Hopper and Armstrong, 1991; Loft 1986; Tinker and Neimark, 1988). Traditional accounting historians were concerned or even upset at what they perceived as a diversion from ‘real’ or ‘old’ or ‘technical’ accounting history (see for example, Tyson, 1993, 1995). Articles have subsequently been published seeking a middle ground between the key differing approaches to accounting history research (Carnegie and Napier, 1996; Fleischman, Kalbers and Parker, 1996; Funnell, 1996; Gomes, 2008; Gomes et al, 2011). Carnegie and Napier (1996) state that the differences between traditional and new approaches to accounting history, ‘are more of degree than kind … accounting history is enhanced by locating our narratives within an understanding of the specific context in which the object of our research emerges and operates’ (p. 8). Many of the initial debates were around the relevance and use of narrative (see, for example, Appleby, Hunt and Jacob, 1994; Carter, 1987; Funnell, 1996 and 1998). However, narrative is the normal way of writing history and currently is still a preferred method of writing accounting histories (see, for example, Carnegie and Napier, 2017a and b; Czarniawska, 2017; Fleischman, Tyson and Oldroyd, 2018). Narrative is a key method for writing new accounting histories using social theories to contribute to the explanation of the findings of historical accounting research. The approach offers much appeal in this thesis, as a thorough method for setting the context and the environment for the accounting changes in the Navy. The articles making up the PhD research apply a “new accounting history” approach of historical narrative informed by organisational theory, an interpretive approach interlinking evidence and theory.

The design of this PhD research is to investigate relevant past events, present these as a historical narrative and to analyse these by means of relevant theories, as per the discussions above. Historical evidence to be used in such studies needs to have both survived and be available for examination. Such evidence has been searched for, collected and collated from various sources and analysed. Explorations of maritime and accounting archives and historical literature in the Royal Navy Dockyard Library, Portsmouth, the National Archives and in the Maritime Museum Greenwich, provided an initial understanding relating to the roles and accounting duties or functions of pursers and of the accounting changes in the Navy. Source archival records have been accessed at the Pepys Library, Magdalene College, Cambridge; the Naval records located here were compiled by Pepys when he was Secretary to the Admiralty (1684-1689). The Maritime Museum also holds historical accounting books
CHAPTER 1 - INTRODUCTION

maintained in the Navy, records of Navy dockyards and records and books relating to the central administration of the Navy. Documents have been identified and sourced relating to governmental meetings and publications, Parliamentary papers, sessional papers from the House of Commons or House of Lords debates, sittings or reports. Information has been sought from as many archival and secondary sources as possible in order to triangulate and verify the narrative and analysis.
### Table 1 – Summary of articles included in this thesis.

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<thead>
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<th>Chapters</th>
<th>Articles</th>
<th>Notes</th>
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CHAPTER 1 - INTRODUCTION

Structure of the Thesis

The thesis is presented in accordance with the Portsmouth Business School “Guidance for the compilation PhD thesis requirements”, dated February 2017 (see Appendix 1). In compliance with this format the thesis contains four individual but linked journal articles/research book chapter as four specific chapters, this introduction and concluding remarks which focuses on future research opportunities. The archival studies in this thesis were approved by the University of Portsmouth’s Ethics Committee (see Appendix 2). All articles presented have been successfully submitted for academic double-blind peer review and published with the quality journals/research book chapter listed (see Table 1 above) to ensure methodological and theoretical rigour has been applied throughout the thesis. The thesis, therefore, comprises a total of six chapters. Published articles appear in this thesis as they did in the publications attained, accordingly the references for each publication are provided directly after the article concerned. The publications that comprise chapters 2 to 5 are summarised in Table 2 below.

In accordance with the usual practice for a PhD thesis, the names of members of the supervisory team involved in each article are in the author listing for the published articles included. However, all articles constituted work developed from research specifically undertaken for this thesis, where the researcher as the first author, was responsible for the conception of the study, the research design and methodology, the archival data collection, analysis and interpretation, for the choice of theory for analysis purposes and for the article/research book chapter writing, revision and completion. Other named authors contributed guidance and advice as part of the supervisory process for a PhD, as did anonymous reviewers who were part of the review processes for publication of the four articles involved. As may have been anticipated, there was more input from supervisors in the form of comments and suggested revisions, for the first two publications than for the final two.

This introduction precedes chapter 2 (Article 1) which is a broad overview of the roles of the purser. The on-board ration-keeper and key accounting official in the Navy, the purser was nick-named “Mr Nipcheese”. The purser of the time specifically used accounting-related practices to control food and other rations. The records kept indicate that the Navy was nascent in the development of cost and materials accounting and, in the recording, and in the use of detailed accounting records for the intended purposes. The article aims by means of agency theory, to understand the accounting aspects of the roles of the purser and the internal
control processes that were part of his day-to-day duties. Navy accomplishment in the delivery of commercial efficiency and effectiveness is attributed to its use of agency arrangements for the control of rations via the purser. The article addresses the broader historical development of accounting procedures for materials wastage (by means of the “Purser’s measure”), standard costing, and inventory control and finds nascent use of the ideas of agency theory and of accounting controls to ensure economy and efficiency in making the best use at the time of specified Navy resources, by means of the recording and distribution of rations.

Chapter 3 (Article 2) presents a detailed analysis of the accounting and control of rations issued by the purser, specifically studying the regulations for the accounting and control of beer and other alcohol products or varieties. Accounting provided the details by which allocations of rations were stored, measured, allocated and supplemented. The article is underpinned by Foucault’s ideas of governmentality, the concept that the late 18th century witnessed a new discipline of individuals, who were encouraged to be compliant and accepting, the idea of a governable person, along with a governance discourse which notes that government has an interest in directing or maintaining “action at a distance”. Which is a variant of the agency problem (information asymmetry when principals are separate from agents) enables control through knowledge and centrally administered and governed regulations. The article reflects on the key or major role of accounting in the government of the Navy, in the significant area of the adequate and regular provision of rations for the seafarers. It discusses the required accounting records and forms, outlines the detailed accounting records maintained, based on documents from the archives. Records to deal with the agency/stewardship issue of the separation of those in charge and the specific allocation of provisions at sea from a rations and accounting control perspective.

Chapter 4 (Article 3) extends and develops the ideas of accounting as agency and governmentality to consider the accounting Regulations that were imposed on officers in the Navy, in terms of accounting and governance. Again, this contribution explores the accounting duties or functions undertaken by the purser at the time but seeks to identify the further implications of the accounting regulations imposed on these officers. This is analysed using institutional theory in the context of major accounting change which occurred in 1808, following external demands for increased governance generally within the public sector and
specifically within the Navy combined with Melville’s impeachment. The aim of this work is to present a critical explanation of when, why and how these Regulations changed, whilst directly setting the lead-up to this key accounting development within the historical setting. The article explains how and why the 1808 Regulations substantially increased the number and type of accounting records and forms to be completed. Therefore, accounting records increased in both quantity and content, introducing further complexity to the requirements for recording, control and governance.

Chapter 5 (Article 4) extends and develops the overview of the immediately preceding article to investigate further the changes in accounting regulations in the Navy. The article focuses specifically on the paths that led to a ‘new system’ (the term used in the archival correspondence) of accounting, or specifically the introduction of double entry bookkeeping in the Navy. It uses historical institutionalism’s longer-term view to consider first the 1808 changes to the Regulations and then the changes to formally introduce double entry bookkeeping. This was first introduced to governmental accounting in the Navy in 1828 in small scale at Greenwich Hospital, and then more generally in 1832. The article views this accounting change through the critical junctures of historical institutionalism and extending these insights by means of the consideration of the influence of the key actors who are identified. The article identifies the critical junctures, the narrative and the paths to this accounting change, with competing logics influenced and shaped by the key actors discerned, thereby contributing to the literature on accounting emergence and change and the political dimensions of accounting in the Navy.

Chapter six comprises the concluding remarks. This chapter outlines the collective contributions of the studies and outlines future research plans arising from the work submitted. There are suggestions for future research in the areas of accounting within the jurisdiction of pursers, historical accounting of the Navy, and in change and development of accounting.

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3 Viscount Melville was Treasurer of the Navy between 1782 and 1800, then First Lord of the Admiralty for a year until May 1805. A parliamentary commission of enquiry appointed in 1802 resulted in his impeachment in 1806 on ten charges of misappropriation of public money. The impeachment hearing (the last in British history) ended in a finding of formal negligence and an acquittal. Melville was acquitted on all charges, but publicity around the impeachment, led to public criticisms of the Navy and its financial governance.
### Table 2 – Content of articles included in this thesis.

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<th>Chapters</th>
<th>Articles</th>
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<tr>
<td>3</td>
<td>McBride K and Hines T (2018). What shall we do with a drunken sailor? Accounting and controls for alcohol in the Royal Navy in the time of Nelson, Chapter 5, <em>Accounting for Alcohol: An Accounting History of Brewing, Distilling and Viniculture</em>. Quinn, M. and Oliveira, J. (eds) Abingdon: Routledge.</td>
<td>Identifies accounting controls pertaining to alcohol rations in the Royal Navy from 1793 to 1815. <strong>Theory</strong>: Foucauldian ideas of governmentality. <strong>Findings</strong>: Development of the controls related to the usage of beer and other alcohols such as rum, brandy or wine. The purser on board ships accounted for daily alcohol rations by means of basic cash accounting. A method of internal control was applied with senior officers signing the purser’s accounts, records and certifications (e.g. for control of alcohol amounts and waste).</td>
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<td>4</td>
<td>McBride K (2019). Minding their Ps and Qs; the Royal Navy purser and accounting and governance, 1731-1808. <em>Accounting History</em> 24(3): 402 – 424.</td>
<td>Analyses the accounting regulations pertaining to officers in the Royal Navy and specifically the purser on board ships during the period 1731 to 1808. <strong>Theory</strong>: Institutional theory. <strong>Findings</strong>: Examines the development of accounting and governance from the adoption of the original Regulations and Instructions of 1731 through to the major rewriting of these requirements in 1808. The accounting changes are considered as arising from external expectations, key events and the need to ensure further high levels of government funding for the Navy.</td>
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<td>McBride K (2020). A French connection; paths to a ‘new system’ of accounting for the Royal Navy in 1832 <em>British Accounting Review</em>. Online (on submission of thesis).</td>
<td>Examines the pathways to the introduction of double entry bookkeeping in the Royal Navy. <strong>Theory</strong>: Combines historical institutionalism and explores the roles of key actors as individual influencers. <strong>Findings</strong>: Identifies accounting changes, the options available and the paths taken as a result of the influence of key players, some of whom have not previously been identified as playing key roles.</td>
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CHAPTER 1 - INTRODUCTION

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References


CHAPTER 1 - INTRODUCTION


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CHAPTER 2

A rum deal; the purser’s measure and accounting control of materials in the Royal Navy 1665-1832
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A rum deal: The purser’s measure and accounting control of materials in the Royal Navy, 1665–1832

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\textbf{ABSTRACT}

We draw on archival resources and maritime and accounting history literature to explore the role of Royal Navy (RN) pursers between 1665 and 1832. Through an agency theory lens, we investigate accounting-related practices pursers used to control consumable rations, including the ‘purser’s (short) measure’. The records pursers were required to keep suggest that the RN was at the forefront of the development of cost and materials accounting, and in the keeping of detailed accounting records. We provide fresh insights into the purser’s role and his association with the gestation of materials waste controls, standard costing, and audit and accountability processes.

\textbf{KEYWORDS}

Accounting; auditing; costing; standard; measure; purser; Royal Navy (RN); history

\textbf{Introduction}

Assessments of the character and capabilities of persons engaged as Royal Navy (RN) pursers before 1832 vary considerably. He (there were no female pursers) was an essential crew member with many distinctive, stereotypical personality characteristics. These include entrepreneurial cunning and a capacity to be inured to the frequent scorn directed at him. The purser is claimed to have been the ‘most denounced, satirised and lampooned of all the officers in the King’s ships’; an ‘alchemist’ who could transform rotten and mouldy food into something quite edible,\textsuperscript{1} and ‘a dexterous cheat’.\textsuperscript{2} Pursers on ‘ships of the line’ (warships) have been assessed more generously: for example, to have been ‘universally accepted as a gentleman and suitable company for even the commander himself’.\textsuperscript{3}

In this article we develop a broader understanding of accounting-related aspects of the role of RN pursers, and of the accounting controls that were part of the performance of their everyday duties. We use agency theory to analyse the purser’s role and how it evolved between 1665 and 1832. Our analysis period commences in 1665 because this is when Samuel Pepys (Clerk of the Acts) proposed the appointment of a central ‘Surveyor General of Victualling for HM Navy’.\textsuperscript{4} It ends in 1832 because this was the date of the abolition of the RN Victualling Board (the Board). We bring together hitherto scattered, inchoate and sometimes incidental literature that has addressed accounting and accountability practices.
adopted by RN pursers. To the best of our knowledge, there has been no previous analysis, using agency theory, of the relationship between the Board and RN pursers.

The Admiralty created the Board in 1683 to replace a victualling system based on private contracts with one that gave it greater direct control. Thereby, there was thought to be enhanced prospect of improving efficiency and quality control. The Board supplied food, drink and other provisions for naval ships (mostly through its victualling yards in RN dockyards), to individual pursers. The Board was the second subordinate board established by the Admiralty – the Navy Board (responsible for dockyards, naval stores, shipbuilding and repairs) had been established in the sixteenth century. The (Vic) Board was one of the largest enterprises in Britain, with operations throughout the world.

In 1801 the Board was ‘responsible for feeding 400,000 sailors, soldiers and miscellaneous personnel spread across the world, and was required to do so cheaply, efficiently and honestly.’ At the height of the Napoleonic Wars, expenditure by the Board represented one eighth of all government spending. The Board’s success in ‘deliver[ing] commercial effectiveness and efficiency’ to the RN is partly attributable to its exploitation of agency arrangements involving pursers. Such agency arrangements helped to dilute rigid hierarchical organisational structures in the RN, and allowed the Board to improve administrative effectiveness and resource usage.

We review primary and secondary literature relating to RN pursers, together with related aspects of accounting in the RN between 1665 and 1832. The literature we draw upon was identified using keyword searches on Google Scholar and catalogue searches at the RN Dockyard library, Portsmouth, UK. We highlight the broader historical context of the RN’s development of accounting practices for materials wastage, standard costing, and inventory control. The ‘purser’s measure’ (the practice of only issuing sailors seven eighths of the rations supplied by the Board) was implicated in nascent forms of standard costing and accounting control of materials waste before the onset of the British Industrial Revolution – commonly dated from about 1760.

In the next section, we outline our analytical framework, in two parts. First, to help form conclusions about the significance of the accounting control practices of pursers, we briefly overview literature pertaining to the history of accounting for materials, especially in Britain. In the second (and more substantive part), we outline relevant elements of agency theory. Throughout this article, we draw upon agency theory to explain the role and purpose of pursers, and the relationship between pursers and the Board. We discuss the purser’s appointment and duties, his financial emoluments and incentives, and the accounts he was required to keep. We also introduce discussion of the naval mutinies at Spithead and Nore in 1797 which resulted in abolition of the pursers’ measure. We elaborate on pursers’ incentives, the instrumental role of the ‘purser’s pound’ in control of stores and provisions, and the accounting procedures to which pursers were subject. We draw on agency theory to explain the actions of pursers and the Board. We then draw conclusions and offer suggestions for further research.

**Analytical framework**

**Accounting control for materials: an overview**

Accounting-related controls of materials, and for materials waste, were used in Latin European countries from the turn of the sixteenth century: for example, allowances for raw materials...
waste were used at the Venice Arsenal. Similar accounting techniques were used too at the Royal Textile Mill of Guadalajara (1717–1744) in response to problems arising from poor quality raw materials. This prompted that mill’s senior management to introduce controls through ‘pre established standards’ to ‘control the consumption of raw material.’ In 1737, the Royal Textile Mill enforced stricter control of materials handling … ranging from storage to the avoidance of unnecessary delays in their incorporation into the production process, to accounting, to weighing. In the Silk Factory Company of Portugal, 1745–1747, there was a weight allowance of approximately 6% (10 ounces) in the calculation of the estimated average cost of a job ‘for losses due to spoilage and shrinkage’, together with evidence of the ‘elements of a rudimentary standard raw material costing system’.

Accounting history literature suggests that accounting techniques for materials, and standard cost systems, arose in the UK much later. In the UK, in contrast to the European experience, although there was an awareness of cost accounting in a variety of records prior to the Industrial Revolution, application of practical techniques for reducing waste through ‘norm-based standard costs … [did not occur until] the late nineteenth century.’ During the Industrial Revolution ‘control of waste was very much a concern for … entrepreneurs of ..., particularly in the dominant iron and textile industries.’ Inventory control ‘was practised by a substantial majority of Industrial Revolution enterprises … [with inventory] … typically maintained at standard cost.’

**The lens of agency theory**

Agency theory is an appropriate lens through which to analyse complex contractual relationships. It is relevant in settings where ownership and control are separate. The flexible nature of agency theory renders it suitable for extension to diverse contexts beyond traditional scenarios where the fundamentals of self-interest, information asymmetry and agency cost control can be applied more widely.

An agency relationship arises where one group (principals) delegates control to another group (agents). Agency theory assumes that both groups are motivated by self-interest. This leads to an inherent conflict of interest. Agency costs arise when an agent’s goals diverge from those of a principal. This is particularly the case where the agent has more information than the principal – a condition known as ‘information asymmetry.’ Agency costs involve the cost of measuring and evaluating the manager’s performance, the cost of compensating managers in a way that correlates with the owner’s interests, and the cost of devising and enforcing specific behavioural rules or policies. Costs are reduced when the interests of the two parties are congruent, or when the principal has knowledge of the agent’s actions. Agency theory highlights the incentive for a principal to expend resources to ensure agents act in the best interests of the principal. Such incentive creates the need for governance mechanisms.

We draw from each of three streams of agency theory. From the ‘most popular stream’ we focus on ‘incentive alignment [and] compensation policies.’ From the second stream, of ‘corporate governance and control’, we give particular attention to ‘bonding mechanisms.’ From the third stream of ‘agency problems, agency costs, efficacy and trade-offs of different control mechanisms’, we focus on the ‘purser’s pound’ as a control mechanism. Below, we highlight several important elements of agency theory that we use to explain the role and activities of RN pursers.
An important aspect of agency theory is the information asymmetry between the agent (for example, an RN purser) and the principal (for example, the Board). One of the consequences of information asymmetry is ‘moral hazard’: where agents take advantage of the lack of observability of their behaviour by a principal. Another consequence is ‘adverse selection.’ This occurs where one party to an exchange has information about themselves that the other party cannot obtain without incurring a cost: for example, a prospective agent’s ability to satisfy a principal’s demands. Contracts with agents (here, RN pursers) have two foci: a system to monitor the agent’s actions; and a reward structure to align the agents’ interests with those of the principal.

Agency theory has been criticised for being excessively narrow, and for generating few testable implications. It has been assailed for promoting an under-socialised view of principals and agents by assuming they are driven entirely by self-interest, regardless of social context. In applying agency theory, we should not underestimate an agent’s propensity to behave opportunistically, nor should be underestimate a principal’s capacity for rationality. The assumption of a dyadic relationship between individuals is likely to be an over-simplistic description of reality. Actors can be principals and agents at the same time. For example, although the Board was a major principal in respect to pursers who acted as its agents in the distribution of provisions, the Board itself was an agent of the Admiralty. In turn, the Admiralty was an agent of the government. There was a danger that the Board would shirk, engage in corruption, or monitor the wrong things. Therefore, the Board required monitoring too.

Remoteness of relationships and unreliable systems of communication can influence the propensity for ultimate principals to invest in reducing agency costs. Principals are likely to conclude they will not feel the consequences of opportunistic or incompetent agents. Another complication is that an agent might have to serve two principals. For example, although a purser received provisions from the Board, the captain of his vessel is another principal to be served. Many of the certificates and receipts submitted with accounts to the Board had to be counter-signed by the captain first: he was in a position to exert power over the purser. Additionally, because the purser’s slop [sailors’ sea clothing] accounts were examined and passed by the Navy Board, they had to be kept separately from victualling accounts, thus creating another principal–agent relationship. Despite these complications, agency theory provides an insightful and instructive framework for viewing the relationship between the Board and RN pursers.

The purser’s agency

Pursers were first assigned to ‘the King’s ships’ in the fourteenth century. They acted as paymaster of the crew … had charge of [non-military] stores and provisions … [kept] account of receipts and payments for the ship and crew, and [took] charge of slops and provisions for issue. The slopes included jackets, waistcoats, drawers, shirts, frocks, trousers, stockings, hats, shoes and blankets. There was a classic principal–agent relationship. The purser’s duties of paying the crew and accounting for stores and provisions were carried out in the interests of one or both of two major absent principals, the Board and the Navy Board (for slops). The actions of pursers were difficult to monitor closely on a day-to-day basis because ships were often at sea, often away from British shores.
During the latter half of the seventeenth century, Pepys was a prominent promoter of the well-being of naval personnel and the need for efficiency in the navy. He estimated that funds available for the navy in 1665–1666 were no more than half of probable requirements. The consequences of this shortfall included unpaid wages and delays in victualling the fleet. In 1683, state control of the provisioning of RN ships was strengthened when vessels were purchased specifically to supply RN ships at sea. This prompted Pepys, in 1686, to introduce an investment plan of £400,000 per annum to restore funding levels and attain logistical efficiency.

The mobilisation of the fleet against William of Orange in 1688 provided an early test of Pepys’ new arrangements for its supply. A late demand to provide three months’ provisions for an additional 35 ships put pressure on victuallers. It became apparent that the major issue was not merely that of purchase and supply, but of measurement and control. There were discrepancies in estimates between victuallers and pursers regarding the quantities supplied, and the quantities actually consumed. In correspondence with Lord Dartmouth, Pepys remarked that ‘the service may meet with disappointment … if the commissioners here goe [sic] by one reckoning and the men eat by another’. The solution proposed by Pepys was a more precise standard of bookkeeping and measurement, and better regulated disposal of the victuals themselves. Through personal management, forethought and energy, Pepys’ proposals heralded a more formal state control of pursers.

Pursers’ appointment and duties

A purser had to be a man of some substance and/or be well-connected. In 1813, he had to produce three certificates of competence and find two persons who would provide acceptable sureties. Each purser was required ‘to lodge a bond’ which was used as a lever to ensure that the purser, upon his return from a voyage, submitted the necessary accounts, returns and vouchers. The amount of bond varied according to the size of the purser’s assigned ship. For example, in 1807 a bond of £1200 was needed for a first rate ship and £600 for a sixth rate ship. The bond was applied for the full period during which the purser was assigned to a ship. The bond requirement was reduced, and then removed, in 1852. If a purser was in debt at the end of his service, those guaranteeing the purser’s bond would be liable to pay the amount due upon a balancing of relevant accounts.

In addition to finding a financially-endowed guarantor, the purser was required to obtain credit on favourable terms to begin his assigned duties. Thus, his moral obligation to bond guarantors was an inducement to align his interests (as agent) with those of the Board (as the most important principal). Such obligations also helped to control for adverse selection of pursers.

The purser’s prime duty was to ensure his ship was provisioned adequately. The type and amount of provisions was fixed in standard physical allowances for the ship’s class and the number of months for which storage was required. The first victualling contract which set daily rations for each man was drawn up by Pepys in 1677, based on the traditional diet of salt meat, ‘pease’ and biscuit. The standard rations, which were amended in 1731 (for example: pork and oatmeal were included for the first time), remained fundamentally unchanged until 1824.
The rationing practices adopted were a rudimentary form of direct materials standards allowance, of the type found in more sophisticated versions of standard costing that were implemented commonly in the mid-1800s in UK manufacturing companies. Permissible substitutes were also identified if a ship was abroad (for example, one gallon of beer could be replaced by one pint of wine; one pint of olive oil by one pound of butter). On long voyages, fresh meat usually had to be replaced by salt meat: ‘… the shelf life of fresh beef was extended by shipping the beasts live and slaughtering them as required.’ However, most provisions were supplied through dockyards under contracts negotiated by the Board. The purser’s account was charged with the value of the ship’s provisions and the casks and bags to hold them.

A purser acted ‘as banker to the crew [and undertook to] trade in items, such as tobacco … and … other non-essential items such as … groceries … [and to keep] a strict control of stores … [because] he was personally liable in the event of a shortfall’. Additionally, the purser issued slops and supplied crew with fixed amounts of other consumable stores, known as ‘necessaries’ – wood, candles, platters, cans, spoons, lanterns, lamp oil, and bedding, for which he had to account. An enterprising purser could also earn additional income from trading on his own initiative. He could stock small items (such as pepper and boot polish) and sell them to the officers and men.

A principal–agent situation operated. The purser was acting for the Board, but the two parties had different interests. When the purser’s ship was at sea, the Board was unable to fully supervise the purser’s actions or have full knowledge of his conduct. There was information asymmetry, conducive to moral hazard. Many pursers were not well paid and had strong incentives to seek ways to use their position for personal gain.

The purser was, in effect, a ship-board shopkeeper, banker and entrepreneur. He had strong personal incentives to maximise his profit on sales of goods, and to increase his general level of income. There may have been opportunities to forge entries in his muster books, issue substitute rations on terms favourable to him, and over-consume on perquisites. A purser would also have known that if he engaged in such behaviour, he would be acting contrary to the terms of his contract.

The overriding rule for issuing provisions was to use the oldest rations first. This was an early form of ‘first in first out’ (FIFO) inventory flow. This practice was regulated by the practice of not reimbursing monies to pursers for goods unused by the required dates (unless a survey allowed otherwise). In this way, the Board aligned incentives and compensations. This helped it to overcome the problem of information asymmetry.

Pursers were often isolated. They often aroused animosity. Superstitious sailors who watched ‘the great albatrosses following their ships in southern latitudes, week after week … saw in them the souls of pursers long departed, haunting their former ships in a sleepless search for savings’. Although many pursers were merely small shopkeepers in terms of social standing, nonetheless, in major ships, the purser’s shipboard status was much higher. After about 1750, the purser would often have been part of the officer’s mess or wardroom, along with the ships ‘quarter deck officers’ (e.g. surgeons, lieutenants). Despite such standing, pursers often slept below the water line on top of the spirit room, to deter pilfering. The purser’s role evolved to align his interests (as agent) with the interests of the Board (as principal). Thus, by the early nineteenth century, a purser was required to have ‘served a year as a captain’s clerk’; and he did not ‘keep watch’. In larger ships, to help the purser cope with his prescribed duties, he was assisted by a steward and a cooper (both paid from the
purser’s own pocket). Payment of wages was added to the list of purser’s responsibilities in 1825 and his job title was extended to ‘Paymaster and Purser’.

**Financial emoluments and incentives**

Before 1794, it has been claimed that the purser ‘was allowed no salary beyond that which he could realise in saving, or … [by] pilfering the seaman’s rations’.68 The accuracy of this claim is dubious in view of competing claims that, in 1686, a purser on a first rate vessel received a salary of £1 and 4 shillings per month.69 What is more settled regarding the pay levels of pursers is the proposition that the purser’s remuneration came ‘much more from profits on [his shipboard] store transactions than from his own wages’.70 A leading authority has observed that ‘a purser’s real chance of wealth lay not in his official duties but in private business, in broking, money lending and agency … as the rewards of pursery itself were slender and precarious.’71 In 1665, Pepys wrote that ‘a purser without professed cheating is a professed loser’.72 A similar view, expressed in the latter half of the seventeenth century was that ‘the recognised way that the ship’s purser was paid … was by the “savings” he could make on cheating the sailors of their rations and slops’.73

In return for providing his ship with coals, wood, tunnery-ware, candles and lanthorns (lanterns), the purser received allowances of 14 pence per man per month while at sea;74 4 pence per tun for ‘drawage of beer’; 2 shillings per month for loading charges;75 and an allowance for wasted storage containers (i.e. casks, iron hoops, bags and jars). If the Board accepted a purser’s annual accounts, a bonus related to the size of the vessel was payable: in 1807 it was £25 for a ship with a complement of 800 men. The purser received additional payments if his ship flew a flag or broad pennant, was on convoy duty, or carried top or poop lights.76 He received a commission of up to 10% on sales of tobacco (and soap from 1825), based on the price charged to seamen. For his care and effort in issuing slop clothes and bedding and managing related accounts, the purser received a commission of one shilling in the pound (that is, 5%) on the revenue generated from sales. Because there was no alternative supply of slops on board, the purser had the opportunity to cheat on price and quality.77 A further commission (also at one shilling in the pound) was payable on the value of dead men’s clothes and other effects sold to crew members.78 Pursers were also able to earn a profit from their entrepreneurial activities – although the extent of this would depend on their abilities and the size of the ship.

Pursers were also entitled to share in monetary rewards paid to crews for capturing or sinking an enemy ship. During this period (the sixteenth to the eighteenth century) those who worked in maritime jobs were important to the economy and to society: they made a significant contribution to economic growth.79 Seamen could move relatively easily between civil and military ships. Naval pay did not increase from 1652 to 1797.80 Merchant navy wages were higher, especially in wartime when labour shortages drove wages up. Although crews of navy ships were allowed to share in ‘prize money’,81 often this did not compensate for the difference, except in cases where prizes of exceptional value were taken.82 The Admiralty established a Prize Court to evaluate claims and determine the division of money. During the Napoleonic Wars (1803–1815), it was customary to pass on part of the value of prizes to the crew. The wardroom warrant officers (including the purser) generally secured one eighth of the total value.83 The sums allocated could be considerable. For example, purser
Thomas Peckston was allocated prize money of £85/2s./4d. from the capture of La Vierge du Bon Conseil on 29 November 1812.84

Ships’ provisions were issued by a (short) weight known as the ‘purser’s pound’.85 This was ‘an abuse sanctioned by custom’.86 The purser’s pound compensated the purser for the loss of weight of stores that arose, under his stewardship, due to spoilage, evaporation or shrinkage:

… the purser was required to issue to the men only seven eighths of that with which he had been supplied by Government. … If all or any part of the other eighth remained when the annual survey was taken upon the stores in the purser’s care, he took it on charge as a new supply, and was allowed a fixed price for it by the Government.87

In 1761, a popular manual for seamen provides the following advice to pursers regarding the purser’s measure:

All you deliver by Weight or Measure you are to keep 1/8 part for waste; the Measure of 7 Pints is for a Gallon of Beer; you receive 16 ounces and issue 14 ounces of butter and cheese, you receive Winchester measure,88 and issue Wine Measure; as one Wine Pint of Pease to a Piece of Pork; a Wine Gallon of Oatmeal for a sized fish.89

The ‘purser’s pound’ was used until 1797. It provided a general allowance for loss and wastage of materials.90 It was a useful means for the purser to ensure he was not indebted and earned a good living. Thus, the purser was permitted to issue dry provisions using a 14 ounce pound; and to issue liquids by a purser’s quart of 35 fluid ounces. These measures were ‘short’ by 12.5% — or almost exactly the 12% wastage officially permitted.91 There was also a separate waste allowance for casks.92 A former purser, Pyend, reported in 1674 that because the allowed money for ‘necessaries’ was insufficient to defray relevant costs,93 it was customary to leave one-eighth of the victuals on shore and to receive the value from the victualler before sailing.94

By condoning the use of short measures and allowing pursers to claim any unissued stores and provisions, the Board endowed pursers with strong financial incentive to closely control the way they stored and issued rations and provisions. The ‘purser’s [short] measure’, gave pursers (as agents) a legitimated device to help them act in congruence with the Board’s objective of ensuring adequate provisioning of ships at any time. Pursers knew that if they stored provisions well, and issued them according to regulations established by their principal (the Board), they could acquire property rights to one-eighth of such materials. Some were also suspected of selling those provisions preserved or saved.95

An opportunity for corruption and over consumption of perquisites by pursers was presented by the manner in which they maintained the ship’s muster book — the base recording document for issuing rations to seamen. The muster book contained details of when and where each man joined the ship; whether ‘press ganged’ to join or a volunteer; details of death, discharge or any other absence ashore; and details of other items issued, such as tobacco or slops. Short allowances were entered in the book, as well as times of ‘petty warrant’ (when the ship was in port and rations were approximately 2/3 of those allowed at sea, with fresh provisions replacing the preserved ones required for long voyages).96

Creative practices included ‘pursers entering men in the sea-books some days before they were aboard the ship, and also not discharging them until some days after they had gone from the ship’.97 This allowed pursers to claim extra wages and rations for an extended period. Delaying the record of a man’s death or discharge provided the opportunity to forge a ‘ticket’ to claim his wages.98 However, the purser could not act alone in perpetrating such acts: the muster book had to be signed every second month by him,99 and by the captain,
the master and the boatswain.\textsuperscript{100,101} Such corrupt and profiteering practices would have been more likely while a ship was at sea. When in port, mustering (‘monitoring’ in agency theory terms) was conducted closely by the local ‘Clerk of the Cheque’\textsuperscript{102} He was an officer who kept ‘the muster-rolls of a dockyard and musters of the ship’s companies of vessels in the port to check false entries’.\textsuperscript{103} Nonetheless, some peculiar practices were condoned. For example, from 1763 until 1831, ‘a purser was entitled to keep two imaginary men per hundred on his books [for his own benefit], and these were known as widow’s men.’\textsuperscript{104}

By the end of the eighteenth century, the incentive to engage in corrupt and profiteering practices was diminished: the purser was employed by the Navy Board and was paid a salary ‘equivalent to that of the boatswain, the gunner and the carpenter and his responsibility was not markedly greater than theirs if it was greater at all.’\textsuperscript{105} Opportunities for defrauding the naval administration became rarer as accounting mechanisms became more robust and the Board became increasingly effective in reducing the need to buy provisions directly. Many pursers found to have committed fraud were dealt with severely.\textsuperscript{106} Furthermore, the assumption that the portions of rations withheld from seamen could be turned into additional money for the purser is debatable too: the quality of stored provisions was usually poor, so it would be hard to imagine anybody buying them.\textsuperscript{107} Nonetheless, the purser’s right to retain one eighth of provisions gave him a strong incentive to minimise waste and spoilage of his ship’s provisions. Similarly, the State’s practice of bearing only about half of the cost of ‘necessaries’ the purser was required to provide was a control measure directed to ‘abate’ the ‘seamen’s extravagance in wood and candles’ (and presumably other necessaries).\textsuperscript{108,109}

**Spithead mutiny**

In 1797, a mutiny by RN sailors at Spithead (near Portsmouth), and subsequently at the Nore (in the Thames Estuary), aroused fears of a wider uprising against the ruling classes – as had occurred in the [then recent] revolution in France.\textsuperscript{110} Although no violent insurrection took place, the sailors’ extreme strength of feeling was evident. Their major grievances related to the inadequacy of their pay and the poor conditions under which they served (such as shore leave arrangements, treatment of sailors wounded in action, and arbitrary punishments).\textsuperscript{111} The Spithead mutineers referred to the fact that ‘their provisions were supplied by the purser’s pound, and not by an honest pound.’\textsuperscript{112} They requested that provisions be allocated at a weight of 16 ounces to the pound, and that all measures be the same as those used for commercial trade. They demanded that food rations be of better quality.\textsuperscript{113}

The Spithead mutiny led to the abolition of the purser’s pound and to other improvements in the conditions and pay of seamen.\textsuperscript{114,115} Salaries were raised for all seamen, including pursers. Payment to pursers for short allowances could only be made in the presence of the captain and master, signed by the recipient and a warrant officer. The accounting requirements for a purser became more extensive and prescriptive.\textsuperscript{116} They specified various actions to be taken by pursers to control any conflict of objectives. These included the provision of quarterly statements signed by the captain, and extensive use of signed certificates indicating compliance with regulations.

Gradually, further improvements were made in RN rationing. Fruit juice was introduced in 1795 (and lemon juice in 1799) to prevent scurvy – although even as late as 1825 it was still not general issue.\textsuperscript{117} By 1815, water was preserved better in iron tanks\textsuperscript{118} rather than
wooden casks. In 1824, the rum ration was halved after tea and cocoa were introduced, and meat was issued daily.

**Accounts**

The purser discharged his accountability for stores allocated to his ship by keeping detailed accounts of the daily consumption of stores by officers and men aboard. The accounting requirements became more extensive and specific over time. These were outlined in the 1756 edition of the ‘Private Instructions for the Pursers of Ships’ in the seaman’s *Vade Mecum*, and in subsequent Regulations and Instructions for Pursers. They clearly show the need to account for debtor and creditor balances.

Only two-thirds of the advance payment the purser received to acquire provisions was paid in cash. The remainder was a credit allowed to the purser’s accounts. Monies made by the purser in his official duties were ‘paper credits’ for which he was reimbursed once his accounts had been passed. These accounts were detailed and complicated. Any shortcoming in supporting paperwork delayed approval and payment. It was not unusual for the expenses to take a long time to be paid.

The purser’s instructions seem contradictory. He had a responsibility ‘to satisfy himself that all the provisions sent on board be sweet, good and wholesome’ yet, he seemed to be discouraged to take this requirement too seriously as ‘provisions sent for the supply of His Majesty’s Ships shall not be refused on pretence of being old, and unfit for keeping’. Any goods refused had to be surveyed by the captain before being returned to suppliers.

If the purser’s signed receipts for the purchases were deemed correct, and were signed off by the captain, the purser’s account was credited with a fixed price set by the Board. The captain also had to oversee and sign for provisions received by the ship. This was a further check on the activities of pursers. Where there was a difference between the cost and this fixed price, the purser could make a profit (or a loss). In some years, the market price of some items exceeded the sum usually charged to pursers for those items. To discourage pursers from selling the provisions at such times, any purser in debt was obliged to pay the market price to the Board.

Although a purser did not have to pay for his ship’s provisions, his accounts were charged with the value of provisions at prevailing standard rates. The credit to his account was calculated by the number of authorised men on board, multiplied by the standard ration. To be repaid for the provisions consumed on his ship, the purser had to keep a detailed victualling account. All men on board were allowed the standard ration. For example, on Sundays: one pound of biscuit, one gallon of beer, one pound of pork and half a pint of pease. Each crew member could agree with the purser to eat part, all, or none of their ration, and receive a credit for unconsumed rations. The purser also received a credit for any provisions returned unused. However, the amount he received for returns was usually less than he was charged on issue.

Pursers were permitted to purchase provisions from other sources (usually in foreign ports), but only when there was a ‘real want.’ In this event, the purser was required to produce a certificate from the Governor or Consul (where available) or from two or three eminent merchants confirming that the purchases were made at below market prices. If the purser issued non-standard foods, such as local produce bought in foreign ports, he had to take compensation by making savings in the standard rations. Such arrangements provided
opportunities for pursers to profit, mainly by falsifying the cost or quantity purchased.\textsuperscript{137} With increased use of contractor depots and depot ships in the early nineteenth century, the practice diminished.

Provisions stored on board were inspected regularly. Rules on waste were strict. Disposal of provisions was a last resort: ‘If the Bread shall be discovered to be damp, [the purser] is to apply to the captain to have it aired on the Quarter Deck or Poop.'\textsuperscript{138} Losses due to enemy action had to be certified: if the captain considered any of the provisions unfit for use he was to procure a survey by ‘proper officers, who are to make a regular Report thereon;\textsuperscript{139} The rules on alcoholic beverages were particularly strict. There was a continual problem with leaking casks, necessitating large ships to include coopers in their crew.\textsuperscript{140} At the end of a voyage, a regular survey of provisions remaining was carried out, before the purser’s accounts were prepared. The purser then had to swear an affidavit that the said provisions were received out of His Majesty’s stores or from persons under contract.\textsuperscript{141}

The purser’s accounting records were extensive. They were kept in ‘extraordinary detail’ and required numerous certificates and forms, and were considered very important.\textsuperscript{142} Even if his ship was sinking, the purser was required ‘to use his utmost endeavours to preserve all his books, papers and accounts.’\textsuperscript{143} Although regulations stated explicitly that the purser’s diligence in keeping his accounts could affect his career prospects, many still submitted late or incomplete records.\textsuperscript{144}

There were dangers for pursers in diverging from regulations, even under captain’s orders. For example, the purser on the \textit{Mermaid} in 1794, Copland, was ordered by his captain to issue extra rum while the ship was in the North Sea. The Board disallowed the expense. However, on appeal the claim was deemed reasonable, but the captain’s wages were charged instead. Great care needed to be exercised too when making apparently valid claims. Copland asked for a copy of the Admiralty Order concerning top and poop lights after disallowance of his claim in respect of expenditure on these lights on a voyage of the \textit{Alcmene} to Lisbon and Gibraltar.\textsuperscript{145} The captain was required to give written authority for any extra supplies or issues\textsuperscript{146} and for substitutes to be issued (e.g. rice or flour for bread). Such written authorities needed to be included in the quarterly survey of provisions by the purser.

By 1825, within one month of the survey, the purser was required to submit comprehensive accounts to the Board (keeping a copy for himself).\textsuperscript{147} Accounts were required quarterly and within 12 months of the last set of accounts lodged during the purser’s term of appointment.\textsuperscript{148} The accounts were to be accompanied by the following certificate, signed by the purser.

\begin{quote}
I hereby certify that previously to transmitting the Books and Paper herewith sent, I have satisfied myself that they are made up and signed by myself, and the respective Officers of the ship, in exact conformity to the Instructions which I have received for my guidance.\textsuperscript{149}
\end{quote}

The purser kept two sets of books: one for everyday use, and a fair copy of his victualling books. He was required to show both sets of books to the captain, but not at the same time. Both sets of books were not to be out of his possession at any time. The purser was required to give the captain sufficient time to examine the accounts ‘minutely’.\textsuperscript{150} A certificate from the purser on the monthly book was required to be carefully compared with the victualling books (rough and good copies).

The victualling book was to be certified by both the purser and the captain’s clerk. The verifications were from the date of the last monthly muster book and would be examined with the ship’s books. The captain’s clerk kept a General Muster book which showed the
complement of men and any changes therein. He was required to certify all changes in the numbers of seamen (upon which the calculations were based) and these were all examined to ensure they agreed with the ships records. An additional certificate was required on the quarterly accounts of provisions and other goods received. The captain’s clerk was required to keep account of the provisions coming on board, to attend the receiving of those provisions, to examine the bill of lading, and to agree to the contents received. There was a daily account of the men victualled and the provisions issued. As well, a certificate was drawn up of provisions issued as substitutes for those unavailable, together with a general account of provisions and stores returned, and a yearly statement of account. The latter statement was posted to the Board where the purser’s calculations were checked. The Statement of Accounts was based on the victualling book and the ‘General Account of Provisions Received and Returned’: the debtor side contained the total of each type of provision received, after allowance for all credits (e.g. returns, condemned or damaged goods). The credit side contained victualling details for each ‘species’, the prescribed allowance for waste, any necessary money for the ship’s complement or supernumeraries, and any other claims to which the purser was entitled.

The quantities required to be added to the Debtor side of the Account will shew the Surplus of each Article to which the purser is entitled, or his Credit. The quantities that are added to the Credit side will show his deficiency or Debt.

There were no instructions on the consequences of credit balances. However, instructions were more forthcoming about a debit balance. If the purser’s account was in debit, he had to provide:

… the most satisfactory explanation that he can afford, as to the cause of such deficiency: and when he might appear to have a credit of any species of provisions exceeding his allowance for eighths, he is to send with his statement, a similar explanation as to the cause of such extraordinary credit.

Depending on the size of the debt and the adequacy of its explanation, some amount of this debt could be carried to the purser’s next account. Alternatively, if there was a large debt without satisfactory explanation, the purser’s guarantors would be called upon immediately for payment ‘and he will be considered as undeserving of employment in a ship of a large class.’

Slops (sailor’s clothes) were issued in a similar way to victuals. Until 1758, they were received from a contractor, thereafter they came from the Navy Board. The purser had to keep a Muster book of entry, discharge, desertion, death, attendance and absence of every man belonging to the ship and to show against their names the slop clothes and other supplies issued to them. The General Muster book, the Monthly Slop book and all tickets were signed by the captain, master, purser and boatswain, as was the Sick book.

The Board’s approach to its work was thorough and painstaking. The focus was on safeguarding the public purse rather than on achieving efficiency. Under-resourcing of the Board resulted in a backlog of unexamined accounts – a situation which improved following the reconstitution of the Board in 1808. Many pursers had to wait for years before their accounts were settled. Some were never settled. For example, the Board insisted on seeing original documentation before a set of accounts could be passed. However, pursers and other officers often considered it too risky to send these on another ship. It was common for duplicate documentation to remain unprocessed at the Board until the originals could be produced. Similarly, the Board insisted on seeing, and finalising, both sides of a transaction
before accounts were passed. Many pursers (or their executors) remained unpaid because the accounts of agent victuallers had not been finalised. By the 1780s, the Board was ‘engulfed in almost continuous scandals and divisive rows’. Increasingly, it was unable to keep up with the accounting requirements flowing from an increased level of business.

**Discussion and conclusion**

The period 1665 to 1832 was a time of great economic change that encompassed the Industrial Revolution. During this time, the Board was tenacious in regulating the recording, controlling, distribution and management of materials, particularly rations. A purser was required to keep detailed accounting records, and to have these records approved by his ship’s captain, and audited by the Board. Generally, the purser was a wily man who stood to gain or lose a great deal of money depending on how he managed provisions – those he purchased, and those provided to him by the Board. If pursers wanted to cheat sailors of provisions, the pursers’ pound was a handy implement with which to do so.

The records required of pursers suggest that the RN was at the forefront of rudimentary attempts to develop cost accounting, and accounting for materials, in the UK prior to the Industrial Revolution. Whether there is reliable empirical support for positioning RN practice in this way, merits closer research. There is an absence of literature providing an authoritative assessment of whether RN settings were the locale for the genesis of standard costing and inventory control practices used subsequently in the Industrial Revolution. Thus, can be attributed to the propensity for accounting historians to ‘look in the wrong place for their evidence [because] costing techniques initially emerged in a less robust form than the bound ledgers usually associated with the financial accounting function’. The propensity for accounting historians to concentrate more on matters of financial accounting than cost accounting has led to ‘scant attention’ being accorded to cost accounting history in the UK (especially before 1914). Such lack of attention has been attributed to ‘the absence of a cost accounting literature, a cost accounting curriculum, and an organised profession with developed conventions and practices’.

This heightens the need to further explore the suggestion that the RN was at the forefront of, and provided the genesis for, important accounting practices subsequently adopted by entrepreneurs in the Industrial Revolution (many such practices are now accepted universally). A promising line of enquiry would be to investigate whether early pioneers of cost accounting techniques (including standard costing and inventory control) in the Industrial Revolution had served in the RN. If so, is there evidence that they implemented or observed those techniques in practice before adopting them in their businesses?

Agency theory helps to better understand the purser’s role. The purser was the ‘representative [agent] of the state [represented by the principal, the Victualling Board]’ responsible for ensuring ‘economy and control … [and] the smooth operation of each ship’s internal economy’. The Board’s initial aim (as principal) was to minimise the cost of providing materials, to ensure sailors were sufficiently well-nourished to perform their designated duties and, standards of discipline to maintain. However, in addition, the Board ‘had the most politically sensitive task of all government offices, for it had to intervene in the markets to procure very large amounts of food.’

The Board was in a position of information asymmetry. It could not know, in a timely manner, what took place on ships in geographically remote locations. A ship-board purser
(as agent) would have been aware of this asymmetry. He had ample scope to not follow regulations (e.g. to maximise his own income, at the expense of the Board or of seamen aboard his ship). Therefore, the Board had to consider the extent to which it was willing to expend resources to alter a purser’s opportunities to capture non-pecuniary benefits. The ‘purser’s measure’ was cost-neutral as far as the Board was concerned: it was equivalent to the waste allowance it permitted pursers to sustain in carrying out their role. The purser’s measure had the advantage of informally providing a legitimated source of remuneration to pursers. Thereby, it enabled their official salaries to be kept at a depressed level, presenting economies to the Board. The purser’s measure was, in effect, an institutionalised device to allow for waste and to benefit the purser (in terms of physically undistributed provisions).

In the language of standard costing, the purser’s measure allowed for an institutionalised favourable direct materials usage variance attributable to the purser. It was an incentive to induce the purser (as agent) to act in accord with the desires of the Board (as principal). The purser could only realise this incentive if he stored the allocated rations in good order, issued them according to standard allowances, and accounted for them diligently.

The performance of a purser in his interactions with the Admiralty, via the Board (e.g. the extent to which he conformed with regulations) helped to determine whether he was re-employed or promoted to a larger ship. This was significant, since the salary of pursers was determined by the size of a ship. There were also opportunities to earn higher allowances and commissions on larger vessels. However, adverse selection was also a problem because often principals were unable to evaluate the skills of prospective agents. This problem was addressed partly when the first pursers with long experience of victualling arrangements were appointed to the Board during the Napoleonic Wars. This introduction of ‘hands on’ expertise is likely to have reduced agency costs and to have enabled the Board to better meet the considerable challenges it faced.

The agent–principal relationship between pursers and the Board needs to be considered within a broader dynamic social context – one affected by other agency relationships, changing regulations, changing objectives, competition, interest groups, experience, and social norms. Attitudes towards government shifted during the 1780s, establishing the principle that private incomes and public revenues should be separated, and that fees and gratuities should cease. The Spithead and Nore mutinies of 1797 fundamentally changed the context within which the Board dealt with pursers. It brought existing practices for supply of ships under public scrutiny. Between 1761 and 1825 attempts were made to increase the programmability of the purser’s task, so that precise desired behaviours were defined – particularly with respect to more prescriptive and extensive accounting requirements. A purser’s agreement therefore contained additional bonding covenants, to reduce opportunistic behaviour and control potential conflict. Over time, the Board accepted the need to shift pursers’ compensation away from contracts which rewarded them for their achievements (such as provisioning ships efficiently) and entrepreneurial acumen. The Board moved towards agreements which rewarded pursers for adopting appropriate desired behaviours. This required the Board to incur additional (agency) costs (paying higher salaries to pursers and incurring additional monitoring costs) in the interests of ameliorating public concerns. These changes reduced a purser’s freedom of action. Increasingly, his role resembled that of a subordinate official rather than an agent. The move from a system using fees, gratuities and perquisites to one based on established salaries, mirrored changes that took place in the Board itself from 1800.
Future research could consider applying historical institutionalism to explore how the role of pursers, and the control mechanisms they used, evolved over time. This could be carried out using the Spithead and Nore mutinies as a ‘critical juncture’ to analyse changes in underlying institutional logic, before and after, the mutinies. There is also scope for further use of agency theory to better understand the audit procedures to which pursers were subject. Additionally, further research could compare control mechanisms in the RN with those adopted by other great navies of the world (Portuguese, Spanish, French, Dutch) prior to, or during, the analysis period. Was mimetic isomorphism influential (and if so how) in constructing the principal–agent relationship which emerged in the RN?

Notes

4. With the restoration of the monarchy in 1660, victualling was facilitated through private contract. One person, Denis Gauden, was responsible for supplying all of His Majesty’s Ships. During times of war this proved an onerous task, especially as the government were slow payers, and there were problems with food shortages on many ships. Pepys was given responsibility for devising a new victualling system in 1665. He proposed that a new post of surveyor-general be created (supported by a surveyor of victuals in each port) to ensure that victualling was carried out effectively and efficiently. The proposal was approved formally by the King. Pepys nominated himself as the new surveyor-general. In 1683, following further difficulties, a state victualling department was established - the Victualling Board. Tanner, Discourses of the Navy, 155–183.
6. Other subordinate boards were created in 1689: the Sick and Hurt Board (responsible for naval hospitals and the health of seamen) and the Transport Board (responsible for transporting supplies around the world). The latter body was disbanded between 1724 and 1794. Knight and Wilcox, Sustaining the Fleet.
8. Davey, “Expertise and Naval Administration.”
10. Ibid., 982–983.
12. We use the terms ‘purser’s measure’ and ‘purser’s pound’ synonymously.
15. Ibid., 239.
17. ‘Significant use was made of cost accounting data for planning, decision making and control before and during the industrial revolution’ (Edwards and Newell, “The Development,” 54). There is evidence of the use of standard yields in agriculture in the thirteenth century; standard costs in the smelting industry in the seventeenth century; and labour standards based on ‘time and motion’ studies in the eighteenth century steel industry (ibid, 48). The recording of costs by managers and owners for control purposes dates from before the Industrial Revolution 1760–1820/40 (Boyns and Edwards, “The Development”). A study of the accounting records from 1667–1751 of an ironworks in the UK Midlands, for example, concluded that whilst a simple charge and discharge account was used, management of the business obviously understood the cost of the processes of the business by monitoring the yield from each raw material (King, ‘Management Finance and Cost Control’).
19. Ibid., 97.
20. Ibid., 99.
22. Wiseman, Cuevas-Rodríguez, and Gomes-Meija, “Towards a Social Theory.”
24. Ibid.
25. Ibid.
26. Ibid.
27. For a fuller appreciation of agency theory refer to the overviews by Eisenhardt ("Agency Theory"), Shapiro ("Agency Theory"), and Wiseman et al. ("Towards a Social Theory").
29. Arrow, “Control in Large Organizations.”
31. Perrow, *Complex Organizations*.
32. Lubatkin, Lane, Collín and Very, “An Embeddedness.”
33. Ibid.
34. Shapiro, “Agency Theory.”
35. There was no standing navy until the mid-sixteenth century. Warlow, *The Purser*.
36. ‘Provisions’ refers to food and drink. ‘Necessaries’ is applied to other consumables, such as coal, firewood, hammocks, bedding, wooden plates and bowls, and candles. Morriss, *Foundations*, 317.
40. Ehrman, “Pepys's Organization.”
41. This is a reference to George Legge, 1st Baron of Dartmouth (1647–91). He was commander of the Channel Fleet when it was mobilised to meet the invasion threat posed by William of Orange in 1688. He took an active interest in defence preparations, and informed Pepys of his concerns. Dartmouth was a strong supporter of James II. He was imprisoned in the Tower of London following William's accession to the throne.
44. Warlow, *The Purser*.
45. MacDonald, *Feeding Nelson's Navy*.
46. Documents at the National Archives of the UK include pursers' bonds dating from 1655. (Cock and Rodger, *A Guide*).
47. Scorgie and Reiss, “Impact of Naval Experience,” 66.
50. By 1825 the requirement for a First Rate appointment was reduced to £1000 from £1200. CEO, *Regulations and Instructions*.
51. CEO, *Additional Instructions*.
53. Ibid.
55. Standard costing is a form of budgeting developed to control costs. The costs expected to be incurred in making a particular product or delivering a particular service are determined after an investigation. They are then used as a point of comparison with actual costs incurred. Variances arising from differences in purchase price, and differences in quantities used, can be identified separately. In this case, the direct materials standard allowance would be the budgeted cost of food and other necessaries required to keep a ship of a particular size in service for a given period of time. Jones, *Accounting for Non-specialists*.
57. MacDonald, “Two Years off Provence,” 445.
58. CEO, Purser's Instructions.
62. Macdonald, “Two Years off Provence.”
64. Ibid., 94.
65. Brock, John Copland.
66. Ibid.
67. Blake and Lawrence, The Illustrated Companion, 70.
74. The commission for providing these items was ½ pence per man per day. Brock, John Copland.
75. Mountaine, The Seaman's, 1761.
76. This indicated that the ship was commanded by a senior officer from Portsmouth or Plymouth. Brock, John Copland.
77. Brock, John Copland.
78. CEO, 1807, Regulations and Instructions, 81.
79. Unger, “Trades, Ports and Ships.”
81. Fusaro, “The Invasion.”
86. Brock, John Copland, 25.
88. This measure of dry capacity (i.e. bushel) was derived from the standard established in Winchester during the reign of Edgar 959–975 AD. It was replaced by Imperial measures in 1824.
89. Mountaine, The Seaman's, 1761, 237.
90. Claxton, “Foreign Miscellany.”
91. Many derogatory nicknames for the purser were derived from his use of short measures, including ‘Mr. Nipcheese.’ Blake and Lawrence, The Illustrated Companion, 101; Brock, John Copland.
92. ‘The king allows one tun of cask waste for a 100 men per month; 2 iron-hoops, and 3 biscuit bags. You must take the total of your Victualling, and divide by 28, and cast off the last two figures towards the right hand.’ Mountaine, The Seaman's, 1756, 236.
93. Tanner, The Navy Manuscripts.
96. Mountaine, The Seaman's, 1761, 74.
97. Pyend, cited by Tanner, The Navy Manuscripts, 162.
98. Brock, John Copland.
99. Other dubious practices were common. Short allowance money was supposed to be paid to the men directly, to compensate them for any scarcity of provisions, but sometimes this money was paid elsewhere. Slops were bought from a contractor.
100. The master was a warrant officer responsible for navigation, fitting out the ship, and ensuring there were sufficient sailing supplies aboard.
101. The boatswain was a warrant officer responsible for rigging, cables, anchors and boats.
102. Brock, John Copland.
103. Young and Brisbane, *Nautical Dictionary*, 89.
106. *The Times* of 29 June 1802 reported that ‘Mr. Cocks, Purser in the Navy, stood in the pillory yesterday opposite the Admiralty, for defrauding His Majesty of Naval Stores.’
113. Orth, “Voices from the Lower Deck.”
114. To compensate pursers for wastage losses, a credit of one ninth of the total amount issued was added when the purser’s accounts were completed and passed. Macdonald, *British Navy’s Victualling Board*, 104.
116. CEO, *Regulations and Instructions*, 1807; and *Regulations and Instructions for Pursers*, 1807.
117. Macdonald, “Two Years off Provence.”
118. Macdonald and Jones, “The Introduction.”
120. CEO, *Regulations and Instructions for Pursers*, 1825.
121. CEO, *Additional Instructions*; Claxton, “Foreign Miscellany.”
122. The thirteenth edition of the *Regulations* published in 1790 consisted of 232 pages, but by 1806 when the fourteenth edition was published, it had grown to 440 pages. Macdonald, *Feeding Nelson’s Navy*.
126. Although transactions needed to be supported by vouchers from suppliers, and to be countersigned by another ships’ officer, this required collusion or alteration of the vouchers after they had been signed. Macdonald, *The British Navy’s Victualling Board*.
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CHAPTER 3

What shall we do with a drunken sailor? Accounting and controls for alcohol in the Royal Navy in the time of Nelson.
5 What shall we do with the drunken sailor? Accounting and controls for alcohol in the Royal Navy in the time of Nelson

Karen McBride and Tony Hines

Introduction

Alcohol had been issued to seafarers as part of their staple diet from as early as 1361 (Hewitt, 1966). The reasons for this are diverse. Initially, it was a question of beer being easier than water to keep potable and to store while at sea. Later it was believed that it assisted in the prevention of scurvy (Stubbs, 2003). Even after this was found not to be the case, beer continued to be issued for health reasons (Henderson Smith, 1918). In 1796 lemon juice was finally issued to all naval ships in foreign service, for health and for the prevention of scurvy, and in 1799 this was extended to ships serving in home waters (Baron, 2009), but the beer allowance remained, even though beer was bulky to carry and required much room to store.

This chapter considers the regulations and accounting for controlling the use of beer (and other alcohol). The chapter is informed by the later works of Foucault, his ideas of ‘governmentality’, the distancing of control from the central power and direction being divested to the organisational level. Foucault’s work observes that the unthinkable may become thinkable, where procedures and methods are put in place for one purpose but end up being utilised for another purpose that was not expected at first (Foucault, 1980). We argue that initially the accounting and control of beer was determined for cost and provision control; beer was issued for the seafarers’ health and well-being, replacing often foetid water. Later it was used for the prevention of scurvy. Finally, it was used to keep the men in a controllable but mildly inebriated state, which alleviated the hardships they were under. Accounting was instrumental in this, as it provided the means by which the allocation was measured and supplemented.

This chapter considers how the administration and regulation of the Victualling Board\(^1\) and of pursers was used to control alcohol within the Royal Navy at the time of Nelson. Archival documents have been sourced to determine these regulations and how the accounting was carried out to control the storage and allocation of beer and the purchase of wine and spirits to ensure the sailors received their daily allowances.

The chapter considers the period often referred to in naval history literature as relating to Nelson’s Navy (Lavery, 1989), being broadly late 18th to early
19th century (dates for this period vary). For this chapter, we have focussed on 1793 to 1815, a period when the French Revolutionary War was followed by the Napoleonic Wars. In 1793, French troops took over Belgian land and impacted on the overland trade of the Dutch and the British, so war was declared. This was a period of huge public expenditure. Britain, focussing on possessions overseas, spent large sums of money to assist in financing their allies. Our period ends with the fall of Napoleon at the battle of Waterloo in 1815. For background we have also elucidated some material either side of these dates to provide further context.

The chapter is structured as follows. Next, there is a background section, which starts by explaining the role of beer and other alcohols in the Royal Navy during the time of Nelson. The second part of this background section, focussing on the Portsmouth Dockyard, outlines the setting up of a brewery; there were also breweries related to the dockyards at Plymouth and in London. It shows the importance of beer in the sailors’ rations and consequently for the victualling yards. The following section of the chapter reflects on the regulations issued for accounting for beer and other provisions, the controls in place and the expectations for the naval officers who carried out that accounting and administered those controls and governance on the provisioning of beer and other alcohol. The next section elucidates the theoretical underpinning, exploring the later work of Foucault, his ideas on governmentality, the links between that and his previous work on power, discipline and making the unthinkable thinkable. It observes the links in time frame between the historical periods Foucault was explaining and the historical period of this chapter. The research presented is during the period acknowledged by Foucault as the commencement of governmentality (Foucault, 2009, p. 88). These theoretical ideas have been applied to previous accounting research (Armstrong, 1994 and 2015; Stewart, 1992) but not to accounting in the Navy, and the chapter builds on some seminal pieces of accounting research and their use of Foucauldian ideas. The final section of the chapter provides some analysis and discussion, followed by some conclusions.

Background

Alcohol in the Royal Navy

Royal Navy sailors had been provisioned with alcohol from as early as the 14th century (Stubbs, 2003). MacDonald (2004) explains that the main drink of the seamen in the Royal Navy was beer, not diluted rum (known as ‘grog’) as is often believed to be the case. The men were issued with a gallon of beer a day, in a measure known as a ‘wine measure’ – five-sixths of the usual gallon of the time in Britain (Table 5.1).

The beer issued was only about 2% to 3% proof. The reason for the drinking of beer is that the process of brewing required the beer to be boiled, thus killing most bacteria and preserving it for months. Water, however, unless kept sterile, would very quickly become green and undrinkable. Nonetheless, in warm
What shall we do with the drunken sailor?

weather, beer does tend to go off, so other alcohol was allowed on ships which were employed on foreign voyages (Regulations, 1734, 1790 and 1808).

The Victualling Board brewed beer for the Navy, initially in London, at Tower Hill, subsequently at Deptford and then at Plymouth and Portsmouth; therefore, whilst some beer was purchased from contractors, most was produced by the Navy itself (MacDonald, 2004). However, beer could only be produced at certain times of the year, and not during the summer period, as noted per Knight and Wilcox (2010). They evidence this with details of an order that went out from the Victualling Board to the brewery to suspend production of beer in hot weather, use up remaining supplies and then issue wine instead (Wellcome, 6816).

Before 1753, beer was believed to be important in the constant battle to combat scurvy (Waife, 1953). In a time when the Royal Navy was constantly at war, scurvy is believed to have resulted in more deaths than all these battles (Lind, 1757, p. 1). So beer was considered a drink that could be kept on long journeys at sea and was good for the health of the seamen. Stubbs (2003) observes that beer at sea had three main uses for the seamen: it was a food, a key part of the diet at sea and a staple drink; it was a luxury, easing the hardship and inconsistency of life at sea; finally, it was also seen as an aid to health, often used as a medicine. A further suggestion is that beer and other alcohol could have been used as a sedative or to control the sailors’ behaviour at sea.

Samuel Pepys, who was Secretary to the Admiralty Board (1684–1689) and the first surveyor general of the Victualling Office (from its inception in 1665), wrote in his Naval Minutes:

> Englishmen and more especially seamen, love their bellies above anything else and therefore it must always be remembered in the management of the

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Table 5.1 Daily allowances of provisions

‘THERE shall be allowed to every Man serving in His Majesty’s Ships, a daily Proportion of Provisions, according as is expressed in the following Table, viz.

<table>
<thead>
<tr>
<th>Day</th>
<th>Biscuit</th>
<th>Beer</th>
<th>Beef</th>
<th>Pork</th>
<th>Pease</th>
<th>Oatmeal</th>
<th>Butter</th>
<th>Cheese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>1</td>
<td>1</td>
<td>–</td>
<td>1</td>
<td>1 half</td>
<td>–</td>
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<td>Thursday</td>
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<td>Saturday</td>
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</tbody>
</table>

Source: Regulations and Instructions relating to his Majesty’s Service at Sea 1790 (p. 62). This beer allowance was first in the Regulations of 1734 (p. 62) and remained the same for the Regulations of 1808 (p. 297).
victualing of the navy, that to make any abatement from them in the quality or agreeableness of the victuals is to discourage and provoke them in the tenderest point, and will sooner render them disgusted with the King’s service than any other hardship that can be put upon them.

(Tanner, 1926, p. 250)

Navy ships could issue wine and spirits, with half a pint of these being the substitute for a gallon of beer, or a pint of wine. Spirits were generally sourced locally: for example, brandy in the Mediterranean, brandy in the East Indies and rum in the West Indies. However, with the promotion of the merchants of the West Indies, the favoured spirit became rum (MacDonald, 2004). If provisioning was only for a month, further supplies needed to be purchased whilst at sea, in ports visited or from supply ships. The Regulations were clear on the substitutions of food and drink. Wine and rum could be substituted for beer, the Regulations clarify; a pint of wine or half a pint of brandy, rum or arrack could be substituted for the allowance of beer in foreign ports (Regulations, 1790, p. 62), although these were watered down. The Regulations and Instructions of 1808 (Regulations, 1808, p. 302) add that these substitutes can only be issued once beer was expended and that the daily allowance of beer should never be exceeded.

In 1708, Admiral Edward Vernon arrived in the Caribbean. This was the period when huge quantities of sugar were being imported into Europe from the sugar cane plantations of the West Indies, and the Navy were present to defend the merchant fleet. Rum became synonymous with the Navy at this time, but this rum was much stronger than rum today (MacDonald, 2004). Pursers would prove the strength of the rum by adding just a few grains of gunpowder and then igniting it. If it caught light it was 57% alcohol and 100 ‘proof’, a term still used today. The definition of proof was written into law in 1818, when the scale of a hydrometer invented by Bartholomew Sikes was adopted, which measured 100 proof as 1.75 times the percentage of alcohol (Ashworth, 2001).

Admiral Vernon noticed that the practice of drinking strong rum was not having a positive effect on the behaviour of the sailors and in 1740 introduced the practice of watering the rum. Vernon’s nickname was ‘old Grogam’ on account of a favourite coat he often wore, made of ‘grosgrain’ or ‘grogam’ and so the new drink became known as ‘grog’.

Brewing for the Royal Navy

Beer was a regular part of the seaman’s diet, from the 14th century (Meusdoerffer, 2009). As early as 1492, Henry VII set up a brewery in Portsmouth, which produced beer for his ships (Eley, 1988). Mathias (1959) demonstrates that local brewers became rich on the demand for beer by the Navy and that naval contracts were responsible for the growth of some breweries during this period. He clarifies that these contract brewers were used to meet additional demand for beer in times of war, such as in the 18th century, when they continued to
supplement the naval breweries, administered by the Victualling Office. Buchet (2013) asserts that into the 1750s there was a drive by the Navy to build and run breweries within the main dockyards in order to better monitor the quality of beer, but also to avoid the cartels’ fixing of prices. The need for a brewery in Portsmouth was drawn to the Admiralty’s attention in 1721 (ADM 110/8). The Portsmouth naval brewery was at Weevil in Gosport, initially leased and then purchased in 1753 (ADM 110/5). In 1756 another brewery with cooper-age was constructed and started supplying beer in 1757 (ADM 110/18). The brewery, which comprised a brewery storehouse and cooperage, was within the Royal Clarence Yard in Gosport (Pearson, 2010). The example of HMS Victory, Nelson’s flagship, a First Rate, that is, 100-gun ship, provides an illustration of the quantity of beer that could be carried on board ship. At the time of Trafalgar (1805), the Victory had a crew of 821 men. The men were provisioned with 1 gallon (4.5 litres) of beer each day, and the maximum capacity of beer carried on board Victory was 50 tonnes (50.8 tonnes) (Goodwin, 2004).

Supplies of beer that could be carried on board ships were limited, and beer did not keep well. The relative proportions can be seen from Richard Gibson’s letter regarding the regulating of victualing from the Navy Board to the Admiralty on 7th February 1693/94: “there may be four large fly-boats lodged there, the two biggest to be stile (sic) laden with beer, a third a receptacle for beef and pork and the fourth for dry provisions” (No 114, Sergison Papers). In terms of how long these supplies would last, Beaglehole (1955) provides details of kitting out the Endeavour for her voyage. A year’s supply of victuals was included, but only one month’s supply of beer, brandy being included for the rest of the voyage. In order to reduce these storage needs, to increase the relative supply of beer, and since much of the volume of beer was water, attempts were made to produce a beer concentrate, which could be rehydrated with water in foreign ports; however, this was not hugely successful, resulting in supplies being supplemented with rum (or grog). Despite these issues, beer remained the main drink of men in the Navy, with the ration of beer finally being removed in 1831 (Pack, 1996).

**Accounting and control of alcohol on board ships**

In the Regulations and Instructions of 1790, the Purser’s Instructions state the daily provisions of various foods and beer and specify the substitutes allowed. The Regulations and Instructions stipulate that all provisions should be acquired from agents and contractors whenever possible (Regulations, 1790, pp. 122–123, Pursers art. 22). When provisions arrived on board ship, the casks were required to identify the species, time, quantity and place packed. Beer was subject to the special requirement that the contents were to be checked by a ‘sworn gauger’ (Regulations, 1790, pp. 64–65, Provisions art. 10). Regular inspections of the provisions were then required by ‘proper officers’ (Regulations, 1790, p. 67, art. 17). If any provisions appeared unfit, these were to be surveyed by these officers and if considered unfit for consumption, returned to the agent or contractor if possible (Regulations, 1790, pp. 118–119, Pursers art.13). If the provisions had
been damaged, the captain was required to charge the value against the wages of the offender (Regulations, 1790, p. 66, Provisions art. 15). Such instances had to be certified by the captain and given to the purser to enable him to claim credit the amount charged in his next accounts.

The purser received an allowance of one-eighth on most provisions, an allowance for waste and loss (McBride et al., 2016). Alcohol losses came under closer scrutiny. For beer losses an allowance was permissible after certain fairly stringent procedures:

If any Cask of Beer shall have leaked out a Quantity, he is to apply to the Captain for a Warrant, directed to the Master, and Two or more other Officers of the Ship, (the Mate, in this Case, to be esteemed an Officer) for the surveying the same; who are to report under their Hands, on the Back of the said Warrant, the Quantity leaked out, in Words at length, according to the Form in Page (182.) and to be very particular in giving the Reasons and Occasion of the Leakage, and that no Beer was drawn or pumped out of any of the said Casks, with his knowledge, before the Time of Survey.

(Regulations, 1790, p. 120)

For losses on wines and spirits, the rules were much simpler:

He is never to expect any Allowance for Leakage of Wine, Oil, Brandy, Rum, or Arrack, but to see that the Casks be found and full at their coming on Board, and to be answerable for the Care of them afterwards, there being proper Conveniences made in the Hold for securing the said Liquors from any Abuses, which are not to be employed to any other Use whatsoever.

(Regulations, 1790, pp. 120–121)

When the purser required money to pay for short allowance of provisions, likely in the case of beer as ships were provisioned with only one month’s supply (Regulations, 1790, p. 64, Provisions art. VIII), he had to produce a certificate, using the specific format (Regulations, 1790, App. No.100) and signed by the captain and the master of the ship. The agent, on agreeing to the details, would initial it and forward it to the Clerk of the Cheque. The Clerk of the Cheque would verify the addition and what the sum was due for, according to the rates allowed (a table being provided in the Regulations, 1790, App. No.101); he then would pay the purser accordingly.

Accounts of provisions received, returned, lent or lost were to be made up every quarter, with details of extra expenses incurred on casks, staves and hoops. The Regulations applying to wines and spirits were again more stringent than for other provisions. These were then transmitted to the Commissioners of Victualling, who in their turn had their own instructions for their accounting and control functions (General instructions for the Victualling Establishment at Home, ADM 7/216).
A new set of Regulations and Instructions were issued in 1808. Although for the provisioning of alcohol these were substantially the same as the 1790 version, there is evidence that the Regulations became more extensive and that procedures were increasingly standardised. The number of forms accompanying the Regulations was greatly increased so that the purser was required to complete 18 forms, excluding slops/clothes (compared with 6 excluding slops under the previous edition). Some of the changes emphasised the importance of the procedures. For example, in respect of the purser:

He is strictly required and directed to observe and abide by the following Regulations, Stipulations, and Instructions; and he is not expected that any irregularity in or omission of any part thereof, or of the Forms referred to therein for keeping accounts, will be overlooked.

(Regulations, 1808, p. 318)

compared with

“is to observe the following Instructions” in the previous edition.

(Regulations, 1790, p. 115)

Some of the changes applied specifically to alcohol. Concerns about smuggling had increased, prompting the inclusion of a new article in the Regulations:

It appearing that considerable quantities of wine and spirituous liquors have been fraudulently run-on-shore from His Majesty’s Ships of War and Transports, to the great prejudice of His Majesty’s Naval Service, and diminution of the Revenue; for the better preventing of such practice in future, and for punishing those who shall dare to continue or renew it, all Captains or Commanders of His Majesty’s Ships or Vessels are hereby strictly required, and positively directed, not to suffer any of those species to be ever issued to the Companies, or any part of the Companies, of the Ships or Vessels respectively under their command whilst in the Home Ports, nor at Sea, until after the Beer is all expended.

(Regulations, 1808, p. 302)

They were further instructed not to serve more than the daily allowance or to issue alcohol in lieu of other provisions. Captains and commanders were required to certify the number of gallons of alcohol, with descriptions, issued to their vessels. They had to ensure these amounts were recorded in the general account of provisions received and whenever any wine or spirituous liquors were taken off the ship, the officers concerned would be called to account for this (Regulations, 1808, p. 302).

Concerns about the level of alcohol consumption are likely to have prompted a new requirement that any savings made by the crew on their daily allowance of provisions were not to be paid to them in kind (i.e., in alcohol), but the purser
would purchase them on behalf of the government (Regulations, 1808, p. 290). The purser was also charged with not selling or ‘making undue use’ of provisions (Regulations, 1808, pp. 320–321). The Regulations stipulated the price to be paid in the event of the purser being in debt for wines and spirits when not on foreign service, when these provisions would not normally be issued and any that were issued would require certification (Regulations, 1808, p. 321).

Thus, amounts of wine and spirits issued were recorded and sent every three months to the Victualling Office. A ‘first in first out’ system of issuing provisions was used if the ship was victualled for a length of time in port. The purser made three accounts (using Form 2, see Appendix 1) of the number of people in each mess, the quantities of provisions saved or short in each mess, the name of the person appointed to receive for each mess, the value of the savings, the signatures of the people to whom paid and the signatures of the witnesses; then, the purser and his steward signed the accounts as a true record. Of the three copies of Form 2, the purser kept one for the passing of his accounts, the captain sent one to the Commissioners of Victualling and the final one was retained by the captain for the passing of his accounts. The purser kept a separate account (Form 3, see Appendix 2) of payment for provisions saved, or short, allowed by the ships company. The bookkeeping entry was as follows: debit cash received from the agent victualler, or a bill of exchange drawn; credit payment to the ship’s company by provision for a period of time at a standard price. The purser should sign an oath that the payments made to the persons specified were ‘without any profit or advantage to himself’ (Regulations, 1808, p. 347). The Regulations observe that no irregularity or omission in keeping the accounts will be overlooked.

**Foucault governmentality**

The chapter is informed by the ideas of Foucault, from his lectures as Professor of History at the College de France (1978–1984) when he enriched his earlier theories, exploring and refining his ideas and developing the concept of governmentality. The premise was that in the late 18th century there was a new discipline of individuals, making them compliant and accepting, whilst also forming something the state would be able to use (Foucault, 1979). This is the period explored in this chapter, as we consider the regulations and accounting for the allocation of alcohol and its impact.

Foucault charts a history where there are three forms of government. The first, sovereignty, was seen in the Middle Ages; the Royal Navy did not exist at this time and any equivalent was a disparate mix of the ‘king’s ships’ gathered together as required by the sovereign. Then the rise of state-driven by administration in the 15th and 16th centuries; in this time the Royal Navy became a standing navy and subject to bureaucracy. Finally, from the late 16th century to the 19th century, it moved to a progressively governmentalised state; this move can also be tracked in the government of the Royal Navy and the formalising of many rules, for example, the issuing of the ‘Regulations and Instructions relating to his Majesty’s Service at Sea’.
These later thoughts of Foucault on governmentality provide an insight for empirical research and some conceptual tools to underpin research. Foucauldian theory relates to his influential earlier study of power as a discourse of discipline, and starting what has become the field of governmentality studies, concerning the analytics of government and governance discourse and recognising that government has a keen involvement in establishing agents, interests and identities. He reworked and enhanced his ideas on power (for example, the genealogy of power) in the late 1970s (although these were not translated until more recently). These enhance and develop the study of the state and other political concerns (Lemke, 2012). Foucault (2000) (translated in Lemke, 2012) observes:

> By “government” I mean the set of institutions and practices, from administration to education, through which people’s conduct is guided. (Lemke, 2012, pp. 295–296)

This study considers the Regulations and Instructions issued to naval sea officers from 1731 as such a set of practices.

Accounting studies have engaged with the discourses of Foucault to explain various aspects of the power of accounting. The idea of the governable person is where people become seen and measurable when accounting makes their actions calculable (Miller and O’Leary, 1987; Boland, 1987). Foucault’s work on ‘governmentality’ has underpinned many seminal accounting studies in this area (for example, Miller and O’Leary, 1989; Miller and Rose, 1990; Preston, 1992; Robson, 1991; Rose, 1991), which use a Foucauldian perspective in considering the construct of power via various discourses, within organisations or populations, and these being represented in specific ways, for example, by government. Armstrong (1994) clarifies that these studies in governmentality and accounting base their concept of power not on a disciplinary system but on ideas of ‘translation’ and action at a distance (Callon, 1986; Latour, 1986 and 1987). The idea of action at a distance can be seen as a reworking of the agency problem (Jensen and Meckling, 1976). However, instead of control through monitoring and incentives, control is through knowledge and approaches that are administered centrally (Foucault, 1991). Our study of the Royal Navy considers these ideas of governmentality, where control of provisions aboard ship is not about monitoring and incentives, but more about knowledge and centrally administered regulations.

**Analysis and discussion**

This chapter focuses on the era that Foucault acknowledges as the period of history where governmentality became relevant (Foucault, 2009, p. 88). Within the Navy there is a clear move from the situation with an all-powerful monarch, with sovereign power such as in earlier eras, where all actions of the state, from the waging of wars to everyday administration, were carried out to sustain the situation of a personalised state (McKinlay and Pezet, 2010). The king had been
an all-powerful monarch, for example, Henry VIII, in both financing and controlling the Navy, and Charles II, who attended more of the Admiralty Board's meetings than any other member of the Board (Rodger, 2005). This changed to a situation where the Board became self-governing, with its Regulations and Instructions to engage and control ships’ officers. This perspective of governance is firmly rooted in a liberal view of the state, where differences are not seen as threatening social order, but more as a means of progress (Lemke, 2007). Foucault sees the state as “nothing more than a regime of multiple governmentalities . . . It is necessary to analyse the problem of the state by referring to the practices of government” (Foucault, 2004, p. 79) and, in the Navy and elsewhere, these practices of government were underpinned by their accounting practices. The Regulations and Instructions issued accounting procedures to impose and control this governmentality.

Relations of power are important, as they define the way in which people govern others, but for Foucault (1991, p. 102) government is not so much imposed as accepted, where power is exerted and accepted. Foucault asserts that this acceptance occurs as a function of knowledge, which in its turn is caused by discourse (Rodrigues and Craig, 2007). Institutions that further discourse should be studied in order to understand knowledge (Cowton and Dopson, 2002, p. 193). Navy regulations and knowledge of accounting create power through discourse, when the officers involved accept that governance of provisions, in particular, alcohol, will improve by use of those measures and controls. The first Regulations and Instructions in 1731 were aimed at better control of ships officers; the contents show, in a clear and organised way, the duties of these officers and can be seen as a move towards discipline for these individuals and an attempt to make them compliant and accept these rules. These rules were refined in the following years, with 13 editions being issued over the period to 1790. The 1734 Regulations and Instructions had 193 pages and the 1790 version 237 pages. These Regulations show a keen involvement in establishing agents, interests and identities for the purposes of government as identified by Foucault (2000, translated by Lemke, 2012).

This theoretical realigning can be developed with the premise of government that becomes 'guideline' (Foucault, 2007, p. 363). Foucault's governmentality acts between subjectivity and power to enable the investigation of how ‘technologies of self’ (Foucault, 1988) are linked with applications of self-government. The challenge of government explains the interdependent relationship between knowledge and power and clarifies Foucault's earlier ideas of the connection of 'knowledge – power' (Foucault, 1980). This inter-reaction of knowledge and power can be explained as a means of social control in institutions and highlights the role of power assisted by knowledge in the development of discourse, as understood in modernity, in society. In the governmentality methodology of Foucault, the means of power and the configurations of knowledge are interdependent. The 1808 edition of the Regulations and Instructions were redrafted and extended, the 237 pages from 1790 becoming 683 pages. Lavery (1989, p. 5) observes an improvement of accounting, but it appears to be more than just
What shall we do with the drunken sailor?

this, as the expanded Regulations attempted further uniformity in the operation of Navy vessels (Malcomson, 2016) and an increased discourse towards improved accountability and control of provisions, including alcohol. The Regulations, whilst becoming more prescriptive, become more authoritative, but also more explanatory, such as the new regulation shown above about the “wine and spirituous liquors . . . fraudulently run-on-shore” (Regulations, 1808, p. 302). With increased knowledge, increased control and power, but also self-governing.

Foucault defines governmentality as the divesting of power from the sovereign and the state to organisations to provide for the well-being of and to control the people in any given population (Lemke, 2001). The idea of well-being of the populous in the Navy, related to alcohol and accounting, can be seen in two areas. Initially, the beer allowance was introduced, at least partially, because it was believed that it helped to prevent against scurvy; however, although this was proven untrue (Lind, 1757), the beer allowance remained. It can be suggested that the alcohol allowance may have alleviated suffering of their conditions on board ship for the men, and at the very least kept them inebriated, so they were less complaining of those conditions, braver and more compliant. The well-being of the broader populous was served by having a Navy that was effective and able to win battles. Accounting played its part in this in assisting in the recording and control of those supplies, the Regulations and Instructions outlining guidelines to ensure consistency between ships, limiting opportunity for seamen to consume excess alcohol, but providing them with sufficient to enhance their perceived well-being.

Conclusions

Investigating the use of regulations to govern allocation of beer in the Royal Navy during the 17th and 18th centuries has allowed reflections on the role of accounting in one of the most important roles of ‘government’ in the Navy, that of regular and sufficient provisioning of the seafarers.

Alcohol, and beer in particular, was a fundamental provision for sailors in Nelson’s Navy. The reasons for its use, whether planned or unplanned, changed over time. Conditions were hard and the life was tough, and alcohol consumption to some extent improved that, or at least made it feel as if it did. Whilst it did not, as it transpired, protect against scurvy, it improved the well-being of the men in other ways. It was certainly a better alternative than putrid water. The Navy Board, via the Victualling Board, set allocations of rations, including alcohol, and cash accounting to measure and control that allocation and indirectly the seafarers as well. Governance and governmentality of the organisation, the Royal Navy, was both directly and indirectly carried out through accounting, measurement and recording of these provisions. The quality and cost of the beer were monitored and enforced, where possible, via the Navy’s own breweries, the one we consider in this chapter, in Portsmouth, but similar methods and procedures applied in the other yards. There was thus a transfer of the use of alcohol from health reasons, where it replaced rotten water and defended against scurvy, to
pseudo-health advantages or at least enhancing well-being in tough and dangerous conditions and enhancing the men’s bravery at times of war.

We have focused the time period from 1793 until 1815. The accounting carried out in this period, both within the victualling yards and on board ships with the purser, is basic recording and listing of detail and creation of rudimentary cash accounts. There are clear attempts in the regulations to overcome the issue of the agency or stewardship problem, of separation of those in charge and those allocating the provisions and recording the detail of this. A rudimentary system of internal control is applied in terms of the more senior officers needing to sign the records, accounts and certificates of the purser, for example, the sealing and signing of casks and the control and certification of wastage. The victualling records contain a lot of detail, with the administration attempting to govern the individuals carrying out the roles of allocation, recording and provisioning of alcohol and other food supplies for the men.

The contribution of the chapter to accounting history is threefold. First, the chapter responds to the call for more research in the area of military accounting history (Funnell and Chwastiak, 2010) and in particular naval accounting history. Second, it develops the ideas of Foucault’s governmentality and sociology of translation applying them to the accounting history literature. Third, and finally, it considers the role of alcohol in the Royal Navy. While this chapter uses the regulations to discover and assess the accounting expected and carried out within the navy, for allocation of alcohol and other provisions at the time, it does have limitations. A key limitation of the chapter is the scarcity of copies of actual accounts to show that these were actually recorded in compliance with the regulations. However, arguably the regulations were well disseminated and clarified for those expected to carry them out. In addition, controls were implemented as well to ensure the accounting was carried out correctly; for example, the purser would not receive his money if accounting records were not kept correctly, and he would also not be reemployed. Future research could be carried out to find and investigate actual accounting records of pursers.
Appendix 1

<table>
<thead>
<tr>
<th>No. 2.</th>
<th>Forms of Vouchers for payment of Provisions, saved by or short allowed to the Ship's Company.</th>
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</thead>
<tbody>
<tr>
<td>An Account of the Quantities of Provisions saved by or short allowed to the Company of His Majesty's Ship, and the value thereof, the name of the persons appointed to receive for each mess; the signature of the person to whom the amount was paid, and the signatures of the witnesses to the payment.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of the Mess</th>
<th>Name of the person appointed to receive for the Mess</th>
<th>Quantities of Provisions saved by or short allowed to such Mess.</th>
<th>Value of the Provisions due to such Mess.</th>
<th>When paid</th>
<th>Signature of person to whom paid</th>
<th>Signature of witnesses to the payment</th>
</tr>
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</tbody>
</table>

Regulations and Instructions, 1808 pursers, Form 2 (National Archives, Kew)
### Appendix 2

**Payment of Provisions saved by**

**Form of Account**

D. R. Pursuer of His Majesty’s Ship in Account Current Dr.  

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Description</th>
<th>£</th>
<th>d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>March</td>
<td>To a Bill drawn in favor of Mr. John Jones at thirty days sight...</td>
<td>89</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>June</td>
<td>To Cash received of Mr. Agent Victualler at</td>
<td>111</td>
<td>5</td>
</tr>
</tbody>
</table>

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**Per Contra**

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>£</th>
<th>d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>By paid the Ship’s Company per List for Provisions due between 1st January and 28th February, viz.</td>
<td>89</td>
<td>4</td>
</tr>
<tr>
<td>June</td>
<td>By paid the Ship’s Company per List for Provisions due between 1st March and 21st May, viz.</td>
<td>136</td>
<td>111</td>
</tr>
</tbody>
</table>

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**Regulations and Instructions, 1808 pursers, Form 3 (National Archives, Kew)**
What shall we do with the drunken sailor?

Note

1 The Admiralty created the Victualling Board in 1683 to replace a victualling system based on private contracts with one that gave it greater direct control. With this system, there was thought to be enhanced prospect of improving efficiency and quality control. The Board supplied food, drink and other provisions for naval ships, mostly through its victualling yards in Royal Navy dockyards and individual pursers. The purser allocated provisions to the seafarers on board the ships.

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What shall we do with the drunken sailor?


CHAPTER 4

Minding their Ps and Qs; the Royal Navy purser and accounting and governance.
Minding their Ps and Qs; the Royal Navy purser and accounting and governance, 1731–1808

Karen McBride
University of Portsmouth, UK

Abstract
This research explores the accounting regulations imposed on sea officers, particularly the purser, on board Royal Navy ships between 1731 and 1808. This was a period in which the Royal Navy grew to become one of the largest enterprises in Europe with operations throughout the world. The governance, control and accountability practices imposed upon pursers are analysed. The Regulations for accounting records to be kept by pursers indicate that accounting changed very little in the analysis period, until 1808, when it became substantially more detailed. Drawing on institutional theory, it is argued that this was due to external pressures for increased governance following the impeachment of Melville (First Lord of the Admiralty), public spending administrative and accounting reforms and political disapproval of ‘offices of profit’. The article provides important insights to the development of accounting, governance, audit and accountability within the Royal Navy, and enhances understanding of the historically unique role of pursers.

Keywords
countability, accounting, audit, control, governance, institutional theory, purser, Royal Navy

Introduction
This article contributes to a broader understanding of accounting and governance reforms in the Royal Navy (hereafter the Navy) by examining the ‘Regulations and Instructions relating to His Majesty’s Service at Sea’ (hereafter Regulations) issued to sea officers. Particular attention is applied to our analysis of the Regulations pertaining to pursers. The intent is to provide a critical explanation of when and why those Regulations changed and to set them in a historical context. Just as current financial crises provide a catalyst for reforms in governance and accounting, so in history, external, political and financial pressures affected the governance of accounting in the Navy. This article is a response to calls (e.g. by Bisman, 2012) for the role of accounting histories to explore the how and why of accounting change and to disentangle and detail ‘the
nature and process of change itself’ (Bisman, 2012: 16), whether that be by a single event or many contributing events.

The focus of this article is the Regulations issued between 1731 and 1808 (ADM 7/971). In this period, the Navy grew to become one of the largest enterprises in Europe (Rodger, 2004: 41). It was also a period of major government introspection and rethinking, prompted by the shock of defeat in the American War (Knight, 2008). The Navy had increased in size due to the worldwide conflict with France. That fighting started in 1690 and ended with the Napoleonic Wars. This was a period when battle at sea became fully developed. The Glorious Revolution (1688) changed the political map within Europe and this resulted in a succession of wars with France that endured for more than a century and substantially increased the battle skills of the Navy. Military finances were concentrated in the Navy. This enabled Britain to defend its lands and to pressure the trade routes of rival countries, making its power felt across the seas. During the French Revolutionary Wars (1793–1802) and the Napoleonic Wars (1803–1815) the Navy was at the height of its efficiency, setting a benchmark for other European navies.

When the American War (1775–1783) commenced, the Navy captured or destroyed many ships. However, France fought with America and this led to Britain’s loss of the North American colonies. There were financial pressures on the funding of the Navy as a huge sum of money had been spent financing this warfare. The national debt substantially increased, leading to increased taxes. Britain’s wealth, generated by trade, was also affected. Imports and exports were interrupted, leading to a recession and the falling of stock and land prices (MacDougall, 2013).

The Committee on the Public Accounts was established in 1780 and was the forerunner of administrative reforms during the next half-century (Torrance, 1978). Indeed, the measures by which government had been assessed for most of the eighteenth century changed after 1782. What had been accepted as government practice previously (e.g. sinecures or offices of profit) was no longer tolerated. Higher expectations of public behaviour, such as responsibility and honesty, influenced new practices and governance (Baker, 1973). A further contribution of the article is to broaden the understanding of the impact of external political and governmental pressures on the internal workings of the Navy and its efforts to seek and maintain legitimacy, thereby shoring up government support through continued funding.

The ‘Regulations and Instructions relating to His Majesty’s Service at Sea’ of 1731 through to 1808 (hereafter 1731 or 1808 Regulations) were issued by the Admiralty for the control of sea officers and materials, including provisions. The accounting and governance of the Navy had remained relatively unchanged since the first Regulations in 1731, until a redrafting was instituted in 1806 and implemented in 1808. The article also highlights the role of key participants in the changes of the Regulations requirements.

This study of accounting and governance is concerned with understanding the development of record-keeping and accountability in the Navy. Brammer et al. (2012) contend that it is often forgotten that understanding an institution is linked with history and that processes of institutional change are a consequence of historical negotiations of prevalent rules and conventions (Thelen, 1999). Institutions tend to replicate the influences and power relationships at any point in time. Once established, the ways in which an organisation functions remain the same for long periods of time. This was the case in the Navy. The Regulations remained in force with only minor changes for almost a century (1731–1808). The Regulations were reworked following the impeachment of Viscount Melville (Treasurer of the Navy, later First Lord of the Admiralty) in 1806 and because of the need to retain and seek further external funding from the government. The Navy depended on government funding, however, questions had been raised in Parliament as to the legitimate use of this funding. The government was committed to discontinue practices of patronage, offices of profit and to seek out misuses of finances (Hamilton, 2011). The changes in accounting reflect these influences.
This article investigates the changes made to the Regulations that had a major impact on the accounting procedures required from pursers. As on-board accountants, pursers were also ships’ storekeepers responsible for provisioning seamen with rations and slops (clothes). During the period studied, the purser’s status improved: in 1807 he received a uniform and as a warrant officer he was granted wardroom status (Rodger, 2004), a privilege usually reserved for commissioned officers.

The analysis here is confined to the Regulations governing pursers in the Navy, in the period 1731–1808. The focus is on the purser’s role in provisioning and issuing stores, and in the associated accounting. The article explores the accounting-related roles, and the accounting, governance and auditing controls that were part of the purser’s duties. Naval historians (Lewis, 1960; MacDonald, 2004; Rodger, 1986) have explored victualling of ships, the administration and provisioning of supplies on board and the way pursers performed their duties. These explanations are extended here by considering the related governance, accounting controls and procedures. McBride and Hines (2018) suggest that the Regulations were designed for control of costs and protection of provisions for the well-being of a ship’s crew. This article argues that governance increased in response to social expectations, resulting in increased accounting requirements.

The structure of the article is as follows. The next section presents a literature review and develops a theoretical framework that draws on institutional theory and its links with legitimacy. Then an explanation of the research method follows, and the archival sources used. A discussion of the Regulations ensues, followed by the purser’s role and accounting instructions. The analysis is conducted using institutional theory, under the sub-headings, ‘Responding to social expectations’, ‘Establishing legitimacy’, ‘Establishing and maintaining legitimacy’ and ‘Adoption and influence of practices’. This is followed by a summary and conclusions. Some recommendations for further research are offered in the final section.

**Literature review and theoretical framework**

**Naval and other military accounting research**

In accounting history research, there is a small but growing literature studying British military history (Walker, 2005). Calls for further research in the area of military history (Chwastiak and Funnell, 2010) have been answered. Indeed, accounting for the military, and for wartime activity as a subset of accounting history is thriving (Cobbin and Burrows, 2018). This article adds to the literature by developing an under-explored area within that subset, that of naval accounting.

Prior studies of naval accounting practices have explored the ancestries and usage of practices and procedures in naval settings that are the foundations of current-day accounting (Scorgie and Reiss, 1997). Nascent forms of standard costing and accounting control of materials waste before the British Industrial Revolution were investigated in a study of the purser’s measure (McBride et al., 2016). Rosier (2010) identified cost recording for shipbuilding within the Royal Dockyards and private dockyards in the eighteenth century. Budgetary reforms in naval reporting in the nineteenth century have been studied by Cobbin and Burrows (2010). The influence of the federal expenditure control system on an individual, a Navy Agent in 1861–1864, has been considered by Mayer-Sommer (2010). However, none of these papers have investigated broadly accounting and governance in the Navy.

In the closely related area of army accounting and costing, research papers have investigated the influence of army procedures on the development of accounting (Hoskin and Macve, 1988, 1994). The development of accounting and costing within the army has been explored by Black (2001), Bowlin and Herda (2015), Funnell (2003, 2005, 2006, 2009) and Talbot (2000, 2010), as has
budgeting and measuring of efficiency (Cobbin, 2009; Funnell, 2011) Research has considered the roles of everyday men and women, soldiers and civil servants involved with military accounting (Black, 2006a, 2006b, 2015; Black and Edwards, 2016). This stream of research includes studies of the development of management accounting and innovations in various military organisations, for example, military hospitals (Sanchez-Matamoros, 2014; Sanchez-Matamoros and Funnell, 2015). Most literature in this area focuses on costing, accounting practices and the enhancement of efficiency (Cobbin and Burrows, 2018), improvements that may have been intended to send the right signals of legitimacy in order to secure future funding, but this aspect has not been explored in-depth within the literature.

Studies of the influence of wars are a major focus of many papers addressing military accounting history (Funnell and Chwastiak, 2015). A focus on cost accounting practices of the US Army during the American Civil War has illustrated the contribution to modern cost accounting (Previtts and Merino, 1998; Vollmers et al., 2016 others outlined in King et al., 2009). The politics of military finance during war have been analysed (Funnell, 2006, 2010; Funnell and Chwastiak, 2015; Heier, 2010). The supplying of military equipment in World Wars (WWs) I and II have been investigated by Miley and Read (2014, 2012). Indeed, both WWs have been the time frame for studies in accounting practices and costing. WWI literature (Antonelli et al., 2014; Arnold, 2014; Billings and Oats, 2014; Cardoni, 2014; Fleischer and Previtts, 2014; Miley and Read, 2017; Quinn and Jackson, 2014; Rutterford and Walton, 2014) considering accounting’s evolution to achieve the needs of war, or contributing to the war, or war influencing accounting. Similarly in WWII (Cinquini et al., 2016; Djatej and Sarikas, 2009; Fleischman and Marquette, 2003; Ikin et al., 2012; Lippman and Wilson, 2007), with war having an influence on accounting or changes in accounting to meet the needs of war. The impact of the relationship between the military and the government on accounting is explored by Funnell (1997) and Bujaki (2010, 2015). Lai et al. (2012) explain accounting’s use for rational decision-making in military and political agendas. The preponderance of literature in military accounting has focused on war or the requirements of the military in driving accounting developments and new accounting knowledge. This article considers the environment where the support to military functions between wars should be justified, with the need to justify continued funding acting as a force to improve accounting.

This research focuses on institutional accounting change (or stability), assesses the increase of governance and accounting procedures to illustrate that public finances were being expended legitimately for the Navy in a time of post-war financial crisis to legitimise the financing for future wars.

Institutional theory

An institutional perspective is used to explain how accounting in the Navy was revised and modified in 1806 in response to external pressures for enhanced accountability and increased governance.7 Mason et al. (2007) suggest institutional analysis as a good means of considering governance of organisations. Institutional theory acknowledges that organisations ‘exist in an institutional environment that defines and delimits social reality’ (Scott, 1987: 507). Organisations need to mould to the social expectations that are a part of their social environment (Fogarty, 1992). These social environments include prevalent norms, rules, values, ideas and expectations (Scott, 2008).

Fogarty (1992) advocates the use of institutional theory to explain why organisations need to seek and attain social approval in response to social expectations. Organisations operate in such a way as to appear to accommodate these social expectations (Fogarty et al., 1997). Failure to do this may threaten, for example, their ability to self-regulate (Fogarty, 1996). Indeed, institutional theory highlights the forces causing processes of institutional change and the value of a strategy of institutional conformity by the organisations (i.e. to follow external standards or norms, see DiMaggio
A public organisation, such as the Navy, needs to respond to social expectations by maintaining and managing legitimacy with external groups, in particular with the government, to retain support and funding. This is explored in the section ‘Responding to social expectations’ which analyse the response of the Navy to the revised Regulations, the prevalent norms, values and ideas implemented for implicit social approval.

Organisational legitimacy is a primary idea in institutional theory. The idea has been used by accounting academics (e.g. Georgiou and Jack, 2011; Hines et al., 2001) and is relevant to this research. Legitimacy in institutional theory (e.g. DiMaggio and Powell, 1983; Meyer and Rowan, 1991; Meyer and Scott, 1983; Powell and DiMaggio, 1991; Zucker, 1977, 1987) considers the environment of the organisation and its institutional forces. These are conceived as causing social, economic, political and cultural forces that are beyond the control of the individual organisation (Suchman, 1995). Legitimacy is established and needs to be maintained by the organisation in its environment, to ensure the organisational survival. Fogarty et al. (1997) observed that an organisation which does not comprehend the need to show engagement with the prevailing values of the social environment, is in danger of losing support and possibly, its existence. Long-standing state agencies such as the Navy need to maintain legitimacy by showing that governance procedures comply with institutional expectations (Bealing, 1994; Bealing et al., 1996). They also need to communicate the rationality of the processes of governance to various stakeholders (Rollins and Bremser, 1997).

However, while the notion of survival or threatened existence are a logical consequence of attaining or not achieving legitimacy, as articulated within institutional theory, care needs to be taken in applying the theory to an organisation such as the Navy. During the eighteenth and nineteenth centuries, the Navy was central to British national survival, security, growth and economic progress. Therefore, a contention that its existence may have been threatened in a similar manner to other government agencies, corporations or other entities may seem exaggerated, particularly with hindsight. The Navy effectively operated in a dispersed manner, protecting the country and the British Empire as it grew. After Melville’s 1806 impeachment however, there was closer attention to the Navy finances and although the Navy was not under threat as an organisation, legitimacy was still crucial for it to compete successfully with other government agencies for funding. The article considers this in the section ‘Establishing and maintaining legitimacy’: the Navy was aiming to maintain financial support by the outward appearance of rationality and accountability.

DiMaggio and Powell (1983) point out that to illustrate rationality and accountability, organisations conform to their institutional environment. DiMaggio (1988) clarifies the self-regulating and often ingenious ways in which organisations infuse and replicate their institutional environments. A governmental agency’s credibility is endangered when the support of key power groups is not maintained (Mezias, 1990). Political communications such as the conformance to the Regulations for the Navy may be made to external parties (e.g. the British government) in order to legitimate an organisation (Bealing et al., 1996). Thus, organisations engage with the social expectations of their external parties. Organisations can also develop behaviours that are more representative than practical. Their actions may meet the demands of their operating environment, while being of little use in practical terms or uneconomic. The greatly expanded Regulations for the Navy from 1808 were verbose and detailed, requiring many more certificates, vouchers and forms. While the enforcement of these requirements in the Navy were meant to increase governance and met external expectations, or appeared to do so, they may not have been efficient in practice, for the Navy itself.

Internal systems are often complicated, they can be difficult to explain and they could be subservient to the issue of external legitimacy (Meyer, 1986). Fogarty et al. (1997) develop this argument, affirming institutional theory’s contention that the actual achievements of the organisation and those suggested by its structure are often different. If appropriate structures are adopted, organisations may escape scrutiny by external observers (Fogarty, 1996). The changes in Navy governance explored
here did not seek to achieve economic results, despite higher control over allocation of provisions being a major objective of governance procedures. Nonetheless, institutional theory offers a means of understanding the motivations behind the implementation of the new Regulations. These ideas are considered in the section of the article which considers whether practices were adopted and whether these increased efficiency, as there may be the appearance of benefits, but the practices adopted will not necessarily improve performance.

The analysis in this article considers governance in the Navy using these main tenets of institutional theory for framing the following sections: ‘Responding to social expectations’, ‘Establishing and maintaining legitimacy’, and ‘Adoption and influence of practices’.

**Research method**

This research is based on primary sources located at Portsmouth Naval Dockyard, the National Archives at Kew and the Caird Library at Greenwich in the United Kingdom. Additional secondary sources are used mostly for contextualisation. Archives are defined here to include Regulations and Instructions issued to the Navy, accounting records, and other subsidiary and source documents, such as Navy correspondence. The study thereby uses a broad interpretation of accounting and governance, moving beyond the numbers to include the documents that form the basis of the records. Triangulation has been used wherever feasible on the data to strengthen the rigour of the basis for the research findings.

The Regulations stored in the archives were analysed. The analytical approach involved transcribing the 1734 copy of the Regulations (no real change from the originals in 1731), those of 1790 (with some additional requirements added at the end) and the 1808 rewritten version, in order to compare them. Themes identified were informed and underpinned by institutional theory. A table included in Appendix 1 provides evidence of the changes by matching the sections from the original Regulations to the 1808 version and showing the number of new words and forms required.

The methodological approach combines elements of traditional and new accounting history. It is based on archival sources but follows the approach of new accounting historians who highlight the need to analyse historical events and actors in their specific political, organisational and socio-economic contexts (Bryer, 1993; Carnegie, 2004; Carnegie and Napier, 2002; Gomes, 2008). The research is ‘grounded firmly in the archive while being informed by theoretical perspectives’ (Carnegie and Napier, 1996: 31) seeing history as useful and being aware that stability and change are the important contributions of historical research in accounting (Carnegie and Napier, 2012).

**The regulations**

The primary archival resource used in this study is the Regulations, first issued in 1731. These were used to form the 1734 Regulations, which were reissued in a slightly adjusted form at various times in the following years, with amendments added as ‘Additional Instructions’. A substantially rewritten version was issued in the 1808 edition. The study conducted here examines this change period (1790 and 1808 Regulations) to illustrate the increase in control and governance of the Navy.

**Responding to social expectations**

The 1731 Regulations were issued to standardise control over ships’ officers and to clarify orders (Dickinson, 2007). This document, drawn up by Thomas Corbett, Deputy Secretary of the Navy (Baugh, 1977), was organised and structured, and showed the duties of the various officers. It provided instructions for commissioned and warrant officers, including pursers, with details of the
Accounting required for issuing and controlling provisions. The Regulations gave examples of the eight forms required for accounting. In the following 77 years, the Regulations were reissued 13 times. The 1808 redrafting was preoccupied with governance and control, effected mainly through additional accounting requirements.

Between the 1731 and the 1790 editions, the Regulations changed very little. The rewriting mainly refined previous versions. In the edition of 1790, the requirements for accounting are like those of the 1731 Regulations. However, the 1808 Regulations were greatly expanded, with a substantial increase in accounting procedures (Lavery, 1998). This last edition analysed attempted to increase uniformity in the day-to-day functioning of the Navy and increase governance and accountability of officers to the Admiralty. The failure in the American War had resulted in government administrative reforms. The Committee on the Public Accounts had revealed inadequacies in the Navy, which the Navy now sought to address. Melville’s impeachment in 1806 was a public embarrassment for the Navy (Longman, 1806).

There was very little influence from King George III or the Parliament in the administration of the Navy (Hamilton, 2011). However, during the 1780s the Comptroller of the Navy, Rear Admiral Charles Middleton had worked with the Prime Minister, William Pitt the Younger, and was enthusiastic about the latter governance reforms (Wilson, 2013). After Melville’s impeachment, there was increased external political pressure on the Navy to show improved financial diligence. Under Pitt the Younger, parliamentary reforms had increased governance and control of public finances (Turner, 2003). In support of these reforms, both professionalism and bureaucracy increased. The Navy needed to conform to this new environment of increased professionalism and bureaucracy to meet social expectations. Middleton (who became Lord Barham) succeeded Melville as First Lord of the Admiralty in 1805 and, in 1806, drafted the greatly expanded 1808 edition of the Regulations (Blake, 2014).

Establishing legitimacy

The Regulations represented Middleton’s response to these wider criticisms of the Navy and its working. The 1808 Regulations increased to 683 pages from 237 pages in 1790. The fact that the Regulations (1790, 1808) were ’established by his Majesty in council’ (front page) sent signals of legitimacy to the key power groups in order to retain their support.

The purser’s role and accounting instructions

Establishing and maintaining legitimacy

To explore the details of the Regulations issued, and to determine how they helped to establish and maintain legitimacy, the Regulations pertaining to the purser have been examined.

Pursers’ primary duties were the receiving, issuing and accounting for provisions (Baugh, 1965: 394). In 1665, Samuel Pepys (Clerk of the Acts of the Navy Board) proposed that there should be a central Surveyor General of Victualling for HM (His Majesty’s) Navy (Diary, 14 October 1665). Pepys occupied this post (Diary, 19 October 1665), heralding the start of upgraded governance and control of provisions. The ‘Duke of York’s Orders and Instructions’ issued in 1662 gave clear indications over the initial duties expected of pursers. However, there was very little detailed instruction regarding accounting or governance of the internal administration of naval ships.

The 1731 Regulations provided instructions on many matters, including victualling (Warlow, 1984). These were mainly a summary of past orders designed to control officers’ actions through the accounting (Rodger, 2004). Pursers became responsible for keeping more detailed accounts (Claxton, 1837) and, at the same time, their education and professionalism improved (Dickinson,
At the time of ‘Nelson’s Navy’ (1793–1815), a purser ‘served a year as a captain’s clerk’, did not ‘keep watch’, and on larger ships ‘had a steward’ (Blake and Lawrence, 2005: 70). He was also responsible for keeping the muster rolls of crew on which the payment of wages depended (Brock, 1986).

The purser issued the victuals or provisions to sailors and was accountable for the stores issued to him by the Victualling Board. The storekeeper, at the victualling yard, kept his own accounts. These provided a ‘cross check’ confirmation of the pursers’ accounts. A purser could spend large amounts of money in advance in the hope of future returns. Invariably, he was required to obtain favourable credit to finance these activities (Rodger, 1986).

The purser’s main role was to ensure his ship was provisioned to the appropriate standards and levels. These were calculated based on the size of the ship (its rate, or class) and the length of time the rations were expected to last. The level of rations, determined in 1731, did not change until the following century. The bulk of provisions were provided through the dockyards, through contracts negotiated by the Victualling Board (Knight and Wilcox, 2010). The provisions, and the bags or casks containing them, were charged to the purser’s account (Purser’s Instructions, 1759).

The 1790 Regulations (Article 1) clarify the role of the purser:

‘The purser, being the officer who is entrusted with keeping and distributing the provisions out to the ship’s company, is to observe the following Instructions’ (p. 115).

The equivalent Article 1 in the 1808 Regulations is much longer, more verbose but clearly requiring governance, control and detailed accounting:

To give security for the discharge of his trust.

<table>
<thead>
<tr>
<th>Rate</th>
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<tbody>
<tr>
<td>1st rate</td>
<td>£1200</td>
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<tr>
<td>2nd ditto</td>
<td>£1000</td>
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<td>3rd ditto</td>
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<td>6th ditto</td>
<td>£400</td>
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and sloops, &c.

He is hereby strictly required and directed to observe and abide by the following Regulations, Stipulations, and Instructions; and he is not to expect that any irregularity in or omission of any part thereof, or of the Forms referred to therein for keeping his accounts, will be overlooked. (p. 317)
All sets of Regulations required the purser to ‘inform himself’, to be aware of when the ship should be victualled and to ensure all the necessary rations were on board. There was also a requirement that the provisions should be ‘sweet’ and ‘good’ (Mountaine, 1690: 194; Regulations, 1790: 116), ‘and wholesome’, in the 1808 Regulations (1808: 318; Commissioners for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland (CEO, 1825)). In the original instructions, the purser was required to note the marks on any casks so that, should they be found defective, he would be able to testify as to their source. Again, there is an increase in governance in the latter Regulations. The onus passed to the purser to ensure all the casks were sound or otherwise to object (Regulations, 1808: 318).

The 1808 Regulations used tables to illustrate allowances. Four additional tables were included. One table detailed, in addition to the purser and his servant’s wages, an allowance ‘for encouraging him to a zealous and faithful discharge of his duty’ (p. 318) in completing his accounts. The accounts were passed to the Victualling Office and showed the amounts for which he was a creditor. There was a table of allowances for this as represented in Table 1.13

All Regulations prevented the purser from selling or to making undue (or excessive) use of any of the provisions or stores under his charge. The 1808 Regulations add a table (see Table 2) of repayment amounts for provisions or stores paid for abroad or at home.

<table>
<thead>
<tr>
<th>Table 1. Allowance for faithful discharge of purser’s duty.</th>
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<td>Bread</td>
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<td>Pork</td>
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<td>Oatmeal</td>
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<td>Sugar</td>
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<td>Butter</td>
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<td>Cheese</td>
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Source: Regulations (1808: 319).

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<th>Table 2. Prices to be paid if in debt of any species of provision.</th>
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<td>Cheese</td>
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<td>Vinegar</td>
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Source: Regulations (1808: 320).
There were additional monitoring or auditing style checks on the pursers’ accounts. The 1790 Regulations required him to deliver his books and accounts within six months after the ship was paid off, and to produce an affidavit that the quantities were delivered on board ship, and that he did not receive any money or was not supplied with more provisions than charged. The 1808 Regulations also required him to keep a book that detailed the numbers of men on board and to produce this, with his victualling accounts certified by the captain, along with a captain’s warrant for victualling.

The 1808 Regulations include an additional chapter (Chapter 3: 310–316) titled ‘Of the payment for provisions, which may be saved by the ship’s company out of their daily allowance, or become due to them by their being put on short allowance’ (short allowance was issued when the vessel was in port). Again, this mandated detailed governance and accounting procedures for the purser.

Adoption and influence of practices

The 1808 Regulations (p. 324) provide a table of annual allowances to incentivise pursers to complete the accounts required by the Regulations. The allowance was paid based on the complement of men aboard ship, on the passing of a purser’s accounts and producing the certificates required. Searches have been carried out of the National Archives, the Caird Library at Greenwich and the National Maritime Museum to find actual purser accounts. A full set of purser accounts have not been discovered in any of these archives, therefore, it is not possible to observe the actual level of compliance with the instructions. However, the allowances outlined were designed to ensure accounts were completed correctly. Various guidance manuals and other documentation suggest that the Regulations were taken seriously by pursers and other officers. For example, William Mountaine’s (1690, 1756, 1761, 1778) handbook or pocket reference, the ‘Seaman’s vademecum’ (Latin for ‘go with me’) was published to guide seafarers in how to comply with the Regulations. It provided details of the accounts required from pursers. There are volumes of printed ‘Instructions’ (CEO, 1759, 1813, 1825) and a volume of printed ‘Instructions to pursers’. This latter volume outlines the extant Regulations and Instructions. By way of example, a copy of the ‘Instructions to pursers’ was issued to Oliver King as purser of HMS Savage (dated 28 August 1759). This copy is annotated in the margins in a way that indicates he, at least, attempted to follow the Regulations (‘Instructions to Pursers’, 1759).

Severe penalties were prescribed for incorrect accounts, indicating an expectation of compliance. In the 1790 Regulations, the purser is required to ‘be very careful not to sign any accounts, books, lists or tickets, before he has thoroughly informed himself of the truth [emphasis added] of every detail [emphasis added] contained in the same’ (p. 130). The 1808 Regulations state more fulsomely, with explicit penalties:

He is never to sign any accounts, books, lists, tickets, receipts or vouchers for provisions or victualling stores, before he has so thoroughly examined and considered them as to be satisfied of the truth and correctness of every particular contained therein; and if at any time discovery shall be made, that he has signed, or knowingly suffered or procured others to sign, a collusive or false ticket, lists, voucher, or vouchers of any kind, he will be discharged from his employ as a purser, be deemed unfit ever to be entertained as an Officer in His Majesty’s service, will absolutely forfeit all the wages due to himself and servant to the time of his dismission, together with all such sum or sums of money, benefit, advantage, or emolument, as might otherwise arise and become due and payable to him for tobacco or slops issued to the Ship’s company, or on the balance of his victualling account, and will also be subject to such pains and penalties as a court martial may inflict upon him. (p. 329)
The Navy Board kept records or registers of precedents and exceptions for pursers’ accounts; however, only one book, albeit a large volume (National Archives Admiralty ADM 30/44), was required for the period from 1752 to 1800. This suggests that there were very few exceptions over this long time period. The exceptions listed were generally the recording of waste, leakage or condemned provisions. The longest section of four pages is devoted to ‘Extra allowances for liquors’ (pp. 30–34). Page 87 details that ‘pursers who were in debt on the balance of their accounts and yet had certificates granted in order to obtain their admiralty’. There were five of these, including

... purser of the Arundel and Barbados was considerable in debt on the accounts, he went on voyage with Captain Cook as clerk of the Endeavour and on his return was appointed purser of the Iris; he was not allowed to receive any wages until the debts were made good.

From this, it would appear that accounts were kept even when they showed debts for the pursers involved.

While it is unclear whether the instructions for many additional forms and accounting requirements improved the allocation and recording of the costs and control of the provisions for seafarers, they certainly resulted in more work and delay. The ‘Forms of Books or Accounts referred to in the Preceding Instructions’ (Regulations, 1790: 165) increased from 28 in 1790 to 94 pages of forms in 1808 (see Appendix 1). The pages relating to the purser and his accounts increased from 16 to 42 pages (see Appendix 1). The accounting and additional completion of forms and certificates was costly and protracted. Indeed, in the case of the purser, accounts could take many years to pay, often due to the laborious cross-checking of transactions. The pursers could not receive their pay until the Victualling Board had certified that they had no debt (MacDonald, 2010; e.g. ADM C/722, 16 May 1809, Navy Board to Victualling Board).

Besides being more detailed, the 1808 Regulations use more formal language and demand more governance. This was a clear sign of legitimacy to those external to the Navy. For example, there are additional instructions: the purser is required ‘to keep a victualling book, and deliver the same into the Victualling Office for passing his accounts’ (p. 326). There are clear and forthright instructions on how the numbers of men in his victualling book should agree with the ships mustering books (a requirement for a further stage of checking, or audit) and of how it should be certified by the captain. The 1808 Regulations emphasise the importance of governance and control.

**Summary and conclusion**

This study of accounting and governance has focused on understanding the development of record-keeping in the Navy from the first Regulations and Instructions in 1731 to the major change in the Regulations in 1808. Accounting development and change in the Navy was gradual until 1808. Substantially extended Regulations required significantly increased records to be kept. External events, expectations and the need to secure continued funding instigated this change in accounting and governance. Melville’s impeachment in 1806 was a key event in the process driving change.

This accounting change is viewed through the lens of institutional theory, as a response to the expectations of the organisation’s environment and a demonstration of legitimacy. Although the Navy’s existence was not under threat, to secure the high levels of funding it had experienced in the past, it needed to show the legitimacy of its operations and control of expenditures through increased Regulations.

The development of governance and changes in accounting are seen in the context of political and other external pressures on the Navy, especially about finances and funding. The revision of the Regulations in 1806 provided an opportunity for the Navy to give an impression of a financially...
responsible organisation. The Regulations used additional accounting procedures to allay fears from critical political commentary on matters pertaining to financial misdemeanours, regulatory inefficacy and offices of profit. The Regulations sought to ensure adequate regulation to limit the need for future revisions.

With Melville's impeachment, there was an increased focus on the use of, and safeguarding external funding and finances provided to the Navy. In public organisations, this was a time when increased administration and bureaucracy demanded increased governance and professionalism. Institutional theory acknowledges that organisations need to conform to external or social expectations and establish and maintain an outward appearance of legitimacy by following prevailing norms, values and ideas in order to retain support (Fogarty, 1992, 1996; DiMaggio and Powell, 1983; Hines et al., 2001). The 1808 increase in governance via increased accounting procedures was an attempt to seek legitimacy and demonstrate that those in charge were safeguarding the finances. Regardless of the actual level of the funding made available to the Navy, the regulators demanded increased governance of finances, to ensure continued high levels of funding.

This investigation of the motivation for the reworking of the Regulations in 1806 also questions whether the new practices really improved efficiency and performance. With the introduction of more forms and stages, many of which did not appear to improve working practices, studying governance and accounting in the Navy at this time involves understanding the mechanisms that had been set to regulate the accounting for provisions by the purser. Regulations for accounting provided those financing the Navy with the primary source of information about the performance of those managing the day-to-day affairs of the Navy.

The article has assisted in extending understanding of the unique role of the purser in the eighteenth and nineteenth century Navy. The purser’s role initially involved keeping basic records or accounts to ensure seafarers received correct provisions. This record-keeping developed and became a means of control and governance over the actions and expenses of supplies, as well as the issue of the supplies on board ships. Developments included the introduction of standard costs, the ‘purser’s pound’, a measure to provide for waste (McBride et al., 2016) and further requirements for accounting records, so that pursers could be reimbursed. The accounts required a rudimentary form of internal control. There was a requirement that they be signed by the captain, verifying the records signed and certified by the purser himself. A basic form of internal audit also existed, as the accounts were to agree with Victualling Board records. The impact of the increased Regulations on pursers was a requirement for more accounting, more form filling and more verification. The 1808 Regulations required accounting records to become more complicated and numerous in order to demonstrate fulfilment of the essential functions of recording, control and governance. Future research could consider the next stages of development of accounting in the Navy, for example, the introduction of double-entry bookkeeping, whether this was influenced by this quest for efficiency and performance in day-to-day activities, which does not appear to have been addressed by these increased regulations.

**Funding**

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**Notes**

1. The expression ‘Minding your Ps and Qs’ is believed to have originated from this time. Seafarers, who were often illiterate, would drink in local taverns on credit until payday. The barkeeper would keep an account of the pints (Ps) and quarts (Qs) consumed, for the seafarer to settle when paid. Governance was required. The seafarer would need to mind his Ps and Qs or get into trouble with his finances.
2. The sea officers to whom the Regulations and Instructions were issued were as follows: the Flag Officer/Commander in Chief and the Captain/Commander in the first section, then the Lieutenant, the Master, the Boatswain and Master Sailmaker, the Gunner and Gunsmith, the Carpenter, the Purser, the Surgeon, the Master at Arms and the Corporal, the Schoolmaster and the Cook. Regulations were issued from 1731.

3. The fighting with France was indeed global, as it took place not only throughout Europe and the surrounding seas, but also in America and India. Some consider it the first world war.

4. In the Glorious Revolution, King James II of England was replaced by William III, Prince of Orange (his Dutch son-in-law and nephew) and his protestant daughter Mary.

5. Viscount Melville (Henry Dundas) was Treasurer of the Navy between 1782 and 1800, and then First Lord of the Admiralty from May 1804 until May 1805. A parliamentary commission of enquiry appointed in 1802 resulted in his impeachment in 1806 on 10 charges of misappropriation of public money. The hearing ended in a finding of formal negligence and an acquittal (this was the last British impeachment). Melville was acquitted on all charges, some with very small majorities. This combined with his unhelpfulness at the trial, led to public criticisms. Melville never held Naval office again (HC Deb, 1805, 1806; House of Commons, 1806).

6. For more details on the purser’s role, related standard costs and the purser’s pound see McBride et al. (2016).

7. The term Governance is used in the context of accounting regulation and governance, including the development of regulatory frameworks, codes and guidelines.

8. The Admiralty secured funding for all aspects of naval activity, including ships at sea, the focus here. While the Navy was the institution responsible for maintaining the ships, whether abroad, in home ports or in dockyards, it was the Admiralty that were particularly concerned with legitimacy, it was them who had to secure the ongoing support of government (through Parliament) and ensure funding. The Navy Board was responsible for the day-to-day civil administration of the Navy and allocated the funds to various areas including the ships. Admiralty were the principals and the Navy, the Navy Board and all the operatives the agents. Officers within the Navy such as pursers were the individuals on board ship, who were the means by which this accountability was delivered and demonstrated.

9. Samuel Pepys became Clerk of Acts in 1660, he was responsible for organisation of the Navy Office. This role involved processing naval contracts and the secretarial work of the Navy Board (McBride, 2018).

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*Regulations and Instructions relating to his Majesty’s Service at Sea* (1734) London: Privy Council.

*Regulations and Instructions relating to his Majesty’s Service at Sea* (1757) London: Privy Council.

*Regulations and Instructions relating to his Majesty’s Service at Sea* (1790) London: Privy Council.

*Regulations and Instructions relating to his Majesty’s Service at Sea* (1808) London: Privy Council.


**Secondary Sources**


Appendix 1. Differences between Regulations and Instructions (R&I) for the purser in 1734, 1790 and 1808.

<table>
<thead>
<tr>
<th>Sections in R&amp;I 1734 and 1790 (Regulations are identical apart from additions at end of 1790 R&amp;I)</th>
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<th>Number of words in each section 1808 R&amp;I</th>
<th>Forms required 1734 and 1790 R&amp;I</th>
<th>Forms required 1808 R&amp;I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duty of the purser</td>
<td>General duty of the purser</td>
<td>26</td>
<td>39</td>
<td>97 + table</td>
<td>Forms for keeping accounts</td>
</tr>
<tr>
<td>To victual the Ship every three days in petty warrant</td>
<td>To give security for the due discharge of his trust + table of ship sizes.</td>
<td>85</td>
<td>48</td>
<td>110 + table</td>
<td></td>
</tr>
<tr>
<td>Not to spend sea provisions in petty warrant</td>
<td></td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To victual none without a note in writing</td>
<td></td>
<td>48</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get the provisions &amp;c. on board in time</td>
<td>To get the provisions on board in time</td>
<td>48</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To receive none but good provisions</td>
<td>To receive none but good provisions</td>
<td>75</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowance for the faithful discharge of his duty +/- table</td>
<td></td>
<td>110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What provisions the Ship cannot hold to be certified that the remainder may be supplied another way</td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To produce certificates of the provisions received on board</td>
<td></td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not to discount his credit, nor indent anew till he is entitled therein …</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prices to be paid if in debt for any species of provisions</td>
<td>Table of prices</td>
<td>245</td>
<td>85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or higher prices as circumstances may render fit</td>
<td>Channel service</td>
<td>113 + 2 tables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prices to be paid if in debt for wine, spirits, tea or cocoa, upon Channel service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All victualling stores to be accounted for – tables of allowances for waste and prices to be paid for casks and hoops.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To provide the Ship with necessaries</td>
<td>To provide the Ship with necessaries</td>
<td>20</td>
<td>207</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowances to him</td>
<td>Allowances for that purpose</td>
<td>102</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual allowance on passing his account.</td>
<td></td>
<td>15 + table</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Further allowances when carrying top and poop lights</td>
<td></td>
<td>111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To see the provisions well stowed, and the oldest spent first.</td>
<td>To see the provisions well stowed and the oldest first expended.</td>
<td>50</td>
<td>62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bad provisions to be surveyed</td>
<td>Defective provisions to be surveyed</td>
<td>82</td>
<td>190</td>
<td>Form p. 181</td>
<td></td>
</tr>
<tr>
<td>What officers [do] to survey the provisions</td>
<td>Provisions under warranty to be surveyed seven days before the expiration thereof. In case of neglect, to be charged to the purser.</td>
<td>47</td>
<td>138</td>
<td>Form no. 10</td>
<td></td>
</tr>
</tbody>
</table>

(Continued)
## Appendix 1. (Continued)

<table>
<thead>
<tr>
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<th>Forms required 1808 R&amp;I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condemned provisions to be returned</td>
<td>Condemned provisions to be returned into store</td>
<td>65</td>
<td>41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In what cases [provisions are] to be flung overboard</td>
<td>In what case may be thrown overboard</td>
<td>59</td>
<td>269</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provisions condemned after the time they were to last, not to be allowed without sufficient reason</td>
<td>Provisions condemned after the time for which they were to serve not to be allowed without sufficient reason</td>
<td>52</td>
<td>81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condemned butter not to be flung overboard</td>
<td>Condemned butter not to be thrown overboard nor delivered to the boatswain but in particular cases</td>
<td>43</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coals for the use of forges to be supplied by the purser.</td>
<td></td>
<td>123</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Also coals for the use of airing stoves</td>
<td></td>
<td>133</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leakage of beer to be surveyed</td>
<td>128</td>
<td>135</td>
<td>Form p. 182</td>
<td>Form no. 11</td>
</tr>
<tr>
<td>No allowance for leakage of wine, oil &amp;c.</td>
<td>No allowance for leakage of wine, oil, or spirits</td>
<td>69</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duplicates of surveys to be sent to the Victualling Office</td>
<td>Duplicates of surveys to be sent to the Victualling Office.</td>
<td>48</td>
<td>110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To replace one species issued for another, out of the next supply</td>
<td>When one species of provisions is issued in lieu of another, the same to be expressed in all the vouchers and accounts</td>
<td>76</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short provisions in cask to be surveyed</td>
<td>Casks of beef or pork short in tale or weight to be surveyed. Vouchers to be produced to obtain credit for the deficiencies thereof either in weight or tale</td>
<td>141</td>
<td>356</td>
<td>Form p. 183</td>
<td>Form no. 12</td>
</tr>
<tr>
<td>Not to misapply the provisions or stores</td>
<td>How to demand and receive provisions from contractors, consuls, &amp;c., when on foreign service</td>
<td>79</td>
<td>270</td>
<td>Form no. 13</td>
<td></td>
</tr>
<tr>
<td>How to purchase provisions abroad</td>
<td>How to demand and receive fresh meat from contractors, consuls, &amp;c.</td>
<td>163</td>
<td>432</td>
<td>Form no. 14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to purchase provisions abroad if absolutely necessary. Vouchers to be produced on passing his accounts</td>
<td>150</td>
<td>133</td>
<td>Form no. 15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vouchers to be produced for passing accounts</td>
<td></td>
<td>45</td>
<td>Form no. 16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accounts of fresh meats received, to be kept and rendered quarterly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to account for the produce of live oxen and sheep</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storehouse room and commission money not allowed; not sloops or boats, but upon necessity</td>
<td>No charge for storehouse rent or commission allowed, nor sloops or boats to be hired but on absolute necessity. Voucher required when sloops or boats are hired.</td>
<td>72</td>
<td>128</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 1. (Continued)

<table>
<thead>
<tr>
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<th>Forms required 1808 R&amp;I</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to take up money abroad</td>
<td>How to take up money abroad for the purchase of provisions</td>
<td>142</td>
<td>372</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to pass his account of disbursements</td>
<td>Papers for passing his accounts to be delivered into office by schedule, and within four months after he shall be superseded, or the Ship be paid off</td>
<td>143</td>
<td>191</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Voluntary charge to be delivered with the other papers for passing his accounts</td>
<td></td>
<td>181</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To vouch his accounts to the satisfaction of the Victualling Board</td>
<td></td>
<td>49</td>
<td></td>
<td>Form no. 19</td>
</tr>
<tr>
<td>To be allowed for water purchased abroad</td>
<td>Water may be purchased if not otherwise to be obtained.</td>
<td>52</td>
<td>134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To repair defective cask abroad</td>
<td>Allowance for ordinary waste of casks, hoops, bags. Prices to be paid for deficiencies</td>
<td>108</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be careful of the cask</td>
<td>To be careful of the casks in regard to the extra expenditure. To repair and new trim them on board if necessary</td>
<td>117</td>
<td>239</td>
<td></td>
<td>Form no. 17</td>
</tr>
<tr>
<td>How to be allowed for provisions or stores lost</td>
<td>How to be allowed for stores or provisions lost</td>
<td>72</td>
<td>121</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To keep an exact Muster book</td>
<td>To keep an exact Muster book</td>
<td>115</td>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To enable him to vouch tickets, pay or other discharge lists</td>
<td></td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May sell tobacco to the seamen</td>
<td></td>
<td>55</td>
<td></td>
<td></td>
<td>Form p. 184</td>
</tr>
<tr>
<td>Not to victual supernumeraries without orders</td>
<td></td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to victual other ships' men</td>
<td>How to be paid or allowed the victualling of other ships' men</td>
<td>64</td>
<td>100</td>
<td></td>
<td>Form p. 185</td>
</tr>
<tr>
<td>Not to spare any provisions or stores without orders.</td>
<td>Provisions or victualling stores not to be lent without an order in writing &amp;c.</td>
<td>72</td>
<td>278</td>
<td>Form no. 8</td>
<td></td>
</tr>
<tr>
<td>To keep a Sick Book, and Slop Book</td>
<td>To keep a Sick Book</td>
<td>98</td>
<td>53</td>
<td>Forms pp. 170, 171</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To keep a Slop Book as set forth in the slop instructions</td>
<td>132</td>
<td></td>
<td>Forms for slops</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To preserve the Slop and Muster book, if possible, in the case of the loss of the Ship</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued)
<table>
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<th>Forms required 1808 R&amp;I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victualling Office to send vessels to bring away the provisions from the Ship, when it is to be laid up</td>
<td>When the ship is laid up &amp;c. the Victualling Office to send vessels to bring away the provisions &amp;c. The purser to send with the provisions an account of when, whence, and from whom received, and when the warranty expires. Penalty for omission. No receipt to be given the purser for provisions &amp;c., returned into store until he shall have made <em>affidavit</em> respecting the same No allowance granted for warranted provisions if condemned after the expiration of warranty</td>
<td>82</td>
<td>148</td>
<td>83</td>
<td>45</td>
</tr>
<tr>
<td>Number of staves each cask is to consist of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provisions to be surveyed before returned into store</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To pass his accounts within six months after the Ship is paid off</td>
<td>To give the Captain a certificate to enable him to pass his accounts, unless circumstances may have rendered it improper</td>
<td>100</td>
<td>66</td>
<td>Form no. 18</td>
<td></td>
</tr>
<tr>
<td>To represent any complaints against the Officers, before the pay of the Ship</td>
<td>To represent any complaint against the Officers before the payment of the Ship To be careful in signing papers Penalty if detected in signing or suffering others to sign false vouchers To see every circumstance respecting his charge entered in the Logbook; and that the directions contained in the 26th Article of the Provisions he duly complied with. Penalty for omission Not to blend the receipt or expenditure of provisions or victualling stores in one quarter with those of another</td>
<td>61</td>
<td>61</td>
<td>32</td>
<td>41</td>
</tr>
<tr>
<td>Additional R&amp;I in 1790 related to pursers</td>
<td>Provisions to be always procured of contractors where there are any</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sections in R&amp;I 1734 and 1790</td>
<td>Sections in the revised R&amp;I 1808</td>
<td>Number of words in each section</td>
<td>Number of words in each section</td>
<td>Forms required</td>
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<tr>
<td>Ships in West Indies or America never to complete provisions for more than three months</td>
<td></td>
<td>92</td>
<td></td>
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<tr>
<td>An Account of Provisions received &amp;c. returned &amp;c. to be sent every three months to the Victualling Office (having occasioned frequent mistakes to the prejudice of the Crown, in the making out pursers Balance Bills) signed by the Commander, the Master and the purser; 2 books entered: one to remain with the Commander and the other with the purser, to be produced on the passing of their respective accounts. If any mistake shall happen to the prejudice of the Crown, from their failing to comply, the same is to be made good out of the Commander’s wage</td>
<td>To keep a Victualling Book and deliver the same into the Victualling Office for the passing of his accounts. How to be certified. To produce orders for victualling supernumeraries</td>
<td>181</td>
<td>218</td>
<td>Form no. 7</td>
<td></td>
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<tr>
<td></td>
<td>To keep a number and content book. The delivery of which into Office for passing his accounts, not to be dispensed with</td>
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<td></td>
<td>Not to sell or make undue use of the provisions or stores</td>
<td></td>
<td>77</td>
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<td></td>
<td>If appointed to succeed another purser to procure an account of when, where and from when the provisions were received, with the time of warranty; but if such account cannot be obtained the Surveyors to certify the reason</td>
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<td>189</td>
<td></td>
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<td></td>
<td>In case of his being appointed, &amp;c., abroad to write to the Victualling Board proposing his securities for the faithful discharge of his trust</td>
<td></td>
<td>123</td>
<td></td>
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<td></td>
<td>Accounts to be presented to the Captain for examination.</td>
<td></td>
<td>40</td>
<td>Form no. 21</td>
<td></td>
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<tr>
<td></td>
<td>Forms to be observed abroad, in taking survey of remains of provisions, &amp;c. to enable him to close his accounts</td>
<td></td>
<td>345</td>
<td>Form no. 20</td>
<td></td>
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<td></td>
<td>Not to be paid as Admiral’s Secretaries</td>
<td></td>
<td>15</td>
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</table>

&c. was the abbreviation for etcetera, now etc.
CHAPTER 5

A French connection; paths to a ‘new system’ of accounting for the Royal Navy in 1832.
A French connection; paths to a ‘new system’ of accounting for the Royal Navy in 1832

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Abstract

This study contextualises the official introduction of double entry bookkeeping in the Royal Navy, in 1832. The objective is to consider how accounting developed and changed through the competing logics of path dependent processes and to provide insights and explanations of those accounting changes in the Royal Navy. An innovative theoretical framework combines the longer-term lens of historical institutionalism with the roles of key actors to investigate change, logic and meaning of accounting in the Royal Navy in the context of financial reforms resulting from governmental investigations. The study is intended to make a contribution to accounting history and theory by means of this extension of historical institutionalism, exploring the options available and the paths taken at critical junctures, as the result of key players and their influence on the practices developed. The study identifies the paths available to the Royal Navy in the adoption of this ‘new system’ of accounting. The paper contributes to the literature on accounting development and change, on military accounting history and on the political nature of accounting in exploring the influences for change.

1. Introduction

Political bodies often view accounting as contributing to the adverse impacts of financial problems and feel obliged to review and reform accounting practices in times of financial crisis (e.g., Laux & Leuz, 2009). Regaining control of the system of public accounting is seen as a necessity (e.g., Bergtsson, 2011). This paper analyses the development of double entry bookkeeping in the Royal Navy (hereafter Navy), an accounting change that was proposed, during financial crisis, by a politician, Henry Parnell, in 1819 and implemented in 1832. This is set in the context of the development of accounting in the Navy from the first published regulations in 1731 (ADM 106/3078)2. These regulations advocated charge and discharge or cash accounting until parliamentary debate and a proposal to change the system of accounting to one of double entry bookkeeping. From 1731 to 1808, there was only gradual change in accounting practices, subsequently in accounting requirements, followed by this proposal for a ‘New System’. As current financial crises provide a catalyst for reforms in...
accounting and accounting systems (eg Arnold, 2012), so in history, external political and financial pressures affected the system of accounting in the Navy.

Previous research in military accounting has mostly considered the influences on accounting and accounting development in times of war. It is after wars and the expenses that have been incurred by them that financial problems arise and the focus turns to public expenditure and accounting. This paper explores accounting change in times of peace. The proposal of the introduction of a ‘mercantile system of double entry’ for British government finances and the arguments surrounding this proposal are considered by Edwards, Coombs, and Greener (2002). They attribute the disputes that arose surrounding this introduction to a conflict of ideology, between the gentry and the rising capitalist classes, a debate that provides much context to this accounting development. Mann, Funnell, and Jupe (2016) refute this argument suggesting that the differences of opinion and the subsequent delays in implementation were the result of ‘class interests, ideology, personal antipathy, professional intolerance and ambition’ and that the changes to accounting were backed by those with strong liberal beliefs and the accounting development was designed by unrecognised accountants, John De As Thomson3 and Sir James Graham.4 Thus pointing out the importance of supporting individuals and their contribution in times of accounting change. A contribution that provides depth to this accounting development.

The influence of key actors is developed in this paper, considering the key players in the debates surrounding this accounting change, particularly Henry Parnell and John Bowring.5 Additional evidence not included in the previous literature, indicates that during the disputes for two different variants of double entry bookkeeping, Dr John Bowring was sent to assess the bookkeeping of the other prominent Navies in Europe, those of the Netherlands, Belgium and France. Further, an extended narrative is interpreted using historical institutionalism to include the previous change in accounting and to provide additional context. The historical institutionalism critical junctures revealed by financial problems after the huge expenses of wars, the increasing focus on financing and the resulting impetus for change.

The objective of this study is to consider how the institution of accounting developed and changed through the competing logics of a historic institutionalism path dependent process, providing insights into the development of the accounting system of the Navy and subsequently of other government bodies. The paper explores how key players, assisted in this. The investigation focuses on reports, correspondence and debates around the implementation of changes in accounting. The historical narrative for viewing the critical junctures, competing logics and path dependent processes of historical institutionalism is set in the context of financial reforms addressing governmental investigations following financial crises after high wartime expenditure.

The paper offers two main contributions. It makes a theoretical contribution by the innovative extending of historical institutionalism, combining it with the influences of key actors in this process of change. Historical institutionalism identifies the key critical junctures for changes in accounting regulation and control within the Navy, exploring the options available and the paths taken dependent on the influences of key actors. The Navy was the first government enterprise to introduce double entry bookkeeping in the UK (Funnell, Mann & Jupe, 2016). The paper identifies the options available to the Navy at two critical junctures leading to adoption of this ‘New System’ of accounting. Thereby the paper also contributes to literature on accounting development and change and on the political nature of accounting in identifying the critical junctures, the narrative and the paths to this change, with competing logics driven by influential actors.

In studying the influence of changes in accounting in the Navy in the early 19th century, the paper considers a ‘New System’ of accounting which was implemented in the Navy, initially at Greenwich Hospital (1828) and then elsewhere (from 1832). This was the first time double entry bookkeeping had been instituted in the Navy or elsewhere in government organisations. The research uses archival sources, in particular reports and correspondence prior to these changes in accounting. The Regulations and Instructions, Government papers, reports and correspondence in Admiralty papers of the National Archives (ADM references) from the early to mid-1800s are considered to ascertain how this system was developed and implemented.

The paper is presented as follows: A literature review identifying research in the institution of Navy accounting, other military accounting including accounting change influenced by war and as in this research by the after-effects of war. Then research work investigating the introduction of double entry bookkeeping in the British Government and, specifically, in the Royal Navy. The next section expounds the theoretical framework and considers the competing logics inherent in this framework. There follows the historical narrative and analysis, where a first critical juncture is proposed. Investigations into the uses of public finance in the Navy, led to the impeachment of Lord Melville in 1805/6 (HC Sit 1806; HL Sit 1805)6 and initial

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3 John Deas Thomson (1763–1838) was private secretary to Charles Middleton, First Lord of the Admiralty (see footnote 8 below) from May 1805 to May 1806. He was appointed as a ‘commissioner without special functions’ in 1805. He became Accountant General of the Navy from 1829 to 1832.

4 Sir James Graham (1792–1861) was a member of the British House of Commons from 1826 until his death in 1861. He was First Lord of the Admiralty from 1830 to 1834.

5 John Bowring (17 October 1792–23 November 1872) An accomplished linguist, first editor of the ‘Westminster Review’ and a friend and scholar of Jeremy Bentham. Bowring would become Governor of Hong Kong in the 1850s. The visit to the low countries in 1828 was the start of his public career. He was commissioned by the Chancellor of the Exchequer and the Parliamentary Finance Committee to report on the public accounts of Holland and Belgium. In 1830 he was dispatched to France for a similar mission. In 1832 he was appointed secretary to the Commission for the Reform of the Public Accounts, Sir Henry Parnell was chairman (London and China Telegraph, 1872).

6 House of Commons or House of Lords, Debates, Sittings or Reports have been referenced to Primary References using initial letters HC or HL then Deb, Sit or Rep and the year.

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radical changes in accounting regulations. Then the competing logics that determine a second critical juncture are addressed. Further financial difficulties and an economic crisis after the Napoleonic Wars, led to increased calls for accountability of government monies including those in the Navy and the decision to adopt a form of double entry bookkeeping. The paper explores the self-reinforcing paths of these accounting changes and the key actors who influenced the decisions made. Finally, there is a discussion and conclusion and some suggestions for further research.

2. Literature review

Research in accounting, the military and war is mainly carried out considering the influences in times of war (Cobbin & Burrows, 2018). Both World War (WW) 1 and WW 2 have been studied for details of costing (Fleischman & Tyson, 2000), budgeting (Antonelli, D’Alessio, & Rossi, 2014) and risk evaluation (Quinn & Jackson, 2014) and fraud and other corrupt activities (Vollmers, Antonelli, D’Alessio, & Rossi, 2016). WW1 provided impetus for the development of an improved pay system (Black, 2006a) and the pioneering role of women in implementing that pay system (Black, 2006b). Wars and war effort have also been the cause of state control by means of accounting, leading to negative outcomes (Cinquini, Giannetti, & Tenucci, 2016; Djiatej & Saritas, 2009). Accounting is observed to be partly implicated too in some of the darker facets of war (Chwastiak, 2001, 2006, 2008, 2013; Miley & Read, 2017).

2.1. Accounting in peacetime

Changes in accounting in the time of peace represents only 18 per cent of the research carried out in the area of military accounting research (Cobbin & Burrows, 2018). The discussion of the contribution of military accounting to modern costing and related procedures, generally focuses on war, as noted above, but some research has investigated other areas, the development of costing in military arsenals, by Lemarchand (2002) in France and in Venice by Zan (2004) and Zambon and Zan (2007). Cobbin and Burrows (2010) consider the changes to the system of budget estimates in the Royal Navy in late Victorian Britain, in order to become more efficient. Rosier (2010) reviewed costs in royal dockyards, seeking to compare overhead costs with private dockyards.

Some military research explores longer periods of accounting in the military, which include periods of peace. Funnell (2009) notes that control of military finance changed after the Civil War and the Revolution of 1688 in England. Black (2015) studies three centuries of the British Army bookkeeping and clerical tasks. At a similar time, the Royal Navy was using basic costing procedures, recording of accounts and other techniques, including the purser’s pound to control provisions on board ships (McBride, Hines, & Craig, 2016). Accounting techniques were intended to ensure accountability for public monies rather than to ensure efficiency. The Royal Navy established accounting rules and procedures to safeguard provisions, such as alcohol, which were controlled in terms of both cost and amount per sailor (McBride & Hines, 2019). Similar to the purser in this research, in the research carried out by Bowlin and Herda (2015) the Army sutler had regulations to control costs and credit to soldiers in the late 19th century. Other peacetime army costing is shown in the Victorian British Volunteer Army, with a basic analysis of variances (Talbot, 2000). This form of accounting control may have developed from the statistical accounting advocated then by Colonel Sykes at the Bass Brewery in Staffordshire (Talbot, 2010). There were also attempts to improve efficiency, in Spanish military hospitals (Sanchez-Matamoros & Funnell, 2015) and decision-making in Canada in the building of the Rideau Canal (Bujaki, 2010, 2015).

The findings of this study contribute to the literature on accounting in peacetime in focusing on accounting change after wars. It builds upon investigations into Governance in the Royal Navy between 1731 and 1808 (McBride, 2019). The Regulations for accounting records (Regulations, 1731, 1790, 1808) show that accounting prescription in the Navy changed very little during the period until 1808 when it became considerably more detailed, although remained single entry bookkeeping on a cash basis. There were external pressures for increased governance following the impeachment of Lord Melville, Treasurer and then First Lord of the Admiralty (McBride, 2019). After these initial attempts at modification, accounting was changed again and there were moves towards a ‘New System’ of accounting, double entry bookkeeping in the mercantile style was finally introduced in 1832 to the Navy (1844(364)), this was successful and implemented elsewhere (1845(520)). Some work has already been carried out in this area, which this paper builds upon, it contributes to that and to the theory of historical institutionalism.

Edwards et al. (2002) examine the conflict between the different view points, after the decision to introduce the ‘mercantile system of double entry’ for keeping records and reporting the finances of the British government. They suggested that the battleground for the different forms of the double entry bookkeeping proposed were due to a conflict of ideology between the new capitalist classes and the gentry. Mann et al. (2016) contest these claims refuting that the conflict and delays in implementation were due not to the differences between prominent social classes but a mix of ‘class interests, ideology, personal antipathy, professional intolerance and ambition’ and backing of key people with strong liberal beliefs, particularly John Deas Thomson and Sir James Graham.

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7 Reference to Parliamentary Papers, House of Commons sessional papers. These are the working documents of the government, parliamentary papers encompass all areas of social, political, economic and foreign policy, showing how issues were discussed and legislation was formed. These are referenced here with the date and reference number, see primary sources list.
This idea of influential individuals is developed in this paper. The narrative is extended to the previous change in accounting and the critical junctures, often after the huge expense of wars, increasing focus on finances is considered as an impetus for change. The conflicts arising between those advocating the different models of double entry bookkeeping are explored. The key personality advocating the change to double entry bookkeeping originally, Henry Parnell, is included in the study. Previous literature in this area, does not include consideration of the input of Dr John Bowring who during the conflict of ideologies for the different versions of double entry bookkeeping, assessed the bookkeeping of the other prominent Navies in Europe, those of the Netherlands, Belgium and France. Two variations of double entry bookkeeping had been proposed, one based on the then current record keeping of the Navy but extended to include a basic form of double entry bookkeeping, on a cash basis system (1829,325). The second, a more developed double entry accounting following that used elsewhere in business, using an accruals basis of reporting (1829,325). Dr John Bowring reported back very favourably on the double entry bookkeeping system in France, which was the same as that finally instigated in the Royal Navy and already trialled at the Royal Greenwich Hospital, the first introduction of the ‘new system’ or double entry bookkeeping in the Royal Navy.

3. Theoretical framework

3.1. Historical institutionalism

This paper considers accounting change in the Navy through the lens of historical institutionalism. Historical institutionalism views political change as arising from critical junctures, which extend or disrupt long periods of stability, when public policy receives new objectives and priorities, and different administrative and political partnerships arise (Pierson & Skocpol, 2002). The outcome depends upon the timings of these external factors, related to the institution’s particular situation, e.g. level of bureaucracy, level of autonomy, or indeed professionalism, all of which are relevant to the Navy in the time period under investigation, when expensive periods of wars ceased and the focus was on control of finances and spending.

Araujo and Harrison (2002) suggest that there are two types of sequences in which events occur: reactive sequences, which cause change, and self-reinforcing sequences, which do not. Path dependence (Ertman, 1997; Huber & Stephens, 2001) and the idea of pivotal choices and their legacies (Collier & Collier, 1991) explain historical institutionalism. The idea is that outcomes at a particular juncture can critically cause self-reinforcing actions or indeed inactions that ensure that there is the reoccurrence of a particular set of actions into the future (Pierson & Skocpol, 2002). In considering history, path dependent sequences can, not only be self-reinforcing but also reactive, there is a focus on development of processes, sequences and outcomes over long periods of time (Mahoney, 2000). Development of policy over time can be viewed as a discrete, rather than continuous process (Peters, Pierre, & King, 2005). Djelic and Quack (2007) explain ideas of path transformation and path dependence. They suggest that where path dependency is strong, it is unlikely there will be path transformation unless external shocks lead to ‘rare radical ruptures and re-orientation’ (p.162) which will lead to path transformation or change within the organisation. A lack of change is explained by Mahoney (2000) as being related to the ‘formation and long term reproduction of a given institutional pattern’ (p.508). Such as the lack of change in Navy accounting during the long period leading up to the early 1800s and in the 1808 increase in those Regulations and Instructions (McBride, 2019).

The institutions defined within this theory include organisations (formal or informal) with rules (also formal or informal) which determine the conduct of the organisation. The Navy at this time was one of the largest business enterprises in Britain (Fox, 2007) and subject to various Regulations and Instructions, thereby meeting this definition of an organisation. This theory arising from Political Science elucidates the need to understand

‘The institutions that are at the center of historical institutional analysis … can shape and constrain political strategies in important ways, but they are themselves also the outcome (conscious or unintended) of deliberate political strategies, of political conflict, and of choice’ (Thelen & Steinmo, 1992 p.10).

Indeed, historical institutionalism perceives entities or institutions as longstanding organisations that cannot spontaneously or readily be changed, it clarifies the distinctive situation governing change within an organisation and aids in comprehending the procedures, both social and institutional facilitating that change (Mahoney, 2000).

Imperative to the theory of historical institutionalism, is the idea of ‘critical junctures’. This concept espouses the idea that institutional development consists of long periods of path-dependent stability within the institution, interrupted occasionally by short periods of institutional instability when more radical institutional change may occur (Capoccia & Kelemen, 2007). The alternative routes taken after these critical junctures effectively close off alternative choices and thereby lead institutions to follow self-reinforcing or path-dependent processes. Pierson (2004) clarifies this, in stating, ‘Junctures are “critical” because they place institutional arrangements on paths or trajectories, which are then very difficult to alter’ (p.135), having previously suggested that ‘analyses of historical sequences may focus precisely on the dynamic downstream consequences of particular patterns of institutionalization following a critical juncture.’ (p.52). Agency based accounts of critical junctures clarify that the choices that decision makers have available to them should be set within the historic, social and political context in which they are operating and the historical availability of the different possibilities needs to be carefully reconstructed (Mahoney, 2000). Capoccia and Kelemen (2007) define critical junctures as, ‘relatively short periods of time during which there is a substantially heightened probability that agents’ choices will affect the outcome … a situation that is qualitatively different from the “normal” historical development of the institutional setting of interest.’ (p.348).
In this paper it is suggested that historical institutionalism alone cannot be a complete approach to understanding change and persistence in accounting (Peters et al., 2005). Historical institutionalism is combined with the influence of key actors, those suggesting and motivating change, the interactions between key players and the decisions made by influential actors. These interests, interactions and influences are explored via a historical narrative and analysis and viewed through the lens of historical institutionalism.

4. Historical narrative and analysis

Mahoney (2000) proposes that a historical narrative ‘offers an especially useful method for making sense of the multiple steps in a reactive sequence. Through a narrative account, ‘the analyst can provide “a scene by scene description of the particular causal paths” through which an initial breakpoint leads to a final outcome’ (p.530). Historical institutionalism is impacted by key influential actors who have ‘the will and ability to change institutions in favour of new ideas’ (Steinmo, 2008, p. 131), their influence can be illustrated through the narrative.

This section of the paper presents a narrative of Naval and political events from 1790 to 1830, in a manner consistent with historical institutionalism, and examining the development of accounting practices over a long period. This is linked with the reactions of key actors, within and external to the organisation, to explain the choices made.

4.1. Historical narrative leading to the first critical juncture

The Navy, from the 1700s to the early 1800s, had spent many years at war, including the American Wars of Independence (1774–82) and wars with France (1803–1815). The focus had been more on financing wars, rather than on financial control and governance. In the 1780s, an expensive arms race took place between Britain and France (Rodger, 2004). British politics changed with the election of Pitt the Younger as Prime Minister in 1783.\(^8\) Navy finances were managed by means of close links between Pitt and Rear Admiral Charles Middleton (Comptroller of the Navy, 1778–1790).\(^9\) In 1790, Middleton reported there were about 90 ships of the line available with stores ready to go when needed (Morriss, 2011). (See Fig. 1 below, this is the start of the ‘timeline’ leading to the first critical juncture.)

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\(^8\) William Pitt the Younger (28 May 1759 – 23 January 1806) was a prominent British Tory and Whig politician of the late 1700s and early 1800s. He was the youngest UK Prime Minister in 1783, aged 24. He left office in 1801, but returned as Prime Minister from 1804 until his death (1806). Whilst Prime Minister he was also Chancellor of the Exchequer.

\(^9\) Charles Middleton (14 October 1726 – 17 June 1813) was Comptroller of the Navy between 1778 and 1790, he succeeded Melville as First Lord of the Admiralty in 1805 and became 1st Baron Barham. In 1806, he drafted the greatly expanded 1808 edition of the Regulations and Instructions relating to his Majesty’s Service at Sea (ADM 7/971).
In the ten years between the end of the American war and the commencement of the French Revolutionary War (1793), Pitt proceeded to institute financial reforms to achieve financial stability. A financial crisis in 1797 was clearly linked with the Navy, seamen mutinied for more pay (Spithead and Nore mutinies) and this resulted in some reform of the Navy Estimates. There were £14 million of Navy and Ordnance Bills outstanding in 1784. This was converted into Government Stock in the following year, reinstating the short-term credit of the Navy. Pitt instituted an extraordinary vote to secure funding for £2.4 m for the building of more ships. Pitt introduced the first Income Tax in 1799, which assisted in resolving the financial problems of the Government.

(See Fig. 1 above, these are the ‘initial conditions’.)

Viscount Melville (or Henry Dundas) was Treasurer of the Navy from 1782 to 1800. There were those, however, who believed that the Navy’s administration was corrupt. After Earl Spencer (First Lord of the Admiralty 1794–1801) who was popular and courteous, there was the appointment of Earl of St Vincent as First Lord. St Vincent was a supporter of economic reform. He believed that all government expenditure led to corruption and so sought to discover that corruption. He set up a Commission of Naval Enquiry in 1802, this reported that some public money had been kept in a private bank account. This was contrary to an Act of Parliament sponsored by Melville when he had been treasurer of the Navy. A commission of enquiry was appointed in 1805 (HL Rep 1805).

In 1804, with the return of Pitt as Prime Minister, Lord Henry Dundas, now Viscount Melville, was appointed as First Lord of the Admiralty (until May 1805). The enquiry resulted in an announcement of Melville’s impeachment in 1805 (HL Sit 1805) on ten charges of misappropriation of public money. The hearing in 1806 into these charges ended in a finding of formal negligence and an acquittal on all charges and nothing more than negligence was found against him (HC Deb, 1805; HC Deb, 1806; HC Rep 1806). Melville never held Naval office again.

(See Fig. 1 above, Melville’s impeachment is a ‘contingent event.’)

The impeachment related to financial affairs at a time when the Navy was facing public criticism of the handling of its finances. The commission of inquiry which led to Melville’s impeachment and resulted in reforms at the Admiralty; were a key critical juncture for Naval accounting, leading to increases in accounting governance and control. At this critical juncture, choices needed to be made between enhancing the then current accounting outlined in Regulations and Instructions or changing the accounting to a different system, such as the accounting system developed by Bentham at Portsmouth.

(See Fig. 1 above, these two options are ‘conflicting logics’)

Samuel Bentham10 implemented systems of accounting and accountability in the Navy dockyards between 1801 and 1805. He was Inspector General of Works, in command of the Naval Works department. This was a small but skilled group, set up in 1796, tasked with technological innovation and administrative efficiency. Bentham was instrumental in founding the Portsmouth steam factory with Marc Isambard Brunel and Henry Maudsley. This factory manufactured timber blocks for ships and was ‘the first large-scale plant to use machine tools for mass production’ (Hamilton, 2011, p. 13). On his appointment, the six Navy dockyards in England were still following the regulations and instructions originally issued by the Duke of York in 1662 (ADM 7/827; ADM 2 1733; ADM 7/639), consolidated in February 1731 (Regulations 1731) and updated at intervals until 1790 (Regulations 1790). However, Bentham considered these inefficient and advocated radical reforms (Ashworth, 1998). Bentham favoured a new form of management whose

‘objective was first to design the most controllable, and thus visible, way to perform an activity and second to ensure that the specified work was completed at the desired speed and quality. This required a system accessible to a form of accounting and therefore a labour process that was transparent’ (Ashworth, 1998, p.65).

This approach was prevalent elsewhere in British industry (Fleischman, Hoskin, & Mave, 1995; McKendrick, 1970; Roll, 1968). Accounting change occurred (Boynts & Edwards, 2012; Edwards & Newell, 1991) it was later considered by accounting historians, as more prevalent and sophisticated than previously had been believed (Fleischman & Tyson, 1993, 1998; Fleischmann & Parker, 1990, 1991). Accounting had significant influence in the formation of the modern organisation (Gallhofer & Haslam, 1993; Toms & Shepard, 2017).

Bentham’s brother (Jeremy) was a philosopher and critic of double-entry bookkeeping (Goldberg, 1957). Together, the brothers designed their own system of accounting. Samuel implemented this at the dockyards, particularly in areas within his jurisdiction. He was appointed Inspector-general of works in 1796, when he drew up plans for improvement of management of the dockyards and new sets of accounts for activities in the yards, particularly for control of timber, the most important material used. When the Commissioners of Naval Inquiry examined these arrangements in the dockyards in 1803, they saw this system in place and reported favourably on the control of timber and the records (Hume, 1970).

The Navy Board were opposed to Bentham’s changes. They preferred to administer the dockyards in the traditional way. They abolished his role as Inspector General and demoted him to a junior position in the Navy Board (Morriss, 2014).

(See Fig. 1 above, Bentham’s system was not the path followed.)

10 Samuel Bentham (11 January 1757 – 31 May 1831) was apprenticed to the Navy at Woolwich Dockyard, and served there and at Chatham Dockyard, before finishing his training at Portsmouth Naval Academy. Bentham was appointed Inspector General of Naval Works in 1796, he travelled and formulated many suggestions for improvements for the dockyards, introducing steam power and mechanisation of many of the production processes to improve efficiency — including the production of the many wooden pulley blocks used on ships.
In 1805, after Melville’s impending impeachment was announced, Middleton became First Lord of the Admiralty. Middleton was fervent about Government reforms, having been Comptroller of the Navy during the 1780s, he believed more accounting was the solution. With the increased external pressure to show enhanced financial control, in 1806 he started to redraft the Regulations and Instructions, the guidelines for the Navy’s accounting and control. To prove the governance of the expenses and financing of the Navy, Middleton drafted a greatly expanded 1808 edition of the Regulations (McBride, 2019). These constituted 683 pages; the previous edition in 1790 had been only 237 pages (Regulations, 1790 and 1808, ADM 7/971). The increased pages being additional instructions and forms to be completed. These radically redrafted Regulations sought to legitimise the finances of the Navy, providing a control and check on expenses, a self-reinforcing sequence.

(See Fig. 1 above, with the influence of Middleton, a key actor, this ‘self reinforcement’ makes Bentham’s accounting no longer an option).

4.2. Further historical narrative leading to the second critical juncture

In the late 1820s and early 1830s there were debates on the degree to which government accounts should use the ‘mercantile system of double-entry’ for public accounts (Hume, 1970). This led to moves towards a general change in accounting within the Navy after 1829 (ADM 114/1).

During the wars with Napoleon (1803–15) the Navy was the standard setter for other European Navies being at the height of naval efficiency (Rodger, 2004). These wars were expensive and their financing led to financial crisis and demands for government reforms (See Fig. 2 below, this is the start of the ‘timeline’ leading to the second critical juncture.). Henry Parnell, a supporter of Bentham, was also a strong advocate of governmental financial reform, he tabled resolutions in the House of Commons in 1819, suggesting the use of mercantile accounting. He chaired parliamentary committees and later documented his ideas in a pamphlet on financial reform (Parnell, 1832). During the 1820s, there was an increasing focus on the finances of the Government in Britain. A select committee was appointed to consider the most effective way of simplifying the accounts laid before the Government (1822(618)). The select committee observed that the main drawback of the extant form of accounts was that they did not show a balance between the income and the expenditure for the year. This, along with an increased demand for control of those finances (1828(110); 1828(420)) resulted in investigations of the use of double entry bookkeeping in the method of the ‘mercantile system’.

Arguments for accounting change resulted in a heated debate in the House of Commons (HC Sit 1822), Sir Henry Parnell promised to set up a select commission for the next session. A Finance Select Committee was set up in 1828 (chaired by Sir Henry Parnell), to inquire into public income and expenditure and to consider the regulations and checks for establishing control in receiving, controlling and spending public money. The Committee formed an impression that the Navy Board followed an independent and expensive path (Hamilton, 2011).

(See Fig. 2 below, these are the ‘initial conditions’.)

A Treasury minute, dated April 18, 1828, documents the setting up of a Commission to enquire into the different methods of keeping the public accounts, in The Second Report of the Select Committee, chaired by Parnell (1828(420)). The particular...
note of the committee was to ‘consider how far it may appear to be practicable and advantageous to employ the mercantile system of double entry in the keeping of the Public Accounts, in preference to the official system now in use.’ (1828(420) p.473). Three commissioners appointed in this Report, were to investigate using this method of bookkeeping, Thomas C. Brooksbank (Treasury Office) Samuel Beltz (a pay officer in the Commissariat department, ADM 106/1473) and Peter Abbott an accountant. All three considered the accounts of the Navy.

(See Fig. 2 above, the decision to introduce double entry bookkeeping is a ‘contingent event’.)

Already, there were some attempts at ensuring thorough bookkeeping methods in the Navy, for example at Portsmouth, where Bentham's system of accounting was still used. Henry Parnell interviewed the accountant in charge of the stores at Portsmouth, Plymouth and London. Parnell queried whether it was the mercantile system of double entry that had been introduced, to which the accountant responded that it was not. When asked further, he agreed that he would have ‘no objection’ to using that method, particularly if was an ‘improvement in the modes of doing business’ (1828(420) Minutes p37).

When the accountant at Greenwich Hospital died with the records incomplete, the accounts were completed, after the start of their commission in 1828, by one of the commissioners. Abbott, ‘a professional accountant’ (1829(290) p.32) introduced a ‘New System’ (1829(290)) of accounts following the mercantile system of double entry bookkeeping (1829(290)). Therefore, in 1828 this system was already in operation in one of the departments of the Navy (1828(420) and 1831(50)).

The three commissioners could not agree, or even work together. Before May 26, 1828 (1829(290)) they had commenced their investigations, with Brooksbank and Belz working separately from Abbott (1830(159)). They produced two separate reports on their findings. Brookbank and Beltz presenting their findings to parliament on June 1, 1829. Abbott presented his on June 12, 1829 (1830379).

The two commissioners’ reports agreed on the need to use a double entry system of bookkeeping in the manner of the mercantile system. Abbott (1829(325)) gave advice on the principal books needed to be used in implementing a better system in the Navy. He recommended a cash book, a ledger and a journal and observed that these ‘should enable an inspector to collect for himself, without the aid of verbal explanation, or much reference to the supplementary books, every feature of the transactions they record’ (1829 (325) p.326).

‘A journal is deemed essential for the balancing of accounts, to write up the ledger, as many transactions do not pass through cash and to explain corrections and cross entries. It is noted that ‘Balancing books is not confined to an agreement of the cash; the correctness of every other book is ascertained by a general balance of the Ledger, and the correct balancing of books kept by double entry must include, not only the money actually expended, but also the liabilities of the establishment, and this I conceive to be a very essential point.’ (1829(325) p.326).

Whereas Brooksbank and Belz were more in favour of a double entry bookkeeping method where

‘the Account Current, is indispensable, as the foundation of any other Account, and as the only correct mode of striking a Balance; though it must include all payments made within the year by The Principal and by the Imprest Accountants, whether such payments belong to the services of the current year, or to any former one.’(1829(290) p.6).

A cash basis for accounting was required rather than an accruals basis, with this current or descriptive account reflecting written evidence of the discharge of financial obligations. This reflected the old system of charge and discharge accounting, of stewardship, individual accountability and patronage (Edwards et al., 2002). The original call for the simplification of the accounts and the investigation by Sir Henry Parnell (1828(420)) had sought a more substantial change in accounting approach. The idea was that annual accounting would ensure officers accounted for finances, considered ideas for savings and that the system would assist them in reducing any abuses of finances (Funnell, 2008).

(See Fig. 2 above, these two options for the double entry bookkeeping are ‘conflicting logics’)

Having initially agreed to introduce the books of account recommended by Brooksbank and Belz into the relevant departments, in a minute of July 14, 1829. These implementations were suspended verbally by the first Lord of the Admiralty on August 15, 1829. A letter dated November 28, 1829 from the Admiralty Of accounts. The Victualling Board had sought further explanations of the system and its requirements, they observe that one object of the Commissioners is to include in the accounts only the actual payments made, and to bring within the year as much of the expenses incurred in that year as possible, but note that most supplies in the Navy are paid by 60-day bills which would interfere with this objective. They conclude ‘that the new system will inevitably occasion more trouble than the present one; that no greater dispatch to the public business will be given than the present system affords; and that the establishment of a separate branch is contemplated for the purpose of introducing the new one’ and request an exemption. The Paymaster of the Marines also makes the observation about bills, that the bills of exchange

K. McBride / The British Accounting Review xxx (xxxx) xxx

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‘feeling with them the necessity of “recommending the abolition of ancient practices, which were thought by our ancestors absolutely necessary for the protection of the King’s Revenue,”’ (p.23).

They observed

‘The peculiar excellency of what is denominated the Mercantile system of bookkeeping by double entry, consists in the facility with which it embraces accounts, however complex, various and extensive; giving to all their differences of detail a unity of result, and concentrating them at last in the most condensed shape, while it enables the examiner to trace them without difficulty to their remotest ramifications. In the initiatory or auxiliary books-of-account; a correct system will admit of all the modifications suited to the particular service; but as soon as the principal or double entry books take possession of the facts of an account. However intricate and varied, they become subjected to its general and harmonious law.’ (p.17) and arguing that

“Several of the Governments of Europe have adopted this method after repeated and vain attempts to accommodate by other means the dissimilar usages of their various public offices to one general system; and there is no instance of any Government having abandoned the mercantile practice, after having once employed it.” (p.18).11

In October 1831, Dr John Bowring was remunerated for services inquiring into, and reporting on, the mode of keeping the Public Accounts of France, and in May 1832, for reporting on the public accounts of the Netherlands and Belgium (1831–32(512); 1840(295)). According to his autobiography, in 1828 he had been recommended to be the third commissioner ‘we would have been the 3 Bees’ (Bowring, 1877, p. 291) because of his practical experience, but was turned down by the Duke of Wellington for being a Radical. Abbott was chosen instead. Later in 1828 he was sent to the Netherlands to ‘examine into the state of the national accountancy’ (Bowring, 1877, p. 149). These investigations appear to have taken place at the same time as the commissioners were examining the accounts in the UK.

Dr Bowring was enthusiastic about the double entry system of accounting to be found in France (1831(78 289), 1831–32(586)). The double-entry system had first been introduced into the administration of the Treasury there in 1808 (directed by a decree in of March 31, 1791) ((183178 289). He observed

‘France has succeeded in founding a System of General Accomptancy, which has had no parallel in any other nation, and which is consulted as a model by the most enlightened Governments of Europe.’((183178 289) p.189).

He was less enthusiastic about the double-entry accounting system in the Netherlands, and the similar system in Belgium (1831–32(236)). In the Netherlands

The Royal Decree of 24th October 1824, contains a general “règlement” for the administration of the Finances … which develops the fundamental principles on which the Public Accounts are contructed.” (1831–32(236) p.3)

Dr Bowring proceeds to observe

‘On a general survey of the Public System of Account in Holland, though it cannot be deemed entitled to unqualified praise, yet many of its parts are worthy of approval and adoption.

The books are admirably kept, according to commercial usage, and by double entry.’ (1831–32(236) p.143).

For Belgium he notes ‘The public accounts of Belgium have received some slight modifications, borrowed from the Accomptancy of France.’ (1831–2 (236) p.144).

The First Report of the Commissioners of Public Accounts 1831, inquired into the way in which ‘Public Money is received and paid, and the Accounts thereof kept, with the view of introducing a clear and uniform System of Public Accounts.’ (1831(313) p.2). They acknowledged the description given by Brooksbank and Belz, in their Report on the Public Accounts (1829(290)), of the way in which money was issued for the Army, Ordinance and Navy. They do not include their recommendations for a cash based double entry accounting system, or any observation on the accruals system already in place at Greenwich Hospital, introduced and reported on by Abbott (1829(325)) and negatively reported on by Brooksbank and Belz (1829(290)). Instead, they observe that

‘As we have not the slightest hesitation in advising the employment of the Commercial system of Book-keeping … The peculiar excellency of what is denominated the Mercantile system of book-keeping by double entry, consists in the facility with which it embraces accounts however complex, various and extensive … ’ (1831(313)p18).

and noting

‘we have only to refer to Mr Bowring’s Report on the Public Accounts of France, for irresistible proofs of its value, practicability, comprehensiveness, clearness and efficiency.’ (1831(313) p.18).

The preferred method of accounting moved not only from single entry bookkeeping to double entry bookkeeping, as the previous commissioners had agreed, but also to a system of accrual accounting rather than cash-based records and reporting.

11 Research shows that double entry bookkeeping had been introduced to central government in Portugal in 1761 (Gomes, Carnegie, & Rodrigues, 2008).
The method introduced in the Greenwich Hospital and advocated by Abbott, as used in mercantile accounting was effectively the same as that recommended in preference to the modified form of mercantile accounting advocated by Brooksbank and Beltz. The decision on the double entry system to be implemented, was that originally advocated by Sir Henry Parnell, one of mercantile accounting, but with its success evidenced by its use in France. (See Fig. 2 above, with the ‘reactive sequence’ of the influence of Parnell and Bowring, key actors, self reinforcement makes Brooksbank and Beltz’s accounting no longer an option).

In 1844, in ‘A Statement of Changes’ which had been introduced into public departments in the system of bookkeeping (1844(364)) the accountant general of the Navy (J.T.Briggs) reported that

‘The system of bookkeeping in practice at the Admiralty is the Italian method, or double entry in its most improved form.

This system, though partially in force at the late Navy Office, previous to the Report on the Exchequer in October 1831 (not in 1832), was extended so as to embrace the whole of the naval departments when the Navy and Victualling Boards were abolished … (June 1, 1832)’ (p.3).

In the same document the Office of Woods reports that the Treasury recommended (after a report in 1831 on their accounts (1831 (40)) that they give ‘authority to Mr. Abbott, an accountant who has before been occasionally employed by this Board, to devise a system of accounts for the purpose, and to instruct him to superintend the working of that system for the first 12 months’ and that ‘The system of double entry was then adopted upon his recommendation, and has ever since been acted upon.’ (1844(364) p.29). This document shows that other public departments also adopted the mercantile system of double entry bookkeeping.

5. Discussion and conclusion

The theoretical framework of this paper is based on the historical institutional ideas of path dependency and stability and of critical junctures, external influences that disrupt. At a critical juncture a decision is made between competing alternative scenarios. Junctures are deemed ‘critical’ when a point is reached, after which the previous alternative options for proceeding become increasingly more difficult to implement (Mahoney, 2000). A particular institutional arrangement is then followed, reinforced and maintained. Of the choices made, one may be that of continuing with the original course of action. Once the choice is made, and a particular decision is followed, the alternative will cease to be available.

The paper establishes links between the ideas of historical institutionalism and the roles of influencers and the paths chosen by them. Once a critical juncture is reached the organisation and influential actors determine the path it takes with consideration of the impact of the choices with which the organisation is faced. This maybe a result of the influence of one main actor with the power to make changes, such as in the case of the first critical juncture in this paper, where increased regulations, instructions and forms were the result of changes implemented by Middleton (ADM 7/971). Alternatively, it may be as a result of discussion, argument and negotiation, such as in the case of the second critical juncture in the paper, the introduction of double entry bookkeeping, where influential actors emerged rather than pre-existed the situation.

In peacetime, accounting assists the military in its main objective of preparing for further wars and ensuring funding for the next conflict, with uncertainty as to when this may happen. This paper considers these gaps between wars and suggests that the ends of wars and the impacts of the costs of them can act as critical junctures for change. During times of peace, there are more opportunities to focus on the day-to-day processes of accounting rather than the more frenetic focus of serving the military in providing for conflict and war. Developments may take place over longer periods, there is more consideration and debate of the changes, than the decisions on accounting made during war. Indeed, the ends of wars with their huge costs can lead to a refocusing and rethinking about financing and accounting. In the case of Royal Navy accounting, the critical junctures ascertainment occurred in times of peace after major war expenditure, when change was imperative, but also when there was the time to implement change. The first critical juncture, Melville’s impeachment, resulted in an attempt at improvement of the accounting system and rules and regulations to meet calls for improved governance and control of finances. The second critical juncture, financial crisis, resulted in a change to a ‘New System’ of accounting, ‘mercantile’ double entry bookkeeping to meet parliamentary calls for the simplification, clarification and improvement of accounts, and for controlling public expenditure.

When critical junctures arise there is discourse leading to the deconstruction of the existing institutional logic and the construction of a new logic from competing logics (Lounsbury, 2002). Giddens (1984) clarifies that ideas alone are insufficient to create political change, they should be articulated by knowledgeable actors using political debate and that idea is extended here. Actors external to and within the institution construct new sets of rules to stabilise the institution, offering discourses and explanations and thereby the creating opportunities for other practices and procedures, as in the examination of theocus of accounting used for tighter financial control. Also in the public debates around Melville’s impeachment in 1806, and later around government accounting and public accounts in the 1820’s.

As shown, the system of accounting remained the same in the Navy until external pressures to control finances, resulted in a choice, or critical juncture, political change leading via influential actors to pivotal choices, path transformation or path dependence. After the first critical juncture of Melville’s impeachment, the choice of whether to improve the accounting in the Regulations and Instructions or implement Bentham’s system of accounts already used in parts of the dockyards.
Middleton implemented change in the form of enhanced Regulations and Instructions in 1808, these were an enhanced, reworked and extended version of the Regulations and Instructions.

A second critical juncture of financial crisis after the huge cost of the Napoleonic wars has been identified. At this juncture, the choice was whether to adopt Brooksbank and Beltz’s modified double entry bookkeeping adapted to fit with the cash based model already in use within the Navy or the mercantile accrual based double entry bookkeeping, proposed and implemented at Greenwich by Abbott. Parnell implemented change in the form of double entry bookkeeping following a mercantile system, this corresponded with his original request in 1819 and was as observed and recommended by Bowring having seen this in operation in France.

Capoccia and Kelemen (2007) focus on analysis of institutions. They suggest that critical junctures arise in a situation where the structural influences on political action are reduced significantly for a brief period, resulting in possible choices to decide upon, the consequences of which are significant for the institution and its development. This was the situation in peacetime and increased confidence in the Navy after Trafalgar, Melville’s impeachment, and public pressure for improved accounting for controlling finances. A situation occurring again in peacetime after the Napoleonic Wars, financial crisis and public deliberations about improved accounting for public accounts.

In this paper historical institutional ideas frame change in the accounting practices within the Navy and the requirements demanded of them. Accounting change is implemented and with time, going back to the previous alternatives becomes impossible. Processes then reinforce policy paths and self-reinforcing actions. Reactive sequences are the strong responses that move the path of the system in a new direction (Mahoney, 2000), that is the change in accounting policies in reaction to political change and strengthening of controls on finances within the Navy. Once accounting procedures and processes are implemented, it becomes difficult to reinstate the previous procedures, particularly if they have been publicly deemed inadequate such as with an impeachment or a financial crisis.

The study found that accounting within the Navy should be viewed in the context of political events, for much of the period under consideration Britain was at war and Navy accounting remained relatively unchanged, following the dependent paths determined. At the beginning of the 1800s, after the battle of Trafalgar, political events saw Melville’s Impeachment. The Battle of Trafalgar victory prevented Napoleon from invading Britain securing peace and bolstering British sea-lanes for Maritime trade and affirming the strength of the Navy. During this confident time for the Navy in general, the finance function was called into question with the impeachment of the First Lord of the Admiralty, H. Dundas, 1st Viscount Melville. Bentham was trialling his system of accounting. Accounting change was implemented by Middleton, who confident in the existing Navy system of accounting, aimed to improve that system of accounting, regulations and governance, a self-reinforcing sequence. In the 1820s and 1830s, after the battle of Trafalgar and the end of the Napoleonic Wars, there was financial crisis and a call for governmental accounting to be revised, leading to discussions over the use of double entry bookkeeping. Consideration was given to changing accounting in the Navy, resulting in the adoption of a ‘new system’ of accounting (ADM 106/3510) within the Navy. Accounts are not available to confirm the system, this may be a limitation of the research, however the reporting of its implementation in 1832 is comprehensive (1844(364)).

This paper has two main contributions. In a development of theory, the lens of historical institutionalism is used to consider historical accounting change and is combined with the consideration of key actors who influenced this change. Historical narrative highlights key critical junctures for change in accounting practice within the Navy, identifying the options available at these points and the pivotal choices made due to influential actors.

The second contribution of this work is to the literature on accounting change and development, to accounting history literature on the military and on the political nature of accounting. It is noted that accounting change often takes place after wars, in times of financial crisis from the expense of those wars. Future research could consider further investigation of the personalities involved in these developments of accounting, a prosopographical study of the various characters and their roles, looking at this group of actors in this historical context.

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CHAPTER 6

Concluding Remarks
Concluding Remarks

In this conclusion there is a discussion of the PhD thesis, which addresses the contribution to knowledge, including the originality of the research and the significance of the research featured in the thesis. The conclusion brings together the themes from the previous chapters, to identify contributions to military accounting history, to maritime history and to the theories applied within the investigations. Thereafter, the limitations of the study are considered and finally suggestions are provided for future research plans that arise from the work submitted.

Contributions and conclusions

This thesis contributes to the literature in accounting history, by considering accounting development and change particularly in the arena of military accounting history, with the research focussed on accounting in the British Royal Navy (i.e. the Navy). The research uses the surviving archival resources available for investigation and the maritime history and accounting history literature to explore the role of the Navy pursers during the period 1665 to 1832. The thesis contributes to maritime history literature by identifying and elucidating the influence and use of accounting for provisions, management of victuals in the Navy, and for the evidencing of effectiveness and efficiency in victualling within this time span of the Navy.

The articles included identify the role and accounting practices of the purser, the storekeeper and officer accounting for provisions and victualling on board ships. The detail of this accounting is examined by consideration of the provisioning of alcohol and the related accounting and internal controls. The accounts and records required of pursers indicate that the Navy was an early participant in developing cost and materials accounting, and in requiring the keeping of detailed accounting records for the distribution, managing and monitoring of provisions. The accounting included early forms of standard costing, materials waste controls, as well as audit and accountability processes, checking and controlling victuals.

These ideas are developed to study governance and accountability, with a focus on understanding the development of record keeping and its purposes in the local, time-specific context of the Navy. From the first Regulations and Instructions introduced in 1731 (which consolidated a disparate set of rules) through to a major change in those Regulations in 1808 (requiring significantly increased records to be kept) aiming to improve governance, control of provisions and accountability. Further demands for improved efficiency of resources and accountability of public funding, led to calls for the introduction of double entry bookkeeping, which was then first introduced into the Navy in 1832. External events, expectations and the need to secure continued funding prompted this change in accounting and governance. Melville’s impeachment in 1806 was a key event in the process of driving major or dramatic change. This impeachment led to public and political calls for increased governance of the Navy. The political nature of accounting, in its widest sense, is highlighted whilst considering the context of accounting emergence and change, the key players, their roles and influence in developing the accounting examined.
Additionally, the research underpinning this thesis contributes to the theory of organisations, in extending the use of such theories. Agency theory is extended beyond an organisational, business or economic situation. There is an innovative use of historical institutionalism by means of highlighting and narrating the roles of key actors in the choices made at each of the two key critical junctures for accounting change.

An agency theory lens is used to investigate accounting-related practices pursers used to control consumable rations, including the ‘Purser’s [short] measure.’ Agency theory assists in understanding the purser’s role in the expedient and efficient distribution of provisions despite their position away at sea and far from direct control by the providers of those victuals. The purser was effectively the agent, of the Victualling Board, that was the principal. The Board’s main aim was to minimise the cost of victuals whilst ensuring sailors were sufficiently fed. The Board was in a position of information asymmetry, with ships and sea farers at sea, so the purser had opportunity to benefit from this asymmetry. The ‘purser’s measure’ was cost-neutral as far as the Board was concerned: they provided what was regarded sufficient provisions for the sea farers, the portion kept by the pursers, the purser’s measure, was equivalent to the waste allowance, and thereby this measure had the advantage of informally providing a legitimated source of gain to pursers (Article 1, Chapter 2).

In investigating the regulations and accounting for controlling the use of alcohol, Foucauldian ideas of ‘governmentality’ provide a theoretical underpinning, as there is a distancing of control from the central power, in this case the Board, with direction being divested to organisational level via pursers. Foucault’s work observes that the unthinkable may become thinkable, so procedures and methods put in place for one purpose, can and do end up being utilised for another unexpected purpose. In the case of alcohol in the Navy, initially the accounting and recording of beer was for cost and provision control, beer being issued for the seafarers’ well-being, replacing fetid water. Later it was used for the prevention of scurvy, then to keep the men in a controllable, but mildly inebriated state, which generally assisted in alleviating their hardships. Accounting was instrumental in this development, or intended culture change, providing the means by which the storage and consumption of alcohol was controlled and measured (Article 2, Chapter 3).

Through institutional theory it is found that external pressures for increased governance followed the impeachment of Melville (First Lord of the Admiralty) and with closer vigilance on public spending and political disapproval of ‘offices of profit’ there was also pressure for administrative and accounting reforms. The Navy’s existence was not under threat, but in order to secure the high levels of funding the institution required, based on past experience, it needed to show the Government and the public, the legitimacy of its operations and control of expenditures through increased Regulations. Thereby demonstrating improved accountability and evidencing control of expenditures on resources (Article 3, Chapter 4). With the financial crisis that arose after the huge cost of the Napoleonic wars (1803-1815), further accounting changes were proposed, including, most particularly, the introduction of double entry bookkeeping. Double entry bookkeeping, recommended in the British Parliament, was already being used by British merchants for commerce and trade. In this article the lens of

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4 An office of profit is a position of power or influence that brings the position holder an additional pecuniary gain or benefit or advantage. Often used to refer to executive appointments, members of the legislature are often not allowed to accept an office of profit in order to ensure the independence of government and to preserve the separation of powers.
historical institutionalism is used to identify the paths available to the Navy in the adoption of this ‘new system’ of accounting. The accounting changes in the Navy and the key players in this process are illuminated and explained through this lens of competing logics of path dependent processes. The innovative theoretical framework combines a long-term, overview lens of historical institutionalism with the complementary concern of the identification of the specific roles of key historical actors. Hence, investigating change, logic and meaning of accounting in the Navy occurred in the context of the financial reforms resulting from governmental investigations, proposals for reforms, and the advent of the reforms themselves. The impact of key influencers in bringing about this change was recognised as important along with their impact on this process. Accordingly, the exploration took a behind the scenes perspective on the ways in which this change to double entry bookkeeping came to be endorsed and emerged as regulated accounting practice in the Navy (Article 4, Chapter 5).

The thesis as a whole, thereby contributes to accounting history particularly the subset of military history; to maritime history specifically relating to the management of victuals and funding of the Navy and to the organisational theories applied within the investigations, principally developing those of agency theory and historical institutionalism and in applying legitimacy theory and Foucauldian ideas to military accounting history.
### Table 3: Contributions to knowledge from the studies comprising the thesis

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Article</th>
<th>Academic</th>
<th>Theoretical</th>
</tr>
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<tbody>
<tr>
<td>Study 1 (Chapter 2 – overview paper)</td>
<td>McBride, K., Hines, T. and Craig, R. (2016) A rum deal; The purser’s measure and accounting control of materials in the Royal Navy 1665 – 1832. <em>Business History</em> 58(6): 925 – 946.</td>
<td>Develops previous maritime historical research addressing the provisioning of seafarers, specifically in the British Navy. Addresses the roles of pursers and provisioning by means of the accounting practices applied. These practices are explored further in study 2. Extends previous accounting history research highlighting the historical context of accounting practices for allocating and controlling resources, particularly materials wastage, standard costing, and inventory control. Provides nascent evidence of the advent of materials usage variances to incentivise pursers to provision and account for rations in a diligent way. Provides clear implications for Navy governance and accountability which are further explicated in study 3.</td>
<td>Novel use of agency theory to explain the role and motivation of pursers, particularly by means of the relationship between pursers and the Navy Board. Agency theory is extended beyond the traditional use in economics to the public sector setting of the military where the fundamentals of self-interest, information asymmetry and agency cost control are also applicable.</td>
</tr>
<tr>
<td>Study 3 (Chapter 4 – development of accounting and governance)</td>
<td>McBride, K. (2019) Minding their Ps and Qs; the Royal Navy purser and accounting and governance, 1731-1808. <em>Accounting History</em> 24(3): 402 – 424.</td>
<td>Expands knowledge by rendering a critical explanation of when, how and why accounting regulations for officers in the Navy changed and developed. The accounting changes are observed to arise from external expectations, events and the need to ensure the adequacy of future public funding.</td>
<td>Institutional theory, not previously applied to accounting research undertaken in the Royal Navy.</td>
</tr>
<tr>
<td>Study 4 (Chapter 5 – investigating changes in accounting, leading to the introduction of double entry bookkeeping)</td>
<td>McBride, K. (2020) A French connection; paths to a ‘new system’ of accounting for the Royal Navy in 1832 <em>British Accounting Review</em>, published online 23 January 2020.</td>
<td>Augments the accounting history literature examining accounting change in the public sector. Identifies previously unidentified key players in the move towards adopting double entry bookkeeping in the Navy and outlines their roles in the process.</td>
<td>The innovative theoretical framework combines the long-term vision of historical institutionalism with emphasis on the roles of key actors in creating, developing and implementing accounting change.</td>
</tr>
</tbody>
</table>
Limitations and future research

As in all research studies, there are some limitations of the research comprising this thesis. It should be noted that narratives from archival research are not without bias, they cannot be neutral or completely objective, the writer of the narrative endeavours to include anything relevant, but choices are ultimately made as to what is relevant. Narratives can only be based on archives which are available, the archives which have survived and are accessible for examination, this is impacted by the formal nature of decisions made for retention of public records archival material. Critical interpretations can only be made based on this available evidence. Choices are made that are influenced by the perspective of the researcher, the choice of narrative, the theories to explain the narrative, all derive from explicit or implicit philosophical positions taken and interpreted.

From a practical point of view, no copies of actual accounts were found to verify that these records complied, either in full or in part, with the regulations. However, the regulations were disseminated and clearly explained, with books providing guidance to sea farers, such as Mountaine’s *Vade Mecum* and the further instructions issued to officers (Article 1, Chapter 2 and Article 3, Chapter 4). Controls of records were in place to ensure accounting was carried out in accordance with the regulations. A purser would not receive the money owed to them, for example, monies expended on replenishing victuals whilst overseas, if accounting records were not kept as instructed. Pursers would not be promoted or reemployed where incorrect accounts had been delivered. Penalties would be applied for signing accounts that were incorrect, lacking of truth or detail. The Navy Board kept records or registers of precedents and exceptions for pursers’ accounts. (Article 2, Chapter 3 and Article 3, Chapter 4). When the new system of double entry bookkeeping was instigated, again accounts are not available to confirm the adoption and the initial operation of the system, however there was comprehensive reporting of its implementation in Parliamentary papers (Article 4, Chapter 5). Future research may attempt to find sets of accounts, if any survive at all, such as within private archives, to investigate whether these did indeed conform with, or adhere to, the regulations.

With regard to cost accounting techniques, it may be possible to investigate whether the Navy was, potentially at least, at the forefront of accounting practices adopted by businessmen in the Industrial revolution, for example had early pioneers of cost accounting techniques served in the Navy or borrowed from practices first adopted in the Navy? Had they observed or implemented techniques there before implementing them in their organisations? Lists in the National Archives include details of the lives and careers of Navy pursers, for example, some of whom may have moved into commerce and implemented similar techniques to those carried out in the Navy.

Following from this original research work investigating accounting and governance in the British Navy, a comparative international accounting history project could be carried out. Comparisons with the other great navies, in Europe (for example, Portuguese, Spanish, French, Dutch or Russian) or indeed the world, in a similar analysis period would be carried out to determine whether mimetic isomorphism was a factor in the accounting of the differing navies. Comparative international accounting history studies of the major navies around the world would answer calls for comparative international accounting history studies (see, for example, Carnegie and Napier, 1996, 2002 and 2012) and for further research around how the
organisation of accountancy has been affected by the Empire or colonial experience (see, for example, Gomes, Carnegie and Rodrigues, 2014; Poullaos and Sian, 2010). Searches of naval archives in these other countries, consideration of the secondary literature from elsewhere would enable comparisons to be made and parallels to be drawn. As the research for the final article in this PhD discovered influences from French Navy and governmental accounting, so other influences in international accounting history can be discovered.

Further studies in this area could explore microhistories, biography and prosopography, considering the people element of the accounting practices and changes. Who were the personalities involved in the setting of regulations and instructions? What was there accounting tuition, background and experience? How did they influence accounting emergence and change? How were they linked to, or associated with each other? Microhistories or biographies would focus on the individuals, considering which individuals influenced which changes, and asking how that impacted on the bigger picture of the historical setting. Identifying key individuals and their contribution to accounting, accountability and governance in the Navy. A prosopography study from this historical setting, involving a collective analysis of their lives and careers would examine how a group of interlinked individuals with common background characteristics may have influenced accounting emergence and accounting change and augment an understanding of how such development occurred.

The calls for research exploring the relationships between accounting and governance in the past, to enhance understandings of the interplay of present accounting and governance (for example, Lai, Leoni and Stacchezzini, 2019) and to engage with that research in a non-quantitative manner (for example, Parker, 2018) inform this research. Engaging with the broader areas of accounting, accountability and governance and understandings of how the various systems for holding sea officers, as managers, responsible, have changed through time can be used to help inform current debates on the role of accounting within enterprises. This study of the history of accounting, accountability and governance in the Navy provides insight and assists in the practical questions of what works and what doesn’t work in terms of both practical application and the theoretical and conceptual underpinnings of accounting developments. For example, requiring more accounting and reporting, may not be as effective as changing the way in which the accounting is carried out (Article 3, Chapter 4). Ignoring past successes and difficulties in accountability and governance, the development of accounting concepts, practices and regulations, would be as unwise as to ignore current experiences of other countries (Article 4, Chapter 5). In this way accounting history can and should be used to help enlighten current debate providing implications for contemporary relevance.

References


Appendix 1. BaL guidance: Research degree – The compilation thesis

This guidance is provided as an increasing number of Postgraduate Research Degree (PGRS) students wish to submit a thesis in the format of a collection of published papers and manuscript articles (a ‘compilation’ thesis). This format may be particularly relevant to those who wish to develop an academic career, given the importance attached to publications in the recruitment process.

A compilation thesis which includes articles with co-authors must clearly indicate the candidate’s individual contribution to each of the submitted papers. If there is reason to doubt that the candidate’s contribution to one or more papers is sufficient, the candidate and his/her supervisory team may consider increasing the number of papers submitted in the thesis.

A compilation thesis is regulated by Regulations for Higher Degree by Research at the University of Portsmouth in the same way as any other doctoral thesis.

Guidance
1. Students wishing to complete a compilation thesis will need to obtain approval for this from their supervisory panel at the beginning of their studies. The decision to submit a compilation thesis will be ratified by the review panel at the candidate’s Major Review meeting (ie: at the end of the first year of PhD study).

2. Compilation theses that are submitted by PGRS registered in PBS will normally consist of a declaration, an introduction and 4 articles/papers to which the candidate has made a substantive and significant contribution.

3. A compilation thesis commences with a signed declaration that specifies:
   a. Title, authorship and publication outlet of each paper.
   b. The current status of each paper (In press, Accepted, Under Review, In preparation).
   c. In the case of co-authored papers: The extent of the contribution of the candidate to the research and the authorship of each paper (ie: who identified the research question[s], who undertook the analytic or empirical work, who wrote what parts of the finished paper).

4. The Compilation thesis should contain:
   a. An introduction to the field of study and an indication of the original contribution to knowledge and advancement to research of the thesis. It should:
      i. Identify the hypotheses or research questions examined in each of the papers, showing how these contribute to the advance of knowledge within the chosen subject area.
      ii. Show how the papers submitted link together and reinforce each other.
      iii. Indicate (in the case of co-authored papers) the contribution of the candidate
   b. Concluding remarks that outline future research plans that arise from the body of work submitted.

5. Papers of the following types may be included with each presented as an individual chapter in the thesis: a. Published papers
   b. Manuscripts accepted for publication
   c. Manuscripts under revision following referees reports; and
d. Manuscripts submitted and under review by referees
e. Conference papers which are sufficiently distinguished from articles/papers published or manuscripts accepted or submitted.
f. Working papers

The usual expectation is that the thesis comprises papers primarily in categories a, b and c that were researched and written during the course of the candidature.

6. The thesis may also include relevant appendices containing raw data, programmes, questionnaires and other material as deemed appropriate for each discipline.

7. **Submission:** A Compilation thesis must comply with UoP regulations for a thesis submitted for a PhD in Portsmouth Business School, although journal formatting is permissible in the case of accepted/published papers. Full details of UoP regulations in this regard can be found at:
http://www.port.ac.uk/departments/services/academicregistry/qualitymanagement/division/research degrees/useful information/#d.en.55078

The thesis has a minimum word limit of 40,000 words and a maximum word limit of 80,000.

8. **Viva:** Following submission of the thesis the standard UoP examination procedures will apply
APPENDICES

Appendix 2. Ethical Review Checklist

Ethical Review Checklist – Staff and Doctoral Students

This checklist should be completed by the researcher (PhD students to have DoS check) and sent to Sharman Rogers who will coordinate Ethics Committee scrutiny.

No primary data collection can be undertaken before the supervisor and/or Ethics Committee has given approval.

If, following review of this checklist, amendments to the proposals are agreed to be necessary, the researcher must provide Sharman with an amended version for scrutiny.

What are the objectives of the research project?

The proposed research will aim to establish the accounting methods used by pursers; to link with that carried out elsewhere at the time; to ascertain what impact Naval methods had on the development of accounting and auditing.

Does the research involve NHS patients, resources or staff? NO (please circle).

If YES, it is likely that full ethical review must be obtained from the NHS process before the research can start.

Does the research involve MoD staff? NO (please circle).

If YES, then ethical review may need to be undertaken by MoD REC. Please discuss your proposal with your Director of Studies and/or PBS Ethics Committee representative and, if necessary, include a copy of your MoD REC application for quality review.

Do you intend to collect primary data from human subjects or data that are identifiable with individuals? (This includes, for example, questionnaires and interviews.) NO (please circle)

If you do not intend to collect such primary data then please go to question 15.

If you do intend to collect such primary data then please respond to ALL the questions 5 through 14. If you feel a question does not apply then please respond with n/a (for not applicable).

How will the primary data contribute to the objectives of the dissertation / research project?

What is/are the survey population(s)?

How big is the sample for each of the survey populations and how was this sample arrived at?
APPENDICIES

How will respondents be selected and recruited?

What steps are proposed to ensure that the requirements of informed consent will be met for those taking part in the research? If an Information Sheet for participants is to be used, please attach it to this form. If not, please explain how you will be able to demonstrate that informed consent has been gained from participants.

How will data be collected from each of the sample groups?

How will data be stored and what will happen to the data at the end of the research?

What measures will be taken to prevent unauthorised persons gaining access to the data, and especially to data that may be attributed to identifiable individuals?

What steps are proposed to safeguard the anonymity of the respondents?

Are there any risks (physical or other, including reputational) to respondents that may result from taking part in this research? NO (please circle).

Are there any risks (physical or other, including reputational) to the researcher or to the University that may result from conducting this research? NO (please circle).

Will any data be obtained from a company or other organisation? NO For example, information provided by an employer or its employees.

Information to be obtained from publicly accessible archives

If NO, then please go to question 19.

What steps are proposed to ensure that the requirements of informed consent will be met for that organisation? How will confidentiality be assured for the organisation; such that unauthorised persons will be prevented from accessing the data?

Does the organisation have its own ethics procedure relating to the research you intend to carry out? NO (please circle).

Will the proposed research involve any of the following (please put a √ next to ‘yes’ or ‘no’; consult your supervisor if you are unsure):

• Vulnerable groups (e.g. children) ? YES ☐ NO ☑
**APPENDICIES**

- Particularly sensitive topics?  YES ☐  NO √
- Access to respondents via ‘gatekeepers’?  YES ☐  NO √
- Use of deception?  YES ☐  NO √
- Access to confidential personal data?  YES ☐  NO √
- Psychological stress, anxiety etc?  YES ☐  NO √
- Intrusive interventions?  YES ☐  NO √

If answers to any of the above are “YES”, how will the associated risks be minimised?
N/A

Are there any other ethical issues that may arise from the proposed research?
No
APPENDICIES

Details of applicant

The member of staff undertaking the research should sign and date the application, and submit it directly to the Ethics Committee. However, where the researcher is a supervised PhD candidate, the signature of the Director of Studies is also required prior to this form being submitted.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>Karen McBride</td>
</tr>
<tr>
<td>Director of Studies</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>4/12/2015</td>
</tr>
</tbody>
</table>

Approval by Ethics Committee

I/We grant Ethical Approval

FREC

Date

AMENDMENTS

If you need to make changes please ensure you have permission before the primary data collection. If there are major changes, fill in a new form if that will make it easier for everyone. If there are minor changes then fill in the amendments (next page) and get them signed before the primary data collection begins.
APPENDICIES

CHANGES TO ETHICS PERMISSION

VERSION: ____

Please describe the nature of the change and impact on ethics:

Please print the name of:

<table>
<thead>
<tr>
<th>Researcher</th>
<th>FREC</th>
<th>I/We grant Ethical Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>(Signed)</td>
<td>____________________________</td>
</tr>
<tr>
<td>Date</td>
<td>Date</td>
<td>____________________________</td>
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</tbody>
</table>

(please cut and paste the next section, together with the heading at the top of this page, as many times as required)

VERSION: ____

Please describe the nature of the change and impact on ethics:
Appendix 3. Ethical approval letter

4 February 2016

Karen McBride
Senior Lecturer, Accounting & Financial Management
Portsmouth Business School

Dear Karen

<table>
<thead>
<tr>
<th>Study Title:</th>
<th>‘Nipcheese’ the Bean Counter: The Implications of Royal Naval Pursery in the Development of Accounting and Auditing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics Committee reference:</td>
<td>E382</td>
</tr>
</tbody>
</table>

Thank you for submitting your documents for ethical review. The Ethics Committee was content to grant a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, revised in the light of any conditions set, subject to the general conditions set out in the attached document.

The favourable opinion of the EC does not grant permission or approval to undertake the research. Management permission or approval must be obtained from any host organisation, including University of Portsmouth, prior to the start of the study.
Summary of any ethical considerations

Documents reviewed

The documents reviewed by Dr Peter Scott [LCM] + PBS Ethics Committee

<table>
<thead>
<tr>
<th>Document</th>
<th>Version</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics Review Checklist – staff and doctoral students</td>
<td>1</td>
<td>26th Jan 2016</td>
</tr>
<tr>
<td>Research Project Fund application</td>
<td>1</td>
<td>1st Feb 2016</td>
</tr>
</tbody>
</table>

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements set out by the University of Portsmouth

After ethical review

Reporting and other requirements
APPENDICIES

The attached document acts as a reminder that research should be conducted with integrity and gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Notification of serious breaches of the protocol
- Progress reports
- Notifying the end of the study

Feedback

You are invited to give your view of the service that you have received from the Faculty Ethics Committee. If you wish to make your views known please contact the administrator.

Please quote this number on all correspondence: E382

Yours sincerely and wishing you every success in your research

Lisa Jack

Chair

Email:

Enclosures: “After ethical review – guidance for researchers”

Copy to: Prof. Paul Trott [Supervisor]
Appendix 1

After ethical review – guidance for researchers

This document sets out important guidance for researchers with a favourable opinion from a University of Portsmouth Ethics Committee. Please read the guidance carefully. A failure to follow the guidance could lead to the committee reviewing and possibly revoking its opinion on the research.

It is assumed that the research will commence within 3 months of the date of the favourable ethical opinion or the start date stated in the application, whichever is the latest.

The research must not commence until the researcher has obtained any necessary management permissions or approvals – this is particularly pertinent in cases of research hosted by external organisations. The appropriate head of department should be aware of a member of staff’s research plans.

If it is proposed to extend the duration of the study beyond that stated in the application, the Ethics Committee must be informed.

If the research extends beyond a year then an annual progress report must be submitted to the Ethics Committee.

When the study has been completed the Ethics Committee must be notified.

Any proposed substantial amendments must be submitted to the Ethics Committee for review. A substantial amendment is any amendment to the terms of the application for ethical review, or to the protocol or other supporting documentation approved by the Committee that is likely to affect to a significant degree:

(a) the safety or physical or mental integrity of participants
(b) the scientific value of the study
(c) the conduct or management of the study.

A substantial amendment should not be implemented until a favourable ethical opinion has been given by the Committee.
Researchers are reminded of the University’s commitments as stated in the Concordat to Support Research Integrity viz:

- maintaining the highest standards of rigour and integrity in all aspects of research
- ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards
- supporting a research environment that is underpinned by a culture of integrity and based on good governance, best practice and support for the development of researchers
- using transparent, robust and fair processes to deal with allegations of research misconduct should they arise
- working together to strengthen the integrity of research and to reviewing progress regularly and openly

In ensuring that it meets these commitments the University has adopted the UKRIO Code of Practice for Research. Any breach of this code may be considered as misconduct and may be investigated following the University Procedure for the Investigation of Allegations of Misconduct in Research.

Researchers are advised to use the UKRIO checklist as a simple guide to integrity.