

**The Double Account System in Nineteenth Century U.K. Railways: An Analysis  
from an Accounting Theory Perspective**

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## DECLARATION BY CANDIDATE

I, Christopher John Williams, declare that:

- a) Except where due acknowledgement has been made, this thesis is mine alone;
- b) This work has not been submitted previously, in whole or in part, to qualify for any other academic award;
- c) The content of this thesis is the result of work which has been carried out since the official commencement date of the approved research program;
- d) No editorial work, paid or unpaid, has been carried out by a third party and
- e) Ethics procedures and guidelines have been followed.

Christopher John Williams

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# **The Double Account System in Nineteenth Century U.K. Railways: An Analysis from an Accounting Theory Perspective**

## **Abstract**

This thesis investigates the extent to which our knowledge of modern systems oriented accounting theories can explain the shortcomings in nineteenth century financial reporting as carried out by the railway companies. The work is not intended to be a thesis on history. Nor is it a thesis on accounting theories. Rather, the work looks at historical events from the perspective of a modern accountant. The two main questions addressed by the thesis are whether it is feasible to use modern systems oriented accounting theories to investigate and explain the historical events covered in this study and whether the Double Account System achieved its aims. The paper contains a brief outline of the development and collapse of the UK railway companies in the mid-nineteenth century. The paper then considers the purpose of accounting and whether it is merely a measuring tool or a social instrument. The place of accounting within the social context is considered and concludes that accounting has developed into a social instrument. The work then examines the railway companies' accounting system, The Double Account System. The paper looks at the origin and development of the system and explains its workings. As part of this investigation the paper considers the aims of the Double Account System and considers whether the system achieved its aims or not. The thesis then examines three accounting theories that have been called system oriented theories and relates the concepts in the theories to the accounting reports of the nineteenth century railway companies in the United Kingdom. The theories examined are Legitimacy Theory, Stakeholder Theory and Institutional Theory. The paper concludes that it is feasible to use modern systems oriented accounting theories to investigate and explain the historical events covered in the study. The work also concludes that the Double Account System did achieve what it was meant to achieve but that the aims of the system were limited, especially when viewed through the lens of modern accounting theories and concepts.

## **Chapter 1: Introduction**

The purpose of this chapter is to give an outline of the thesis.

It provides an outline of the problem to be examined, states the research objectives and research questions and provides the motivation for and significance of the study.

### **1.1 Background to the Problem**

#### **1.1.1 The Industrial Revolution**

The Industrial Revolution had no specific beginning date but began its evolution during the second half of the eighteenth century. It was a time when Britain gradually moved from being an agricultural, manual labour economy to one in which machinery was becoming a major means of production. This change resulted in not only an expanding middle class but also a greater need for basic minerals and metals such as iron and coal, a need which grew commensurate with the rapid increase in output generated by the machinery (Montagna 1981).

#### **1.1.2 Before the Railway System**

Moving this iron and coal around Britain was difficult because the roads in the 18<sup>th</sup> century were not paved. This made the transportation of heavy loads an onerous task, especially in wet weather. An answer to this problem was the construction of canals, which became the liquid highways of the early Industrial Revolution (Montagna 1981).

The Bridgewater Canal has been described as Britain's first canal. The first section was opened on 17<sup>th</sup> July 1761 to carry the coal from a mine owned by The Duke of Bridgewater (London Canal Museum)

The Duke had introduced a Private Bill to Parliament in 1759 enabling him to raise the capital needed to acquire land and construct the canal.<sup>1</sup> Further Bills were introduced to Parliament to extend the scheme and by the time of its completion in 1776 it had become the first of many canals built in Britain by the end of the century (London Canal Museum).

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<sup>1</sup> A Private Bill is one introduced to the Parliament of Britain by an individual MP. Such a Bill is meant to secure powers for an individual or organization above the general law. For example, the Private Bill introduced by the Duke of Bridgewater sought the power to obtain land to be used in the construction of the Bridgewater Canal. This is not to be confused with a Private Member's Bill which is introduced to Parliament by an individual MP with the intention that the resultant Act will apply to the society as a whole.

### 1.1.3 The Coming of the Railways

By the turn of the nineteenth century, the demand for coal in Britain was so great that it could not be met by the canal system of transportation. Coal production had grown from a little over two million tons per annum at the turn of the century to more than fifteen million tons per annum by 1829 (Montagna 1981). However, it was not until 1804 that Cornish mining engineer Richard Trevithick developed a steam powered locomotive.<sup>2</sup> Trevithick's machines were used to haul coal from mines. Montagna states that prior to this coal was, firstly, moved by human muscle power by hauling baskets of coal along horizontal tunnels then up a vertical shaft. Later the horizontal movement through tunnels was speeded up by using ponies and carts on rails. Still later, tramways using cast iron rails were used in several British mines. By 1800 more than two hundred miles of tramway were in use in coal mines (Montagna 1981).

The Stockton and Darlington Railway, which opened in 1825, was the first line to carry both freight and passengers. Prior to that, railways, powered by horses, were only used to carry freight. These railways were called Tramways and by 1800 approximately two hundred miles of tramway track serviced coal mines (Montagna 1981).

In 1829 the Liverpool and Manchester Railway Company conducted the 'Rainhill Trials' with the aim of finding the best locomotive design of the day. 'The Rocket', designed by the English civil and mechanical engineer George Stephenson, assisted by his son Robert and Henry Booth, won the Trials and revolutionised steam powered locomotion.

The Liverpool and Manchester Railway began in 1830 with a forty-mile track connecting the cities; by 1841 there were 1,300 miles (2,080 kms.) of track in Britain. By 1852 there were approximately 7,000 miles (11,200 kms.) of track (Edwards 1985; Montagna 1981).

The creation and running of the railways was left by the conservative government of the day to the private sector. This idea was in line with the *laissez faire* economic theory originating in France in the eighteenth century with The Physiocrats, French economists who opposed the policy of Jean-Baptiste Colbert (1619-1683) the French controller-general of finance under Louis XIV. Colbert's aim was to micro-manage the French economy so as to accumulate as much gold as possible for the national treasury and control overseas trade (Dewberry 2012). The argument of The Physiocrats was, inter alia, that the imposition of tariffs and close

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<sup>2</sup> The principles of steam power had been known since ancient times. The Greek mathematician and engineer, Hero of Alexandria (c10AD – 70AD) described the Aeolipile, the first recorded steam engine. The Roman architect Vitruvius mentioned the use of the Aeolipile approximately one hundred years earlier in his treatise on Latin and Greek architecture, "De Architectura" now known as "The Ten Books of Architecture"

regulation of the economy inhibited the growth of agriculture and industry (Dewberry 2012). This argument was supported by Adam Smith in his 1776 work, ‘The Wealth of Nations’ (Smith 1784).

Smith discusses the expenses of a sovereign or commonwealth In Book V of his work. These expenses are:

1. expenditure in relation to defence of the realm;
2. expenditure in relating to the administration of justice;
3. expenditure on public works and institutions that would not be carried out by an individual because no profit could be made in the endeavour and
4. the expense of supporting the dignity of the sovereign (i.e. expenses of running the court).

Under *laissez faire* thinking the government would best serve the economy by restricting its expenditure to those areas listed above.

The ideas put forward by Smith (1784) constituted the prevailing economic thought among the business community and other educated people for the next one hundred years or so after the publication of ‘The Wealth of Nations’.

As private rather than government ventures, the first rail companies were each incorporated by their own Act of parliament; they were, in effect, public companies formed by Private Bills, as had been the case with the canal companies.

#### **1.1.4 Collapse of the Railways**

Moving goods around Britain during a period of high economic activity, these companies appear *prima facie* to have represented sound investments—yet in the mid-nineteenth century they began to collapse.

Odlyzko (2010) states that there is a notable lack of historical material written about the cause of this collapse, beginning in 1847, especially when compared to other economic failures such as The Tulip Mania of 1636, economic panics of 1819, 1825 and 1837 or the Wall Street Crash of 1929.

Campbell (2009) points out that the investors of the day were unable to predict the Irish famine or the Commercial Crisis of 1847 and in the same way would not have been able to predict the fall of the railways. Campbell also performed a series of econometric tests

analysing the relationship between railway share prices and dividends from 1843 to 1850. He found ‘a positive and significant relationship between the dividend paid by a company and the share price at which it traded, through both the boom and bust in prices’ (Campbell, 2009, p.3).

Campbell (2009) also indicates that it was the share price that followed the dividend. That is, a higher dividend caused a rise in the share price. He also states that the railways had a ‘significantly lower dividend yield than non-railways, implying a relatively higher price...between 1843 and 1846’ (p. 4). This lower yield, Campbell goes on to say, may be due to ‘mispricing...or expectations of dividend growth’ (p. 4). He concludes that the dividend did have a big influence on share prices but that investors ‘seem to have been unable to forecast the longer-term dividend changes’ (p. 5).

Odlyzko (2010) however, brings up three important points that the average nineteenth century investor, he argues, could not have known:

- i. In the mid 1840’s the number of miles of track authorized annually by the British Parliament through the passing of Private Bills for the formation of rail companies peaked at more than four thousand. (not all was built)
- ii. In 1847 annual investment in railway capital reached a peak of approximately £44 million.
- iii. Railway companies’ average share price index peaked in 1845; the index was below 60 in 1830, was above 160 in the mid-1840s but by 1850 had dropped back to its 1830 level.

The picture painted by Campbell’s article and Odlyzko’s book resembles what would now be called a ‘bubble’ – high economic activity in anticipation of high returns on investment (Campbell 2009, Odlyzko 2010). Odlyzko (2010) likens the passing of so many Private Bills (see i above) with the number of IPOs during the Internet Bubble of the late 1990s in the United States.

It is therefore arguable that the collapse of the nineteenth century railways was a bubble that burst. The lack of literature on this topic, as stated by Odlyzko (2010), makes it difficult to assess the reasons for the fall. In any case, this thesis is not an attempt to explain in detail why these railway companies failed; rather it is an attempt at exploring the linkage between modern accounting theories and history.

### **1.1.5 The Double Account System**

The actual workings of this accounting system will be explained in chapter four. However, an indication as to why it evolved as it did can be gleaned from the following.

The earliest Railway Act (1801) was in relation to the Surrey Iron Railway (Edwards 1985). This railway was built from Wandsworth to Croydon and opened on 26 July 1803. It carried only freight, no passengers and the carriages were pulled by horses, mules and donkeys (Surrey Iron Railway).

The Act of 1801 decreed that the Surrey Iron Railway was to use all money raised by virtue of the Act to pay all costs associated with the Act and any residue was to be appropriated to purchasing land and making and maintaining the railway and other works and no other use (Edwards 1985). This statutory requirement, with its stewardship emphasis, necessitated appropriate financial reporting. This study will show that the Double Account System evolved as a way of accounting for stewardship as required. However, while the notion of stewardship may have been served well by the Double Account System, it may be argued that it represented a narrow accountability framework in which other aspects of performance went unreported or may have been given inadequate attention. (“Stewardship” and “Accountability” will be discussed in chapter 4) For example, the railways were public companies with shareholders requiring dividend returns on their investment. The calculation of profit was therefore also of importance to the railway managers. However, it seems that once the stewardship aspect of reporting was dealt with, the main emphasis of the financial reports became the calculation of a distributable profit. While one may argue that this satisfies the shareholders in the short term, this thesis will ask if this short term aspect of the reporting became the biggest problem of the railways’ reports and that the thinking of the time contributed little to overcome this problem.

### **1.2 Research Problem and Objectives**

This section identifies the research problems to be explored in the thesis. It also describes the objectives of the work. In order to meet these objectives certain questions must be addressed. The section therefore states the research questions that this thesis will attempt to answer.

### **1.2.1 The Theory/History Linkage**

This research involves an investigation into the collapse of the railway companies of nineteenth century Britain from an accounting perspective.

Odlyzko (2010) states that there is a shortage of literature explaining, in detail, the cause(s) of the collapse of British railways in the 1840s. The Literature Review in chapter two supports this contention.

A consequence of this gap in the literature is that there is little (if any) work on examining the linkage between modern system oriented accounting theories and the history in question.

The first objective of this thesis is, therefore, to fill the gap in the existing literature by exploring the linkage, if any, between the modern theories and historical events.

To this end this thesis will explore whether or not certain modern accounting theories can be used to identify and explain, either wholly or in part, the weaknesses and flaws in the nineteenth century financial reporting by British railway companies. That is, it will consider whether or not the prevailing thinking of the day was a large part of the problem and will question whether modern accounting theories can be used to clarify why the nineteenth century British railway companies failed in spite of a high level of economic activity in Britain at that time.

The study will examine nineteenth century external financial reporting by railway companies. To this end the thesis will examine the workings of the Double Account System as explained by Edwards (1985), Dicksee (1976), Lee (1975) and Pollins (1991) and will consider whether or not these reports were disclosing information that gave, or had the potential to give, a warning of the financial troubles that beset the companies. If such disclosure is not found, the research will look at what measures could have—and arguably should have—been adopted to improve the usefulness of the reports. An example of a financial report prepared in accordance with the Double Account System is shown in Appendix One of this thesis.

### **1.2.2 The Double Account System**

The second objective of the study is to analyse the development by the railway companies of the Double Account System.

The Double Account System will be examined in chapter three of this thesis to try to establish whether the preparers of the reports viewed the railway companies as a way of generating

dividends or whether some other aim was intended. That is, did the reports merely calculate a profit (hence potential dividends) or were the managers also interested in reporting to certain parties on matters other than profit? That is, were they showing signs of going beyond the mandatory reporting requirements that would be in the reports if they were acting in accordance with the systems oriented accounting theories discussed in chapter five of this thesis? Did the reports deal with the potential conflict that arises when private entities provide public services? If so, how was this achieved? Also, to whom were the managers reporting?

In considering all this, the work will be attempting to answer the question of whether or not the Double Account System achieved what it was meant to achieve. Chapter four of this thesis will discuss the question of what the reporting arising from the Double Account System were meant to achieve.

We cannot expect the directors of nineteenth century companies to be aware of accounting theories from subsequent times. However, what we can do is look back on the history with our awareness of accounting theories and, armed with this knowledge, see more clearly if there were gaps in the railway companies' reports and perhaps suggest reasons for these gaps.

*Prima facie* the Double Account System can be seen as a good system in that it did the job that it was intended to do. But this is the conclusion that we come to if we look at the situation with a narrow view. That is, if we only look at what the Double Account System was designed to do and ask whether or not it achieved this purpose. This thesis argues that the Double Account System was designed to meet legal requirements (Edwards 1975) and disclose available profits to shareholders (Dicksee 1976, Lee 1975). But if we broaden our outlook and ask if the accounting system of the railways could or should have been disclosing more then we may come to a different conclusion. This matter is examined further, especially in chapter four of the thesis.

### **1.2.3 Relating Theories to History**

It is not the contention of the study that an accounting system can cause an enterprise to succeed or fail. Rather, the thesis will examine the extent to which an awareness or consideration of the ideas raised in certain accounting theories could have helped preparers produce more informative reports for the shareholders and public. An important point to consider here is whether or not the contemporaries of the Double Account System could have seen the weaknesses of that accounting system. From the evidence in Edwards (1985) and Lee (1975) it seems clear that the legislators were not content with the accounts of the railways.

Acts of Parliament such as The Great Western Railway Act 1835 and the Companies Clauses Consolidation Act 1845, sought to tighten regulations on the accounting reports of the railways (Lee 1975).

The study will provide a historical review of the accounting undertaken by the railways as they attempted to provide financial reports that were useful to report-users. Particular attention will be paid to the Double Account System and what gave rise to that system.

It is important to note that the railway entities of the nineteenth century were private enterprises. However, they were concerned with public projects and can be said to be doing what the government of the day might well have done—provide infrastructure and services to society. The fact that the operators of these ventures were not the government does not change the nature of the services being provided and, it can be argued, should not have changed the accounting system or reports.

#### **1.2.4 Summary**

The research objectives of this thesis and its research questions can be summarized as follows:

##### ***Research Objectives***

The research objective of this thesis is to investigate the extent to which our knowledge of modern system oriented accounting theories can explain the shortcomings in nineteenth century financial reporting as carried out by the railway companies.

##### ***Research Questions***

Out of this objective arise the following questions:

1. Is it feasible to use the modern systems oriented accounting theories to investigate and explain the historical events covered in this study?
2. Did the Double Account System achieve what it was meant to achieve?

### **1.3 Motivation for and Significance of the Study**

The motivation for this study is to add to the literature in relation to infrastructure and utility reporting of the nineteenth century. This will be achieved by investigating the events under study through the lens of modern systems oriented accounting theories.

### **1.3.1 History and Theory**

Accounting history literature (Parker 1990, Edwards 1985, Edwards 1986, Lee 1975, Pollins 1991, Dicksee 1976) explains, to varying degrees, what happened with the collapse of railway companies in the nineteenth century from the accountant's perspective. Accounting theory literature, on the other hand, proposes various theories which may be useful in helping to explain historical events. They may be useful because they are concerned with non-mandatory disclosure whereas the reporting of the nineteenth century railway companies was primarily concerned with mandatory reporting requirements.

The thesis will attempt to link the two areas, history and accounting theory, first, by providing an account of past events and, second, by examining accounting theories and questioning the usefulness of these theories in explaining those events. An assumption is made that these theories can be applied to the historical events concerned. However, it is important to remain open to the possibility that such linkage may not be valid.

### **1.3.2 The Theories**

The theories to be examined are Legitimacy Theory, Stakeholder Theory and Institutional Theory.

The reasons for selecting these particular theories are explained as follows.

Carpenter and Feroz (2001) state that 'Institutional Theory provides a useful theoretical lens through which to view accounting choice in the public sector' (p.593). They go to say that Institutional Theory explains how entities conform to each other and that the aim of this conformity is the gaining or maintaining of legitimacy. This is in line with Scott (1987) who states that organisations conform to institutional pressures to gain legitimacy.

This leads us to Legitimacy Theory. According to this theory, legitimacy is a resource like any other resource. It, like other resources, is needed by business entities for survival (Deegan 2006; Tilling 2004).

Gray, Kouhy and Lavers (1995, p. 52, cited in Deegan, 2006) state that 'stakeholder theory and legitimacy theory are better seen as two (overlapping) perspectives'. Therefore, if we are to consider Legitimacy Theory, Stakeholder Theory should also come into the discussion.

These three theories can also be seen as relating to reporting that goes beyond mandatory reporting requirements (Deegan 2006; Gray, Owen & Adams 1996). This thesis will examine

whether or not the railway companies met their mandatory requirements (especially concerned with stewardship) in relation to their financial reports. The study will then go on to examine the question of whether merely complying with legal/statutory requirements was enough. In other words, should the directors of the railway entities have been concerned with more than just meeting mandatory requirements and disclosing the year's profit?

By combining these two broad areas — history and accounting theory — our understanding of the nineteenth century events relating to the British railways should be enlarged in terms of what occurred and why.

The thesis will also link these theories to a practical situation and in doing so emphasise their importance.

### **1.3.3 Contribution of the Thesis**

The contribution of the thesis lies in the increased knowledge it affords of historical events by investigating them through the lens of modern accounting theories. At the same time the work will be examining the validity of using the theories to help explain past events. This emphasis should be of interest to accounting academics, practitioners and students.

### **1.3.4 Counter Factual History?**

It is important to note that this thesis is not an exercise in counter-factual history.

Counter-factual history usually asks the question, 'What if?' This thesis is not asking, 'What if the railway directors had been aware of modern accounting theories?' Rather, the study will show what the railway entities did in terms of reporting; it will then attempt to add weight to the theories by saying that today reporting entities go further than the mandatory reporting requirements and do so for the following reasons:

- i. to gain and maintain legitimacy;
- ii. to take account of the various stakeholders and
- iii. to acknowledge that they are conscious of the idea that their firms are part of a society, act within and interact with other members of that society.

This is not counter-factual history. What the work is trying to say is that the three theories mentioned earlier describe how modern reports go beyond mandatory requirements. The thesis then contrasts that with an example of what can happen when the reporting entities go no further than the mandatory minimum in their reporting.

### **1.3.5 Significance of the Thesis**

Theories cannot tell us what the railway directors had in mind when they were preparing the companies' financial statements. But if we examine those financial reports, doing so with the benefit of our knowledge of the theories mentioned in section 1.3.2 of this thesis, we may be able to reach some conclusion as to why the reports were produced as they were.

We shall see in subsequent chapters that, to some extent, the railway entities' reports were a practical attempt at complying with the law. However, the modern reader of financial reports would expect that a reporting entity would do more than simply comply with legislation.

Modern annual reports contain more than mandatory information. The theories examined in this thesis help explain why companies report what they do report. If we look at the historical reports with the same or similar expectation as we view modern ones we should be able to see more clearly where the nineteenth century reports are, or are not, of a higher than mandatory standard.

Applying these theories in an examination of historical reporting gives us another way of exploring history. Consideration of the theories broadens our review of the historical events. We are not simply seeing what happened. We are looking at history from the viewpoint of one who can apply modern thinking to past events and, in doing so, can gain a clearer idea of not just what happened but why it happened. Without applying these theories we are only reading historical facts; by applying the theories to the facts we force ourselves to consider the facts in a different context. We see the nineteenth century financial statements being prepared by the directors without their applying of the thought that goes into the preparation of modern financial reports.

The significance of this study is, therefore, that it can help clarify our view of the historical events mentioned previously. The work also emphasises the importance of having a sound knowledge of accounting theories in the practice and evaluation of financial accounting reporting.

The literature review in chapter two reveals a gap in the literature in this area – no other author appears to have attempted to investigate and then explain the financial reports of the nineteenth century British railway entities with reference to modern accounting theories. This thesis attempts to fill that gap.

Having said that, the idea of viewing history through a modern theory is not new. Riaz (2009) sought to explain the Global Financial Crisis by looking at the events through an analysis of

Institutional Theory. However, no article has attempted to view the railway collapses of the nineteenth century from the accounting theory perspective.

## **1.4 Summary**

This chapter has introduced the thesis.

It has given a brief outline of the coming of the Industrial Revolution and the advent of the railways that took over from the canals as the main form of transportation of freight and, subsequently, passengers in the nineteenth century in Britain. It has also stated that in the middle of the nineteenth century the railways began to collapse despite the need for them caused by the industrial activity that was developing throughout Britain.

The Introduction has shown that this thesis will examine the railways and their downfall, not from the historian's point of view, but from the perspective of the accountant.

The thesis will examine the accounting system of the railways (The Double Account System) and will examine that system through the lens of modern systems oriented accounting systems. The thesis is not saying that the accounting system caused the collapse of the railways; rather, it is investigating whether or not we can gain a clearer view of historical events by looking at them through the eyes of the modern accountant.

## **2. Review of Literature**

### **2.1 Introduction**

The purpose of this chapter is to present a review of the literature relating to the topic of this thesis.

The title of this thesis, 'Collapse of the nineteenth Century UK Railways: An Analysis of Historical Events from an Accounting Theory Perspective,' indicates that the work is concerned with history and accounting theories. However, the study is neither an exercise in historical research nor is it entirely concerned with a detailed study of accounting theory or theories. Rather, the work is designed to look at an historical event, the collapse of British railways in the nineteenth century, from the perspective of modern accounting theories.

The main areas to be examined in the thesis are:

1. The nature of financial accounting, especially in relation to the social aspects of accounting.
2. The development and workings of the accounting system used by the railways, namely, the Double Account System.
3. Three systems oriented accounting theories, viz. Legitimacy Theory, Stakeholder Theory and Institutional Theory.

The topic of the nature of accounting is potentially a large study in itself and this thesis is not intended to be a detailed examination of accountancy from the sociologist's perspective. Rather, the thesis will consider whether accounting is merely a measuring tool or a social tool. That is, a tool used by society to achieve an end. This point is important because if accounting is just a measuring tool the remainder of the thesis become redundant.

The thesis is not an attempt to explain the causes of the collapse of the railways. The study does not suggest that the accounting system used by the companies in question caused the collapse of the businesses.

Nor is the work an exercise in counterfactual history. Because this is essentially a thesis in the area of accounting it looks at the historical situation from an accountancy point of view.

The thesis will discuss three modern accounting theories. It is not the intention to provide a thorough examination of these theories. That would be far beyond the scope of a study such as

this. The theories will be used to examine the historical events from the accountant's point of view by allowing us to view the railway companies through the lens of accounting theory. This is not to say that the managers of the nineteenth century companies should have been thinking in terms of these theories. Rather, the concept behind the thesis is that keeping modern thinking in mind allows a twenty-first century reader to obtain a clearer picture of the situation that prevailed in the nineteenth century. This happens because as a reader contemplates the history having modern thinking in mind allows a comparison between the past and present to take place in the mind's eye. This comparison allows a clearer picture of the history to form in the mind of the reader.

The literature reviewed for this thesis was selected if it contributed to the overall aim of the work as described above.

Literature sought regarding the social aspects of accounting mainly fell into the area of sociology. The works of sociologists and philosophers were used to describe society and the way business entities fit into it. The thesis uses a mix of classical works and modern writers.

Literature concerning the historical events needed to be clear and well referenced so as to ensure that the work was as objective as possible.

In relation to the accounting theories, works were used that provided information about the theories that best illustrated the relevance of those theories to the aim of this thesis. These writings may or may not have been the seminal works on the theories. The reason for this is that this thesis is not meant to provide a thorough explanation of the theories. It is assumed that the reader has at least basic knowledge of the theories. This work shows how the theories relate to and can be used to clarify our understanding of the historical events mentioned earlier.

## **2.2 Accounting History**

This thesis is not intended to be a detailed examination of the historical events relating to the collapse of the British Railways in the middle of the nineteenth century. Rather, it is an accounting thesis that looks at the events through the eyes of a modern accountant and views the situation through the lens of modern accounting theories.

There are several references that deal with the actual events of the coming of the railways and their failure (Edwards, 1985; Edwards 1986; Parker 1990). A brief summation of the events is found in chapter one of this thesis.

What we need to do in the remainder of the thesis is examine the events from the accounting perspective. This will be done by an examination of the accounting system used by the nineteenth century British railway companies, that is, The Double Account System.

The earliest Railway Act (1801) stated in s.35 that the Surry Iron Railway was to use all money raised by virtue of the Act to pay all costs associated with the Act and then the balance of that money was to be used to make and maintain the railway and ‘no other use’ (Edwards 1985 p. 22).

Edwards then goes to say that it became common for a clause like this to be inserted into the private statutes of subsequent railway companies.

We can see from this that the Railway Acts required financial reporting that accounted for stewardship (Edwards 1985; Parker 1990). Although this was achieved under the Double Account System, the financial reports did not disclose the true financial position of the entities as on-going enterprises. This is because they were prepared on a cash basis and only sometimes contained an allowance for what a modern accountant would call depreciation (Edwards 1985; Edwards 1986). It can therefore be argued that the system was created to do only part of the job that was really needed, according to the modern viewpoint on the requirements of financial reporting.

Edwards’ reference to s.35 of the Railway Act 1801 is part of his explanation of the development and use of the Capital Account in the Double Account System. What is not clearly stated in Edwards (1985) is that some railway companies did over spend the capital they had raised. The copy of the accounts published by The London and Birmingham Railway dated 31 December 1838 (see Appendix One) clearly shows that the Capital Account is in deficit. That is, the company had spent more than £40,000 in excess of the capital raised. This situation is referred to in the article *Railway Maps and Documents* and is interesting in the context of the discussion on Institutional Theory (see Chapter Five of this thesis). The fact that the railways appear to have become powerful enough to contravene s.35 of the Railways Act is interesting when we consider the idea raised by Riaz (2009) who states that entities can become large and powerful enough to influence society’s institutions rather than the other way around. Riaz’s point is that while Institutional Theory states that a society moulds

entities, (Di Maggio and Powell, 1983; Deegan, 2006; Dillard, Rigsby & Goodman, 2004) a powerful entity can reach the stage where it is influencing the society's institutions.

We must remember that the railways of the nineteenth century were companies in the private sector that were acting in the public sector. Rutgers (2010) believes that the public sector—or, as in the case of the early railways, private companies performing public sector services—needs to have reports that have a different emphasis than private sector accounting. He argues that 'increasing the usefulness of financial reports in the public sector will likely need to extend beyond what is included in traditional financial statements' (Rugers 2010 p. 20). It is interesting to note that this statement, published in 2010, is set in the future tense, suggesting that in the author's mind there still is a need for improvement in the reports of public sector entities. One could argue that if Rutgers has a valid point in relation to modern public sector reports then his point may have been just as valid in the nineteenth century and we should not be surprised that the financial statements of the nineteenth century would be seen as lacking to a modern reader.

The need for regulating the accounts and reports of the nineteenth century railway companies was in the mind of authorities but their stated reason for this regulation appears different from what we might expect today. The Select Committee of the House of Lords on the Audit of Railway Accounts (1849) (cited in Parker 1990) states that the railway companies' 'existence has depended upon the Legislature; and to that Legislature, therefore, they must be held in a peculiar degree responsible'. Parker (1990) also refers to the vice-president of the Board of Trade who, in 1868, pointed out an important difference between railway companies created by private acts of Parliament and ordinary companies formed under the general Companies Act of 1844 onwards:

Very few of the latter had compulsory powers granted to them by Parliament – a characteristic which alone would warrant Parliamentary interference in the internal concerns of railway companies (Hansard 1868 191:1539 in Parker, 1990, p.56).

However, this recognized need for regulation seems to have produced little in the way of improved financial reporting. Legislation was proposed but often not passed (Edwards 1985; Parker 1990; Lee 1975). The reasons for this rejection of legislative attempts range from the fact that managers of railway companies were often also members of Parliament to the fact that politicians were still of the view that it was wrong for governments to interfere with the workings of private enterprise (Edwards 1985). Both of these points (especially the former) are completely at odds with modern thinking. As to the latter point, Edwards seems to state

that this is what the politicians believed and leaves it at that. An argument missed by Edwards is that although these railway companies were in the private sector they were providing a service that would often be carried out by the public sector. It is therefore arguable that the government of the day had a right, even an obligation, to have some form of control over the companies. This argument gains strength when coupled with the Hansard reference above. That is, the government can be said to have the right of interference because the railway companies were created by parliament and, in the process, were granted powers not available to a company not so formed and the companies were performing what can be argued is a public service.

Even attempts at legislating, in 1849, to have the railway companies' reports subject to a Government audit were not successful (Lee 1975; Edwards 1985). According to Edwards (1985), auditors usually were amateur at best. Moreover, when legislation was passed in relation to auditing in 1845 the two auditors required to be appointed by the shareholders had to be shareholders themselves but not office bearers of the company (Parker 1990). The Montegale Committee, in its third report in 1849 stated that an audit should be 'freed, as far as possible, from all partial influences' (Parker 1990, p. 68). The Committee did not actually state that the auditor(s) had to be totally independent (Parker 1990).

A further indication of the thinking in the nineteenth century can be obtained from Odlyzko (2010). He states that activities

'such as manipulating prices, insider trading, "naked short-selling", disseminating false information...that today would place investors and executives in jail (if detected and proved), were not illegal in the *laissez faire* atmosphere of the 1840s' (Odlyzko 2010, p.193).

We can see from even the brief examples above that the general thinking of the nineteenth century in relation to financial reports and auditing are completely at odds with modern practice and thinking. We do need to view the events in this light if we are to come to a better understanding of what happened. With this in mind, the present study will require perusal, to the extent possible, of copies of reports published by nineteenth century British railway companies. An example of a railway financial report can be seen in Appendix One of this thesis.

Edwards (1985) provides a general study of how the Double Account System evolved. In his paper he states that no one person or company created the system; rather, it evolved from the attempts of the managers of railway companies to comply with the stewardship requirements of the acts of parliament that created the entities. The example of a report based on the Double

Account System contained in Edwards' paper and reproduced in this thesis as Appendix One, clearly shows that the company accounted for every penny raised through the issue of shares or debentures and, with equal clarity, disclosed where that money had been spent.

If Edwards (1985) describes the evolution of the Double Account System, a subsequent paper by the same author provides a specific example of a flaw in that system and the attempts to overcome the problem. Edwards (1986) looks at the problem of not providing for the maintenance and replacement of the non-current assets of the railway companies. The Double Account System used mainly cash-based accounting, often omitting depreciation from the financial statements. Edwards (1986) examines in detail the various methods used to attempt to provide for the maintenance and replacement of railway lines and rolling stock. However, he claims that the attempts to include depreciation in the financial statements were short-lived mainly, if not entirely, due to the need to maintain the reported profit (and therefore dividends) of the companies. Edwards (1986) then reviews the *Railway Companies Act 1886* and the measures in that Act that were designed to improve the reporting of the valuations of non-current assets. This is relevant to the present study because of its insight into the attitudes of the preparers of the financial statements and the extent to which those attitudes may have brought about the failure of the companies.

The notion of capital maintenance is examined in detail by Arden and Aiken (2005) in their review of legal cases from the late nineteenth and early twentieth centuries in which the concept of capital maintenance and the distributions to shareholders were at question. Arden and Aiken (2005) ask why the judges decided that some accounting methods were satisfactory in relation to this topic whereas others were not. They then argue that the British judges adhered to guiding principles when assessing accounting procedures in relation to capital maintenance and distribution. At the centre of these principles was, they claim, the idea that different firms have different planning horizons and ways of assessing risk. This resulted in the judge in the case of *Lee v Neuchatel Asphalt Company (1889)* concluding that the directors of a company could make distributions from a company even if this meant the erosion of the capital if the company had a shorter planning horizon—in other words, if the company was not intended to be in existence for a long time capital maintenance was of little importance.

This way of thinking appears to have been common during the 19th century. The railway companies were often distributing the full amount of the profits calculated on a purely cash basis (Hendriksen 1970; Lee 1975; Edwards 1985). Edwards (1986) makes the point that,

early in the existence of some of the railway companies, they included a provision for depreciation in an attempt to provide for the replacement of rolling stock, but not rail lines. However, as indicated above, this practice was soon abandoned because replacements were generally treated as expenses, thus lowering the profits of one year, while the intervening years carried no such charge, thus resulting in more years of higher profits and higher dividends.

The papers referred to above combine to paint a reasonably clear picture of what was happening in the 19th century railway companies and some underlying reasons for this. An even clearer picture can be obtained when we remember that the prevailing economic thought in the 19th century was influenced by the economist Adam Smith who published the first substantial work on economics (Smith 1784). In the first chapter of Book Two of his “Wealth of Nations”, Smith divided the notion of capital into two main categories: Circulating Capital, which he describes as being ‘employed in raising, manufacturing, or purchasing goods, and selling them again with a profit’ (Smith 1784 p. 245); and Fixed Capitals, described as ‘employed in the improvement of land, in the purchase of useful machines and instruments of trade, or in suchlike things as yield a revenue or profit without changing masters, or circulating any further’ (Smith 1784, p. 246). Edwards (1985) observes that this distinction between fixed and circulating capital was stressed by economists for over one hundred years after the publication of Smith’s work and seems to fit in with the structure of the Double Account System which disclosed fixed capital in the capital account and circulating capital in the general balance sheet.

In looking at more recent examples of infrastructure accounting, Lee and Fisher report that an analysis of disclosures made by seventy-three Australian public sector entities operating in infrastructure industries reveal a ‘low level of, and considerable diversity in, disclosures, particularly relating to the physical condition of infrastructure assets, their maintenance and performance measurement’ (Lee & Fisher 2004 p. 349). The survey concerned related to entities purely within the public sector. As stated earlier, the railway companies of the nineteenth century in Britain were private sector entities providing services that would usually be expected to come from the public sector. This makes Lee and Fisher’s paper relevant to this study because it discusses a lack of reporting disclosures within the public sector and the railway companies can be said to be private entities operating as though they were public enterprises.

## 2.3 Accounting Theory

Hendriksen (1970) provides the link between railway history and accounting theory. He states that the development of the railway industry influenced the development of accounting theory. This is because businesses were faced with having to spend large sums to establish the business before revenue could be generated. This investment was mainly in large, long-lasting assets. However, the assets were long-lasting, not ever-lasting. This highlighted the importance of distinguishing between capital and income accounts.

Hendriksen (1970) goes on to clarify this notion by saying that early in the history of the British railways it was common for most, if not all, of the profits (calculated on a cash basis) to be distributed as dividends. This pushed up the value of the shares in these companies. However, once large assets needed replacing and the large dividends could not be continued the value of the shares dropped rapidly. In this Hendriksen is in agreement with Odlyzko (2010) and Campbell (2009).

While there is a vast amount of literature available on accounting theories, this research is selective inasmuch as it will look primarily at those theories that may help explain and clarify the situation of nineteenth century railway company financial reporting. The three contemporary accounting theories selected fall under the umbrella of “Systems-Oriented Theories” (Deegan 2006). These theories—namely, Legitimacy Theory, Stakeholder Theory and Institutional Theory—are all related to the task of information disclosure, about which this study is concerned. These are not the only theories related to voluntary disclosure. The reasoning behind the selection of these particular theories is provided in Chapter Five of this thesis.

The idea of using a contemporary theory to help explain an historic event is not new. Riaz (2009) analysed and sought ‘to provide insights into the current global financial crisis’ by looking at the situation from an Institutional Theory perspective. He found that the interplay between financial industry organizations and institutions was the ‘key to understanding the creation of the crisis’ (Riaz 2009, p.1). This paper seeks to look at the situation with the railway companies in a similar way.

The theories looked at in this thesis are described as systems oriented theories. This term was first used by Gray Owen and Adams (1996) and refers to the idea that businesses exist in a society and that each society is made up of sub-systems. Gray Owen and Adams (1996) are using the idea of systems and systems-thinking that was put forward by Von Bertalanffy

(1950). The idea is that a system must be considered in its context; it should be considered in isolation. This gives a clearer picture of the way the system operates (Gray Owen and Adams 1996). This idea is also put forward by Deegan (2006) who states that any accounting theory cannot be looked at in isolation.

### ***2.3.1 Legitimacy Theory***

‘Legitimacy Theory asserts that organisations continually seek to ensure that they are perceived as operating within the bounds and norms of their respective societies’ (Deegan 2006). In this theory, legitimacy is seen as a resource like any other used resource by an entity (Deegan 2006, Tilling 2004). Rather than being tangible, this resource is a perception of the society in which the entity operates. Managers can gather and maintain this resource by their reporting. In relation to the present study, this raises the question of whether the railways tried to gather this resource. If so, what benefits if any accrued to them as a result? If not, could this in any way have contributed to their failure? It may be impossible to answer these particular questions fully but a consideration of them could help in our understanding of why the railway companies failed.

Tilling (2004) breaks Legitimacy Theory down into two layers: Institutional Level and Organisational Level. The former refers to how the entity gains legitimacy by its dealing with organisations in society as a whole. The latter is concerned with how the management operates to establish, maintain, extend and defend its legitimacy. The present study will look also at whether the railway companies were active at either or both levels.

Lindblom (1993) describes legitimacy as a perspective. By this she means that legitimacy is held in a business if the society in which the business operates perceives that business to be operating legitimately. Deegan (2006), however, refers to legitimacy as a resource. He states that an organisation will seek out legitimacy like any other resource and, having gained legitimacy, will strive to maintain and enhance that legitimacy. Cowan and Deegan (2011) demonstrated this striving for legitimacy when they concluded that certain businesses had made increased disclosures relating to their emissions in their annual reports in response to the implementation of the National Pollutant Inventory.

Carpenter and Feroz (1992) also reported an attempt to regain legitimacy in the case the State of New York and its decision to adopt Generally Accepted Accounting Principles (GAAP) in its financial reporting to outsiders. Interestingly, these researchers noted that social or

institutional pressures to adopt GAAP were placed on New York State. This is an example of the overlap between Legitimacy Theory and Institutional Theory.

### ***2.3.2 Stakeholder Theory***

Stakeholder Theory is closely related to Legitimacy Theory (Gray, Owen and Adams 1996; Deegan 2006). Like Legitimacy Theory, this theory is concerned with gaining and maintaining legitimacy. However, it takes that view that an entity either regards all stakeholders as equally entitled to be treated fairly or that some stakeholders are more important to the entity than others. Gray, Owen and Adams (1996) state that in this second limb of the theory the managers will perceive some stakeholders as being more important than others and will therefore take this into account when deciding their actions and the disclosure of those actions.

Lindblom (1993), when writing about Legitimacy Theory, refers to stakeholders. She states that there is usually not universal agreement in a society as to the legitimacy of an organisation. Rather, the organisation establishes relationships with the stakeholders that are seen as being of most importance to the organisation. This recognises the overlap between Legitimacy Theory and Stakeholders Theory.

Freeman (cited in Freeman *et al* 2004) notes that stakeholder theory asks two essential questions:

1. What is the purpose of the firm?
2. What responsibility does the management have to stakeholders?

The purpose of the railway companies can be said to be to provide an ongoing service to the community. The question of responsibility to stakeholders will require identification of those stakeholders and their needs. Insofar as external financial reporting is concerned, as stated previously, a first look at the companies' financial reports suggests that the managers were concerned primarily with reporting on stewardship and profits (hence dividends). A closer examination of the companies' annual reports needs to be undertaken to determine whether that was the limit of managers' interest and how far the reports went towards meeting stakeholder information needs.

### ***2.3.3 Institutional Theory***

Institutional Theory looks at the forms that entities take. Scott (1995) argues that to survive, an entity must conform to rules and belief systems held within its environment, that is, the society in which it operates, to earn legitimacy.

Carpenter and Feroz (2001) go so far as to state that they believe that all states of U.S.A. will adopt GAAP in their external financial reporting. Their 2002 paper examines the adoption of GAAP by four American states. They conclude that powerful social pressures will be what will cause the remaining states to adopt GAAP. The social pressures they are discussing are the pressures described by Di Maggio and Powell (1983) (see below). Carpenter and Feroz (2001) identified coercive and normative isomorphic pressures in their research. These terms come from Di Maggio and Powell (1983). Coercive Isomorphism concerns political influence and Normative Isomorphism relates to professionalization.

Dillard, Rigsby and Goodman (2004) see Institutional Theory as ‘a way of thinking about formal organization structures and the nature of the historically grounded social processes through which these structures develop’ (p508). The implication that society is acting to form and mould the organization is interesting. Riaz (2009) suggests that the opposite may occur if institutions become powerful enough to influence the institutions with which they operate. He calls this ‘reverse legitimacy’ and refers to ‘the ability of powerful business and financial organizations today to reverse-legitimate institutions through their own success’ (Riaz 2009, p. 3).

Di Maggio and Powell (1983) spoke about this process of changing and conforming calling it “isomorphism”. This term is borrowed from biology, a science in which it means a similarity of appearance displayed by organisms having different genotypes. These authors also refer to an ‘organizational field’, describing it as a group of entities that produce similar services or products and share key suppliers, resources, consumers and regulatory agencies. They go on to say that once an organizational field is established four ‘powerful forces emerge that lead them to become more similar to one another’ (Di Maggio and Powell 1983, p. 148). The British railway companies can be seen as making up an organizational field. The question is whether or not any ‘powerful forces’ did act to make the various companies similar to each other. If this is the case, did this have any effect on the operations and failure of the entities? This thesis will consider whether either of these processes—*isomorphism* and *reverse legitimacy*—was in evidence with the railway companies.

We can see from the above brief analysis that these theories have a great deal of overlap. One cannot be considered without taking into account the others and it may be difficult to see clearly where the effect of one ends and another starts. A full analysis of these theories is beyond the scope of the study but the thesis will use the theories to help explain what happened to the railway companies and, perhaps more importantly, why it happened.

## **2.4 Accounting as a Social Instrument**

The literature relating to this part of the thesis is mainly in the areas of Sociology, Accounting History and Philosophy. Because the thesis is an accounting study this section is not extensive. However, it does serve to establish an important point. That is, that accounting has developed into a social instrument used by society to control the financial reports issued by business entities.

Prior to the Industrial Revolution, accounting served a narrower purpose than it does today. According to Lee (1975) accounting prior to the Industrial Revolution was carried out mainly by merchants. He states that what the merchants needed was to keep track of their inventory and calculate the profit on particular projects. A project may be as simple as the purchase and sale of a shipment of inventory. The merchant was concerned as to whether he was selling at a profit. Therefore what we nowadays would call Gross Profit would be of utmost importance (Lee 1975).

We can see an example of this type of accounting by examining the ledger of Jachomo Badoer (Peragallo 1977). This ledger is described as the ‘only commercial document written entirely in Constantinople that has survived...the Turkish conquest of that city’ (Peragallo 1977, p. 881). The Turkish conquest was in 1453. The ledger covers the period from September 1436 to February 1440 and was kept by Jachomo Badoer, a Venetian merchant based in Constantinople. His ledger contains simple, single entry records of transactions with debtors and creditors but has no formal journal. It is simply a record keeping device. Badoer had to report to nobody other than himself so all he was concerned with was keeping track of his debtors and creditors and seeing that he was selling at a profit (Peragallo 1977). Badoer therefore used accounting to calculate his Gross Profit. To him it must have been a tool used to perform calculations. This view of accounting can be traced back to the first known book on accounting written by Luca Pacioli, a Venetian monk and mathematician, in 1494. Pacioli’s book was actually a five part book on mathematics and one of those parts explained accounting as practiced in Venice at that time (Smith 2011).

The use of the ledger fits in with the idea expressed by Lee (1975) referred to above. It also fits in with the notion that early accounting was meant to be a measuring tool.

The only time merchants were reporting to other people was when the merchant was in a partnership. Then, it was necessary to have reports that were available to other parties (Lee 1975). But even then, the parties were known to each other, usually, so any additional information could be obtained by directly questioning the partner who prepared the report. Modern accountants would call such a partnership a Non-Reporting Entity (SAC 1 2011).

This thesis, however, is concerned more with reporting entities. These are entities from which business information is only readily available through published financial statements (SAC 1 2011). Such entities must use accounting standards in the preparation and presentation of their financial statements. These standards are referred to in the *Companies Act 2001* as being the method to be used in preparing such accounts.

In looking at the social aspect of accounting we must keep in mind that organisations exist in a society and do not operate in isolation. This is moving into the area of Sociology. This is not a thesis on Sociology but some awareness of sociological concepts needs to be considered.

According to the sociologist Emile Durkheim, a society is an entity in itself and is greater than the sum of its parts (Carls 2012). These parts are the institutions, segments and entities of a society such as the legal sector, the education sector, the finance sector and business sector.

Hobbes (1651) further states that the members of the society agree to appoint a ruler for the society and that they agree to transfer authority to the ruler to make and enforce laws for the benefit of society and its members. This ruler could be an individual or group but Hobbes was writing in the period of the English civil war and was mainly referring to a sovereign, i.e. monarch. We can think of the ruler as a government in any form.

Hobbes (1651) states that when this transfer of authority or power takes place the society and its ruler enter into a social contract. The contract means that the ruler is obliged to make and enforce laws for the society and that society will obey these laws or suffer a penalty.

The idea of the social contract was not an original idea of Hobbes. The Greek philosopher Plato wrote that Socrates allowed himself to suffer capital punishment rather than attempt to escape from prison. Socrates' reason for this was that if he escaped from prison he would be breaking the social contract between himself and the governors of Athens (Plato n.d.).

Such a social contract still exists today (Friend 2004). The government today can pass laws that must be obeyed. In relation to accounting in Australia today, the government, through the *Companies Act 2001*, requires entities reporting to the society as a whole to prepare their financial reports in accordance with the accounting standards and in the language of accounting.

## **2.5 Summary**

When we consider the area of accounting history we can see that there are numerous sources relating to the history of accounting especially in the nineteenth century, which is the time relating to this thesis.

Specifically, the Double Account System is well described by Edwards (1985), Edwards (1986), Dicksee (1976) and Parker (1990). All of these writers describe the system, or parts of it, and point out the shortcomings. These are mainly that the system used cash rather than accrual accounting, usually did not incorporate depreciation and were not audited.

The concept of capital maintenance is discussed by Edwards (1986), Arden and Aiken (2005), Dicksee (1976) and Parker (1990). This is relevant to this thesis because if the profits of the railways were overstated there existed the real possibility of distributions of dividends that would erode the companies' capital.

The picture painted by these authors is that the Double Account System was designed to do certain things only, viz. account for stewardship as required by the government and report to shareholders in relation to distributable profits. This thesis will consider whether these aims are sufficient for an accounting system.

The strongest impression that we receive from these authors is that the accounting system used by the railway companies was limited in its aims and only met those aims to a bare minimum.

In relation to the accounting theories, the three theories, Legitimacy Theory, Stakeholder Theory and Institutional Theory, were selected because they are systems oriented theories. That is, they are concerned with more than mandatory reporting.

A common thread running through the literature on these three theories is the idea of an entity seeking legitimacy in the eyes of the society in which it operates. The three theories look at legitimacy from different angles but all state that an organisation must have legitimacy to

survive. The thesis will look at whether the railway companies under review sought to create or maintain legitimacy.

When considering the social aspect of accounting the literature falls largely into the categories of Sociology, Accounting History and Philosophy.

We see that societies have long been considered to have a social contract between the members of the society and its ruler (Plato n.d., Hobbes 1651, Friend 2004).

We also see that accounting, before the Industrial Revolution, was mainly used by merchants for their own information. When the Industrial Revolution came and larger businesses began to emerge, such as manufacturers, Canal Companies and Railway Companies, accounting needed to change. Its audience was not just the owners of the enterprises by the shareholders, members of the society. The financial reports, therefore, were required to report to people who had no other contact with the owners or managers. This, combined with the fact that the companies were using the public's money, meant that governments laid down laws requiring that the financial reports be of a certain standard and reveal specific information. Accounting had, thus, become more than a measuring tool; it was also a social instrument.

What was not found in the literature that was examined in the preparation of this thesis was any author who had used modern accounting theories as a lens through which to examine the history of the nineteenth century British railways. It is part of the aim of this thesis to fill that gap.

## **Chapter 3: Accounting as a Social Instrument**

### **3.1 Introduction**

The aim of this chapter is to establish that accounting is more than just a measuring tool. The chapter aims to show that accounting has become a social instrument. That is, it is an instrument used by society to achieve a certain outcome.

This idea is important in the context of this thesis. If accounting is seen as merely a measuring tool then the sole aim of any accounting report would be to disclose the measurement of certain aspects of a business. It may show the amount of revenue, expenses or assets but that would be all. If this is the case then the aim of any accounting system used in any period of history would be the same, i.e. to measure certain things and report the results.

This chapter argues that accounting may have begun as only a measuring tool but, over time, has developed into something more. It has developed into a social tool that enables business entities to communicate with each other, with themselves and with the wider community.

We should note here that the accounting under discussion in this chapter, indeed, in this thesis, is financial accounting. This thesis is not concerned with management accounting. Management accounting is a system by which a business reports to the management of that business. It is not concerned with reporting to outside entities and there is no standard way of presenting the reports prepared under this type of accounting. What this thesis is concerned with is financial accounting. That is, the reporting of an entity to external entities such as other businesses, government agencies and society at large.

### **3.2 Before the Industrial Revolution**

The first known book explaining accounting was published in Venice in 1494. It was written by a monk who was also a mathematician, Luca Pacioli. His book, 'Everything about Arithmetic, Geometry and Proportions' was actually a five part work on mathematics. But one of those parts was about accounting as it was practiced in his day by Venetian merchants (Smith 2011). Pacioli did not invent accounting but he is the earliest known

person to write about it. It is interesting that he, a mathematician, would include a chapter on accounting in a mathematics book. This indicates that, at least to him, and his perceived audience, accounting was seen as a branch of mathematics. This seems reasonable because accounting, in the fifteenth century, was concerned with figures and calculations.

Pacioli's book was the standard text for accounting until the sixteenth century (Smith 2011). Lee (1975) states that until the coming of the Industrial Revolution accounting was used by merchants as a way of keeping records of their inventory and transactions with their debtors and creditors. Paragallo (1977), in discussing the ledger of Jachomo Badoer, demonstrates that the ledger keeps track of the items referred to by Lee (1975) above and does so in a simple but effective manner. Paragallo (1977) is able to follow the transactions and conclude that the ledger is informative but does not balance, as a modern accountant would expect it to do. Nonetheless, it served the purpose for the fifteenth century trader.

This is not to say that only merchants used accounting. For example, governments of the day kept records in their treasuries but this is not of concern in this thesis. This work is concerned with the accounting of business enterprises. It is true that the nineteenth century railway companies were performing a public service in running the railways. However, as stated in Chapters One and Four of this thesis, the British governments of the nineteenth century left the running of the railways to the private sector. This chapter, therefore, is concerned with the development of accounting in the private sector.

Before the advent of the Industrial Revolution merchants kept their accounting records for themselves. They used accounting to keep records and to ensure that they were selling their goods at a profit (Lee 1975). Gross profit was of paramount importance to the merchant (Lee 1975). Lee goes on to say that the only time the merchants were reporting to others was if the business was a partnership.

Even then, the accounting was basically a mathematical exercise. Any further information that may have been sought by a partner could be obtained by questioning those who prepared the reports. This idea of obtaining additional information is discussed further in the next section of this chapter.

In summary, we can say that until the coming of the Industrial Revolution accounting was seen as mathematical process used by merchants to keep track of their dealings and ensure that they were making a gross profit. It was, in other words, a measuring tool.

### **3.3 The Industrial Revolution**

With the arrival of the Industrial Revolution the requirements of accounting changed. Up until then the merchants were reporting mainly to themselves or their partners. In any event, any additional information could be obtained from the preparer of the reports. But with the growth in industry commencing in the early part of the nineteenth century, business owners were no longer sole operators or in small partnership. Hendriksen states that the coming of the railways in Britain caused great advances in accounting theory (Hendriksen 1970). But even prior to the railways there were large manufacturing businesses and canal companies. These canal companies, unlike businesses up until the late eighteenth century, required large amounts of capital to commence operations (Edwards 1985; Lee 1975; Pollins 1991; Hendriksen 1970). The managers of these companies were now in the position where they were reporting not only to themselves but to the government and to shareholders, most of whom would have been unknown to them.

One of the consequences of this was that the nature of accounting changed. Rather than being a way of keeping track of inventory, debtors and creditors and noting if a gross profit was being made, business operators now were required to report to numerous individuals. These individuals were in a position like that of a modern shareholder; they were relying on financial statements to obtain financial information about the company in which they had invested. That is, the canal and railway companies were what a modern accountant would call reporting entities.

According to *SAC 1* the determining factor that decides whether an entity is a reporting entity is the availability of information in addition to the basic accounting statements. If the information can be easily obtained from the business owners/managers then the entity is not a reporting entity and therefore does not have to comply with the accounting standards. Indeed, according to the *Corporations Act 2001*, if a company is a non-reporting entity it does not usually have to prepare accounting reports at all. Reporting entities, however, whether companies or not, must prepare reports in according to the accounting standards.

This is an important and interesting concept. By having the *Corporations Act 2001* refer to the accounting standards, the law is requiring entities to publish accounts in a standard format unless information is available directly from the business owners. It is the flow of information that is the deciding factor. The published accounts must contain accounting information but also must contain 'Notes to and Forming Part of the Accounts' which help explain the contents of the reports and also provide non-financial information (AASB 101). This is the Government, and therefore society, requiring information in addition to the basic accounting reports to be published if it cannot be readily obtained from the preparers of the reports.

### **3.4 Social Aspects of Accounting**

We can see from the above that the Industrial Revolution caused not only great changes in business but great changes in accounting (Lee 1975; Hendriksen 1970). Unlike the pre-industrial merchants business were now using capital gathered from numerous shareholders. That is, they were using the public's money. They therefore were accountable to that public. It is reasonable to say the 'public', not just the shareholders; any member of the public could become a shareholder if they could afford to do so. So the businesses were reporting to shareholders and potential shareholders.

This brings to mind the concept that business entities operate in a social environment, not in isolation. The accounting theories examined in Chapter Five of this thesis are described as systems oriented accounting theories (Gray, Owen and Adams 1996). They are concerned with non-mandatory reporting and are based on the assumption that organisations operate in and report to a society (Deegan 2006).

Field (2010) and Festenstein (2005) state that Dewey (1859-1952) argued that for a democratic society to function there has to be communication between elements of that society. The elements of the society might also be called sectors. Examples of these sectors are the Health Sector, the Business Sector, the Law Sector and the Education Sector. Communication between these sectors exists via, inter alia, published reports, speeches, and press releases. With the Business Sector, businesses communicate with each other and society via the methods mentioned above. Their published reports are their financial accounting reports.

According to Hobbes (1651) societies abhor a completely natural state of existence. By this he means the state of existence that would exist if people were left to themselves with no law and order. Hobbes states that this condition can result in a violent death for individuals and that a violent death is what humans fear above all else. Hobbes then goes on to say that the way human societies have resolved this problem is to agree among themselves that a ruler will be appointed and that the society will transfer power to that ruler. The ruler will create and enforce laws that are designed to be for the benefit of the society.

In coming to this arrangement, Hobbes states, the society and the ruler are creating a social contract. Friend (2004) states that this contract creates moral and/or political obligations on the society and the ruler. This idea of a social contract and its resultant obligations, described by Friend as 'nearly as old as philosophy itself', is mentioned by Plato (n.d.) in the dialogue 'Crito' which describes a discussion between Socrates and his friend, Crito. Socrates, in prison and awaiting the death sentence, tells Crito that he (i.e. Socrates) should not attempt to escape from prison but should accept the death penalty because, if he were to escape, he would be breaking the social contract between the governors of Athens and him. The social contract requires the governors to govern Athens and also requires him, as a citizen of Athens, to obey their laws (Plato n.d.).

Similarly, a law laid down by the Australian Government in the *Corporations Act 2001*, means that businesses, in their communications with society at large, must use the language of accounting in the preparation and presentation of financial accounting reports, which, in turn, must be in accordance with International Accounting Standards. This is to promote consistency, understandability and comparability and, therefore, usefulness (ASB Framework).

### **3.5 Summary**

From all this we can see that accounting has become something more than a measuring tool.

Lee (1975) states that before the Industrial Revolution accounting was mainly used by merchants to keep track of Inventory, Debtors and Creditors and to record if they were generating a Gross Profit. Paragallo (1977) provides evidence of this by examining the fifteenth century ledger of Jachomo Badoer, a Venetian trader operating in Constantinople. It recorded the details described by Lee (1975) but little else.

Hendriksen (1975) states that the Industrial Revolution provided a push to the development of accounting theory. This was because the Canal Companies, the Railway Companies and other large industrial companies were no longer reporting just to the owners of the enterprises. The capital for these businesses came from the society itself in the form of shares and debentures issued to the public. The directors were, therefore, reporting to shareholders and potential shareholders, i.e., society as a whole.

This change meant that accounting was being used for an additional purpose. For smaller organisations the owners were still reporting to themselves and a few external individuals such as lenders and taxation authorities. But larger enterprises, with which this thesis is concerned, were reporting to a much wider audience. The format of their reports needed to be different. They needed standardisation to make the reports useful to their readers.

Hobbes (1651) states that society appoints a ruler and transfer power to that ruler. The power is the authority to create and enforce laws for the benefit of the society. Further, this creates a social contract between the ruler and the society. This contract requires the ruler to create and enforce beneficial laws and also requires members of the society to obey those laws (Hobbes 1651; Plato n.d.; Friend 2004).

Under this arrangement the law makers in modern industrial societies require reporting entities to prepare and present their financial reports in accordance with accounting standards using the language of accounting.

We can therefore conclude that, over several centuries, accounting has moved from being a measuring tool to an instrument used by society to regulate the financial reports that are issued to the society.

How this concept applies to the nineteenth century British railway company reports will be discussed in Chapter Six of this thesis.

## Chapter 4: The Double Account System

### 4.1 Introduction

This chapter describes the Double Account System that evolved in Great Britain during the nineteenth century and was used by Railway Companies to produce their Financial Statements.

The chapter will look at the origins of the system which, it can be argued, go back to the canal companies that preceded the railway companies (Edwards 1985). Like the railway companies, canal companies required a large capital outlay that had to take place before any revenue was earned. But the railways had one further problem. According to Hendriksen (1970), for the first time accountants had to deal with that situation, i.e. the large capital outlay, and the ongoing need for additional capital to maintain and replace the assets built or acquired in the early years of the venture. This problem gave rise to the question of having to distinguish between capital and revenue and the need to report accurately in relation to the receipts of each. Hendriksen states that

‘Railroads required a much larger investment and considerably longer lived equipment than most of the industrial activity of the mid-nineteenth century. Both of these factors led to an increasing importance of the distinction between capital and income’ (Hendriksen 1970 p.38).

We will see that the system was not designed by any one person or group of individuals; rather it came about through what can be looked at as a process of evolution. It will be shown to have been developed in response to the changing needs of the users of financial reports. That is, as the information that needed to be disclosed changed, so the financial reports needed to change, just as the characteristics of a population change in response to the changes in its environment. The changes in disclosure requirements from the point of view of investors and the railway companies’ response to them will be examined.

Edwards (1985) explains that the Double Account System was an accounting method used by Statutory Companies, that is, companies incorporated by private Acts of Parliament. Private Bills, mentioned in chapter one of this thesis, were used in the late eighteenth century to form canal companies and the early horse-drawn railways (Lee 1975).

The reason for the adoption of this accounting system is discussed in section 3.5 of this thesis.

In Great Britain legislation was passed in 1868 making The Double Account System compulsory for railway companies. This was followed by similar legislation for Gas Works (1871) and Electricity Companies (1892).

Companies with similar spending patterns, that is, a large initial outlay for infrastructure followed by current operational expenses, (for example, companies operating docks, mines, quarries etc.) also used the system on a voluntary basis.

Edwards (1985) also points out that the system was not used after World War II because:

- 1) When Britain nationalised industries after World War II it was not a requirement that those companies use the system ;
- 2) The system was no longer being used voluntarily.

Edwards states that this second point was true to the best of his knowledge but offers no evidence for this belief (Edwards 1985). Wells (cited in Edwards 1985) proposed a system of accounting for nationalised industries that emphasised

- 1) Stewardship
- 2) Efficiency and
- 3) Financial viability

This proposal contained the basic features of the Double Account System, the features of which will be explained in section 3.4 of this chapter. This is not to say that Wells was advocating a return to the Double Account System but that nationalised industries should, in their financial reports, emphasise the three points mentioned above.

## **4.2 The Canal and Railway Companies**

### **4.2.1 The Canal Companies**

Although this thesis is concerned with the British railways of the nineteenth century, it is useful to begin with the canal system of transportation. The canals were expanded in response to the increased activity in the early nineteenth century as a result of the beginnings of the Industrial Revolution (Lee 1975). Their formation was through Private Bills, as was the formation of the railway companies. The canals were also one of the first industries to have a large capital outlay while the canal was being created, a period during which no revenue was

received. Like the railways, they needed large initial capital (Edwards (1985); Lee (1975); Hendriksen (1970). They were, therefore, from the practical point of view and from the perspective of the accountant, similar in nature. However, two important distinctions are evident and are discussed further on in this section of the thesis.

The London Canal Museum has called British canals the 'Routes of the Industrial Revolution'.

While the British did not invent canals, this method of transport was used to a great extent by them especially as economic output increased in the early part of the Industrial Revolution in the late eighteenth and early nineteenth centuries. Transportation by road was slow and hard going on the unpaved roads. Canals were a logical alternative to horse drawn transportation because the barges could be used to carry large amounts of cargo relatively cheaply.

The age of canal building in Britain began with the construction of the Bridgewater Canal, referred to in Chapter One of this thesis.

An important feature of the construction of a canal is that there is a large capital outlay before any revenue can be collected. This initial expenditure (acquiring the land, surveying and digging the canal) is clearly of a capital nature. Even in the eighteenth century this was clear to the accountants; the expenditure was in line with the idea of fixed capital that Smith had described in 'The Wealth of Nations' in 1776. Smith's idea on capital, as set out in that work, was part of the prevailing thought among the educated for over a century after its publication. (See section 3.4)

Once a canal had been constructed the major capital works were completed. There was little in the way of on-going capital maintenance involved in the running of a canal. Canals do not wear out. Even if erosion does take place, it usually will not hamper the use of the canal. Any repairs that are required can be seen as just that - repairs, not further capital expenditure.

To a modern accountant, the initial inflow of funds required to construct a canal was clearly an inflow of capital. However, Lee (1975), states that, especially before the Industrial revolution, 'apportionment between capital and revenue items was haphazard and defective' (p.9). He then goes on to say that 'public utility companies such as canals tended to capitalise fixed asset construction costs' (p. 17).

Once this inflow has taken place and the capital expenditure has finished, any further inflow of funds is clearly revenue (Lee 1975). The nature of the business meant that the further

raising of capital was not needed unless the canal needed to be extended. In this case a new Private Bill would be introduced to enable more land to be acquired and so on (Edwards 1985).

We can see from this that, in the case of canal companies, the distinction between capital and revenue was clear. Capital was raised for the construction of the canal; expenditure was made accordingly. After this, revenue in the form of tolls was collected and expenses (such as wages and maintenance) were met (Lee 1975). It should be noted that the canal companies did not own or operate the boats that used the canals. Their revenue came from tolls charged to the boat owners. Their operations can be compared to today's companies that construct highways and charge motorists a toll.

We can therefore say, in summary, that the canal companies faced a situation that had not been faced by the earlier merchants of Britain. Whereas a merchant needed little initial capital and could increase the size of his business as profits were accumulated, the canal companies needed a large initial capital and had to spend it before income could be earned (Lee (1975); Hendriksen (1970)). They required permission from Parliament, through Private Bills, to acquire land and raise capital through shares and debentures (Lee 1975). Once the canal was constructed the inflow to the canal company was mainly of revenue. Additional capital was only needed if the canal was to be extended (Edwards 1985). This revenue was in the form of tolls paid by the owners of barges that used the canals (Canal Museum). How the accounting for the canal companies differed from that of the railway companies is examined in the next section.

#### **4.2.2 The Railway Companies**

When the railways began to emerge in the first two decades of the nineteenth century a situation similar to that of the canal companies was evident. A large outlay of capital was again needed before any revenue could be collected. However, two important distinctions arose with the railways.

Firstly, a much larger amount of capital was needed. Not only did land have to be acquired but tracks laid and rolling stock had to be purchased. Unlike the canal companies, the railway companies owned and operated the means of moving cargo and passengers. Their revenue was not in the form of tolls; they charged for the carrying of freight and passengers. (See Appendix One)

Secondly, as the railway companies owned rolling stock they had assets that wore out, had to be maintained and eventually had to be replaced. Further, the track itself also had to be replaced from time to time. (We shall see that the railway directors underestimated the life span of the tracks, mainly due to the quality of the steel used.) This meant that the railway companies would need, from time to time, to spend more capital to replace tracks, carriages and locomotives. The problem faced by the companies was the source of that capital; was it to come from retained earnings or external sources? If it was to be an external source, was it to be through loans or capital?

Edwards (1985) and Odlyzko (2010) both emphasize the importance of dividends when discussing the railways. Indeed, Edwards states that it was not uncommon for most, if not all, of a railway's annual profit to be paid in dividends. This means that when a section of track or pieces of rolling stock needed replacing it may have been necessary for the company to raise more equity or loans. If equity was raised, the question was whether the funds raised were of capital or revenue nature. Further, was the expenditure on replacing track and rolling stock of a capital or revenue nature? That is, was it simply repairs or was it additional capital expenditure? This was an important question even in the nineteenth century. If capital and revenue receipts were not clearly separated and disclosed a dividend could easily be paid out of capital, thus reducing the capital of the company. Lee points out that The Great Western Railway Act, 1835, required the company to pay dividends only from

‘clear Profits and to refrain from paying them in excess thereof, or whereby the Capital of the said Company shall in any degree be reduced or impaired’ (Lee 1975, p.20).

Hendriksen (1970) notes that one of the influences on the development of accounting theory was the coming of the railways and the associated problem of distinguishing between capital and revenue. He then goes on to say that this need to distinguish between capital and revenue gave rise to the idea that capital had to be maintained if the company was to continue. This created the need for a charge for depreciation or a provision for maintenance.

### **4.3 The Need for Reporting on Stewardship**

The main reason that the government in 1868 for making the Double Account System compulsory for railway companies appears to be that the system was seen as an effective way of accounting for stewardship.

The idea of stewardship was clearly in the mind of the legislators. Edwards (1985, p. 22) reports that the earliest railway Act (1801) authorized the Surrey Iron Railway to build a line from Croydon to Wandsworth and that s.35 of that Act stated that

‘all money raised by the said Company by virtue of this Act shall be laid out and applied, in the first place, in paying and discharging all Costs and Expenses incurred in applying for, obtaining and passing this Act, and all other Expenses preparatory or relating thereto; and the Remainder of such money shall be applied in or towards purchasing Lands, and making and maintaining the said Railway and other Works, and in otherwise carrying this Act into execution and no other use’.

Edwards goes on to say that it became common practice to include this requirement in subsequent Private Acts of railway companies.

The last four words of that section of the Act are of great importance. The legislation left no doubt that the directors of the railway companies were restricted in what they could spend the company’s capital on. One can argue that this imposed restriction is reasonable. The legislation created the companies and gave them powers to, inter alia, acquire land; large sums of cash were involved and the government was entitled to demand that the funds raised be accounted for as precisely as possible. These were, after all, private-sector companies performing duties normally conducted by the public sector. There is a potential political danger when a government gives the private sector the ability to raise large sums for major public works.

The Double Account System developed into an ideal system to meet this requirement of the legislation, as we will see in the next section.

#### **4.4 Characteristics of the Double Account System**

Under the Double Account System the Balance Sheet is subdivided into two statements.

The first is the *Capital Account*, which discusses

- a) Capital raised via shares and debentures
- b) Expenditure on Non-Current (Fixed) Assets acquired with the capital to run the enterprise

The second statement is the *General Balance Sheet*, which discloses the floating assets and liabilities that change as a result of the operations. The format of these statements is as follows:

<b>CAPITAL ACCOUNT</b>	<b>DEBIT</b>	<b>CREDIT</b>
------------------------	--------------	---------------

*Received from:*

Shares		XXXXX
Debentures		XXXXX

*Paid to:*

Non-Current Assets	XXXXX	
Balance carried forward to the General		
Balance Sheet	XXXXX	

<b>GENERAL BALANCE SHEET</b>	<b>DEBIT</b>	<b>CREDIT</b>
------------------------------	--------------	---------------

Balance brought forward from Capital Account		XXXXX
Balance from Revenue Account		XXXXX
Creditors		XXXXX
Inventory	XXXXX	
Debtors	XXXXX	
Bank	XXXXX	

(See Appendix One)

The first statement is called the 'Capital Account' but it includes Debentures; it is therefore not confined to what we call capital today. It is more like a statement showing what has been spent on capital items and how this capital expenditure has been financed (either by capital or debt).

The General Balance Sheet lists all the remaining assets and includes among the equities the balance of the Capital Account and the Operating Surplus.

By keeping the balance of the Capital Account as a separate item it is showing the balance of the capital available to be spent; a separation of funds for capital (the Capital Account) from the funds for operations (balance of the Revenue Account).

This fits in well with the idea put forward by Adam Smith in 1776 in his 'Wealth of Nations' where he proposed that capital actually comes in two types: Fixed Capital and Circulating Capital.

In Book II of that work, entitled 'Of the Nature, Accumulation, and Employment of Stock', Smith distinguishes between Fixed and Circulating capital. In chapter 1 of that book he states that capital

'...may be employed in raising, manufacturing, or purchasing goods, and selling them again with a profit. The capital employed in this manner yields no revenue or profit to its employer, while it either remains in his possession, or continues in the same shape. The goods of the merchant yield him no revenue or profit till he sells them for money, and the money yields him as little till it is again exchanged for goods. His capital is continually going from him in one shape, and returning to him in another, and it is only by means of such circulation, or successive exchanges, that it can yield him any profit. Such capitals, therefore, may very properly be called circulating capitals.' (p.245)

Smith then states that capital

'...may be employed in the improvement of land, in the purchase of useful machines and instruments of trade, or in suchlike things as yield a revenue or profit without changing masters, or circulating any further. Such capitals, therefore, may very properly be called fixed capitals.' (p.246)

This distinction between two types of capital was part of the prevailing thought in economics for more than a century after the publication of 'The Wealth of Nations'. After reading

Smith's definitions of 'capitals', we can see that the Double Account System fits in neatly with the prevailing thought on the subject. The Capital Account reports on the fixed capital while the General Balance Sheet is concerned with the circulating capital.

#### **4.5 Why Have the Double Account System?**

Edwards (1985) describes the Double Account System as an attempt to overcome the accounting problems encountered by new forms of economic activity and the companies involved in these activities, e.g. railways, where there was a large outlay that needed to be completed before operations began. The operations could not expand from a small beginning using retained profits to finance expansion.

He believes that the main accounting problems in this type of company are:

- 1) Distinguishing between Capital and Revenue expenditure
- 2) The valuation of Non-Current Assets
- 3) The calculation of periodic profit
- 4) The form and content of Financial Statements for external readers (Edwards 1985 p.20).

This idea is supported by Hendriksen (1970) but, as indicated earlier, it is the argument of this thesis that the Double Account System, rather than being just concerned with the four problems referred to above, was developed also in response to two other needs:

- 1) The railway directors were required by legislation to account for their stewardship of the capital raised. This is clear from the wording of s.35 of the earliest railway act quoted in section 3.3 of this chapter.
- 2) The directors were also obliged to report to their shareholders about the periodic profit and thus the cash dividends that would be available. Their attempts to keep the dividends as high as possible can be seen from the statement by Edwards that it was not uncommon for the entire annual profit of a railway company to be paid out as dividends. (Edwards 1985 p29)

Capital expenditure, in this accounting system, seems to have been treated as a once-only type of expenditure and left at that. Once the investment is made there is no spreading of costs over more than one reporting period with accounting techniques such as depreciation (Lee 1975;

Edwards 1985). This was certainly the case in the early years of the railway companies but we will see that at some stages a type of depreciation was used. Capital expenditure was treated like a series of Sunk Costs with no provision for replacement; fixed assets were retained in the accounts at historic cost until disposal (Lee 1975).

Edwards (1985) points out that both capital and revenue (on-going, day-to-day operations) items were accounted for mainly on a cash basis. However, Creditors and Debtors were included in later General Balance Sheets (see Appendix One). So it appears that the directors were making some allowance for short-term debts due to, and due by, the companies. Just how accurate and complete this allowance was may be hard to judge, which is probably why Edwards describes the reports as being prepared ‘mainly on a cash basis’.

The Capital Account seems to be an attempt to be accountable to the shareholders and debenture holders. As stated earlier, there was a requirement in the legislation forming these companies that the capital raised be used to, inter alia, ‘making and maintaining the said railway’ and ‘no other use’. It also fits in well with Smith’s idea of fixed capital.

The General Balance Sheet then discloses the balance of unspent capital, the balance of unspent accumulated earnings and the remaining assets and liabilities of the enterprise. This also fits in well with Smith’s idea of circulating capital.

#### **4.6 Did the Double Account System Achieve its Aims?**

As stated in section 4.5 above, Edwards (2005) says that the coming of the railways produced four problems for accountants:

- 1) Distinguishing between Capital and Revenue expenditure
- 2) The valuation of Non-Current Assets
- 3) The calculation of periodic profit
- 4) The form and content of Financial Statements for external readers

This thesis agrees with these points but also suggests two other aims of the Double Account System, viz. the need to comply with s.35 of the legislation creating the railway companies (see 4.3 above) and the need to account to the shareholders in relation to the profit available for distribution.

An example of a financial statement prepared in accordance with the Double Account System is shown in Appendix One.

A perusal of the statements reveals the following points:

1. The report contains a Capital Account, Revenue Account, Reserve Account and Balance Sheet.
2. The Capital Account discloses the amounts raised for capital works. According to the legislation of the day this was necessary as the company had to demonstrate that the money raised was used to set up the railway and 'no other use'. (See section 4.3 above) The amounts raised and the sources of those funds therefore had to be shown as a separate item.
3. The Capital Account, again to comply with the legislation, then discloses the uses to which the funds have been put. The expenditure is classified as 'Stock' (expenditure on non-current assets); 'Charges' (including other expenses incurred in passing and complying with the Act) and 'Debenture Charges' and 'Interest'.
4. The Revenue Account shows receipts from passengers etc. and interest earned as well as expenditure on running costs such as maintenance, coal, salaries, and depreciation of stock.
5. The Reserve Account shows the accumulated allowances for depreciation.
6. The Balance Sheet discloses the balance of the above accounts and sundry accounts payable and receivable and "Loan Creditors' Account".

#### *Problem 1: Distinguishing between Capital and Revenue Expenditure*

The report shown in Appendix One does show a separation of Capital and Revenue expenditure. The expenditure incurred in applying for and the passing of the Private Act establishing the company is clearly disclosed, as is expenditure on land acquisition, laying of track, constructing stations etc. are also shown. The report therefore can be said to demonstrate that the company is complying with the legislation.

To a twenty-first century accountant it may seem strange that a report would include shares and debentures (and costs on debentures) as capital items. Today, debentures would be included as liabilities and the costs would be disclosed as finance costs. It is also important to note that, according to Edwards (1985), the Capital Account item labelled 'Interest on Loans

previously to General Opening on 17 Sept.’ is, in fact, dividends paid prior to the commencement of operations.

Edwards explains that it was common practice among railway companies of the day to pay dividends to shareholders ‘...during the building phase’. Such payments were called interest. Edwards then goes on to say that the directors’ ‘justification for this treatment was that finance costs would have been part of the price charged if the work had been contracted out’ (Edwards 1985, p.34).

We can see from this logic that the directors believed that they were complying with the Act by spending the capital raised only on the matters laid out in the Act. It is not a part of this thesis to comment directly on the classifications used by the railway companies; rather, this example shows that, despite modern opinion on this treatment, the directors can be said to be using the Double Account System to comply with the act and so deal with the first problem laid down by Edwards.

#### *Problem 2: The Valuation of Non-Current Assets*

As for the valuation of Non-Current Assets, we can see in the financial statements shown in Appendix One of this thesis that the assets are disclosed at historic cost. Both Pollins (1991) and Lee (1975) state that fixed assets were recorded in the accounts at historic cost and remained at that value until disposal. It may be argued that there should have been a deduction for accumulated depreciation. In fact, there is: it is disclosed in the Reserve Account. Today such an amount would be deducted from the historic cost of the assets but this is not an attempt to show the valuation of the assets. In modern accounting the depreciation charge is an *allocation* exercise, not a *valuation* exercise. We can therefore say that the Double Account System discloses the value of the assets at historic cost.

#### *Problem 3: The Calculation of Periodic Profit*

The calculation of periodic profit in the financial statements of these railway companies is an area that would cause some concern for the modern reader. The Revenue Account shown in Appendix One does not actually show the periodic profit. That is, the profit for the six months to 31 December 1838. It does show the opening balance as at 30 June that year, the revenue and expenses since and the balance as at the end of the six months. We could argue that the periodic profit is not disclosed but this can be calculated as £86,605 by comparing the opening and closing balances. However, this assumes that the directors wanted to disclose the *periodic* profit. From the way the Revenue Account is presented, it can be argued that what

the company intended to disclose is the profit available for distribution. It is as though a modern accountant posted all revenue and expenses directly to a company's Retained Earnings Account. It would not directly show the periodic profit but would disclose the profits available for distribution. This makes sense when we consider Edwards' statement that it was common for the entire profits to be distributed as dividends (Edwards 1985). What the directors are showing in their use of the Double Account System is the total that could be distributed.

*Problem 4: The Form and Content of Financial Statements for External Readers*

The final problem mentioned by Edwards (1985) is in relation to the form and content of the reports for external readers. To comment on the Double Account System's success or otherwise we must first consider the question of whom the 'external readers' were. In other words, to whom were the directors reporting?

Firstly, the railway companies were obliged to show that they had complied with the requirements of the Private Acts that were used to create them (see section 3.3 above). The companies were, therefore, firstly reporting to the Parliament and used the Capital Account to do so. Dicksee states that the Capital Account enabled

“even those who are unacquainted with scientific bookkeeping to readily discern to what extent monies received from shareholders and debenture holders have been applied in the acquisition of fixed assets, and this would appear to be the principal, if not the sole, reason for employing this particular form of account” (Dicksee, 1903, p.126, quoted in Edwards 1985, p. 23).

Second, the companies were also reporting to the shareholders in relation to the profits of the enterprise and the amounts available for dividends. This information is arguably well disclosed in the Revenue Account when we think of the report in its historical context. As discussed above, the calculation of the profit would be of concern for a modern reader but this is to miss the point. At the time the reports were prepared the accounting standards of today had not been written. If the preparers of these reports had in mind a definition of 'profit', that definition was clearly different from the modern notion. Lee (1975) states that The Great Western Railway Act, 1835, required dividends to be paid from 'clear Profits' (p.20). However, there is nothing as to the calculation of clear profits. Pollins (1991) states that 'clear profit' is mentioned in various Tramway Acts when discussing dividends but that 'clear profit was not defined' in the Leicester Tramway Act, 1877 or the Tramways Orders Confirmation [No. 2] Act, 1884 (p. 284).

### *Additional Problems*

This thesis adds two other points of importance to those stated by Edwards (1985) and Hendriksen (1970). Those points, as stated earlier, are that the railway companies were obliged by legislation to report to Parliament on their stewardship in relation to capital raised and that they had to report to shareholders about distributable profit.

The discussion above in relation to *Problem 1* states that the reports of the railway companies, as shown in appendix One, satisfy the requirements of the legislation by showing clearly in the Capital Account the amounts raised as capital via shares and debentures and the use to which that cash had been put. While a modern accountant may not agree with the classifications used in the report, the overall aim of reporting on stewardship has been met.

As for reporting to shareholders in relation to distributable profit, the discussion under *Problem 3* and *Problem 4* indicate that the directors were reporting the profit available for distribution. Indeed, the report, as seen in Appendix One, does not actually state the periodic profit but, rather, shows the accumulated profit. That is, it shows the total of the undistributed profits available as dividends. It is rather like the modern Retained Earnings Account in that sense but, unlike the modern account, the Revenue and Expenses are posted directly to it and not to a Profit and Loss Account. In this sense it can be seen that the main concern of the directors was to show the total available profits with less emphasis on the periodic profits that gave rise to the balance. This emphasis is at odds with modern practice but does fit in with the idea of this thesis that the companies were trying to report to the shareholders in relation to the profits available for distribution. Thus the Double Account System achieved its aim in this matter.

Further to this, Lee (1975) states that The Great Western Railway Act 1835 was specific about the financial reports and to whom they should be addressed. That Act required the preparation of half-yearly accounts that had to be presented at half yearly general meetings of shareholders.

### **4.7 Summary**

This chapter examines the Double Account System, looking at the origin of the system and how it operated.

Edwards (1985) gives a detailed history of the system and concludes that no particular person or organisation devised the system. Rather, he states that the system originated in the early

canal companies and further evolved in response to the needs of the users of the railway companies' financial reports.

Legislation forming the railway companies required the directors to spend capital raised on costs of forming the company, purchasing land, setting up the actual railway and purchasing non-current assets. The accounting reports therefore had to show that this had happened; that the capital had been used for no other purpose.

In order to achieve this, the financial reports contained: a Capital Account showing the capital raised and the expenditure of that money and a Revenue Account that showed the revenue and expenditure of the company. This differs from a modern income statement mainly in that it was not closed periodically but stayed open rather like a modern Retained Earnings Account (see Appendix One). It can therefore be said to show the reader the amount of earnings available for distribution as dividends.

Whether the amount so calculated is in line with the amount that would be calculated in a modern report is questionable but beyond the concern of this study.

The Reserve Account disclosed the amount allowed for in relation to the depreciation of the non-current assets. According to Edwards (1986) this allowance was not always disclosed and was sometimes reversed during times of lower than expected profit. Edwards further indicates that the purpose of the Reserve Account was to make provision for the replacement of the assets rather than spread the costs over the assets' useful lives (Edwards 1986). This may be at odds with modern thinking on depreciation but at the time of the Double Account System the provision was seen as a reserve for future use.

Edwards (1985) raises four problems that arose as a result of the coming of the railways. Hendriksen (1970) agrees with Edwards and argues that the advent of railways encouraged the advancement of accounting theory.

When we consider the discussion in this chapter we can say the following about the Double Account System:

- The use of the Capital Account separated the capital raised and disclosed the expenditure of those funds, thus solving the Capital versus Revenue question and enabled the companies to comply with the legislation.

- Non-Current Assets were disclosed in historical cost but did not have the accumulated depreciation deducted from the gross; rather the depreciation was shown in the Reserve Account.
- The profit was shown but its calculation would be questioned by a modern reader. Also the amount of periodic profit was not shown as a separate item; rather, the amount of total available profit was shown as being available for dividends.

We can therefore say that the Double Account System evolved in response to the needs that the directors believed needed to be met (i.e. accounting for stewardship and calculation of distributable profits). Whether the directors could or should have seen other needs will be discussed in further chapters of this work.

## **Chapter 5 – Systems Oriented Accounting Theories**

### **5.1 Introduction**

This chapter examines the three accounting theories mentioned in Chapter One (Legitimacy Theory, Stakeholder Theory and Institutional Theory) and relates them to the railway companies of the nineteenth century.

This chapter describes what is meant by ‘Systems Oriented Theories’; how these theories are concerned with, firstly, non-mandatory reporting and secondly, how these theories are concerned with the interaction between reporting entities and their environment, that is, the society in which they operate.

This will involve a discussion of the contents of the three theories and how they overlap to form one idea that accounting is more than a recording and measuring instrument; it is a social instrument that is the language in which the reporting entities communicate with interested parties in the society.

The reasons for selecting these theories are provided in section 1.3.2 of this thesis.

### **5.2 Why ‘Systems Oriented’?**

When we talk of ‘Systems Oriented Theories’ the first question that comes to mind is the meaning, in this context, of ‘systems’. In other words, why are we calling these, or any, theories, ‘systems oriented’?

Gray, Owen and Adams (1996) discuss the concept of a system. They describe a system as being a set of connected things or parts of an organized body.

We can use the word ‘system’ in describing an entire functioning entity or a part of that entity, such a part being a system in itself. For example, a living body, say a human, can be looked on as a system of living organs functioning together (a set of connected parts). Within

that entity there are other sub systems. We have a *Circulatory System* that directs the blood around our body; a *Respiratory System* that transfers oxygen into the blood stream and carbon dioxide out; a *Digestive System* that transfers nutrients out of the food we eat into the blood stream; a *Urinary System* that filters waste out of the blood and expels it from the body and so on. Each of these sub-systems is a functioning collection of organs within itself and the body can be seen as a collection of these sub-systems that, working together, make up the living body. The *Digestive System* extracts the nutrients necessary to keep the body functioning, the *Circulatory System* transports those nutrients and the *Urinary System* cleans out the other systems, thus allowing them to function, and at the same time receives its nutrients from them. The sub-systems within the human body are connected either by a transfer of materials (oxygen moves to cells in all the sub-systems via the *Circulatory System*) or a dependency on each other (the *Urinary System* can only function if the other systems are functioning and the others such as the *Circulatory System* will cease to function if the *Urinary System* stops operating).

In a similar way we can look on society as a set of connected parts, a complex whole that is made up of various sub-systems. These include an *Education System*, *Defence System*, *Law and Order System* and so on. Each of these is an organized body, as mentioned in the definition above and they also fit together to make a society. So, as in the analogy with the human body, we can see a society as a functioning entity with sub-systems that operate within themselves and operate together to keep the whole society functioning.

One of the systems within a modern, industrial society is a *Business System or Business Sector*. Within this sector we have the entities that conduct business and the entities that oversee the conducting of that business. It may be argued that these latter entities are actually part of the *Law and Order System* but in any event there are entities that administer the laws and rules laid down by the society's governing bodies to regulate the entities within the business system.

The *Business Sector*, like other sub-systems within a living body or a society, does not operate in isolation. It has some functions that begin and end internally but there is also contact with other systems within society. Because society and its sub-systems are made up of humans we can call this contact 'communication'. That is, the sub-systems, and the entities within those sub-systems, communicate with each other and with the society as a whole. This communication requires some sort of medium through which the communication flows. It

also requires a language. In the case of communication by the business sector the medium is a financial report and the language used is ‘accounting’.

So when we talk about ‘accounting’ we are really talking about the language of business. Businesses use this language to communicate with each other and society through various reports. Reports can be oral but usually are written and in business the written report is the financial report, the notes that form part of the report and the other reports (Directors’ Report, Auditor’s Report and so on) that go to make up the company’s report.

Other reports exist, such as speeches and press releases but in this thesis we are concerned with accounting and the annual reports of entities.

Much of the content in the annual report is mandatory. If we are talking about mandatory reporting we are talking about (mainly) entities covered by Part 2M.3, Div. 1 of the *Corporations Act 2001*. These are Disclosing Entities, Public Companies, large Proprietary Companies and Registered Schemes.

However, some reporting, even by these entities, is voluntary. This thesis is mainly concerned with voluntary reporting.

### **5.2.1 Systems Thinking and General Systems Theory**

Thinking of systems the way described above is referred to as ‘Systems Thinking’. The theory built around this thinking is referred to ‘General Systems Theory’.

Systems Thinking is attributed to Ludwig von Bertalanffy (1901 – 1972) an Austrian-born biologist. Von Bertalanffy was, according to Gray, Owen & Adams (1996), concerned with the tendency of scientists to think in terms of reductionism. That is, looking at systems in isolation. Gray, Owen and Adams (1996) go on to say that von Bertalanffy believed that part of an overall system can be only understood if it is viewed in context.

According to Von Bertalanffy,

‘systems of various order [are] not understandable by investigation of their respective parts in isolation. Conceptions and problems of this nature have appeared in all branches of science, irrespective of

whether inanimate things, living organisms, or social phenomena are the object of study' (Von Bertalanffy 1968).

Von Bertalanffy (1950) also discussed "open" and "closed" systems. He differentiated between them by saying that a system is 'closed' if 'no material enters or leaves it; it is open if there is import and export and, therefore, change of the components'. He then goes on to say that open systems maintain themselves by exchanging materials with the environment (p. 23).

### **5.2.2 Relevance to Accounting Theories**

Gray, Owens & Adams (1996) state that General Systems Theory 'is especially helpful as a way of thinking – as a mental framework with which to stand back from issues and see them in their broader context' (p.13).

With this in mind, coupled with Von Bertalanffy's idea above, we can see why the accounting theories discussed in this work are called 'Systems Oriented Theories' and why they are helpful in developing this thesis.

The reasons can be stated as follows:

1. The theories are not connected with mandatory reporting.
2. They are concerned with voluntary reporting, especially by entities to which Part 2M.3 of the Corporations Act 2001 apply.
3. They are concerned with systems because:
  - They treat business entities as components of the business sub-system/sector
  - They look at how these entities communicate with each other and their environment
  - The imports and exports to and from these entities, as described by Bertalanffy, are the flows of information between the entities and other businesses and society generally
  - The information is in the nature of reports from the entities (exports) and reactions and responses to those reports (imports)
4. The theories are therefore related to systems and systems thinking

5. They are relevant to this thesis because when we view the historic events through the lens of these theories we are standing ‘back from issues’ and looking at them in ‘their broader context’ as mentioned by Gray Owens & Adams (1996).

Deegan (2006) states that ‘theories are abstractions of reality and hence particular theories cannot be expected to provide a full account or description of particular behaviour’.

It follows from this that if one is going to view historical events from an accounting theory perspective it is advisable to refer to more than one theory, as long as the theories are consistent.

The three theories mentioned above are relevant to this thesis because they are examples of what have been described as ‘systems-oriented theories’ (Gray, Owen & Adams, 1996, p.45). They therefore allow us to have what Deegan calls ‘a systems-oriented view’ of the events (Deegan 2006).

Systems-oriented accounting theories are concerned with management’s decisions to report beyond what is mandatory (Deegan 2006; Gray, Owen and Adams 1996). This thesis examines whether the railway companies of the nineteenth century confined their reporting to the statutory minimum or went beyond what was required. If we can conclude that the companies did not exceed their mandatory reporting requirements we should consider, firstly, why this happened and, secondly, what this indicates about the management of these entities. That is, were they being run solely as money-making vehicles or as social entities?

## **5.3 Accounting Theories**

### **5.3.1 Legitimacy Theory**

‘Legitimacy Theory asserts that organisations continually seek to ensure that they are perceived as operating within the bounds and norms of their respective societies’. (Deegan 2006) That is, they are trying to ensure that their activities are perceived as being legitimate.

Tilling (2004) breaks Legitimacy Theory down into two layers: Institutional Level and Organisational Level.

The Institutional Level of the theory is concerned with how the entity gains legitimacy by its dealings with organisations in society as a whole. As an entity interacts with other entities within its society it conforms to certain norms that are established by the society and with which the other organisations already conform. If the newer entity is to continue with this interaction, that is, survive, it must conform to the expectations of the society by fitting in with the already established “legitimate” entities.

Taking this idea a step further we can see that society influences and moulds the behaviour of the newer entity through the interaction between it and the established entities which, themselves, have gone through the process of creating their own legitimacy just as the newer entity is doing. This influence is not direct but society does indirectly influence the newer entities by granting them legitimacy if they are perceived as conforming to the standards and norms already being followed by the existing organisations. Put simply, a new entity interacting with an established entity will, in fact, be following society’s expectations merely by fitting in with the established norm. In this way society moulds the entity through its interactions with legitimate organisations.

Tillings’ second level of Legitimacy Theory, the Organisational Level, looks at how an entity’s management establishes, maintains, extends and defends its legitimacy.

Cowan and Deegan (2011) examined changes in corporate emissions disclosure practices during the implementation of the National Pollutant Inventory. They found that environmental regulation may act to drive voluntary disclosure, although the resultant disclosures were ‘questionable’. They concluded, inter alia, that ‘disclosing companies also appear to have provided NPI and emission disclosures as a purely reactive (legitimising) exercise’ (p.431).

Carpenter and Feroz (1992) also discuss a modern attempt to regain legitimacy. In their examination of the decision by the State of New York to adopt Generally Accepted Accounting Principles (GAAP) they argue that ‘the state’s decision to adopt GAAP was an attempt to regain legitimacy for the state’s financial management practices’ (p. 613).

However, they do go on to say that the state’s decision was actually an example of institutional theory at work with pressure being put on the state’s administrators to adopt GAAP. They argue that:

‘The state of New York needed a symbol of legitimacy to demonstrate to the public and the credit markets that the state’s finances were well managed. GAAP, as an institutionalized legitimated practice, serves this purpose’ (p. 635).

The argument of Carpenter and Feroz (1992) is further evidence that legitimacy theory and institutional theory overlap.

As we are concerned here with legitimacy in the accounting theory sense we should be clear what is meant by legitimacy.

In relation to Legitimacy Theory Lindblom (1993) states that:

‘Legitimacy is a condition or status which exists when an entity’s value system is congruent with the value system of the larger social system of which the entity is a part’ (Lindblom 1993, p. 51).

Lindblom goes on to say that the concept of Legitimacy does not imply that the judgement of society need be consensual or universal. Indeed, a universal consensus may be impossible to achieve. Rather, she states that the assessment of legitimacy is done at an individual level and that ‘the individuals form various stakeholder relationships with the corporation and may be usefully referred to as the relevant publics’ (Lindblom 1993, p.52).

Lindblom further states that these various relevant publics may be in conflict with each other in relation to their perception of the legitimacy of the activities of an entity. Indeed, these conflicts may reach a point where the relationship between the company and the stakeholders can be destroyed (Lindblom 1993).

From this we can see that, according to this theory, business entities seeking legitimacy try to act in accordance with principles that are seen as being of a standard type. These standard types are determined by the society in which the entity operates so we can say that the businesses are attempting to act in accordance with society’s expectations, thus avoiding the damage to the relationship referred to above by Lindblom.

Legitimacy can, therefore, be seen as a perception. Businesses create the perception that they are acting in accordance with the expectations of society and, thus, with legitimacy. They want to be seen to be acting within society’s bounds and norms.

This idea gives rise to two very important points that have to be considered in the context of this thesis.

The first is that these bounds and norms are not fixed (Deegan 2006). As societies change or evolve so, too, do the norms of that society. Deegan goes on to say that because these norms change over time as the societies change the managers of the businesses ‘need to be responsive to the current ethical environment in which they operate’ (Deegan 2006, p. 275).

Therefore, the perceived legitimacy of an entity will vary over time as the society and its values change. This is because legitimacy is created by the society and this creation is based on the perception of the entity by society.

Put simply, the activities acceptable in one period may not be acceptable in another.

According to Tilling (2004), Legitimacy Theory is a powerful mechanism for helping us to understand voluntary disclosure in annual reports. What this means is that if we are to understand why an entity volunteers information in addition to that which it must provide then we can look to Legitimacy Theory. Tilling is really saying that entities are seeking legitimacy by providing information to such an extent that the users of the reports will look more favourably upon the entity and through this favourable perception the business will create or gain legitimacy.

This leads us to the second important point.

If something can be created or gained the question that can arise is, ‘What is the nature of this thing’? Clearly, in this case the thing created, legitimacy, is an intangible product. It is a perception of the society in which the entity operates. But it is also something that the entity requires to continue operating in its environment. According to both Deegan (2006) and Tilling (2004) this legitimacy is not only desirable but essential to the continuing existence of the entity. This idea is also raised by Scott (1987) when he discusses Institutional Theory. He argues that an entity, in order to survive, must conform to the rules and belief systems held within its environment to earn legitimacy. It is interesting that Scott (1987) brings in the idea of legitimacy while discussing Institutional Theory. This is in line with the point made earlier that the theories discussed in this thesis overlap and should not be considered in isolation. (See section 3.2.3 below).

It follows that if legitimacy can be created or gained and is seen as a necessary thing to have in an entity it must be a resource.

In considering what is or is not a resource Schaper, Volery et al (2010) define a resource as ‘any thing or quality that is useful’ (p.144). They go on to say that Resource Based Theory recognizes six types of resources, viz. Financial, Physical, Human, Technological, Reputation and Organisational. Further, they state that ‘Reputation’ is to do with the perceptions that people in an entity’s environment have of the entity. This definition of reputation fits clearly with the idea of legitimacy as used in Legitimacy Theory.

Wernerfelt (cited in Schaper, Volery et al) describes a resource as ‘anything which could be thought of as a strength or weakness of a given firm’ and is also ‘those tangible and intangible assets which are tied semipermanently to the firm’.

Deegan (2006) and Tilling (2004) both make the point that legitimacy is a resource like any other resource. Deegan (2006) argues that entities create this resource and manipulate it through the disclosures in its financial reports.

If legitimacy is seen as being necessary for the continued existence of the entity the managers will (or at least should) ensure that there is a regular supply of this resource. This notion is supported by Deegan (2006) who states that ‘organisations continually seek to ensure that they are perceived as operating within the bounds and norms of their respective societies’. The use of the word ‘continually’ implies that it is not enough to create an impression of legitimacy; rather, the managers need to gain, maintain and extend, if possible, the legitimacy of the entity just as they would any other resource.

The importance of maintaining this resource may seem obvious to a twenty-first century reader but we must also remember to put this idea into the context of this thesis. If the railway company managers did not believe that legitimacy was vital to the continuation of the activities of the entity then they would see no need to ensure its supply.

It is the argument of this thesis that the Double Account System met the requirements imposed by legislation and enabled a distributable profit to be calculated. However, there is no evidence found in the existing literature that the Double Account System was designed to create or promote legitimacy.

Indeed, in his major work on the Double Account System Edwards (1985) states that the system was not designed or developed by any one person or organisation. Rather, he talks about the ‘evolution of the double account system’ implying that the system was developed over time to meet the needs of the users of the reports as understood by the directors. At no stage in that work does he state or imply that the development of the system was concerned with the creation or maintenance of legitimacy.

A counter argument to this is that in attempting to provide reports that complied with the stewardship requirements of the legislation and provided the shareholders with information about distributable profit the Double Account System was, de facto, being used to create legitimacy in the context of the nineteenth century.

This is an important point.

Previously, in section 1.3.2 above, it was stated that the three theories discussed in this thesis relate to reporting that goes beyond mandatory reporting requirements. But what is meant by ‘beyond mandatory reporting requirements’? Some clarification is needed here.

In the context of this thesis ‘beyond mandatory reporting’ may be interpreted as meaning disclosing matters that are in addition to whatever must be disclosed to make the reports compliant with the law.

Alternatively, ‘beyond mandatory reporting could mean that the reporting discloses what the legislators intended to be disclosed but may do so in a format not as envisaged by those legislators.

It is therefore possible to argue that the railway companies were gaining legitimacy by reporting what they had to report and were doing so in a way that was acceptable to the users of the reports. A review of the extract from s.35 of the Act quoted in section 4.3 of this thesis reminds us that the legislation states what must be done, or not done, with the company’s capital but says nothing as to how the use of the funds is to be reported. Also, as stated in section 4.3 of this thesis, the Government eventually made the Double Account System compulsory for all railway companies and this was mainly done because the legislators viewed that system as being an effective way of accounting for stewardship.

When we consider this we are left with the notion that the railway companies gained legitimacy not just by reporting that they had complied with the legislation but by reporting in a way that was acceptable to the nineteenth century users of the reports, that is society as a whole.

This leads us to the question of whether complying with mandatory requirements is ever enough to gain or keep legitimacy. Lindblom (1993) states that because the laws of a society, as created by the government via legislation and interpreted by the courts in their decisions, should reflect the attitudes of the society then obeying the laws should produce legitimacy for the organisation. She goes on to say that ‘...the law would serve as the source of legitimacy because of its correlation with the social values and norms. Functioning legally would serve as the indicator of legitimacy’ (Lindblom 1993 p.53).

This seems clear but then Lindblom raises three possible sources of discrepancy between the legal environment and legitimacy (Lindblom 1993).

The three possible sources of discrepancy are:

1. A social norm may have changed but the law may not have been amended to take account of that change. (e.g. people may have a low opinion of cigarette production but such a business is not illegal)
2. There may be consistency in the laws but inconsistency in society’s perceptions. Lindblom’s example is that a company may operate just above the statutory minimum in relation to emission laws but may less highly regarded than a firm that operates just below the requirements but is making efforts to improve its performance.
3. There may be a difference between what a society will tolerate and what it will specifically sanction through laws. Lindblom gives the example of the possible trade-off a community may face if strict application of emissions laws would cause the closure of a local business resulting in large numbers of people being laid off.

Lindblom then states that the idea of legitimacy for a business must be considered separately from the legal situation and concludes that ‘disclosure limited to legal/regulatory compliance would not be sufficient for legitimacy assessment’ (Lindblom 1993 p. 55).

This is a very important point. What Lindblom is saying in the quote in the paragraph above, is that an entity often needs to do more than merely obey the law to gain legitimacy. This thesis has argued that the nineteenth century railway companies used the Double Account

System to comply with the legislative requirements to report on stewardship (see section 3.3 of this thesis). Lindblom's argument above is important in this study because, with this idea in mind, we can conclude that if all the railway companies were doing was complying with the legislation that alone will not necessarily gain legitimacy for the entities. Lindblom's point therefore adds weight to the argument that the nineteenth century British railways were not using the financial statements to seek legitimacy.

One should also ask whether there is any evidence that British society in the nineteenth century expected the railway companies to do any more than just obey the law.

In answer to this question the following can be considered.

During the railway mania of the 1840s the British government appointed a committee to review the accounting and audit practices of the railway companies. This committee, chaired by Lord Monteagle, a former Chancellor of the Exchequer, was the Select Committee of the House of Lords on the Audit of Railway Accounts (Parker 1990). This committee is often referred to in the literature as "The Monteagle Committee". Its purpose was to consider

'...whether the railway acts do not require amendment, with a view of providing for a more effectual audit of accounts, to guard against the application of the funds of such companies to purposes for which they were not subscribed under the authority of the legislature'. (Great Britain. Parliament. 1849. p.1)

The committee was also concerned with the possibility that the companies had paid dividends out of capital (Bryer 1991). Bryer then goes on to state that the Monteagle Committee reported that '...few people take the trouble to inspect Railway statements' and that those that did do so would have had '...a belief that the dividends declared come bona fide out of profits' (Monteagle, 1849, p. 215, cited in Bryer 1991). The committee was, therefore, not just concerned about whether the railway companies were complying with the law. It was concerned with whether the financial reports, even when complying with the law, were deceiving the public.

Further evidence that society wanted the companies to do more than just obey the law can be found in the publication, in 1845, of the short story "The Glenmutchkin Railway" by Professor W. E. Aytoun. The story, reproduced in its entirety as an appendix in Odlyzko (2010), satirizes the formation of a railway, highlighting the recklessness and impracticality of the project. Odlyzko states that 'most of the manoeuvres described in the story...that today could place investors and executives in jail (if detected and proved) were not illegal in the laissez faire atmosphere of the 1840s' (Odlyzko 2010 pp192-193). Again, the concern was not

raised by any illegal practices by railway directors but by society's desire for more than simply following the rules.

### **5.3.2 Stakeholder Theory**

Gray, Owen and Adams state that stakeholder theory is 'an explicitly systems-based view of the organisation and its environment which recognises the dynamic and complex nature of the interplay between them' (Gray, Owen and Adams, 1996, p. 45).

Deegan states that there are similarities between Legitimacy Theory and Stakeholder Theory (Deegan 2006). Gray, Kouhy and Lavers (1995, p. 52, cited in Deegan, 2006) state that 'stakeholder theory and legitimacy theory are better seen as two (overlapping) perspectives'. Therefore, Deegan argues, to treat them as two totally distinctive theories would be a mistake (Deegan, 2006).

The main distinction between Legitimacy and Stakeholder Theories can be seen if we look at a broad view of both theories.

In section 5.3.1 of this work we saw that Legitimacy Theory is concerned with the idea that organisations are constantly trying to gain and maintain legitimacy by operating within the bounds of the expectations of the society in which they operate. It is important to note that both Deegan (2006) and Tilling (2004) refer to the entities' concern with the way society perceives them. That is, they (the entities) are concerned with how society as a whole sees them.

However, Lindblom (1993) states that in assessing the legitimacy of an entity the stakeholders form various relationships with the organisation. Her use of the word *stakeholders* is important. It indicates that legitimacy is formed by the perceptions of groups within the society rather than society as a whole. This leads on to a distinguishing feature of Stakeholders Theory. Stakeholder Theory is concerned with legitimacy but is more concerned with the interaction between the entity and various stakeholders, not society as a whole.

Stakeholder Theory has been described as having two branches. They are the ethical branch and the managerial branch (Deegan 2006), also called the normative and the organisation-centred branches respectively (Gray, Owen and Adams, 1996).

These two branches can be briefly summarized as follows:

The Ethical Branch refers to the argument that all stakeholders have a right to be treated fairly by an organisation (Deegan 2006).

According to Freeman and Reed (1983) the term 'stakeholder' has two definitions. First, there is the narrow definition which includes groups that are 'vital to the survival and success of the corporation. The wide definition includes any group or individual who can affect or is affected by the corporation' (cited in Freeman, 1992, p. 42).

When we are considering the Ethical Branch of Stakeholder Theory we are considering the wide definition. We are assuming that the entity owes to all stakeholders an equal degree of obligation to treat them fairly. There is no differentiation between stakeholders; they are all owed fair treatment regardless of the importance they may have to the business.

However, the managerial branch of the theory is concerned with the way organisations treat various stakeholders. This branch assumes that an entity will treat a more powerful stakeholder differently from the way it treats others. Deegan states that an entity 'will be likely to attend to the expectations of particular (typically powerful) stakeholders' (Deegan 2006, p.298).

Gray, Owen and Adams further state that in this branch of the theory

'...the stakeholders are identified *by the organisation of concern* (not by society) by reference to the extent to which the organisation believes the interplay with each group needs to be managed in order to further the interests of the organisation' (Gray Owen and Adams, 1996 p.46) (their italics).

When we consider all this we can see that the two theories, Legitimacy and Stakeholder do have a clear overlap. Both are concerned with gaining and maintaining legitimacy but Legitimacy Theory considers the idea more broadly in that it looks at the interaction between the entity and society whereas Stakeholder Theory is more concerned with the interaction between the entity and stakeholders.

When we try to relate this to the nineteenth century British railways we can take a stage further the statement at the end of the section 5.3.1 on Legitimacy Theory. That section

concluded by saying that even though there is little in the literature that states that the railway managers were trying to create or maintain legitimacy it can be argued that they were, in fact, doing this when they developed the Double Account System. It can be argued that they were gaining legitimacy by complying with the law and providing the shareholders with information that they wanted. That is, the stakeholders with whom the railway directors were mainly concerned were the government and the shareholders. The directors can be said to be acting in accordance with the managerial branch of Stakeholder Theory.

What is meant here is that we can conclude that Stakeholder Theory does apply to the case of the nineteenth century railway companies.

Deegan (2006) has stated that there is an overlap between Legitimacy theory and Stakeholder Theory. But this does not mean that if one of these theories applies to a situation the other does so automatically.

This thesis has stated that Legitimacy Theory applies to the reporting of the railway directors. The thesis states that it applies because the companies were seeking Legitimacy either consciously or were, in effect doing so.

If Legitimacy Theory does apply need we even consider Stakeholder theory given that there is a connection between the two? The answer is that there is a good argument that the managerial branch of Stakeholder Theory applies in this case. That branch refers to an entity's differing treatment of various stakeholders depending on their perceived importance to the entity. This is the significance of the quote from Gray Owen and Adams (1996) cited above. It can be argued that the railway directors sought legitimacy, deliberately or not, but that it seems that they certainly were paying particular attention to two stakeholders, viz. the legislators and the shareholders.

If this is the case then Stakeholder Theory can be seen as applicable to this study.

### **5.3.3 Institutional Theory**

Institutional Theory can be described as an attempt to look at the forms that business entities take. By this statement we do not mean the vehicle through which a business operates, such as a company, trust or partnership. Rather, it is the form of the business and the rules with which

it operates, especially in relation to other entities within its society, which this theory examines.

The use of the word Institutional in the title of this theory implies that the theory states that businesses lack individuality and become, at least to some extent, uniform. That is, that over time the firms become similar to each other.

Scott (1987) argues that organisations must conform to rules and belief systems in order ‘to earn legitimacy’. His reference to legitimacy when discussing Institutional Theory does not mean that the two theories are the same. It does mean, however, that two theories overlap.

Dillard, Rigsby & Goodman (2004) discuss ‘social processes through which these [business] structures develop’ (p. 508). This indicates a difference between Institutional Theory and Legitimacy Theory. While both refer to the creation of legitimacy there is a difference emphasis on the way this legitimacy comes about. The use by Dillard, Rigsby & Goodman of the term ‘social processes’ indicates that they are talking about society exerting an influence on the organisation. Di Maggio and Powell (1983) also discussed this process of changing and conforming. They used the term ‘isomorphism’ to describe this process. The term ‘isomorphism’ comes from the science of biology. In that discipline the word means ‘a similarity of appearance displayed by organisms having different genotypes’ (New Shorter Oxford English Dictionary 1993). The same dictionary defines a genotype as ‘The genetic constitution of an individual...the whole of the genes in an individual or group’.

From this we can see that what Di Maggio and Powell (1983) are saying is that organisations may be different in origin, legal structure and purpose but that they will change so as to conform to the expectations and rules of their environment. That is, just as two plants may appear to be similar (both have similar leaves and flowers, for example) even though they are different genetic structure, so, too, two firms may begin as quite different types of entities and remain different types of entities but, over time, develop similar characteristics by adopting, for example, the same rules and belief systems.

This idea of the society forming and moulding the entities was taken up by Riaz (2009) in his discussion of the Global Financial Crisis. He suggests that the opposite may occur if some organisations become powerful enough to influence the institutions with which they operate. He calls this process ‘reverse legitimacy’ He then goes on to say that reverse legitimacy is

‘the ability of powerful business and financial organisations today to reverse-legitimate institutions through their own success’ (Riaz 2009, p. 3).

Di Maggio and Powell (1983) also refer to an organisational field. By this term the authors mean a group of entities that produce similar services or products and share key suppliers, resources, consumers and regulatory agencies.

We could refer to this organisational field as an industry such as the mining industry, the building industry or, especially in this thesis, the railway industry.

Di Maggio and Powell (1983, p.148) then go on to say that once this organisational field becomes established ‘powerful forces emerge that lead them [i.e. the organisations] to become more similar to one another’.

What this indicates is that for isomorphism to take place there has to be, first, an organisational field (i.e. industry) made up of various entities that may or may not be directly dealing with each other. Because these entities are in competition with each other it is more likely that there is no series of direct transactions between the entities in the field. This seems at odds with the Institutional Level of Legitimacy Theory described by Tilling (2004) which refers to an entity gaining legitimacy by dealing with other organisations. But there is no contradiction here. Tilling is talking about an entity gaining legitimacy by dealing with the society as a whole; these dealings may not be with organisations within the same field or industry. Equally, Di Maggio and Powell (1983) do not mention the entities within an organisational field dealing with each other. They broach the idea that ‘powerful forces’ created by society will cause the isomorphism. So Legitimacy Theory is concerned with the idea that organisations can gain legitimacy by their interaction with other members of the society. The main form of interaction is the financial reporting by the entity. This idea indicates that the managers are trying to create and maintain the entity’s legitimacy. On the other hand Institutional Theory emphasises that the society is using Di Maggio and Powell’s ‘powerful forces’ to influence and mould the entity.

When we consider this we can argue that under Legitimacy Theory we have the business entities in an active role. The managers are attempting to create legitimacy; it is a deliberate action on the part of the managers (Deegan 2006). With Institutional Theory we have the business organisations in a more passive role with society’s forces acting upon them. Dillard

Rigsby & Goodman (2004, p 508) are referring to this point when they state that there are 'social processes through which these structures develop'.

However, even with this active/passive view of the two theories there is still one common point. In both theories there is the idea that business entities are only going to survive if they gain legitimacy in the eyes of the society in which they function.

From all this we can conclude that Institutional Theory is related to Legitimacy Theory in that both theories are concerned with an entity's gaining and maintaining of legitimacy. However, each of the theories looks at the phenomenon from different perspectives.

Legitimacy Theory is concerned with how the directors of an organisation create and maintain legitimacy through their voluntary reporting. The directors are therefore taking an active role in this creation process.

Institutional Theory is concerned with society's pressures that are exerted on an entity, pressures that force it to conform to belief systems and rules of operation. As the entity is moulded into the form wanted by the society it is seen by the society as having legitimacy. The entity has, therefore, a more passive role in the process of isomorphism.

These pressures can apply even to governments. Carpenter and Feroz (2001) discuss social pressures on state governments in U.S.A. in their choice of accounting procedures. In their conclusion Carpenter and Feroz (2001) predict that 'all state governments in the U.S.A. will eventually bow to institutional pressures for change and adopt GAAP for external financial reporting' (p. 593). They go on to say that they 'identified coercive and normative isomorphic pressures as potent forces for GAAP adoption' (p.593). These isomorphic pressures are two of the 'powerful forces' identified by DiMaggio and Powell (1983) and referred to earlier in this thesis.

It can therefore be argued that this active/passive dichotomy is, to some extent, two was of viewing the same point, viz. that businesses need legitimacy in the eyes of their society to remain operational.

When we relate this to the nineteenth century railway companies we can see that those companies constituted what Di Maggio and Powell (1983) called an organisational field.

But were there ‘powerful forces’ applied by society to the railway companies? Di Maggio and Powell (1983) argued that these forces make companies within an organisational field similar to each other.

A review of the history of the railway companies (Edwards, 1985; Edwards, 1986; Parker, 1990) reveals that the main influences on the development of the Double Account System were (i) the need to comply with legislation and (ii) the need to provide shareholders with a calculation of distributable profits.

The first influence is actually a legal requirement. This raises the question of whether or not a requirement created by legislation can be said to be a social force. In chapter four of this thesis the idea of accounting being a tool used by society was raised. A follow on from that discussion is that a legislative requirement is a social force. The requirement is put in place through legislation by the government which is the body to which authority to create laws is passed by members of the society (Hobbes, 2012).

In this way the nineteenth century railway companies were subject to social influence, or pressures, as described by Di Maggio and Powell (1983).

However, it can also be argued that the legislation referred to in this thesis only placed on the railway companies a restriction as to the use of its capital. This requirement predates the mandatory use of the Double Account System (Edwards, 1985). The early legislation was silent on the subject of reporting this use. However, the principle of stewardship and accountability discussed in chapter four of this thesis argues that the companies developed the Double Account System partly in response to this requirement. It is therefore arguable that pressures from society were indirectly responsible for the creation of the Double Account System that came to be used by all railway companies before it became mandatory (Edwards 1985; Parker 1990).

The second point mentioned above, the need to report to shareholders, is more of the nature of the entities seeking legitimacy rather than a social force. However, it can be argued that the expectation of the shareholders (i.e. that they wanted to know the distributable profit) was a social force that influenced the directors. One can argue that the directors were aware of this requirement and included a calculation of total distributable profit in response. It may also be argued that this action by the directors is also in line with Stakeholder Theory.

It may be argued that ‘reverse legitimacy’ (Diaz 2009) may have been a feature of the history of the railway companies. An examination of the financial report in appendix one of this thesis shows that the Capital Account is actually overdrawn. According to *Railway Maps and Documents*, in March 1839 The London and Birmingham Railway had overspent its capital by £631,000, funding the deficit by other borrowings and debts. The company then applied to the government for permission to raise an additional £1,000,000 to cover the shortfall. *Railway Maps and Documents* notes that ‘parliament was hardly able to refuse and allow the endeavour to fail’.

It is also important to note that there is little evidence of social pressures from the public on the railway companies in the historical literature. Edwards (1985) does report that early legislative attempts to control the reporting of the railway entities were unsuccessful. He states that between 1849 and 1851 there were three Bills presented in Parliament that were designed to control railway financial reports. The first, in 1849, proposed, inter alia, a Government audit of the railway companies. A delegation of railway directors persuaded the Government to withdraw the Bill in exchange for a promise that the railway companies would take actions about audits themselves. A second railway audit Bill was presented to Parliament in 1850. This Bill was defeated in the House as was a similar Bill in 1851 (Edwards 1985). However, these defeats were not because of ‘reverse legitimacy’ as described by Diaz (2009); rather it was mainly because of the conflict of interest between the legislators and shareholders of the railway companies who were often the same people (Edwards 1985).

These legislative attempts to control the reporting of the railway entities could be seen as social pressures exerted on those entities. However, we must remember that these attempts were unsuccessful. The introduction of the bills to Parliament may indicate that social pressures did exist. But whatever pressure there may have been it was not enough to persuade members of parliament to support the proposals. Of the three bills mentioned above one was withdrawn after pressure was applied by a delegation of railway directors. The other two were defeated in the House (Edwards 1985). It can therefore be said that the pressure to pass these bills was not strong enough to overcome the influence of the railway directors or the conflict of interest referred to in the previous paragraph of this thesis.

## 5.4 Summary

This chapter has examined modern accounting theories, Legitimacy Theory, Stakeholder Theory and Institutional Theory. The reasons for the selection of these particular theories were provided in section 1.3.2 of this thesis.

These theories are described as systems oriented (Gray, Owen & Adams 1996). These theories are concerned with non-mandatory reporting and are based on the assumption that businesses are part of society and interact with other members of that society.

Deegan (2006) described Legitimacy Theory as showing how entities operate within bounds and norms of their society. Deegan (2006) also stated that these bounds and norms change over time so that something acceptable in one period may not be acceptable in another.

Tilling (2004) described Legitimacy Theory as having two layers: Institutional and Organisational. The Institutional layer is concerned with an entity's interaction with society as a whole. The Organisational layer is concerned with how entities deal with each other.

Lindblom (1993) described legitimacy as a perception. That is, it is the perception of the organisation held by society. Gray, Owen and Adams (1996) and Deegan (2006), however, described legitimacy as a resource and stated that businesses were constantly trying to gain and maintain their legitimacy.

Lindblom (1993) also pointed out that legitimacy may not always be gained simply by obeying the law. There can be discrepancies between the law and the expectations of society so merely obeying the law will not necessarily create legitimacy for a business.

Stakeholder Theory is seen as being closely related to Legitimacy Theory. Deegan (2006) stated that to consider one without considering the other would be a mistake.

Both of these theories are concerned with legitimacy but view the process of gaining and maintaining legitimacy from a different angle.

Stakeholder Theory has two branches. The Ethical branch assumes that all stakeholders are equally entitled to be treated fairly but an entity. The Managerial branch, however, assumes that managers do not treat all stakeholders the same (Deegan 2006). Gray, Owen and Adams (1996) state that organisations treat various stakeholders differently and the treatment will depend on the importance of the stakeholder as perceived by the organisation's managers.

Institutional Theory is concerned with how businesses conform to certain beliefs, practices and norms and in the process become similar to each other. This theory is concerned with the pressures put on organisations by society to conform (Di Maggio and Powell 1983; Scott 1987; Dillard, Rigsby and Goodman 2004). This theory is also related to legitimacy but sees the organisations in a more passive role than the other two theories. Riaz (2009) argued that this pressure from society can be reversed if organisations become powerful enough within their society.

When we consider all this we can say that the three theories examined by this thesis are all concerned with the gaining and maintaining of legitimacy. The main difference between the theories is that Legitimacy Theory and Stakeholder Theory view the businesses as being actively engaged in the efforts to create and maintain legitimacy. Institutional Theory views the businesses as being in a passive role with society exerting influence on them to conform.

How these points relate to the nineteenth century British railway companies will be examined in chapter six of this thesis.

## Chapter 6: Summary and Conclusion

### 6.1 Summary

This thesis is an attempt to discover if it is feasible to examine events in history through the lens of modern accounting theories.

To do this, the study began with a brief description of the coming of the British railways in the nineteenth century, their growth and their collapse in the mid-1840s.

The thesis then looked at the social aspects of accounting. That chapter concluded that accounting is not just a measuring tool but has become a social instrument with which society can regulate the financial reports of reporting entities. This regulation is needed because those entities are not just reporting to themselves, as they used to do before the Industrial Revolution. They report to society as a whole. This includes present and potential shareholders, government authorities, taxation authorities and other interested parties.

Because this work is not a history thesis but an accounting thesis, the study concentrated on the accounting system used by the railway companies in question. That is, the Double Account System. The thesis examined its development and, especially, its workings. In doing so, the shortcomings of the system became apparent. At the time of the collapse of the railway companies the accounting system in use had not fully evolved from being a simple measurement tool to that of being a social instrument. It can be argued that this slowness to evolve to increasing reporting requirements played a role in the collapse of the railways.

The study then examined several accounting theories with the aim of exploring the possible linkage between them and their usefulness in allowing a fresh examination of the role accounting might have played in the collapse of these railway companies.

The theories examined are Legitimacy Theory, Stakeholder Theory and Institutional Theory. The study found that they are all connected by the concept of legitimacy. It is legitimacy that causes the overlap described by Deegan (2006).

The three theories are concerned with:

- An organisation attempting to generate legitimacy for itself by conforming to norms and beliefs of the society in which the firm operates. This is Legitimacy Theory, as described by Lindblom (1993) and Tilling (2004).

- An organisation coming to see that certain stakeholders are more important to them than others. This attitude results in the managers of the organisation acting so as to satisfy those stakeholders perceived needs. This is the managerial limb of Stakeholder Theory as described by Deegan (2006) and Gray, Owen and Adams (1996).
- An organisation seeing all stakeholders as important and that they should be considered equally when seeking legitimacy. This is the ethical limb of Stakeholder Theory (Deegan 2006).
- Organisations having influence put on them by society to conform to norms and beliefs. This is Institutional Theory as described by Di Maggio and Powell (1983). By conforming, the entity gains legitimacy. This sees the firms in a more passive role than the other two theories.

The study also found that the approval being sought by entities cannot come from all of society. Lindblom (1983) states that this universal approval is usually impossible to achieve. Rather, firms develop relationships with the stakeholders that they view as being the most relevant to their aim of gaining legitimacy.

Carpenter and Feroz provided examples of the importance of legitimacy (Carpenter and Feroz 1992; 2001). In their 1992 paper they reported that the U.S. state of New York needed to adopt generally accepted accounting principles (GAAP) to obtain access to finance markets. This is an example of an organisation seeking legitimacy. In Carpenter and Feroz (2001) the authors cite three other U.S. states who had also adopted GAAP for similar reasons to New York State. The authors describe this as Institutional Theory at work in the gaining of legitimacy in the eyes of the finance markets.

The link between the theories and the history is that if we view history as just a series of events we may have difficulty understanding how the events evolved. Historians must put the events into their context. When accountants look at the history of the railways from the accounting perspective we gain a clearer view of the events if we consider them through the lens of modern accounting theories.

The thesis shows that the Double Account System evolved from the accounting of the canal companies to be used by the railway companies. Edwards (1985) makes the point that the railway companies had to comply with the law and account for their stewardship of the funds invested by shareholders and debenture holders. If we say that the railway directors were trying to gain legitimacy by complying with the law we could conclude that the Double Account System did achieve this aim. But Lindblom (1983) states that merely complying with

the law is usually not enough to obtain legitimacy. This is because there may be a gap between the law and what society or stakeholders expect. It is therefore arguable that the Double Account System was not successful in gaining legitimacy in this instance despite its compliance with the law.

In relation to the railway companies' efforts in reporting to equity holders we can say that the companies provided the shareholders and lenders with information concerning distributable profits. This can be seen as gaining legitimacy from this group of stakeholders. However, the question of why the collapse came about then arises.

Odlyzko calls the railway collapse a bubble (Odlyzko 2010). Campbell (2009) concurs. He also states that the share price followed the dividends. That is, when dividends dropped, so did the share price. So, it can be argued, the railway directors kept the dividends high to keep the share prices high. But if the reported distributable profits were questionable, which they appear to have been, according to this thesis, the dividends could not be maintained.

The idea that distributable profits were questionable and that dividends could not be maintained is covered in sections 4.5 and 4.6 of this thesis.

If a profit is calculated on a cash basis as described by Edwards (1985) the scope for manipulation of the reported profit is very wide. Not only are creditors ignored but any costs or expenses can be pushed to subsequent accounting periods simply by delaying their payment. If the entirety of the resultant overstated profit is distributed as dividends (Edwards 1985) then those dividends are clearly coming out of capital.

There seems little doubt about the erosion of capital arising from the situation described here. Bryer (1991) points out that the Monteaule Committee commented on dividends being paid out of capital in its 1849 report. Bryer's discussion of the report of the committee in relation to dividends indicates that the practice was not doubted. Rather, the committee was concerned with the fact that the financial statements did not make it clear to the reader that dividends came from any source other than profits.

Assuming that the Monteaule Committee is correct on this point (Bryer raises no question in this regard) then the dividends being paid must come out of profits and capital. An erosion of capital clearly cannot continue without the said capital being added to by a further issue of shares. But, as pointed out by Bryer (1991) and Odlyzko (2010) the directors had to maintain a high dividend to attract new investors. This results in a vicious circle that only ends when the bubble, as described by Odlyzko (2010) and Campbell (2009) finally bursts.

This questions whether the railway directors were trying to gain legitimacy by paying large dividends. Or was the payment of dividends simply a way to keep the share price high. The directors were shareholders, too and they needed the railway companies to be seen as good investments when they needed additional capital.

It is also important to note that we are not in a position to know what the directors had in mind when they were designing the financial reports. Whether they were concerned with seeking legitimacy or simply with complying with the law and calculating profits can only be assumed by looking at the reports they produced. Edwards (1985), in writing a purely historical investigation, does not comment on or assert that there had been any pursuit of the creation of legitimacy by the railway directors. This does not necessarily mean that the directors were not concerned with the concept. All that can be said with certainty is that there is no evidence in the financial statements to suggest that they were so concerned.

## **6.2 Limitations of the Study**

This thesis does not claim to be the result of an exhaustive investigation into the matters raised by the research questions put forward in section 1.2.4 of this work.

Such an investigation would require an extensive examination of British historical documents not readily available to a writer operating in Australia. (Many documents are available on the internet, but not all.) Such a search may reveal more about the intentions of the railway directors and their motivations in preparing financial statements in the format that we now see.

The work is also prepared from the perspective of an accountant. A professional historian may hold a different opinion as to the answer to the first research question. This does not mean that only one of the answers is correct. There is no definitive answer to the question; there is only an opinion as to the feasibility of the suggestion raised in the question. The thesis presents a case from an accountant's point of view. A historian may present an equally well (or better) argued case that supports a different but equally valid conclusion.

Equally true is that accountant or accounting historian may come to a different conclusion in relation to the second question.

The result of these differing opinions may be that we are reminded that a view of history is often as much subjective as it is objective.

With this in mind we can say that in presenting an accountant's considered opinion as to the answers to the research questions the writer is also inviting others to put forward their answers to the problems raised in this study.

### **6.3 Conclusion**

Subject to the limitations outlined above, it is concluded that this thesis has met its Research Objective and answered its Research Questions.

In relation to the Research Objective as stated in section 1.2.4 of this thesis, the work has shown that using modern systems oriented accounting theories can help to clarify our picture of the historical events examined in this thesis. The extent to which these theories assist us in viewing history is limited but historic events are seen more clearly if we view them with the theories in mind.

We can conclude the following in relation to the thesis's Research Questions.

- It is feasible to use modern systems oriented accounting theories to investigate and help explain historical events provided we view the events from an accountant's perspective.
- The Double Account System had two aims: comply with the legislation and report to equity holders in relation to distributable profits. The system succeeded in the former but Lindblom (1993) states that this will not necessarily create legitimacy for a company. The system succeeded in the short term with the latter aim but the desire to keep dividends high meant that the profit and, therefore, the dividends and share price, could not be sustained. In the long term the Double Account System can be seen as a failure in this aim. As a financial reporting system, it did not adequately identify and communicate information that presented a realistic picture of the ongoing viability of the railway companies.

## **Appendix One**

**Published Accounts of the London and Birmingham Railway,**

**6 Months to 31 December 1838**

Source: Edwards, J 1985, 'The Origins and Evolution of the Double Account System: An Example of Accounting Innovation' *Abacus*, vol. 21, no.1, 1985, pp. 32, 33.

PUBLISHED ACCOUNTS OF THE LONDON AND BIRMINGHAM RAILWAY,  
6 months to 31 December 1838

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CAPITAL ACCOUNT.					
Dr.			Cr.		
December 31st, 1838.			December 31st, 1838.		
To Stock, viz.—	£.	s. d.	By Calls on £100. Shares	£.	s. d.
Land and Compensation	637,869	6 7	Ditto £35. ditto	2,249,225	0 0
Works of Road and Stations	3,830,212	17 8		124,825	0 0
Locomotive Department, viz.,			By Loans on Debentures	2,125,000	0 0
Engines and Tenders, Tools	67,093	16 6	Ditto on Notes	865,500	0 0
and Implements			Ditto on Account	75,967	12 0
Stores Account	1,510	0 0			2,566,467 12 0
Carrying Department, viz.,			By Sundries, viz.		
Coaches, Trucks, Horse-Boxes,	127,249	12 4	Produce of Sale of Forfeited		
Waggons, Cranes, &c.			Shares	4,444	15 10
		4,663,935 13 1	Fines, Land, and Materials re-	5,273	3 7
			sold, &c.		
To Charges, viz.			Interest on Calls in Arrears, Ex-	28,184	13 5
Obtaining Act of Incorporation	72,868	18 10	Balances		
Law Charges for General Business	10,339	9 3			37,902 12 10
Conveyancing and Land Agency	11,027	5 10	By Balance		40,696 11 5
Engineering	85,802	15 5			
Advertising, Printing, Direction,					
Office, Salaries of Secretaries,	43,727	13 1			
&c. and Sundries, (including					
Travelling)					
		223,766 2 5			
To Debenture Charges, (including	10,077	18 0			
ad valorem Duty)					
To Interest on Loans previously to	121,037	2 9			
General Opening on 17 Sept.					
		131,115 0 9			
		<u>£5,018,816 16 3</u>			<u>£5,018,816 16 3</u>

REVENUE ACCOUNT,					
Six Months, ending December 31st, 1838.					
Dr.			Cr.		
December 31st, 1838.			December 31st, 1838.		
To Maintenance of Way between	£.	s. d.	By Receipts, viz. Passengers, Par-	£.	s. d.
London and Tring, from 17th	7,175	14 4	cels, Mails, and Merchandise	219,973	8 0
Sept.			Deduct for intermediate Coaching	16,558	4 7
To Locomotive Account, viz.—					203,415 3 5
Coal, Coke, Repairs, Salaries,	16,091	5 1	By Interest on Cash Balances from		
Wages, Oil, Tallow, Waste,			17th September	961	19 4
and Incidental Charges					204,377 2 9
To Carrying Account, viz.—			By Balance of Revenue Account to 30th June		29,853 19 3
Salaries, Wages of Police, Por-	25,538	3 5			
ters, &c. Stationery, Repairs,					
Gas, Oil, and Tallow	8,816	9 4			
Mileage Duty					
To General Charges, viz.—					
Engineering, Law Charges, Ad-	14,983	16 1			
vertising, Printing, Direction,					
Office, Salaries, Secretaries,					
Clerks, and Sundries, (in-					
cluding Travelling)					
		72,605 8 3			
To Reserve for Depreciation of Stock, viz—					
Locomotive Stock	5,007	0 0			
Carrying do.	6,305	0 0			
		11,312 0 0			
To Interest on Loans from 17th Sept.					
Balance		33,854 15 5			
		116,458 18 4			
		<u>£234,931 2 0</u>			<u>£234,231 2 0</u>

RESERVE ACCOUNT, for Depreciation of Stock, (Dec. 31st, 1838.)					
Dr.			Cr.		
To Balance	£16,812		By Reserve, June 30, 1838	£3,500	
			By " December 31,	£5,007	
				£8,507	
			Locomotive.	£2,000	
			Coaching.	£6,305	
			Total.	£11,312	
				£8,507	£16,812

BALANCE, (December 31st, 1838.)					
Dr.			Cr.		
To Cash Account	121,724	18 8	By Revenue Account	116,458	18 4
Capital Account	40,696	11 5	Reserve Account	16,812	0 0
Sundry Accounts for Balances due to the Company	11,332	1 8	Loan Creditors' Account	33,854	15 5
			Sundry Accounts for Balances due by the Company	6,627	18 0
		<u>£173,753 11 9</u>			<u>£173,753 11 9</u>

R. CREED,  
C. R. MOORSOM, } Secretaries.

Note—The Dividend will be payable on the 15th February, to the Proprietors who were Registered as such at the closing of the Books on the 21st January, and the necessary Documents will be sent to them in due course, for enabling them to receive it.

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## **Legislation**

Corporations Act 2001(Cwlth)