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Organizational capital, human capital and the humane firm: Opportunities and obstacles to wellbeing

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Abstract
One of John Tomer's most significant scholarly contributions is his concept of organizational capital, which gradually linked to the notion of the human firm and, more precisely, to more humane ways of organizing the firm. This, in turn, he linked to increasing the extent of economic efficiency (x-efficiency) and the wellbeing of society. I place Tomer's contribution in the modelling context of an extended x-efficiency theory of the firm. I examine the conditions under which the human firm is economically sustainable and the conditions most conducive to its adoption by firm decision-makers so as to develop a less hierarchical firm. I argue that it critically important to recognize the costs of making the firm more humane as well as modelling how and why the human firm is relatively more productive. But both the human and hierarchical firm are economically sustainable. Which one dominates depends on the preferences of firm decision-makers, the power relationship across firm members, and government policy. One can be stuck in a sub-optimal equilibrium where the lower productivity-x-inefficient firms dominates unless there are appropriate intervening factors.

JEL Classification: B55; D21; D90; I39; J50; L20

Keywords
organization capital — human firm — x-efficiency — humane factors — ethics — power

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Introduction

One theme running throughout John Tomer's (1987, 1999, 2009, 2015) work is the importance of what transpires inside of the black box of the firm. The internal workings of the firm have been treated rather mechanistically in conventional economics – what Tomer refers to as the machine model of the firm. Fundamentally, it is assumed that economic agents will behave in a manner that will result in their firms behaving in an economically efficient manner. Tomer's contribution to the theory of the firm builds on the work of behavioural economists coming before him who understood the importance of venturing into and exposing the reality of the black box of the firm so as to better understand its inner workings and that to better understand what makes for an efficient firm (Cyert and March, 1963, for example). He specifically linked-up with the work of Harvey Leibenstein (1966; see also Frantz, 1997) who understood that economic efficiency is not the norm and to better understand how economic efficiency is realized one has to understand and appreciate the human elements of decision-making and behaviour.

But Tomer also builds upon the more conventional contributions to economic theory inspired by Gary Becker's (1964, 1967) research on human capital formation as a fundamentally important determinant of firm productivity. But, for Tomer, the potential impact of human capital is mediated by the performance of the economic agent (employees, managers, and owners alike) (see especially Tomer, 1987). In John Tomer's narrative of the firm, we have human agents whose choices result in their firm becoming economically efficient or not. Efficiency is not inevitable in Tomer's human firm. Much depends on the firm's investment in what Tomer refers to as organizational capital, which affects the extent and quality of the firm's human capital.

But the question remains why efficiency is not an imperative for all firms, given that Tomer's human firm should generate superior economic outcomes. Under these conditions, there should be an imperative for all firms to become human firms. I place Tomer's human firm in the context of a dynamic 'equilibrium' model where one can demonstrate why economic efficiency is not inevitable even while the human firm generates superior economic outcomes. Although the human firm can better explain why a firm can be more or less efficient with organizational capital and humane factors playing a critical role, we also need to understand the conditions required to generate economic efficiency and those conditions which might prevent firms from becoming more economically efficient.

I argue that what's critical to the determination of economic efficiency are the preferences of decision-makers, the incentive environment within the firm, the bargaining power of workers, and the external competitive and social environment of the firm. It is also contingent on the ability of low productivity and less human firms, consistent with the preferences of decision-makers, surviving and remaining profitable in the competitive long run. In the end of the day, it is important to understand how organizational capital and 'humane' variables can make the firm more productive and how humane factors, embedded in particular institutional contexts, can result in firms not performing efficiently (deviating from Tomer's human firm), thereby reducing the wellbeing of the population at large.

This article also places Tomer's insights in a more robust modelling context. To better understand how organizational capital and the human firm affects productivity and the firm's competitiveness, it is critically important to understand the cost of organizational capital and becoming more humane. Organizational capital and becoming more humane is not a free lunch. Recognizing the importance of costs explicitly in one's modelling narrative provides a more powerful narrative and argumentation for integrating organizational capital and the human firm in a more robust theory of the firm, which can also better inform policy. Such modelling also allows one to better determine why these pathways to firm development are often not adopted, for 'rational' reasons, by decision-makers even when this would benefit most firm members and, possibly, also the community at large.

The starting point for Tomer's organization capital and for the human firm is the assumption, based on Leibenstein (1966), that the typical firm is not economically efficient, more specifically technically efficient. This is what Leibenstein refers to as x-inefficiency, when a firm is not as productive as it can be given traditional factor inputs such as labour, capital, and land, given technology. Leibenstein focuses on effort variability (and, therefore, on effort discretion) and economic agents working at less than their potential as the key cause of x-inefficiency. Conventional economics assumes that effort inputs are fixed and typically fixed at some maximum/optimal level. If this is one's working assumption, all firms must be x-efficient and x-inefficiency can't exist. And, even if it does exist in reality, it can't be identified or investigated because it is assumed away by definition. Leibenstein's methodological contribution here is that he opened the door to investigate the possibility of x-inefficiency as contributing to laggard economic performance and the reduction in the level of x-inefficiency as contributing to the process of economic growth. In the conventional model (build on the Solow, 1957) any change in x-efficiency is confounded as part and parcel of technical change. The latter is a measure of what can't be accounted for by the growth of capital and other traditional factors of production per unit of labour input. As Solow puts it, his technical change is a measure of our ignorance. And, this ignorance includes assuming away or not paying attention to, for methodological reasons, the possibility of x-inefficiency in production.

In conventional economics, the point of focus is on allocative inefficiency caused by the unwanted interference in the market mechanism, generating deadweight losses to society. Economic inefficiency, here, is a product of prices being distorted by monopolist practices and government policies. The firm itself is x-efficient. X-inefficiency is assumed away by assuming that competitive markets force economic agents to behave x-efficiently and/or economic agents have very specific preferences geared towards making their firms x-efficient. But the evidence suggests that allocative efficiency is economically insignificant and that x-efficiency exists (Leibenstein, 1966; Frantz, 1977). Tomer's narrative fits into efforts to explain the existence of x-inefficiency and to determine ways and means to reduce the level of x-inefficiency.

Leibenstein (1966) focuses on managerial slack as the key determinant of x-inefficiency in the firm. He argues that managers (and senior members of the firm hierarchy) have a preference not to work as hard and as smart as they possibly can. They are not behaving in a manner consistent with conventional rationality. Other objectives are more important to them. Their objective function is *not* dominated by a preference for their firm being x-efficient by maximizing their effort per unit of labour input, which conventional economics tends to assume is reflected in behaviour consistent with profit maximization. This x-inefficient behaviour generates higher average costs since it reduces labour productivity. X-inefficient firms can't survive in competitive markets unless all firms are equally x-inefficient. They will be driven out of the market, by market forces. X-inefficient firms survive because product markets tend be monopolistic (at a minimum) and because government provides them with protection and subsidies.

Tomer attempts to explain x-inefficiency by introducing the concept of organizational capital and the humanistic firm. Tomer focuses on discussing how organizational capital and a more humanistic firm will serve to reduce the level of x-inefficiency. Tomer enriches the x-efficiency model by focusing one's attention on the specifics of how the firm is organized, specifying organizational capital and 'humane' factors as causal variables with regards to determining the extent of x-inefficiency. And, he increasingly makes the normative case, as his work evolves over time (Tomer, 2008, 2015), for the importance of firms becoming more humane in terms of how the firm is managed; how it is organized. In this sense Tomer speaks to the importance of a specific type of organizational capital as being critically important to increasing the level of x-efficiency, what I would refer to as humane-enriched organizational capital. This overlaps with the hypothesis that a more ethical firm should be more productive (Altman 2020). One way of specifying Tomer's approach is explicitly linking organizational capital and, especially incorporating humane factors into organizational capital, to determining the level effort inputs and, thereby, to productivity and, consequentially,

to the level of x-efficiency. This argument is illustrated in Figure 1, where humane-enriched organizational capital (a specific type of human capital formation) is explicitly linked with increasing effort inputs, increasing productivity and, therefore, increasing the level of x-efficiency.

Leibenstein's (1966) cost argument is illustrated in equation 1 for a very simple model of the firm with one factor input. AC is average cost, w is cost per unit of input (here the cost per hour of labour), Q/L is labour productivity (derived from Altman, 1987, 1991, 2008, 2015). When effort input is reduced, labour productivity (Q/L) diminishes and this increases average costs. Given that x-inefficiency is a product of economic agents not working at their best, x-inefficiency results in higher average costs, making the firm less competitive. In effect, Tomer argues that inappropriate levels organizational capital (quantity and or quality), especially of a more humane type, reduces the level of x-efficiency from what it might otherwise be. And, on the flip side, Tomer argues that more humane-enriched organizational capital, a more human firm, would contribute towards making the firm more x-efficient. Leibenstein (1982) speaks to re-organizing management in a more co-operative manner as a means of increasing the level of x-efficiency. He also discusses opening the door to more competitive pressures as a fundamentally important and effective means of achieving higher levels of x-efficiency.

$$AC = \frac{w}{(\frac{Q}{L})} \tag{1}$$

Neither Leibenstein or Tomer clearly identify if or the extent to which there are costs associated with firm re-organization, organizational capital, or making the firm more human. Integrating these variables into a narrative of the firm; taking this more holistic approach to a theory of the firm, allows one to better understand how introducing humane and organizational variables can affect costs, affect decision-making, and affect the competitiveness of the firm (Altman, 1987, 1999, 2008, 2015, 2020). As it stands, the traditional x-efficiency model highlights how marginal and average costs change as effort input (quality and quality) changes through management as the intermediate variable.

In an extended version of x-efficiency theory developed elsewhere (Altman 1987, 1999, 2008, 2015), I integrate cost factors and social variables into the x-efficiency narrative. Aspects of efficiency wage theory (also developed by Leibenstein, 1957; see also Akerlof, 1982, 1984) are also incorporated into this narrative. With regards to the latter, I incorporate the connectivity between wages, effort input, and labour productivity. An important point of this modelling is to recognize the fact that increasing effort inputs often comes at a cost to the firm. This could involve higher wages, improved working conditions (a more humane firm), and other incentives. It might involve providing workers with more voice in firm decision making, which requires an investment of more time on the part of workers and managers. Overall, increasing the level of x-efficiency comes at a cost that one would expect should generate benefits to the firm and its members (a prediction strongly embedded in Tomer's narrative).

In the conventional economic model, any increase in costs such as increasing wages or introducing changes required to make a firm more humane, will increase average cost. This model assumes no x-inefficiency. Any effort to develop a more humane firm would be dismissed as being incompatible with the survival of the firm unless it is protected by government or if consumers are will or able to pay higher prices for the output produced by the human as compared to the traditional firm. With respect to organizational capital, this can be modelled as an explicit investment in how the firm is organized. The same can be said of introducing more 'humane' factors into the firm. I would argue that humane factors or variables can be incorporated into organizational capital, providing the firm with what one might refer to as humane-enriched organizational capital.

A more conventional approach to organizational capital would assume that there is no x-inefficiency, but such investment would enhance the productivity of the firm by improving the productivity of all factor inputs, holding effort inputs constant. This would be a type of technological change. But in the Tomer narrative, it is the investment in organizational capital that 'causes' or leads to improvements to the level of a firm's x-efficiency. It is productivity enhancing, but largely through improvements in the level of x-efficiency. It is not clear if this is related to the quantity or quality of effort input. But I would argue that this would largely be related to improvements in the quality of effort – it facilitates smarter effort inputs into the production function. The Tomer narrative opens the analytical door to contemplating the hypothesis that increasing productivity related to conventional economic variables, such as human capital formation and technical change, is largely due to facilitating firm members working smarter – increasing the quantity of smart effort inputs. But in both the conventional and Tomer approaches, growing organizational capital must come at a cost. But in the Tomer approach it comes with the added benefit of increasing the firm's level of x-efficiency.

In my extended, but simplified model, with only one factor input, decreasing the level of x-efficiency need not increase average cost if this coincides with a sufficient reduction in w, and, increasing w to incentivize increases in effort input need not increase average cost if this is accompanied by a sufficient increase in effort input and, relatedly, in productivity (Q/L). In this narrative, changes in the extent of x-inefficiency are consistent with a constant level of average cost. And, most pertinent to the Tomer narrative, investing in organizational capital and making a firm more humane need not generate increasing average cost if this generates sufficient increases in productivity to offset the increased costs. On the other hand, investing in organizational capital and making a firm more humane need not provide the firm with a competitive advantage over firms that are not making such investments, and which show little interest in a more humane firm. Both humane and less humane firms can remain competitive on the

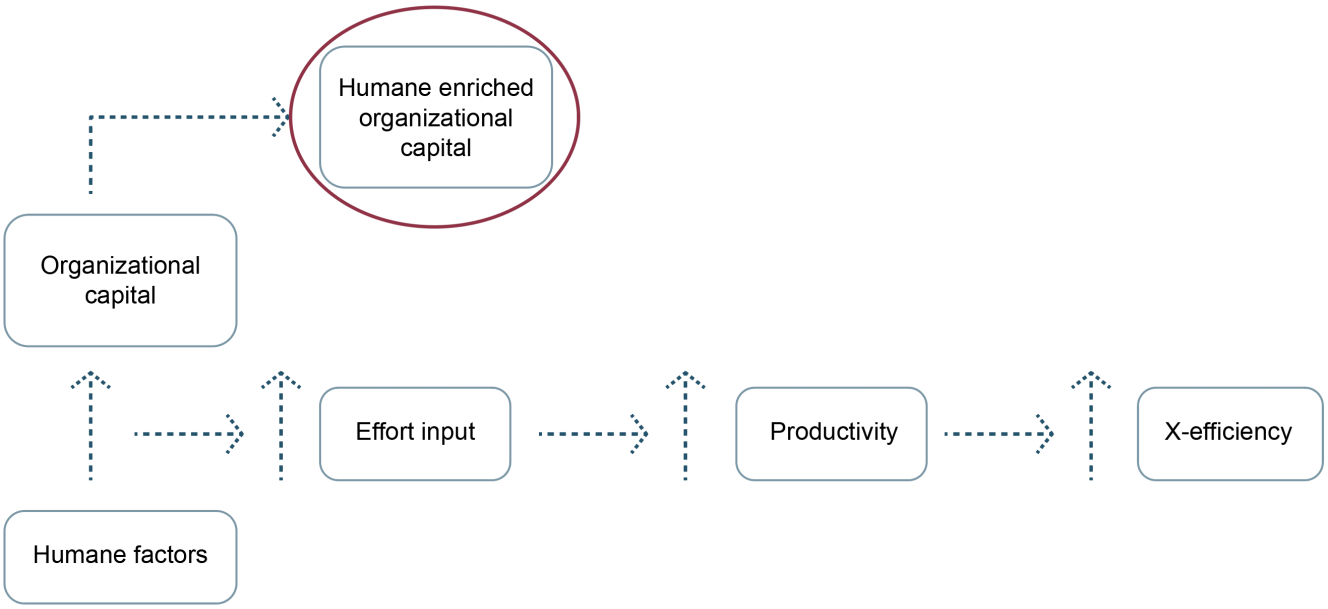

Figure 1. Organizational capital and humane variables and x-efficiency

market in this particular modelling scenario. This argument would not be affected by adding more factor inputs in the firm's production function (Altman, 1999, 2008, 2015, 2017, 2019, 2020). In equation 2, I add Organizational Capital (OK) and Humane variables (H). In this equation, any increase in OK or H, ceteris paribus, increases average cost. But OK and H related costs can be neutralized by sufficient OK and H related productivity increases. It is important to formally integrate OK and H variables into the production function to better understand implications of increasing humane-enriched organizational capital.

$$AC = \frac{w + OK + H}{(\frac{Q}{L})} \tag{2}$$

These arguments can be further illustrated in Figure 2 below, which builds upon my extended x-efficiency modelling narrative (Altman 1999, 2008, 2015, 2017, 2019, 2020). In traditional x-efficiency theory any increase in production costs, given by w for example, increase average costs, given by line segment aCon. This is the same argument that flows from conventional economics. This assumes that there is no causal relationship between production costs and productivity. But, as discussed above, to the extent that increases in wages and improvements in working conditions result in increasing effort inputs and, thereby, in increasing productivity, and this offsets these increasing costs, average cost need not increase as these costs increase. One has an x-efficiency effect. The opposite would occur if wages were to fall and working conditions worsened. This is given by horizontal line segment Ad. The costs of being ethical in the firm can be modelled in the same fashion, where there is a positive relationship between being more ethical and the level of x-efficiency (Altman 2020). One can model Tomer's humane-enhanced organization capital from this modelling perspective. This type of capital investment can be consistent with being competitive to the extent that it generates sufficient cost-offsets through increases in the level of x-efficiency. Past this point, the costs exceed benefits resulting in increasing average costs. On the other hand, moving along Ad to the left, lower levels of humane enriched organizational capital need not increase average costs, nor lower them (as would be predicted by conventional economics since costs are being reduced).

In this model, eventually investing in humane-enriched organizational capital reaches a point of diminishing returns, where increases in the level of x-efficiency can no longer compensate for the cost of such investment. Therefore, past point C, average cost increases as investment in humane-enriched organizational capital increases, along dBE. It is unlikely that one can make firms more humane, ad infinitum, simply on the basis of investing in organizational capital. And, where point C is located in any particular firm, is an empirical question.

However, in a dynamic model of x-efficiency, where technical change is endogenous (in the conventional model it is exogenous), there is a greater degree of freedom for firms to keep improving on the extent to which they are more humane or ethical. In a model which I develop elsewhere (Altman, 2009), technical change is incentivized by increasing cost factors within the firm, such as the cost of being more ethical or in Tomer's narrative the cost of investing in more humane-enriched organizational capital. It can also be motivated by the preference of firm owners or managers to make their firms

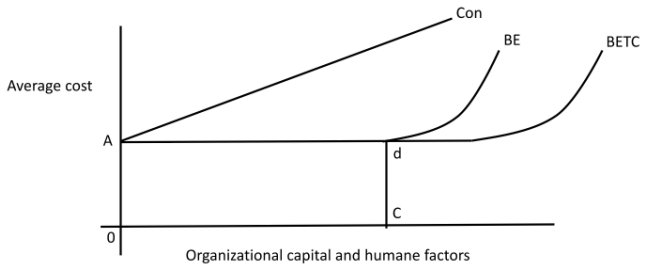

Figure 2. Organizational capital and humane factors and x-efficiency

more humane whilst remaining cost competitive.[1] This shifts the cost curve from AdBE to AdBETC. This allows for investment in humane-enriched organizational capital without increasing average cost. A key point made in this theoretical narrative is that a more human, a more ethical firm, can be economically sustainable, competitive, if it can reduce the level of x-inefficiency and engage in technical change. This places Tomer's normative narrative within a more robust positive or modelling setting with regards to the costs, benefits, and economic sustainability of investing in humane-enriched organizational capital.

Making firms more humane

What is clear from the above modelling exercise is that although a more humane, a more ethical firm, is economically viable under reasonable circumstances, it is not inevitable. A relatively less humane, less ethical firm is also economically viable. What becomes critically important to determine is the extent to which a firm is increasingly humane, its humane-enriched organizational equilibrium, is very much dependant on a variety of variables, inclusive of the preferences of decision-makers. And, in the conventional investor-owned firms (as opposed to member owned firms, such as worker or consumer co-operatives), this critically depends on the preferences of senior management and owners. They play a key in determining where along line 0C, for example, this equilibrium is located. And, this point is of vital importance in the Tomer narrative, as it emphasizes the human factor (related to education, empathy, sympathy, social context, and childhood development influences) in the determining how humane the firm is. What type of equilibrium is achieved by the firm is not simply a product of 'profit maximization' – the human factor is a vital determinant of this equilibrium. But a humane equilibrium must be consistent with the economic sustainability of the firm.

[1] One example of this would be outside of the realm of the conventional investor-owned firm, in workers' co-operatives, where workers are also the owners of the firm. Here, workers might have a preference to improve their wellbeing and that of their communities. But this comes at a cost that can be neutralized by increasing their firm's level of x-efficiency and engaging in technical change.

Following from Tomer's argumentation, one important means of making firms more humane and, thereby, making the firm more x-efficient, is through education and peer pressure and, relatedly, changing the social context within which firm decision-makers make their decisions. For Tomer, if decision-makers learn to live their lives in a manner where their utility or wellbeing is enhanced by making their firms more humane, they will do so. This perspective is related to the importance that Tomer (2017) places on Buddhist economics, on the importance of changing individuals' and, in the case of the firm, decision-makers' world view or values. The latter, argues Tomer, is too often dominated by self-interested, non-sympathetic preferences which are inconsistent with making firms more humane or ethical (see also Lynne, 2020).

But changing decision-makers' values, may be much easier said than done. I would argue that when self-interested, non-sympathetic preferences dominate, at least amongst decision-makers, this needs to be recognized as part of the human condition in the here and now (Singer, 1999). This being said, other means would be required to move the firm from a relatively unethical equilibrium to a more ethical equilibrium. Amongst these factors can be improving the bargaining power of workers or employees, government policy that incentivizes more humane or ethical behaviour within the firm, and consumer pressure on firms to become more humane or ethical (the latter is considered to be important by Tomer (2015)). Another factor of potential importance would be decision-makers gaining an understanding that a more humane or ethical firm can be economically sustainable. If they believe that being more humane will make their firms uncompetitive, decision-makers can't be expected to invest in a more human or ethical firm even if they have a preference for such a firm (Altman, 2020). Therefore, decision-makers require adequate and appropriate information to make decisions with regards to the type of firm that they wish to construct. Being an ethical, sympathetic individual, is not sufficient to transform a firm into a more humane, more ethical firm.

If a more humane firm is economically viable and serves to also reduce the level of x-inefficiency, then becoming more humane has significant implications for economy and society. Increasing x-efficiency increases per capita income. But this specific x-efficiency effect is enhanced by the possible positive effects on the rate of technical change which further increases per capita income in a more sustainable fashion. What is not typically paid attention to, however, is the potential implications of improving the level of x-efficiency through different means. Tomer's focus is on making the firm more humane, on more humanistic ways of organizing the firm (see also Altman, 2012, 2020). If one models this approach to increasing x-efficiency, then one of the implications here is that one ends up with increased output at the firm level whilst also increasing the material wellbeing being of all firm members. Also, working conditions (such as health and safety) can improve, further incentivizing further increases in the level of x-efficiency. Basically, one can predict growth at the

	1		2		3		4		5		6	
	Output	**% share**	**Output**	**% share**	**Output**	**% share**	**Output**	**% share**	**Output**	**% share**	**Output**	**% share**
Employee	20	20%	5	5%	30	27%	40	33%	30	25%	50	36%
Employer	80	80%	90	95%	80	73%	80	67%	90	75%	90	64%
Total	100	100%	**95**	100%	110	100%	120	100%	120	100%	**140**	100%
			x-inefficiency								**x-inefficiency**	

Table 1. The Humane-Ethical Firm, Fairness, and X-efficiency: Modelling Scenarios

firm level with more equality for a more humane, ethical firm, given what is required to construct a more humane, ethical firm (Altman, 2003, 2012).

In a more humane, more ethical firm one has more benefits going to employees. These increased production costs incentivize increases in productivity. This process of endogenous productivity growth generates a more equitable distribution of income and overall benefits within the firm without redistributing income from employees to employers in a basic two agent-type model. One would expect that the less humane, less ethical firm, would be relatively less productive in terms of x-efficiency and also in terms of induced technical change. In addition, in this less productive scenario, where the firm remains cost competitive (as per Figure 2), income and overall benefits are less equitably distributed. Indeed, one method of employers increasing their income in the less humane, less ethical firm is to redistribute income in their favour, even if this has a negative effect on efficiency, on the level of x-efficiency. How a firm is managed, therefore, plays a fundamentally important role not only in determining the wellbeing of all firm members, including employees, but also in determining the firm's productivity.

This point is illustrated in Table One, where 6 scenarios are presented in a two-agent model with employees and employers, in an investor-owned firm. I assume that in each scenario the firm is endowed with the same amount and same structure of factor inputs and the same technology. A less humane, less ethical firm is represented in scenario 1, where employees have a small share of output and firm productivity is low and the level of x-inefficiency is relatively high. In scenario 2, the employers' share is relatively higher as they increase their income, at the cost of a lower level of firm output, an increased level of x-inefficiency, and less income being accorded to employees. Both of these scenarios can be sustainable as we discussed above, being consistent with the same average cost. Scenarios 4 and 6 reflect situations where employee income increases as does employees' percentage share of total output, where the latter is increasing as is productivity and, relatedly, the level of x-efficiency. Employer income does not fall in the latter two scenarios and, as compared to scenario 1, there is no zero-sum game. In scenario 5, employee income is increasing as compared to scenario 1, but so does the income of employers, with their share of income increasing in this scenario as compared to scenario 5. In scenario 6, both employees and employers gain in absolute terms as output increases with increased employee and employer income. In this scenario the level of x-efficiency is at its highest, but the employers share of income is at its lowest. And, in all six scenarios, in this extended x-efficiency modelling, average cost remains the same. The relatively x-inefficient and the relatively more x-efficient scenarios are all cost competitive. The relatively x-efficient firm is consistent with both employers and employees benefiting (there is no zero-sum game), with an increased level of x-efficiency, with a more equitable distribution of income, and with cost competitiveness. In this narrative, it is the more humane, more ethical firm that is relatively more x-efficient. But there is no underlying imperative that firms will become more humane, more ethical. This process is not inevitable. This is the case, even though such firms can be cost competitive and even when employers are not materially disadvantaged by investing in humane-enhanced organizational capital. All other things remaining the same, in this scenario, employers would have to prefer or desire a more humane, a more ethical firm for such a firm to be constructed. Otherwise, other factors would have to come into play.

Conclusion

Tomer's concept of organizational capital is an important contribution to the theory of firm, given how it is embedded in the x-efficiency narrative and provides one explanation of how x-inefficiency can be reduced by investing in the management of the firm and, overall, how the firm is organized. As his career progressed, Tomer nuanced the concept of organizational capital by emphasizing the importance of humane variables embedded in organizational capital as being critical to enhancing firm productivity and, thereby, reducing the extent of x-inefficiency. I refer to the latter as humane-enhanced organizational capital. This takes us further into the black box of the firm, providing us with a richer understanding of the determinants of x-inefficiency. In this article, I place the humane-enhanced organizational capital into an extended x-efficiency modelling framework to better understand the cost implications of making a firm more humane, more ethical. I also identify those conditions under which decision-makers are most likely to invest in humane-enhanced organizational capital and identify circumstances wherein such investments

should not be expected, at least in traditional investor-owned firms.

Once it is recognized that organizational capital is an investment and is therefore costly, it is important to investigate, theoretically, if these costs can be offset by the outcomes of this type of investment. I argue, consistent with Tomer, that humane-enhanced organizational capital increases the firm's level of x-efficiency. I also argue that such productivity increases can offset the cost of making the firm more humane, more ethical. Therefore, investments in humane-enhanced organizational capital can be cost-neutral. This is an important point that flows from a robust modelling of the Tomer narrative. Another important point here is that it is quite possible for both less and more humane firms to be cost competitive. The more humane, the more ethical firms, need not hold a competitive advantage over the less humane firms. The latter are and have proven to be quite sustainable. Given the productivity enhancing nature and competitiveness of the more humane, the more ethical firms, not investing in humane-enhanced organizational capital will serve to maintain a more x-inefficient and less productive economy and one that is also unduly inegalitarian.

Also, consistent with Tomer's focus on Buddhist economics and, relatedly, on the importance of education to the choice behaviour, owners and managers developing an understanding (being enlightened) that investing in humane-enhanced organizational capital can be cost competitive might shift their preferences towards a more humane firm. This would be more the case if, in this context, they developed a sense of sympathy with their employees. Therefore, education, at different levels can play an important role in determining the type of firms that are developed and promoted in our society. I would argue that education is typically not enough, when firm decision-makers have a preference for less humane, less ethical firms, especially if more humane, more ethical firms reduce the *relative* positioning of firm owners and managers in terms of income and power. In this case, also of importance is the bargaining power of employees and relatedly, labour rights, employees' knowledge of the significance of humane-enhanced organizational capital for productivity and competitiveness, and the ability of consumers to influence firm behaviour. This speaks to the importance of institutional parameters in conjunction with education in determining the type of firms we develop and, therefore, the wellbeing of all firm members and of society at large.

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References

Akerlof, George A. (1982). Labor Contracts as Partial Gift Exchange. *Quarterly Journal of Economics, 97*: 543-569.

Akerlof, George A. (1984). Gift Exchange and Efficiency Wage Theory: Four Views. *American Economic Review, Papers and Proceedings, 74*: 79-83.

Altman, Morris (1996). *Human Agency and Material Welfare: Revisions in Microeconomics and their Implications for Public Policy*. Boston: Kluwer Academic Publishers.

Altman, Morris (2001). *Worker Satisfaction and Economic Performance*. Armonk, New York: M.E. Sharpe Publishers.

Altman, Morris (2003). Economic Growth and Income Equality: Implications of a Behavioral Model of Economic Growth for Public Policy. *Canadian Public Policy, 24*: S87-S118.

Altman, Morris (2005). Behavioral Economics, Rational Inefficiencies, Fuzzy Sets, and Public Policy. *Journal of Economic Issues, 34*: 683-706.

Altman, Morris (2006). "What a Difference an Assumption Makes: Effort Discretion, Economic Theory, and Public Policy," in Morris Altman, ed., *Handbook of Contemporary Behavioral Economics: Foundations and Developments*. Armonk, New York, 125-164.

Altman, Morris (2009). A Behavioral-Institutional Model of Endogenous Growth and Induced Technical Change. *Journal of Economic Issues, 63*: 685-713.

Altman, Morris (2012). *Economic Growth and the High Wage Economy: Choices, Constraints and Opportunities in the Market Economy*. Routledge: London, New York.

Altman, Morris (2017). Policy Consequences of Multiple Equilibria and the Indeterminacy of Economic Outcomes in a Boundedly Rational World: Closing the System with Non-Economic Variables. *Forum for Social Economics, 64*: 234-251.

Altman, Morris (2019). Implications of smart decision-making and heuristics for production theory and material welfare. *Mind and Society, 18*: 167-179.

Altman, Morris (2020). *Why Ethical Behaviour is Good for the Economy: Towards Growth, Wellbeing and Freedom*. Cheltenham, England: Edward Elgar.

Becker, Gary (1964). *Human Capital.* New York: Columbia University Press.

Becker, Gary (1967). *Human Capital and the Personal Distribution of Income: An Analytical Approach.* Ann Arbor, MI: University of Michigan.

Cyert, Richard M., and James C. March (1963). *A Behavioral Theory of the Firm*. Englewood Cliffs, NJ: Prentice-Hall.

Frantz, Roger S. (1997). *X-Efficiency Theory, Evidence and Applications*. Topics in Regulatory Economics and Policy 23. Boston, Dordrecht, and London: Kluwer Academic.

Leibenstein, Harvey (1957). *Economic Backwardness and Economic Growth*. New York: J. Wiley and Sons.

Leibenstein, Harvey (1966). Allocative Efficiency vs. 'X-Efficiency'. *American Economic Review, 56*: 392-415.

Leibenstein, Harvey (1982). The Prisoners' Dilemma in the Invisible Hand: An Analysis of lntrafirm Productivity. *American Economic Review 92*: 92-97.

Lynne, Gary (2020). *Metaeconomics: Tempering Excessive Greed*. New York: Palgrave Macmillan.

Singer, Peter (1999). *A Darwinian Left: Politics, Evolution and Cooperation*. London: Weidenfeld and Nicolson.

Solow, Robert M. (1957). Technical Change and the Aggregate Production. *Review of Economics and Statistics, 39*: 312-320.

Tomer, John F. (1981). Organizational Change, Organizatonal Capital and Economic Growth. *The Eastern Economic Journal, 7*: 1-14.

Tomer, John F. (1987). *Organizational Capital: The Path to Higher Productivity and Well-being*. New York: Praeger.

Tomer, John F. (1999). *The Human Firm: A Socio-Economic Analysis of its Behavior and Potential in a New Economic Age*. New York: Routledge.

Tomer, John F. (2008). *Intangible Capital: Its Contribution to Economic Growth, Well-Being, and Rationality*. Edward Elgar.

Tomer, John F. (2015). *Integrating Human Capital with Human Development: The Path to a More Productive and Humane Economy.* New York: Palgrave Macmillan.

Tomer, John F. (2017). Why Buddhist economics is needed: overcoming large scale biophysical and socio-economic dysfunctions. *Real-World Economics Review, issue no. 82*: 143-158. Accessed September 1, 2020. Available at: paecon.net/PAEReview/issue82/Tomer82.pdf.