

RESEARCH ARTICLE

Integrating variable risk preferences, trust, and transaction cost economics – 25 years on: reflections in memory of Oliver Williamson

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Abstract

In this essay, we honour the memory of Oliver Williamson by reflecting on Chiles and McMackin's 1996 *Academy of Management Review* article 'Integrating variable risk preferences, trust, and transaction cost economics'. The article, which built on Williamson's work in transaction cost economics (TCE), went on to attract attention not only from the authors' home discipline of management and organisation studies, but also from other business disciplines, the professions and the social sciences. After revisiting the article's origins and core arguments, we turn to selectively (re)view TCE's development since 1996 through the lens of this article, focusing on trust, risk and subjective costs. We cover conceptual and empirical developments in each of these areas and reflect on how our review contributes to previous debates concerning trade-offs implicit in relaxing TCE's behavioural assumptions. We conclude by reflecting on key points of learning from our review and possible implications for future research.

Keywords: Oliver Williamson; subjective transaction costs; transaction cost economics; trust; variable risk preferences

1. Introduction

Transaction cost economics (TCE) is used extensively in organisation studies to explain and predict which governance structure (e.g. hierarchy and market) managers choose for a particular transaction based on the attributes of the transaction (e.g. asset specificity). Because TCE's explanatory and predictive validity had been somewhat challenged by anomalous empirical evidence, we sought to extend the theory in order to overcome these limitations. In our 1996 article published in the *Academy of Management Review* (AMR), we employed a deductive theorising approach in which we relaxed the model's behavioural assumptions (i.e. risk neutrality, opportunism and bounded rationality). We incorporated into the model the full spectrum of risk preferences (not only risk neutrality, but also risk-aversion and risk-seeking) and the role of trust (not only transactions devoid of trust in which opportunism is rife, but also transactions embedded in social contexts that generate trust), yielding a broad range of predicted governance structures as a function of the risk preferences of the transactors and the social embeddedness of the transaction. Specifically, our theorising generated six switchover levels of asset specificity at which managers switch from market to hierarchical governance. In contrast, the existing TCE model addressed only one such outcome, representing the relatively narrow case in which individuals are risk-neutral and behave opportunistically. It has been gratifying to see our colleagues' responses to this article, which has accumulated over 1,700 citations on Google Scholar. It is equally gratifying to see scholars from many areas draw on our work, including a variety

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of business disciplines (e.g. accounting, entrepreneurship, information systems, international business, marketing, operations and strategy), the professions (e.g. engineering, law and technology) and the social sciences (e.g. economics, psychology and sociology). Finally, it has been cited in a host of top journals in accounting, information systems, management and marketing (e.g. *Academy of Management Journal*, *Accounting Organizations & Society*, *Administrative Science Quarterly*, *Journal of Marketing*, *Management Science*, *MIS Quarterly* and *Strategic Management Journal*).

Although we were honoured to be invited to contribute to this special issue of *JOIE* in honour of the late Oliver Williamson, it presented us with something of a dilemma. We have not pursued an active research interest in TCE beyond our work together as PhD students. To prepare a suitable contribution, we therefore required a manageable process that would enable us to inform ourselves about relevant developments since 1996, while analysing those developments in pursuits of insights of value to readers. Following the practice of AMR 'decade award' winning authors, we (re)view TCE's development since 1996 through the lens of our 1996 AMR article. We undertook a limited and idiosyncratic review of developments in the TCE literature as reflected in citations of our article. Because the majority of citations have been in management journals, our commentary features developments in that literature. We do, however, incorporate selected work that builds on our article from fields such as accounting, agricultural economics and marketing. To this foundation, we add a number of articles both within and beyond the management literature that, while they do not cite our article, help round out the discussion. The idiosyncratic nature of this review nonetheless limits the extent to which we can systematically comment on the wider development of TCE as an economic theory. Within these parameters, however, we seek to honour Oliver Williamson by contributing to scholarly conversations around TCE's behavioural assumptions and foundations – focusing on Williamson's neglected assumption of risk neutrality and its extension to risk seeking and risk aversion, incorporating trust, which serves to unify the theory's numerous behavioural assumptions, and explicating subjective costs as fundamental to Williamson's decision-theoretic approach to TCE. As the 1996 article's focus (and influence) has centred on the topics of risk, trust and subjective costs, we anchor on these topics in the sections below.

This reflection has, however, also led us to the realisation that the original article could be viewed through more than one lens. In 1996, we referenced Camerer (1985) in adopting a 'deductive theorizing approach, in which assumptions that are initially less realistic are relaxed over time, in order to bring greater realism to the model' (Chiles and McMackin, 1996: 75). This statement reflected an important tension, that between maintaining 'unrealistic' assumptions that arguably underpin the rigour of the theory and relaxing those assumptions to make the theory more 'realistically' applicable to everyday organisational problems in a rapidly changing world; that tension is still evident in debates around TCE today. One recent example is the debate in this journal, concerning the contributions of the 'New Institutional Economics' (NIE), including the work of Williamson, and classical institutionalism (Hodgson, 2014; Ménard, 2014). Although a review of this debate is beyond our scope here, it could be argued that the key difference between those two research streams concerns the treatment of assumptions. Hodgson (2014) suggests that a more integrated perspective incorporating evolutionary and behavioural insights in NIE research, as advocated by the Austrian school of economics, among others, has the potential to add greater dynamism to NIE. 'It is argued here that the NIE can learn from the original institutionalism, particularly when elaborating more dynamic analyses, and developing more nuanced, psychologically-grounded and empirically viable theories of human motivation' (Hodgson, 2014: 591).

The value of such an integrative perspective to the development of TCE is reflected in, for example, Gibbons' (2005) exposition of the complementarities between TCE and other theories of the firm, including property rights (Grossman and Hart, 1986). Foss and Klein (2009) drew a similar conclusion from their analysis of the relationship between Austrian economics and TCE; while Williamson himself favoured a pluralistic approach to the development of theory: 'we are certain that a richer, deeper, better understanding of complex economic organization is well-served by the spirit of pluralism' (Tadelis and Williamson, 2012: 1). The potential for such complementary contributions to emerge from the management literature has also been evidenced (e.g. Zanmarone *et al.*, 2016). In the management literature, too,

the development of a behavioural perspective on TCE has been repeatedly advocated since 1996, and most recently in the review by Cuypers *et al.* (2021). Their call for ‘greater engagement with recent advances in relevant cognate disciplines’ (p. 141) echoes that of Hodgson in the economics literature.

Our essay unfolds as follows. We begin by describing the context in which our 1996 article was developed, revisiting the article’s origins and a discussion from the article concerning two distinct streams of research in TCE. We then summarise the process and outcomes of our citations analysis, followed by individual sections on the topics of trust, risk and subjective costs, summarising conceptual and empirical developments captured in our review. We conclude by reflecting on key points of learning from our review and possible implications for future research.

2. Context for the 1996 article

The article’s origins

Oliver Williamson came into our lives quite unexpectedly in January 1993. We were management doctoral students at the University of Oregon, taking Prof. Michael Russo’s seminar in strategic management. As a doctoral student in business and public policy at the Haas School of Business at UC Berkeley, Mike found Williamson’s research programme on TCE fundamental to his understanding of organisations and their boundaries. Inspired by its real-world relevance vis-à-vis mainstream economics and how well it fit the phenomenon of electric utility regulation, he decided to use TCE in his dissertation research into this phenomenon. When Williamson arrived at Berkeley in 1988, Mike was already writing his dissertation, but enjoyed interacting with him in the halls and at social events in the year-and-a-half they overlapped. After successfully completing his dissertation (Russo, 1989), Mike went on to publish a number of articles employing TCE (e.g. Russo, 1992a, b, 2001). Not surprisingly, Williamson’s work figured prominently in our strategy seminar with Mike (Williamson, 1985) – as did the work of others using TCE (e.g. Kogut, 1988; Robins, 1987; Russo, 1992a; Teece, 1982).

One requirement of the strategy seminar was to produce a major research paper. Topics and possible formats were wide open. One format, which intrigued us, was to build theory by putting different literatures into conversation with one another. Todd chose to put TCE in conversation with the trust literature – a pairing that grew out of his research interest in the social embeddedness of firms and his experience identifying, developing and evaluating external suppliers as an engineering project manager at IBM. John chose to explore the intersection of TCE and variable risk preferences, which stemmed from his research interest in decision making and his experience managing money market traders in London and New York during his banking career. In March 1993, we presented drafts of our papers at the seminar, neither of us aware we were tilling soil in different parts of the same field. Mike, recognising the synergistic potential in the two papers, encouraged us to join forces to produce a single paper that integrated variable risk preferences, trust and TCE.

After much research, many heated discussions, and valuable inputs from other seminar participants (including Rico Lam, who joins us in writing this essay), we submitted our joint paper for consideration at the 35th Annual Meeting of the Western Academy of Management (WAM) in late 1993. It was accepted and we presented it at the conference in Santa Fe, New Mexico in March 1994 – our very first conference presentation! We were surprised to learn that the paper was a finalist for the conference’s best paper award – something that encouraged us to shoot high going forward. After revising the paper based on feedback from the WAM conference, we submitted it in late 1994 for consideration at our field’s top theory journal: AMR. After a number of rounds in the review process, with the guidance of an outstanding action editor (Prof. Charles Hill) and the assistance of three excellent reviewers, the paper was eventually published in AMR in February 1996. Of course, Oliver Williamson figured prominently in the paper, with over 60 citations to his work.

Two distinct streams of research in TCE

Our AMR article sought to address a number of fundamental questions about TCE that we felt were unanswered: ‘Does TCE merely describe firm behaviors, or does it prescribe what managers should do

to ensure survival and/or prosperity? What time frame does the theory address? Is it concerned mostly with individual firm behaviors, or does the theory predict market behaviors? What is the role of risk and trust in the model? And does empirical evidence, which shows that two firms faced with similar transaction costs choose different levels of integration, challenge the validity of the theory?' (Chiles and McMackin, 1996: 73). On reflection, this was an ambitious agenda for a single article, perhaps indicative of the fearless naiveté of those new to research.

To address this litany of questions appearing in the article's opening paragraph, we argued that there were 'two separate streams of research within TCE', which we labelled 'economic natural selection' and 'managerial choice' (Chiles and McMackin, 1996: 76). Central to our argument was the idea that these two streams were underpinned by contrasting views of what is meant by economic costs. In this framing, evolutionary theorists (e.g. Alchian, 1950; Hill, 1990; Nelson and Winter, 1982; Ulrich and Barney, 1984) viewed transaction cost economising as a first-order environmental selection mechanism in which 'in the long-run, the invisible hand selects actors whose behaviors are biased toward cooperation' (Hill, 1990: 501). The level of analysis for these theorists is the population, the time frame is the long run and costs are viewed as objective, observable *ex post*. From this perspective, TCE is a theory about what governance structures would have survived in an economic system in equilibrium at the end of an extended evolutionary process.

The managerial-choice approach to TCE, by contrast, focuses on the transaction-cost-minimising calculus used by managers in making contracting decisions. In this view, 'TCE is a theory about the choice of governance structures made by managers faced with given levels of asset specificity, uncertainty, and frequency of interaction' (Chiles and McMackin, 1996: 77). We argued that this approach 'relies on an implicit view of costs as subjective' (Chiles and McMackin, 1996: 77) – a concept with origins in Austrian economics. From a managerial-choice perspective on TCE, the level of analysis is the individual firm, the time frame is relatively short run, and the relevant costs involve *ex ante* assessments of the future. Since this is the dominant approach to TCE adopted in theoretical (Coase, 1973; Williamson, 1975, 1985) and empirical (e.g. Walker and Weber, 1984) TCE research, we adopted the managerial-choice perspective in our analysis. The importance of this distinction is evident in the development of the arguments concerning variable risk preferences, trust and subjective transaction costs below.

3. Review of the literature through the lens of the 1996 article

The remainder of this essay is based on an idiosyncratic review of TCE since 1996, grounded in analysis of published articles that have cited our 1996 AMR paper. A list of citing publications was generated by conducting a 'Cited Reference Search' on this article in the Web of Science database. This search yielded a list of 437 citing publications, for which titles, abstracts and other details were downloaded to a spreadsheet for further analysis. We then conducted keyword searches of the abstracts and titles of journal articles only (total 233), using a number of keywords including the terms risk, trust and subjective costs. The results were as follows: 116 articles on trust, 99 articles on risk and 18 on subjective costs.¹ We then reviewed all of these articles in varying levels of depth, from simply reading the abstract to a detailed reading covering concepts, methods and data. Our prioritisation was based on the journal in which the citing publication was published, with a bias towards more detailed review of publications in highly ranked management journals. As the results showed that the articles' influence has been most significant in terms of trust and TCE, variable risk preferences and TCE, and subjective transaction costs and TCE in that order, we present our analysis in that sequence here.

¹In the Web of Science search, only one paper cited our 1996 article that has close connection with subjective transaction costs. This led us to Google Scholar where we conducted Boolean searches for numerous variants of the focal concept in combination with 'Chiles and McMackin'. These searches led us to 18 academic works that cited our 1996 article for the focal concept: seven articles, seven theses and dissertations, two books and two chapters.

Trust and TCE

The level of research interest in trust and TCE has surpassed any expectation we may have had in 1996. As noted above, articles on trust and TCE account for significantly more of the citations in our analysis than either risk or subjective costs, or any combination of topics. This reflects an explosion of interest in the topic of trust in management research and practice: ‘contributions to the conceptualization of trust have come from virtually every social-science discipline, including sociology, psychology, economics, anthropology, and political science’ (Kramer and Lewicki, 2010: 247).

Despite the many descriptions of trust, management scholars have generally referred to trust as the ‘willingness of one party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party’ (Mayer *et al.*, 1995: 712) – a definition we also adopted in our 1996 paper (see also Fulmer and Gelfand’s [2012] review of trust). Williamson (1993) took the view that ‘trust, if it obtains at all, is reserved for very special relations between family, friends, and lovers. Such trust is also the stuff of which tragedy is made’ (*ibid.*: 484). Although he acknowledged the importance of the social context in which transaction costs are incurred, he described trust as a ‘diffuse and disappointing concept’ (*ibid.*: 485). Williamson’s treatment of trust has, however, been repeatedly challenged (see, e.g. Brattström and Bachmann, 2018; Möllering, 2014).

In our 1996 paper, we argued that trust was a useful integrative perspective because it is linked to all three behavioural assumptions of TCE. We proposed that parties may constrain opportunistic behaviour in order to protect their investment in a reputation for trustworthiness, which yields long-term benefits in reducing transaction costs, including search. Beyond search, we proposed that the reduced risk of opportunism in relationships infused with trust will reduce transaction costs including negotiating, drafting and monitoring, although we did not hypothesise differential effects of trust on *ex ante* and *ex post* transaction costs. Regarding trust and bounded rationality, we drew on Williamson’s insight that bounds on rationality have salience ‘only to the extent that the limits of rationality are reached – which is to say, under conditions of uncertainty and/or complexity’ (Williamson, 1975: 22). Following Zand (1972), we argued that the relationship between trust and bounded rationality is mediated by information (exchange is more accurate, comprehensive and timely under trust) influence (receptivity is greater under trust) and control (more relaxed under trust), concluding that: ‘Trust in contractual relations may reduce behavioral uncertainty/complexity, thus rendering bounded rationality less harmful and less salient’ (Chiles and McMackin, 1996: 89–90).

These arguments were the basis for our proposal that the level of asset specificity at which parties will switch from market to hierarchy will be higher for transactions between parties who trust each other than those without trust. Our 1996 article also conceptualised trust as both attitudinal and behavioural, and further, adopted Zand’s (1972) view of trust as a dynamic process in which one’s inner state of trusting/mistrusting is transformed into behaviour, in what we referred to as a kind of spiral reinforcement process.

Conceptually, developments in the trust literature as well as the TCE literature in the current review appear to largely support the proposals of our original article, while adding both depth and breadth to our understanding of them. For example, Zand’s (1972) conceptualisation of trust as a dynamic process is reflected in Korsgaard’s (2018: 14) description of trust as a ‘complex, bidirectional phenomenon wherein each party is mutually influenced by the other’s cooperation’; Korsgaard offers an analysis of these trust ‘spirals’, and cites empirical support for this view of trust. Fulmer and Gelfand (2012) propose a conceptualisation of trust as a construct shared by unit members and offer specific definitions of trust at individual, team and organisation levels of analysis, thereby extending the treatment of levels of analysis in our article. Nooteboom (1996) distinguished between trust in a counterparty’s intention (goodwill trust) and their ability to perform (competence trust) while Das and Teng’s (2001) influential framework integrated some of these developments with others on risk and control (see also Van der Meer-Kooistra and Vosselman, 2000). Management accounting and governance scholars have concluded that: (1) trust building is a process of relational signalling driven by self-interest, and (2)

trust and control are not independent, but rather mutually interdependent: to build trust, control structures are needed, and to develop control structures, trust is needed (Chaserant, 2003; Lindenberg, 2000; Vosselman and Van der Meer-Kooistra, 2009). Others hypothesised that rather than trust being a substitute for contract specification, the development of trust may enable more complete specification of contracts (e.g. Poppo and Zenger, 2002); in this respect, conceptual and empirical findings have considerably enhanced our understanding of the relationship between trust and *ex ante* transaction costs. Although research has generally supported the hypothesis that trust reduces *ex post* transaction costs (e.g. Dyer and Chu, 2003), a substantial body of evidence now suggests that the opposite applies to trust and *ex ante* transaction costs and that, rather than trust and *ex ante* transaction costs substituting for each other, that they complement each other. Trusting partners engage in more comprehensive *ex ante* contracting – consistent with enhanced information sharing where trust is a governance mechanism (Dyer and Chu, 2003) – incurring higher initial costs but reducing *ex post* costs (Ryall and Sampson, 2009; Zaheer *et al.*, 1998). Connelly *et al.* (2018: 926) summarise these insights as follows: ‘The complementary view suggests that trusting parties who are familiar with each other are better equipped to anticipate problems and negotiate solutions in advance, so they prefer complex contracts, despite the fact that negotiating and drafting such contracts can involve significant up-front costs’. Although search costs have been generally treated as *ex ante* transaction costs (Dyer and Chu, 2003), Connelly *et al.* (2018: 922) question the relevance of search costs to studies involving trust: ‘because there is no interorganizational trust until there are two specific exchange partners’. Van der Meer-Kooistra and Vosselman’s (2000) TCE- and trust-based model of management control patterns in interfirm relationships, however, suggests that in some hybrid governance forms, the control mechanism of trust plays an important role not only in the contract and execution phases of a transactional relationship, but also in the contact phase where outsourcing firms search for suitable transaction partners. The model’s trust-based control pattern recognises different types of trust operating in each phase: ‘trust, stemming from friendship, former contractual relationships or reputation’ in the contact phase, ‘contractual trust’ in the contract phase and ‘competence trust’ and ‘goodwill trust’ in the execution phase (Van der Meer-Kooistra and Vosselman, 2000: 60).

Foss and Weber’s (2016) augmented treatment of bounded rationality has foregrounded it as a separate source of transaction costs from opportunism, with important implications for the levels of conflict associated with different forms of hierarchy. Their argument that ‘cognitive economizing (heuristics) and cognitive biases (the two missing components) are incorporated into TCE’s bounded rationality assumption’ (p. 64) extends and develops the arguments in our 1996 paper by setting out how cognitive framing and biases are linked to different hierarchical forms *independently of opportunism*, thereby moving bounded rationality to the ‘front seat’ (p. 61) in the theory in explanatory terms (see also Weber and Mayer, 2014). The relationship between trust and bounded rationality has not been further explored by researchers from this perspective and would appear to offer fertile ground for further development of transaction cost theory.

Empirical research has also yielded strong support for the relationship between trust and transaction costs as proposed in our 1996 paper, while extending and deepening our understanding of it. First, in terms of trust reducing transaction costs, Connelly *et al.*’s (2018) meta-analysis of 144 empirical articles found that trust led to reduced *ex post* transaction costs. For example, Gulati and Nickerson (2008) found that automobile component manufacturers opted for less rather than more formal governance structures when they had high trust in the buyers. Importantly, they found that the presence of trust enables not only greater cooperation but also enhanced coordination, including a more flexible division of tasks. This supports these authors’ hypothesis that trust economises on transaction costs not only in markets but also within hierarchies, a perspective not addressed in our 1996 article. ‘Regardless of the governance mode chosen for an exchange, trust enhanced exchange performance’ (Gulati and Nickerson, 2008: 688).

Furthermore, Connelly *et al.* (2018) also found that integrity-based trust (based on motives, honesty and character) was 10 times more effective at reducing transaction costs than competence-based trust (based on technical skills, experience and reliability). Integrity based trust, according to these

authors, is more effective because it ‘removes the cloud of suspicion associated with beliefs about the potential for opportunistic behavior’ (p. 925), echoing our 1996 proposal that trust reduces the impact of bounded rationality by reducing perceived uncertainty about future behaviour of the counterparty. Our third argument for adopting trust as an integrative mechanism, that perceived risk of opportunistic behaviour will be influenced by the level of trust in the relationship, has also found strong support in a range of studies, suggesting that it is vulnerable to the risk of opportunistic behaviour that leads to a contracting party’s reliance on trust (see, e.g. Krishnan et al., 2006; Rousseau et al., 1998).

Others within our limited review have added new and interesting perspectives on the relationship between trust and transaction costs. For example, Brouthers and Brouthers’ (2003) study suggests sectoral differences in the effects of trust on decision makers, in finding that service organisations, because of the ‘people-intensive nature of services’ (p. 1179) relative to manufacturing, are more likely to be influenced by trust propensity in choosing governance modes. The ‘black box’ of the trust-transaction cost relationship has also been explored. Lado *et al.* (2008) found that trust encourages collaborative communication and mutual adjustment within interfirm relationships, which in turn predicted performance, in their sample of local agents of a Fortune 500 company. Brown *et al.*’s (2000) study suggested that when hotel headquarters were willing to engage in relational exchange with their operators, the latter behaved less opportunistically and refrained from behaviours that might jeopardise the relationships. A further body of empirical work has investigated the relationship between trust and contracts, with Woolthuis *et al.*’s (2005) longitudinal study finding that trust and contracts can both complement and substitute for each other. Such predictions have been made by Poppo and Zenger (2002), who also emphasised the dynamic nature of trusting relationships referenced above: ‘As a close relationship is developed and sustained, lessons from the prior period are reflected in revisions of the contract. Exchange experience, patterns of information sharing, and evolving performance measurement and monitoring may all enable greater specificity (and complexity) in contractual provisions’ (p. 713). Finally, empirical research in management accounting has found various control patterns, some of which can be understood – at least partially – using TCE concepts, but to understand other control patterns (e.g. trust-based patterns in certain hybrid forms of governance) additional concepts such as relational signalling, trust building and trust arising from the social embeddedness of the relationship are needed (see e.g. Kamminga and Van der Meer-Kooistra, 2007; Van der Meer-Kooistra and Vosselman, 2000).²

Variable risk preferences and TCE

In our 1996 AMR article, we claimed that the primary contribution was to draw researchers’ attention to risk neutrality, the ‘neglected’ behavioural assumption of TCE. We argued that the efficacy of empirical studies would be enhanced by relaxing this assumption and incorporating variable risk preferences in the TCE model. We adapted Williamson’s (1991: 282) model to illustrate our argument that the level of asset specificity at which decision makers will switch between market and hierarchy will vary with the risk preferences of the firm, because varying risk preferences shift the level of possible loss associated with a transaction. Our adapted model showed different switchover levels of asset specificity based on assumptions of risk neutrality, risk aversion (as typically assumed in neoclassical economics) and risk seeking. The original article defined key terms and developed conceptual arguments in some detail, so in this section we explore, via our ad hoc review, how the treatment of risk in TCE in management research has evolved both conceptually and empirically since that time. We also highlight a significant body of work in agricultural economics on this topic and assess the implications for the further development of TCE.

²Some management accounting scholars, moreover, argue that a contingency-based view on the control of inter-organisational relationships does not provide insights into the evolution of control structures and the processes through which trust is built in relational exchange (e.g. Mouritsen and Thrane, 2006; Thrane and Hald, 2006; Vosselman and Van der Meer-Kooistra, 2009).

In the 1996 article, we defined risk as ‘the possibility of loss’ (Yates and Stone, 1992: 4), reflecting our focus on managerial decision making. We also highlighted a distinction between the treatment of *risk* in neoclassical economics, which refers to uncertainty concerning the probability distribution of a set of expected outcomes, and *uncertainty*, in which the possible outcomes themselves are unknown at the point of decision. Although the treatment of risk and uncertainty within neoclassical economics continues to evolve (see, e.g. Holmström, 1979; Langlois and Coşgel, 1993), Williamson, and TCE scholars more generally, tend to focus on uncertainty rather than risk, treating the latter as for the most part controllable through hedging or insurance (Williamson, 1985, 1999). In the strategy literature, Miller (2007) offers a valuable perspective on risk and uncertainty by considering three entrepreneurial processes: opportunity recognition, opportunity discovery, and opportunity creation. His analysis suggests that in opportunity recognition (in which the range of possible outcomes are known) risk analysis and mitigation through insurance and/or hedging are possible, but that the concept of uncertainty is more applicable to opportunity discovery and opportunity creation processes. Miller also highlights tensions between assumptions about risk, uncertainty and bounded rationality in TCE, an issue also discussed by Slater and Spencer (2000) who suggest that ‘contradictions’ between assumptions concerning risk and rationality mean that Williamson ‘is forced to assume that bounded rationality constraints can be breached in order to push through his arguments regarding efficient organization’ (p. 62). More recently, strategy researchers have explored the relationship between trust and uncertainty in TCE (Krishnan *et al.*, 2016; Poppo *et al.*, 2016).

Any hopes we may have cherished that, by this time, the assumption of risk neutrality would be receiving similar attention from researchers to those of bounded rationality and opportunism have been dampened by our analysis of research citing our article since 1996; we did, however, find encouraging developments in the agricultural economics literature. In the management literature on TCE, although our limited review identified a number of studies addressing the topic of risk in TCE (e.g. Brouthers and Brouthers, 2003; Das and Teng, 2001; Nooteboom *et al.*, 1997; Tyler and Steensma, 1998; Weber and Mayer, 2014), the assumption of risk neutrality remains, for the most part, largely ignored according to Tsang (2006). He cites the dearth of attention to risk neutrality as an example of ‘assumption-omitted theory testing’ in TCE research (p. 999). In a recent authoritative review of TCE in the management literature, Cuypers *et al.* (2021) call for greater emphasis on behavioural perspectives in TCE research and offer an extended discussion of bounded rationality and opportunism, but make no direct reference to risk neutrality. Some TCE-based work in management accounting acknowledges variable risk preferences, including risk neutrality, as theoretically relevant to the structuring of interfirm transactional relationships, but is effectively silent on them in reporting and discussing the empirical results (Van der Meer-Kooistra and Vosselman, 2000). In the agricultural economics literature, by contrast, the TCE assumption of risk neutrality as applied to contracting has attracted significant empirical attention and yielded valuable insights. In the remainder of this section, we explore conceptual and empirical developments on the assumption of risk neutrality in TCE in the management literature and highlight relevant research from agricultural economics.

In terms of conceptual development, important progress has been made concerning the role of risk assumptions in TCE. Our understanding of variable risk preferences, and factors influencing managerial risk perceptions, has advanced significantly over this period, culminating in the award of the Nobel Prize in Economics to Daniel Kahneman in 2002 for his work with Amos Tversky on Prospect Theory.³ In the management literature on TCE, Das and Teng (2001) distinguish between performance risk – ‘the risk of unsatisfactory business performance’ (p. 253), which arises in all business strategies, and relational risk, which only arises in the context of strategic alliances due to the risk of opportunistic behaviour by either party. ‘The two types of risk affect alliance structuring, in which partner firms form their own structural preferences based on their estimation of relational risk and performance risk’ (*ibid.*: 254). These authors explore the interdependence between risk, trust and

³A substantive treatment of that topic is beyond our scope here, but Kahneman’s (2002) Nobel acceptance speech provides an excellent overview.

control in strategic partnerships and suggest that partners in alliances have a maximum acceptable overall risk level, determined by a range of factors including the type of alliance, the risk preferences of the partners, as well as their resources, competitive position and industry dynamics. Weber and Mayer (2014) also highlight the potential value of cognitive framing and the relational characteristics of the contracting parties for our understanding of uncertainty in TCE. These conceptual insights extend the understanding of risk reflected in our original article.

Empirical researchers in the management literature have also explored the role of risk preferences in TCE since 1996, although to a limited extent relative to the body of empirical TCE research. For example, Nooteboom *et al.* (1997: 322) tested a hypothesis that ‘firms with higher uncertainty avoidance would perceive...higher probability of loss’, but failed to find support for it. Tyler and Steensma (1998) found that executives’ perceptions of their own organisations’ risk preference influenced their decision making regarding strategic alliances. Brouthers and Brouthers (2003) found that risk propensity affected international entry mode choices of manufacturing firms, but not of the service firms in their study. Overall, although, relative to the widely studied behavioural assumption of opportunism, tests of risk preferences in the TCE context are rare in the management literature (David and Han, 2004; Tsang, 2006).

By contrast, a relatively substantial and, for us, unanticipated stream of empirical research on risk and TCE has emerged from the literature on agricultural economics. These studies have tested the implications of theoretical risk assumptions for contractual arrangements in U.S. and European agriculture contexts including hog farming, sharecropping and tomato growing (see, e.g. Akerberg and Botticini, 2002; Allen and Lueck, 1995, 1999; Franken *et al.*, 2009; Hernández-Espallardo *et al.*, 2013; Hudson and Lusk, 2004; Vassalos *et al.*, 2016). This research stream offers potentially valuable insights concerning the importance of the risk preferences of the contracting parties in determining perceptions of transaction costs and choice of contracting arrangements. Results to date support the importance of transaction costs in such decisions (Allen and Lueck, 1995; Hernández-Espallardo *et al.*, 2013; Hudson and Lusk, 2004; Vassalos *et al.*, 2016) while findings concerning the relative impact of variable risk preferences on governance choices are mixed. For example, TCE’s assumption of risk neutrality is supported in several studies reporting that risk preferences do not significantly impact contracting arrangements (e.g. Allen and Lueck, 1995, 1999; Vassalos *et al.*, 2016); notably however, others (e.g. Akerberg and Botticini, 2002; Hernández-Espallardo *et al.*, 2013; Hudson and Lusk, 2004) report that contracting arrangements reflected risk aversion on the part of contracting parties, as assumed in neoclassical economics.

Subjective transaction costs and TCE

Williamson (1985: 47) recognised that TCE and Austrian economics were ‘complementary’⁴ and ‘a joiner of the two approaches would be useful’. Inspired by this observation and an awareness of subjective costs (Kirzner, 1986; Pasour, 1991; Vaughn, 1980) – a concept Todd had encountered in February 1994 in an Oregon graduate course on Austrian economics taught by Prof. Barry Siegel – we introduced Austrian-based subjective transaction costs into our 1996 article. In the course of writing this essay, we learned that others before us had invoked ‘perceived transaction costs’ (e.g. Gates, 1989), but without the theoretical richness and texture the Austrian school of economic thought uniquely provided. Of course, anchoring our argument on subjective transaction costs dovetailed naturally with our treatment of risk and trust as subjective concepts.

Economists define transaction costs in many different ways. For example, Masten (1996: 6) defines them as the costs of ‘reaching and enforcing agreements’ and Williamson (1985: 1–2), more generally, as the ‘friction’ that occurs ‘when a good or service is transferred across a technologically separable interface’. Others distinguish between various *ex ante* (e.g. supplier identification) and *ex post* (e.g.

⁴Citing Langlois (1982: 50) (later published as Langlois, 1986), Williamson (1985: 47) goes on to say that ‘each can expect to benefit from the insights of the other’.

product monitoring) transaction costs (see e.g. Henson and Northen, 1999). Given all the variation in the literature, some argue there is ‘no standard terminology’ (Benham and Benham, 2001: 2) and little ‘theoretical consensus on what transaction costs are’ (Wang, 2003: 2).

The definition of cost on which virtually all economists agree is opportunity cost. This concept of cost is nonetheless complicated and nuanced (Kirzner, 1986). When explaining the concept in undergraduate principles classes, economists generally stay true to the subjectivist roots of opportunity costs, i.e. the subjective value of the sacrificed alternative (Vaughn, 1980) – roots that originated in Austrian economics before spreading throughout the field of economics. When applying the concept in conventional economic theory and research, however, economists – even prominent ones such as Armen Alchian, William Baumol and George Stigler – often neglect these subjectivist roots (Kirzner, 1986; Vaughn, 1980). Broadly speaking, subjective costs give way to objective costs (Kirzner, 1986; Vaughn, 1980). More specifically, the subjective assessment of the decision maker at the moment of choice is replaced with the objective evaluation of outside observers long after the choice, subjective choice is replaced with objective measures of market prices or objectively represented money outlays, subjective perceptions of objects are replaced with objective objects, actual decisions are replaced with hypothetical ones, private costs are replaced with social costs, etc. (Kirzner, 1986; Vaughn, 1980). The ‘pitfalls’ that attend the shift away from subjective costs Kirzner (1986) describes variously as ‘confusion’, ‘error’, ‘mistake’ and ‘failure’. The real-world implications of shifting away from subjective costs can, for example, easily lead to flawed policy prescriptions with ‘perverse effects on social welfare’ (Vaughn, 1980: 715). These arguments suggest that viewing costs as subjective is far from trivial. On the contrary, ‘recognition that cost is subjective’, as Pasour (1991: 282) argues, ‘has profound implications for the economic analyst’.

As mentioned earlier, our 1996 article adopted a managerial-choice approach to TCE, where managers make decisions based on their unique perceptions, interpretations and evaluations of economic costs, including transaction costs. ‘Economic costs are inherently subjective’, we argued from an Austrian point of view, ‘because different decision makers sacrifice different alternatives at the moment of choice based on different perceptions of and preferences for the alternative opportunities in a world of uncertainty’ (Chiles and McMackin, 1996: 77). Such reasoning is important from a transaction-cost perspective because it helps us understand, for example, why firms in similar situations and with the same objective information often make different make-or-buy decisions. More broadly, our 1996 article sought to explicate the subjective interpretation of transaction costs that had been implicit in the TCE literature and to show that the work of Williamson (1975, 1985) and other transaction cost scholars (Coase, 1973; Walker and Weber, 1984) could be profitably viewed from a managerial-choice perspective, which subscribed to subjective transaction costs.

Given the foundational nature of subjective transaction costs in our 1996 article, with the exception of one published paper in the *Journal of Management Studies* (Buckley and Strange, 2011), it was somewhat surprising to see how little traction the idea had gotten in top journals – and indeed in journals generally. On a more positive note, our subjective transaction cost concept was cited in a number of theses and dissertations, which may yield articles in top journals in the future. And it was used substantively in two books and a chapter by noted TCE/trust scholar Bart Nooteboom.

In terms of conceptual development, some simply cited our 1996 article for subjective transaction costs (e.g. Bisman, 2010; Henson and Northen, 1999). Others did this as well, but also connected such costs to trust (Honig and Lampel, 2000; Ye, 2012) and risk or risk preferences (Buckley and Strange, 2011; Steyn, 2013). Many embraced our argument that subjective transaction costs were a foundational element of the managerial-choice view of TCE and adopted it (often explicitly) in their research (e.g. Dasborough and Sue-Chan, 2002; Gopalakrishnan and Saporito, 2011; Hermes, 2020; Lee, 2005; Nooteboom, 1999, 2002, 2006; Standifird and Weinstein, 2007; Tomassen, 2004). Some additionally framed this point in contradistinction to our 1996 article’s claim that objective transaction costs anchored the economic natural-selection view of TCE (Lee, 2005; Nooteboom, 1999, 2002, 2006; Standifird and Weinstein, 2007; Tomassen, 2004). Moreover, researchers used our subjective

transaction costs concept to develop a wide range of theoretical propositions (Gopalakrishnan and Saporito, 2011) and testable hypotheses (e.g. Dasborough and Sue-Chan, 2002; Lee, 2005; Standifird and Weinstein, 2007; Tomassen, 2004). For example, hypotheses were developed connecting perceived transaction costs to the performance of foreign direct investments (Tomassen, 2004), organisational citizenship behaviour and individualised deal-seeking behaviour (Lee, 2005) and reputation of exchange partners and third-party verification agencies (Standifird and Weinstein, 2007).

Empirical research on subjective transaction costs was conducted in a wide range of settings, for example: relationships in the global network of Children's Television Network (Honig and Lampel, 2000), the outsourcing of the HR recruitment function in Australian firms (Dasborough and Sue-Chan, 2002), foreign subsidiary performance of Norwegian MNCs (Tomassen, 2004), employee behaviours in South Korea (Lee, 2005), the sale of Morgan Silver Dollars on eBay (Standifird and Weinstein, 2007), the outsourcing of software development at a large global investment bank (Gopalakrishnan and Saporito, 2011) and the vertical organisation of small-scale farmers in South Africa (Steyn, 2013). These examples illustrate the broad applicability of the subjective transaction cost concept and reflect the various levels of analysis present in the broader TCE literature ranging from intra-organisational (see e.g. Colbert and Spicer, 1995; Mena *et al.*, 2009; Van der Meer-Kooistra, 1994) to inter-organisational (see e.g. Kamminga and Van der Meer-Kooistra, 2007; Mouritsen and Thrane, 2006; Van der Meer-Kooistra and Vosselman, 2000) to network (see e.g. Donada and Nogatchewsky, 2006; Håkansson and Lind, 2004; Thrane and Hald, 2006). Moreover, researchers report generally strong support for their propositions and hypotheses (e.g. Gopalakrishnan and Saporito, 2011; Lee, 2005; Standifird and Weinstein, 2007; Tomassen, 2004), suggesting the usefulness and value of the subjective transaction cost concept.

Researchers did, however, express concern over the difficulty of accurately measuring subjective transaction costs by collecting data directly from decision makers in complex social settings (Honig and Lampel, 2000), as we recommended in our 1996 article. This difficulty is only compounded by the need to measure such costs 'at the moment of decision' (Chiles and McMackin, 1996: 94), creating an obvious problem for researchers adopting the dominant approach of retrospectively measuring perceptions of transaction costs via survey questionnaires. Apart from the empirical challenges posed by our article, however, it is worth noting that transaction costs are notoriously difficult for researchers to measure (Pyo, 2008; Standifird and Weinstein, 2007; Tomassen, 2004) and for practitioners to understand (Pyo, 2008). Our article mentioned questionnaires and interviews as possible data collection techniques, but warned of their vulnerability to retrospective recall biases that distort memory. Instead, we suggested verbal protocols – 'taped thought processes of decision makers who think aloud while making a decision' in 'scenarios created by the researcher' – as a more accurate way to measure subjective transaction costs (Chiles and McMackin, 1996: 94). In work that built on our subjective transaction cost concept, we found significant use of questionnaires (e.g. Dasborough and Sue-Chan, 2002; Lee, 2005; Tomassen, 2004) and interviews (e.g. Gopalakrishnan and Saporito, 2011; Hermes, 2020; Honig and Lampel, 2000), but no use of verbal protocols to measure such costs.

Going forward, researchers might consider: (1) using new technologies (e.g. online computer gaming, virtual- or augmented-reality) and new types of organisations (e.g. escape rooms where participants predisposed to engage in role-playing exercises can be monitored with microphones, cameras and biosensors) to make verbal protocol scenarios more real and in tune with the times; (2) collecting data directly in real time via real-time case studies (Meyer *et al.*, 1990), ethnographic investigations (Elias *et al.*, 2018), enactive autoethnographic research (Johannisson, 2011) or experience sampling methods (Uy *et al.*, 2010) to not only capture participants' thinking at the moment of choice, but better understand it in light of the thought processes leading up to it; and (3) shifting from a positivist epistemology that emphasises accurate 'measurement' to an interpretivist epistemology that stresses hermeneutic 'understanding' consistent with Austrian economics and hence our Austrian-based subjective transaction cost concept (see Chiles *et al.*, 2007).

We now turn to summarise our findings and offer a final reflective comment.

4. Summary and concluding reflection

The findings of our review can be summarised as follows:

- Research on trust and TCE has grown beyond our expectations and provides significant empirical support for our adoption of trust as an integrative perspective with convincing empirical support for important relationships between trust and all three behavioural assumptions of TCE. Conceptual and empirical research have also lent depth to our understanding of the concept of trust and shed new light on the relationship between trust, contracting, control and transaction costs.
- Our 1996 call for a greater focus on the assumption of risk neutrality in TCE has attracted limited attention from TCE scholars in the management literature to date, but more consistent research on this topic was identified in the literature on agricultural economics. The evidence reviewed above suggests that further research on this assumption and TCE retains the potential to yield new insights for both scholars and practitioners, as we originally envisaged.
- The concept of subjective transaction costs was fundamental to our article's managerial-choice approach to TCE, but has received far less attention than trust and risk. The concept has challenged researchers' abilities to measure it and no research we reviewed used verbal protocols to study it, as we had recommended. Updating verbal protocol scenarios, collecting data directly in real time and adopting an interpretivist epistemology are options to consider going forward.

The invitation to honour the late Oliver Williamson by contributing to this special issue came as a most unexpected and welcome opportunity to reconnect with valued colleagues around a topic that none of us had pursued in our subsequent research careers, despite the advantages of the positive start described above. In discussing why none of us chose to pursue TCE research, our attention was drawn to noted TCE scholar and PhD student of Oliver Williamson Jackson Nickerson's recent comments: 'What social revolution do you want to belong to? Have you fully understood the theory that allows you to look at the world and see it in a different way? ... [Oliver Williamson] was looking at the world through a comparative-contractual lens; and because he did that, he saw things that people didn't see. And that allowed him to be on the frontier of [the TCE] revolution for 30 years, which is really quite phenomenal, and earned him a Nobel Prize' (Nickerson, 2020: 30.53). Although we may have chosen to join other revolutions, our review suggests that we have made our own small contribution to the 'TCE revolution'. It is our privilege to contribute to this special issue alongside many of those who have been at the forefront of that revolution and to honour the memory of Oliver Williamson who pioneered it.

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