Finance, Human Flourishing, and the Logic of Stakeholder Engagement

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ABSTRACT

Many firms underinvest in higher purpose and stakeholder engagement. One reason is because agency models exclude stakeholder flourishing and the subjective dimension of work, automatically excluding engagement. By influencing decision makers, these models contribute to this underinvestment problem. A second reason is the paradox of non-calculation: investments in stakeholder engagement may generate economic gain, but only if done *without the intent* of producing economic gain (Quinn and Thakor, 2019). This paradox is resolved when stakeholder flourishing is integrated into the firm's objective function. We present a model with bi-directional causality between firm value and stakeholder engagement, where the equilibrium weights on stakeholder flourishing and shareholder value are endogenously determined. Consistent with stages of psychosocial human development, distributive justice emerges alongside stakeholder engagement as a corporate value, and in equilibrium is positively correlated with value at the firm level. Optimal investments in engagement always increase stakeholder flourishing and often increase shareholder wealth, but credible investments cannot 'maximize' shareholder value in the neoclassical sense. The explicit pursuit of shareholder value maximization dissolves the link between engagement and firm value and highlights the complex and paradoxical nature of corporate investments in human flourishing, higher purpose and stakeholder engagement.

Keywords: Purpose of the Firm, Distributive Justice, Human Flourishing, Stakeholder Engagement, Social-Cognitive Theory, Shareholder Theory, Stakeholder Theory.

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INTRODUCTION

Human flourishing measures the totality of human well-being (VanderWeele, 2017) and has both objective and subjective dimensions. The objective dimensions include material resources, institutions, contracts, incentives, and legal systems; the subjective dimensions include meaningful work, transcendent purpose, meaningful relationships.[1] Human thought has a creative character: it is the basis of our personalities and the source of all innovation and economic value creation (Wojtyla, 1961). Human creativity originates primarily in the subjective dimension of the person and thus is closely related to meaningful work, mission, and higher purpose (Wojtyla, 1979). Because agency-based financial models ignore the subjective dimension of human personality, they ignore important components of human creativity and economic value creation.

Some firms and entrepreneurs transcend the agency framework.[2] Yet many firms ignore or underweight meaning, purpose or social capital when making decisions (Edmans, 2011; Guiso et al., 2015; Lin et al., 2017). This is especially problematic because unlike 'costly effort', many of the factors associated with the subjective dimension of work have a positive impact on *both* stakeholder flourishing and firm value.[3] One reason firms underinvest in these factors is because agency-based financial models exclude them, influencing decisions and ultimately shaping reality in a way that reflects assumptions embedded in the models (Bandura, 1986; Shiller, 2019). It is not surprising that the widespread use of

[1] Hart and Zingales (2022) and Homroy et al. (2023) note that shareholder utility maximization depends on shareholder preferences and involves more than maximizing expected utility of wealth. Analogously, flourishing is important because maximizing stakeholder utility depends on both the objective and subjective determinants of well-being and involves more than maximizing expected utility of stakeholder wealth or consumption.

[2] Consider co-founder Masaru Ibuka and SONY's First Purpose of Incorporation: "to establish a place to work where engineers can feel the joy of technological innovation, be aware of their mission to society, and work to their heart's content."

[3] Specific examples include meaningful and engaging work (Harter et al, 2002; Luthans et al., 2007; and Clifton, 2011), social relationships (Guiso et al., 2015 and Cremers, 2017) or a sense of transcendent mission or purpose (Grant et al. 2007, Hollensbe et al. 2014; Quinn and Thakor 2018, 2019, 2020; Gartenbert et al. 2019).

agency-based financial models has helped foster a business environment where these factors are ignored (see e.g. Hambrick, 2005).

The purpose of this paper is to integrate stakeholder engagement into a formal model to better understand its role in creating value for both shareholders and stakeholders. An important question is whether investing in stakeholder engagement is consistent with shareholder wealth maximization. **Stakeholder engagement** is defined to have both individual and social components.[4] First, it includes participation in work as a process that "works on and develops" the person through a sense of meaning (Frankl, 2006), transcendent purpose (Quinn and Thakor, 2018; 2019) or autonomy and personal development (Tay and Diener, 2011). The social component of engagement exists through one's participation in the community of persons who constitute a firm with a shared purpose (*Centessimus Annus*, 35).[5] This definition captures essential aspects of the subjective dimension of human work and connects stakeholder engagement to meaning, purpose, personal growth and creative innovation.[6]

Thakor (2023) and Elul et al. (2023) stress the importance and urgency of integrating subjective factors like these into financial models and several recent papers have attempted to do so, including Bunderson and Thakor (2022) and Song et al. (2023). A challenging aspect of integrating engagement into formal models is the *paradox of non-calculation:* investments in stakeholder engagement will only

[4] Elsewhere, employee engagement has been previously defined as a construct that captures the differences between individuals and the amount of energy and dedication they provide to their jobs (Ariani, 2013). Engagement influences employee attitudes, intellectual and emotional commitment to the organization's goals and values (MacLeod and Clarke, 2009), or their cognitive and behavioral state directed toward desired organizational outcomes (Shuck and Wollard, 2010). A two-way relationship between the principal and agent is required to develop engagement (Markos and Sridevi, 2010; Sahoo and Sahu, 2009).

[5] Cremers (2017) notes that standard agency theory misses the inherently social or cooperative nature of value creation in firms.

[6] This definition is consistent with the widespread recognition *outside of* finance that stakeholder engagement is important in strategic, managerial and financial decision making (see e.g. Greenwood, 2007; Mitchell et al. 2020; Abord-Hugon Nonet 2022),

work if they are authentic and not done as a 'calculation' to instrumentally increase shareholder value. Quinn and Thakor (2019) highlight the importance of authenticity:

> "… Herein lies the paradox: an authentic organizational higher purpose will change the fundamental implicit contract between employers and employees and change behavior, thereby producing long-term economic gain, but only if it is not pursued with the intent of producing economic gain."

The current model addresses this paradox through three novel modeling features: First, human productivity is modeled as arising from two distinct sources of human energy, one with costly 'disutility of effort' and the other characterized by 'effortless flow' (Csikszentmihalyi, 2004).[7] Engagement is associated with the latter. Second, a more comprehensive definition of stakeholder well-being, grounded in the human growth theory, leads to a non-binding participation constraint, clarifying the firm's role in facilitating stakeholder engagement and new creating wealth for shareholders as a byproduct. Third, CEO preferences are consistent with the human growth literature where different stages of growth are associated with different worldviews, attitudes towards others and different understandings of contractual versus covenantal relationships.

A critical issue is how these three features affect stakeholders' ability to infer the authenticity of the principal's investment in stakeholder engagement.[8] The current model defines authenticity using a framework in which humans exhibit distinct stages of cognitive (Piaget, 1972), psychosocial (Erikson 1959; Erikson and Erikson, 1997), and moral growth (Kohlberg, 1981; Gilligan 1982); as well as stages of faith (Fowler, 1981) and consciousness (Gebser 1985, Graves

[7] According to Csikszentmihalyi (2004) humans are most creative, productive, and happy when they are in a state of flow. The term "flow state" describes the reality described by many people interviewed by Csikszentmihalyi who stated that when in their optimal states of performance, their work simply flowed out of them without much effort. According to Csikszentmihalyi (1990), flow is "a state in which people are so involved in an activity that nothing else seems to matter; the experience is so enjoyable that people will continue to do it…for the sheer sake of doing it".

[8] One limitation of existing studies (e.g. Akerlof and Kranton, 2005; Quinn and Thakor, 2021) is that while these studies acknowledge that purpose or identity or engagement should be added to the objective functions of both the principal and agent, they do not specify *why* the principal values these things, only that they do, leading to arbitrary definitions of authenticity. In contrast, the human growth framework provides an answer to *why* these are valuable and therefore establishes the specific conditions *under which* they are valuable.

2002). Authenticity is inferred from observed behaviors by assessing whether they are consistent with the worldview the principal claims to have.

The model thus builds upon an enormous literature on the development and psychosocial growth of the human 'agent' which, ironically, is completely excluded from 'agency-based' financial models. Existing models axiomatically exclude the subjective dimension of work, which also excludes human growth and stakeholder engagement. The current paper asserts that stakeholder engagement matters and must be understood in the context of human growth, self-actualization and meaning (Maslow, 1970; Frankl, 2006). This is because meaningful work and meaningful social relationships, which are essential elements of self-actualization, belong to the subjective dimension of work. Human work has both objective and subjective dimensions (*Laborem exercens, 6)*. And while the objective dimension of work involves the person operating on external objects, the subjective dimension is where work as a creative process develops the agent performing the work (Friesen, 2022). Our definition of stakeholder engagement captures these features of the subjective dimension of human work, encompassing both engagement with work itself and with the nexus of persons who constitute the firm.[9]

At one level, stakeholder engagement is just like any other normal economic good, as Diener and Seligman (2004) note:

> "…economic indicators were extremely important in the early stages of economic development, when the fulfillment of basic needs was the main issue. As societies grow wealthy, however, differences in well-being are less frequently due to income, and are more frequently due to factors such as social relationships and enjoyment at work."

But unlike most normal goods, there is a reflexive causal relationship between work and the agent: the intellectual capital of the human person is the decisive factor of production in the modern firm while at

[9] The etymology of the words *company* or *companions* is *cum* (with) and *panis* (bread) and connotes 'breaking bread together'. The root of the word *corporation* is *corpus* (body) which signifies a group united in one body.

the same time, work itself is an essential component of the development and self-actualization of the person (see Bandura, 1986 for a comprehensive treatment of bi-directional causality). Empirical evidence in Harter et al. (2010) corroborates this, finding that engagement and firm financial performance are reciprocally determined, with engagement a stronger predictor of financial performance than vice versa.

The formal starting point for the model is the principal-agent framework of Jensen and Meckling (1976); the principal/CEO represents shareholders, and the agent is the representative stakeholder. There are three types of principals, each with a different psychosocial worldview, and each makes decisions that conform to (and in equilibrium reinforce) their worldview. All firms begin with disengaged stakeholders.[10] Existing principal-agent models emphasize reputation, consumption, material wealth, formal-operational cognition and logic, and a moral stance grounded in law, order, contracts, and individual rights (Kohlberg, 1981). This is the worldview of the **type-1** principal who is **shareholder-centered** with an objective function that maximizes shareholder value. Their worldview dismisses stakeholder flourishing as a valid construct. Stakeholders are seen as instrumental in achieving the firm's goal of shareholder wealth maximization.

The **type-2** principal worldview is characterized by **enlightened shareholder-value maximization**. This view is described by Jensen (2002) and Jones et al. (2018), where stakeholder well-being is acknowledged as a valid construct to be pursued, but only so far as it is instrumentally useful in increasing shareholder value, which is the only argument in the principal's objective function.

The **type-3** principal has a worldview consistent with **total created value maximization** (Donaldson and Walsh, 2015) which includes shareholder value and stakeholder flourishing as part of a broader corporate objective. This CEO recognizes meaningful work and relational interdependence among stakeholders as inherently valuable in the context of a worldview focused upon learning and self-

[10] This is consistent with the current business environment in the United States. According to the Gallup Organization, between 2012 and 2023 only 12% to 23% of employees globally reported being engaged at work.

actualization, universal principles of justice, equity and human rights, developmental autonomy (Loevinger, 1976; Kohlberg, 1981). This worldview translates into the objective of maximizing a weighted average of shareholder wealth and stakeholder flourishing, and in equilibrium the weights are endogenously determined to be consistent with the principal's preferences. When stakeholder flourishing in the objective function, the optimal investment in stakeholder engagement is larger than the type-1 or type-2 principal deems optimal. This allows stakeholders to infer the authenticity of investments in stakeholder engagement, and in equilibrium only investments by the type-3 principal are deemed authentic by stakeholders.

When a principal makes an authentic investment in stakeholder engagement, two things happen. First, in response to this investment, engagement among stakeholders emerges conditionally and generates a type of creative productivity unrelated to external incentives or standard principal-agent concerns. Second, while it appears that this would introduce a new trade-off between wages and engagement, this is not the case. In equilibrium, only type-3 principals make authentic investments, because theirs are the only investments made for reasons other than increasing firm value; namely, the investment is made because it primarily increases stakeholder flourishing. The mechanism that allows an investment in stakeholder engagement to ultimately increase firm value is that it is done *without the intent* of increasing firm value.

Changes in the principal's worldview may occur which affects the temporal characteristics of investments within the firm. Worldviews may change if a new truth is learned and one's worldview is updated to integrate it, or by taking a "leap of faith" hoping that the new worldview is confirmed by future experience. Our focus is changes in worldviews that occur as people move through ordered stages of human development, since the worldviews associated with these stages share common patterns. For example, former GE executive Jack Welch, who for several decades championed a shareholder-centered culture, later declared shareholder wealth maximization to be "the dumbest idea in the world", exhibiting

a changed worldview.[11] Alternatively, a firm can hire a new principal with a worldview different from the old one. Regardless of the causes, stakeholder engagement can be either created or destroyed as the worldview of the firm's principal changes.

The striking aspect of engagement is that it differs fundamentally from costly effort because it increases productivity and stakeholder well-being at the same time. It has leisure-like properties for the agent but effort-like properties from the principal's perspective. It is not magic, but it represents a fundamental departure from the standard notion of 'effort' as the sole source of human work and creativity. Engagement does not represent working 'harder', but rather represents the unlocking of a fundamental aspect of creative abundance that is not attainable with shareholder-centered thinking.[12] In equilibrium, authentic investments create a positive feedback loop between stakeholder engagement and firm value. The optimal level of engagement preferred by the principal depends on whether the principal recognizes this feedback effect and whether they believe stakeholder engagement is inherently valuable. This allows stakeholders to infer the principal's preferences, and authenticity, by observing the principal's investment in engagement.

The direct cost of investing in stakeholder engagement is borne by shareholders. The net cost to shareholders depends on the change in employee engagement, the relative sensitivity of firm value to engagement, *and* whether stakeholders perceive the investment to be authentic. Analytically, the net cost depends upon two additional variables unique to this model: an engagement link function, γ, which models the impact of the distribution of firm value on employee engagement; and the human capital

[11] Source: https://www.ft.com/content/294ff1f2-0f27-11de-ba10-0000779fd2ac#axzz1eiLpL2PZ (accessed on October 25, 2023).

[12] A common objection to modeling the economics of human creativity in this way is that there is no associated 'costly' disutility and engagement seems to be "free". In fact, it is "free" because it already exists. The capacity to engage creative energy is present in every individual. The only cost comes from disengaging stakeholders from this creative source, and most firms unknowingly incur this cost because most firms shut down engagement. Not engaging stakeholders *is* very costly and manifests in higher burnout, stakeholder turnover and lower productivity. Models that exclude engagement *fail to recognize the hidden cost* of this non-engagement assumption, especially if the models themselves leads to costly non-engagement behaviors and decisions (I thank Jim Ritchie-Dunham for helping to clarify this point).

multiplier, *M*, which measures the impact of engagement on firm value. Larger values of *M* are associated with firms where relational value, engagement, purpose, or human capital are more critical.

The agent's utility is a function of three variables: leisure, consumption and engagement; utility indifference *curves* become 3-dimensional utility indifference *surfaces.* Likewise, the firm's production possibility frontier is a 3-dimensional surface. Relative to the original non-engagement optimum, there exist three distinct zones in the production possibility surface representing different levels of stakeholder engagement. The type-1 principal ignores engagement; if an instrumental calculation could be made, the type-2 principal would choose to invest in stakeholder engagement only so far as it increases shareholder value. While this would result in a pareto improvement over the original non-engaged equilibrium, stakeholders can tell that this investment is not authentic, since it reveals its target by stopping at the point of shareholder value maximization. The paradox, again, is that the firm can only move toward this target when it is not the target.

The type-3 principal continues to invest in stakeholder engagement so long as total created value is increasing by more than the incremental cost of investment. In this context, the firm can create value by moving in the direction of greater engagement, but it no longer has justification for stopping at the point of shareholder wealth maximization. The engagement process occurs because the CEO has not asked "how far must I go?" but "how far may I go?" (Balthasar, 1983).

The model makes numerous testable empirical predictions, including:

- Stakeholder engagement and distributive justice will be positively correlated in the cross-section of firms. This is because the bi-directional link between firm value and stakeholder engagement creates a positive correlation between the distribution of firm value among stakeholders and firm value.
- For firms that have already adopted authentic stakeholder investments, further investments may increase stakeholder well-being but will *reduce* firm profitability.
- Shareholder-centered firms that move to authentic stakeholder framework can make investments in stakeholder engagement that increase stakeholder well-being and firm profitability.
- Cross sectional variation in the engagement link function, γ, and the human capital multiplier, *M*, are correlated with the levels of investment in stakeholder engagement. The highest investments will occur in firms with high values of γ. Authentic investments are chosen

based on the impact on stakeholders, and therefore will be uncorrelated or weakly correlated with *M*; However, changes in firm value will be correlated with both γ and *M*.

- Public ownership may exert pressure to under-invest in stakeholder engagement (Guiso, Sapienza and Zingales, 2015) and engagement will be sensitive to the firm's organizational form.
- Changes in ownership structure (e.g. IPO or privatization) may be associated with changes in investments in stakeholder engagement.
- The CEOs psychosocial worldview and level of moral reasoning will be correlated with levels of investment in stakeholder engagement.
- Gratitude, expressed by the CEO (e.g. shareholder letters) will be positively related to levels of stakeholder engagement.

A limitation of the current paper is that it does not seek to integrate a complete theory of stakeholder well-being into the model of the firm and does not even consider all stakeholders. The goal is more modest: to develop a model with stakeholders for whom well-being and engagement feedback into firm value and examine how corporate decisions made using such a model differ from decisions made using existing shareholder-centered models.

I. Engagement and The Subjective Dimension of Work

Stakeholder engagement involves meaningful participation in 'work as a creative process' and social relationships within the community of persons who constitute the firm. The defining characteristic of the modern economy is that people are the decisive factor of production, because only they possess intellectual capacity and creative imagination.[13] At the same time, work itself is a key component in the development of the person. The decisive factor of production cannot fully develop without being fully engaged in the 'production process', embedding a system of bi-directional causation between work and the worker, between firm value and stakeholder engagement.

[13] "…it is important to note that there are specific differences between the trends of modern society and those of the past, even the recent past. Whereas at one time the decisive factor of production was *the land*, and later capital — understood as a total complex of the instruments of production — today the decisive factor is increasingly *man himself*, that is, his knowledge, especially his scientific knowledge, his capacity for interrelated and compact organization, as well as his ability to perceive the needs of others and to satisfy them." (*Centessimus annus, 32).*

This section examines this bi-directional system, showing how engagement is a key component of human flourishing; why it increases firm value and stakeholder well-being; and why agency-based models have excluded it despite evidence that it matters.

A. Engagement is Essential for Authentic Human Flourishing

Figure 1 summarizes eight key determinants of human utility flourishing identified and reported by Bandura (1987), Seligman and Csiksentmihalyi (2000), Seligman (2002), Diener and Seligman (2004), Luthans et al. (2007), Seligman (2012) and VanderWeele (2017).[14] Factors on the left-hand side of Figure 1 represent determinants of human flourishing related to the subjective dimension of work (e.g. meaningful work, goal-value congruence, higher purpose and social relationships); the right-hand side of Figure 1 captures objective and inter-objective dimensions (material resources, health, institutions, reputation and career concerns).[15] Most agency-based finance models include only objective and inter-objective factors and exclude subjective and inter-subjective determinants of human flourishing.

[14] Positive psychology offers insights into the factors that lead to human utility or flourishing, defined by Seligman (2012) as "finding fulfillment in our lives, accomplishing meaningful and worthwhile tasks, and connecting with others at a deeper level." Positive psychology is rooted in scientific theory and research, uses valid measures of well-being reported in peer-reviewed research, is open to development and has an impact on desirable outcomes. According to Seligman and Csikszentmihalyi (2000) "Positive psychology does not rely on wishful thinking, faith, self-deception, fads or hand-waving; it tries to adapt what is best in the scientific method to unique problems that human behavior presents to those who wish to understand it in all its complexity."

[15] The objective dimension of work is characterized by the person (agent) acting on external objects and creating goods and services in accordance with the familiar economic production processes. Work in the objective sense is transitive: in the same way that a transitive verb requires a direct object, work in the objective dimension has a transitive or linear nature in which the person works on external objects. Transitivity has a linear nature. For example, logical transitivity means that if *a* implies *b*, and *b* implies *c*, then *a* implies *c*. John Paul II describes the transitive dimension of work as follows: "Work understood as a "transitive" activity, that is to say an activity beginning in the human subject and directed towards an external object, presupposes a specific dominion by man over "the earth", and in its turn it confirms and develops this dominion. It is clear that the term "the earth" of which the biblical text speaks is to be understood in the first place as that fragment of the visible universe that man inhabits. By extension, however, it can be understood as the whole of the visible world insofar as it comes within the range of man's influence and of his striving to satisfy his needs." (*Laborem Exercens, 4-5).* In contrast, the subjective dimension of work is characterized by work as a creative process operating on the person (agent) performing the work, giving it a reciprocal nature because the process of work returns to the person as an inherent end.

This exclusion has existed from the beginning of Finance as a field, dating back at least to Robbins (1932) who noted when referring to economic transactions with others (e.g. the "dealers"): *"*…my relation to the dealers does not enter into my hierarchy of ends. For me…they are regarded merely as means." Meaningful and engaging work is also excluded from financial models because again, in Robbins (1932) words, "It is assumed only that, so far as that transaction is concerned, my labour is only a means to an end; it is not to be regarded as an end in itself." The exclusion of the subjective dimension is hard-wired into nearly all models of competitive markets and applied to nearly all models of the firm in Finance. Yet it is increasingly at odds with the empirical evidence regarding value creation in the modern firm.

B. Engagement is Good for Shareholders, But Often Ignored

Empirical evidence documents that many aspects of stakeholder engagement, including meaningful work, social capital and higher purpose, have a positive impact on firm value.[16] Despite the empirical evidence that it matters, many firms do not make optimal investments in stakeholder engagement, often due to pressure from shareholders. Edmans (2011) shows that on average the market underappreciates certain intangibles and as a result underestimates the value of social and integrity capital, resulting in sub-optimal investments, and that adopting a shareholder-centered perspective can make this underinvestment problem worse. Lin, Servaes and Tamayo, (2017) demonstrate that while investments in integrity and social capital can positively impact firm value and performance, the willingness of firms to make such investments must overcome many factors including the negative pressure from external shareholders.

[16] Scrivens and Smith (2013) describe social capital as an important determinant of firm value encompassing personal relationships, social network support, civic engagement and trust and cooperative norms. Empirical evidence documents the value impact of meaningful and engaging work (see e.g. Harter et al. 2002, Luthans et al., 2007; and Clifton, 2011), social relationships (Guiso et al., 2015 and Cremers, 2017) or a sense of transcendent mission or purpose (see e.g. Grant et al. 2007, Quinn and Thakor 2018, 2019, 2020; Gartenbert, Prat and Serafeim 2019;).

Guiso, Sapienza and Zingales (2015) compare integrity in venture-capital backed private firms and publicly traded firms and note that "if some assets are not considered (or are underappreciated in the short-run) public ownership creates a distortion in decision making." In such instances, CEOs who "allocate company resources to maximize the current stock market value of a company will tend to under-invest in integrity" because such investments have clear short-term costs but only limited short-run benefits. Guiso et al. (2015) find that this is particularly true for publicly traded firms with large outside shareholders and conclude "it looks like a focus towards shareholders' value-maximization undermines the ability of a company to sustain a high level of Integrity capital."

One reason firms underinvest in stakeholder engagement is because most financial decisions are made by individuals trained using models that ignore purpose and engagement. Bandura (1986, p. 26) emphasizes how "erroneous beliefs prompt actions causing others to behave in ways that confirm the original beliefs." These models shape the worldviews of users and produce financial decisions that reflect the assumptions embedded in the models themselves.[17] If Bandura (1986) is right, and "conceptions on which social technologies rest… affect which human potentialities will be cultivated and which will be left undeveloped," then these self-limiting models may condition users to ignore stakeholder engagement in actual decisions.[18]

[17] MacKenzie and Millo (2003) show that US option prices conformed more closely to the Black-Scholes model *after* the model gained acceptance, since the model was used by traders and influenced prices as its use became more widespread.

[18] For example, Miller and Xu (2019) find that CEOs with MBAs are more likely to manage through short-term tactics (earnings management or restrictions on R&D spending) and that while these tactics positively correlate with short-term performance and increases in CEO compensation, they are ultimately detrimental to the firms' reputation and long-run value. Cremers (2017) argues that standard agency theory misses the inherently social or cooperative nature of value creation in firms, and that this omission may facilitate unethical behaviors. It may also prevent consideration of important questions, such as the purpose of the firm (beyond creating value), how persons working in business can develop virtues and skills, or that the strong assumptions behind agency theory are morally neutral. Pfeffer (2005) observes "It is therefore just logical that (a) success or failure is determined, in part, by these mental models or ways of viewing people and organizations, and (b) in order to change practices and interventions, mindsets or mental models must inevitably be an important focus of attention."

C. An Example of the Problem with Current Models

Quinn and Thakor (2018) describe how higher purpose provides economic benefits to firms and results in greater engagement among workers. This section refers to their case study to illustrate how current models exclude the subjective dimension of work, leading to false Pareto-optimal equilibria and misallocation of resources. Quinn and Thakor highlight the transformation of DTE Energy, a firm with a CEO who was skeptical of investing the firm's resources in purpose or engagement. DTE employees were dis-engaged and in 2008, facing a recession, CEO Gerry Anderson "knew that he needed a more committed workforce but did not know how to get one." When DTE's Anderson decided to make an investment in higher purpose, many executives objected and some even left the company. Even the CEO had doubts, but ultimately decided to "take a leap of faith". The company produced a video capturing DTE's contribution to the people and communities it serves and following up with a time- and resource-intensive integration of purpose into orientations, training programs, corporate meetings, and events. Employee engagement rose, and firm financial performance improved. Quinn and Thakor ask:

> Why did purpose work so well after other interventions had failed? Anderson had previously tried to shake things up by providing training, altering incentives, and increasing managerial oversight, with disappointing results. It turned out that his approach was to blame—not his people…Many executives avoid working on their firms' purpose. Why? Because it defies what they have learned in business school and, perhaps, in subsequent experience: that work is fundamentally contractual, and employees will seek to minimize personal costs and effort.

Quinn and Thakor describe a process of employee engagement that defies the either-or logic of conventional economic models, illustrating that an engaged and inspired workforce is possible and concluding that:

> "Conventional economic logic tends to rely on external motivators. As leaders embrace higher purpose, however, they recognize that learning and development are powerful incentives. Employees actually want to think, learn, and grow."

The neoclassical economist responds to this case study by noting that intangibles such as engagement, purpose, learning and growing are automatically embedded in a firm's production possibility

frontier. After all, firms operating to maximize shareholder value know they must treat employees and suppliers well and be honest in dealings with customers.

But Friesen (2020) presents a thought experiment illustrating one reason current models cannot capture higher purpose and engagement. The thought experiment considers a firm that is "value optimized" in the conventional sense, with all decisions made to maximize shareholder wealth (for example, a firm such as DTE Energy *before* their investment in higher purpose). The firm in the thought experiment begins with disengaged stakeholders,[19] and is represented by point (P_0^*, P_1^*) in Figure 2, where the capital market line is tangent to the firm's production frontier.

Friesen (2020) then poses the following question: suppose that the firm can make a new investment in stakeholder engagement and that this investment will generate revenue with a present value exactly equal to the initial investment. This investment has a net present value of \$0. Point (P_0^*, P_1^*) in Figure 2 also represents the firm after making this investment. Thus, the same point (P_0^*, P_1^*) represents two firms: the firm that does not make the investment in engagement and the firm that does, and even though rational shareholders are indifferent between the two outcomes, something clearly changes when the firm invests in engagement: *Employees are better off (i.e. employee utility is higher) and shareholders are no worse off.* The point (P_0^*, P_1^*) represents two different outcomes, one that is Pareto optimal and one that is not.[20] Models that exclude stakeholder engagement reduce human utility to wealth and consumption, eliminate the subjective dimension of work and thus *eliminate* a key dimension of reality that relates to human flourishing and firm value.

Such models possess an implicit contradiction: It is assumed that decision makers use the model to make decisions, yet simultaneously transcend all hidden limitations of the model. This assumption is

[19] Global employee disengagement rates of 80%-90% notwithstanding (source: https://www.gallup.com/workplace/349484/state-of-the-global-workplace.aspx accessed August 29, 2023).

[20] Pareto optimality simply requires resources be allocated such that it is impossible to reallocate them to make any individual better off without making at least one individual worse off. Pareto optimality is not restricted to the objective or leisure-consumption dimensions of work.

unrealistic, and it certainly did not happen at DTE Energy prior to 2008. But removing this embedded contraction leads to a paradox that current models cannot resolve.

D. The Paradox of Non-calculation

Investments in firm culture, employee engagement and employees' human development are investments in quasi-public goods within the firm, what Cremers (2017) refers to as "cooperative goods". As such, they cannot be atomized to the level of the individual employee but instead are discrete firm-level investments in firm culture. How are dollar investments converted into purpose or engagement? According to Quinn and Thakor (2018) it is only through a commitment of resources in the form of a re-investment of a portion of residual income into the collective growth and development of the employees themselves.

If engagement and purpose increase firm value, why can't an investment in engagement be modeled just like any other corporate investment decision? An accurate understanding of how engagement works should make such an investment straightforward. One challenge is that investing in stakeholder engagement is unlike any other investment decision and will not increase firm value if done with the *intent* of increasing value. Quinn and Thakor (2019) further state:

> "… Herein lies the paradox: an authentic organizational higher purpose will change the fundamental implicit contract between employers and employees and change behavior, thereby producing long-term economic gain, but *only if it is not pursued with the intent of producing economic gain."*

This paradox provokes strong objections. Yet if one accepts the paradox, then like all paradoxes the answer creates a new worldview that transcends the plane of reality on which the paradox exists.[21] The paradox points to the role of an 'action without intent' in which desired outcomes are the byproduct and

[21] While this paradox appears incompatible with standard economic models, it is compatible with reality. The worlds wisdom traditions have all revered and converged on this principle and the paradox associated with it. For example Lao Tzu describes in his book Dao De Jing what he calls wu wei, or the logic of "actionless action" or "non-forcing". Krishna's admonition to Arjuna in The Bagavad Gita "Established in Being, perform action." The Taoist sage Chuang Tzu captures the essence of acting without intent: "So from the sage's emptiness, stillness arises: From stillness, action. From action, attainment." The Way of Chuang Tzu.

not a goal.[22] As the next section shows, the paradox is resolved through growth into a worldview in which justice, self-actualization and relational capital emerge simultaneously as compatible human values (Kohlberg, 1981). Thus, firms with high levels of stakeholder engagement will tend to have higher levels of distributive justice among stakeholders, but only as a byproduct of more fundamental underlying growth.

2. Engagement, Self-actualization, and Human Growth

Humans progress through consistent and ordered stages of human growth, both internally and externally (Wilber, 2007). These stages characterize not only the physical stages of development that occur over the human lifespan, but also intellectual and cognitive stages (Piaget, 1972), stages of psychosocial development (Erikson 1959; Erikson and Erikson, 1997), stages moral development (Kohlberg, 1981; Gilligan 1982), stages of faith (Fowler, 1981) and stages of human consciousness (Gebser 1985, Graves 2002). Developmental stages are relatively stable through time and across cultures and have been documented for both individuals and collective groups.[23]

A. What Happens When the Representative Agent "Grows Up"?

[22] "But *seek ye first the kingdom of God*, and his righteousness; and all these things shall be added unto you." Matthew 6:33. CS Lewis (1951) described is as follows: "Put first things first and we get second things thrown in: put second things first & we lose both first and second things."

[23] Wilber (2007) observes that these stages are somewhat fluid and act more as a 'center of gravity' than a definitive or precise measure of each individual's stage of development, but that any point in time the majority of decisions and experiences of a particular individual will be centered around their current developmental stage. Ultimately, an individual's developmental level affects cognition, perception and understanding of the world, values, consciousness and relation to other human beings. Ultimately one's decisions, values and motivations for human action can be linked, in part, to the developmental stage from which such actions arise. Gebser (1985) highlights how worldviews that tend to correlate with the average cognitive 'center-of-gravity' within a group or society. Each altitude has a color and label, and the horizontal lines separate what Wilber (2007) defines as first-, second- and third-tier development. 1st-tier stages are all associated with a sense of lack, of deficiency, of needing the world to change and be different to how it is. Graves (2002) called the movement to 2nd-tier consciousness 'a monumental leap' in meaning and states "the bridge from the sixth level to the seventh level is the bridge between getting and giving, taking and contributing. It is the bridge between deficit and abundance motivation." The individual's perspective becomes multiperspectival and embrace all the previous altitudes of development. Wilber (2007) states that "each 3rd-tier structure has some of its identity that is transpersonal – that is, it is directly beyond the individual body-mind."

The human growth framework illustrates how the 'representative agent' in finance models represents a specific stage of human growth, reflecting the received wisdom in which the firm's primary goal is the maximization of shareholder wealth. The human needs associated with the developmental stage across these dimensions accurately describe the concerns and sources of utility of *homo economicus.*[24] But human life is not static and growth occurs when humans integrate the subjective dimension into their worldview. This growth takes the human person beyond those dimensions of experience historically associated with economics.[25] It reveals why engagement is correlated with distributive justice among the firms stakeholders, since justice emerges as a central human value precisely when purpose, engagement and meaning emerge as central human needs.

Even more importantly, the human growth literature reveals an important threshold where human 'deficiency needs' are replaced with 'growth needs'. Humans are motivated to meet certain needs, and higher needs emerge as lower needs are met:

> "It is quite true that man lives by bread alone — when there is no bread. But what happens to man's desires when there is plenty of bread and when his belly is chronically filled? … At once other (and "higher") needs emerge and these, rather than physiological hungers, dominate the organism. And when these in turn are satisfied, again new (and still "higher") needs emerge and so on. This is what we mean by saying that the basic human needs are organized into a hierarchy of relative prepotency" *(Maslow, 1943, p. 375)*.

Maslow (1970) identified the highest human need as 'self-actualization' which he defined as the realization of personal growth, being fully engaged in your work, living out your mission. In short, a desire "to become everything one is capable of becoming" (Maslow, 1987, p. 64). While Maslow's work

[24] These include esteem needs such as reputation and respect of others, prestige, accomplishment and the accumulation of material wealth (Maslow, 1970a, 1970b)). The agent is characterized by a formal-operational level of cognitive development (Piaget, 1972). The moral stance is grounded in the notion of law and order, the importance of the social contract and individual rights (Kohlberg, 1981). One's sense of self oriented toward a conscientious conformity to the ordered 'rules of the game' and pursuit of individual interests (Loevinger, 1976); a striving for exterior achievement is paramount (Graves, 2002).

[25] The next 'stage' of development in the dimensions just mentioned tends towards a need for learning, growth and self-actualization (Maslow); a focus on universal principles such as justice, equity and human rights (Kohlberg); the growth into autonomy, a state in which one is able to synthesize or integrate apparently distinct ideas and recognize emotional interdependence with others (Loevinger); a recognition and emphasis on the importance of human relationships (Graves); cognition moving from formal-operational stage characterized by dichotomous either/or logic (Piaget) to vision-logic capable of conceptualizing and integrating different perspectives with both/and logic.

has been criticized for establishing a hierarchy of needs that was too rigid, the validity of these needs has held up to scrutiny (see e.g. Tay and Diener, 2011) and the determinants of human action and human flourishing identified by Maslow can best be represented as a fluid hierarchy, illustrated in Figure 3.

A key insight of Maslow is that needs can be classified as either deficiency needs or growth needs. Within the domain of deficiency needs, the feeling of *lack* is the motivation for human action. When a deficiency need is *satisfied*, the motivation associated with that need *decreases.* [26] With growth needs, the feeling of fulfillment is the motivation for human action, and motivation increases as the need is satisfied. Examples of growth needs include learning, engagement at work, self-actualization and the pursuit of the transcendent. Consider again Masaru Ibuka and SONY's First Purpose of Incorporation: "To establish a place to work where engineers can feel the joy of technological innovation, be aware of their mission to society and work to their heart's content." This mission makes no sense in a context where labor is supplied only to meet deficiency needs, work is associated with costly disutility, and a paycheck is only a means to an end. But it makes sense within the subjective dimension where work is also intrinsically valuable. Work is both a means to an end as well as an end in itself.

B. Engagement and Flow

The example of DTE Energy presented above is not an isolated anecdote. Engagement is different from costly effort and has three fundamental properties rooted in the subjective dimension of work. First, engagement produces a type of creative innovation unrelated to external incentives or standard principal-agent concerns; second, engagement emerges *conditionally* after other needs have been met, at both individual and collective level; third, engagement is characterized by the absence of disutility.

[26] For example if I am thirsty I will seek out water, but once my thirst has been quenched and I am no longer thirsty, my motivation for obtaining water decreases. In economics and finance, labor is properly modeled as a deficiency need (e.g. the logic of 'costly effort' … I work only to earn money, and have diminishing marginal utility of wealth).

It is important to differentiate between the concepts of effort and engagement since the term "effort" is often used to capture these two distinct concepts. The term effort captures the idea of working more or working harder; in contrast, engagement means working differently. Stakeholder engagement is closer to 'intrinsic motivation', although even the term 'intrinsic' has itself been used to capture multiple distinct concepts. Extrinsic motivation is catalyzed through monetary compensation, incentives, monitoring, penalties or other contractual features. Within the context of management or positive psychology, intrinsic motivation originates within the agent and is often catalyzed by work that is conducive to individual growth (Herzberg, 1968); a workplace that provides a sense of higher purpose (Mackey, 2014; Quinn and Thakor 2018, 2019); a work culture instilled with trustworthy or meaningful relationships (Lin et al., 2017; Edmans, 2011; Guiseo et al., 2015); or a sense of engagement at work (Pink, 2011; Clifton, 2011; Guiso et al., 2015).

Within finance and economics, intrinsic motivation has been defined within the context of existing principal-agent models, where all productivity arises from a single type of 'effort'. The agent faces the standard disutility of effort and intrinsic motivation arises not out of a sense of fulfillment or growth but as a calculated response to a more informed principal who seeks to manipulate the agent through a particular contract (see e.g. Benabou and Tirole (2003) for an example of this kind of intrinsic motivation Akerlof and Kranton (2005) who define 'identity' in a qualitatively similar way).[27] Human productivity is clearly influenced by standard principal-agent concerns, but the large component related to human growth needs is *not* captured by existing economic models, regardless of whether they label the source of their effort as 'internal' or 'external'.

[27] Benabou and Tirole (2003) approach intrinsic motivation from an incentive-based perspective. In their model, intrinsic motivation results from an agent who is unsure of his ability and infers the motives of the informed principal based upon the contracts offered to him. The agent faces the standard disutility of effort and intrinsic motivation arises not out of a sense of fulfillment or growth but as a calculated response to a more informed principal who seeks to manipulate the agent through a particular contract. While the ability of the principal to manipulate the agent in such a way has clear implications for firm value, it is distinct from the type of engagement-based productivity that is the focus of the current paper.

Stakeholder engagement as modeled in the current paper is more closely related to "flow", which Czikszentmihalyi (1990) describes as "a state in which people are so involved in an activity that nothing else seems to matter; the experience is so enjoyable that people will continue to do…for the sheer sake of doing it."[28] This creative activity arises within the individual, is supported by extensive empirical research, and is distinct from external incentives or extrinsic motivation. Flow is not only related to creative productivity but also human flourishing, since

> "The best moments in our lives are not the passive, receptive, relaxing times…the best moments usually occur if a person's body or mind is stretched to its limit in a voluntary effort to accomplish something difficult and worthwhile." Czikszentmihalyi (1990)

Integrating flow into the model does not eliminate 'disutility of effort'; flow is a distinct concept associated with a distinct and complementary source of productivity. As Quinn and Thakor (2018) state, "people who find meaning in their work don't hoard their energy and dedication. They give them freely, defying conventional economic assumptions about self-interest. They grow rather than stagnate. They do more – and they do it better."

C. Flourishing, Participation Constraints and CEO Worldviews

Combining the human growth model, stakeholder engagement, and human flourishing is necessary to resolve the paradox associated with engagement. One consequence is that a "binding" participation constraint no longer characterizes the equilibrium resource allocation. As the DTE example in the previous section illustrated, engagement raises stakeholder well-being *above* reservation levels without depleting shareholder value. Investments in engagement create an apparently new trade-off, however, between effort and engagement (both increase firm value, but have opposite impacts on stakeholder sell-being). The tension for the CEO is how much to invest in stakeholder well-being, and whether to exploit this new tradeoff for the exclusive benefit of shareholders.

[28] Flow can be experienced by all ages, classes, genders and cultures but tends to occur in contexts where people are absorbed in a challenging but attainable task, where skill level is well matched to the challenge at hand (Nakamura et al, 2009). Flow is correlated with certain types of neurological activity (Dietrich, 2003) and by downregulating the pre-frontal cortex and enabling the implicit or subconscious mind to take over activity, a state of flow facilitates communication across multiple areas of the brain and encourages creativity and innovative thought (Dietrich, 2004)

The paradox for the CEO is that investments in engagement cannot be made with the *intent* of increasing firm value. The model in the next section formalizes this, but the investment in stakeholder engagement is clearly different from other investments made by the firm and must be a *byproduct* of decisions made from a worldview that integrates the subjective dimension of work into the firm's objective function. Thus, stakeholders will only deem investments in stakeholder engagement to be authentic when they are consistent with a worldview that places explicit value on stakeholder flourishing and the well-being and development of "other" stakeholders.

One implication of this is that engagement investments must be rooted in love, since love (charity) is the principal driving force behind the authentic development of every human person (*Caritas in Veritate, 5)*. Gratitude plays an essential role since authentic charity implies both receptivity and generosity on the part of the leader. The first step in developing a worldview compatible with stakeholder engagement is for the leader to *receive* with gratitude that which has been done for them, since the leader "comes in the profoundest sense to himself not through what he does but what he accepts" (Ratzinger, 1990) and not simply what he achieves. [29]

Paradoxically, it is not the outward actions but inward receptivity that pre-conditions the leader to make authentic investments in stakeholder engagement and unlock firm value. Giving is a natural response to what has been received; it is more than the contractual minimum or a transactional calculation. It represents the authentic entry into communion (*corpus*, corporation) with stakeholders in pursuit of a shared purpose.

A second implication is that engaged organizations will have more equitable distribution of resources, *ex post*, as a byproduct of engagement. Instrumentally distributing more resources in a

[29] Without receptivity, leaders may simply regard themselves as determining and creating their own ethical principles. They may come to see themselves as creative, innovative, active, and constructive but if they fail to receive then they not distort their place in the world and over-estimate their own achievements and work. Such a refusal to receive is found in the origins of mankind (Genesis 2:17). The moral law is given to us as a gift, and we can only receive it. In an analogous manner, business leaders must receive their vocation as servant leaders (in the context of the moral law) before they are open to receiving the principles that foster the integral development of those stakeholders affected by the business. (see Vocation of the Business Leader, 3rd Ed., 2012).

transactional or contractual framework cannot activate engagement. Authentic investments are more than technical market-based assessments; more than clever actions designed to advance the private interests of shareholders or leaders. The leader with an engagement worldview does not ask "How far must I go?" but rather "How far may I go?" (Balthasar, 1983). Authentic stakeholder engagement reflects the virtue of authentic prudence, which means it cannot be separated from the requirements of justice.

D. Engagement and Distributive Justice

Justice affects all stakeholders through morale, engagement, relationships, and stakeholder well-being. Jasso and Rossi (1977) argue that humans exhibit consistent notions of just distribution of profits and fairness or earnings and these notions of distributive justice impact relationships within the firm involving employees, customers, suppliers and communities (see e.g. Akerlof, 1980; Okun, 1981; Kahneman, Knetsch and Thaler, 1986). Distributive justice impacts firm value through supply chain relationships (Griffith, Harvey, Lusch 2006), employee morale (Fehr and Gachter, 2000; Hannan, 2005), product quality (Cowherd and Levine, 1992) and employee attitudes and well-being (Akerlof and Yellen, 1990).[30]

[30] Akerlof and Yellen (1990) examine the connection between employee attitudes, productivity and distributive justice, which when the ratio of the perceived value of inputs and outputs is equal among parties. In their model, wages below the "fair" level have an asymmetric and negative impact on employee attitudes, but receiving more than the fair level of compensation has little beneficial effect. Fehr and Gachter (2000) and Hannan (2005) show that fairness and justice in the distribution of profits affect employee morale, effort and willingness to invest in their firm-specific human capital. Cowherd and Levine (1992) show one link between distributive justice and profitability arises through the employee channel: product quality is very sensitive to motivational factors, which are influenced by distributive justice. In one of the first studies on the connection between fairness and employee motivation, Lawler and O'Gara (1967) showed that underpaid workers not only adjust the amount of effort exerted, but also the perceived quality or nature of the effort provided.

Resource distribution affects productivity and engagement among employees, as well as trust, relationships and social capital among all stakeholder groups. But distributive justice affects more than productivity since it also has a negative impact on levels of stakeholder well-being.[31]

Justice is not restricted to the financial or monetary dimension alone, which is another reason a CEO cannot just "buy" stakeholder engagement. Distributive justice emerges as a byproduct of investments in stakeholder engagement, creating a positive correlation between engagement and distributive justice at the firm level. In fact, simply re-distributing financial resources alone can never create stakeholder engagement since justice involves more than simply the allocation of material resources.[32] Nevertheless, if firm value is connected to stakeholder engagement, and investments in engagement are costly and represent a sharing of residual firm value, then this reveals one important channel linking firm value to the way surplus is distributed among its members, which Zingales (2000) notes is one of the four fundamental questions that "are a precondition to any further advancement in Corporate Finance."

3. A Model with Trade-Offs and Stakeholder Engagement

The win-win aspect of stakeholder engagement, where both stakeholder utility and firm value are increasing functions of engagement, is illustrated in Figure 4, which combines 'effort' and 'engagement'. The right-hand side of panels (a) and (b) show that external effort is always costly to the employee but beneficial to the firm's owners, embedding an adversarial relationship between the two. In contrast, the left-hand side of panels (a) and (b) show how stakeholder engagement leads to greater satisfaction and

[31] Pritchard, Dunnette, and Jorgenson (1972) studied workers subject to downward wage adjustments perceived as unfair and found that such workers not only performed less well in their work after the change, but also expressed increased levels of job dissatisfaction.

[32] "If the whole structure and organization of an economic system is such as to compromise human dignity, to lessen a man's sense of responsibility or rob him of opportunity for exercising personal initiative, then such a system, we maintain, is altogether unjust – no matter how much wealth it produces or how justly and equitably such wealth is distributed." John XXIII, Encyclical Letter, 83.

higher utility for the employee *and* produces increases productivity. The firm's output is a function of costly effort and engagement *conditional on* effort.

The variable s_i measures stakeholder *i's* share of total firm value; shareholders are defined stakeholder group number one, so that $s_1 = 1$ corresponds to a situation where all surplus accrues to shareholders. Shareholders bear the up-front cost of any investment in stakeholder engagement, modeled as a reduction in s_1. The net cost to shareholders depends on the impact of this investment on employee engagement *and* on the relative sensitivity of firm value to increased engagement. The engagement link function, γ, captures the first effect; the human capital multiplier, *M*, measures the impact of engagement on firm value. Firms where relational value, engagement or human capital are more important have higher values of *M*. This means that the distribution of residual value will feedback into the value being distributed. In the model, the variables (γ, M, s_i) interact in a system of *traiadic reciprocality* that is closely related to Bandura's (1986) social-cognitive framework[33] as illustrated in Figure 5.

A. The Baseline Model: Optimal Compensation in the Standard Principal-Agent Setting

The baseline standard agency model is a Stackelberg game in which the owner (principal) moves first and makes a take-it-or-leave it offer to the manager or employee (agent). Let:

$x =$ the outcome (e.g. revenue)
$e_1 =$ action (level of effort chosen by agent)
$f(x|e_1) =$ density function of outcome conditional on effort

[33] Bandura (2007) describes the development of the Social Cognitive Theory as necessary to improve upon the "conventional theorizing and research on human agency focused almost entirely on agentic processes operating at the individual level. Bandura explains: "To represent more fully how agency is actually exercised in people's everyday lives, I posited triatic modes of human agency – individual, proxy, and collective agency operating in concert. In personal agency exercised individually, people bring their influence to bear on their own functioning and on environmental events. In many spheres of functioning, people do not have direct control over conditions that affect their lives. They exercise socially-mediated agency by influencing others who have the resources, knowledge, and means to act on their behalf to secure the outcomes they desire. Many of the things people seek are achievable only by working together through interdependent effort. In the exercise of collective agency, they pool their knowledge, skills, and resources, and act in concert to shape their future. Collective agency extended the applicability of social cognitive theory to collectivistically oriented societies. The relative weight given to individual, proxy and collective agency varies cross-culturally, and spheres of life, but one needs all forms of agency to make it through the day, regardless of where one lives."

$S(x) =$ Compensation contract offered to agent
$x - S(x)$ = residual income of the firm (assumed to belong to the principal)
$G(\cdot) =$ the principal's utility function of wealth
$U(\cdot) =$ the agent's utility function of wealth
$V(\cdot) =$ the agent's disutility function of effort, where $V'(e_1) < 0 \; and \; V''(e_1) > 0$

The principal solves the problem:

$$\max_{S(x),e_1} \int G[x - S(x)]\, f(x|e_1)dx \quad \text{subject to}$$

$$\int U\,[S(x)]f(x|a)dx - V(e_1) \geq \underline{U} \quad \text{"participation constraint"}$$

Given *S(x)*, the agent choses effort "e_1" to maximize:

$$\max_{S(x),e_1} \int U\,[S(x)]f(x|e_1)dx - V(e_1) \quad \text{"incentive compatibility constraint"}$$

Note that the action which benefits the shareholder (e.g. more effort) comes at the agent's expense, and the action which benefits the agent (*S(x)*) comes at the principal's expense. By taking the first-order condition of the agent's problem, setting equal to zero, and substituting this into the principal's problem we obtain the following expression, which the principal solves to maximize expected utility:

$$\max_{S(x),e_1} \int G\big[[x - S(x)]\big]\, f(x|e_1)dx + \lambda\left[\int U\,[S(x)]f(x|e_1)dx - V(e_1) - \underline{U}\right]$$

$$+\mu\left[\int U'[S(x)]\, f_{e_1}(x|e_1)dx - V'(e_1)\right]$$

Taking the derivative, setting equal to zero and solving yields the familiar expression characterizing the optimal compensation contract[34]:

[34] (Recall that while the disutility of effort does not appear explicitly in this expression, the Lagrange multiplier μ does depend upon $V''(e_1)$ and the optimal value of e_1 is the solution from a first-order-condition in which $V'(e_1)$ appears. Thus, the nature of disutility and assumed functional form of the disutility of effort impact the optimal compensation contract, despite the superficial impression that it is absent from the contract. As the wealth or compensation increases, the marginal utility of wealth decreases and the optimal level of effort is where the disutility of effort exactly offsets the expected marginal utility of compensation.

$$\frac{G'[x-S(x)]}{U'[S(x)]} = \lambda + \mu \frac{f_{e_1}(x|e_1)}{f(x|e_1)} \quad (1)$$

Define the value measure $\widehat{MV}$ as the value of a firm with dis-engaged stakeholders.[35] This optimized value of the firm (e.g., Jensen and Meckling, 1976) is a function of 'managerial effort', e_1, compensation to the manager, c_1, and the implicit level of monitoring by the shareholders. In equilibrium, the manager's expected marginal benefit of effort is proportional to their marginal cost of effort, and the shareholder's marginal benefit from monitoring equals the marginal cost of monitoring. This framework implicitly assumes that all stakeholders have been optimally compensated in their respective markets, and that this compensation is embedded in $\widehat{MV}$.

A. The Firm's Investment in Stakeholder Engagement

There are three types of principals in the model, which we refer to as shareholder-centered, enlightened shareholder-centered, and stakeholder-centered. An important issue is whether employees prefer that c_2 be invested in engagement or simply used to increase monetary compensation. The answer depends on the utility gains from engagement and the opportunity cost of the resources used to invest in engagement.

There are three types of principal. The goal of the **Type-1** principal is maximization of shareholder value in the context of a "shareholder value maximization" worldview where stakeholder flourishing is not a relevant construct and therefore does not enter the firm's objective function. The benchmark equilibrium in the previous section has a type-1 principal. An example of a principal with the

[35] This is consistent with the current business environment in the United States. According to the Gallup Organization, between 2012 and 2023 only 12% to 23% of employees globally reported being engaged at work which translates into disengagement rates between 77% and 88%. In 2023, only 23% of employees reported being engaged at work globally, and 32% in the United States. source: https://www.gallup.com/workplace/349484/state-of-the-global-workplace.aspx (accessed August 29, 2023).

Type-1 worldview is former Scott Paper CEO "Chainsaw" Al Dunlap who described his worldview on the relationship between shareholders and employees:

> "Firstly, the corporation is responsible to the shareholder who own the corporation and take all the risk… Employees get paid every day, the communities collect their taxes every day, but the shareholders furnish the capital, the lifeblood of the corporation. And if you do a good job for the shareholders, you will be meeting the needs of the constituencies. When you list a whole lot of constituencies and hope that you'll do something good for one of them, the corporation can fail as has happened in so many American companies today… Again, the shareholders own the company. They take all the risk. You pay the employees every day. Chief executives who don't watch out for shareholder value ultimately cause the whole corporation to fail."[36]

The **Type-2** principal recognizes the role of purpose or stakeholder engagement, but only insofar as it is instrumentally useful in maximizing shareholder value, which is the only variable in the firm's objective function. Stakeholder flourishing is not valuable as a stand-alone construct, is not part of the firm's objective function ('scorecard') and in equilibrium will ultimately be deemed inauthentic by stakeholders. Jensen (2002) describes this type of principal as "enlightened shareholder value maximization".[37]

The "total created value" worldview of the **Type-3** principal recognizes stakeholder flourishing as inherently valuable and thus it is included in the firm's objective function. The relative weights placed on stakeholder flourishing and shareholder value are endogenously determined to maximize the weighted average, labelled "total created value".

B. The Objective Function

[36] Source: https://www.youtube.com/watch?v=s1ny6rPPVaA (accessed October 25, 2023)

[37] Jensen (2002, p. 245) states that enlightened value maximization "recognizes that communication with, and motivation of, an organization's managers, employees, and partners is extremely difficult. What this means in practice is that if we tell all participants in an organization that its sole purpose is to maximize value, we would not get maximum value for the organization. Value maximization is not a vision or a strategy or even a purpose, it is the scorecard for the organization. We must give people enough structure to understand what maximizing value means so that they can be guided by it and therefore have a chance to actually achieve it. They must be turned on by the vision or the strategy in the sense that it taps into some desire deep in the passions of human beings for example, a desire to build the world's best automobile or to create a movie or play that will affect humans for centuries. All these can be consistent with value maximization. There is a serious semantic issue here. Value maximizing tells the participants in an organization how they will assess their success in achieving a vision or in implementing a strategy. But value maximizing says nothing about how to create a superior vision or strategy. And value maximizing says nothing to employees or managers about how to find or establish initiatives or ventures that create value. It only tells us how we will measure success in the activity." For our purposes, the key point is that stakeholder flourishing is still missing from the final 'scorecard' by which success or failure is measured.

Let c_2 be the cost of investing in stakeholder engagement, paid for by the principal (shareholder), that results in greater engagement within the firm (and greater distributive justice as a byproduct). This investment is translated into employee engagement e_2. The agent's utility now consists of three components:

$U_E\big(S(x)\big) =$ Utility of "external" wealth

$U_I(e_2) = U$tility of "internal" engagement

$V'(e_1)$ = disutility of effort

Where

$$U_E\big(S(x)\big) + U_I(e_2) = Total\ Utility \tag{2}$$

The objective function for the Type-1 "shareholder value maximization" principal is unchanged. Define c_2 as the dollar cost of the investment in stakeholder engagement. The principal must choose the value of c_2 and bear the immediate cost. If the investment is successful, the resulting engagement acts like leisure to the agent (it increases utility) *and* has an effort-like effect which results in a higher value of output (x). For the type-2 "enlightened shareholder value maximization" principal seeks to maximize MV^*, which represents firm value *with stakeholder engagement:*

$$\max_{S(x),e_1,e_2} \int MV^* =$$

$$\max_{S(x),e_1,e_2} \int G\big[[x - S(x) - c_2]\big] f(x|e_1,e_2)dx + \lambda\left[\int \quad [U_E[S(x)] + U_I(e_2)]f(x|e_1,e_2)dx - V(e_1) - \underline{U}\right]$$

$$+\mu\left[\int [U'_E[S(x)] + U'_I(e_2)]\, f_{e_1}(x|e_1,e_2)dx - V'(e_1)\right]$$

With a resulting compensation contract characterized by:

$$\frac{G'[x-S(x)-c_2]}{U'_E[S(x)]+U'_I(e_2)} = \lambda + \mu\frac{f_{e_1}(x|e_1)}{f(x|e_1)} \tag{3}$$

The investment, c_2, is chosen not only for the benefit that it brings to stakeholders, but also the disutility to shareholders since they bear the cost. The principal is still in "shareholder wealth

maximization mode" and the resulting equilibrium compensation contract involves a reduction in stakeholder compensation to exploit the increased stakeholder utility from engagement**. The principal behaves as if the *paradox of non-calculation* did not exist. As a result, stakeholders will deem the engagement investment to be inauthentic.**

In order for engagement to not be *for the purpose* of maximizing shareholder value, engagement must be explicit in the objective function and the choice of s_1 must be made to maximize *something other than* shareholder value. For the type-3 principal, the objective function maximizes the expected **total created value**, ***MV**.***

$$\max_{S(x),e_1,e_2} \int MV^{**} = s_1 MV^{*} + (1 - s_1)\, SKH\_FLOURISH$$

$$\max_{S(x),e_1,e_2,} \int \{s_1 G[[x - S(x) - c_2]] + (1 - s_1) SKH\_FLOURISH\} f(x|e_1, e_2) dx$$

$$+ \lambda \left[\int \quad [U_E[S(x)] + U_I(e_2)] f(x|e_1, e_2) dx - V(e_1) - \underline{U} \right]$$

$$+ \mu \left[\int [U'_E[S(x)] + U'_I(e_2)]\, f_{e_1}(x|e_1, e_2) dx - V'(e_1) \right]$$

Where

$$SKL_{FLOURISH} = U_I(e_2) + U_E[S(x)] - U_E[S(x) + c_2] \quad (4)$$

is the *surplus flourishing* attributable to engagement, *over and above* what would obtain if $c_2$were simply paid directly to stakeholders as compensation rather than being invested in engagement. The objective function maximizes total created value, *MV***, defined as:

$$MV^{**} = s_1 G[[x - S(x) - c_2]] + (1 - s_1) SKH\_FLOURISH \quad (4)$$

Thus, the dollar cost of c_2 is converted into engagement-based surplus utility for stakeholders. The numerical value of stakeholder flourishing is arbitrary, but **as long as the engagement constraint is nonbinding:**

$$\boldsymbol{U_I(e_2) + U_E[S(x)] > U_E[S(x) + c_2]} \quad \textbf{(4b)}$$

and *MV is a lower bound for total created value** and $TCV \geq s_1 MV^* + (1 - s_1)MV^*$ which implies $SKH\_FLOURISH \geq (1 - s_1)MV^*$.[38] The key to authenticity is a framework where contracts within the firm are recognized by all stakeholders as joint commitments to the promotion of mutual benefit, providing both gains from the transaction and a reciprocal commitment to the common goal, in this case the maximization of total created value. In this way, stakeholders view any investment that "stops short" of this to be inauthentic, an thus limited investments in engagement fail to create engagement.

The structure of the causal link between the investment, the resulting stakeholder engagement and subsequent firm value is specified so that *ex post firm value* is positively correlated with distributive justice among stakeholders.[39] Let s_i represent stakeholder *i*'s actual percentage share of the created surplus, and j_i represent the fair or 'just' share. The gap P_i is defined equal to s_i minus j_i, and larger values of P_i correspond to greater states of injustice:

$$P_i = (s_i - j_i) \quad (6)$$

[38] For stakeholder engagement to become a reality, all stakeholders must recognize and share the promotion of stakeholder flourishing as a common goal. If the firm *can* make an investment to advance a collective interest, it *will* make this investment, and will continue to invest so long as it creates value, that is, so long as (4b) holds. This reflects the reality that many firms posses a unique expertise, or at least a unique capacity, to create value by investing in stakeholder engagement in a way that individual stakeholders, acting alone, cannot. This capacity exists in any firm where stakeholders share a belief that the firm is more than a nexus of contracts, a belief which allows *collective* or *team agency* to come into existence in the making of a contract (Bruni and Sugden, 2008). Team agency refers to the idea that each party to a transaction has an internalized sense of its mutually beneficial nature. In any situation involving coordination or cooperation, each stakeholder conceives herself acting as a member of the team, performing a pear in a collective action by the team. "Crucially, the individual does not treat the other members' actions as parametric and then choose her own action so as to maximize the value of some utility function – not even a utility function that represents the good of the team. Rather, she performs her part of a portfolio of actions which, if acted on by all members, promotes the relevant objective of the team." (Bruni and Sugden, 2008, p. 50). In such a framework, a contract involves an expectation of mutual benefit from exchange but also has as a collective goal the joint benefit of all parties.

[39] The specific mechanics of the investment in engagement must be tailored to reflect each firm's culture and institutional structure. These details are not the focus of the current model. Rather, the model below is focused upon the broader implications when resource distribution is linked to engagement and firm value.

If P_i is positive it implies stakeholder *i* is receiving an excess of the surplus. The shareholder is defined as Stakeholder #1, so that $s_1 = 1$ corresponds to shareholders receive 100% of created firm surplus. Following Adams (1963) the just share of surplus is defined so that the ratio of the perceived value of inputs and outputs is equal, which translates into:

$$U_I'(e_2) = U_E'(w + c_2) \tag{7}$$

Define the Link Function for Stakeholder *i*:

$$l_i = [g(P_i, \cdots)] = (1 + P_i)^{1/\gamma}, \gamma > 1 \tag{8}$$

The link function captures the impact of justice among all stakeholders on stakeholder engagement in a manner that is consistent with Akerlof and Yellen (1990): injustice results in much lower engagement, and engagement increases with greater justice. However, receiving more than one's fair share results in relatively little additional engagement occurring.

C. The Link Function and Firm Value

Define the human engagement multiplier, *M*, to capture the impact of engagement on firm value, with the resulting value labelled *MV** (recall $\widehat{MV}$ is the value of the firm in the benchmark equilibrium where the principal explicitly captures 100% of the residual firm value).

$$MV^* = \widehat{MV}\left[\prod_{i=1}^{k} l_i\right]^{-M} = \widehat{MV}\left[\prod_{i=1}^{k}(1 + P_i)^{1/\gamma}\right]^{-M}, M > 0 \tag{9}$$

Distributive justice within the firm requires that stakeholder *I* receives a fraction of the created surplus equal to j_i, which corresponds to or is perceived as "just". Recalling that the shareholder is defined as stakeholder #1, $s_1 = 1$ corresponds to the shareholder receive all the firm's created surplus. Suppose that $j_i < 1$, and the shareholder makes an investment in employee engagement that results in a more just sharing in the firm surplus, at a cost of c_2, that comes out of the principal's share of the firm value. The

principal's share thus goes from $s_1 = 1 \ to \ s_1 = \ j_1 < 1$, and the value of the firm changes from $\widehat{MV}$ to MV^*. The gross cost to the shareholder, not accounting for the change in firm value, equals:

$$\text{Gross cost} = c_2 = (1 - j_1) \cdot \widehat{MV}$$

Shareholders who focus only on the gross cost and ignore the link between engagement and firm value conclude that they are receiving a smaller slice of the same pie and will not invest in engagement. However, because engagement may impact firm value, the net cost must account for the change in firm value and equals:

$$\text{Net cost} = \widehat{MV} - (j_1)MV^* = \widehat{MV} - j_1 \left[\frac{\widehat{MV} \prod (1+P_i)^{M/\gamma}}{\prod \left(1+P_i^{initial}\right)^{M/\gamma}} \right] = \widehat{MV} \left\{ 1 - j_1 \left[\frac{\prod (1+P_i)^{M/\gamma}}{\prod \left(1+P_i^{initial}\right)^{M/\gamma}} \right] \right\}$$

and, if the investment in engagement results in full distributive justice, then $s_i = j_i \ \forall i,$ so that $P_i = 0$ and

$$\text{Net cost} = \widehat{MV} \left\{ 1 - j_1 \left[\frac{1}{\prod \left(1+P_i^{initial}\right)^{M/\gamma}} \right] \right\} \tag{10}$$

The term in square brackets captures the percentage growth in the size of the pie that occurs as greater engagement (and its byproduct, greater justice) is obtained. When multiplied by j_1, this represents the value of the shareholder's claim after the investment in engagement. The net cost captures the change in shareholder value that accompanies investments in stakeholder engagement. If shareholder value increases *after* the investment in engagement, net cost is negative.

The optimal value of c_2 chosen by the Type-3 principal, however, does not seek to explicitly maximize MV^* but rather $MV^{**} = s_1 MV^* + (1 - s_1) \ SKH\_FLOURISH$.

4. The Model Equilibrium

When engagement is an explicit component of the agent's utility function, utility is a function of three variables: leisure, consumption and engagement; the previous 2-dimensional utility indifference *curve* become a 3-dimensional utility indifference *surface* as illustrated in Figure 6. All points on the 3-dimensional utility indifference *surface* generate the same level of utility for the agent. The utility indifference surface is an extension of the two-dimensional utility indifference curve in the neoclassical model. The familiar convex shape of the utility indifference curve can be seen in Figure 6 where the surface intersects the {leisure, consumption} plane.

Likewise, Figure 7 illustrates how the production possibility frontier expands from being a curve in {leisure,consumption}-space to a surface in {leisure, consumption, engagement}-space. The cross-section of the production possibility surface intersecting the x-y {leisure-consumption} plane corresponds to the original 2-dimensional production possibility frontier. The surface in Figure 7 represents total firm value, *MV**, which must be divided among all stakeholders. An important feature of the production possibility surface is that as engagement rises, total value first expands outwards before subsequently contracting. This reflects the structural form of the link function, which captures the relationship between justice, engagement and productivity as described by Akerlof and Yellen (1990).

Relative to the original optimum in {leisure-consumption} space, there are now three distinct zones in the production possibility surface that capture the impact of changes in stakeholder engagement on stakeholder and shareholder wealth, as illustrated in Figure 8.

ZONE 1: In zone 1, investments in stakeholder engagement lead to increases in total created value, stakeholder value and shareholder value, that is:

$$\frac{d}{ds_1} MV^* > 0, \quad \frac{d}{ds_1}(s_1 \cdot MV^*) > 0, \quad \frac{d}{ds_1}(s_2 \cdot MV^*) > 0$$

The upper border of ZONE 1 is characterized by the point at which the net cost to shareholders from further investments in engagement equals zero: $\frac{dMV^*}{ds_1}(s_1 \cdot MV^*) = 0$, or equivalently, $\frac{\frac{dMV^*}{ds_1}}{MV^*} > \frac{-1}{s_1}$.

ZONE 2: In zone 2, investments in stakeholder engagement lead to increases in total created value, increases in stakeholder value but decreases in shareholder value:

$$\frac{d}{ds_1}MV^* > 0, \quad \frac{d}{ds_1}(s_1 \cdot MV^*) < 0, \quad \frac{d}{ds_1}(s_2 \cdot MV^*) > 0$$

The upper border of Zone 2 is characterized by $\frac{dMV^*}{ds_1} = 0$.

ZONE 3: In zone 3, investments in stakeholder engagement lead to decreases in total created value, increases in stakeholder value and decreases in shareholder value:

$$\frac{d}{ds_1}MV^* < 0, \quad \frac{d}{ds_1}(s_1 \cdot MV^*) < 0, \quad \frac{d}{ds_1}(s_2 \cdot MV^*) > 0$$

The upper border of Zone 3 is characterized by $\frac{dMV^*}{ds_1}(s_2 \cdot MV^*) = 0$.

This leads to the following empirical predictions:

> *Prediction 1:* If shareholders are investing below the optimal level, further costly investments will increase both stakeholder well-being *and* firm profitability. The firm is located in Zone 1 *prior to* the investment. Firms using shareholder-centered thinking will move towards but not beyond the Zone 1-2 boundary.
>
> *Prediction 2:* For shareholder-centered firms that have optimized their investments in stakeholder engagement and purpose, further costly investments will increase measures of stakeholder well-being but will *reduce* firm profitability. This firm is located in Zone 2 *prior to* the investment.
>
> *Prediction 3:* Firms making costly investments that decrease measures of stakeholder well-being and also *reduce* firm profitability are located in Zone 3 *prior to* the investment and have over-invested in engagement.
>
> *Prediction 4:* The relationship between the firm's investment in engagement and the actual change in stakeholder engagement will vary in the cross-section if the parameter γ varies across firms.
>
> *Prediction 5:* The relationship between the firm's investment in engagement and the actual change in firm value will vary in the cross-section and reflect variation in both the parameter γ and *M* across firms.

A. Shareholder-Centered and Stakeholder-Centered Thinking

The three zones of value creation highlight the breakdown of the Fisher Separation Theorem: maximizing shareholder wealth no longer automatically corresponds to a Pareto optimal outcome. This is because the definition of Pareto optimality depends on whether engagement is included in the model and whether stakeholder flourishing is an explicit part of the objective function. A firm like DTE Energy that is skeptical of the value of engagement might find itself at the bottom of Zone 1 in the x-y plane,

optimized in {leisure, consumption space}. Investments in stakeholder engagement will benefit both shareholders and stakeholders as value moves up throughout Zone 1.[40]

This framework captures what the two-dimensional framework cannot: an increase in employee engagement can make one stakeholder better off without destroying value for any other stakeholders. The original resource allocation which the CEO believed was optimal was not. The Fisher Separation Theorem breaks down, introducing a wedge between total firm value and shareholder value. Should the firm invest in engagement to maximize the value for shareholders, for other stakeholders, or some "weighted scorecard" measure of both? The answer depends upon the articulated goals of the firm and the worldview of the principal, but there is no longer a unique optimal answer to this question.

B. Summary of Three Worldviews

The table below summarizes the equilibrium results so far. The principal who does not recognize the impact of c_2 on firm output (x) has a "shareholder value maximization" worldview. Principals who recognize the impact and choose c_2 to maximize the principal's share of the firm's residual income are referred to as "shareholder-centered"; because s_1 is chosen to maximize shareholder value, it is viewed as inauthentic by stakeholders. Stakeholder-centered principals who choose c_2 to maximize total created value are seen as authentic and their investment results in positive engagement.

CEO Worldview	Assumption	Logic Used
Shareholder Value Maximization	$\gamma = 0$ $M = 0$	Decisions are made without regard to the link function. The optimal share of surplus is axiomatically set to $s_1 = 1$
Enlightened Shareholder Value Maximization	$\gamma \geq 0$ $M \geq 0$	Shareholders may choose $s_1 < 1$ but only if the shareholders also benefit (treating stakeholders

[40] From the stakeholder's (agent's) perspective, an example of a utility-maximizing level of production is illustrated in Figure 8 at the *highest point* where the agent's utility indifference surface intersects the production possibility surface. This point represents the *highest feasible* utility for the agent and is located on a vertical line directly above the original equilibrium point. This point has the same level of total production and the same level of consumption and leisure for the agent as the original equilibrium point. One way to see that utility has increased is to note where the utility indifference intersects the {leisure, consumption} plane: the well-being of the agent is at a high level that would have been declared "infeasible" in the original two-dimensional model.

		well is seen as good, if it does not impose a net cost on shareholders). Because s_1 is chosen to maximize shareholder value, it is viewed as inauthentic by stakeholders.
Total Created Value Maximization	$\gamma \geq 0$ $M \geq 0$	Prudential judgment and willingness to achieve a large increase in stakeholder surplus, possibly at a small net cost to shareholders.

C. Is it Possible to Optimize Collective Value?

Donaldson and Walsh (2015) suggest "optimizing collective value" as a goal of the modern firm. The example from the preceding section illustrates the tension inherent in operationalizing this goal, even in the context of a model where the subjective dimension of work and stakeholder well-being are explicitly modeled. For example, as production moves from Zone 1 to Zone 2, there is a net loss to shareholders in terms of wealth, a gain to other stakeholders, and an overall increase in created value. Stakeholder-centered thinking means that investments in stakeholder engagement to satisfy the following two conditions:

Condition (1): stakeholders must gain more than the shareholders lose in value:

$$G\big[[x - S(x)]\big] - G\big[[x - S(x) - c_2]\big] \leq \{[U_E[S(x)] + U_I(e_2)] - V(e_1)\} - \{[S(x)] - V(e_1)\}$$

Condition (2): stakeholders must gain more in utility from the net investment in engagement than they would gain if the same net investment was simply paid out as cash compensation:

$$U_I(e_2) + U_E[S(x)] > U_E[S(x) + c_2] \tag{11}$$

The shareholders' optimal percentage of surplus in this model will not, in general, correspond maximization of shareholder wealth in the neoclassical sense. We can no longer share the confidence of Friedman (1970) that the social responsibility of the firm is always to maximize shareholder value, because total firm value and total shareholder value are not redundant in the model with stakeholder engagement.

In summary, when shareholders view the size of the firm's surplus as fixed, the injunction to maximize shareholder value implies taking the whole pie ($s_1 = 1$). It *is assumed* that the optimal share of surplus is zero for all non-financial stakeholders. Once this assumption is relaxed, firm value and shareholder value are no longer redundant, and only by coincidence are the two maximized simultaneously. The type-3 CEO who integrates the subjective dimension of work and engagement into their worldview sees a legitimate distinction between total shareholder value and total created surplus, seeking to maximize the latter.

The Fisher Separation Theorem still appears to hold under the type-2 "enlightened shareholder value maximization" worldview, where an investment in stakeholder engagement is calculated to maximize shareholder value. However, the paradox of non-calculation excludes this as a possibility, since authentic engagement only happens when it is pursued *without the intent of producing economic gain* (Quinn and Thakor, 2019, 2020). The CEO who has authentically integrated the subjective dimension of work into their worldview ask "how far may I go?". In other words, Worldview #2 is not an authentic worldview and will never catalyze stakeholder engagement. The only authentic choices are between the first and third worldview.

5. A Numerical Example

This section provides a numerical example where engagement impacts firm value to illustrate the way in which shareholder wealth may grow by taking a "smaller slice of a larger pie". Assume that the firm begins with a firm value of $\widehat{MV} = \$10{,}000$ and that this value is associated with shareholders receiving the entire share of residual income ($s_1 = 100\%$). Further, assume that the just share is $j_1 = 80\%$, $M = 20$ and $\gamma = 5$. These numbers are arbitrary and variation in relative parameter values is explored below.

For high human capital firms (with large values of M), investments in stakeholder engagement can increase value for stakeholders and shareholders. For example, suppose that the just share is $j_1 = 80\%$, $M = 60$ and $\gamma = 5$. if shareholders invest in engagement by setting $s_1 = 80\%$, this increases total

firm value to \$16,321. Shareholders claim only 80% of this value, or \$13,056, a substantial increase over the non-engaged value, while stakeholders receive a surplus value of \$3,264. The value of shareholders' share appears to be maximized for $s_1 = 85\%$ and $s_2 = 15\%$, where total firm value equals \$15,838, shareholders' value equals \$13,462 and employee value equals \$2,376. Investments that stop at this point are deemed inauthentic, because they do not maximize anything *other than* shareholder value. Stakeholder value is maximized for $s_1 = 68\%\ and\ s_2 = 32\%$, where firm value is \$13,714, shareholder value is \$9,325 and employee value is \$4,388. This is illustrated in Figure 9a, which highlights how the three zones of value creation are associated with the solution to three different maximization problems.

For firms with low values of M, investments in stakeholder engagement may not benefit shareholders relative to the non-engaged equilibrium. While engagement may be good for stakeholders, it doesn't translate into sufficient value to ever be beneficial for stockholders. For example, consider the previous example with a lower value of $M = 20$ and $\gamma = 5$. If shareholders invest in engagement by setting $s_1 = 80\%$, this increases total firm value to \$11,774. However, shareholders lose money, because they claim only 80% of this value, or \$9,419. The value of shareholders' share is maximized for $s_1 = 93\%$ and $s_2 = 7\%$. At that level, total firm value equals \$10,998, shareholders' value equals \$10,228 and employee value equals \$770. Stakeholder value is maximized for $f_1 = 54\%\ and\ f_2 = 46\%$, where firm value is \$8,899, shareholder value is \$4,805 and employee value is \$4,093. This is illustrated in Figure 9b.

There is greater tension between stakeholders and shareholders in low-human-capital intensive firms: while it first appears possible to create value for both groups, doing so is only possible if shareholders make small, instrumental investments in engagement that fall far short of just distribution. Such instrumental investments are only made for the purpose of increasing shareholder wealth, and a consequence of the paradox of non-calculation is that stakeholders do not perceive such investments as authentic, and thus they do not catalyze engagement. These shareholders are better off not investing in engagement.

A. Cross-sectional Variation in Engagement and Value

For firms with a sufficiently high potential engagement value (high values of *M and* γ*)*, it *is* value-enhancing for shareholders to invest a portion of the surplus in stakeholder engagement. The more sensitive firm value is to these parameters, the more potential exists to create value and the more beneficial shareholders find it to share a fraction of the surplus with stakeholders, even if it doesn't 'maximize' shareholder value in the neoclassical sense. On the other hand, for firms with low engagement potential or low human capital multipliers, it is optimal for shareholders not to invest in engagement. As the engagement potential grows, the value-creating potential from sharing surplus grows as well, so shareholders benefit from receiving a smaller slice of a much larger pie.

The ratio of M / γ determines the possibility of "both/and" situations where shareholders and employees experience value enhancement, Figure 10 illustrates firms with a human capital multiplier above a certain threshold allow both shareholders and stakeholders to benefit from investments in engagement. Panel (a) illustrates the variation in total firm value associated with different ratios of M / γ. Panel (b) illustrates the shareholder value $s_1 \cdot MV^*$, and shows that for firms with low engagement potential value (low values of *M* relative to γ*)*, sharing a portion of residual income with other stakeholders may increase the total firm value, but the cost to shareholders exceeds the benefit and shareholders are better off not investing in engagement. The higher the value of M / γ, the more shareholders can benefit by taking a smaller slice of the growing pie.

Panel (c) shows that in the cross-section, the largest dollar investments in stakeholder engagement occur in firms with high values of M / γ and produce the largest increases in shareholder value. The higher the human capital multiplier, the smaller the difference between the investment chosen to maximize total firm value and the investment level that would 'maximize shareholder value' if that concept were viable under the paradox of non-calculation. Panel (d) zero's in on shareholder wealth from Panel (b), showing a vertical line at the investment level that maximizes total created value. The larger the value of M / γ, the closer this is to the maxima in the graphs of shareholder value.

6. Testable Predictions, Related Research and Conclusion

A. Testable Predictions

Data from Gallup's global employee engagement survey indicates low levels of employee engagement around the world. But is it possible that the Gallup data on low stakeholder engagement is wrong, and that CEOs and shareholders (principal) are already making optimal investments in social and relational capital and stakeholder engagement? If so, then further costly investments may increase stakeholder well-being but will *reduce* firm profitability. On the other hand, if most CEOs and shareholders are ignoring stakeholder engagement then costly investments in stakeholder engagement will increase *both* stakeholder well-being *and* firm profitability.

In addition to measuring engagement in firms around the world, Gallup also collects data on stakeholder engagement through its consulting relationships designed to increase employee engagement. Gallup has collected data on hundreds of quasi-randomized trials: a business unit receives an "intervention" or coaching to increase engagement, while a corresponding business unit within the same firm that does not receive the treatment is used as a "control unit". Data on employee engagement, financial performance and operational productivity are collected for both groups before and after the intervention. Data analysis from Harter et al. (2002), Harter et al. (2010) and Harter et al. (2019) suggest that investments in stakeholder engagement increase employee engagement and improve business unit-level measures including profitability, productivity, customer loyalty, employee turnover, safety incidents, and product quality. The author is currently working to obtain access to this unique data, from which the key model parameters including the engagement link function, γ, and human capital multiplier, M, as well as measures of stakeholder well-being, can be estimated.

The model makes several other empirically testable predictions including:

- The bi-directional link between firm value and stakeholder engagement creates a positive correlation between the distribution of firm value among stakeholders and firm value. Stakeholder engagement and distributive justice will be positively correlated in the cross-section of firms.
- For firms that have already adopted authentic stakeholder investments, further investments may increase stakeholder well-being but will *reduce* firm profitability.
- Firms currently operating with a 'shareholder-centered' worldview that adopt an authentic stakeholder framework can invest in stakeholder engagement to increase stakeholder well-being and firm profitability.
- Cross sectional variation in the engagement link function, γ, and the human capital multiplier, *M*, are correlated with the levels of investment in stakeholder engagement. The largest investments will occur in firms with high values of *M* and γ. Authentic investments are chosen based on the impact on stakeholders, and therefore will be uncorrelated or weakly correlated with *M*; changes in firm value will be correlated with both γ and *M*.
- Public ownership may exert pressure to under-invest in stakeholder engagement (Guiso, Sapienza and Zingales, 2015) and be negatively associated with engagement.
- Changes in ownership structure (IPO or privatization) will be associated with changes in investments in stakeholder engagement.
- The CEOs psychosocial worldview and level of moral reasoning are correlated with levels of investment in stakeholder engagement.
- Gratitude, expressed by the CEO (e.g. shareholder letters) will be positively related to levels of stakeholder engagement.

Some additional research questions raised by this paper include whether there is an optimal level of fair pay or resource distribution among stakeholders; whether higher levels of fixed pay are correlated with stakeholder engagement; and whether the pay level impacts trade-offs between objective or monetary incentives and engagement.

B. Related Literature

The model presented in this paper is closely related to the independent models of Quinn and Thakor (2020) and Song et al. (2023) where higher purpose translates into firm value, primarily through utility that comes from social recognition from working at a high-purpose firm. While both models highlight the non-monotonic relationship between stakeholder engagement and shareholder value, the current model also quantifies the impact on stakeholder well-being and total created value. Both models show that tapping into human growth needs such as engagement or purpose unlocks a new source of value. In the current model engagement is an "inside-out" process that begins within the individual

seeking self-actualization; in the model of Quinn and Thakor (2020) the process is "outside-in" beginning with the external social recognition that results from working for the right kind of firm.

Our model is also mathematically similar to Akerlof and Kranton (2005) who focus on identity and its impact on firm value (see also Benabou and Tirole (2012)). However, a key difference is that in all the models just mentioned, there is only one source of human energy: costly effort. Brute force and creative human innovation all originate from the same place. Not only is this unrealistic, it creates a framework where the agents' participation constraints are almost always binding, which means that any gain to the agent through investments in higher purpose or pro-social identity is *calculated away* through a lower wage or greater expenditure of costly effort. The net result is that the agent is *no better off, in total*, after the investment than before. Work never contributes to increases in the human flourishing of the agent. In contrast, the human growth framework utilized in this model captures the reality that human flourishing is real, is attainable, and associated with new value creation.

Ultimately, an CEO making an authentic investment must provide a credible answer to the question "Why is employee engagement an inherently good thing?" that explains why stakeholder flourishing is "good", apart from the value it creates for shareholders. The answer cannot simply rely upon its instrumental usefulness in creating shareholder value. In the existing papers just mentioned, purpose/engagement/identity enter the agent's utility function, but corporate decisions are still made with an eye toward shareholder wealth maximization. In Akerlof and Kranton (2005), identity is important to the worker, but it is important to the CEO only because greater identity means greater effort which means greater value for the shareholders. In Quinn and Thakor (2020), higher purpose increases utility and makes the agent work harder, which allows the firm to cleverly cut the employees wage and make more money. In the context of our model, both of those responses are inauthentic and violate the paradox of non-calculation.

A second difference is the commitment to higher purpose in good times and bad. In the model of Quinn and Thakor (2020), the owner's commitment to higher purpose is conditional and is made only in

the profitable or "high" state. While no model can be literally true, this runs directly counter to the many anecdotal examples of Quinn and Thakor (2018, 2020) where firms' commitment to higher purpose was deemed authentic precisely because it occurred in very bad states of the world (e.g. Sandler O'Neill's overwhelming generosity to families of employees killed on September 11, 2001). In the model presented below, the firm invests in purpose and engagement in all states of the world.

In the human growth context, the principal acts authentically only when operating from a worldview where self-actualization is inherently valued. This worldview creates a simultaneous reorientation of values regarding justice, human rights, autonomy, emotional-social relationships. When that happens, the shareholder-centered world dissolves, because the shareholder-centered worldview is anchored in a value system inherently incompatible with self-actualization of the agent.

Conclusion

The thesis of this paper is that models that omit stakeholder engagement help foster an environment where firms underinvest in engagement. While it is widely accepted that models influence our worldviews and decision making (e.g. Bandura, 1986; Shiller, 2019) the Finance profession somehow holds onto the idea that CEOs will transcend the limitations of agency-based models that ignore engagement. Yet investing in stakeholder engagement is unlike any other investment because the investment in stakeholder engagement can only increase firm value if *not pursued with the intent* of increasing firm value (Quinn and Thakor, 2019). This means that investments in stakeholder engagement must be justified on other grounds, which is only possible if the firm's objective function includes something *in addition to* shareholder value. Doing so requires, in turn, that stakeholder flourishing be defined as a measurable construct (Vanderweele, 2017) and added to the firm's objective function. The addition of a more comprehensive definition of stakeholder well-being leads to a non-binding participation constraint where stakeholder well-being increases, clarifying role of work in facilitating stakeholder engagement, as well as the creation of new wealth for shareholders.

Since engagement at work is an important pathway towards overall stakeholder flourishing, CEOs who value stakeholder flourishing invest in engagement *with the intent* of increasing total created value, not just shareholder wealth, and thus these investments are deemed authentic by stakeholders. An important property of engagement is that it catalyzes creative innovation from a source that is distinct from 'costly effort' and characterized by 'effortless flow' (Csikszentmihalyi, 2004).

A perennial challenge with 'balanced scorecard' approaches to management is that the weights placed on shareholder value and stakeholder well-being appear arbitrary. How does the CEO know the 'correct' weights? In the equilibrium of the model presented here, these weights are endogenously determined. Authentic investments in stakeholder well-being are only made by CEOs whose preferences are associated with specific developmental worldview that values total created value, and 'overinvests' in engagement relative to an enlightened shareholder-wealth maximization perspective. The key truth that is integrated into this model is the paradox of non-calculation described by Quinn and Thakor (2019):

> "… Herein lies the paradox: an authentic organizational higher purpose will change the fundamental implicit contract between employers and employees and change behavior, thereby producing long-term economic gain, but *only if it is not pursued with the intent of producing economic gain."*

The paradox is that a firm can only move toward the target of increased shareholder value if this is *not the target*. Integrating stakeholder well-being into the firm's objective function, and maximizing total created value, is one way to resolve this paradox.

The importance or integrating stakeholder engagement has been widely acknowledged in recent years. Since 1997, Business Roundtable Principles of Corporate Governance stated that corporations exist principally to serve their shareholders. In October 2019 the Roundtable made a dramatic change stating: "It has become clear that this language on corporate purpose does not accurately describe the ways in which we and our fellow CEOs endeavor every day to create value for all our stakeholders,

whose long-term interests are inseparable." This statement was signed by CEOs of 184 firms, many of which are publicly traded U.S. corporations.[41]

Why the change? Is the Business Roundtable just saying the same thing it always has, or engaging in window-dressing to appease critics? Or is it possible that the new framework allows for something that the old framework did not? Some suggest that the Business Roundtable statement amounts to nothing more than "enlightened shareholder maximization" described twenty years ago by Jensen (2002). The current paper suggests that the changes may go beyond 'enlightened shareholder maximization'. If engagement were simply about 'enlightened shareholder maximization', then companies would already be maximizing it. Yet, many publicly traded US firms are not unlocking potential value despite their explicit goal of maximizing value for their shareholders. For DTE Energy, management only unlocked value associated with engagement and purpose when presented with a new model and a new logic.

The model developed in this paper extends existing agency-based models in a fundamentally new way, modeling engagement as coming from its own source of human energy, distinct from the logic of costly effort: there is no associated 'costly' disutility of engagement. In fact, engagement is "free" because the capacity to engage creative human energy already exists in every individual. By invoking the assumption that engagement *cannot exist,* existing models impose an (unacknowledged) cost by disengaging firms and stakeholders from this creative source of energy. Not engaging stakeholders *is* costly, and models that exclude engagement *fail to recognize the hidden cost* of this embedded assumption. Financial decisions are sensitive to the worldview of the decision maker (Shiller, 2019) and agency-based models that exclude engagement impose a huge hidden cost on firms that use those models. Models that integrate stakeholder engagement allow CEOs to see a world that they previously could not

[41] As of the end of fiscal year 2019, this latter subset of firms had a combined market capitalization of $13.074 trillion, $6.654 trillion annual revenue, $586 billion annual net income and 13,409,510 employees. These numbers were calculated using fiscal year-end data for the subset of publicly traded companies from the Center for Research in Security Prices, http://www.crsp.org/; and Compustat, S&P Global Market Intelligence, https://www.spglobal.com/marketintelligence/en/.

see. The model presented in this paper is an important step towards a future reality where firms authentically invest in stakeholder engagement.

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Figure 1: Key Determinants of Human Utility and Human Flourishing

Below summarizes eight key determinants of human flourishing identified and reported by Bandura (1987), Seligman and Csiksentmihalyi (2000), Seligman (2002), Diener and Seligman (2004), Luthans et al. (2007) and Seligman (2012). The determinants of utility commonly included in neoclassical models appear on the right hand side of the figure, are externally measurable, and represent prevalent needs during the era the models were developed. Important determinants *excluded* from most models appear on the left hand side of the figure are almost exclusively *interior* and cannot be objectively observed but must be subjectively assessed or self-reported.

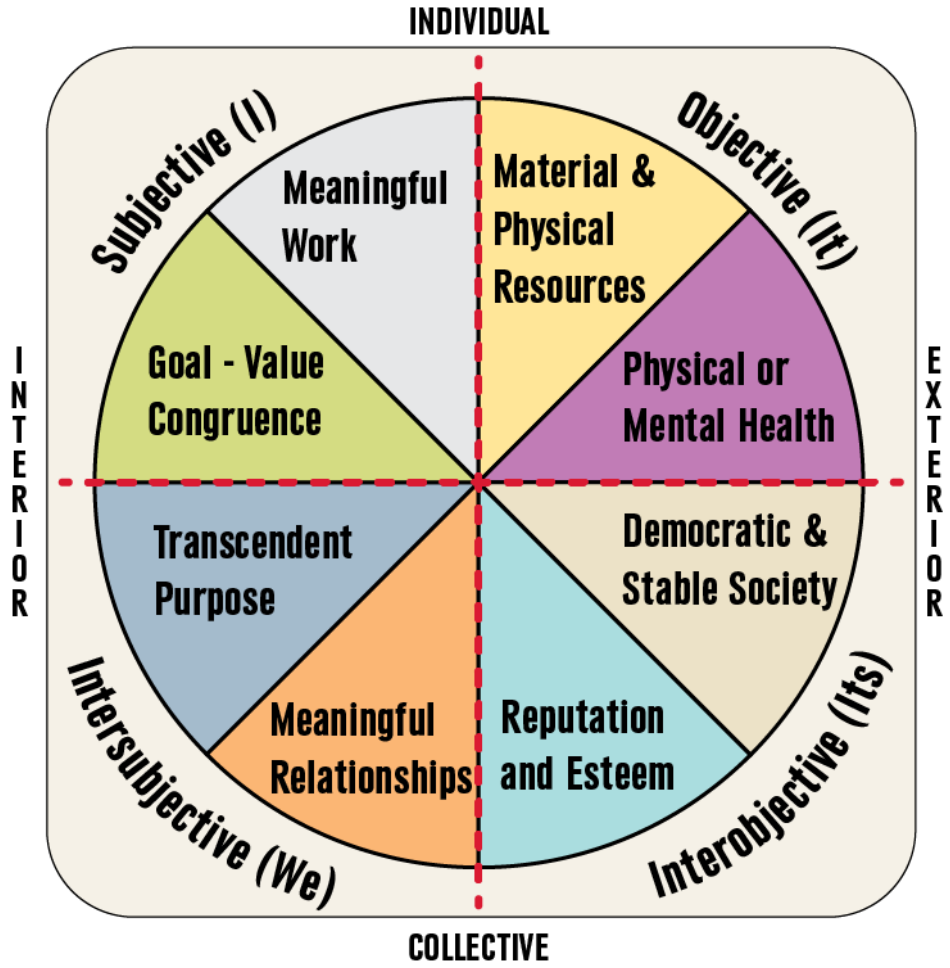
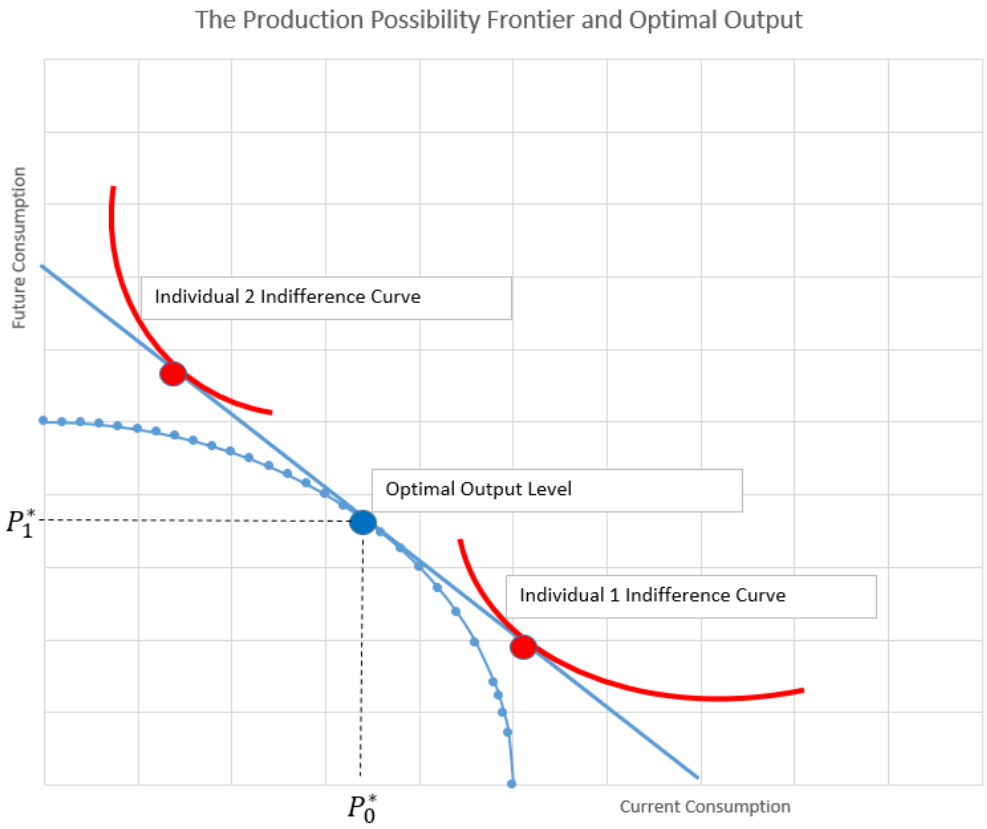


Figure 2. The Production Possibility Frontier and Optimal Output

In a perfect capital market, shareholders can borrow or lend to adjust their individual consumption from point (P_0^*, P_1^*). The utility of all shareholders is maximized when the market value of the firm is maximized. The slope of the capital market line represents the rate at which shareholders can borrow or lend in the capital markets. The optimal level of production for the firm is represented by the point (P_0^*, P_1^*), where the capital market line is tangent to the firm's production frontier. Relative to the consumption levels associated with point (P_0^*, P_1^*), individual #2 can increase future consumption and decrease current consumption by investing some current wealth at the market rate of return, thus increasing utility by moving "up-and-to-the-left" along the capital market line. Individual #1 increases utility and current consumption by borrowing against future consumption, which results in a movement "down-and-to-the-right" in Figure 1. The introduction of a capital market increases the utility of all shareholders. It also reconciles their different preferences since all shareholders now agree that (P_0^*, P_1^*) is the optimal level of output.



Source: Friesen (2020)

Figure 3: Maslow's Hierarchy of Human Needs

Maslow (1943, 1970) who hypothesized that humans are motivated to meet certain needs, and that some needs often take priority over others. Maslow identified the highest human need as 'self-actualization' which he defined as the realization of personal growth, being fully engaged in your work, living out your mission. In short a desire "to become everything one is capable of becoming."(Maslow, 1987, p. 64). Maslow classified human needs as either *Deficiency Needs* or *Growth Needs.* The feeling of *lack* is the motivation for human action among deficiency needs in the bottom half of the pyramid. With growth needs, the feeling of *fulfillment* is the motivation for human action in the top portion of the pyramid.

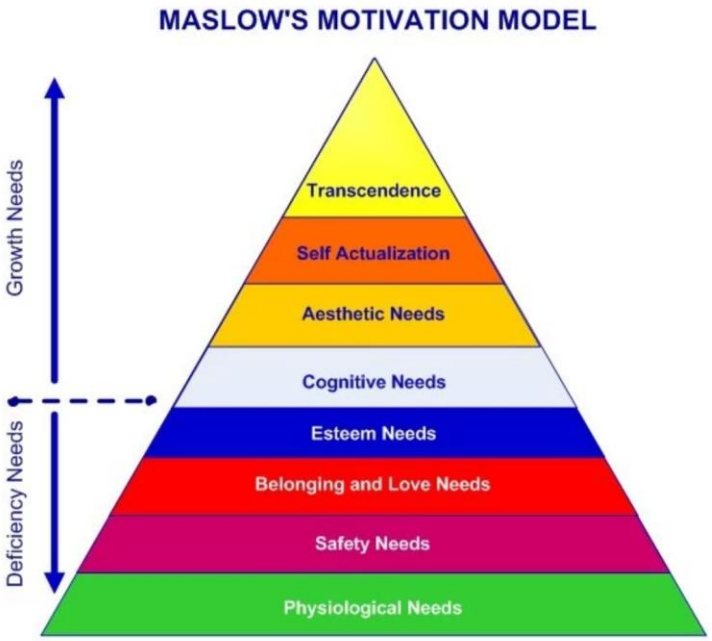


Figure 4: The Logic of Costly Effort and the Logic of Engagement

The top graph captures the utility of the agent which is a function of both effort and engagement. The bottom graph illustrates the impact of effort and engagement on firm output. While effort is always costly to the employee but beneficial to the firm's owners, employee engagement or a sense of higher purpose can lead to greater satisfaction and higher utility for the employee *and* produce beneficial improvements in firm performance, also benefitting the other stakeholders.

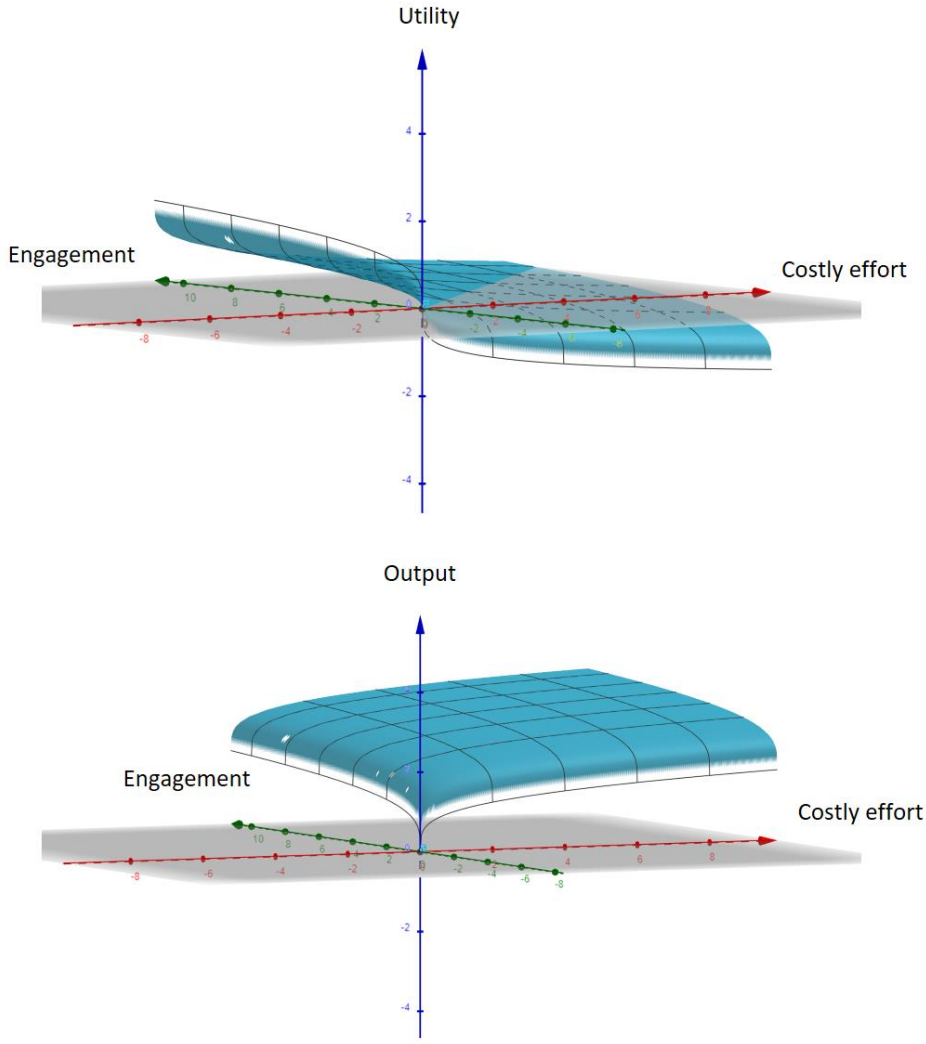
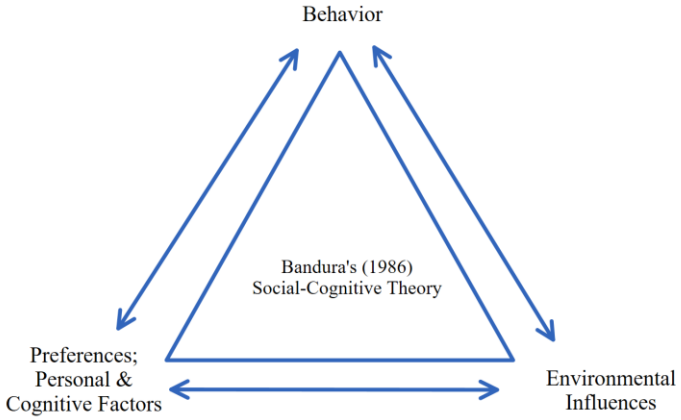


Figure 5: Bandura's Social Cognitive Theory

Within the social cognitive framework, causal factors exert influence over time. Within this framework there exists two-way causation between thought and action where people's conception of themselves and the nature of things develops and is verified over time. Panel (a) illustrates the general interaction between personal factors, behavior and the environment, and panel (b) illustrates the key model parameters associated with each interaction.

Panel (a)



Panel (b)

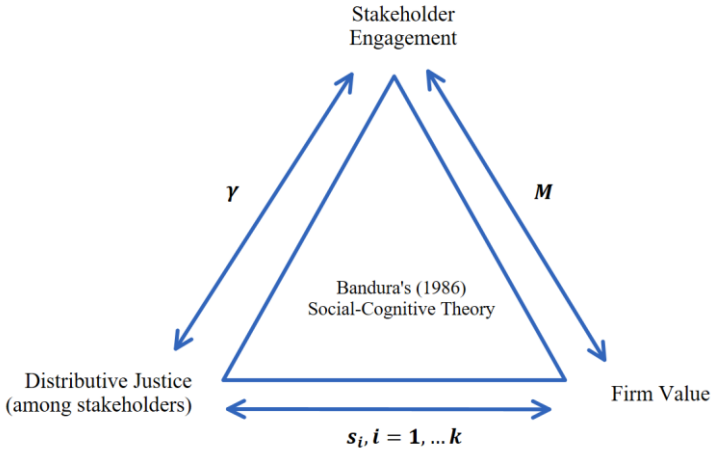


Figure 6: Utility Indifference Surface

All points on the 3-dimensional utility indifference *surface* generate the same level of utility for the agent. On the {Leisure, Consumption} plane, utility for the agent is a function of leisure and consumption. The cross-section of the utility indifference surface that intersects the x-y {leisure-consumption} plane corresponds to the original 2-dimensional utility indifference curve in Figure 1. The vertical dimension adds engagement, and the blue utility indifference surface illustrated here contains all {leisure, consumption, engagement} levels associated with a given level of total utility.

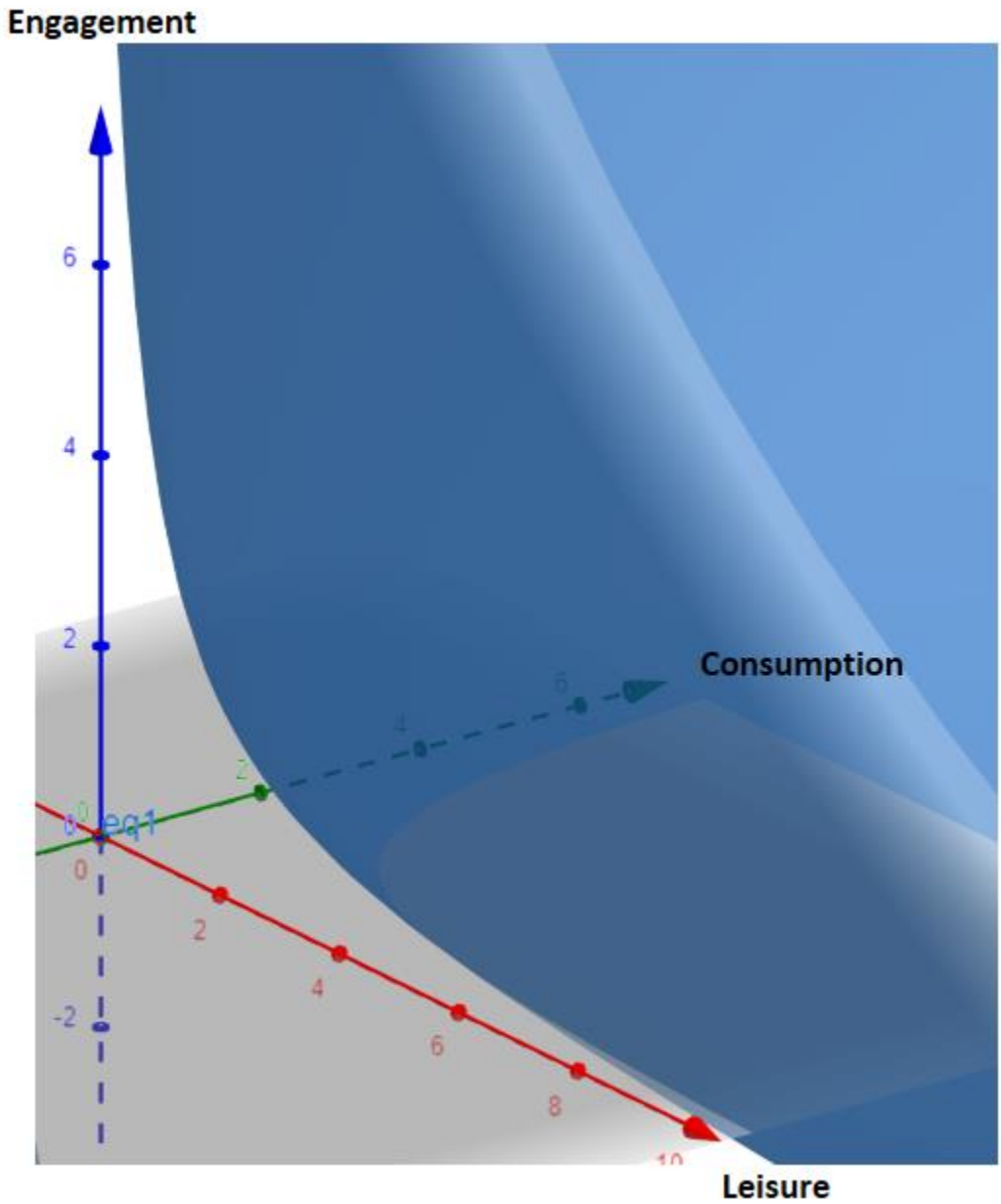


Figure 7: Production Possibilities Surface with Effort and Engagement

Figure illustrates how the production possibility frontier expands from being a curve in (leisure,consumption)-space to a surface in {leisure, consumption, engagement}-space. The cross-section of the production possibility surface that intersects the x-y {leisure-consumption} plane corresponds to the original 2-dimensional production possibility frontier in Figure 1. The surface of the figure represents total firm value which must be divided among all stakeholders.

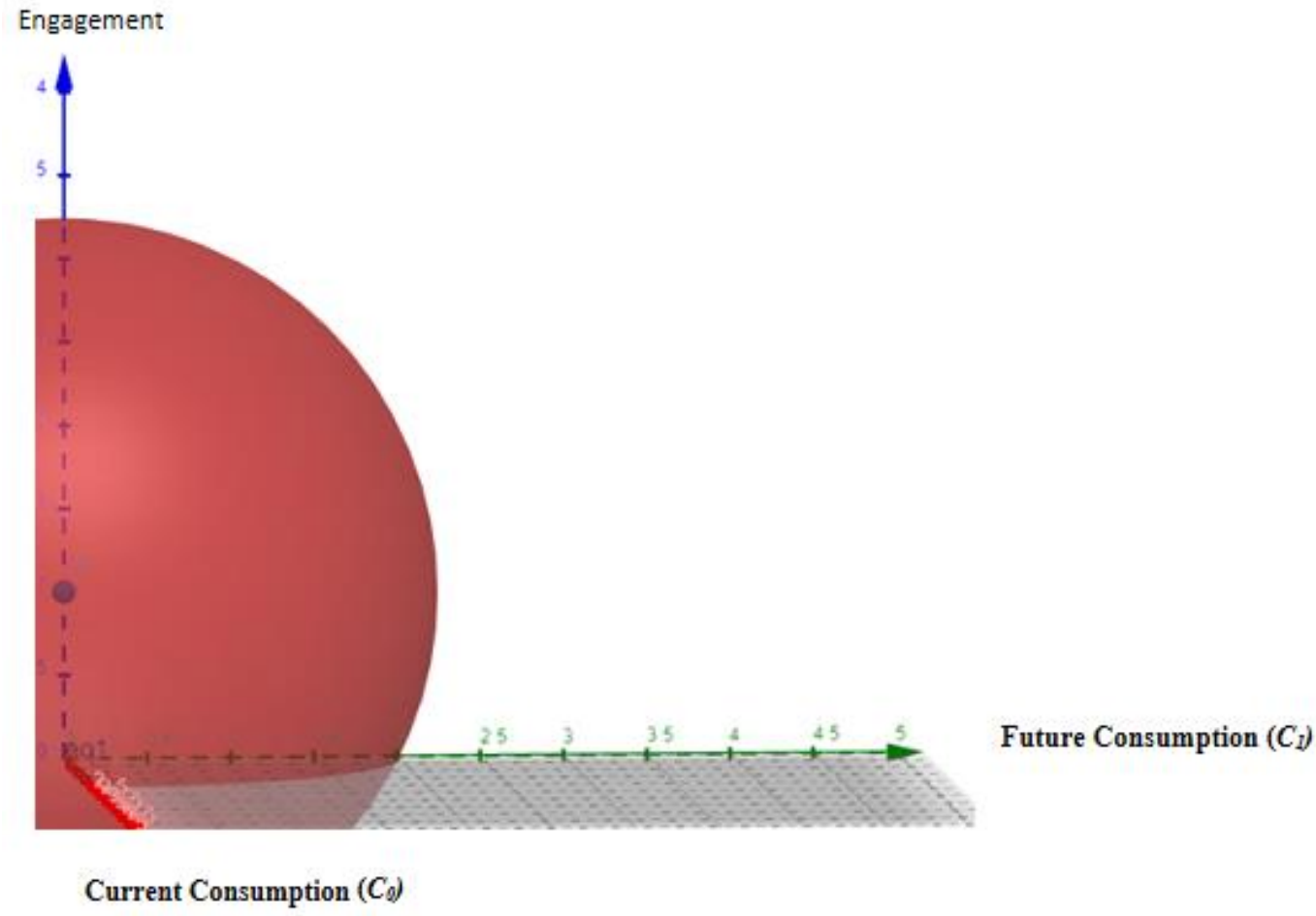


Figure 8: Zones of Firm Value When Engagement Is Possible

This figure illustrates that with the introduction of engagement there are now three distinct zones in the production possibility surface that capture the impact of changes in stakeholder engagement on stakeholder and shareholder wealth. In zone 1, investments in stakeholder engagement lead to increases in total created value, stakeholder value and shareholder value. The upper border of ZONE 1 is characterized by the point at which the net cost to shareholders from further investments in engagement equals zero. In zone 2, investments in stakeholder engagement lead to increases in total created value, increases in stakeholder value but decreases in shareholder value. In zone 3, investments in stakeholder engagement lead to decreases in total created value, increases in stakeholder value and decreases in shareholder value.

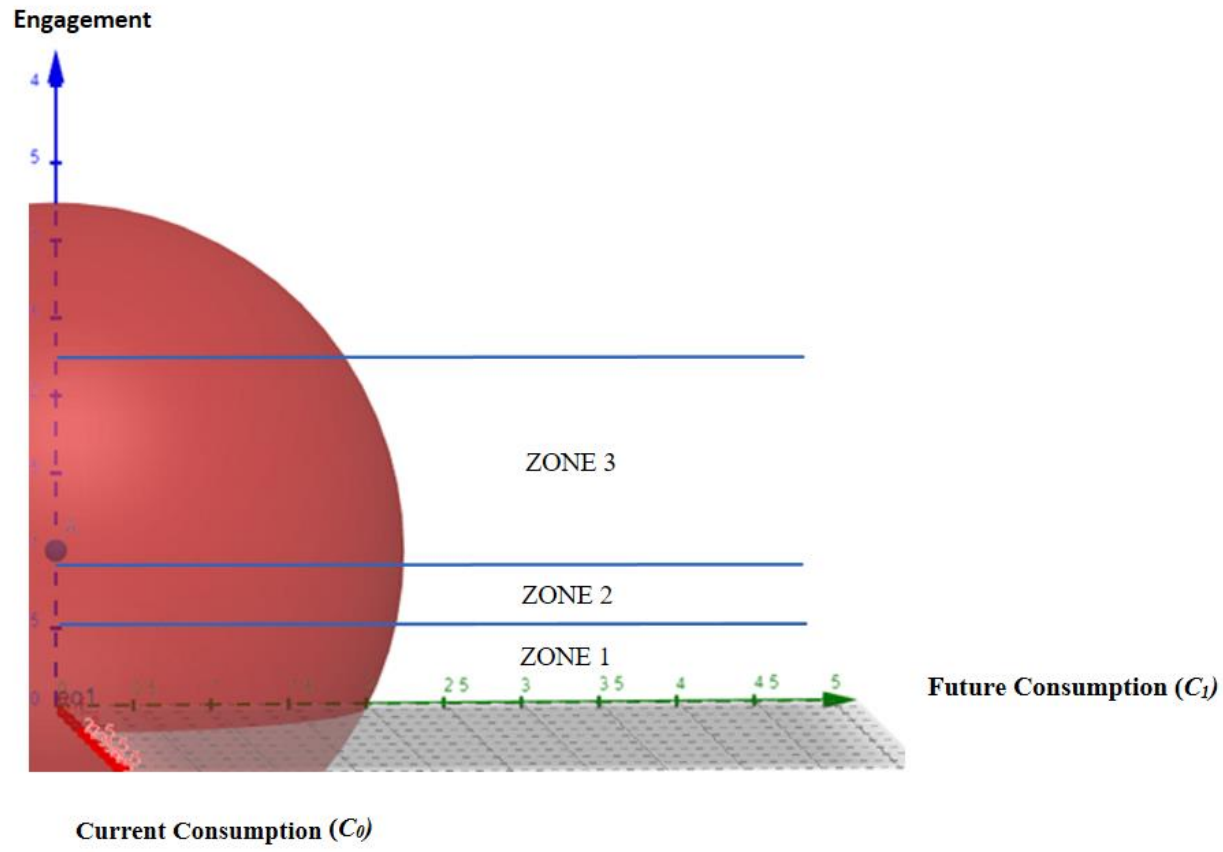


Figure 9a: Numerical Example of Stakeholder Engagement – High Human Capital

Illustration of total firm value, shareholder value and stakeholder value from a numerical example in which the firm begins with a firm value of $\widehat{MV} = \$10{,}000$ and that this value is associated with shareholders receiving the entire share of residual income ($s_1 = 100\%$). It is further assumed that the just share is $j_1 = 80\%$, $M = 60$ and $\gamma = 5$. If shareholders give up some of the surplus and set $s_1 = 80\%$ this achieves greater distributive justice and increases firm value to \$16,321, which is the maximum total created value, of which \$13,057 is distributed to shareholders and \$3,264 to stakeholders. The value of shareholders' share, however, is maximized for $s_1 = 85\%$ and $s_2 = 15\%$. At that level, total firm value equals \$15,838, shareholders' value equals \$13,462 and employee value equals \$2,375. Stakeholder value is maximized for $s_1 = 67\%$ and $s_2 = 33\%$, where firm value is \$13,302, shareholder value is \$ and \$8,912 and employee value is \$4,389. The horizontal axis measures the distributive justice gap P_i equal to s_i minus j_i, and larger absolute values of P_i correspond to greater states of injustice. The vertical axis measures the dollar value relative to the starting firm value of \$10,000.

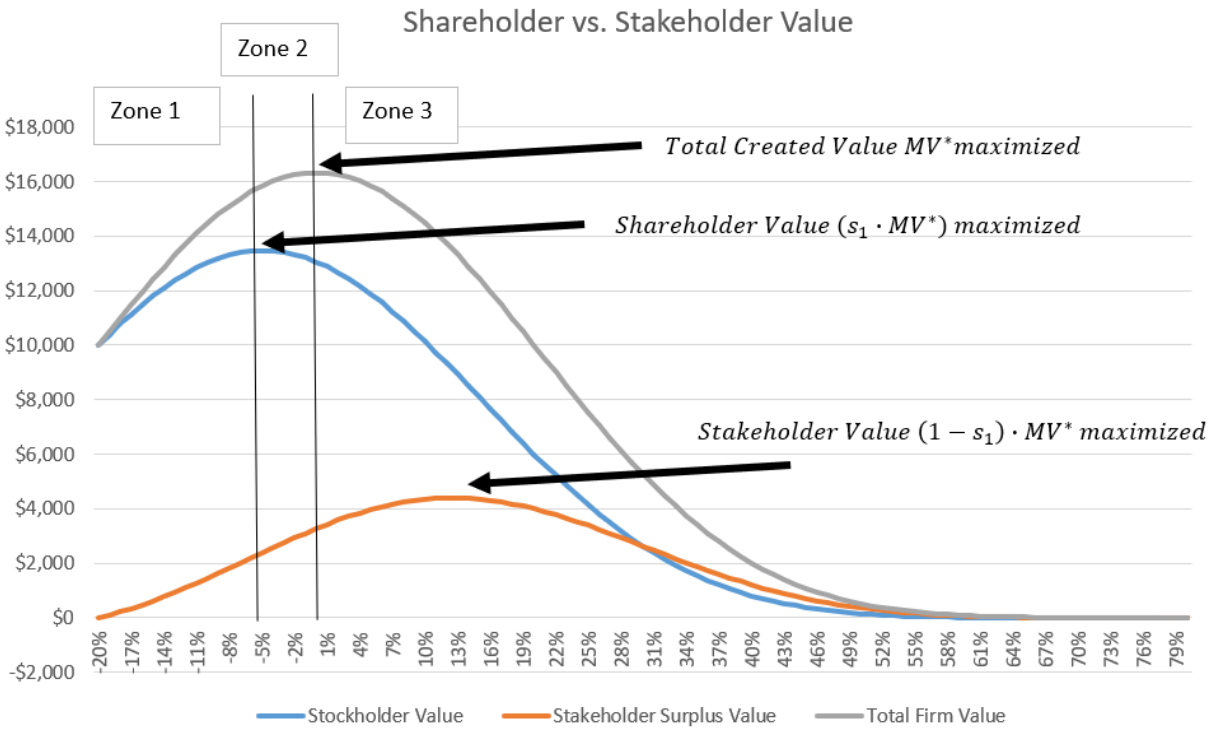


Figure 9b: Numerical Example of Stakeholder Engagement – Low Human Capital

Illustration of total firm value, shareholder value and stakeholder value from a numerical example in which the firm begins with a firm value of $\widehat{MV} = \$10{,}000$ and that this value is associated with shareholders receiving the entire share of residual income ($s_1 = 100\%$). It is further assumed that the just share is $j_1 = 80\%$, $M = 20$ and $\gamma = 5$. If shareholders give up some of the surplus and set $s_1 = 80\%$ this achieves greater distributive justice and increases firm value to \$11,774, which is the maximum total firm value. However, shareholders lose money, because they claim only 80% of this value, or \$9,419. The value of shareholders' share, however, is maximized for $s_1 = 93\%$ and $s_2 = 7\%$. At that level, total firm value equals \$10,998, shareholders' value equals \$10,228 and employee value equals \$770. Employee wealth is maximized for $f_1 = 54\%$ and $f_2 = 46\%$, where firm value is \$8,899, shareholder value is \$4,805 and employee value is \$4,093. The horizontal axis measures the distributive justice gap P_i equal to s_i minus j_i, and larger absolute values of P_i correspond to greater states of injustice. The vertical axis measures the dollar value relative to the starting firm value of \$10,000.

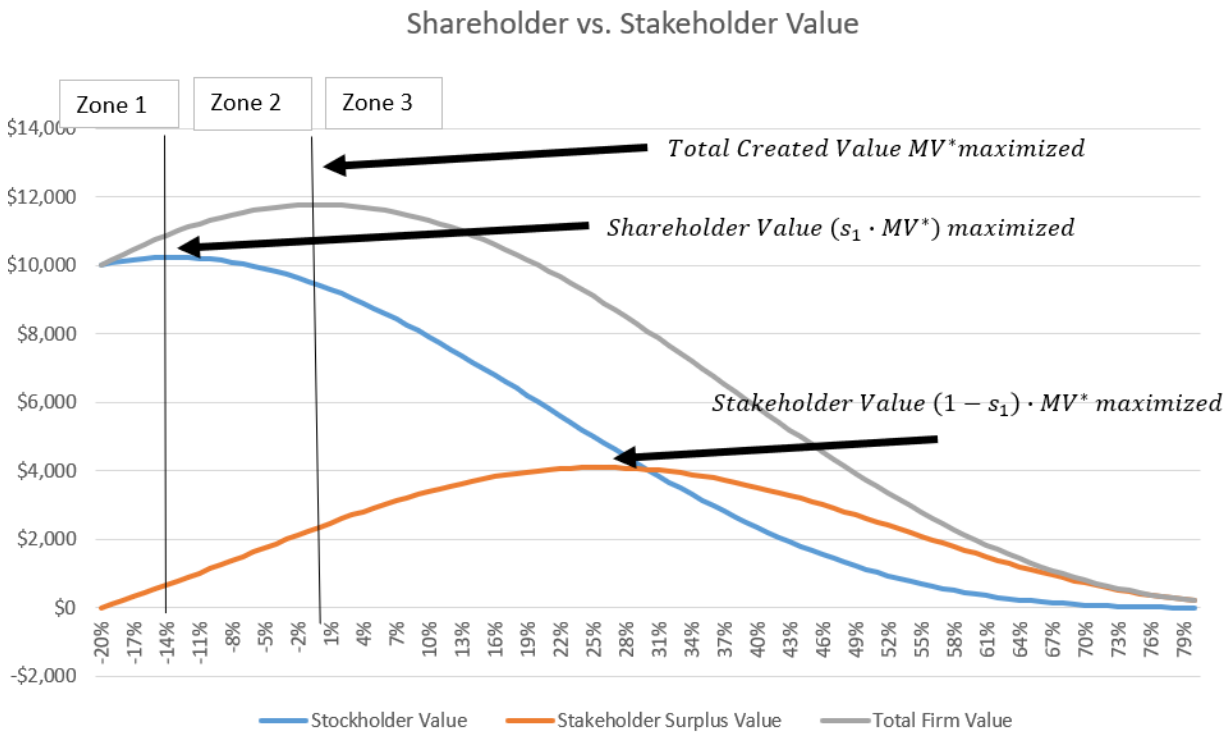
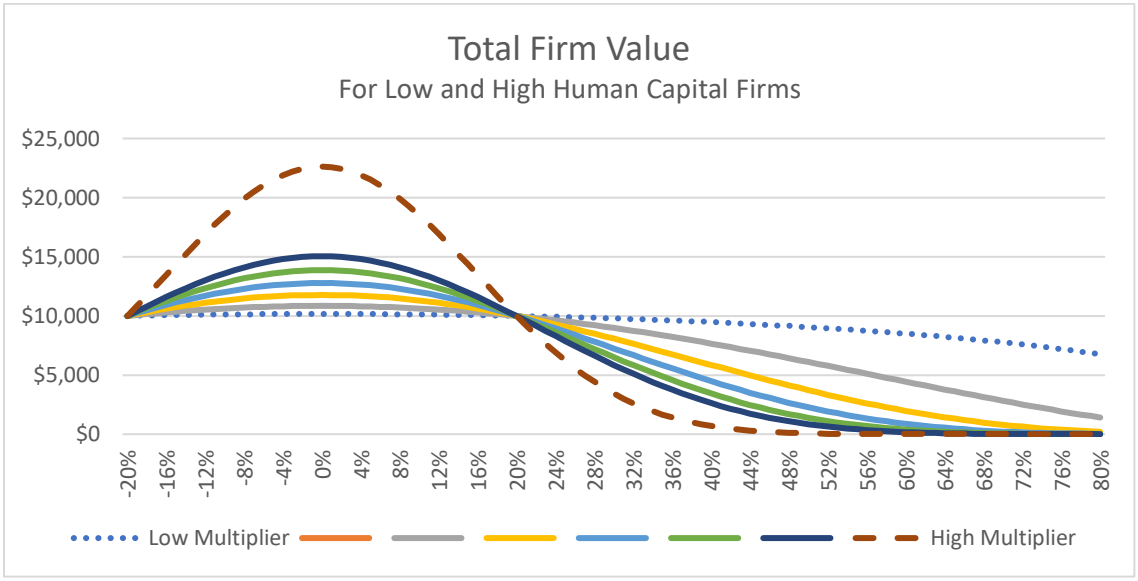
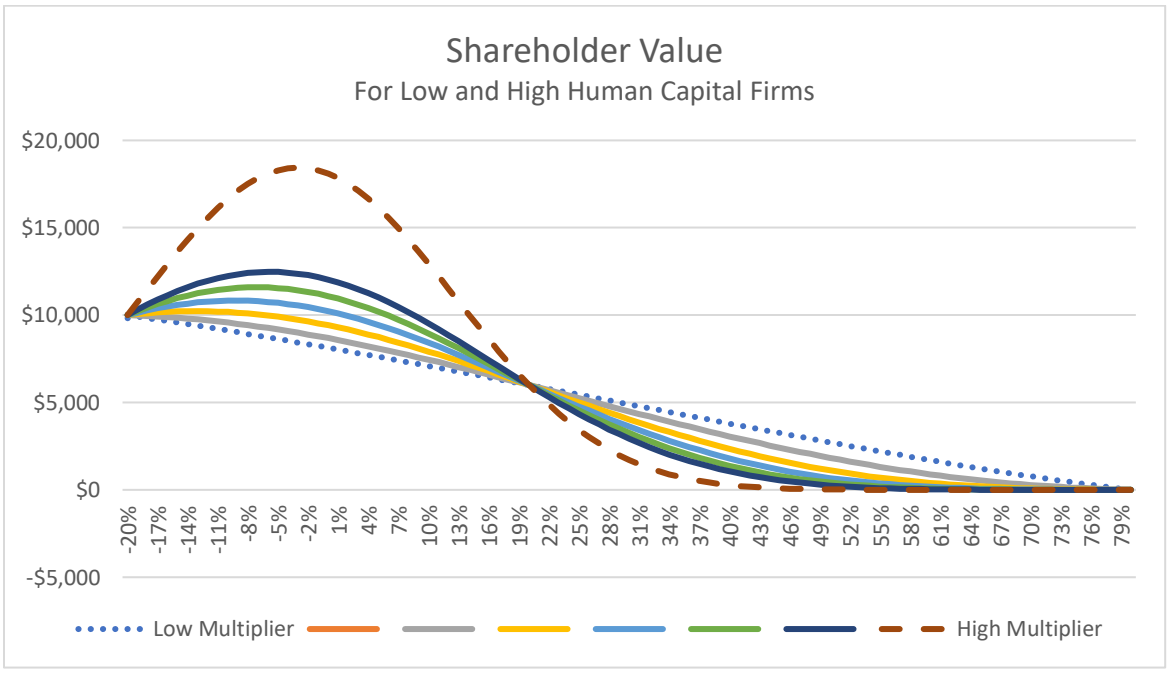


Figure 10: Impact of Link Function and Stakeholder Engagement on Firm Value

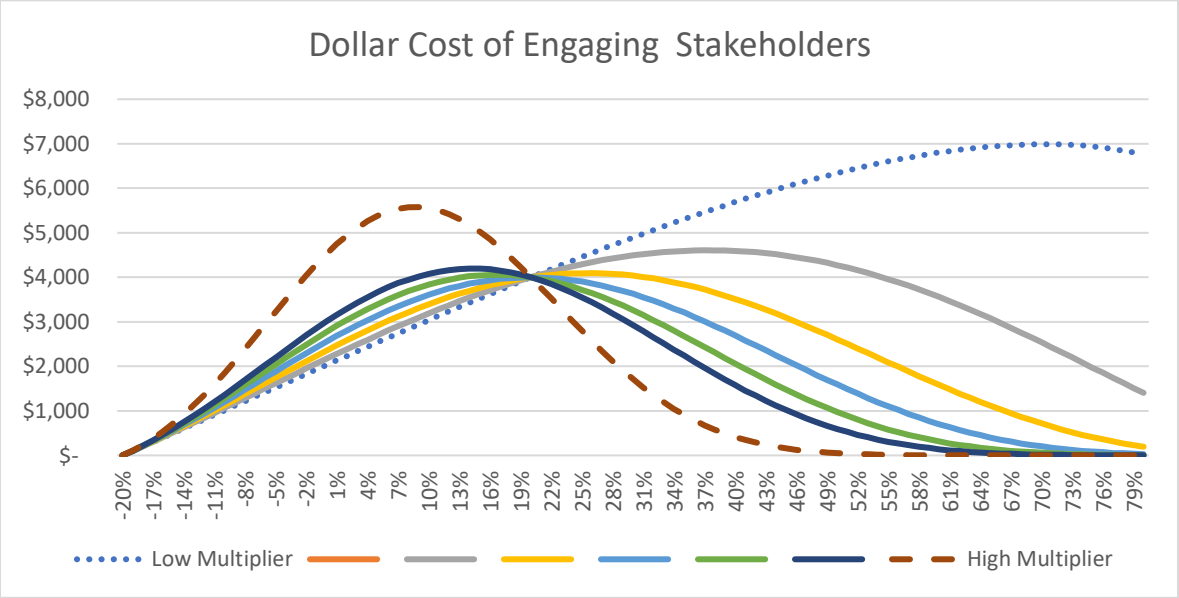
Panel (a)



Panel (b)



Panel (c)



Panel (d)