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Godlike Compensation Rationally Linked to Godlike Personal Liabilities

through SKAT, the Stages of Knowledge Ahead Theory of Risk

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Short Abstract

Mainstream economics is silent on stratospheric managerial compensation because its relative wage theory pivots on a single unknown number, the expectation of the manager's relative productivity. An alternative framework, the author's SKAT, the Stages of Knowledge Ahead Theory by contrast, allows ignorance to be a central consideration in rational choice, and thus allows compensation policies based on commonsense and societal needs. Those policies here advocated include governments imposing unlimited personal liability on those declaring themselves to have godlike relative productivity by accepting stratospheric compensation relative to the median worker. That godlike threshold in the managerial to median wages ratio could be 20:1.

Long Abstract

The productivity of a median salary earner is far too complex to compute, and never has been estimated in any remotely robust manner. Even more so, for the very different set of tasks performed by a higher echelon manager so that a manager's productivity is likewise far too complex to compute. In turn this means that there has never been an estimate made in any remotely robust manner of the relative productivity of an upper echelon manger to a median salary earner. Under both neoclassical expected utility and game theoretical market modeling of maximizing agents, ignorance of the ratio of managerial to median worker productivity is invisible. It being invisible typically results in naïve conclusions that markets' invisible hands miraculously determine these, appropriately rewarding genuinely productive managers, rather than dishonest robbers. The upshot is stratospheric compensation for upper echelon managers – with economists typically either silent on the matter or actually endorsing it as market verified.

Long abstract continued next page

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* I thank Peter Diamond MIT for background material on the theoretical and empirical gulf between micro labour search models and actual market wages in the macro economy. I thank Reinhard Selten Bonn University for comments and for the background information on the position allotted to a trade union member on a key board in large German firms in the early 1970s. This union post was a part of the co-determination law, a post much supported by Wilhelm Krelle of Bonn University as a contribution to social justice and efficiency in the country's fledgling democratic mixed capitalist system. I much regret the passing in 2004 of Wilhelm Krelle who inspired also some of us from outside Germany, both in our scientific endeavours, in upholding noble concerns for the community at large, and in his being a beacon of the finest qualities of a human. I thank Oliver Guertler, Cologne University, for his comments as official discussant on my paper at the Eastern Economics society meeting March 2012, and for all the other comments on it of those present. The paper is dedicated to the late Norman Roberts of Christchurch New Zealand who, sharing such ideals, was working extensively at the time of his untimely death almost a year ago to articulate a more just pay scale and to articulate the threats to democracy of the recent wealth concentration.

† Robin Pope's SKAT, the Stages of Knowledge Ahead Theory, solves the contradiction that prevented von Neumann and Morgenstern from incorporating uncertainty (ignorance) effects experienced in chronological time – Keynesian uncertainty – but irrationally omitted under expected utility theory. She applies SKAT to emotional (eg hope, fear), and material uncertainties (eg planning difficulties, depreciation risk interest surcharges on Australians borrowing abroad), and interpreting probabilities. Her SKAT research has support from Nobel laureates such as Ken Arrow, Maurice Allais, Herbert Simon, Paul Samuelson and Reinhard Selten, and other eminent scholars.

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This stratospheric compensation, begun in the 1980s, created a plutocracy that captured government and altered laws, fines, regulations and taxes through their campaign contributions and lobbying power. This enabled them to get marginalized would-be-reformers of private sector bubbles (concentrated particularly in finance, and in prescription drugs) and continue for the past thirty years plus, the growth of these bubbles at the expense of community health and economic well-being. In short, the stratospheric salaries do not operate as in impersonal invisible hand as per neoclassical modeling. They operate as a developed economy variant of the crony capitalism that the west bewails in those developing countries where government is captured by a wealthy elite that damps democracy and diverts law and order to its own ends.

One factor allowing these stratospheric salaries to arise, without a critical mass of economists objecting to it, is economists' hesitation to open the Pandora's box and admit that we lack robust enough estimates of the expected relative productivity of a higher echelon manager to that of a median salary earner. We need a different framework that does not rest on the notion that economists or personnel managers or company boards of directors, or government arbitration officers, or anyone, has a reasonable handle on this single number, (the expectation of) this productivity ratio. Opening Pandora's box opens questioning of the rationality and empirical relevance of expected utility theory.

We need an alternative framework because expected utility relative productivity theory excludes going beyond this single number. In particular it excludes going beyond it to considering uncertainty about that single number. This was demonstrated in the 1960s, first by Hans Schneeweiß, (1967, 1968a, 1968b, 1973a, 1973b) and then by Martin Feldstein (1969) and Karl Borch (1969). These authors proved that an expected utility theory maximiser must exclude consideration of variance (and all measures of uncertainty). Since their publications never questioned the rationality of instated expected utility theory paradigm, their publications led to a crusade against firms or governments engaging in uncertainty reduction through risk pooling, declaring that any objective that went beyond that single number, the expectation of profits for the organization, was irrational, Bailey and Jensen (1972).

Economists have an ethical obligation to locate a new framework for relative compensation of managers to workers. Continuation in textbooks and research with the scientifically non-estimable and thus vacuous relative productivity pivot bars of analysis relative compensation of managers to workers from going beyond pseudo research, police advice and teaching. It restricts this analysis to discrimination in pay for those doing identical jobs – something on which we can get robust enough estimates to be meaningful.

This paper provides an alternative framework for labour economics in particular, and economics in general, within which governments can regulate upper echelon compensation packages and obligations relative to those of other workers. This alternative framework is the author's SKAT, the Stages of Knowledge Ahead Theory of risk and uncertainty. It instates Keynesian uncertainty in a formal and logically consistent manner in place of axiomatised expected utility and game theory. That axiomatised framework is irrational and implausible since, when applied *without introducing additional contradictions*, it assumes that decisionmakers exclude chronological experiences other than those in an *indivisible final post-risk moment*.

SKAT, by admitting the uncertainty inherent in the ratio of management to labour productivity, allows more reasonable rational compensation regulations. SKAT can be used to put the onus of personal liability on those declaring themselves to have godlike productivity. It opens the way to the series of rules advocated in this paper. One such rule is that a manager is deemed to claim godlike ability when accepting pay above 20:1 of the median pay, so that the government imposes on that god-claimer unlimited personal liability for any insufficiently transparently adequate behaviour in terms of avoiding immorality, negligence or incompetence, as identified in commonsense, rapid manner by ombudsmen. Such self-declared gods are barred from having taken out insurance against such an event, or receiving any assistance from their employer or from their employers' stockholders in meeting their personal liabilities, since gods require none.

end long abstract

Layout

Part 1 provides a bird's eye view of the paper's methodological approach and policy conclusions. Part 2 provides background material. It outlines similarities of the paper's approach to mainstream labour economics into the 1970s, and how this was anchored to evidence. It also outlines the sequel in mainstream labour economics of maximizing agents setting absolute wages for each class of labour in the hierarchy in accord with marginal productivity. It explicates why this new mainstream approach lacks empirical support, and thus scientific standards. It lacks these because of completely unaddressed problems on the limits to ever verifying how wages relate to productivity for any worker performing more than simplistic sweatshop piece-work. Part 3 then shows that in major components of two key sectors of the economy, the financial and the prescription drugs sectors, there already has been a breakdown of democracy and law and order. This breakdown makes new economic foundations for executive and median worker pay scales a matter of urgency, as too the need to re-evaluate the focus in economic teaching and research on unregulated market efficiency, matters discussed in Parts 4 and 5.

Parts 6 and 7 offer alternative wage policies. They identify instruments enabling any government to immediately implement more rational pay and taxation measures. These parts sketch the methodological framework for the new focus, one based on a logical non-contradictory rational foundation that instates Keynesian chronological time uncertainty effects, namely the author's SKAT, the Stages of Knowledge Ahead Theory of risk and uncertainty.

Part 8 gives an example of why band-aids on neoclassical expected utility and game theory help, but cannot generate an empirically based adequately logically consistent theoretical underpinning, nor enable adequate policy advice. Part 9 introduces additional measures for a society to reasonably deal with nasty shocks – and thus today to retrieve a sizable portion of the substantial unspent wealth accumulated by the executive class over the last three decades when ex-post the taxpayer's ex ante implicit social contract was broken as happens in all major financial crises. Parts 10 and 11 concern self-employed stratospheric earners, and the tier just below stratospheric earners whose salaries have also risen somewhat disproportionately to middle income earners. Part 12 addresses the issues of inter-country competition for firm location when one country alone embarks on these reforms in CEO compensation and faces threats of firm withdrawals. Part 13 indicates some of the important desirable tax changes that are complementary to those addressed in this paper on which labour economists have worked.

The paper ends in Part 14 by raising the possibility that economists cannot reform themselves as regards wage relativities in teaching and research. It uses SKAT's pre-outcome period of doubt on whether reform will work, and the extreme costs borne by reformers during this period, to hypothesise that NGO action would be required to effect the changes. NGO's were necessary to effect the modest degree of reform seen about a decade back in the World Bank for instance. There were earlier reform-minded academic economists well aware of how a naïve form of neoliberalist World Bank policies often impoverished the poor and devastated portions of the environment. But the reform-minded lacked critical mass until it was combined with NGO activism. This history raises the possibility of such outside assistance being a pre-requisite of academic economists instating reasonable rational, efficiency and societally enhancing labour economics teaching and research. This final part accordingly indicates ways in which concerned academic economists might foster external assistance to avoid being academically exterminated or losing touch with obligations to foster science in economics and fulfill taxpayers' presumption that academic economists are operating at least neutrally, but preferably helpfully to society overall.

1 Overview

No empirical estimates have been collected on the productivity of any higher echelon manager or of workers earning the median salary. This is because the computations are far too complex, both because of joint inputs, and because they involve uncertainties concerning the future markets for the items produced by these two classes of employees. It is therefore impossible to compute either the actual or the future expectations of the productivities of managers compared to workers based on solid evidence. The impossibility used to be implicitly recognized under the mixed economy philosophy, and for it were substituted implicit or explicit social wage contracts connected to a mix of bargaining power and social justice considerations.

From the early 1970s a new framework quickly became standard in academic economics, axiomatised expected utility or game theory, under which the impossibility of obtaining solid evidence on the relative productivities of median workers and their managers became invisible. One reason is that it assumes, in stark conflict with the evidence, that agents are capable of maximizing an expectation, and thus that those agents who are employers know in expectation these productivity relativities. Another reason is that this new standard framework excludes risk experienced in chronological time, includes probabilities only as atemporal weights to sum up mutually exclusive possibilities. When this framework is applied without introducing additional contradictions, it implies that decisionmakers pay zero attention to the consequences of their decisions before all risk is resolved. Even after all risk is resolved, that framework requires that decisionmakers restrict their attention to the very final indivisible moment after all risk is resolved. In short, the standard framework is neither rational nor in the least plausible.

In practice, a good deal of the neoclassical analysis within this framework either skips risk altogether and presents maximizing derivations under certainty, or else uses some handwaving algebra of artificially imposed statistical distributions concerning the future. The conclusion is that unregulated markets select the expectationally correct upper echelon compensations with respect to compensation. Where the model involves an expectation, and does not simply begin with certainty, implicitly that the expectation is moderately close to the upper and lower likely outcomes. It is not discussed but renders the expectation meaningless if, for instance the upper and lower likely outcomes differ from the expectation by an order of magnitude. The algebra reaches this conclusion on what an upper echelon manager ought be paid relative to a median salary earner without the need of the plethora of detail described at the beginning of this section on what a real world manager and real world median worker does. It skips this plethora of detail by analysing what imaginary stylized representative agent workers do in a world, sometimes with as little as one class of workers, and one input and one output with which the worker grapples.

Asymmetric information, signalling and moral hazard theory has spawned a vast literature in principal agent problems on how to specify compensation in contracts under the assumption that there are measurable (expected) productivities, merely ones sometimes hidden from one of the two parties. Thereby these literatures also skip over the problem of appropriate managerial-worker pay relativities, merely give managers the hint to be wary of shirking workers from an adversely selected pool, eg Caers et al (2006).

This likewise happens in the literature (that blossomed after the 2001 burst of the Dotcom bubble) on altering managerial incentives toward longer term results. It presumes that real productivity of an individual manager can be know from some single time series such as stock prices, eg Bolton, Scheinkman and Xiong (2006). This presumption is unsupported by evidence, and likely to be only weakly correlated with an individual manager's productivity. Further, managerial productivity by itself reveals nothing about a manager's productivity relative to any of the multi-tasked workers that manger supervises.

Evidence on relative managerial to worker productivity likewise lies outside the agenda of experimental economics investigations. These laboratory investigations are valuable in checking on mainstream theory. But to this author's knowledge, not a single one goes beyond mainstream theory that assumes the labour productivity of every individual in the firm can, at least in expectation, known precisely.

Thus the experiments on worker shirking can detect where reciprocity limits shirking and measure it precisely. This is because, unlike in the real world, in the laboratory experimental design the worker produces an exactly measurable effort-determined uni-dimensional output (bar a random factor). Likewise as regards payment to the worker, the only input considered, bar a random factor, the input of the manager can also be precisely measured on a uni-dimensional scale, eg Fehr, Gächter and Kirchsteiger (1997). This design is enlightening concerning the role of reciprocity, but sidesteps the issues of how to measure the relative productivity of the multiple tasks performed by each manager and worker in conjunction with other inputs and an evolving never fully known market for the organisation's multiple outputs.

Similarly experiments on sabotage, of which an example is Harbring and Irlenbusch (2009), have a design set-up in which the economists analysing the results can measure the productivity of each player precisely. This is because they specify output as uni-dimensional, typically covering only asingle period, and observable by the experimenter enabling measurement of the exact amount of sabotage. But in real life, no-one can robustly the extent to which either a manager's sabotage (eg by "knifing in the back" his rival's likely superior proposal on a market switch) or a worker's sabotage (eg by being rude to a customer) alters overall productivity overall of the firm's array of products whose revenues depend in such complex ways on what happens in the future when the items go to market as regards customer loyalty in the face of these events, behaviour of competitors, swings in customer tastes, and so forth. The non-sabotage "optimal", "correct" productivity-derived pay for any manager or worker is instead taken as given in these experiments, and the theory whence they derive.

Instead of admitting these unknowns, an (implicit) lemma generalizes the derived "optimal", "correct" productivity-derived pay of the single worker or small set of classes of workers in the model to be whatever the market happens to be paying these individual workers. This (implicit) lemma is aided by neoliberalism, the view that the market is always correct or if not, far superior to a meddling government imposing social wage contracts on the relative pay of managers to the median worker.

Search models analysing temporal, sexual, racial, linguistic "frictions" reveal that regulation could shift market wages to more closely match productivity. But search models are necessarily limited to comparing similar people looking for work or working, or to similar people doing roughly the same job (measured on a uni-dimensional scale) and seeing who gets paid more. These search models therefore shed no light on relative pay and productivity of two classes of employees, managers and those they manage neither of whom perform tasks adequately measured on a uni-dimensional scale, and each of which performs a radically different complex of tasks. Generating search models that considered simultaneously employment in multiple specialties with multiple hierarchical tiers in each right up to being a CEO in a big firm or government department, would be more than daunting, indeed algebraically intractable. This is likely one reason for why labour search theory has remained micro, shedding to light on another key relation, market demand and supply of labour, Diamond (2012).

At the aggregate level in modern labour economics, there is simply a neoclassical competitive markets algebraic apparatus that would need more than an extension at its edge to examine seriously the following three issues. First, what is the productivity contribution of a boss relative to a median worker. Second, to what extent have honest and societally more valuable bosses got edged out by dishonest ones as regulations get repealed causing those with self-imposed honesty to get competitively edged out by those making higher profits through more dishonesty. Third, should income and wealth should be concentrated in a minute percentage of the population's upper echelon.

On these big picture questions concerning the evolution of western economies over the past 30 years of neoliberalism, the neoclassical framework is almost limited to saying the market mysteriously knows best. It has little framework for how regulations alter the extent of honesty practiced, and which sorts of managers rise to the top, or on desirable income and wealth distributions. Its expected utility maximizing framework gets exceedingly cumbersome, if variables connected to these issues are inserted. The aggregation issues to deal with the macroeconomic implications needed for policy understanding would be forbidding yet needed to include findings such as those of lawyer William

Black whose courageous testimony led to many of the imprisonments following the US Savings and Loans Bank scandal. Black found that on the exceedingly high proportion of dishonest managers who shifted into the upper echelons of finance sector on its being de-regulated in the 1980s, as detailed in his book 2004 associated with his economics doctorate under Ken Arrow titled, *The Best way to Own a Bank is to Own One: How Corporate Executives and Politicians Looted the S&L Industry*.

Further, the expected utility neoclassical framework has no techniques for checking relative productivities in complex settings, since no techniques for productivity computations beyond simple repetitive tasks under identically repeating production and demand conditions. Ignorance of these productivities is inevitable, not peculiar to neoclassical economics or to any of its decision and game theoretic brethren. What is not inevitable, in the face of ignorance, is to remain silent about the ignorance, and so exclude the ignorance playing a role in how society regulates the ration of managerial to worker compensation. Yet this is precisely the mainstream economics position, namely that it is irrational to give any role whatsoever to the matter that nobody has any sort of solid handle on the relative productivity of a manager to a worker. Mainstream economics is driven into this corner since according to expected utility neoclassical labour economics, only one statistic, one single number, the *expectation* of this relative productivity ought influence choice. The wall of silence about this ignorance is filled with neoliberal claims that "the market" populated with expected utility maximizing agents miraculously, in expectation, reflects in its managerial to worker relative compensation packages despite these relative productivities unfathomable by human empirical estimation methods.

But commonsense that puts bounds on any person's ability. Commonsense concludes that a central planner as in Russia, made major errors in its productivity pay scales. Commonsense also concludes that as neo-liberalism and market de-regulation grew in the west from the 1980s, unregulated markets often revealed their ignorance with respect to upper echelon management productivity, not miraculous discernment. The unregulated market has resulted in compensation packages for upper echelon executives discovered later to be wildly in excess of their worth. It has resulted in the most profitable components of the pharmaceutical and finance sectors being unproductively overextended – being bubbles, malignant tumours. Their executives have perpetuated the bubbles by corroding democracy, law and order, national sovereignty, and the environment. In the case of the bubble components of the pharmaceuticals sector, these executives have killed many with known-to-be-unsafe drugs. In the case of the financial sector, these executives have caused world-wide economic havoc since 2008.

The paradigm, that unregulated markets evaluate executive compensation in a rational unimprovable, or at least Pareto optimal, manner from the societal viewpoint, is thus in conflict with the stylized facts. Modifying the neoclassical paradigm to accommodate enough of the stylized facts is arguably infeasible. Its core involves maximizing agents, when one of the world's stylized facts is that no human can maximize even preparations for a family picnic, Savage (1954, 1970). Further, the modification promises to be more convoluted than retaining the Ptolemaic system for astronomy.

This paper provides an alternative framework within which governments can regulate upper echelon compensation packages and obligations. It can render transparent the godlike claims – and thus godlike responsibilities and liabilities – to be levied on those accepting stratospheric compensation. This alternative framework is the author's SKAT, the Stages of Knowledge Ahead Theory. It instates Keynesian uncertainty in a formal and logically consistent manner. It identifies the need to employ side conditions to regulate pay when uncertainty excludes being definitive even years later, on how much more productive one worker was than another.

The side conditions can oblige those so confident of their superiority to be personally liable if shown to be inadequate later. The paper proposes for instance a rule of thumb for identifying acceptance of godlike qualities, one of say above 20:1, as the ratio of the CEO pay to that of the median worker in the countries in which the firm operates (countries weighted by the share of firm profits reaped in each). Above this ratio the government permits no tax deductions, and imposes higher profits taxes on any firms who choose higher compensation or fail to reveal their compensation. Implicitly, those accepting higher compensation have declared themselves godlike and thus face unlimited personal liability. That liability is decided without law cases by ombudsmen for all infringements of the law and all revealed efficiency shortcomings in their decisions. No law cases are required, wasting taxpayer funds, since gods have the ability to be transparently good without costly, delaying law cases. Gods, or those who declare themselves such by accepting pay scales above the 20:1 ratio, are barred from having taken out insurance against such an event, since gods require none, and barred from receiving any assistance from their employer or from their employers' stockholders in meeting their personal liabilities.

The 20:1 rule has the additional advantage for a reforming country (or set of countries) that it will cause some breakup of trans-nationals, and of those mergers that were created for the sake of cornering markets and raising higher echelon salaries at the cost of the wider community. The 20:1 rule thereby can lead to more *local* top management, something that benefits local communities, and national taxpayers compared to the current situation of largely absentee owners residing in a foreign country.

The 20:1 rule can reduce the number of socially desirable managers who are "knifed out" because too scrupulous. This can be a considerable improvement over the current compensation-unregulated environment in which top echelon posts go largely to those who unscrupulously (with no holds barred) further their own careers at the cost of what is good for the firm overall, for shareholders, for taxpayers and for other stakeholders in their local and national communities. This happens because in the unregulated environment, the top echelon posts go mainly to those most aggressive in competing for their firm to be more of a law-breaker than its rivals in order to improve its profits and market share relative to them at the cost of the wider community. Such adverse externalities are sharply reduced under the 20:1 and its buttressing rational framework of SKAT, the Stages of Knowledge Ahead Theory of risky choice.

The 20:1 rule places such disincentives on upper echelon executives to accept compensation packages above this limit, that few would take the personal liability risks of accepting them, even in the cases where firm boards are not deterred by the tax disadvantage. Thereby the 20:1 rule reduces inequality where it has most damaged democracy, law and order, social cohesion and economic productivity, namely by reversing the steeply rising compensation and wealth acquisition opportunities of the top 1/4% to 1% of the compensation and wealth distribution in a country.

Unwarranted compensation package and wealth acquisition opportunities have trickled down somewhat into the entire top 10% of a nation. A limited degree of inalienable personal liability not covered by the hiring organization is desirable for this top 10% in any case. It is not merely the stratospheric, but also high, rewards that need to be accompanied by personal probity and competence. This tier should also legally be required bear limited personal liability.

This whole top 10% tier needs its earnings and wealth acquisition opportunities reduced to a level appropriate to contributions and societal well-being, as for instance benchmarked by 1970. These reductions can be accomplished via appropriately progressive income tax and related measures, along with measures to aid into education and productive work the downtrodden under-educated bottom tiers, are also desirable, as advocated for instance in Peter Diamond and Emmanuel Saez (2011).

2 Background

Into the 1970s, economists had some feel of the limited information that could be gleaned on labour productivity. Wages were set to a marked degree by testimony elicited by trade unions and managers on total factor productivity growth since all admitted splitting up the contributions of capital, imported items, managers and so forth was all but impossible. There was implicit and often explicit acknowledgement of the Marxian stand that manager to worker compensation ratios connected to more power more than to any degree of marginal productivity in light of the joint and inherently insoluble joint production problem

The 1970s however shift of academic economists into sloppily interpreted algebra of expectationally maximising agents interacting in so-called “rational” markets. This shift was aided by the long fingers of McCarthyism (US persecution of those with any communist party connections or sympathises). To escape the threats of being tainted a left-winger under McCarthyism, economists such as Paul Samuleson are reported to have owned that they de-Keynesified their macroeconomic writings to be more classical/neclassical. Paul Samuelson and others are reported as saying that they felt it safer to do this, even though Keynes was far from the “red flag” socialist end of the spectrum.[1] McCarthyism nudged US economists along the neoclassical marginal productivity theory and away from what were then market realities, namely coalitions of workers in unions lined up against coalitions of managers.

By 1980 a second reinforcing shift was under way, that of academic economists into neoliberalism. To an extent, right of centre economists caused this second shift in the wake of general confusion at the end of the golden era with the breakdown of Bretton Woods that had provided considerable exchange rate stability. In turn that breakdown around 1970 related to the US funding its Vietnam War via (exported)

[1] Keynes, at least by the 1940s, was an ardent advocate of entrepreneuers as the group to rescue economies assailed by inadequate aggregate demand, whose investment funds he advised be obtained via taxes.

inflation, and the non-retrieval of that agreement in the mid 1970s on account of dramatic increases in inflation, related to a second US war, the US's decision to support Israel in a war, leading to the formation of OPEC, and the oil price tripling twice in the 1970s. Some however contend that academe played no role in the shift to neo-liberalism, but simply jumped on the bandwagon of where the money is, for instance Paul Samuelson in his preface to his joint 2002 book.

The neo-liberalism era has been associated with abandonment of implicit and explicit wage contracts, an emasculation of trade union power as a counterpoint to managerial power, and a wholesale shift of academics out of serious measurement of labour productivity of either the median or managerial worker. Concomitantly, there has been a disproportionate increase in the pay scales of the top percentiles in most western countries. In the US since the mid 1970s, for instance, the profit share has declined yet *relative to median wages*, in large firms CEO compensation has increased many multiples, Gordon (2005). Over this same era, the US had three massive market crashes, first the savings and loans fiasco, second the dotcom crash, and third the continuing global financial crisis. Each crash revealed that executives had been wildly overpaid in comparison to their economic contributions, yet in each crash governments decided to make good the difference by higher tax liabilities on the bottom 99%, not by appropriation of the assets that have been accumulated by these executives in excess of their revealed market productivity. Related income redistribution episodes have occurred in the UK and other European countries. In Germany for instance inequality has risen dramatically since the early 1980s, but remains well below that of the US on account of its more progressive tax scale and other more just aspects of its social contract. One key factor making Germany's more just for sizable firms, there is a union representative in a top echelon of firm decision making, hinting that union information can play a useful role in maintaining more plausible productivity-related pay relativities.

Crashes followed by taxpayer bailouts reveal the inability of market participants to judge marginal product of executive officers. The errors of judgment are of many orders of magnitude. The claims from simplistic variants of the neoclassical expected utility so-called rational expectations economics (that executive pay reflects marginal productivity and is in the interests of shareholders and the public) are thus naïve and dangerous. The neoclassical band-aid of gearing executive pay to longer time spans can be a major step in the appropriate direction. But it sidesteps the exposed absurdities, logical contradictions and irrationalities that are inherent in *all* expected utility so-called rational expectations modelling.

Further the effectiveness of UK and German legislation of 2009 on executive compensation packages is yet to be assessed. In Germany for instance, when wages essentially stagnated in 2010, the compensation packages of the chief executive officers of big firms rose 22% and are slated to have risen by an even higher percentage again by the end of 2012, Manager-Gehaelter (2011). Further in Germany it remains to be seen whether its union board memberships retrieve their restraining influence on compensation packages for the chief executive officers of these big firms. There was a threefold spurt in these remuneration packages relative to CEOs of all Germany's publicly listed firms that occurred between the mid nineties and the outbreak of the current crisis, Koch, Raible and Stadtmann (2011).

Union loss of restraining influence may not be primarily a matter of some of those union board members being corrupted. It may connect more to globalization and shifts in firm headquarters to countries such as the US where upper echelon managers' compensation packages elude the rational controls imposed by European governments. The proposals of this paper aid in averting such rent seeking activities of the upper echelons, gained at the cost of shareholders, taxpayers and the wider community.

3 The Bubbles against Democracy, Law and Order

Extreme concentration of income and wealth excludes democracy and law and order since it overly concentrates lobbying power and political campaign donations. The concentration effects alter government subsidies, taxes and regulations in economically unsustainable ways and generate bubbles where the profits go to the elite, with the losses in lives, health and money paid for by the rest of the population. These alterations have been facilitated by the rise of neoliberalism. Neo-liberalism had enough adherents to cause the breakdown of the Bretton Woods exchange rate system around 1970, the rough date of the economic slowdown in growth in advanced economies. With the dislocation of the tripling of oil prices twice in the 1970s, it was embraced abruptly around 1980 in virtually every western country, enabling forty plus year massive bubbles in two sectors, namely in the prescription drugs sector and the finance sector. The *profitability* of the big firms in these two sectors, and the *growth rates* of these two bubble sectors has exceeded by multiples that of other industrial sectors.

Each of these two bubbles corrupted the academic wing of their sector, that untarnished could have alerted governments and the media. Thereby they could have averted the damage to health, the needless deaths, the economic damage and the threats to democracy, and to law and order that has ensued. Corruption of academe did however occur on a wide scale, muting voices of reasonableness, and concern to maintain a viable economy and society. The upshot is a situation of unbridled capitalism in many ways more shocking than that of the Robber Baron era in wild US a century earlier, its so-called Gilded Age, but only gilded for the barons, an absurdly low income, security and social world for those not in this top 1/10th of 1% of the US population.

3.1 Big Pharma (the big firms in the Prescription Drugs Sector)

Over the last forty plus years, hundreds of thousands of prescription drugs trials have been conducted with massive taxpayer contributions to pharmaceutical firms. Yet democratic wishes have been systematically flouted. Virtually not a single one of these clinical prescription drugs trials has been conducted on the relevant patient set over the relevant time interval.

Thus virtually none of these commercial clinical trials to which taxpayers have so handsomely contributed yield relevant information. Relevant information is that required for clinicians to know the adverse side effects of these drugs, or even the probable correct dosage, or whether fabulously priced drugs are effective at all. Instead, prescription drug overdoses cause more deaths per annum and than do road accidents, and are the main cause of liver failure (as a vast proportion of these drugs cause liver damage). But governments face such effective Big Pharma lobbying that they do not allow these shocking statistics to be made public. There are for instance confidentiality clauses in the UK and German regulations, and massive freedom of information hurdles in concerned citizens uncovering the facts in the case of the US. The upshot has been, as the UK Royal College of Physicians enunciated in 2010, a wholesale perversion of health care, and, as many a country's finance minister and health insurer has noted, an unsustainable explosion in expenditures on inefficacious dangerous prescription drugs.

Efforts to curb in the top pharmaceutical firms in the world fraud and criminal activity (killing people needlessly) systematically fail. US judges and prosecutors, for instance, lament that pharmaceutical executives regard the matter of paying fines for having broken the law (and killed lots of people simply in order to make higher profits) a minor cost of doing business. Thus when fining what is in this millennium the biggest pharmaceutical firm in the world, Pfizer, $2.2 billion in 2009, the judge expostulated drug firms "do not take the law seriously", instead see fines as "a cost of doing business". Pfizer, in 2004 had sworn repentance to Prosecutor Loukes for killing people and defrauding governments – a fake repentance as its managers were simultaneously engaging in like fraud concerning other drugs as the 2009 prosecutions revealed. Avorn of Harvard Medical School as cited in Evans (2009) observes:

> "Marketing departments of many drug companies don't respect any boundaries of professionalism or the law … The Pfizer and Lilly cases involved the illegal promotion of drugs that have been shown to cause substantial harm and death to patients."

Former Pfizer employee Kopinchi, as reported in Schwitzer (2009) summed it up thus:

> "In the Army I was expected to protect people at all costs … At Pfizer I was expected to increase profits at all costs, even when sales meant endangering lives."

Big Pharma is by this millennium the sector with the highest criminality in the US, as measured by the fines levied for criminal and fraudulent activity.

In both the US and Germany, pricks to the prescription drugs bubble are modest and of insecure duration. Both countries suffer from having maybe 99% of the prescription drugs paid for by health insurers neither effective nor safe. Naturally a health minister seeks to improve his country's health and reduce costs by pricking this bubble. But for decades, the prescription drugs lobby has been far too strong for any democratically elected government to effect this. One of the more vivid black comedy instances of this lobby's superior strength over moral health politicians is when Horst Seehofer, Germany's Health Minister within the conservative CDU party, constructed a "positive" list. The list excluded the ineffective, dangerous exorbitantly expensive prescription drugs for which the German public health insurers currently pay. At a celebratory birthday party for the head of the patented drugs lobby, Seehofer's undersecretary presented to its head as his gift, the list that shredded. Seehofer himself presumably was not invited to the party. See Ellis Huber (1997). On the shredding Seehofer then gave this interview:

Reporter:

Does that mean that the pharma lobby was so strong that the government (reform) policy had to be withdrawn?

Horst Seehofer:

Yes. That is the case since 30 years till now. Meaningful structural changes toward a more social market economy in the German public health sector are not possible because of the resistance of confederated lobbying.

Reporter:

It cannot be that the industry is stronger than government policy. In the end government policy should say No!

Horst Seehofer:

I cannot contradict you.

English translation.

The German language broadcast is available on: http://www.youtube.com/watch?v=DCy1D1HGeeA as uploaded 27 September 2008 by Germany's Organisation for Truth (die Wahrheit)

Lest US readers think there is more scope in the US to publish such a positive list, consider the matter that Germany's doctors, health insurers and politicians have between them constructed at least 8 such lists over the last few decades, even if nobody has dared, given the lawsuit won that publication infringes competition, to publish any of them. By contrast, not a single positive list has to this author's knowledge has been constructed in the US. It is as if the patented drugs lobby is so powerful and its hold on the National Institute of health that allocates research funds, so extreme, that no academic there would consider that they had a chance in obtaining a grant to construct such a positive list – or ask for a grant to cover the legal liabilities of Germans who gave them one of their positive lists. There is good reason for such qualms amongst US researchers. A lost lawsuit on this issue in the US would be in the hundreds of billions. BigPharma is currently mooting (or maybe by the time this goes to press has begun) a lawsuit against the US FDA (Food and Drug Administration) on the grounds that the FDA's little forays against misleading prescription drugs advertising infringes the constitutional right of free speech.

3.2 The Financial Sector

As Charles Ferguson's insightful documentary *Inside Job* reveals, in the financial sector, the breakdown in law and order is even graver. Its lobbying power, campaign donations and occupation of almost every pertinent sector of the government has reached the point where it no longer faces prosecutions for its basic criminal and fraudulent activities. There was still some limited degree of law and order in the prior US macro crash, its Savings and Loans bust in the late 1980s, in which a sizable number of the miscreants went off to gaol, even if there were scandals of many flagrant legal violations resulting in not even a minute penalty, for instance for the upper echelons in the failure of Illinois Continental. The last swig of prosecutions were those of its New York Attorney Eliot Spitzer in the wake of the dotcom bubble bust, prosecutions that he undertook when the US federal government, under the sway of the financial sector, itself undertook essentially zero fraud prosecutions. In the current crash of 2008 and continuing, by contrast, US Justice prosecutions have been minimal as regards the size of fines imposed on the big banks, and as regards none of their top echelon landing in gaol. Nor do such prosecutions seem likely in the future, since Obama administration has filled virtually every relevant regulatory post with someone whose fortune was made in enlarging the financial bubble, and has reappointed as chair of the US Federal Reserve Ben Bernanke. Ben Bernanke brokered a deal excluding the taxpayer rescued principal issuer of credit default swaps from prosecuting for fraud its principal client, Goldman Sachs and ignored the evidence on fraud at an epidemic level in the housing sector that was supplied to him by the FBI, and in annual meetings by the General Counsel and Policy Director of the Greenlining Institute, Robert Gnaizda.[2]

A charismatic figure might arise to reintroduce law and order into the financial sector. But the odds are against it. To date each time a reform figure reaches such a level of possible influence, he has been forced to resign for an illegal activity. This is despite the fact that this very activity reportedly is reportedly undertaken “on an industrial scale” by chief executive officers of the big banks with ready witnesses to hand, yet without prosecutions. Ferguson (2010) gives one example. The (2011) framing of IMF’s Strauss Kahn, a prominent opponent of Wall Street, and promoter of research on its dangers, is another. Without a charismatic figure emerging who is invulnerable to entrapment, democracy seems reduced to events like the wall street sit-ins. Such events to date have achieved little and are at risk of ending, despite widespread democratic support, since the city expenses to be met by tax payers rise, as does inconvenience for city livers.

4 The Need to Downsize Upper Echelon Compensation Packages

No fix to lawlessness, in either the prescription drugs sector or the financial sector, can be lasting without reducing the future income and wealth scope of its top executives. On the extreme extent of this wealth concentration in key countries such as the US, the UK and in the last decade, Germany, see eg the Citigroup reports of Kapur et al (2005, 2006a, 2006b), Rhodes and Stelter (2011a, 2011b, Stelter 2012, Fullbrook (2012).

Further, while the two biggest bubble sectors damaging western economies are in finance and prescription drugs, some other sectors are growing in extents and directions that are unsustainable, against societal welfare, and bordering on criminality. To return society to more desirable ways, drastic changes are needed in upper echelon emoluments. Currently mainstream academic economists assist in justifying these emoluments in two ways.

One is to ignore income distribution and to focus all their teaching and research on other issues. Such an approach is unethical. Academic economists derive much, or in many cases all, income from taxpayers. Economists thereby have an obligation to be concerned about societal welfare. This obligation is routinely unfulfilled.

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2 Gnaizda (2011) provides a summary of the numerous other regulators, banks and mortgage firms to whom he presented evidence of predatory lending between 2000 and 2007, failing in each case to get action, and of the public protests that he organised.

Societal distributional issues are sometimes ignored on the grounds that to care about such ethical issues is to be unscientific. The effort to split economics from values is investigated by Vivian Walsh in his 1996 book *Rationality, Allocation and Production* begins with Robbins efforts to dodge redistribution issues during the 1930s depression. Hilary Putnam in his 2000 book *The Collapse of the Fact Value Distinction*, traces the effort of economists to maintain this split through adoption of logical positivism, and how such an effort faces internal inconsistencies since the facts of science are red with values. The choice of facts stems from values, as does their quantification, interpretation and integration into theories, cause effect chains and policy recommendations.

The other way economists sidestep the matter of rising wage disparities is to deem that chief executive compensation is what the market requires and that inference with this generates inefficiency. This line of thinking involves a notion that the market is efficient. This hypothesis warrants investigation, not the assumption of its correctness. It rests on so many unmet assumptions as articulated, eg in Stephen Marglin's 2008 book, *Economics The Dismal Science*, as to be implausible except by chance. To see if it is correct by chance, the way upper echelon compensation packages have changed would need to conform with rudimentary checks on conceivable productivity ratios between the median wage earner and one in this upper echelon.

5 The Failure of the Market Efficiency Hypothesis

Public revelation of data on the top echelon salaries started being mandated in many countries in the late 1980s in the expectation that shareholder anger would remove the obviously excessive compensation packages being meted out. The publications of these stratospheric compensation packages however had the reverse unintended effect. General shareholder power was too weak to curb the practice. Instead the published data were used by upper echelon managers to keep getting yet higher compensation packages – on the grounds that each could discover others upper echelon persons receiving even more (on one criterion or another). The rising concentration of income meant that by 1989, about the first year with extensive data, amongst those in the Fortune 500 companies the ratio of the compensation package of a CEO to the median wage in the US was already almost 200:1, and had risen threefold more by the time of the dotcom bubble bust. It then subsided down to just over 300:1 by 2003, only to rise again to over 600:1 by 2007. Did public revelation of such CEO data and the trebling of the ratio of CEO compensation packages over the next roughly 20 years constitute and improvement in market efficiency?

One way proposed is to declare these stratospheric salaries reasonable on the grounds that:

> "the actions of CEOs have a much higher impact on firm profit than those of regular workers. In this sense CEOs are indeed much more productive" Oliver Guertler (2012, powerpoint No 5)

Such a way is unacceptable on three grounds. First, many workers have the scope for sabotage with as drastic an impact on firm profits as most acts of CEOs. In India for instance on 18th July 2012:

> "Up to 100 people have been arrested for attacking managers and executives at India's top carmaker - Maruti Suzuki plant. The chaos left one dead and many injured, forcing the plant to suspend its operations." http://www.youtube.com/watch?v=9d4P1ReH49s

That workers generally decide to refrain from such sabotage connects to the findings of Truman Bewley (1999) on the paramount importance managers place on maintaining morale – something that would be unimportant if workers decisions are as comparatively irrelevant as Oliver Guertler believes.

Second, even more stories hit the press of CEOs damaging firm profits (and leaving people dead) than of workers doing this. Consider for instance this account of CEO Juergen Schrempp.

> "When Schrempp took control of Daimler-Benz three years ago, he wasted no time in living up to what his predecessor, Edzard Reuter, called a reputation for ``ruthless brutality."
> He started dismantling the high-technology empire built by Reuter and insisted that Daimler return to its roots as a carmaker. He sold off losing enterprises such as the Dutch aircraft firm Fokker, stripped away layers of the Daimler bureaucracy by firing 200 executives, and ran up a restructuring bill of more than $3 billion _ one of the biggest annual losses in Europe's corporate history.
> Besides selling off unprofitable holdings such as its electronics and rail divisions, Schrempp laid off more than 40,000 employees in his first two years at the helm. As he waited for his austerity medicine to work its magic, Schrempp consolidated power with some bare-knuckle boardroom politics. He forced out his arch rival Helmut Werner, the popular chief of the Mercedes division, in a showdown with company directors. He then fired his mentor and chief financial officer, Gerhard Liener, who had leaked an uncomplimentary memo about Reuter to the press. Liener soon after committed suicide." Walsh and Drozdiak (1998)

> "Investors were screaming for the DaimlerChrysler chairman's scalp because he had destroyed $60 billion in stock market value in six years. His own management board had humiliated him … Schrempp's contract doesn't expire until April 2008. If his enemies were somehow to pry him loose and into retirement tomorrow, Schrempp's career epitaph would read, "High ambitions, low on follow-through." Taylor III (10th January, 2005)

> "Unable to get the pieces of the trans-Atlantic auto giant he created to work properly at the same time, DaimlerChrysler AG Chief Executive Juergen Schrempp yesterday announced plans to retire at the end of the year -- three years before his contract was set to expire. The surprise move ends his tumultuous 10-year reign at the once rock-solid German company and underscores the dramatic governance changes that are now spreading through boardrooms across Germany." Power, Taylor and Walker (29th July 2005)

The apparent motivation for Schrempp initiating and effecting the merge was to obtain an over five-fold increase in his salary, since at the time Schrempp organized the Chrysler merger, its CEO had a $11.5 million salary, whiles Schrempp as CEO of Daimler, constrained by German culture had $2 million in take home pay, Blasko, Netter and Sinkey (2000). Whiles in neither the case of the worker sabotage at Suzki, nor of Schrempp's history as CEO of Daimler, do we have an overall precise measure of the negative productivity of their decisions, on commonsense grounds, we declare both to be substantial monetarily, and both to have killed at least one person. Further there are commonsense grounds for deeming that Schrempp caused a bigger profit drop for Daimler ($60 billion), whereas the vandalized Maruti Suzuki plant was re-opened in just over a month, on 21st August 2012.

So yes, Oliver Guertler may be correct that CEOs, through their greater decision-making power, have more scope to affect firm profits. But we lack evidence of their having adequate decision making power to on average improve rather than damage firm profits. There are numerous clear-cut examples in which on commonsense grounds, CEOs have wielded their greater power to reduce firm profits.

CEOs are humans, like all others, subject to temptations, limited in judgement. There is no evidence that these weaknesses have abruptly declined over the years since 1980 when their compensation packages started escalating to godlike levels. Oliver Guertler's observation that a CEO has much power over firm profits is zero evidence that a CEO thereby acquires godlike properties that the rest of society ought revere and reward. The evidence rather points toward the age-old dictum: Power corrupt and absolute power corrupts absolutely. Society needs to take steps to curb the already sizable power of CEOs for good – but also alas for ill – with avoiding their compensation packages escalating to further enhance their power.

Another way to judge whether such compensation packages are excessive is by their macroeconomic effects. In western economies, the rise was accompanied by an unprecedented extent of public officials needing to avert risks of repetitions of the 1929 crash, with variable degrees of success. The answer from this evidence is thus no, as indicated by the academic wing of the financial sector. Its US society thereafter ceased its prior practice of awarding its prize for the best doctoral thesis to one "demonstrating" the efficient market hypothesis with special reference to CEO pay. Instead it started publishing articles on how firms could not afford these compensation packages.

On the macroeconomic data, we could indeed conclude that CEO contributions on average have been negative, that the higher pay scales has enticed into top positions those best at knifing in the back their more sensible and noble competitors for the post, and allowed those who take the most risks in breaking the law and flouting democracy to rise to the top. McCallum's biography of a middle class society accords with this conclusion. She traces business morals in Melbourne from the time of the crash of marvelous Melbourne, by far the richest city in the world by the 1880s, through to the new class of greed, the children of the far more ethical business leaders of the preceding generation.

Might this verdict against societal efficiency of those who head firms in today's neoliberal economies be checked with micro data on the marginal product added to a firm by its CEO? We have objective measures we could use of differences between two employees in their running speeds, in their accuracy plus speed in adding numbers. But we have no simple objective measures of differential abilities of the median worker and the chief executive officer. This is for several reasons.

One reason is that each conducts an exceedingly complex set of tasks, and in conjunction with a complex and differentiated set of equipment and fellow workers. These factors alone preclude full accuracy.

The second major reason is that the value of the items produced by each cannot be instantly ascertained. The set of items each produces is aimed at netting the firm net revenues after costs, neither of which are instantly ascertainable, indeed in many cases take years before they could be known, and since estimating them would even roughly would involve vast sums, in reality rarely get even roughly estimated afterwards. Furthermore, every firm receives a wide range of government assistance in the form of infrastructure, workforce training, government-sponsored research passed on and so forth. Hence from the viewpoint of society the compensation of firm workers from the janitor to its CEO ought take account of how the items they produce assist society in general, not merely what they contribute to net revenues of that firm.

6 The Implications of Godlike Salaries

When no firm and no economist attempts to make any of the above estimates, claims that pay ratios relate to productivity differences are subject to major levels of uncertainty. What is reasonable to conclude, however, is that to assert that a manager is fivefold more productive than the median worker is to attribute to that manager quasi-godlike abilities, and to attribute to that manager a tenfold higher productivity is to attribute to him godlike qualities.

Beyond a ratio of 20 to the median worker is however patently unreasonable. Ratios of 200:1 are more than absurd, and of 600:1 utterly ridiculous. No reasonable government should permit as tax deductions ratios in excess of 20:1. Further for such a ratio, the manager is claiming godlike powers and thus should face godlike responsibilities. Such godlike responsibilities imply unlimited personal liabilities over the assets of that manager and of that manager's immediate family (spouse parents, children, siblings) for cases found against that manager by a brief few day inquiry by a government ombudsman.

Such ombudsman findings should be without scope for legal trials and querying. The godlike have the capacity to keep transparent their good behaviour and their value to the taxpayer. In turn this means that after initial ombudsman evidence that the one who took a godlike compensation package had feet of clay, society need not lose time or funds on costly lawsuits to extract from that manager the full personal liability.

In fulfilling some of their responsibilities, many a school child could do better than some managers. The CEO in charge of Heathrow in December 2010 for instance had not prepared for a possible bad winter, and treated thousands of passengers disgracefully, worse than cattle, with to date zero compensation or even a verbal apology. In the same winter, other highly paid upper echelon managers disgracefully failed in even simpler winter duties. Thus in Bonn the German postal authority and Targa Bank failed in their public obligation to clear the snow in front of their buildings jeopardizing the public health and inhibiting many from going outside for days. By contrast, small homeowners and an adjoining German National Radio station, whose CEO would earn a trifle of the compensation package of these other bodies, did sweep their streets.

To extract a *personal* penalty from these CEOs for such misdeeds simply on the basis of a photo at Heathrow and a photo in Bonn of these sidewalks is fundamental. In such cases, the ombudsman does not even need three days, merely a few hours. There should be no law case. Rather fines levied by the local community on a no-negotiation basis by a local ombudsman. There should be additionally instant removal of their continuing compensation package down to below the godlike level of a 20:1 ratio.

Since society in general disagrees with the claims of CEOs and their subservient boards of directors that anybody has godlike qualities, governments should place a limit below 20:1 of the compensation package permitted to any manager for tax deduction purposes. Additionally, firms paying above the 20:1 limit, ought pay the government a like salary for an ombudsman to check that god's activities. Regulators risk being inferior to the regulated unless reaped at least an equal salary. Since compensation packages above this limit damage democracy and law and order, governments should place higher tax rates on companies that either fail to reveal their compensation packages or who offer ones above this level.

By trial and error, the higher tax rates can bring those compensation packages down to this level. The higher tax rates will also reduce the extent of undesirable takeovers of small and medium sized companies by those seeking to reduce competition and raise their own salaries. Thereby these higher tax rates will incidentally keep more locally situated CEOs who assist their local communities, and do not insofar as they engage in philanthropy, damage one locality, to the benefit of big agglomerations like New York and London, where these upper echelon CEOs often prefer to live.

7 New Economic Foundations of SKAT, the Stages of Knowledge Ahead Theory of risk

Economists in academe have mostly been silent on the rise in managerial compensation packages since they lack foundations beyond those of neoclassical economics. Indeed they are routinely educated in the most empirically disconfirmed variant of neoclassical economics, the so-called rational economics branch wherein essentially no government action can improve market efficiency and welfare. Neoclassical economics claims to include risk and uncertainty through expected utility theory. In fact, for policy purposes such as tax deductions for the compensation package of a manager, such analyses ignore risk entirely, and analyse as if the (merely implicit) expectation is a certainty. This leaves academic mainstream economics in the position of claiming godlike certainty for what the market awards a manager as efficient and benevolent for society, an untenable position of academics' propensity to construct maximizing models.

The logical inconsistencies in expected utility theory, its inability to grapple with risk and uncertainty, and the alternative logical framework of the author's SKAT, Stages of Knowledge Ahead Theory of risk and uncertainty, are documented in papers such as Pope (1983, 1985, 1995, 2000, 2001), in Pope, Leitner and Leopold-Wildburger (2007, 2009), and in Pope and Selten (2010/2011. 2011a and 2011b). The essence of SKAT is to recognize that risk and uncertainty involve sequential stages of knowledge ahead, since risk entails limited knowledge ahead, and this knowledge evolves as new things are learned. After a CEO makes a decision for instance, there is a delay before that CEO (and stockholders and the general public) knows its consequences. In the case of a decision to suppress adverse effects evidence in a drugs clinical trial, or to liberalise the financial markets, decades can elapse before many of the benevolent and adverse outcomes are learned. These intervening decades are in SKAT termed pre-outcome periods. When decades elapse, the current system of allowing extreme multiples of godlike salaries to managers means that many of these managers have vanished from the scene, making retrieval of their unwarranted inefficient compensation packages exceedingly difficult.

Governments on behalf of their citizens thus need to invoke commonsense. They need to deter the awarding of any godlike salaries. They also need to introduce measures to retrieve unspent portions of them whenever after the event, taxpayers are asked to face higher tax liabilities on account of any crimes plus any human errors committed by those who accepted these godlike salaries.

8 Neoclassical Band-aid Prescriptions[3]

No viable extent of simply deferring a portion of these managerial compensation packages a few years can deal with the situation of godlike compensation packages, even if such measures are a step in the right direction. One problem is that the delay would need to be 30 to 40 years, if we might judge from the lags before major financial sector bubble wages revert to normal in the US, Thomas Phillippon and Ariell Reshev (2008/9, figures on wage relativities, pp 48-49). This neoclassical approach fails to grapple with the radical uncertainty facing any wage regulator on whether a manager is enhancing or damaging national productivity. The economic environment is far too complex for any regulator to ascertain a few years later whether withheld compensation has ex post proven warranted.

Likewise measures, such as that of Germany, of imposing limited personal liability on such CEOs, is a step in the right direction, but insufficient. Unlimited personal liability of the CEO and his immediate family is required to address the damage of godlike managerial salaries, with its being illegal to have any insurance cover for any of these potential liabilities, and with the liabilities determined without law suits, cheaply and rapidly by ombudsmen. For as noted before, the godlike can ensure transparency that their acts are readily perceived by ombudsmen representing just, warranted and non-damaging to societies and the economy.

9 Nasty Shocks

Ex post it is sometimes revealed that managers damaged societies and economies. This does not happen in expected utility or game theory, since the academic economist declares that all that matters is maximising the expectation, and the academic economist does not pause to examine what happens after.

[3] The author is indebted to Gerd Gigerenzer, Director at the Max Planck Institute for Human Development and Director of the Harding Center for Risk Literacy in Berlin, the coiner she believes of this phrase, in his efforts to get a more reasonable rational decision theory than expected utility theory, as in Gigerenzer (2004).

After, if there were two possible outcomes, then the expectation never happens, only either the good or the bad, and thus people are in a state of either good or bad shock. Mainstream sometimes attempts to declare this a non-problem, by positing a whole series of periods, and then averaging the good and bad ensuing shocks, and declaring that this average (like an expectation) is all that matters. This periodisation, however, is inconsistent with the axioms, Pope (2006.2007, Pope and Selten (21010/.2011), and in any case an irrational maximum. People live in chronological time and in each of its periods derive satisfactions and dissatisfactions. A theory that people do and should wait for the summation of these satisfactions and dissatisfactions at the eschatological endpoint of their life is neither sensible or plausible.

SKAT allows for shocks in the serious sense. It differs from expected utility and game theory in not imposing on people maximizing of an imaginary entity, an expectation, requiring people to live in virtual reality instead of in the real world with its flux of nice, neutral and nasty shocks. Since the SKAT framework admits shocks in a serious, non-trivial way, it opens the issue of what to do after the unexpected happens. SKAT reveals the neoclassical nonsense in those who demand grandfather clauses after a shock lest the government damage productivity because people expected and invested on the basis of a policy "expectation". SKAT allows admission that most people's expectations are disappointed in a nasty shock, and a sensible look at whom the shock revealed as incompetent or dishonest or negligent, and thus whose power over the economy ought be curtailed in the wake of the shock for overall economic and health and social welfare.

SKAT allows sensible policy given the consensus that the ongoing financial crisis from 2008 arose from actions of upper echelon managers in that sector. It thus allows the conclusion that productivity will be enhanced by sharply curtailing their activities and their scope to influence the economy in the future by clawing back their assets, along with a shrinkage of that sector, indeed arguably a shrinkage to around its pre 1980s size.

Instead of this major nasty shock's costs being born primarily by the general taxpayer and citizen, this nasty surprise's costs needs to be levied, so far as retrievable, on unspent assets of upper echelon managers. No rise in government deficits or taxpayer bailouts should be contemplated without a concomitant seizure of such assets. Any other procedure is not merely unjust, but damages economic efficiency by retaining decisionmaking power in the hands of those who either by dishonesty, negligence or incompetence, have been revealed as unsuitable for wielding economic power. Government seizure of this wealth moreover will enhance aggregate demand, something direly needed, and avert other asset bubbles developing. For the unparalleled income and wealth amassed by a minute upper group over the last 30 years will be largely unspent – the amount is simply too large for even the extravagant (with eg multiple private jets), to have spent it all. One useful account of how to retrieve this unspent wealth, and the urgent need to do so, is offered by the Boston Consulting Group's "back to Mesopotamia call", Rhodes, David and Daniel Stelter's telling (2011).

10 The Tier Just Below the Upper Echelon

For at least those with pay scales relative to the median worker of 10:1 or more, a limited degree of personal liability under the same conditions as imposed on any accepting compensation in excess of 20:1 should hold. Exceptional pay involves exceptional power over the entire community. Those accepting these high rates ought be personally liable up to 50% of lifetime compensation received, personal assets, and future pension rights. Such liability involves no serious personal hardship – it leaves these recipients when perceived as guilty or incompetent under commonsense evidence, with still five times the income and assets of the median worker. Whiles not godlike, this is still an ultra ultra high claim of superiority of the person accepting this compensation package, and well beyond what their abilities can be objectively identified as contributing. The personal liabilities can reduce the number of immoral and unethical decisions routinely uncovered as perpetuated by this class of high earners, and thus enhance market, government, university efficiency and productivity.

A yet broader class of rather highly compensated individuals, all those in the top 10% of income and wealth scales, have also by trickle down shared some of the unwarranted rise in compensation relative to those in bottom income and wealth tiers. For these too a degree of personal liability should be imposed. High income and high wealth and the right to pass these on to heirs are matters that bring high communal responsibilities and demonstration of working for the communal good. Those with either income over 5 times that of the median worker or wealth over 5 times the median citizen ought be personally liable up to 25% of lifetime compensation received, personal assets, and future pension rights. This still leaves them four times as well-off as the median, even when perceived guilty, and thus is a mild move toward society becoming more productive.

11 Complementary Tax measures

This paper's package of measures link upper echelon pay to personal liability and tax obligations. It imposes taxes and personal liability to curb godlike salaries, measures that could be taken even further, for instance from operating in that country, placing a bar on any firm that anywhere else in the world offer compensation packages in excess of 20:1. It thus addresses the observation in Greg Mankiw's (2011), that one reason for the drastic rise in inequality over the last forty years is the rise in upper echelon pre-tax salaries. It addresses that observation with the commonsense means available to any government to stop godlike salaries and improve its country's economic and social efficiency.

This paper's measures can complement other measures for aiding market efficiency, democracy, law and order and social welfare. These measures include more progressive taxes, and workforce and education incentives to bottom tiers in society, eg Peter Diamond and Emmanuel Saez (forthcoming). This paper's measures may in some countries be a pre-requisite for getting in these other improvements, and getting them enforced. This is because it is difficult to get any government regulations of the upper echelon into the public arena, and if legislated, enforced, when the rest of society is by comparison miserably paid, and when those employed to regulate constantly hop into more lucrative employment of those that they previously regulated.

12 Stars, the Self-Employed and the Rentier Class

The upper echelon of income earners include some partnerships as in hedge funds and media empires, some in the rentier class through inheritance or prior high salaries, and a significant number of sports, film and music stars. Their high incomes give them also exceptional scope to influence politics, law and order and to damage democracy. All earning god-like incomes ought be subject to the same extents of uninsurable inalienable personal liability of the 20:1, 10:1 or 5:1 category as employees reaping godlike incomes through salaries.

13 Inter-Country Competition

Countries get even more benefits from regulating god-like incomes if other countries do also. But most benefits are reapable, going it alone. This is true even most of tackling tax dodgers, whose number could rise unless counter measures are taken. Very small countries cannot threaten Switzerland with lack of bank clearance if it fails reveal secret accounts. But any sizable country such as the US or Germany, can, and achieve instant success. Even Germany cannot break the European agreement to give tax havens Monaco and Lichtenstein Shennen zone agreements that perpetuate these tax havens, but would presumably have little trouble getting these removed it wanted to. Small countries have nothing to lose in banning their citizens from dealings with the tiny tax havens around the world unless these open their accounts. Nor do big countries.

Every sensible country ought years ago have altered its tax laws to reap taxes from stars and upper echelon employees resident elsewhere. Taxes ought be payable for those with an income above a threshold of 5 times the median wage by number of days spent in the country. Executives and stars need a certain amount of international travel, and such taxes will mitigate the tendency to claim to live in low tax countries. Currently for instance, the upper echelon of the pharmaceutical sector in Australia for instance seems mainly to live in lower taxed Singapore, and needs careful accounts to spend enough days there. But such marketers need to spend a lot of time face-to-face with their Australian doctors that they are enticing to prescribe, and in face-to-face governmental lobbying, so that such a tax rule change would benefit the Australian Tax Office revenues even without introducing a 20:1 taax deduction cut-off.

Investigations ought also be made on taxing stars by the number of hours a star is cable viewable in that country. International agreements ought be sought along the lines of author receipts for library and university student usage of material. Cable companies net advertising on account of viewers in other countries, and these can be used to measure star presence in these other countries and for these countries to pro rata tax those stars appearing on these cabled in shows. Additionally consideration should be put to repudiation of patent and copyright since both on various measures inhibit innovation, waste massive resources in lawsuits, and contribute to the democracy and law and order endangering earnings to stars and media enterprises. The Black, Murdoch, and Bersculoni media empires are instance where this wealth has passed from being a danger in these respects to having wreaked considerable damage.

Countries going it alone in the above godlike ratio reforms will face also a deluge of cries that they are losing talent and firm headquarters. The reforming country (or set of countries) should be unalarmed. Managers damage economies while paid excessively, with moreover societally inefficient persons rising to upper echelons. There is a competition to the bottom in ethics. Some managers report that if they are more law abiding, their firm – and they themselves – miss out to those who are more unethical. It is the job of government to stop this inefficient excessive damaging competition to get an edge by being more unethical than rivals.

The reforming country will benefit by having better-run firms. It uses its discriminatory tax power to deter firms from outsourcing their headquarters. It appreciates the need to severely downsize its bubble sectors for the good of its citizens. It is delighted if it can export the bubble components of its finance and prescription drugs sectors. It knows that most managers face extreme family problems in shifting countries and that many will accept a ten-fold reduction in compensation to avoid these costs. Indeed some managers too shocked at the evils, have already accepted this (by shifting into academe). The reforming country knows that its policies will reduce the damaging extent of international takeovers that reduce welfare, and lead to a reverse benevolent move of firms entirely under local control.

14 Reform of Labour Economics– Outside help needed?

Without godlike compensation being curbed and linked to godlike responsibility, there is a risk of a continuation of the takeover of countries by their prescription drugs and finance sectors. As shown in this paper, these sectors epitomize malignant growth stymieing the rest of the economy. There is a risk of these sectors remaining outside democratic control and law and order through their inordinate lobbying power to change laws and to limit fines and prosecutions. Single purpose movements may be needed to ask each politician how they will vote on issue concerning each of these sectors to alter the situation.

Single purpose movements might also be needed to entice a shift in how academics teach and research labour economics. The changes in academe are needed beyond labour economics, but labour economics is one of the key areas. Over the stupendous concentration in income additions over the last thirty years, singularly few academic economists have researched and taught on the issue.

Of these, to judge by publications, the majority have been in the finance wing, and provided efficient market hypothesis justifications of the emoluments, replete with prizes for the best doctoral thesis going annually on this theme from the American Finance Association. The Dotcom bubble bust did end this direction of the prizes, and to that association's credit, even led to published articles questioning whether firms could afford their big upper echelon pay packages. That questioning however did not spill over into a general retreat from competitive market modeling, and conclusions that finance salaries ought retreat to their pre-1980s level relative to other white collar comparably educated employees in comparably risky jobs. It at most manifested itself in behavioural economics proposing that some managers diverge from the competitive market notion of rationality in being too optimistic, to self-confident.

In economics departments by contrast, many labour economists have shown a more societally caring attitude, and researched the important but safe topics of labour market imperfections within a basically neoclassical frame. Their studies have aided policies designed to reduce discrimination, enhance job search, and bid also to enhance the progressivity of taxes. But academic labour economists have by and large shied away from the big picture issues that have arisen in the last 30 years of neo-liberalism. These big picture issues are the cornering of most of the entire GDP growth over this period by less than 1 per cent of the population, and the rise to the top of the more criminal and fraudulent and negligently risk-taking executives since de-regulation removes all the normal bars on competition taking these forms.

Tackling these big picture issues goes outside the neoclassical endorsement of competitive markets. It requires a different framework, one that admits seriously complexity, uncertainty and ignorance. It requires dropping the pretense of expected utility or game theory maximizing agents, something feasible only in an ultra simple world with pre-specified closely bounded stochastic distributions and a future repeating the past. Such factors can be dropped and the modelling's internal consistency improved at the same time with SKAT, the Stages of Knowledge Ahead Theory of risk and uncertainty. This framework allows free of contradiction for the succession of stages of evolving knowledge ahead that uncertainty imposes, with the additional uncertainties arising from increased dishonesty competition under de-regulation able to be incorporated in an intuitive manner.

Switching to a SKAT framework however has massive risks for reforming academic economists. They risk difficulties in being published in what mainstream deems top journals, and thereby risk their own academic futures. If they teach alternative economics, their students risk lack of an academic career. Yale's Truman Bewley had his own non-neoclassical discoveries published in his 1999 book. Based on hundreds of interviews with executives, labor leaders, and other professionals, he established that morale was an important factor in why businesses are reluctant to decrease employee compensation at times of low demand. But on being asked whether he taught his graduate students this sort of material, he answered, heavens no, or they would be unemployable.

In the terminology of SKAT, reformers need to live through the pre-outcome period during which they are uncertain whether the reform will take on, and uncertain whether it will take so long to take on that they have committed academic suicide in pursuing their conscience and the reform. Reform-minded economists may lack the critical mass to switch the drift of labour economics teaching and research to recognize how godlike salaries have damaged productivity, democracy and law and order. Academic labour economics will then instead allow the process to continue of academic economists (many outside the specialty of labour) to endorse these godlike salaries, and strive to obtain them themselves through consultancies and so forth. It will continue to be the case that Paul Samuelson (2007, pp. ix-x) bemoaned "economists follow the money pointed, alas, in only one direction".

One avenue that reform-minded labour economist might consider is outside help, for instance organizing Wall Street sit-ins that may revive when warmer weather returns, to start pressing their political representatives on what sort of economics is being taught in colleges, and for what sort of labour economics articles these colleagues are being promoted. Outside pressure, not necessarily elicited, from NGOs, aided in the partial reform of the World Bank. It gave that extra oomph, without which arguably the incumbent neo-liberal majority, could not have been shifted. Argument and evidence often has limited force restricted wholly within an academe where there seems a terror of abandoning cute maximizing models on the part of the tenured and a conviction on the part of the yet-to be-untenured that, as Truman Bewley put it, nobody would hire them if they deserted mainstream. Taxpayers from the Occupy Movement asking politicians and attending some university classes with queries to heads of departments on banker bonuses, might alter this.

Semi-internal help might also be tapped. Economics groups centred on academe, including the American Economics Association, might also be lobbied to keep a tab on which economics departments are furnishing courses and rewarding publications that deal seriously with burning issues like banker bonuses and the skewed income distributions. A code of ethics wider than conflict of interest declarations might be mooted, one requiring admitted academic economists to:

a) do genuine economic teaching and research based on assumptions connected to styli zed facts and not construct sudokus loosely connected to economic terms), and

b) select teaching and research topics with an eye to improving society, not solely to personal academic promotion or to netting lucrative consultancies.

References

Bailey, Martin J., Michael C. Jensen, 1972, ‘Risk and the Discount Rate for Public Investment’, in Michael C. Jensen (ed), *Studies in the Theory of Capital Markets*, Praeger Publishers, New York, 269-293.

Patrick Bolton, Patrick, Jose Scheinkman and Wei Xiong, 2006. "Executive Compensation and Short-Termist Behaviour in Speculative Markets," Review of Economic Studies, Wiley Blackwell, vol. 73(3), pages 577-610, 07.

Bewley, Truman F. (1999): Why Wages Don't Fall During a Recession, Harvard University Press.

Black, William A, (2004) The Best way to Own a Bank is to Own One: How Corporate Executives and Politicians Looted the S&L Industry, University of Texas Press.

Blasˇko, Matej, Jeffry M. Netter and Joseph F. Sinkey, Jr. (2000) The Daimler Chrysler Merger: Short-term Gains, long Run Wealth Destruction? Issues in International Corporate Control and Governance 15, 299–329.

Borch, Karl Henrik, 1969, ‘A Note on Uncertainty and Indifference Curves’, *Review of Economic Studies*, 36 (1), 1-4.

Caers Ralf, Cindy Du Bois, Marc Jegers, Sara De Gieter, Catherine Schepers, Roland Pepermans (2006) Principal-Agent Relationships on the Stewardship-Agency Axis, Nonprofitmanagement&Leadership, 17: 1, 25-47. Available at: http://academic.udayton.edu/richardghere/org%20theory%202009/major%20readings/prin-agent%20nonproft.pdf.

Diamond, Peter and Emmanuel Saez, The Case for a Progressive Tax: From Basic Research to Policy Recommendations (with E. Saez), *Journal of Economic Perspectives, forthcoming.*

Diamond, Peter (2012) “Markets with Search Frictions”, presentation 10th March to the Eastern Economics Association Meetings, Boston.

Evans, D. (2009), “Pfizer Broke the Law by Promoting Drugs for Unapproved Uses”. Available at: http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a4yV1nYxCGoA. Retrieved November 8, 2011.

Fehr, Ernst, Simon Gächtner and Georg Kirchsteiger (1997) Reciprocity as a Contract Enforcement Device: Experimental Evidence, Econometric 65(4) 833-860

Feldstein, Martin S., 1969, ‘Mean-Variance Analysis in the Theory of Liquidity Preference and Portfolio Selection’, *Review of Economic Studies*, 36, 5-12.

Ferguson, Charles (2010), "The inside job". Documentary Film, ASIN: B0041KKYBA. Sony Pictures Classics, Hollywood.

Fullbrook, Edward (2012) The Political Economy of bubbles, *real-world economics review* 59, March, 138-154. Available at: http http://www.paecon.net/PAEReview/issue59/Fullbrook59.pdf.

Gigerenzer, G. (2004). Striking a blow for sanity in theories of rationality. In M. Augier & M. J.G. (Eds.), Models of a Man: Essays in the Memory of Herbert A. Simon (p. 389-409). Cambridge, MA.

Guertler, Oliver (2012) *Discussion: Godlike Compensation Rationally Linked to Godlike Personal Liabilities (by Robin Pope),* powerpoint presentation, supplied afterwards to the author, 38th Annual Conference of the Eastern Economic Association Boston, March.

Harbring, Christine and Bernd Irlenbusch, (2009) Sabotage in Tournaments: Evidence from a Laboratory Experiment, IZA DP No. 4205, June. Available at: http://ftp.iza.org/dp4205.pdf

Huber Ellis (1997) Pharmakapital-Monopoli (Pharmaceutical funds monopolise). SWB 01/97: Available at: http://www.cbgnetwork.org/Ubersicht/Zeitschrift_SWB/SWB_1997/SWB_01_97/_Positivliste_/_positivliste_.html. Retrieved August 25, 2011.

Gordon, Robert J. (2003), "Exploding Productivity Growth: Context, Causes, and Implications," *Brookings Papers on Economic Activity*, Vol2003, No. 2, pp. 207-79.

Koch, R., Raible K.F., Stadtmann G. (2011), "Vorstandsvergütung in Deutschland – Ist eine Trendwende in Sicht?" (Salaries of Executive Boards in Germany - Is there a Change of Trend in Sight?) *Discussion Paper No. 299* April, European University Viadrina Frankfurt (Oder), Department of Business Administration and Economics.

Lowenstein, Roger, (2011), *When Genius Failed – The rise and fall of long-term capital management*, Random House Trade Paperback, New York.

Manager-Gehaelter (2011), "Wirtschaftsboose kassieren 20% mehr" (CEO's get 20% more). Available at: http://www.stern.de/wirtschaft/news/manager-gehaelter-wirtschaftsbosse-kassieren-20-prozent-mehr-1703686.html. Retrieved November 8, 2011.

Mankiw, Greg, (2011) National Public Service Radio comments in response to Host Steve Inskeep noting that students at Harvard, yesterday, joined protests against income inequality. In a session titled "Harvard Economics Students Protest Perceived Bias", available at: http://www.npr.org/2011/11/03/141969009/economics-class-protests-perceived-bias

Marglin, Stephen A. (2009), "The Dismal Science: How Thinking Like an Economist Undermines Community", Harvard University Press.

Philippon Thomas and Ariell Reshef (2008/2009) Wages and Human Capital in the U.S. Financial Industry: 1909-2006, in 2008 mimeo, in 2009, CEPR Discussion Paper No. DP7282 and NBER Working Paper No. 14644.

Pope, R. E. (1983), "The Pre-Outcome Period and the Utility of Gambling", in B.P. Stigum and F. Wenstøp (eds.), Foundations of Utility and Risk Theory with Applications, D. Reidel, Dordrecht, pp. 37-177.

Pope, R. E. (1985), "Timing Contradictions in von Neumann and Morgenstern's Axioms and in Savage's Sure-Thing Proof", *Theory and Decision,* 18 (3), pp. 229-261.

Pope, R. E. (1995), "Towards a More Precise Decision Framework, A Separation of the Negative Utility of Chance from Diminishing Marginal Utility and the Preference for Safety", *Theory and Decision* 39, (3), pp. 241-265.

Pope, R. E. (2000), "Reconciliation with the Utility of Chance by Elaborated Outcomes Destroys the Axiomatic Basis of Expected Utility Theory", *Theory and Decision*, 49 (3), pp. 223-234.

Pope, R.E. (2001) "Evidence of Deliberate Violations of Dominance due to Secondary Satisfactions — Attractions to Chance", *Homo Economicus* XIV (2), pp. 47-76.

Pope, R. Leitner, J., Leopold-Wildburger U. (2007), "The Knowledge Ahead Approach to Risk: Theory and Experimental Evidence", *Lecture Notes*, Springer.

Pope, R. Leitner, J., Leopold-Wildburger U. (2009), "Expected Utility versus Changes in Knowledge Ahead", *European Journal of Operations Research* 199 (3), pp. 892-901.

Pope, R., Selten R. (2010/2011), "Risk in a Simple Temporal Framework for Expected Utility Theory and for SKAT, the Stages of Knowledge Ahead Theory", *Risk and Decision Analysis*, 2(1), pp. 5-32.

Pope, R., Selten R. (2011a), "Managed Floats to Damp World-Wide Exchange Rate Liquidity Shocks like 1982-5, 2006-9: Field and Laboratory Evidence for the Benefits of a Single World Currency", *Open Economics Journal*, 4, pp. 1-38.

Pope, R., Selten R. (2011b), "Central Bank Swaps and Joint Exchange Rate Interventions Rescued Global Finance in 1982-5, again in 2006-9: Field and Laboratory Evidence for Single World Currency", in Onaran O., Niechoj T., Stockhammer E., Truger A., Treeck T. eds, "*Stabilising an unequal economy? Public debt, financial regulation, and income distribution*", Metropolis Verlag, Marburg.

Power, Stephen, Edward Taylor and Marcus Walker (2005) "After Bumpy Tenure at Daimler, Schrempp Hands Over the Keys" Wall Street Journal 29th June. Available at: http://online.wsj.com/article/0,,SB112239051722596173,00.html

Putnam, H. (2002), “The Collapse of the Fact/Value Distinction and other essays including the Rosenthal Lectures”, Harvard University Press, Cambridge, Massachusetts.

Rhodes, David and Daniel Stelter (2011) Collateral Damage: Back to Mesopotamia – the Looming Threat of Debt Restructuring, Collateral Damage series, Boston Consulting Group. Available at: http://www.bcg.com/documents/file87307.pdf

Rhodes, David and Daniel Stelter (2012) Collateral Damage What Next? Where Next? What to Expect and How to Prepare, Collateral Damage series, The Boston Consulting Group. Available at: http://www.bcg.com/documents/file94255.pdf

Royal College of Physicians, (March 2011). Leading for Quality: the Foundation for Health Care over the Next Decade. March 2010. Available at: http://www.epha.org/IMG/pdf/Leading_for_Quality_the_foundation_for_healthcare_over_the_next_decade.pdf.

Samuelson, Paul A. and William A. Barnett eds, 2007, Inside the Economist’s Mind, Conversations with Eminent Economists, Blackwell Publishing.

Savage, Leonard J., 1954 and 1972, *The Foundations of Statistics*, 1st edition, John Wiley & Sons, New York, 2nd edition Dover New York.

Schneeweiß, H., 1967, *Entscheidungskriterien bei Risiko* (Decision Criteria under Risk), Springer, Berlin.

Schneeweiß H. 1968a Die Unverträglichkeit von (m, s)-Prinzip und Dominanzprinzip (The Incompatibility of the Mean Standard Deviation Principle and the Dominance Principle). Unternehmensforschung (Operations Research); 12; 180–184.

Schneeweiß H. 1968b, Note on two dominance principles in decision theory. Unternehmensforschung (Operations Research); 12; 213–216.

Schneeweiß H. 1973a, On the consistency of classical decision criteria. Inference and Decision; 1; 31–44.

Schneeweiß H. 1973b, The (m, s) decision criterion on the class of Normal distributions. Inference and Decision; 1; 23–30.

Schneeweiß, H: 1973, The Ellsberg Paradox from the point of view of game theory. In *Inference and Decision*, 1, 65-78 in series Selecta Statistikca Canandiana.

Schneeweiß, H., (1968) “Die Unverträglichkeit von (m, s)-prinzip und Dominanz-prinzip,” (The Incompatibility of the Mean-Variance Principle with the Dominance Principle) *Unternehmensforschung (Operations research)* 12: 180-184.

Schneeweiß, H., 1967, *Entscheidungskriterien bei Risiko* (Decision Criteria under Risk), Springer, Berlin.

Schwitzer, G. (2009), "Profits at all costs, even when endangering lives". Available at: http://blog.lib.umn.edu/schwitz/healthnews/2009/09/pfizer-fine-fol.html. Retrieved November 8, 2011.

Seehofer, Horst (2008) Interview upploaded by DieWahrheiten (The Truth), http://www.wahrheiten.org (The Truth Association) on Oct 27, 2008. Available at; http://www.youtube.com/watch?v=DCy1D1HGeeA.

Stelter, Daniel (2012) Preparing for a Two-Speed World: Accelerating Out of the Great Recession, Collateral Damage series. Boston Consulting Group. Available at: http://www.bcg.com/documents/file36762.pdf

Taylor, III, Alex (2005) "The Nine Lives of Juergen Schrempp" Fortune, 10th January 2005. Available at: http://money.cnn.com/magazines/fortune/fortune_archive/2005/01/10/8230969/index.htm

U-tube (2012) "Mayhem Workers burn HR head to death in India Suzuki". Available at: http://www.google.com/search?client=safari&rls=en&q=http://www.youtube.com/watch%3Fv=9d4P1ReH49s&ie=UTF-8&oe=UTF-8#client=safari&rls=en&q=http%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D9d4P1ReH49s&ie=UTF-8&oe=UTF-8

Walsh, Sharon and William Drozdiak (1998) Executive Odd Couple At Helm Of Auto Giant: *Vastly Different Leaders Must Work Together"* Washington Post 10th May. Available at: http://articles.sun-sentinel.com/1998-05-10/business/9805080409_1_juergen-e-schrempp-daimler-vacation-home

Walsh, V. (1996), "Rationality, Allocation and Reproduction", Clarendon Press, Oxford.