The labor-managed firm, Oliver Williamson, and me

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Abstract
More than 30 years ago, I engaged in a debate with Oliver Williamson over the theoretical structure of transaction cost economics (TCE). This debate had its origins in our conflicting views of the labor-managed firm (LMF). Williamson believed that such firms were rare due to their inefficiency while I believed they might be rare due to market failures. Here I clarify my criticisms of TCE and contrast Williamson's view of the LMF with my own approach. I discuss empirical evidence that can distinguish between these two approaches and take up Williamson's challenge to identify policy interventions that could yield net social gains.

1. Introduction

Oliver Williamson and I were colleagues in the Department of Economics at Yale University from 1983 to 1986. When Williamson arrived at Yale in 1983, he was 20 years out from his PhD and took up an endowed chair. I had arrived in 1980 as a lecturer and was promoted to assistant professor after completing my PhD in 1981. I left Yale for the University of Alberta in 1986 and Williamson left for Berkeley in 1988.

During our overlap at Yale, Williamson had already become highly influential via his interpretation of transaction cost economics (TCE), which built on the work of Coase (1937, 1960). I was trying to formulate a research agenda and get my first journal articles published. I had read most of Williamson's professional output because I wanted to focus on the theory of firm organization and his work was directly relevant to my interests.

I found that I strongly disagreed with certain aspects of Williamson's theoretical framework. This led me to write an emphatic critique called 'The function of authority in transaction cost economics' (Dow, 1987), which provoked a rebuttal from Williamson (1987). My 1987 critique of Williamson remains my most cited journal article, despite a career of more than 40 years in which I have worked on numerous other subjects.

The key issue for me involved the theory of the labor-managed firm (LMF). In an LMF, control rights (generally in the form of votes) are proportional to the amount of labor supplied (Dow, 2002). Frequently the workers elect representatives to a board of directors, which can hire and fire the top managers. In a capital-managed firm, control rights are proportional to the amount of capital supplied. In practice, the investors typically elect a board of directors, which again can hire and fire the top managers. I like to abbreviate the capital-managed firm by KMF using the conventional economic symbol K for capital. Among large firms in developed countries, KMFs are common and LMFs are rare. I wanted to know why.

Williamsonian TCE provided a simple explanation: KMFs are economically efficient while LMFs are not. I didn't like this explanation. I wanted to leave open the possibility that LMFs had efficiency advantages over KMFs but were rare due to market failures. I also wanted to leave open the possibility that policy intervention could be used to encourage the formation of LMFs, and that such policies might yield net efficiency gains. TCE seemed to foreclose any debate along these lines.

After pondering these matters, I came to the conclusion that TCE had limitations extending well beyond the issue of LMFs. I believed in 1987, and believe today, that TCE is a flawed framework for organizational and institutional analysis. At the same time, I think Williamson was correct in stressing certain concepts (especially incomplete contracts, opportunism, and asset specificity) that should be taken on board by any serious theory of firm organization. The economics profession properly regards Williamson as a founder of the new institutional economics, and his sharing of the 2009 Nobel Prize with Elinor Ostrom was well deserved.

This exercise in intellectual archeology will have several steps. Section 2 starts with a review of Williamsonian TCE. When the abbreviation TCE is used without further qualification, I am referring to Williamson's version, and ignoring the work of many other writers within the same general school of thought. I focus on the publications by Williamson that led up to my 1987 critique.

Sections 3 and 4 summarize and clarify the criticisms in my 1987 article. Section 3 addresses Williamson's neglect of transaction costs associated with the use of authority within the firm. I argue that due to this omission, Williamson failed to carry out a full comparative assessment of markets and hierarchies. Section 4 argues that even if we do account for all of the transaction costs in each feasible governance structure, Williamson failed to supply any convincing reason for his belief that efficient governance structures arise in the real world.

After these preliminaries, I move on to the LMF. Section 5 reviews what Williamson had to say about the LMF, whereas section 6 develops my own theoretical perspective based upon the alienability of capital and the inalienability of labor. In these sections, I discuss how the general critique of Williamson from sections 2–4 applies to the specific topic of the LMF. Section 7 contrasts the empirical predictions arising from the two theoretical frameworks and section 8 considers policy implications. With respect to policy, I address Williamson's (1987) challenge to show how the market failures limiting LMFs can be remediated with net social gains. Section 9 concludes with a brief overview of our debate.

2. The structure of transaction cost economics

In order to remain faithful to the intellectual history, in this section I will stay as close as possible to the description of TCE provided by Dow (1987). At that time I took the canonical statements of TCE to be Williamson (1975, 1979, 1980, 1981, 1985). My exposition is based on a synthesis of these sources.

The premise of TCE can be summarized in a single sentence: '[T]ransactions are assigned to and organized within governance structures in a discriminating (transaction-cost economizing) way' (Williamson, 1981: 1564). To understand this proposition, we need to unpack three fundamental concepts: transaction attributes, governance structures, and transaction costs. A transaction occurs 'when a good or service is transferred across a technologically separable interface' (Williamson, 1981: 1544). Transactions vary on three dimensions (although other dimensions may sometimes be relevant): the specificity of the assets required to execute the transaction, the frequency with which the transaction recurs, and the level of uncertainty surrounding the execution of the transaction. One can picture a three-dimensional space with these dimensions as the axes so that any particular transaction has attributes located at some point in the space (Williamson, 1979: 253).

A governance structure is an implicit or explicit contractual arrangement used by the parties to a transaction, which enables them to make adjustments as circumstances change (Williamson, 1979). Two polar cases are spot markets, which involve discrete exchanges among competing buyers and sellers, and hierarchical relationships, which involve reliance on centralized authority. Intermediate

governance structures also exist, including informal reciprocity, franchising, and long-term contracts. Williamson agreed with Coase (1937) and many others that authority relations are the distinguishing feature of the firm. The key dimension along which governance structures vary is the degree of autonomy between the parties. As one moves from markets toward hierarchies, authority becomes more prominent. Within firms, authority relations are accepted voluntarily and are used to fill in the gaps resulting from the incompleteness of legally binding contracts.

TCE provides a theory of firm organization by matching transaction attributes to governance structures. Some transactions have low asset specificity, high frequency, and low uncertainty. These are matched with the governance structure of spot markets, which emphasizes bargaining under conditions of strong competition. Other transactions have a combination of high asset specificity, low frequency, and high uncertainty. These tend to be matched with governance structures involving authority, because it is more difficult to write complete contracts *ex ante* and more contractual gaps will need to be filled *ex post*.

The predicted mapping from transaction attributes to governance structures arises from the desire of the contracting parties to economize on transaction costs. These costs include the 'comparative costs of planning, adapting, and monitoring task completion under alternative governance structures' (Williamson, 1981: 1544, emphasis deleted). Thus transaction costs are organizational or administrative costs rather than production costs of the conventional kind. Williamson stresses that transaction costs are defined in relative terms: 'Only to the extent that frictions associated with one mode of organization are prospectively attenuated by shifting the transaction, or a related set of transactions, to an alternative mode can a failure be said to exist' (1975: 20). Given a transaction with particular attributes, a set of feasible governance structures, and equal production costs, Williamsonian TCE predicts that the governance structure used for the transaction will be the one that most effectively economizes on transaction costs.

I think a reasonable translation goes as follows. TCE theorists generally assume wealth maximization by each contracting party and transferable utility among the parties. Suppose we have some transaction with given attributes, and a list of feasible governance structures that can be used to organize the transaction. *Ex ante* each governance structure offers some level of expected aggregate wealth for the parties, and the parties choose the structure that maximizes this objective function. In this interpretation, the transaction cost associated with any given governance structure is just the aggregate wealth lost by failing to choose the wealth-maximizing governance structure. The latter has a transaction cost of zero by definition, because only opportunity costs matter.

A crucial assumption is that transaction attributes are described independently of the governance structures used to organize the transaction. If transaction attributes shift when governance structures shift, then the whole enterprise of comparing the transaction costs of alternative governance structures for a given transaction collapses. Or to put the point differently: it must be possible for the costs of planning, adapting, and monitoring a transaction to vary across governance structures while the transaction attributes (such as asset specificity, frequency, and uncertainty) remain constant. I will posit that there is a way to distinguish between the details of the transaction, which are adjusted to changing circumstances through governance structures, and the general features of the transaction, which are fixed.

Williamson (1985: 20) distinguishes *ex ante* and *ex post* transaction costs. The former are 'costs of drafting, negotiating, and safeguarding an agreement'. In addition to normal administrative costs, the latter are 'maladaption costs incurred when transactions drift out of alignment', 'haggling costs incurred if bilateral efforts are made to correct ex post misalignments', and 'bonding costs of effecting secure commitments'. Because a governance structure must be established before a transaction can take place, the parties must consider both the *ex ante* costs and some expectation about the *ex post* costs when choosing the structure they will adopt.

3. The critique of transaction cost economics: authority relations

The first major criticism of TCE advanced by Dow (1987) was that TCE had an incomplete analysis of authority relations within the firm. In particular, TCE emphasized the benefit of authority as a way of

reducing bargaining costs, but ignored costs that are predictably associated with authority itself. Thus, TCE failed to compare the transaction costs of bargaining and authority in a comprehensive manner. For a discussion of related issues in the context of organization theory, see Baudry and Chassagnon (2010).

Consider two governance structures: bargaining between two autonomous agents and an authority relation between the same two agents. The Williamsonian explanation for the existence of firms is that the transaction costs of authority are sometimes lower than the transaction costs of bargaining. Specifically, Williamson maintained that when transactions display asset specificity and uncertainty, and adaptation to novel situations is needed, the costs of sequential bargaining are high. Because authority relations allow the parties to avoid these costs, they agree to adopt an authority structure instead.

Williamson (1975: 29–30) stressed three advantages of authority over bargaining: (a) agents are deprived of independent profit streams so opportunism is restrained; (b) the behavior of subordinates is more easily monitored; and (c) disputes are readily settled through fiat. The general theme is that authority at a higher level is used to restrain opportunism among the agents at a lower level. The advantages of an authority structure loom larger when there is asset specificity, which creates quasi-rents for people to bargain over, and when there is uncertainty, which creates a need for adjustments to changing conditions.

My criticism was simple: authority has costs as well as benefits. TCE embraces the principle that transaction costs must be evaluated in a comparative way. Accordingly, the costs of bargaining should be compared against the costs of authority in an attempt to determine when the balance tips in one direction or the other. But strangely, Williamson and the other leading TCE theorists of the time failed to develop a systematic analysis of the transaction costs associated with authority relationships.

Williamson (1975: ch. 2) himself emphasized that opportunism presents the greatest difficulties in situations with 'small numbers' (meaning an absence of market competition) and 'impacted information' (meaning that some parties know things other parties do not). This is precisely the situation arising in an authority relationship. The superior and subordinate are operating in an environment of small numbers rather than competitive markets, and the superior often has access to better information than the subordinate. One might think that this would set off alarm bells about the danger of opportunism on the part of the superior, but it did not.

TCE had the intellectual resources to offer a more complete analysis of authority relationships. Indeed the analysis would have been quite straightforward. Authority is a powerful tool for settling disputes (decisions can be made by fiat). However, it brings the danger that the superior will opportunistically impose decisions on subordinates that are to the private advantage of the superior rather than in the interests of the firm as a whole. To put it another way: controllers tend to ignore the costs their decisions impose on non-controllers. Bargaining enables the people who would otherwise have been subordinates to act autonomously, blocking courses of action whose costs are excessive.

Thinking about the problem in this way helps to resolve a puzzle that received a good deal of attention in the 1980s: the question of selective intervention. Imagine along with Williamson (1985: 133) that we have two initially independent firms, which are then merged into a single firm. Williamson suggested that authority could be used selectively in the combined firm, with intervention from the top only when there are expected net gains. In other cases, the two previously independent firms (now subordinate divisions) would be left free to do what they would have done without intervention. Williamson's point was that there must be something wrong with this argument because it implies that firms can expand without limit, contradicting the fact that real firms have finite scales.

My response (Dow, 1987) was that there are only two reasons why selective intervention cannot succeed. First, the central authority may be boundedly rational and may intervene in situations where it shouldn't, even if it seeks to advance the interests of the firm as a whole. Putting this to one side, the only other possibility is that the central authority may intervene for self-interested reasons, in ways that impose uncompensated costs on the subordinate divisions. In short, the superiors

may fail to internalize the costs they impose on their subordinates. This is precisely the point that was missed when TCE failed to explore the costs of authority.

If TCE had engaged in this exploration, it might have led to an interesting set of questions about the ways in which the opportunistic abuse of authority can be restrained. One method is reputational; abusive authorities may become less able to gain positions of trust or responsibility in the future. Another is retaliation from subordinates, for example by shirking or quitting. A third involves employee organization through unionization and collective bargaining. A fourth is for subordinates to have the power to remove those in positions of authority. This last solution is routine in political democracies and it has an economic counterpart in the LMF (see sections 5 and 6). Although Williamson (1985) occasionally touched upon these issues, he did not pursue them in a systematic way.

What accounts for the blind spot of TCE with respect to the costs of authority? I think one factor may be that for early transaction cost theorists, the market was the norm and the firm was an exception that needed to be explained. For economists raised on the notion that competitive markets allocate resources efficiently, the use of authority within the firm was an anomaly. The challenge was thus to find something good or useful about authority relationships. Once Williamson pointed out that asset specificity led to quasi-rents, and quasi-rents led to costly bargaining, and costly bargaining could be eliminated through the use of authority, this task was done. TCE theorists now had a story about the function of authority within firms, which was what they had been seeking. The theorists then moved on to other problems and did not linger to study the dark side of authority.

4. The critique of transaction cost economics: efficiency assumptions

The second major criticism I made in Dow (1987) involved the TCE premise that the governance structures we actually observe are those that most effectively economize on transaction costs. I reviewed a number of ways in which this claim could be justified and concluded that each fell short.

Williamson was emphatic that the transaction cost program owes its 'distinctive powers' to 'its unremitting emphasis on efficiency' (Williamson and Ouchi, 1981: 367). Indeed Williamson and other TCE theorists often inferred the efficiency of a governance structure directly from its existence. For example, Williamson (1975: 20) held that '[A] presumption of market failure is warranted where it is observed that transactions are shifted out of a market and into a firm, [and] a presumption of internal organizational failure is warranted for transactions that are unshifted'.

This approach leads to functionalist explanatory statements: governance structure X exists because efficiency requirements dictate X for transactions of type Y. A skeptic might reasonably ask for details about the causal mechanism through which efficiency is achieved. In Dow (1987), I discussed three mechanisms that could potentially do the job: intentionality, learning, and competition. I will summarize the relevant arguments below.

Intentionality

One straightforward rationale for the efficiency axiom is that the parties to a transaction share an interest in the maximization of their total wealth. Other things being equal, they will agree to adopt whatever governance structure minimizes the total transaction costs they expect to incur. This argument assumes that for a transaction with given attributes, the parties can evaluate the transaction costs that would arise under each feasible governance structure. As Williamson put it, 'the parties to a contract are hard-headed and … the ramifications of alternative contracts are intuited if not fully thought through' (1985: 38).

The problem is that TCE stresses bounded rationality. According to Williamson (1975: 24), contracts are incomplete because people lack the cognitive ability to write contracts involving complex future contingencies. But if people cannot foresee these contingencies, then presumably they cannot foresee the adaptations that may become necessary in the future, which means they cannot foresee the *ex post* transaction costs associated with each governance structure. Thus, they have no way of

making *ex ante* comparisons among governance structures based on expected transaction costs (for an elaboration of this point, see Hallberg, 2015).

One cannot escape from this dilemma by accepting that contracts are complete, because this would destroy TCE's explanation for the existence of firms. The only other escape route is to find a different rationale for the incompleteness of contracts. One may, for example, argue that drawing up detailed contracts is too expensive, or that it would be too costly to enforce the resulting contracts in court. Such arguments are consistent with the kind of foresighted planning that would be needed in order to compare the transaction costs of alternative governance structures. However, Williamson did not want to use this escape route because he believed that bounded rationality was an accurate description of the constraints on human planning.

Aside from bounded rationality, there are other difficulties with the intentionality solution. At the *ex ante* stage, when governance structures are being compared, some of the parties may possess market power or there may be informational asymmetries. As is well known, such market imperfections can lead to inefficient resource allocation. I see no general reason why choices among governance structures would be immune to these problems and thus no reason to assume that observed governance structures are efficient, any more than monopoly prices or allocations of used cars are necessarily efficient.

Learning

One could drop the idea that efficiency arises through *ex ante* planning and replace it with a claim that it arises through organizational learning. Perhaps people become better at organizing a given type of transaction as time goes by, and converge on the governance structure that most effectively economizes on transaction costs.

This approach raises a number of issues. First, organizational structures may have considerable rigidity, accidents of history may matter, and path dependence could make it difficult to undo earlier mistakes (Hallberg, 2015). Second, incentive problems can often deflect collective learning processes away from efficient results. Williamson identified some factors of this kind: the reluctance of managers to abolish their own jobs, distortion of information, giving weight to sunk costs, and the like (1975: ch. 7). He remarked that, 'the prevailing attitudes and distribution of power among the incumbent management [may] make self-reorganization difficult' (1975: 159–160).

Interestingly, this takes us back to issues about the abuse of authority from section 3. In effect Williamson argued that the transaction costs associated with the opportunistic abuse of authority would obstruct organizational learning. Thus, although he did not give a systematic treatment of such transaction costs, he did recognize their existence and did acknowledge that they could interfere with the quest for efficient governance structures.

Experimental research has shown that people sometimes value power for its own sake (Bartling *et al.*, 2014; Fehr *et al.*, 2013). Pikulina and Tergiman (2020) found that about 28% of their subjects were willing to pay a positive price in order to determine the payoffs of others, independently of any social preferences about the actual payoff levels. These findings support the idea that managers gain utility directly from authority (Smith, 1991: 269) and reinforce concerns that managers might be reluctant to reorganize firms in ways that reduce their own power.

Competition

Transaction-cost theorists often see market competition as the key mechanism selecting in favor of efficient governance structures. As Williamson put it:

> The argument relies in a general background way on the efficacy of competition to preserve a sort between more and less efficient modes and to shift resources in favor of the former. This seems plausible, especially if the relevant outcomes are those which appear over intervals of five or ten years rather than in the very near term. This intuition would nevertheless benefit from a more fully developed theory of the selection process. (1985: 22–23)

Such an approach can potentially sidestep objections raised earlier in connection with intentionality and learning. However, it requires attention to the units of selection. If competition sorts among governance structures on the basis of their relative efficiency, we have to be clear about what these structures are. In some contexts they may be firms that compete with one another in the usual economic sense, but it is less clear how non-firm governance structures compete with one another. Even in the former case, we need to think carefully about what firms are and how they are selected upon (Adelstein, 2010).

To avoid tautology, we cannot define efficiency in terms of survival. We must instead evaluate transaction costs independently using the framework of section 2, and then provide an argument that competition will sort out structures with lower costs from those with higher costs. There are two ways in which this might occur: (a) competition from successful firms might induce imitation by others, leading to diffusion of efficient organizational forms; or (b) firms with efficient structures might drive others out of the market. Williamson (1975: 172) used both types of arguments to explain the spread of the multidivisional corporate structure. Such arguments run into two main difficulties: power and appropriation.

Williamson granted that selection pressures can be resisted, remarking that 'more efficient modes will eventually supplant less efficient modes – though entrenched power interests can sometimes delay the displacement' (1985: 236). However, he believed that over long time periods, the distribution of power within firms would become endogenous and conform to efficiency requirements (Williamson and Ouchi, 1981: 363–364).

Recall the earlier point that managerial power can thwart organizational learning, a view that Williamson endorsed. For the same reason, managerial power should be able to thwart imitation of more efficient governance structures. We are then left with a claim that market competition drives out firms with inefficient structures.

The key problem with this claim is that asset specificity insulates organizational structures from market competition. As Williamson often said, specialized physical and human capital transforms the economic environment from large-numbers competition to small-numbers bargaining. Thus, it is unclear how market competition can discipline the organizational structures used within firms, or cause power to be redistributed internally.

To drive out inefficient incumbents, entry by efficient competitors would have to push the revenues of the inefficient firms below the sum of the *ex post* opportunity costs of their participants. When assets are highly specialized, these opportunity costs are low. Furthermore, new entrants need to make *ex ante* investments in specialized assets, while for incumbent firms the corresponding investments are sunk. In equilibrium the entry of efficient firms may cease before revenues for inefficient incumbents are forced down to a level at which the latter must exit. Inefficient structures can therefore persist indefinitely.

The other difficulty with the competition rationale involves appropriation. TCE postulates that only the aggregate transaction cost of a governance structure affects the likelihood that it will be adopted. The incidence of transaction costs among individual participants is irrelevant due to the underlying assumptions of wealth maximization and transferable utility. But if one wants to rely on competition to justify efficiency claims, selection must operate on units that fully internalize these aggregate transaction costs.

This cannot be true for *ex ante* transaction costs involving the search for suitable transaction partners, or negotiation over the side payments needed to induce everyone to participate. These costs are necessarily borne by individual parties because at the *ex ante* stage no governance structure exists yet. Thus, they are not internalized when competitive forces select among governance structures.

More generally, bargaining costs, informational asymmetries, and public goods problems can obstruct side payments among participants at the *ex ante* stage. The parties must then decide whether or not to participate in a transaction based on the gains they can individually appropriate from their participation. One might try to salvage the efficiency postulate by arguing that an entrepreneur could solicit bids from the potential participants and internalize the costs and benefits of each participant

through up-front payments. But, when search, adverse selection, and imperfect capital markets are important, such efforts to appropriate the entire social benefit from a governance structure are doomed to failure. Because there is no unit of selection that internalizes all of the relevant transaction costs, or equivalently all the individual costs and benefits derived from a governance structure, the competition rationale for efficiency must be rejected.

I conclude from these arguments that TCE, at least in its Williamsonian version, never adequately justified its efficiency postulate. Each of the plausible defenses either conflicts with other TCE postulates or becomes unconvincing when faced with familiar forms of market imperfection.

5. The labor-managed firm according to Williamson

I define a firm to be a collection of input suppliers organized through authority relationships. An LMF assigns ultimate control rights to its labor suppliers and a KMF assigns ultimate control rights to its capital suppliers. Under my definition firms cannot be owned by anyone (Chassagnon and Hollandts, 2014; Dow, 2003: ch. 5). For this reason, I prefer the term 'labor-managed' to 'employee-owned' or 'worker-owned'.

LMFs are unusual but in certain western countries they number in the thousands. For case studies of worker cooperatives in the U.S.A., Spain, and Italy, see Dow (2003: chs. 3–4). For empirical information on LMFs, including their distribution across industries, comparative static behavior, objective functions, productivity, wage structure, and entry and exit rates, see Dow (2018: chs. 6–7).

Given TCE's focus on the governance structures of firms, one might think that the incidence and characteristics of LMFs would be of considerable interest. Although it has hardly been a central topic, there have been a few attempts to apply TCE reasoning to the LMF. For brevity and to keep the focus on Williamson's work, I will not discuss efforts along these lines by other authors. Perhaps the most important contribution has been the work of Henry Hansmann on collective choice in LMFs, which I have discussed at some length elsewhere (Dow, 2003: secs. 6.3, 9.7, and 9.8; Dow, 2018: chs. 12 and 14).

In the 1970s, New Left economists argued that the function of hierarchy in firms was to exploit workers rather than to promote economic efficiency (for references to this literature, see Dow, 1987; Williamson, 1980). Williamson (1980) strongly disputed this idea and maintained instead that capitalist authority relations outperform the worker peer group (which he identified with worker cooperatives) on the criterion of transaction cost minimization. I will give a short summary of Williamson's arguments.

The focus was on pin making at the time of the Industrial Revolution. The reason for this seemingly peculiar choice is that pin making was extensively discussed by Adam Smith (1776) and was used by Marglin (1974) as a basis for criticisms of capitalist firms. Williamson sought to counter Marglin's criticisms using the transaction cost framework.

Williamson described six governance structures that could be used to organize pin making. These varied along two dimensions: the ownership of non-human assets and the nature of contractual relationships. Although Williamson did not provide such a table in his article, the six possible combinations are depicted in Table 1.

In the left column, each worker owns his or her own tools (I have replaced Williamson's original term 'entrepreneurial' by 'individual' for clarity). In the middle column, workers own their tools collectively. Finally, in the right column an outside capitalist owns all of the tools. In the top row, adaptation to changing circumstances is secured mainly through administrative means, with periodic re-contracting. In the bottom row, such adaptation is secured through continuous bargaining among agents. Williamson (1980) presents more detailed descriptions of the six structures in Table 1. Only the Peer Group (LMF) and the Authority Relation (KMF) will be important in the discussion that follows.

To determine which governance structure was most efficient, Williamson set out 11 criteria for efficiency. Three involved product flow, three involved assignment of workers to tasks, and five involved

Table 1. Governance structures for work organization

		Ownership of physical assets		
		Individual	Collective	Capitalist
Contracting	Periodic	Putting out	Peer group	Authority relation
	Continuous	Federated	Communal	Inside contracting

incentives. Each governance structure was assigned a score of 0 or 1 (bad or good) on each criterion. The overall ranking placed the Authority Relation (KMF) at the top with 9 points out of a possible 11, followed by the Peer Group (LMF) with 8 points and the others further down. Williamson used this 'result' to argue that capitalist firms arose for reasons of efficiency rather than exploitation.

I will briefly highlight two difficulties (see Dow, 2003: 121–124 for more details). First, the conclusions are highly sensitive to the way in which governance structures are described. For example, Williamson assumed that the Peer Group has two liabilities: it rotates leadership rather than using specialized managers, and it pays workers according to their average products. Neither of these is a necessary feature of a firm controlled by workers, so Williamson stacked the deck by imposing arbitrary constraints on the Peer Group. But in fairness, critics of capitalism have sometimes endorsed such managerial practices, so Williamson's target was not entirely made of straw.

Second, the conclusions are highly sensitive to the specific efficiency criteria that Williamson used. This is clear from the fact that the Authority Relation 'won' by a single point. In particular, Williamson ignored abuses of authority directed against subordinates, as one might expect in light of the critique from section 3. If he had included efficiency criteria reflecting the advantage of the Peer Group in restraining such abuses, the verdict would have gone the other way.

I do not want to belabor disputes from 40 years ago. However, this example is instructive in showing how Williamson applied transaction cost logic to LMFs in the publication where he came closest to addressing the issue. It is striking that Williamson did not ask whether authority is more likely to be abused when exercised by capital suppliers or labor suppliers. This is presumably a core issue if one wants to rebut allegations of worker exploitation by capitalist firms.

In his book *The Economic Institutions of Capitalism*, Williamson (1985: 302–304) asserted that worker representation on the board of directors might be necessary to secure a flow of credible information to employees about the financial performance of the firm. He wanted to limit employees to a non-voting role, and argued that the shareholders need voting power in order to guard against expropriation of their wealth by managers. Again, the danger that managers might abuse employees went unaddressed.

6. The labor-managed firm according to Dow

The most comprehensive statement of my approach to LMFs is Dow (2018). I will outline this approach here in order to show how it differs from that of Williamson.

A theory capable of explaining the empirical asymmetries between KMFs and LMFs must satisfy a few basic requirements. First, it must include market imperfections of some kind, because if markets are complete and competitive, KMFs and LMFs behave identically (Dow, 2018: chs. 2–5). Second, it must identify an underlying asymmetry in the characteristics of capital and labor that can explain why market imperfections have asymmetric effects on KMFs and LMFs. Third, it must not assume that one type of firm suffers from disadvantages that can be easily remedied by replicating the practices of the other type of firm. The second point is the crucial one.

The fundamental difference between capital and labor is that capital is alienable and labor is inalienable. This means that non-human assets, whether they are tangible like machines or intangible like patents, are separable from the persons who own them. Hence, ownership over such assets is easily

transferred from one individual or group to another. The same is not true for human assets, which are inseparable from the persons who 'own' them. I cannot transfer my stock of talents, skills, and experiences to you in exchange for money. Similarly, I cannot buy part of your time endowment so that I have 36 hours per day while you have 12. These limitations result partly from the institutional constraint that slavery is illegal, but they also have a deeper physical and biological basis.

This qualitative asymmetry has many implications relevant for KMFs and LMFs:

(a) Firms can own non-human assets but can only rent human assets.
(b) Non-human assets can be used as loan collateral but human assets cannot be.
(c) There is no limit on the physical or financial wealth of an individual investor but there are natural limits on the time and skill of an individual worker.
(d) Investors can be located anywhere but workers may need to be in close physical proximity in order to produce output.
(e) Labor suppliers care about their working conditions but capital suppliers do not.
(f) Labor suppliers gain information by participating in the production process but capital suppliers do not.
(g) The value of a human asset depends on personal characteristics of the supplier, such as abilities and preferences, but the value of a non-human asset does not.

Additional implications could be added to this list.

In my view, the market imperfections that are most relevant for firm organization involve informational asymmetries, public goods, and limited commitment mechanisms. These imperfections and the alienability difference between capital and labor jointly lead to asymmetries between KMFs and LMFs through the following causal channels (details are provided in Dow, 2018: ch. 19).

Appropriation problems

Entrepreneurs who want to establish a new firm usually face an adverse selection problem: they know the true quality of their own project but the outsiders who could supply capital or labor generally do not. This raises issues extending beyond the traditional argument that adverse selection in the capital market might prevent poor workers from financing LMFs. To clarify this point, suppose that neither investors nor workers face binding wealth constraints. The question is why wealthy entrepreneurs would prefer to establish KMFs rather than LMFs.

Because a wealthy entrepreneur can finance whatever capital stock is needed and hire workers at a wage without asking them to pay anything up front, adverse selection does not prevent the creation of KMFs and the extraction of rent from them. But, adverse selection does make it difficult for entrepreneurs with good projects to extract rents from LMFs. When the entrepreneur cannot supply all of the necessary labor herself, the only way to appropriate a rent from an LMF is to ask workers to pay for membership rights in advance. If adverse selection is severe (many entrepreneurs have bad projects), workers will not be willing to pay much for LMF membership even if they are personally wealthy. As a result, an entrepreneur with a good project may establish a KMF even when an LMF would have had higher productivity, because it is better to appropriate a larger slice of a smaller pie (Dow, 2018: ch. 10).

A related issue arises with markets for control positions in firms. It is easy to buy and sell shares in a KMF on a stock market. Because capital is alienable, a transaction of this sort does not require any change in the physical inputs of the firm. Person A's claim on the assets of the firm, along with voting rights, is simply transferred to person B. But, labor is inalienable, so any change in the set of people who have voting rights in an LMF implies a change in the identities of the people supplying labor inputs. The heterogeneity of worker productivities and preferences, when combined with adverse selection, creates frictions in the market for LMF membership rights that have no counterpart in the market for KMF equity shares (Dow, 2018: ch. 11).

Public good problems

Firms often supply local public goods to participants. For labor suppliers this includes working conditions. But, when markets for state-contingent income are absent, the pattern of financial returns across various states of the world also resembles a public good, both for the firm's capital suppliers and for its labor suppliers. The difference in alienability between capital and labor leads to differences in mobility for these inputs; financial capital can move anywhere in the world whereas human capital is often tied to specific communities, regions, or countries. Dow and Skillman (2007) show that with incomplete financial markets, this difference in mobility makes investor buyouts of LMFs more likely than worker buyouts of KMFs (see also Dow, 2018: ch. 12).

Another public good problem involves the information relevant for an employee buyout of a KMF. Suppose some fraction of KMFs would actually be more productive if they were reorganized as LMFs, but resources must be used to determine whether this is true in a particular firm. If an individual worker or a small group invests time, effort, and money to find out, and discovers that an LMF would in fact be more productive, they will face great difficulties in capturing the entire social benefit from the formation of an LMF, because *ex post* the benefits will be spread across the entire workforce. This leads to free rider problems in identifying firms that are good candidates for an employee buyout.

In principle, the organizers of the buyout could do their research, buy the KMF's shares, announce that it would be more productive as an LMF, and ask other workers to purchase membership rights. But, this runs into the adverse selection problem discussed earlier: how do uninformed workers know that the informed workers are telling the truth about the value of an LMF? Investor buyouts of LMFs do not involve parallel free rider or adverse selection problems. One investor with sufficient wealth can capture the entire gain from converting an LMF into a more productive KMF (Dow, 2018: ch. 13).

Opportunism problems

Williamson defined opportunism to be self-interest with guile. I find it convenient to broaden the meaning so that it applies to any situation where the actions of input suppliers are not constrained by legally binding contracts, whether or not informational asymmetries are also present.

As an example, suppose capital suppliers can make non-contractible investments in specialized physical assets and labor suppliers can make non-contractible investments in specialized human assets. After these investments are sunk, the input suppliers bargain over side payments to the non-controlling input (wages in a KMF and leasing fees for the physical assets in an LMF). Finally, the input suppliers having control rights in each firm choose an output level. Market equilibria in such models need not yield maximization of total surplus. The intuition is that giving control rights to one set of input suppliers may prevent the other input suppliers from appropriating any quasi-rent *ex post*, so firms that would maximize surplus cannot attract one input *ex ante* (Dow, 1993, 2018: ch. 15).

A more radical approach to the opportunism idea is to assume that legally binding contracts are completely absent. In such a world, the parties must self-enforce all input contributions and all monetary transfers through repeated game mechanisms (Dow, 2018: chs. 16–18). This is a useful framework within which to investigate a key question: what are the temptations for controllers of firms to cheat non-controllers? In particular, is the danger that capital suppliers will abuse their authority in a KMF more or less important than the danger that labor suppliers will abuse their authority in an LMF?

I conclude that the alienability distinction can drive a wedge between these two cases. Because capital is durable while labor is supplied period-by-period, the repeated games for KMFs and LMFs have different intertemporal structures. As a result, in some circumstances LMFs have more trouble making credible commitments to investors than KMFs have in making credible commitments to workers. This helps explain the relative rarity of LMFs in industries that are capital intensive or where highly specialized physical assets are important. In general, LMFs can have trouble gaining access to capital due to a lack of commitment mechanisms even when informational asymmetries are absent (Dow, 2018: ch. 17). However, adverse selection may also be important (Dow, 2018: ch. 18).

Managerial benefits

For the most part, the arguments developed above involve liabilities for the LMF relative to the KMF. However, the inalienability of labor has one important implication that tends to favor LMFs: because workers are directly engaged in production activities, they tend to gain private information about matters of technology, organization, and market competition that could be highly useful for managing the firm. An LMF can credibly promise workers not to use such disclosures against their interests in the future. An LMF can also credibly commit not to seize quasi-rents resulting from investments in firm-specific human capital, and to provide greater employment security than a similar KMF. For these reasons, LMFs tend to enjoy productivity advantages and higher survival rates (Dow, 2018: chs. 6–7). In my view, the problem with LMFs is not that they fail to thrive once they exist, but rather that LMFs are rarely created and KMFs are rarely converted into LMFs even when conversion would yield productivity gains.

I conclude this section by bridging back to my earlier criticisms of TCE. The theoretical framework described above explicitly addresses the possibility that authority (control rights) can be abused, either by labor suppliers in LMFs or capital suppliers in KMFs, and explores conditions under which these opportunism issues have asymmetric implications for governance structures. By contrast, as explained in section 3, TCE does not consider how controllers might abuse their authority over non-controllers.

The theoretical framework in this section also makes no presupposition about the efficiency of real-world governance structures. This contrasts with the TCE efficiency postulate discussed in section 4. Instead, explanatory power is derived from equilibrium concepts employed in game theory and the economics of information. Depending on the details, these equilibria may be efficient in a second-best sense or they may not be. This leaves open the possibility of an equilibrium in which most firms are KMFs even though LMFs would at least sometimes be more productive. In section 8, I address the question of whether the resulting allocation of resources can be improved through public policy.

7. Empirical predictions

The persuasiveness of a theoretical framework ultimately rests upon its ability to explain empirical observations. Ideally, a theory would not simply explain the rarity of LMFs. Instead it would explain the full range of empirical asymmetries between KMFs and LMFs in a unified way. These include differences in distributions across industries, comparative static behavior, birth and death rates, and so on. The TCE framework from section 5 does not make any predictions on most of these matters, while the alienability framework in section 6 does. I argue elsewhere that the latter predictions are consistent with much of the available evidence (Dow, 2018: ch. 19).

The key contrast between the two approaches involves productivity. Williamson (1980) stresses efficiency with respect to product flow, task assignment, and incentives. It seems fair to infer from his discussion that TCE predicts lower productivity for LMFs compared to KMFs engaged in similar activities, and that this is the main reason for LMF rarity. Similar implications follow from Hansmann's (1996) analysis, which emphasizes the transaction costs associated with collective choice processes in LMFs.

The alienability theory predicts that LMFs are likely to enjoy higher productivity than otherwise identical KMFs for two reasons. First, KMFs have chronic conflict in the workplace between employees and managers, where the latter are tempted to abuse their authority due to their allegiance to investors. The theory of repeated games suggests that multiple equilibria are possible, with a range of productivity outcomes depending on the organizational culture (Dow, 2003: sec. 11.2). These day-to-day conflicts are reduced or eliminated in an LMF where managers are ultimately accountable to workers. Second, workers derive valuable private information from participation in the production process, including information about the efforts of other workers. Workers will be more prepared to share this information with managers in an LMF.

Given that the alienability theory does not predict lower productivity for LMFs, how does it explain their rarity? First, LMFs are seldom created from scratch because (1) LMF members have trouble

making credible commitments to investors and (2) there are adverse selection problems when entrepreneurs use membership markets to extract rents from LMFs. Second, KMFs are seldom transformed into LMFs because (1) the credible commitment problem may make it difficult for workers to attract the necessary financing in the case of profitable KMFs; (2) employees have heterogeneous interests with respect to public goods; and (3) there are large free rider problems among employees, especially for investments to determine what the true productivity of the firm would be as an LMF.

The state of the art for productivity comparisons between KMFs and LMFs is Fakhfakh *et al.* (2012). Using French data for several industries where both firm types exist, these authors found that in some industries there would have been no significant difference in output depending on whether the KMF or LMF technology was used. But, for industries where a significant difference did exist, LMFs obtained more output from their current inputs using their own technology than they would have obtained by using the KMF technology. In several industries, the KMFs would have obtained more output from their current inputs if they had been able to use the LMF technology. The authors conclude that in most industries LMFs are at least as productive as similar KMFs. They attribute productivity differences to information and incentive effects. For example, the LMFs had a lower proportion of managerial and supervisory staff than KMFs, possibly due to greater reliance on mutual monitoring among workers in LMFs.

A less direct way of inferring productivity differences is to look at differences in survival rates between KMFs and LMFs. Burdín (2014) used a large panel data set from Uruguay to study this question across 112 economic sectors, where populations of each firm type were obtained from government records. The hazard of dissolution was about 29% lower for LMFs than for KMFs after controlling for differences in taxes and excluding very small firms. There was no significant difference between firm types in transport or manufacturing, but there was a large difference for services. Burdín suggested that the LMF survival advantage in the service sector resulted from greater employment security, investment in human capital, willingness to share information, organizational innovation, and longer time horizons among workers or between workers and managers. As was true in the French data discussed above, Uruguayan LMFs used fewer supervisors than KMFs.

We clearly need replications of these productivity and survival studies in order to determine whether the results hold for other countries and other time periods, and to gain a better understanding of the specific industries in which LMFs are most likely to enjoy productivity advantages. We also need empirical research on the causal factors alleged by the alienability theory to be obstacles to LMF formation. Using U.K. data from the 1980s, Podivinsky and Stewart (2007, 2009) have found that LMF entry is less common in capital-intensive industries. This provides mild support for the claim that LMFs have difficulty making credible commitments to external capital suppliers, which discourages LMF entry when large capital inputs are needed. However, more standard stories about informational asymmetries in the capital market could also account for these findings.

Several causal mechanisms in the alienability framework have not yet received empirical scrutiny. For example, it would be interesting to explore the hypothesis that more severe adverse selection with respect to entrepreneurial projects implies lower LMF birth rates. Other things being equal this implies that we should observe more LMF entry in industries with simple and familiar technologies as opposed to those with high rates of innovation. It would likewise be interesting to explore barriers to conversion of KMFs into LMFs through employee buyouts. Such transformations should be less frequent for industries where KMFs are capital intensive and/or financially successful (due to credible commitment issues with respect to capital suppliers); where workers have heterogeneous skills and preferences (due to public good issues among employees); and where firms are large and would have uncertain productivity if transformed into LMFs (due to free rider issues among employees contemplating a buyout).

8. Policy implications

In his reply to my arguments about LMFs, Williamson (1987: 621) commented:

> Dow advances what is, in effect, an existence argument: if this is assumed and that is assumed, then the indicated distortion will appear. Whereas existence arguments were once regarded as presumptive 'market failures', it has since become clear that the relevant test is a comparative one: Can a remedy be fashioned that yields net social gains? Merely to display a distortion – which, as it turns out, is a remarkably easy task – is not, therefore, dispositive. Unless the condition can be remedied with net social gains, the distortion is (as an operational matter) simply a regrettable state of affairs.

Williamson was correct that LMF advocates should explain how policy intervention can simultaneously expand the LMF population and yield net social gains. Of course, LMF advocates are not just interested in economic efficiency in a narrow sense; they also seek greater democracy, equality, dignity, and community (Dow, 2003: ch. 2). But, here I will tackle the efficiency issues that were at the core of my debate with Williamson. Because TCE focuses on aggregate welfare rather than distributional matters, I will do the same.

I begin by addressing conversion of KMFs into LMFs through employee buyouts. A sensible policy should target those firms most likely to yield productivity gains through conversion, while avoiding wealth losses for current KMF investors. The latter constraint ensures preservation of incentives for the formation and expansion of new KMFs within a policy environment where these firms might eventually be converted into LMFs.

I propose giving employees of publicly traded corporations the right to hold a referendum in which they could establish a legal entity to buy up equity shares of their firm on the stock market. These purchases would be funded by payroll deductions and reinvestment of dividends on previously acquired shares. Workers would gain seats on the firm's board of directors in proportion to the fraction of firm equity they collectively own, where directors would be elected by employees on the basis of one person one vote (not individual capital contributions). For details, see Dow (2003: ch. 12; 2018: ch. 20).

The rationale is that workers' control is a public good for the employees of a firm, and a referendum allows employees to tax themselves in order to obtain this good. Given plausible parameter values, the payroll deduction system leads to 50% workers' control in 10 years and 100% workers' control in 15 years. This declines to 4–6 years for firms that are highly labor-intensive and 7–11 years for firms where assets are more readily financed by debt (Dow, 2003: sec. 12.6).

A referendum vote to initiate such a buyout process is only likely to succeed when employees place a high value on saving relative to consumption, are willing to accept the risks from reduced diversification, attach a high value to controlling the firm, and believe the productivity gains from workers' control are likely to be significant. The requirement that employees invest substantial personal wealth provides a screening device where only firms that are good candidates for conversion will be targeted.

One difficulty is the discontinuity that arises when employees control more than half of the seats on the board of directors. At this point workers could raise wages at the expense of dividends or divert resources into on-the-job consumption. The most robust solution is probably to require that employees buy up the last half of the firm's equity in a single transaction financed through loans or bonds while shifting payroll deductions from equity acquisition to debt service. This has the advantage that the amount of time needed to reach 100% workers' control is reduced and anticipated productivity improvements can be implemented sooner.

Of course there is some danger that workers may behave opportunistically toward lenders. It is possible that contractual safeguards may be sufficient to protect the lenders, but if this is not the case other solutions will be needed. For example, governments could guarantee loans made by private financial institutions, or make loans themselves, backed by taxation of individual employees whose firms default. Educational loans to university students are often guaranteed by governments and may offer a useful template.

The key question is whether governments should subsidize employee buyouts and to what extent. Subsidies to the payroll deduction process described above will have two main effects: encouraging

more conversions of KMFs into LMFs by lowering the price of a buyout, and accelerating the pace at which any given conversion occurs.

The argument against a subsidy runs as follows. One may agree that control over a firm is a public good from the standpoint of the individual workers in the firm. But, the benefits are confined to members of the workforce, and the referendum process already gives individual workers an opportunity to tax themselves to acquire this public good if they value it highly enough. Therefore, no subsidy from the rest of society is warranted.

One counterargument is that some free rider problems internal to the firm have been left unaddressed. For example, a small set of workers might need to incur costs in order to trigger the referendum process. A more important consideration is that workers will often face uncertainty about the productivity benefits from conversion. It could be costly to obtain credible information on this subject, where information is a public good for the workforce as a whole (Dow, 2018: ch. 13). A subsidy encourages such research by creating a larger prize for workers who discover that their firm is a good candidate for a buyout. On the contrary, if research reveals that the firm is not a good candidate then presumably no buyout will occur. One could subsidize research about employee buyouts in general and the circumstances under which they are likely to succeed, but this may not be sufficient if the idiosyncratic features of individual firms are important.

A second counterargument is that LMFs generate benefits for people other than those who directly contribute to a buyout. For example, frictions in membership markets tend to prevent LMF insiders from fully appropriating the value of membership rights to newcomers. This can result in too few LMFs relative to KMFs from a social perspective (Dow, 2018: sec. 9.5). Subsidies for employee buyouts correct for the failure of current workers to fully internalize the benefits of LMF membership to future workers.

There also appear to be spillover effects across LMFs. Arando *et al.* (2012) have found that LMF entry is greater for industries and counties with a large stock of existing LMFs. The possible causal mechanisms include (a) demonstration effects; (b) familiarity with LMFs among suppliers, customers, and other third parties; and (c) flows of capital and technical expertise across firms. This provides a rationale for subsidies to promote geographic clusters of LMFs, perhaps leading to federations as will be discussed below.

In my view, these factors warrant a subsidy for LMFs arising through buyouts. Employee stock ownership plans (ESOPs) already receive substantial tax breaks in the U.S.A. and elsewhere, so this is hardly a radical proposal. However, I would require that ESOP-style subsidies only go to firms that have credibly committed to pursue majority workers' control, because such transitions are the most likely to yield productivity gains. For a reasonable range of parameter values, having governments pay 25% of the cost of equity shares, which is a subsidy level comparable to the one for ESOPs in the U.S.A., can advance the timetable for workers' control within a firm by about 2 years (Dow, 2003: sec. 12.6). A higher subsidy rate, such as equal matching of employee and government contributions, would promote more rapid expansion of the LMF sector, perhaps without inducing too many conversions among firms that would be poor candidates.

I will now move on to a brief discussion of LMF formation from scratch (see Dow, 2018: sec. 20.6). I believe the most effective way to increase the birth rate of LMFs is by encouraging the creation of LMF federations like the Mondragon group in Spain and the Lega system in Italy (Dow, 2003), which have long and successful track records. Such federations have central institutions that supply banking, insurance, and consulting services to individual LMFs, and are governed by representatives elected by these LMFs. They have expanded over time both through the creation of new worker cooperatives and the conversion of failing KMFs into LMFs.

This institutional arrangement eliminates the adverse selection problem where entrepreneurs sell membership in low-quality LMFs. It also restrains LMF opportunism toward investors because banks controlled by federations can monitor and discipline the individual LMFs when necessary. However, establishment of LMF federations involves large free rider problems because the benefits

are dispersed across many individual LMFs while the costs are concentrated on a few early organizers. Hence policy interventions to promote such institutions can be justified on efficiency grounds.

In sum, I believe well-designed institutional innovations could overcome certain market failures that currently limit the size of the LMF sector, and could yield aggregate efficiency gains. This conclusion lacks the certainty of a mathematical proof. But, we do have a coherent theory about why LMFs are currently rare, the theory is consistent with a wide range of empirical observations, and the policy proposals are based upon the theory. The next logical step would be policy experimentation to assess whether net social gains can be achieved in the real world.

9. Conclusion

One day in the mid-1980s, I strolled over to Oliver Williamson's office at Yale. The goal of the meeting was to discuss a paper I was writing that criticized TCE in general and Williamson's work in particular. Williamson was happy that I was interested in his research and clearly enjoyed having a debate. For my part, I appreciated his willingness to entertain criticisms from a recalcitrant assistant professor. But, Williamson was not prepared to compromise on the idea that prevailing governance structures are efficient, and I was not prepared to compromise on the idea that LMFs might be rare due to market failures.

In his reply to my criticism Williamson (1987: 621–622) posed several questions. With some abbreviation, these questions were:

(1) What is the cost advantage enjoyed by LMFs?
(2) Is this cost advantage offset by any cost disadvantage?
(3) Do LMFs become economically self-supporting once the firm formation threshold is crossed, or is a continuing infusion of subsidies required?
(4) Are the benefits of LMFs concentrated on a well-defined subset of goods and services?
(5) How do the costs of screening out bogus or unqualified applicants affect the social net benefit calculation?

With some oversimplification, my answers are:

(1) The principal advantages of LMFs arise from their ability to make credible commitments to workers.
(2) The principal disadvantages of LMFs arise from their lesser ability to make credible commitments to investors.
(3) Productivity and survival advantages enable well-designed LMFs to thrive without subsidies once they exist.
(4) The benefits of LMFs appear to be greater in some industries (especially labor-intensive industries) than elsewhere, but we need more research on this issue.
(5) Requiring employees to invest some personal wealth in buyouts of capitalist firms provides a screening mechanism that steers subsidies toward buyouts with a high probability of success.

These answers are late in arriving and I regret that Williamson cannot respond to them.

I will close with a few final remarks on our debate. I believe that Williamson's attachment to the efficiency axiom was mainly motivated by his desire for a theory with unity, simplicity, and broad explanatory power. He also found this axiom to be a useful counter to radical economists concerned with exploitation and organizational sociologists concerned with power. Williamson clearly thought that these alternative paths led into an intellectual morass while the efficiency axiom placed TCE on solid theoretical ground.

Such benefits came with a cost: the conflation of positive and normative analysis. Williamson's commitment to the positive proposition that existing governance structures are efficient left no

room for normative criticisms of these structures based on efficiency criteria. In my opinion, this conflation was unnecessary, because the equilibrium concepts used in game theory and the economics of information provide an adequate set of analytic tools and do not prejudge the efficiency with which resources are allocated.

With regard to LMFs, if necessary I would be willing to sacrifice some efficiency for the sake of greater democracy. But, I did not want to concede the efficiency argument to LMF skeptics without making them do some intellectual work, and I felt that if someone was going to make an efficiency case for the LMF it might as well be me. TCE was clearly the wrong tool for that project. On the contrary, the alienability theory developed in Dow (2003, 2018) seemed suitable for the purpose.

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