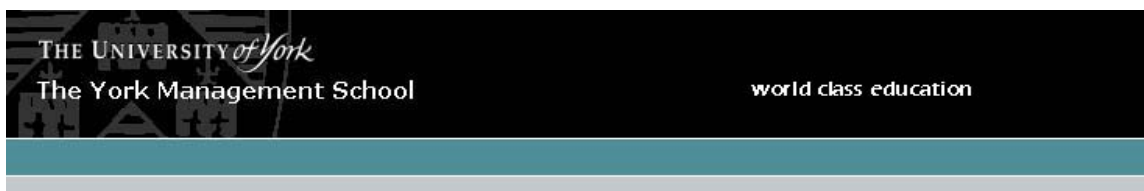


*promoting access to White Rose research papers*



**Universities of Leeds, Sheffield and York**  
**<http://eprints.whiterose.ac.uk/>**



White Rose Research Online URL for this paper:  
<http://eprints.whiterose.ac.uk/4154/>

**Published work**

Toms, S. (2008) '*Strangers and Brothers*': *The Secret History of Profit, Value and Risk. An inaugural lecture.* Working Paper 40. University of York.

THE UNIVERSITY *of York*

University of York  
The York Management School  
Working Paper No. 40  
ISSN Number: 1743-4041  
June 2008

**‘Strangers and Brothers’:  
The Secret History of Profit, Value and Risk**

*An inaugural lecture*

**Steven Toms**

**The York Management School**

**This paper is circulated for discussion purposes only and its contents should be considered preliminary.**

**Acknowledgements**

I would like to thank the following friends and colleagues who have substantially assisted in the preparation of this lecture: Professor Matthias Beck, Kiran Fernandes, Alison McKay and Randall Ghent. I would also like to thank the Institute of Chartered Accountants of Scotland for their financial assistance for research that underpins some elements of the presentation.

## **‘Strangers and Brothers’<sup>1</sup>: The Secret History of Profit, Value and Risk**

### **Introduction**

As political history is signposted by decisive battles and the rise and fall of great leaders, so the history of finance is marked by speculative booms and busts. From the failure of the futures market in Dutch tulips in the seventeenth century, to the South Sea Bubble of 1720, and more recently the Wall Street crash and, more recently still, the various ‘Black Mondays’, ‘Black Wednesdays’ and so on.

These bubbles are characterised by upward speculation that leads prices to depart from some notion of underlying value, followed by a sharp readjustment, marking the re-imposition of the rule of value. The pattern is well illustrated by the ‘dot-com’ boom of 2000. In spite of the misleading signals about value given by financial markets, we are witnessing an increasing dominance of such markets as the sole arbiter of valuation.

Not only is this a tautology, but its application has some important and potentially dangerous consequences. Some economists, following the development of the Black-Scholes option pricing model, have gone as far as arguing that volatility itself is a source of value.<sup>2</sup> As Bernstein notes, ‘the product in derivative transactions is uncertainty itself’.<sup>3</sup> According to this model, *inter alia*, the greater the risk, the higher the price of the asset. Such attitudes afforded scant protection to the Black Scholes inspired hedge fund,

---

<sup>1</sup> The phrase refers to C.P. Snow, his series of novels and his influential 1959 Rede Lecture, in which he raised concern about the widening and unfortunate divide between the arts and sciences.

<sup>2</sup> F. Black and M. Scholes, (1973) ‘The pricing of options and corporate liabilities’, *Journal of Political Economy*, Vol.81, (3):637-654. M. Fritteli (2000), Introduction to a theory of value coherent with the no-arbitrage principle, *Finance and Stochastics*, Vol.4 (3): 275-297.

<sup>3</sup> P. Bernstein (1996) *Against the gods: the remarkable story of risk*, New York: Wiley

Long Term Capital Management when its losses of \$3.75bn shook the world financial system in 1998.

More prosaically perhaps, the world of accountancy, and accounting regulation, has been increasingly dominated by the notion of 'fair value'. In the US at least, this has been associated with applying market price solutions to the problem of asset valuation in books of account. These solutions require exit price valuations in general without reference to whether a market in the asset or liability exists.<sup>4</sup> Accounting, in other words, as an academic discipline and in practice, is increasingly subordinated to theories and methodologies of market-based finance.

As well as the booms and busts of financial markets, accounting is also implicated in booms and busts of individual firms. In April 2001 Enron, the US energy giant posted record profits. Earnings had increased by 25%, and revenues more than doubled, to over \$100 billion. On 2<sup>nd</sup> December 2001, Enron filed for bankruptcy under Chapter 11.<sup>5</sup> In this case as in many others, the profit reported in April 2001 was not what it seemed; there was clearly a difference between the reported profit and the underlying value of what had been produced, and the uncertainty of its measurement created major risks for employees, shareholders and other third parties. Whether measurement error or outright mendacity, I shall argue that one of the major reasons for the misuse of profit is its separation from the notion of value and its inaccurate relationship to financial risk. As the causes of this separation are historical as well as theoretical, it is necessary to ask the

---

<sup>4</sup> International Accounting Standards Board Discussion Paper (2006), *Fair Value Measurements* proposed adopting the US Financial Accounting Standards Board Statement of Financial Accounting Standards, No.157.

[www.iasb.org/NR/rdonlyres/5D20E453-26D3-4E0A-AB08-FC391917FD89/0/DDFairValue2.pdf](http://www.iasb.org/NR/rdonlyres/5D20E453-26D3-4E0A-AB08-FC391917FD89/0/DDFairValue2.pdf)

<sup>5</sup> 'Is Enron Overpriced'? B. McLean (2001) *Fortune*, 5<sup>th</sup> March.

questions: what then is the notion of profit and where did it come from? And what does a historical perspective tell us about its misuse in the modern context? If the misuse can be corrected, can we make better decisions?

As we have seen with Enron and others, profit is not necessarily the reported surplus of revenue over cost. But if the accounting at Enron is to be critiqued from anything other than a relativist standpoint, it is useful to have a notion of real or underlying profit, and the parameters within which normal profits are earned. I shall argue that a complete understanding of profit requires the integration of profit as surplus in production, profit as the return on deferred consumption, and profit as a return adjusted for risk. I shall begin by identifying the unity of these three concepts as a regulated phenomenon in the middle ages, demonstrate the persistence of their influence, and show that the modern neo-classical model of economic decision-making, on which modern accounting theory is also based, has been built on their selective use only. I then go on to show how they might be reintegrated and used to inform practical decision making.

### **Medieval origins**

A major assertion in economic history is that profit cannot occur without capitalism. Werner Sombart's famous thesis has become a broad but influential generalisation: that capitalism and double entry bookkeeping are inextricably linked.<sup>6</sup> However, as Max Weber subsequently pointed out, the use of double entry bookkeeping does not necessarily imply a profit motive. He therefore refined Sombart's argument to equate capitalism not just with bookkeeping but with the existence of an account specifically to

---

<sup>6</sup> W. Sombart, ([1902]1916), *Der Moderne Kapitalismus*. Leipzig: Duncker and Humbolt.

record the accumulation of capital. Weber also argued that in pre-capitalist societies profit at rates beyond what could be justified by reasonable labour could only be earned at the expense of foreigners.<sup>7</sup> The business practices of Italian merchants have therefore been the focus of much enquiry into the origins of profit accounting.<sup>8</sup> In my view, as an extension of Weber, profit calculations are implicated more generally in the process of transition from feudalism to capitalism by enabling the private enforcement of profit levels in excess of legally regulated interest rates or through fairly remunerated labour.<sup>9</sup>

A surprising fact is that for only a short period of economic history has the earning of any profit, even on a regulated basis, been considered acceptable. In the Middle Ages most activities were of course regulated, and the church's enchantment of the natural world extended to economic categories. In this sense, profit, value and risk, the subjects of this lecture, were regulated in tandem by the medieval authorities.

A literal reading of the bible could cause serious problems for anyone wishing to engage in economic activity. To lend money in the expectation of any kind of return was regarded as sinful, or usurious. 'If you lend money to any of My people who are poor among you' says the Book of Exodus verse 25, 'you shall not be like a moneylender to him; you shall not charge him interest'. When Jesus drove the moneylenders from the Temple, as famously depicted by El Greco, it was the only recorded instance of him

---

<sup>7</sup> M. Weber, (1927, [1981]), *General Economic History*, New Bruswick, New Jersey.

<sup>8</sup> For a summary of these arguments and the debates they have engendered, see S. Toms, 'Accounting and Capitalism', in C. Argyris and C. Cooper (eds) *Blackwell Encyclopaedia of Management*.

<sup>9</sup> See S. Toms 'Calculating profit: a historical perspective on the development of capitalism', York Management School Working Paper.

using violence of any kind. Medieval popes took these attitudes seriously, and all ‘usurious’ loans were opposed by the medieval church.<sup>10</sup>

Whilst such strictures may appear hostile to economic activities, medieval intolerance to usury was in fact one feature of a regulated system designed to achieve social objectives. Restrictions on usurious lending, when combined with the notion of ‘just price’ and associated legislation against ‘ill-gotten gains’ protected the poor from the unscrupulous, regulated local monopolies, allowing profits and therefore income to correspond to the social status of the individual.<sup>11</sup> If the rules protected the poor and worthy Christians in general, however, they could safely be discarded when dealing with foreigners, including privateering and outright piracy, and likewise act as moral yardstick against which to condemn the activities non-Christian groups. Shakespeare uses the character of Shylock in the Merchant of Venice to make this point with great effect. Shylock the Jew hates the merchant Antonio for being a Christian, who by lending gratis brings down the rate of usance, and by the same virtues reduces Shylock’s opportunities for profitable lending.<sup>12</sup>

Antonio’s sin in accepting a loan was mitigated by the common practice of ‘Sea Loans’ made between Italian merchants reflected differential levels of risk in voyages of

---

<sup>10</sup> According to Weber, the most vigorous opposition was from Pope Gregory IX (1227-1241). M. Weber (1927, [1981], *General Economic History*, New Brunswick, New Jersey, pp.267-71

<sup>11</sup> R. De Roover, (1951) ‘Monopoly theory prior to Adam Smith: A revision’, *Quarterly Journal of Economics*, vol. 65, pp.492-524.

<sup>12</sup> The full quotation, *Merchant of Venice*, Act 1:3, is illustrative: ‘I hate him for he is a Christian, but more, for that in low simplicity, he lends out money gratis and brings down the rate of usance here with us in Venice...I will feed the ancient grudge I bear him. He hates our sacred nation and he rails even there where merchants most do congregate on me my bargains and well won thrift, which he calls interest. Cursed be my tribe if I forgive him.’



differing length and perceived hazard.<sup>13</sup> These became institutionalised with the decline of the Italian commenda system of business partnership, and its replacement with a system tolerating profit in proportion to risk, and resenting the notion of a risk free profit<sup>14</sup> (as an aside, Shylock's 'pound of flesh' falls into the category of a risk free return).

Added to this intolerance was a resistance to profit without corresponding effort, encapsulated in the labour theory of value, which became the backbone of medieval scholasticism from St Thomas Aquinas's *Summa Theologica* onwards.<sup>15</sup> Aquinas was concerned with small producers, whose efforts including any risk formed the basis of the definition of the just price. As far as merchants were concerned Aquinas invoked Aristotle's distinction according to the seller's motive: trading to meet the needs of life was acceptable, trading for the purposes of gain alone was not. Moral condemnation could also be avoided if some risk was involved in transporting goods.<sup>16</sup>

In the sixteenth century Cardinal Catejan used the doctrine of *lucrum cessans*, or deprivation of tools of the trade, to justify lending at interest, whilst Martin Luther argued that merchants' profits were indeed nothing more than the fruits of their labour.<sup>17</sup> Of the reformation scholars, John Calvin argued in favour of usury, although he was preceded by Johann Eck, who, as Professor of the University of Ingolstadt, financed by the profits

---

<sup>13</sup> Weber, *loc cit.*

<sup>14</sup> W.J. Ashley, (1931), *Economic History*, vol.1 London: Longmans Green; pp.399-401, 404, 412-416

<sup>15</sup> Tawney (1960, p.36) notes the first of these schoolmen was Thomas Aquinas and the last was Karl Marx.

<sup>16</sup> For a summary see R. Meek (1973), *Studies in the Labour Theory of Value*, London: Lawrence and Wishart, pp.12-14.

<sup>17</sup> J.T. Noonan, (1957), *The Scholastic Analysis of Usury*, Cambridge MA, Harvard. p.127, R.H Tawney, (1960), *Religion and the rise of Capitalism*, London: Murray, pp.35-6

of the Fuggers of Augsburg, led a public debate in favour of unrestricted commercial activity from 1515 onwards.<sup>18</sup>

A decisive impetus came with the economic expansion of the European seaborne empires and the accompanying religious reformation, gradually eroding the intolerance to mercantile activity. Mercantilists, such as Nicholas Barbon, writing in 1690, argued that 'time' was the determinant of prices charged by Artificers, whereas for merchants the source of profit was interest.<sup>19</sup> Such interest had been legitimated a century earlier when, in 1571, the year after her excommunication by Pope Pius V, Elizabeth I legislated an official rate of interest of 10%, so that only lending beyond that level was considered usury.<sup>20</sup>

The Calvinist assault on usury was not accompanied by similar attempts to dismantle the labour theory of value and price, the focus on interest rates reflecting the dominance of commercial interests. Subsequent acts of parliament followed heated debates, particularly in the Stuart period, which eventually resulted in lower rates. As late as the early 19<sup>th</sup> century the usury laws were taken very seriously by capitalists of the industrial revolution, fearing non compliance would lead to problems of debt enforcement. The British usury laws were only finally withdrawn in 1854, and they still exist in parts of the USA under the umbrella of consumer protection legislation against

---

<sup>18</sup> L. Jardine, *Worldly Goods: a New History of the Renaissance*, (London: Macmillan); pp.328-330.

<sup>19</sup> N. Barbon (1690) *A Discourse of Trade* ed. JH Hollander, Lord Baltimore Press. Baltimore, MD, 1905. First published: 1690. Meek *op cit* p.17 points out that the Artificers approach to pricing is inconsistent with the notion of profit on capital.

<sup>20</sup> The tolerated rate of interest was a barometer of the mid Tudor crisis. Henry VIII's Statute of Usury allowed 10% (Jardine, *op cit*, p.373), but this was withdrawn under Edward VI (1552), effectively making all lending unlawful. After Elizabeth's 1571 Act there was no reversion to outright prohibition, only changes in the allowed rate until usury ceased to be a statutory offence in 1854. E. Kerridge, (2002), *Usury, interest and the reformation*, Aldershot: Ashgate.

loan sharks.<sup>21</sup> In the modern mind, the notion of usury as excess profit has been articulated as a poison affecting society. The poet Ezra Pound, in a Canton published in 1937, uses strong rhetoric to this end: *'With usura hath no man a house of good stone each block cut smooth and well fitting that design might cover their face...'*<sup>22</sup>

The labour theory of value persisted in tandem with anti-usury laws, through its advocacy by the Mercantilists, the Physiocrats, and then the classical economists Adam Smith and David Ricardo. Substantively and literally, the labour theory of value was a founding principle of classical economics. To quote from the first sentence of the Wealth of Nations: *'the annual labour of every nation is the fund which originally supplies it with all the necessities and conveniences of life'*.<sup>23</sup>

### **The mid nineteenth century split**

Whereas these economists had a theory of value, this did not offer a consistent theory of distribution. The challenge for mid nineteenth century economists was to reconcile labour as the source of wealth to a theory of distribution determined by relative scarcities of land, labour and capital. Writing in 1870, Karl Marx believed his analysis would “deal[t] a theoretical blow to the bourgeoisie from which they will never recover.” His attempt to find a logical solution to the problem foundered on his failure to transform values into prices consistently with the notion of a general rate of profit,<sup>24</sup> and the need to reduce

---

<sup>21</sup> For example, California's usury laws are contained in Article XV, Section 1 of the California Constitution

<sup>22</sup> E. Pound, Canto XLV (reproduced in full in appendix 2). For Pound, usura (usury) is the creation of credit without reference to wealth creation, which promotes economic and cultural poverty.

<sup>23</sup> A. Smith, 1776(1980), *Wealth of Nations, Pelican, p.104.*

<sup>24</sup> K. Marx, and F. Engels, (1987) *Letters, April 1868 – July 1870, Collected Works, Volume 42* (London: Lawrence & Wishart.). Unsurprisingly economists were quick to point out technical errors, such as the failure to transform inputs as well as outputs, For

labour to a homogenous equivalent (the so-called reduction problem).<sup>25</sup> From this moment onwards we detect the beginning of the quest to throw out the labour theory of value baby with the bathwater of the transformation problem.<sup>26</sup>

Marx's challenge to the bourgeoisie and his association with the labour theory of value, posed a challenge to what now became mainstream economics. However, mainstream economics could not ditch Marx without an independently determined theory of value. The search for an alternative theory began with Eugen von Bohm Bawerk in 1891. He justified his rejection of the labour theory of value by disputing Marx's notion of exploitation, pointing out that capitalists paid workers in advance of the realisation of profits.<sup>27</sup> Such time differences formed the basis of a value model based on time preference alone,<sup>28</sup> thereby missing the opportunity to develop an integrated model based on a 500 year tradition of scholarship. Irving Fisher developed these ideas in the 1920s and 1930s which have since become the cornerstone of modern accounting and finance theory. Most significantly, Fisher suggested that decision makers discounted the value of these future services to present value to allow for 'time preference'.<sup>29</sup>

---

an introduction to the transformation problem and critique of Marx' approach, see M. Desai (2002) *Marx's Revenge*, (London Verso), chapter 5

<sup>25</sup> Reduction is the requirement to express work of differing complexity and skill using a common measure. Marx (*Capital I*, 1990, p.135), cryptically implicating accounting described this as '... a social process that goes on behind the backs of the producers'

<sup>26</sup> Hayek suggested that any discussion of the rate of profit became unfashionable because Marx had made it so unpalatable. F. Hayek (1938), *Profits, interest and investment*, Routledge and Kegan Paul, London.

<sup>27</sup> 'It is only because the labourers cannot wait till the roundabout process... delivers up its products ready for consumption, that they become economically dependent on the capitalists' Eugen von Böhm-Bawerk, *The Positive Theory of Capital*, trans. William Smart (London and New York: MacMillan and Co., 1891), p.83.

<sup>28</sup> E. Bohm Bawerk, (1949) *Karl Marx and the Close of His System*. Translated by A. McDonald. London: T. Fisher Unwin, 1898. Reprinted in *Karl Marx and the Close of His System*. New York: Augustus M. Kelley.

<sup>29</sup> I Fisher, (1930) 'Income and capital', reprinted from *The Theory of Interest* (New York: Macmillan, in R.H. Parker, G.C. Harcourt, and G. Whittington, (eds) *Readings in The*

However there are several problems with Fisher's approach. First, the solution to the problem of pricing heterogeneous capital is tautological. Conventionally, capital is valued by taking the present value of the future cash flows the asset is likely to generate, thus presupposing a discount rate and therefore a rate of profit. However in modern management theories of competitive advantage, the rate of profit follows from the possession of valuable assets.<sup>30</sup> The resulting Cambridge controversies failed to resolve this tautology.<sup>31</sup> Understanding the determinants of a homogeneous rate of profit is therefore central to developing a theory of heterogeneous capital asset valuation. Second, in the neo-classical time preference model, value arises from the circulation of capital and has nothing to do with production. As Seager (1912, pp.835-7) put it: '...[it is] assumed that income streams, like mountain brooks, gush spontaneously from nature's hillsides and that the determination of interest depends entirely upon the mental reactions of those fortunate enough to receive them?...The whole productive process is taken for granted'.<sup>32</sup> Third and most crucially of all, as a result of the dominance of this paradigm, risk is assumed to arise from market exchange processes themselves rather than productive

---

*Concept and Measurement of Income*, Second Edition (London: Philip Allan, 1986), pp.45-65: 52.

<sup>30</sup> Joan Robinson highlighted the problem of valuing heterogeneous capital assets without reference to the profit rate; see J Robinson, (1953–54). 'The Production Function and the Theory of Capital,' *Review of Economic Studies*, Vol. 21:2, pp. 81–106. The resource based view of the firm, which also lacks a theory of value (for a summary, see S. Toms, (2006), 'Sustained Competitive Advantage and the Modern Labour Theory of Value', York Management School working paper, 20).

<http://www.york.ac.uk/management/research/workingpapers/wp20toms.pdf>

<sup>31</sup> A debate conducted between UK Cambridge based economists (Keynesian and Neo-ricardian) and US based economists at the Massachusetts Institute of Technology, in Cambridge, MA, USA. For a review, see A.J. Cohen, and G.C. Harcourt (2003). 'Whatever happened to the Cambridge capital theory controversies', *Journal of Economic Perspectives*, Vol. 17, 199-214.

<sup>32</sup> H. Seager, (1912), 'The impatience theory of interest', *American Economic Review*, Vol.2 (4), pp. 835-7.

activity. An outstanding question, which we shall turn to soon, is therefore how should markets price the risk that arises from productive activity?

Meanwhile, conventional theories of risk have been built on Fisher's neo classical paradigm. The modern method of risk pricing, the capital asset pricing model, or CAPM, has been developed from the time preference models of Bohm Bawerk and Fisher.<sup>33</sup> Their model of interest rate determination is extended to account for the expected rate of profit on a risky asset, so that the benchmark return is a function of a risk free rate plus a market premium for risk adjusted for the perceived riskiness of the individual stock, as measured by the beta factor ( $\beta$ ):

$$E(r_i) = r_f + \beta[E(r_m) - r_f]$$

Where:

$E(r_i)$  = expected return on security i

$r_f$  = risk free rate

$\beta$  = covariance of the return on the firm's share with the return on the market portfolio

$E(r_m)$  = expected return on the market portfolio

All the inputs from the CAPM are ex ante market prices. In this model the source of value is the volatility of the share price itself. For this reason Lowenstein (2004) in his book *Origins of the Crash*, describes the CAPM as 'one of the oldest canards in

---

<sup>33</sup> W.F. Sharpe, (1964) Capital asset prices: A theory of market equilibrium under conditions of risk, *Journal of Finance*, 19, 425-442. J. Lintner, (1965) The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets, *Review of Economics and Statistics*, 47, 13-37.

finance.’<sup>34</sup> Moreover there is little empirical support for the model.<sup>35</sup> Even so, the model’s uses have expanded exponentially in recent years following its adoption by the management consultancy industry and incorporation into trademarked notions of economic value added and shareholder value analysis.<sup>36</sup>

---

<sup>34</sup> R. Lowenstein (2004) *Origins of the Crash: the Great Bubble and Its Undoing*, (New York: Penguin), p.230.

<sup>35</sup> E. F. Fama, and K. R. French (1996) Multifactor explanations of Asset Pricing Anomalies, *Journal of Finance*, 51, 55-84.

<sup>36</sup> T. Copeland, T. Koller, and J. Murrin, (1994) *Valuation: Measuring and Managing the Value of Companies*, Wiley.

### **Is integration possible?**

For Marx, the labour theory of value was a theory of exploitation, whereas abstracting the theories of Bohm-Bawerk and his successors, payments to labour might be described as having an insurance element; payment now for goods to be sold later. In other words, any given employment contract might simultaneously comprise an exploitation element and an insurance element. When capital is invested it is clear to everyone from Johann Eck to the CAPM that it should earn the risk free equivalent as a minimum, normally for simplicity, the bank base rate. If we assume an atomised economy where all workers are entrepreneurs and all are self employed, then all are likewise risk takers. The only assumption necessary at this stage is that financial risk is socially created and arises from transactions between individuals. In other words it is a zero sum game. A parallel concept applied to risk in general rather than financial risk in particular, is used in Ulrich Beck's influential book, *Risk Society*.<sup>37</sup>

Using the assumption of social risk, on average participants' expected profits are the risk free rate plus the market risk premium, where the latter is determined by the aggregate extent of employment relations which fix the cost regardless of the variability of output. Risk can be thereby avoided by an entrepreneur agreeing to become an employee of another, insofar as an employment contract can be written that guarantees a wage regardless of the level of activity and achieved sales revenue and is an incomplete contract in terms of the specification of work. If these conditions are met, risk is transferred from the employee ex-entrepreneur to the employing entrepreneur. Because total risk is a zero sum game, and value has a linear relationship to risk, the fixity of labour cost produces a proportionate increase in the required rate of return needed to

---

<sup>37</sup> U. Beck, (1992) *Risk Society: Towards a New Modernity* (London: Sage).



induce the entrepreneur to employ a labourer. Meanwhile the entrepreneur cum labourer will accept less value in return for less risk. If the employer imposes a variable and complete contract of employment so that the labourer bears all the risk, the labourer has no incentive to remain and will revert to self employment. To my knowledge, the depiction of these inter-relationships between wage rates, profit rates and the social distribution of risk is a novel approach to our common understanding of all three.

To develop these basic propositions further, there is a corollary that the risk free rate corresponds to a market wage rate which is just sufficient to prevent employees defecting to self-employment in conditions of perfect contract variability and specificity. Or put simply, because the employment conditions are unattractive, and the employee bears the full risk of the economic cycle, wage compensation needs to rise to prevent defection. The implication would be that if the base interest rate is say 5% and total sales and total assets are indexed to 100 and employment is the only cost and is completely variable then the wage bill will be 95. However, suppose the observed wage bill is 80, to which the corresponding observed profit ratio is 20%, it would follow that there is a risk premium of 15%, the difference between the rate of profit and base interest rates. Of the wage cost of 80, 60 must be fixed in contractual terms, since this would allow profit to vary with sales in the ratio 4:1. The employee is much safer in this scenario and their proportion of average value appropriated falls from 95% to 80% of the total, whilst the corresponding shift to profit corresponds to the shift in risk.<sup>38</sup>

---

<sup>38</sup> A pool of unemployed labour reduces the market rate of uncertainty faced by workers allowing the capitalist to reduce wages for any given level of risk or vice versa.

It is relatively easy to derive these parameters at aggregate level from national income accounts, even if further cost categories are introduced.<sup>39</sup> At the same time the illustration with respect to labour can be generalised to other classes of cost whose relative fixed is determined by for example the technical characteristics of plant and machinery, embedded buyer and supplier relationships, etc.

The required rate of return for any individual firm can now be determined by comparing the fixity of cost to national standards and is computed as:

$$\text{Required return} = \text{Risk free rate} \times \text{Relative cost variability}$$

An individual firm with a greater proportion of fixed cost than the average of 60/80, would attract a proportionately greater risk premium and correspondingly investors would demand a higher rate of return. The composite profit in the formula is a function of the three components, value, profit and risk. Such is the integration, that it would appear to span a number of theoretical and schools of economic thought and offer the potential to influence practice. So, profit reconciles on the one hand to the arrangement of the productive process, which is good news if you are a Marxist, and to the risk adjusted market return on the other, which is good news if you are a stock market analyst.

---

<sup>39</sup> The calculation can be redone using value added metrics.

**Table 1: Numerical Example**

<b>Shylock Enterprises Plc</b>			
	<b>Current</b>	<b>Forecast</b>	<b>Change</b>
Sales	100	110	0.1
Labour cost	40	40	0
Other cost	50	55	0.1
Profit	10	15	0.5
Ratio of change in profit to change in sales			5

<b>Benchmark Market Averages</b>			
	<b>Current</b>	<b>Forecast</b>	<b>Change</b>
Sales <b>B</b>	100	110	0.1
Labour cost	40	42.5	0.0625
Other cost	50	55	0.1
Profit <b>A</b>	10	12.5	0.25
Ratio of change in profit to change in sales			2.5

<b>Market data</b>	
Risk free interest rate <b>C</b>	4%

<b>Calculated benchmarks</b>	
Benchmark rate of return <b>D</b>	10%
Risk premium <b>E</b>	6%

<b>Required rate of return</b>	<b>Market</b>	<b>Shylock</b>
	10.00%	16.00%

*Notes:*

All figures indexed to current sales = 100

**C** = Current base rate

Benchmark rate of return **D** = **A/B**

Risk premium **E** = **D-C**

Required rate of return market benchmark = **C + E**

Required rate of return Shylock = **C + (E x 2)**

## **Practical spin-offs**

Integrating the three key concepts of profit, value and risk has a potentially practical spin-off for determining a firm's required rate of return. To illustrate this, consider the practical example of Shylock enterprises, as shown in table 1. Shylock's managers are forecasting, in the yellow zone, that their sales for the coming year will increase by 10%, in line with the forecast for other firms shown in the green zone.<sup>40</sup> However, because Shylock has a greater proportion of fixed labour cost than average, the projected growth in profits is proportionately larger, at twice the benchmark average. The average rate of profit is 10% (A/B) and the current risk free interest rate, corresponding for example to bank base rates is 4%. The average market risk premium is therefore 10% minus 4%, or 6%. In other words, for firms where the cost structure resembles the average, the average investor expects a return of 4% plus 6% or 10%.<sup>41</sup> An investor in Shylock would reasonably expect a higher minimum return than this reflecting Shylock's greater commitment to fixed costs as a proportion of its total. To adjust Shylock's return in the red box therefore the risk premium is doubled, as Shylock's profits are twice as volatile as the average, and added to the risk free rate. Compared to an investment in the market portfolio which has an expected return of 10%, an investment in Shylock requires a return of 4% plus 12%, or 16%. The return in this case is not an extrapolation of historical patterns of erratic share prices, as in the CAPM. Rather, as the illustration shows it has been derived from the planning assumptions of Shylock's own management.

---

<sup>40</sup> Comparable figures for actual firms are currently being analysed as part of a project funded by the Institute of Chartered Accountants in Scotland (ICAS).

<sup>41</sup> If all costs in the market benchmark firms were purely variable then the rate of return would be 4%. In the example the risk premium arises because for all firms averaged some costs are fixed.

These practical calculations are also suggestive of some conceptual consistencies. The benchmark interest rate incorporates Fisher's notion of time preference, the audit of cost structures references the organisation of social relationships embedded in production and the establishment of a risk adjusted required rate of return provides a notion of socially necessary profit and therefore a yardstick to measure economic rents. The model can also be adjusted for firms with faster or slower rates of capital turnover using a benchmark. For example firms with slower turnovers would require a higher rate of return since there is a proportionately longer period between investment and realisation. Finally, empirical work shows a statistical relationship between the fixity of cost and financial market risk,<sup>42</sup> and further research is underway to test the application to company capital investment decisions.<sup>43</sup>

There are some limitations. In common with many models, it excludes transaction costs, and it does not factor in the effects of globalisation of capital and labour markets. Limits to competition and the presence of trade unions can also influence the bargaining process and the contractual relations that result. However, these have been abstracting assumptions for the purposes of model development and once established the model predicts the impact of these complications.

Transaction cost for example can be modelled by proportionate reductions in aggregate and firm specific turnover time for example as a function of the labour cost embedded in the capital circulation process. Globalisation has shifted fixed costs to variable costs as firms have outsourced production to countries with flexible workforces.

---

<sup>42</sup> S. Toms, (forthcoming 2008) 'The labour theory of value, risk and the rate of profit' *Critical Perspectives on Accounting*.

Available at: <http://www.york.ac.uk/management/research/workingpapers/wp12toms.pdf>

<sup>43</sup> Research supported by the Institute of Chartered Accountants in Scotland.

Because cheaper labour is also involved there has also been a corresponding shift to profits. Where employers enjoy monopsonistic bargaining, they can likewise impose simultaneous shifts from wages to profit and risk transfers onto employees. Trade unions counteract this tendency as does an increase in the skill level in the labour process which creates monopsonistic bargaining opportunities for employees. Notwithstanding these complexities, I would argue the model offers a robust and practically relevant method for assessing the risk of firms with reference to the substantive activities of the firm, rather than merely the stock market's too often over-sentimental interpretation.

## **Conclusion**

To summarise, why begin with the scholastic analysis of usury as part of the advocacy of a system of financial planning and decision making in a modern context? The scholastics it seemed had a destructive attitude towards business activity per se. However, a deeper analysis has revealed a consistency in their attitude to the source of value, risk and profit, tempered by ethically derived social rules. The application of these rules would certainly have prevented the Enron scandal and others like it, even when subject to the modifications of the reformation, mercantilism and classical economics. Neo-classical economics, which decision makers from Enron to Northern Rock use to justify their actions, has a far narrower base, and struggles to invent the notion of ethical business as something other than another marketing weapon. Value and price are strangers in the world of business scandals and brothers in modern society, if only in the sense of Wilde's definition of a cynic. We have seen the relative narrowness and tautologies upon which many of the models of neo-classical based decision making rest. Instead I have proposed

here a system of risk measurement and approach to financial management based on accounting fundamentals, as opposed to stock market sentiment. In a financial crisis, whether the South Sea bubble or the credit crunch, it is to the fundamentals of value that everyone turns. My final point is, to summarise, that historical analysis, armed with a willingness to reject the assumptions deployed by modern theorists can yield insight useful to today's financial decision-makers, whether they like it or not.



## Appendix 1: Black Scholes Model

Price  $C$  of a European call option with exercise price  $K$  on a share currently trading at price  $S$ , *i.e.*, the right to buy a share at price  $K$  after  $T$  years. The risk free interest rate is  $r$ , and the volatility of the return on the share is  $\sigma$ .

Where:

$$C(S, T) = S\Phi(d_1) - Ke^{-rT}\Phi(d_2)$$

$$d_1 = \frac{\ln(S/K) + (r + \sigma^2/2)T}{\sigma\sqrt{T}}$$

$$d_2 = \frac{\ln(S/K) + (r - \sigma^2/2)T}{\sigma\sqrt{T}} = d_1 - \sigma\sqrt{T}.$$

Where  $\Phi$  is the standard normal cumulative distribution function

## Appendix 2

### Canto XLV by Ezra Pound

With usura hath no man a house of good stone  
each block cut smooth and well fitting  
that delight might cover their face,

with usura

hath no man a painted paradise on his church wall  
harpes et luthes  
or where virgin receiveth message  
and halo projects from incision,

with usura

seeth no man Gonzaga his heirs and his concubines  
no picture is made to endure nor to live with  
but it is made to sell and sell quickly

with usura, sin against nature,  
is thy bread ever more of stale rags  
is thy bread dry as paper,  
with no mountain wheat, no strong flour

with usura the line grows thick

with usura is no clear demarcation  
and no man can find site for his dwelling  
Stone cutter is kept from his stone  
weaver is kept from his loom

#### WITH USURA

wool comes not to market  
sheep bringeth no grain with usura  
Usura is a murrain, usura  
blunteth the needle in the the maid's hand  
and stoppeth the spinner's cunning. Pietro Lombardo  
came not by usura  
Duccio came not by usura  
nor Pier della Francesca; Zuan Bellin' not by usura  
nor was "La Callunia" painted.

Came not by usura Angelico; came not Ambrogio Praedis,  
Came no church of cut stone signed: Adamo me fecit.

Not by usura St. Trophime

Not by usura St. Hilaire,

Usura rusteth the chisel  
It rusteth the craft and the craftsman  
It gnaweth the thread in the loom  
None learneth to weave gold in her pattern;  
Azure hath a canker by usura; cramoisi is unbroidered  
Emerald findeth no Memling

Usura slayeth the child in the womb  
It stayeth the young man's courting  
It hath brought palsey to bed, lyeth  
between the young bride and her bridegroom

CONTRA NATURAM

They have brought whores for Eleusis  
Corpses are set to banquet

at behest of usura.