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Risk Culture, Neoclassical Economics, and Enterprise Risk Management

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ABSTRACT

Financial regulators, rating agencies and many commentators have blamed weak Risk Culture for many of the large losses and financial company failures of the past decade. But their exposition regarding a strong Risk Culture only goes as far as describing a few of the risk management practices of an organization and falls far short of describing the beliefs and motivations that are at the heart of any culture. This discussion will present thinking about how the fundamental beliefs of Neo Classical Economics clash with the recommended risk practices and how the beliefs that underpin Enterprise Risk Management are fundamentally consistent with the recommended risk management practices but differ significantly from Neo Classical Economics beliefs.

Keywords: Insurance, ERM, risk culture, plural rationality theory, Risk appetite, risk tolerance, Chief Risk Officer, Tone at the Top

Risk Culture has become the explanation of last resort for the choices and behaviors that fed the financial crisis of the last decade. Because other explanations – economic, demographic, organizational and so on – proved inadequate, the conclusion seems to be that culture must have been the driver. Hence the talk about the need for a "change of culture."

> *Weaknesses in risk culture are often considered a root cause of the global financial crisis, headline risk and compliance events. A financial institution's risk culture plays an important role in influencing the actions and decisions taken by individuals within the institution and in shaping the institution's attitude toward its stakeholders, including its supervisors.*[4]

Among regulators and quasi-regulators such as rating agencies that oversee the financial sector (and in particular the insurance industry), a consensus of sorts has formed about what change is needed in

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[4] Financial Stability Board, **Guidance on Supervisory Interaction with Financial Institutions on Risk Culture: A Framework for Assessing Risk Culture** (2014)

culture. This consensus emerges in the form of ten practices that firms are urged to adopt and regulators to look for to enhance their view of the viability of the risk management of a firm.

Commonly Recommended Practices for Healthy Risk Culture[5]		
1	Risk Governance	Involvement of the board in risk management
2	Risk Appetite	Clear statement of risk that the organization is willing to accept
3	Compensation	Incentive compensation does not conflict with goals of risk management
4	Tone at the Top	Board and top management are publicly vocal in support of risk management
5	Accountability	Individuals held accountable for violations of risk limits
6	Challenge	It is acceptable to publicly disagree with risk assessments
7	Risk Organization	Individuals assigned specific roles to facilitate the risk management program, including a lead risk officer
8	Communication and Participation	Risk management is everyone's job, and everyone knows what is happening
9	Link to Strategy and Planning	Risk management program consistent with company strategy; planning considers risk information
10	Separate Measurement and Management of Risk	No one assesses their own performance regarding risk and risk management

This paper examines this approach to risk culture from a number of angles. First, we review how those who study business organizations and other groups define "culture." In that light, we examine a widely adopted set of beliefs and motivations known as neoclassical economics – and contrast these with beliefs and motivations implicit in the ten recommended risk culture practices described above. Next, we consider how "risk" can be meaningfully defined in this context, and draw out the implications for "Risk Culture." We conclude that adoption of the ten risk management practices will not change organizational risk culture, and propose alternative approaches that may be more meaningful and effective.

What is Culture?

According to anthropologists whose profession is to study how groups of people interact, definitions of the term "culture" fall into two classes:

> *"One views culture as composed of values, beliefs, norms, rationalizations, symbols, ideologies, i.e. mental products. The other sees culture as the total way of life of a people, their interpersonal relations as well as their attitudes."*[6]

Neither definition would allow for an idea of culture that does not include the group's underlying biases and motivations.

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[5] These ten principles can be observed in the FSB paper cited above, the **ORSA Guidance Manual of the NAIC** (2013), AM Best's **Risk Management and the Insurance Rating Process** (2008) and S&P's **Insurance Criteria: Evaluating the Enterprise Risk Management Practices of Insurance** Companies (2005).

[6] Thompson et al, **Cultural Theory** (1990)

Business organizational theorist Edgar Shein says:

> *Culture matters because it is a powerful, tacit, and often unconscious set of forces that determine both our individual and collective behavior, ways of perceiving, thought patterns, and values. Organizational culture in particular matters because cultural elements determine strategy, goals, and modes of operating*[7].

He goes on to say that culture has three levels: espoused values, artifacts and underlying assumptions. Espoused values are what we say about the official culture. Artifacts are the observable actions of the organization. But the underlying assumptions are ultimately the driver of culture, according to Shein.

> *The essence of culture is then the jointly learned values and beliefs that work so well that they become taken for granted and non-negotiable.*[4]

Several studies of risk culture refer to the idea of "Potemkin villages" – structures created and activities carried out for the sake of appearances only, without underlying substance.

> *The corporate governance of large banks was characterised by the creation of Potemkin villages to give the appearance of effective control and oversight, without the reality.*[8]

Recommending a set of Risk Culture practices without addressing underlying values and beliefs could well encourage the creation of ever larger and more ornate Potemkin villages, rather than meaningfully improving and enhancing Risk Culture.

Underlying Beliefs in the Financial Sector

Many people working the financial sector received an introduction to a commonly adopted set of beliefs during their first undergraduate course in economics. A short list of such beliefs includes:

- Rational expectations (Lucas)
- Utility theory (Von Neumann–Morgenstern)
- Shareholder value maximization (Friedman)
- Efficient markets (Fama)
- General equilibrium (Walras)
- Law of one price (Arrow and Debreu)

Business schools have a strong tendency to reinforce these beliefs, which are part of the canon of neoclassical economics. Weintraub summarizes the three fundamental assumptions of neoclassical economics (NCE) as rational preferences, maximization of utility for individuals and profits for firms, and independent actions based on full and relevant information.[9]

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[7] Schein, Edgar H. **The Corporate Culture Survival Guide** (2009)

[8] Parliamentary Commission on Banking Standards - House of Lords - House of Commons: **Changing banking for good** (2014)

[9] Weintraub, E. Roy (2002). "Neoclassical Economics," in David R. Henderson (ed.), **Concise Encyclopedia of Economics,** Library of Economics and Liberty.

This paradigm tends to dominate businesses in the financial sector, and has in general produced extremely favorable results for its adherents. The exceptions, however, take the form of major disruptions to the economy. Some observers have suggested that the 2007-2008 financial crisis is evidence of failure of these beliefs.

> *As I see it, the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth. Until the Great Depression, most economists clung to a vision of capitalism as a perfect or nearly perfect system. That vision wasn't sustainable in the face of mass unemployment, but as memories of the Depression faded, economists fell back in love with the old, idealized vision of an economy in which rational individuals interact in perfect markets, this time gussied up with fancy equations. The renewed romance with the idealized market was, to be sure, partly a response to shifting political winds, partly a response to financial incentives.*[10]

And yet these ideas are so entrenched in business schools and university economics departments that recent requests from students for exposure to any alternate theories of economics have been firmly rebuffed.[11] Milton Friedman provided the ultimate defense against the incursion of disconfirming facts when he famously asserted that "*a theory cannot be tested by comparing its assumptions directly with reality.*"[12]

The risk management practices of banks and insurers that were harmed by the events of 2007-2008 are documented in many sources.[13] Those practices include:

- Focus on maximizing short-term profits
- Reliance on the prevailing market impression of risk
- Highly compliance-driven approach to risk management
- High reliance on accounting standards for the assessment of the financial benefits of actions
- Low communication of risk management information
- Reliance on the market to validate any business strategy
- Rewarding improvement in the company's short-term results without regard to long-term implications

Underlying Beliefs of Enterprise Risk Management

What, then, are the beliefs that underlie the discipline of enterprise risk management (ERM)? In comparison with the beliefs of neoclassical economics, there has not been much development of a formal theoretical framework for ERM. There have been no Nobel prizes for advancement of ERM thinking, while at least half the economics prizes over the past 40 years have recognized advancements

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[10] How Did Economists Get It So Wrong?, Paul Krugman, **New York Times**, 2009

[11] See "University economics teaching isn't an education: it's a £9,000 lobotomy", Aditya Chakrabortty **The Guardian**, 8 May 2014 and also "Manchester students man the barricades to overthrow economic orthodoxy", Ben Chu. The Independent, 26 April 2014.

[12] **Methodology of Positive Economics**, Milton Friedman, University of Chicago Press, 1953

[13] For example: Senior Supervisors Group, **Observations on Risk Management Practices during the Recent Market Turbulence** (2008). **What Happened to Goldman Sachs**, Steven Mandis (2014). **Fatal Risk: A Cautionary Tale of AIG's Corproate Suicide**, Roddy Boyd (2010).

in neoclassical economics. However, the following ideas are implicit in most published ERM guidelines and best practices:

- The world is dangerous enough that we are motivated to control risks, and also predictable enough that systematic management and exploitation of risk can be worthwhile
- Preferences for risk and reward are asymmetrical: the aversion to a large potential loss is always higher than the preference for the same sized potential gain
- Opportunities for profit via risk-taking exist because firms can find opportunities to exploit risks that the market has mispriced, and/or opportunities to exploit diversification effects
- Organizations always prefer not to fail, so risk management objectives should be a part of all company strategies and should involve the company's CEO and board or directors
- Risks can and should be measured; this measurement is a technical exercise that requires expertise
- Management of risk requires diligent attention to any choices to accept risks and actions to mitigate or transfer risk; more significant risk decisions should be approved at more senior levels of the company hierarchy

ERM and NCE Beliefs and the Theory of Plural Rationality

Comparison of these ERM beliefs with the NCE framework readily reveals conflicts. Indeed, NCE does not suggest that companies should expend resource to manage risks; rather, investors can more efficiently manage the risks of their investments at a portfolio level. Under NCE, failure of a firm is not intrinsically problematic: in fact, it is better for the system that firms fail so that their resources can be redeployed to other activities. Because NCE investors diversify the intrinsic risks of individual investments across their portfolio, the costs of a few firm failures will in the end be much less than the cost of every firm performing risk mitigation to reduce their own individual likelihood of failure.

Another conflict is seen in the NCE assumption that risk decisions are made based on expected values that weight risks only by size and probability. But this conflicts with the idea of asymmetrical risk preferences. ERM beliefs are more aligned in this area with the behavioral finance framework known as Prospect Theory, which posits that humans are not the rational beings assumed by NCE.

Let's compare ten recommended Risk Culture practices identified and encouraged by the Financial Stability Board, National Association of Insurance Commissioners, A.M. Best's and Standard & Poor's with the beliefs of ERM and NCE.

Table 1: Ten Risk Culture Principles Compared to ERM and NCE Principles				
	Risk Culture Practices		**ERM Principles**	**NCE Principles**[14]
1	Risk Governance	Involvement of the board in risk management	Firm survival should be the primary responsibility of the board; involvement in risk management supports that goal	Board should represent shareholder interests, generally best served without the costs of risk management
2	Risk Appetite	Clear statement of risk that the organization is willing to accept	Systematic management and exploitation of risk is worthwhile; preferences for risk and reward are asymmetrical	Should be willing to accept any risk that will enhance shareholder value
3	Compensation	Incentive compensation does not conflict with goals of risk management	Unwisely constructed incentives can encourage increased risk-taking without regard to firm's survival or its asymmetrical risk/reward preferences	Incentives should align interests of management as rational actors with those of the shareholders as rational actors, i.e. to increase value
4	Tone at the Top	Board and top management are publicly vocal in support of risk management	Firm survival should be the primary responsibility of the board and management; involvement in risk management supports that goal	Board and management should represent shareholder interests, generally best served without the costs of risk management; leadership and employees will act rationally
5	Accountability	Individuals held accountable for violations of risk limits	Need for diligent attention to risk; more significant risk decisions should be approved at more senior levels of the company hierarchy	Should be willing to accept any risk that will enhance shareholder value; those closest to the market are best able to judge value
6	Challenge	It is acceptable to publicly disagree with risk assessments	Discussion is healthy to ensure that the best risk measurements and ideas are applied by the best-qualified experts	The market assesses risk and sets a price that incorporates all available information; no discussion is necessary
7	Risk Organization	Individuals assigned specific roles to facilitate the risk management program, including a lead risk officer	Need for diligent attention to risk; more significant risk decisions should be approved at more senior levels of the company hierarchy	Risk management within the firm is not usually in the shareholder's interests; how would these individuals and activities add to shareholder value?
8	Communication and Participation	Risk management is everyone's job, and everyone knows what is happening	Making risk management everyone's job is the best way to assure risk is properly controlled; transparency increases likelihood that risk management policies will be honored	Risk management should be restricted to activities that clearly enhance shareholder value and those specifically required by regulators; communication should be on a "need to know" basis to avoid distracting productive employees
9	Link to Strategy and Planning	Risk management program consistent with company strategy; planning considers risk information	Supports the prevention of corporate failure	Main corporate strategies and plans should focus on increasing shareholder value; therefore risk management should be restricted to activities that clearly enhance shareholder value and those specifically required by regulators
10	Separate Measurement and Management of Risk	No one assesses their own performance regarding risk and risk management	Risks can and should be measured; this measurement is a technical exercise that requires expertise and should be performed impartially	Growth in shareholder value is the only important measure of the effectiveness of management decisions

[14] Adapted from the beliefs cited above.

This comparison illustrates that while the underlying beliefs of NCE do not support the Risk Culture practices favored by regulators, these Risk Culture practices are consistent with the ERM beliefs.

That does not mean, however, that NCE and ERM cannot productively co-exist within a firm. Many companies employ pricing strategies and mark-to-market accounting techniques that are consistent with NCE alongside risk management practices that are consistent with the ERM principles. In other words, *the corporate culture is not monolithic.*[15]

Such an observation, while at odds with much work on corporate culture – which assumes that an organization has a *single* culture – would not surprise anthropologists. They recognize that culture is rarely unitary and never static. While anthropological Theory of Plural Rationality describes four main categories of risk beliefs, real-world organizations typically are hybrids of two or more of these categories.

Category	Risk Beliefs	Preferred Strategy
Maximizer	The world tends to stable equilibrium, so risk is temporary and unimportant	Risk Trading: accept well-priced risks (even very large ones) in order to maximize profits
Manager	Risk is predictable within certain limits but dangerous beyond that	Risk Steering: carefully balance risk and reward within certain constraints, using technical expertise
Conservator	The world is dangerous and equilibrium is precarious	Loss Controlling: minimize risk, even at the expense of profit, to avoid devastating results
Pragmatist	The world is inherently unpredictable and risk cannot be well understood	Diversification: keep options open; seek freedom to react to changing conditions

Using the framework of Plural Rationality Theory, we see that the underlying beliefs of NCE are consistent with the Maximizer view, and the beliefs of ERM are consistent with the Manager view. (More information about the Conservator and Pragmatist categories, and indeed a more complete discussion of all four categories, can be found in numerous other publications from the authors.[16])

To date, our studies of insurer risk beliefs and risk strategy[17] show that insurer management typically exhibits heterogeneous risk beliefs, and insurers often apply the full range of risk strategies. Among the insurance managers, boards and employees we have assessed, over 50% hold a view consistent with NCE, ERM or a blend of the two belief sets; a hybrid NCE/ERM view of risk was more common than

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[15] In addition, we do not distinguish between Risk Culture and Corporate Culture. Within a single culture, they are inseparable. When they appear distinct, it is because there are two separate sub cultures within the organization.

[16] **Rational Approaches to Insurer ERM**, Ingram, Thompson, Underwood, InsuranceERM, (2013). **Surprise, Surprise**, Ingram, Tayler, Thompson, ASTIN Bulletin, (2012) and **Collective Approaches to Risk in Business: An Introduction to Plural Rationality Theory**, Bush, Ingram, North American Actuarial Journal (2013)

[17] **All on the Same Train**, Ingram, Thompson, Underwood (2013) CRO Council http://www.crocouncil.org/2013callforpapers.html and **A Study of Insurer Risk Strategies**, Ingram, Thayer, Underwood (2013) ICA 2014 https://cas.confex.com/cas/ica14/webprogram/Session5862.html

either view alone. In terms of risk strategy, we found that most insurers used at least three and often all four of the possible strategies in different contexts.

Insurer annual reports have also given indications of this:

> As an insurer, ACE is in the business of risk management for profit. As a result, enterprise risk management, or ERM, is a part of the day-to-day management of the Company and its operations. Because risk management must permeate an organization conducting insurance businesses around the world, we have established an ERM process that is integrated into management of our businesses and is led by ACE's senior management. (2010 Annual Report)

> In the reinsurance industry, the core of the business model is the assumption and management of risk. A key challenge is to create total shareholder value through the intelligent and optimal assumption and management of reinsurance and investment risks while limiting and mitigating those risks that can destroy tangible as well as intangible value, those risks for which the organization is not sufficiently compensated, and those risks that could threaten the ability of the Company to achieve its objectives. While many companies start with a return goal and then attempt to shed risks that may derail that goal, the Company starts with a capital-based risk appetite and then looks for risks that meet its return targets within that framework. Management believes that this construct allows the Company to balance the cedants' need for certainty of claims payment with the shareholders' need for an adequate total return. (PartnerRe 2013)

> We believe that our risk management tools support our strategy of pursuing opportunities created by dislocated markets and help us to identify opportunities that we believe to be the most attractive. (Renaissance Re – 2010 Annual Report)

> Through risk identification, risk evaluation and risk mitigation, we strive for a balance between risk and return which ultimately contributes to the sustainable growth and development of the Group. (Ping An 2013 Annual Report)

Anthropologists' work using the Theory of Plural Rationality to study human interactions reveals that heterogeneity, contention, and ongoing change are to be expected; more than that, they are healthy and desirable. In this light it seems reasonable to question whether the regulators' approach – recommending certain practices aligned with one belief set, but not actually addressing those beliefs or alternative sets of beliefs – is likely to have the desired impact on Risk Culture.

What is risk?

Before going further, let us first acknowledge that anything to do with Risk Culture must – fundamentally – deal with human beings and the way groups of human beings interact with one another. We have examined what "culture" means; it seems appropriate to examine the nature of "risk" in this context as well.

More than 40 years ago, two seminal papers on risk were published: Chauncey Starr's "Social Benefit versus Technological Risk" and Mary Douglas's "Environments at Risk." Chauncey Starr was an engineer at the Electric Power Research Institute in Palo Alto, California; Mary Douglas was a social anthropologist at University College London.

Starr	Douglas
Insisted on the fundamental distinction between objective risk (what the risk really is) and perceived risk (what people variously and erroneously believe it to be). i.e. • Risk is "out there" • Risk is essentially a technical matter • Risk can be handled using the methods of DMUU (Decision Making Under Uncertainty)	Argued that there is often no valid way of drawing that distinction: we can't even talk about risks without perceiving them! To claim a risk is objective is simply to claim that your perceived risk is right and the others are wrong. i.e. • Risk is socially constructed • Risk, of its essence, is political • Risk can be handled using the methods of DMUCC (Decision Making Under Contradictory Certainties)

For the ensuing quarter-century, the Royal Society in the U.K. and the National Academy of Science in the U.S. held to Starr's distinction between objective and perceived risk. But the issues Douglas had raised continued to surface until – in the wake of food safety issues such as mad cow disease – there developed a growing consensus that public perceptions must be included in the assessment of risk.

In 1997, Derek Burke (former Vice-Chancellor of the University of East Anglia, and Chairman of the U.K. Advisory Committee on Novel Foods and Processes) explained the paradigm shift. Initially he had believed that all "experts" had to do was decide whether a novel food or process was safe, and then a grateful public would accept it. But over time he came to see scientific expertise as feeding into a political process – one that involved not just scientists, but also consumers and their various perceptions of risk. The scientists' failure to appreciate the essentially political nature of what they were doing had led to their being seen (in Burke's words) as "arrogant, distant and uncaring." In other words, insistence on a technical definition of objective risk – and disregard for the heterogeneous cultural context – simply did not have the intended effect.

Implications for Risk Culture

The recent FSB publication on Risk Culture[1] asserts:

> *A sound risk culture should emphasise throughout the institution the importance of ensuring that: (i) an appropriate risk-reward balance consistent with the institution's risk appetite is achieved when taking on risks; (ii) an effective system of controls commensurate with the scale and complexity of the financial institution is properly put in place; (iii) the quality of risk models, data accuracy, capability of available tools to accurately measure risks, and justifications for risk taking can be challenged, and (iv) all limit breaches, deviations from established policies, and operational incidents are thoroughly followed up with proportionate disciplinary actions when necessary.*

While this example is taken from the FSB, it is reasonably representative of the approach of other regulatory and quasi-regulatory bodies. Fundamentally, the idea is to impose practices that are highly consistent with pure ERM beliefs on all financial institutions, regardless of the firms' actual underlying beliefs.

For firms whose culture is already strongly or solely driven by the ERM beliefs (our studies to date suggest this is a minority), there is no problem; the recommended practices may already be in place, and any that need to be added or strengthened should fit well with the existing culture. But for other firms, the three possible outcomes would seem to be:

1. Exposure to regulators' recommended practices will cause a shift in the firm's underlying beliefs
2. Conflict of underlying beliefs will result in the firm rejecting regulators' recommended practices
3. Conflict of underlying beliefs will result in the firm performing "Potemkin ERM," i.e. going through the motions of the recommended practices without accepting the underlying ERM beliefs, and therefore without any meaningful reliance on those practices

There are few recorded instances of major changes to culture resulting from declarations (the first possibility above). More often, cultural change arises from endogenous institutional dynamics or comes about after a "surprise" – an instance in which the organization experiences a drastic deviation from its expectations or from the experience of other similar organizations. Shein[3] suggests that a culture will change only when it perceives that the pain of not changing exceeds the pain of changing. A mandate – even from so important a body as a regulator or rating agency – may not be able to summon sufficient force of pain to change underlying beliefs, especially when Potemkin ERM is an option.

Culture develops as an organization successfully navigates its formational challenges. A firm's culture is a combination of the values, beliefs, and practices that led the organization to success. Typically there are many factors – and so the firm's culture is unlikely to be monolithic. Similarly, the risk lessons learned by different groups within the firm are likely to vary, leading to varying perspectives on risk.

Without consideration of the differing perspectives held by the various stakeholders in financial transactions, prescriptions for financial risk management and Risk Culture face an uphill battle for meaningful adoption. No matter how strong the expert consensus regarding the probabilities and associated impacts of possible future outcomes, risk entails human and political dimensions that technocrats neglect at the peril of finding their recommendations rejected, ignored or given mere lip service. For this reason we believe that a truly useful description of healthy Risk Culture must respect not only the heterogeneous nature of *culture* but also the plural perspectives on *risk*.

The good news is that such a multifaceted framework for Risk Culture is quite achievable – and indeed likely to yield more robust results than any monoculture. As we have set out in other writings[18] , hybrid Risk Cultures can draw from the strengths of various perspectives to yield a result that is not only more meaningful and better accepted – because it aligns with underlying belief sets – but also more resilient in an ever-changing world.

The resilience of a hybrid culture is not, however, achieved by simply importing an ERM subculture into a NCE culture. It is achieved by developing a blended belief system that incorporates elements of the beliefs of NCE with the ERM beliefs into the dominant culture of the organization. These beliefs will then support the adoption of some version (though not necessarily the version espoused by the regulators) of the ten risk culture practices.

[18] **The Fabric of ERM**, Ingram, Underwood, The Actuary, (2011)