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SURVEYING THE ECONOMICS OF PLURAL MODES OF ORGANIZATION

Emmanuel Raynaud

INRA-SAD, AgroParisTech, Université Paris Saclay

Paula Sarita Bigio Schnaider*

Fundacao Getulio Vargas Escola de Administracao de Empresas de Sao Paulo

Maria Sylvia Macchione Saes

Universidade de Sao Paulo

Abstract. Why do firms concomitantly rely on more than one organizational arrangement to procure/distribute a given input/product? In this paper, we systematically review and discuss the extensive path undergone by the literature exploring this issue: the so-called plural forms. We address two main questions: how to explain the coexistence (and often the prevalence) of plural forms in many types of businesses? Are plural forms stable or a transitory phenomenon? We describe the most prominent motivations identified in the economics and management literature that drive firms to adopt plural forms and show that their vast majority are related to the mitigation of various types of agency/transaction costs. We also demonstrate that most of the available pieces of empirical evidence suggest the stability of plural forms over time. We conclude by demonstrating the path that has been trailed by the most recent developments.

Keywords. Governance structures; Make and buy; Plural forms; Synergies; Transaction costs

1. Introduction

The theory of the firm is nowadays a big business in economics. One simple empirical evidence of this statement is the number of Nobel prizes awarded to scholars directly involved in this field (Ronald Coase in 1991, Oliver Williamson in 2009, Bengt Holmström and Oliver Hart in 2016). Most of the initial contributions focused on the question of the efficient firm boundaries and the critical differences between markets and hierarchies (Coase, 1937; Williamson, 1985; Holmström, 1999). After all, it was already a big conceptual move to acknowledge that firms are more than a black box transforming inputs into outputs and that firms are alternative modes of coordination to the price system. In one of his famous papers in economics published in 1991, Herbert Simon colorfully expressed the prevalence of formal organization (firms) in various economic systems. He puts himself in the shoes of a visitor from Mars observing social structures on Earth. Firms would be represented by green areas, while markets would be defined as red lines. According to Simon (1991), the greatest part of the organization landscape would be made of green areas interconnected by red lines.

*Corresponding author contact email: paula.schnaider@fgv.br.

One important research agenda in the field has been to progressively acknowledge the diversity of governance structures beyond the dichotomous choice between market and vertical integration (Williamson, 1985, 1991). The analysis of this diversity of arrangements beyond "markets" and "hierarchies" now fuels a substantial subset of developments in organizational economics (Lafontaine and Slade, 2013; Ménard, 2013). To echo Simon's colorful description, it would be important to introduce, for instance, blue lines between firms to have a more accurate description of the governance landscape: relational contracts, formal contracts, joint ventures, and alliances are just a few examples of "blue lines." As also nicely illustrated by Baker *et al.* (2008), "*firms have invented far more ways to work together than organizational economics has so far expressed not to mention evaluated"* (p. 147).

Going even beyond such description, in the "real world," many firms quite often simultaneously rely on alternative modes of the rich variety of governance alternatives to organize the same type of transactions. In this case, there seems to be no unique solution outperforming other organizational arrangements, but a bundle of solutions, which together organize that particular type of transaction. This phenomenon was first theorized about by Bradach and Eccles (1989), who formally introduced the term "plural form" by submitting that it constituted "*an arrangement where distinct organizational control mechanisms are operated simultaneously for the same function by the same firm*" (Bradach and Eccles, 1989, p. 112). Depending on the focus of analysis, this phenomenon carries various labels in different literatures: plural forms (Bradach and Eccles, 1989; Bradach, 1997; Menard, 2013, 2018), tapered integration (Carlton, 1979; Harrigan, 1984), dual distribution (Dutta *et al.*, 1995; Bai and Tao, 2000), concurrent sourcing (Parmigiani, 2007; Mols, 2010), or plural sourcing (Krzeminska *et al.*, 2013; Puranam *et al.*, 2013). Despite the variety of labels used, the different sectors under analysis and the diversified theoretical fields involved, the core idea remains the same: the same firm relies on different modes of governance to organize similar (or identical) transactions (either upstream or downstream).

In this paper, we systematically review and discuss the extensive path undergone by the plural forms literature and shed some light on the paths the most recent developments in this field have been trailing. As the literature on plural forms grew extensively, it is time to take stock of the existing theoretical and empirical results. Our intention is doing so is twofold. First, we seek to put together a diversified body of literature addressing roughly the same phenomenon, but under different labels and theoretical lenses. Second, we intend to provide the reader with insights from different perspectives dispersed in various fields, which could together, help developing a unified and general theory of plural forms, to encompass upstream and downstream relations in the supply chain in various sectors of activity.

Hence, we address two main questions: (i) Are plural forms stable or are they a transitory phenomenon? If the coexistence of alternative governance structures were just a transitory phenomenon, it would not necessarily deserve specific attention. (ii) How to explain the existence of plural forms in many types of businesses? In addressing these questions, we will mostly survey existing works that rely on efficiency-based explanations of plural forms. Namely, these works analyze plural forms as a way to save on various types of transaction/agency costs. An alternative explanation for the existence of plural forms could be based on the ability of this governance mode to reduce competition and provide market power either in upstream or downstream transactions or more horizontally with competitors. We do not follow this path simply because we are not aware of any paper in the economic and management literature exploring this driver of plural forms.

Answering these questions is important for the field of organizational economics and more broadly for economic analysis. If, as previously mentioned, firms have invented diverse ways to work together, organizational economics must embrace and explain this diversity, instead of relying on a very truncated description of existing organizational arrangements such as the dichotomous choice between vertical integration and outsourcing. In addition, various empirical analyses conducted in different sectors suggest that plural form is a widespread way of coordinating interfirm relations. Economic analysis would increase its empirical realism as well as its predictive power if plural forms receive convincing explanations.

The paper is organized as follows. The next section (Section 2) defines plural form and looks at its implications for the economics of organizations. Section 3 describes the various works that look at the stability of plural forms. Section 4 looks for the main drivers of plural forms identified in the economic and management literature. Section 5 describes some of the implications of plural forms for the description of the governance landscape of interfirm collaborations. Conclusion follows.

2. Defining and Contrasting Plural Forms as a Governance Structure

2.1 *Defining Plural Forms*

To define plural forms, it is paradoxically useful to start by showing what they are not, or more precisely to identify the most relevant "level" of analysis (from sectoral analyses to more microanalytical perspectives). We do so for two main reasons. First, the level of analysis may provide a wrong assessment of the scope of the empirical regularity under scrutiny and a misleading definition. Second, the same empirical regularity carries various labels in previous literatures, resulting in a certain confusion and in a difficulty to assess the comparability of the previous works. In a nutshell, while most of the previous works try to explain the coexistence of alternative modes of organization, they do so at different levels.

Three main levels of analysis have been used to provide insights about the coexistence of alternative governance structures: the sectoral level, the firm level, and the transaction level. At the sectoral or industry level, we now have a lot of empirical evidences in various sectors that show the coexistence of various types of formal organization. The agrifood sector is a striking example in which investors-owned firms and cooperatives coexist and compete on the same markets (Hansmann, 1996). Similarly, various firms in a given sector may organize their supply chains differently. For instance, in the soft drink industry, Pepsi and Coca-Cola used to outsource their fountain accounts to a different extent: while the former granted its independent bottlers with exclusive rights to fountain distribution in their territories, the latter decided to keep integrated control of these accounts (Muris *et al.*, 1992). This suggests that the drivers of organizational choices, while probably influenced by sectoral characteristics, go beyond these sectoral effects.

At the firm level, it is not unusual to also observe a diversity of governance modes coordinating upstream and/or downstream relations. In the food sector again, our own empirical work in various Brazilian agricultural sectors shows that, in many supply chains, firms simultaneously rely on different bilateral modes of governance to procure a particular input or to sell their products (Ménard *et al.*, 2014). For instance, Suzano, one of the worldwide leading firms in the pulp and paper sector, relies on both vertical integration and outsourcing to procure its main input (eucalyptus wood). Finally, franchising is perhaps the best empirical illustration of the coexistence of alternative governance modes at the firm level. In a given institutional environment, most franchised chains rely on both company-owned (vertical integration) and franchised units (see Blair and Lafontaine, 2005), something that is called dual distribution in the franchising literature. The proportion of stores owned by the franchisor varies with the retail sector under consideration but, more importantly, it also varies within a given sector (see for instance the empirical evidences in Lafontaine and Slade, 2007).

The third level of analysis is rooted in the Transaction Cost Economics – hereafter TCE – framework. In this framework, the relevant unit of analysis to explain governance decisions is the transaction, namely, the transfer of goods and property rights between different technological steps of a supply chain (Williamson, 1985). Transactions differ in their purpose (what a firm wants to procure or sell), but even for a given purpose, they also differ in terms of their particular attributes (Williamson, 1985, 1991). The coexistence of different organizational modes is thus not a surprise when, in a given sector, for a given institutional environment, transactional attributes are different.[1] According to this theory, this coexistence is just the result of an efficient match between the attributes of a given transaction and the most relevant governance structure. To come back to the franchising example, a franchisor may decide to rely on both vertical integration and franchised chains because the units and the local markets have different characteristics[2]. It is in this context that we can provide the most accurate definition of plural forms. A plural form occurs when firms, for a given institutional environment, a given sector, and a given transaction (i.e., a fixed set of transactional attributes), simultaneously rely on different bilateral governance structures. To put it more sharply, firms concomitantly rely on alternative organizational arrangements to organize the acquisition or sale of the same (homogeneous) items,[3] given the same institutional setting (Parmigiani, 2007).

2.2 *The Diversity of Organizational Modes and its Efficiency*

2.2.1 *Efficient Governance Structures and the Plural Form Puzzle*

TCE has been one of the most prominent theories to address upstream and downstream interfirm relationships in the organizational economics literature and beyond (Gibbons, 2005; Gibbons and Roberts, 2013). Two of its path-breaking contributions were to acknowledge the diversity of modes of coordination (governance structures) in developed market economies and, second, to provide an efficiency-based explanation for this diversity. The classical "make or buy" problem is the canonical example of the TCE approach, where markets and firms are contrasted as alternative governance structures (Tadelis and Williamson, 2013; Walker, 2015). When the governance options go beyond the dichotomous choice between "make or buy," and integrate intermediate forms, known as hybrid forms (Williamson, 1991; Ménard, 2004, 2013), the logic remains the same: parties involved in a given transaction attempt to determine what the most efficient mode of organization is for a given transaction. This literature paved the way for a new set of contributions, whose initial task was mostly to formalize the canonical "make or buy" problem. Following Grossman and Hart (1986) and Hart and Moore (1990), governance structures are defined as alternative allocations of ownership over assets. A market governance means that two parties own their respective assets while firm is equivalent of bundling the ownership of these assets (of their residual control rights) into the hand of only one party. In this context, hybrid forms would represent "intermediate" allocations of ownership among parties. Recent contributions expand the Grossman and Hart (1986) setting to integrate more explicitly different types of hybrid forms (Gibbons, 2005; Baker *et al.*, 2008; Bel, 2013). To do so, they enrich the description of ownership by disentangling different types of (residual) rights, most notably decision rights (control over assets) and payoff rights (sharing of the surplus) and by allowing for the possibility of joint ownership over assets.[4] One important lesson from this formal literature, very similar to TCE, is to show that many different governance structures can be second best. For a given set of circumstances, one particular governance structure outperforms the others. That explains why the governance landscape is so diverse.

In most of the works belonging to each of these theoretical streams, there is always a unique solution, namely, one mode of governance always outperforms the others. This holds for a given set of circumstances, which corresponds for TCE to a given set of transactional attributes. This means that companies would either buy/sell items on the spot market; or uniformly contract for their production/distribution or produce/distribute the inputs/products themselves (Williamson, 1985, 1991). This is summarized by what Williamson called the "alignment principle," according to which, "*transactions which differ in their attributes are aligned with governance structure which differs in their costs and competencies in a discriminating (mainly transaction-cost-economizing) way*" (Williamson, 1991, p. 277). An evaluation of the efficiency of observed governance structures is therefore based on an accurate identification of contractual hazards and of contractual mechanisms aimed at mitigating them. One of the great strength of this principle is that it allows for the construction of refutable propositions. Numerous empirical studies corroborate this principle when it is applied to the study of vertical integration (see Shelanski and Klein, 1995; Lafontaine and Slade, 2007, for surveys) or to the design of contracts

(Lafontaine and Slade, 2013). It is represented heuristically in the following figure (based on Williamson, 1991). The vertical axis represents the expected level of contractual hazards for a given transaction. In most empirical works, the level of specific investments and its related hold-up problem has often been the main driver but the logic of the theory goes beyond this particular problem and applies more generally.

This figure delivers three important messages. First, efficiency is always evaluated in a relative manner. There is no single mode of governance that outperforms the others for all levels of contractual hazards. Second, if firms want to economize on transaction costs, they have incentives to be located on the envelope curve.[5] Third, except at the intersections of the various curves, for each level of contractual hazards, there is always a governance structure that dominates the others. Both TCE and the more formal framework inspired by Grossman and Hart (1986) experience difficulties to explain the mere existence of plural forms. Nowhere in these theories is the possibility of having more than one governance structure for the same set of circumstances explicitly taken into account. To put it differently, alternative allocations of ownership or alternative governance structures can coexist only if they govern relations with different economic environment.

Previous empirical works also already encountered plural forms but they focused on the dominant mode of organization (i.e., the one corresponding to the largest share of the procurement/distribution) as the efficient organizational solution. For instance, in their seminal empirical study on vertical integration in the automobile industry, Monteverde and Teece (1982) coded each component as made or bought, based on the percentage of the inputs that were obtained in house or purchased. Although not always were 100% of the components coded as made (bought) produced in-house (outsourced), the mere fact that the vast majority of these inputs were obtained in one or the other way sufficed in order for this item to be coded as entirely made or bought. In different terms, the coexistence of organizational solutions has been heavily neglected in this and other early contributions finding large support for TCE predictions.

To summarize, plural forms seem like a puzzle for the most prominent theoretical frameworks in the economics of organization. In particular, the alignment principle stressed by Williamson (1991) and adopted by more recent theoretical frameworks cannot handle the possibility of equally efficient alternative governance structures for a given set of parameters. While this seems to contradict the "asset specificity story" linking the choice of alternative governance structures to the level of specific investments involved, we should not go too far and claim that the plural form phenomenon cannot receive an efficiency-based explanation.

2.2.2 *Categorizing Plural Forms: Hybrids Forms or Coexisting Forms?*

Firms have invented an extraordinary diversity of organizational solutions to govern their upstream and downstream relations in supply chains. One important research question about plural forms is to know how to best categorize plural forms in the TCE typology (Parmigiani, 2007; Puranam *et al.*, 2013): markets, hybrids, or hierarchies. Is plural form another form of hybrid organization or is it something different? To put it differently, is plural sourcing a point in the "make or buy continuum" or is it a distinct choice that uses two (or more than two) governance structures simultaneously? The very same question applies to the more recent (and more formal) work describing alternative governance structures as alternative allocation of assets and decision rights (Gibbons, 2005). Does the coexistence of well-defined ownership allocations equivalent to an intermediate form of ownership? Perhaps the most important contribution in Puranam *et al.* (2013) is the distinction between "hybrids" and "plural forms." The former refers to modes of governance that combines intermediate degree of the characteristics used to define and disentangle markets and hierarchies Metaphorically, they combine the "white" in markets and the "black" in hierarchies to form a uniform shade of gray (Lewin-Solomons, 1998), and the entire volume of is obtained (or sold) under "gray" characteristics (Puranam *et al.*, 2013). Examples of very different types of hybrid arrangements are purely franchised hotels and the management contracts that are so frequent in the hotel business. The difference between these two types of hybrid arrangements is that in the first case, the parent firm grants the franchisee the right to manage the hotel and use the brand name; while in the second case, "a hotel parent company contracts with a developer or real estate owner and manages/operates the hotel for the sake of the local owner, using its own company employees" (Kosová and Sertsios, 2016).

Plural forms, in turn, refer to a situation where part of the total volume is obtained (or sold) using market arrangements while another part of it relies on hierarchical modes. This is not a uniform shade of gray, but a simultaneous combination of pure "white" and pure "black" to take advantages of each of these arrangements in isolation (Lewin-Solomons, 1998; Puranam *et al.*, 2013). A striking example of a plural for is the franchising model, where company-owned and franchised outlets are simultaneously used in the same network (Bradach, 1997). To quote the hotel industry again, many large hotel chains in the USA combine company-operated and franchised outlets (Perrigot *et al.*, 2009; Kosová *et al.*, 2013).

Krzeminska *et al.* (2013, p. 1614) reinforces this view, by proposing that plural forms are "[. . .] a combination of governance modes in their full manifestation" that "[. . .] are distinguished from single modes of governance [. . .]" (p. 1615). This same idea is also expressed in Parmigiani and Mitchell (2009, p. 1067), who provide a schematic representation to emphasize the difference between each individual governance mode in isolation (i.e., make-or-buy) versus plural forms (or concurrent sourcing, in their terms).

The basic notion underling this idea is that the unit of analysis is quite different for "hybrids" and "plural forms": while the former is based on transactional level analyses on the tradeoff between making or buying, the latter refers to a more systemic analysis of a bundle of transactions as to determine which combinations of arrangements should be used and to which extent (Puranam *et al.*, 2013). And naturally, shifting the unit of analysis, as well as the definition itself, should lead to different motivations and predictions.

3. Plural Forms: Stable or Transitory Phenomenon?

When scholars first became interested in the plural form puzzle, they sought for alternative efficiency-based explanations differing from the alignment principle in Williamson (1985). Since then, a quite provoking discussion has taken place on the stability or transience of this phenomenon. Roughly, the main argument at that point consisted of demonstrating whether or not plural forms would hold over time or be replaced by a single one of the alternative organizational arrangements. Nonetheless, if the plural form were only a transitory phase between stable alternative governance arrangements, its empirical and theoretical interest would be limited, which would by no means justify all the increasing empirical and theoretical efforts in that direction.

Below, we summarize the main arguments for and against the stability of this combination of organizational arrangements to provide an overview of the evolution of the literature.

3.1 *The "Transitory" View*

The very first debate concerning the use of plural forms was motivated by the governance of franchise chains. As pointed out before, most franchise chains combine both company-owned *and* franchised units. The term used in this literature is "dual distribution" (Gallini and Lutz, 1992; Heide, 2003). Early contributions in the field submitted that this finding constitutes a transitory issue, where a single mode of organization should prevail in the long run.[6]

Nevertheless, these contributions subscribed to distinct arguments and even predicted different prevailing governance structures. For instance, according to Oxenfelt and Kelly (1969) and Caves and Murphy (1976), franchisors rely on franchisees to obtain the resources that are required in order to expand the network at a low cost. These scare resources are either capital (Caves and Murphy, 1976), managerial talent (Scott, 1995), or local information about the specificities of a particular geographical market (Minkler, 1990). However, with the passing of time (and an increasing economic success of a chain), chains could more easily develop these resources internally. That would justify the reacquisition of franchised stores and the convergence toward fully owned chains (something called ownership redirection in the management literature on franchising). In different terms, these contributions determine that the availability and the cost of the necessary resources would drive plural forms to be a transitory phenomenon. A testable implication is that as chains become established and valuable, the reliance on franchised units should reduce.

Other contributions predict the progressive convergence of franchised chains toward pure franchised system with no vertical integration because franchised units are more profitable than company-owned ones. This is the point made by Gallini and Lutz (1992) and Scott (1995), who argue that franchisors initially make use of their own stores to signal the profitability of the business and attract new franchisees to their chains.[7] However, over time, as the brand name becomes reputable in the market, the signaling device is no longer needed and company-owned units are likely to be sold to franchisees, bearing higher powered incentives. One of the consequences is that the extent of company ownership should decrease with chain maturity.

3.2 *Plural Form as a Stable Governance Structure*

The previous section shows that opposite views coexist about what constitutes the best governance structure for franchised chains. This provided research opportunities for empirical analysis. By analyzing empirical data on franchise chains, several works provide some interesting results. One of the most robust results is that both the "ownership redirection" and the expected prevalence of franchised units receive only weak support in empirical analyses (see, for instance, Lafontaine and Kauffman, 1994; Lafontaine and Shaw, 2005). In a meta-analysis aggregating results from 44 studies and 140 tests of 10 hypotheses, Combs and Ketchen (2003) have found no support for them. Using panel data on a set of USA franchised chains, Lafontaine and Shaw (2005) show that, during their geographical expansion, chains opened both company-owned and franchised units. In different terms, the percentage of company ownership remains fixed with the accumulated experience of the chains.[8]

Further contemporary advances in this field have shown that the plural form phenomenon goes beyond the coexistence of company-owned and franchised units in the franchising sector. It in fact encompasses a wide range of situations, both in the procurement of inputs across different sectors (Carlton, 1979; Monteverde and Teece, 1982; He and Nickerson, 2006; Parmigiani, 2007; Parmigiani and Mitchell, 2009; Ménard *et al.*, 2014) and in the distribution of products (Dutta *et al.*, 1995; Heide, 2003). This finding seems to hold across different sectors and distinct institutional and competitive environments. This implies that, despite the significant relevance that has been attributed to plural forms in franchising, they only tell us part of a larger story. This has led numerous scholars to search for broader explanations, either regarding different stages in the supply chain (the procurement of inputs, for instance) or addressing the distribution of distinct types of products and/or services, endowed with their own particular idiosyncrasies (namely in the marketing/distribution channels literature).

4. Drivers of Plural Forms

Despite its increasing interest in both the economics and management literature, the analysis of plural modes of organization still represents a rather recent research agenda. Thus, it should be no surprise to observe that various theoretical arguments have been put forward to explain the existence of plural forms (even if some have stood out more than others). In this section, we present these various explanations.

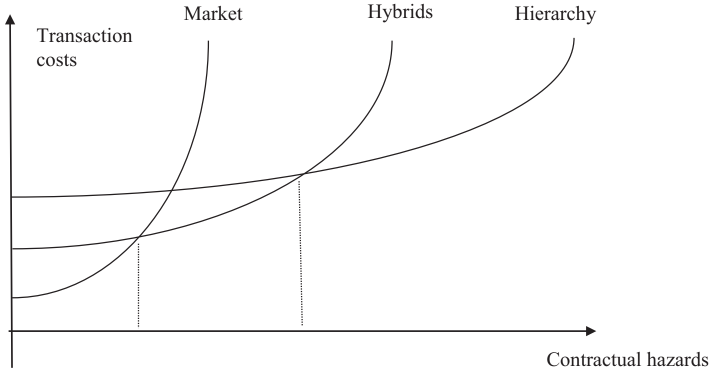

Figure 1. Alignment between Governance Structures and Contractual Hazards.
Source: Williamson (1991).

After all, as mentioned before, plural forms have been a "puzzle" to the "mainstream" theories of the firm. In a nutshell, these theories defend the superiority/efficiency of a single mode of organization over its alternatives, for the same given set of conditions. But at the same time, if such superiority holds true, how is it that we can explain the empirical prevalence of plural forms? What are the potential explanations? As we shall argue next, what most explanations for plural forms have in common is the notion that they do not invalidate the quest for efficient arrangements. On the contrary, most contributions submit that they emerge as an efficient solution because it economizes on contractual hazards in interfirm arrangements or that arise even within the same given firm.

4.1 *Extending the Traditional TCE Explanation*

Recent papers extend the standard TCE explanation to account for plural forms (Krzeminska, 2009; Menard, 2013; Schnaider *et al.*, 2018). The idea underlying these contributions is the following. As represented in Figure 1, the canonical TCE explanation of the diversity of governance structures, as laid down in Williamson (1991), stresses the critical role played by the specificity of assets involved in a transaction to explain governance choices. As we have already suggested, this story is incomplete to explain the prevalence of plural forms in various procurement/distribution decisions. But this does not necessarily invalidate the "alignment principle" which is mostly based on a quest for an efficient match between the expected coordination hazards in a given transaction and an organizational mode.

The first TCE explanation of plural form in this spirit is probably the work of Dutta *et al.* (1995) on distribution channels. They analyzed settings in which firms simultaneously rely on independent manufacturer's representative (the "rep channel") and house account (the "direct channel") to distribute their products. They claim that the benefits of having both "direct" and "representative" in the same local markets to distribute the same product (or set of products) is related to credible commitments and mitigation of performance ambiguity. On the commitment side, the presence of a direct channel in the representative local market is a way to make termination of the relation with the rep more credible. A manufacturer could become locked into its relation with a particular representative.[9] The presence of a direct channel on the rep's market makes it clear to the rep that the manufacturer is in a better position to replace the rep if needed. On the performance side, the issue is mostly one of information. A representative may have superior information on the idiosyncrasies of local markets and take advantage of it. The presence of a direct channel on the same market enhances the manufacturer's ability to assess the performance of the representative, thus mitigating asymmetric information.

This pioneering study has played an important[10] role in inspiring recent scholars to go beyond the "asset specificity story" to explain plural forms, in multiple sectors and in both upstream and downstream interfirm relations. After all, the main explanatory variables in their seminal study – asset specificity (incumbency/lock in) and uncertainty (performance ambiguity) – are broader than the specific empirical setting of sales reps and house accounts. Indeed, these two variables have been used in a wide range of empirical studies confronting the classical TCE propositions in various industrial sectors, both upstream and downstream (see Macher and Richman, 2008, for an extensive assessment of these studies).

Ménard (2013) considers that firms might be uncertain about the respective transaction costs of alternative governance structures and/or about the transactional attributes. It might for instance not be obvious how to accurately measure the level of quasi-rents.[11] Firms will first combine different governance structures, i.e., rely on plural forms, in order to discover the most efficient one. Implicit in this reasoning is the idea that firms should progressively learn what the most efficient mode of organization is. While interesting, this explanation has a drawback. It mostly explains plural forms as a transitory solution. Once firms are able to assess the transaction costs of the various governance options and/or the true level of transactional attributes, they should select the most efficient governance structure.

Another factor in the same spirit refers to the existence of costs to change existing governance structures (something called "governance inseparability" in Argyres and Liebeskind, 1999). There could be path-dependence (David, 1985; Arthur, 1989) in the governance choice. For instance, converting a vertically integrated facility into a bundle of outsourced contracts might not be a straightforward action, being that it is required that firms sell existing productive assets and consequently, find suitable buyers willing to paying a fair amount for them. Firms might partially outsource to economize on these transition costs and we would thus observe the coexistence of different modes of governance.

Another direction to integrate plural forms in the TCE framework is to consider the interplay between various transactional attributes (Parmigiani, 2007; Schnaider *et al.*, 2018). As Williamson (1991) himself argues, the interactive effects of asset specificity and uncertainty are of fundamental relevance for a proper understanding of the economic organization of production. In that spirit, Krzeminska (2009) and Schnaider *et al.* (2018) develop extensions to the TCE theory by integrating those two variables to predict under which circumstances one should expect plural or nonplural arrangements to organize a given transaction (or set of transactions). Roughly, the framework predicts the prevalence of plural forms when there are intermediate levels of asset specificity involved in a given transaction *and* quite significant levels of uncertainty affecting this same transaction (uncertainty is a matter of little consequence when asset specificity is very low – because agents can be easily replaced – or very high – vertical integration is the only feasible solution).

Moreover, Schnaider *et al.* (2018) even propose that not only does the level of uncertainty matter to explain the persistence of plural forms, but also, its qualification. Hence, the authors group the sources of uncertainty into three broad categories, which might affect transactions in isolation or combined, depending on the industry and conditions under which each firm will operate: market uncertainty (uncertainty about the conditions of supply and demand); technological uncertainty (uncertainty about the best technology or about the possibility of obsolescence); and, finally, performance assessment uncertainty (roughly behavioral uncertainty). These different categories, together with intermediate levels of asset specificity, would explain why some firms choose to combine alternative arrangements to organize similar (identical) transactions and are potentially useful to describe the specific typology of combinations (more on this will be presented later on in this paper).

4.2 *Mitigating Agency Costs Related to Moral Hazard*

The concepts set forth by the Agency Theory/Principal Agent relation (see Alchian and Demsetz, 1972, and Jensen and Meckling, 1976, for initial contributions and Bolton and Dewatripont, 2004, for a more recent and formal statement) have largely influenced organizational economics. This approach assumes asymmetric information among the transacting partners. As a result, the informed party could act opportunistically (either by cheating or by making use of the additional information for its own best convenience) in pursuit of a larger share of the rents than that which would have been obtained with equally informed parties. This is why the mere possibility of strategic behavior based on asymmetric information would require the establishment of monitoring or incentive mechanisms, as to induce parties to behave according to what had been initially agreed upon. In this context, plural form has been analyzed as a way to solve information asymmetry of various kinds. Two forms of opportunism are possible. The first one is adverse selection in which one of the parties possesses superior information about relevant characteristics of trade such as quality of the product, value of the assets involved, and so on. The second one, moral hazard, refers to a situation in which the agent can misbehave from the point of view of the principal for instance by providing a low effort level or, more broadly, by making use of its additional information for its own best convenience.[12]

Plural forms have thus been analyzed as a way to mitigate the costs related to asymmetric information. Starting with the moral hazard issues, some papers have analyzed plural forms as a way to either monitor the agent or provide the right incentives. They did so in various context such as franchising (Lafontaine, 1992) or industrial purchasing (Heide, 2003). Under this perspective, franchisors or industrial purchasers (the principals) would own some stores (or made internally) in order to monitor their agents more effectively. They do so for instance by using the information collected in the "in-house" system to set performance standard of the outsourced option. This enhances the principal ability to evaluate the performance of its agents (Martin 1988; Dutta *et al.*, 1995). The principal can also compare the relative performance of its internal and outsourced units located in the same area in order to better assess the performance of the externalized one. Another incentive-based explanation of plural forms is provided by Bai and Tao (2000). In the context of franchising, they developed a multitasking model in which each governance structures (company-owned and franchised units) specialize in the provision of a particular type of effort. Given the high-powered incentives they received through the franchised contract, franchised units provide high effort to boost sales at the local level. However, brand maintenance is also important at the chain level in order to increase the value of the brand toward customers and thus the ability to expand. Franchisees do not have incentives to provide such a public good. Without additional safeguards, they have an incentive to free-ride on the brand value to boost local sales which might even harm the brand name as a whole. The flat compensation received by company-owned managers allows them to put more effort on brand maintenance and brand development. At the chain level, the coexistence of different governance structures allows the development of both types of critical efforts.

4.3 *Signaling Quality*

Going beyond monitoring and incentive issues, the coexistence of company-owned and franchised units plays a crucial role in signaling the quality of the brand name itself (goodwill) or the profitability of the business. The basic idea here is that franchisors, or more generally entrepreneurs, hold more information about the profitability of the business than others. But, in order to attract new franchisees that will capitalize the chain (and hence allow it to grow) and in order to benefit from their high-powered incentives, franchisors need to signal that their business if profitable. One way of doing this is by owning part of the stores themselves (Gallini and Lutz, 1992; Lucia-Palacios *et al.*, 2014).

In the same vein, chains can also wish to signal to their franchisees that the new "projects" they want to implement (for instance, a new product, a new marketing campaign) are not only revenue-enhancing but are also generating new profits (Lewin-Solomons, 1999; Kranz and Lewin-Solomons, 2008). They need to convince franchisees that their innovations are mutually beneficial. The root of this commitment problem lies in the payment structure in franchise contracts. Because it is difficult to contract on franchisees' costs, the franchise royalty is based on revenues alone. Given this structure, the chain would be tempted to promote innovations, which are good for revenues even if the franchisees' profits suffer. One way for the franchisor to credibly commit to select profit-enhancing innovations only is to own some of the stores.

It is worth mentioning that, notwithstanding the relevance of these contributions, Lafontaine (1993) does not find support for the signaling explanation in her empirical study relying on franchising data. She argues that in the long run, there are cheaper ways of signaling the profitability of the business or the value of the brand than store ownership.

4.4 *Accounting for Complementarities between Alternative Modes of Organization*

Following the seminal contribution of Milgrom and Roberts (1995), the notion of complementarity has nowadays a precise meaning in organizational economics. Complementarity is about the interactions among several variables of the overall organizational design. Two (or more) variables are complements when doing (more of) one of them increases the returns to doing (more of) the other.[13] In our context, that means the existence of synergies among organizational forms when two of them are combined to govern a particular transaction.[14] This perspective was introduced as an explanation for the existence of plural forms by Bradach (1997, 1998). Once again, using franchising as the striking empirical example, he strongly emphasizes – using qualitative evidence – the complementary or synergy gains brought by combining different structures to what he called the four "franchising imperatives": system growth, chain uniformity, local responsiveness, and system-wide adaptation (Bradach, 1997, 1998; Meiseberg, 2013). Both company-owned units and franchised outlets present contrasting advantageous and disadvantageous characteristics, for each of the imperatives. Therefore, the combined effect fosters the strengths and mitigates the weaknesses at the system level. To give just one example of the processes at stake, Bradach (1997) gives the example of what he calls "modeling process," namely, the set of organizational tools used to improve chain uniformity. In many franchised chains, some franchisees often own multiple outlets. These "mini-chains" often replicate within their structure some of the control mechanisms used by the franchisors. By doing so, they help to maintain homogeneity at the chain level. Similarly, Sorenson and Sorensen (2001) show that franchised units provide better opportunities of learning through experimentation ("exploration"), while company-owned outlets enhance the diffusion of such acquired knowledge, while enforcing standards (exploitation). To put it differently, both company-owned units and franchised outlets would provide complementary benefits when it comes to knowledge creation and dissemination.

4.5 *Accounting for Complementarities between the Organizational Choice and Firm Strategy*

Another possibility to explain plural forms is to account for synergies between the structure and the strategy of a given firm. This notion originated with Chandler (1962) and has had great influence on a variety of subsequent works (Channon, 1973, 1978; Rumelt, 1974; Hamilton and Shergill, 1992), mostly focusing on diversification or divisionalization. Yin and Zajac (2004) expand the strategy/structure fit rationale to explain plural forms. Relying on franchising data, they empirically test the correlation between the level of complexity of a firm's strategy (i.e., in the context of pizza chains, these are (i) offering traditional dine-in service; (ii) relying only on delivery service; or (iii) pursuing a combination of dine-in and delivery in the same store) and the organizational arrangements in place to execute it (franchised vs. company-owned stores). The findings indicate correlations between (i) company-owned stores and simple strategies and

(ii) between franchised stores and more complex strategies. This implies that if firms wish to follow different strategies, they must choose diverse governance structures to organize their operations.

4.6 *Firm Resources and Capabilities*

The Resource Based View (hereafter, RBV), one of the most influential and cited theories in the strategy literature (Kraaijenbrink *et al.*, 2010) has also been used to provide strategic interpretations to firm boundaries (Argyres and Zenger, 2012). Roughly, according to the standard approach of the RBV, firms would integrate resources and capabilities for which they hold comparative advantage (strategic resources) and rely on nonhierarchical arrangements for nonstrategic ones.

Recent developments in the RVB literature have started to acknowledge that competitive advantage would not necessarily result from *owning* superior resources, but from having access to them, even if they are located beyond the boundaries of the individual firm (Dyer and Singh, 1998). And it is precisely this more contemporaneous view that has allowed for the incorporation of the RBV into the plural form debate. According to this perspective, plural forms should be expected in two different scenarios. First, when there are homogeneous resources and capabilities across firms and markets, both alternatives should yield similar performance; and as a result, it does not matter much whether or not the task is internalized (Mols *et al.*, 2012). Hence, in this case, firms are free to make, buy. or combine both alternatives.

More explicitly, the RBV makes room for plural forms when there are important differences in terms of the resources and capabilities available in markets and firms. In this case, firms might choose to both make and buy in order to absorb superior capacities from markets (Mols, 2010); or to disseminate its superior resources and capabilities to its more cost-efficient suppliers (Mols *et al.*, 2012). What both situations have in common is that choosing to rely on plural forms has "strategic" motivations, i.e., firms rely on them to develop absorptive capacity (Cohen and Levinthal, 1990).

Gillis *et al.* (2014) take a step further in this direction, not only to explain *why* we find plural forms, but also to determine the *composition* of plural forms. By using the RBV in association with agency theory, they seek to analyze the percentage of vertical integration within franchise chains. Their argument rests on the assumption that both company-owned units and franchised outlets possess different strategic resources and capabilities (interfirm trust, knowledge-sharing routines, brand reputation, and operating routines). Each of these will leverage the key organizational goals of standardization and adaptation (Kaufmann and Eroglu, 1999) to a different extent. Therefore, their key idea is that the percentage franchised will depend on the distribution of these strategic resources between company-owned and franchised outlets and on the influence of each of these strategic resources on the best balance between standardization and adaptation for a given chain. In a nutshell, the optimal percentage of vertical integration will depend on the organization of these strategic resources to leverage their value for the entire chain.

4.7 *Gaining Bargaining Power*

Although the bargaining power argument has not become as popular as other perspectives, we mention it because it has received a very large number of citations over time. Once again using franchising evidence, this perspective argues that the combination of company-owned and franchised units would provide the franchisor with additional bargaining power (Michael, 2000). First, ownership of some units provides franchisors with additional information (on the level of local demands, on the level of costs) mitigating asymmetric information, an idea already present in the seminal paper by Dutta *et al.* (1995). Second, partial integration also provides a credible threat to franchisees in the sense that it signals that the franchisor can operate units if required. Opportunistic franchisees know that, ultimately, franchisors can replace them (buying back the franchised units without experiencing too severe learning costs or terminating the contract and setting a company-owned unit in the local area). Even though this theory differs from the other previously mentioned, one can notice that the intuitions indirectly underlying this theory are not that far from the spirit of the work previously mentioned.

5. Extensions and Implications

5.1 *Integrating Different Perspectives*

Plural forms have been explored in a variety of contexts. For each of these, different drivers have been suggested and published in a very dispersed body of literature. As we have shown in previous sections, one of the main criteria for fragmentation is the stage in the supply chain. Concurrent sourcing, tapered-integration, or plural sourcing explanations have dominated one stream, while franchising or dual distribution papers have stood out in a different line of thought. However, despite this fragmentation, the phenomenon at stake remains the same: the same firm relies on more than one organizational arrangement to organize similar transactions.

Indeed, Bradach and Eccles (1989) were the first to describe this empirical finding and already illustrate the concept by drawing examples from both franchising and from firms who concomitantly make and buy. In their own words, plural forms are illustrated as "[. . .] firms often make and buy the same part; companies frequently franchise units and own units of the same restaurant or hotel chain; and companies sometimes use a direct sales force and third-party distributors" (p. 112).

These examples reinforce the view that plural forms are a prevailing mode of organization, independently from the stage in the supply chain where they are found. This is why we observe a large body of literature applying the very same theories and determinants in upstream and downstream analyses (TCE, RBV, property rights, etc.).

To illustrate, TCE determinants have been applied to a variety of settings, both upstream and downstream, depending on the field and focus of analysis. In Economics papers, for instance, upstream relations tend to dominate the empirical TCE literature, while in marketing journals, downstream relations play a dominant role (see Macher and Richman, 2008, for an extensive list of papers).

In the plural form literature, more specifically, several developments have been made in upstream and downstream analyses, inspired by Bradach and Eccles' (1989) examples. Many of the explanations used in procurement issues overlap with those in franchising. To name a few, complementarities and agency problems, which dominate the franchising literature, have also been observed in procurement contexts. This has led recent contributions on concurrent sourcing (or tapered integration) to rely on and quote franchising contributions. For example, Parmigiani (2007) and Parmigiani and Mitchell (2009) rely on downstream literature to make their point for concurrent sourcing.

Such integration of perspectives, from one empirical context to another, suggests that expanding these views can enhance their explanatory power beyond originally thought.

5.2 *Integrating Different Drivers*

An important limitation from which all drivers so far discussed suffer is their inability of independently providing a complete explanation for plural forms. Each of them tends to focus on a particular part of the problem, but none is capable of fully explaining the prevalence of this mode of organization, both upstream and downstream.

In fact, this is a limitation common to other related fields. For instance, it is now taken for granted that no single theory can explain competitive advantage in isolation. This is why many scholars are combining approaches to provide such explanations. Organizational economics, inspired by strategic management, can also gain important contributions by drawing insights from the multitude of perspectives herein presented. These can be used to build a more comprehensive framework, relying on a set of variables based on different approaches.

A few paths herein presented provide the very first indications in this direction, although not as explicitly as to allow for the creation of a full framework yet. For example, extensions of the TCE model that explain plural forms by recognizing the interplay of different transactional attributes implicitly rely on multiple theories to justify combining these variables and to explain the prevalence of one or another type of plural form. Schnaider *et al.* (2018) exemplifies. They rely on the type of uncertainty (market, technological, or performance assessment) affecting a particular set of transactions to explain the choice of one particular type of plural form (between, within, or combo). Implicit in this correlation are agency aspects when firms turn to plural forms because of performance assessment uncertainty or RBV/capabilities to deal with one or another technology when firms rely on plural forms to deal with technological uncertainty. Also, what underlies these explanations is the idea that each arrangement will complement the other to help deal with uncertain situations. But these are still very incipient contributions. Organizational economics can gain a lot by more explicitly combining different drivers to provide more complete explanations or predictions.

5.3 *How Much to Make/Buy?*

Most of the papers on plural forms extensively analyze the drivers explaining the existence of plural forms. A related issue is to explain the optimal mix between "markets and hierarchies." What should be the optimal proportion of market mode over vertical integration for a particular transaction? Lafontaine and Shaw (2005) provide an answer in the context of franchising (see also, Scott, 1995; Shane, 1998). They rely on a large panel data set of USA franchised chains to show that the level of investments made in the brand name is an important driver of the proportion of company-owned units within chains. The economic intuition refers to free riding. Chains with higher brand name investment are more vulnerable to free riding by franchisees. This is so because franchisees have a strong incentive to maximize their profits, sometimes at the expense of the chains as a whole. For instance, they can cut their costs and use low-quality inputs, advertise less at the local level. This may harm the reputation of the brand and this hazard rises with the value of the brand. One way to mitigate this problem is to shift from high-powered incentives (franchise contract) to low-powered incentives (fixed wage in a company store). A company-owned manager has lower incentives to maximize profits at the store level. While this sacrifices profit maximization, it also has the benefits of reducing the benefits of free-riding.

Going beyond the franchising case, Puranam *et al.* (2013) explore the optimal mix between various governance structures in the context of procurement. The authors develop a formalized model to predict how much should firms make versus how much they should buy, based on the idea that each organizational arrangement provides both advantages and disadvantages. In the same vein as Bradach's (1997, 1998) complementarities in franchise chains, Puranam *et al.* (2013) submit, more generally, that both arrangements *together* contribute to the efficiency of the entire sourcing/distribution system because each of them plays a different role in providing incentives and knowledge sharing, while mitigating constraints – scale diseconomies and barriers to exit and transactional hazards.

In the formal model, each of the three parameters above will drive firms to adopt more or less vertical integration in the governance mix. For instance, in the same spirit of the alignment principle, a higher level of asset specificity pushes toward more vertical integration. Knowledge sharing, in turn, pushes toward outsourcing to benefit from competencies accumulated by other parties individually. Finally, cost constraints like scale diseconomies push toward outsourcing because of the added bureaucratic costs associated with more complex internal structures. Hence, the optimal extent of plural forms, i.e., the optimal amount of vertical integration and/or outsourcing, must balance the vertical integration required to prevent the transactional hazards related to asset specificity, the outsourcing required to benefit from knowledge sharing, and to save on cost constraints (diseconomies of scale and barriers to exit).

5.4 *Beyond Make and Buy: The Diversity of Plural Forms*

Most of the theoretical and empirical works on plural forms focus on explaining the coexistence of vertical integration and outsourcing, such as in franchising. The analysis of various economic sectors suggests that the combination of different governance structures goes beyond the "make and buy" illustration (Krzeminska *et al.*, 2013). Firms may combine other governance structures like hybrid forms and spot market, vertical integration, and hybrid forms. They also sometimes combine more than two governance structures. For instance, Ménard *et al.* (2014) found that, in the Brazilian agrifood sector, some firms procure their main inputs through several governance modes like spot market, formal contracts, *and* vertical integration.

Up to now, we only looked at the combination of different "families" of governance structures (market, hybrids, vertical integration). Another source of diversity comes from the combination of alternative governance structures within the same family as described in the TCE typology. This often refers to situations where firms combine different types of hybrid forms. One such combination that received extensive attention in the recent theoretical and empirical literature is the interplay between formal and informal/relational contracts (Klein, 1996; Baker *et al.*, 2002, and see Malcomson, 2013; Gil and Zanarone, 2017, for recent surveys). (Incomplete) formal contracts quite often combine court enforcement for the written part of the contract and self-enforcement for the rest. But formal and relational contracts are different governance structures and their coexistence can be qualified as plural forms.

Schnaider *et al.* (2018) summarized this diversity by disentangling three types of plural forms: "between," "within," and "combo" plural forms. The former refers to the coexistence of different governance structures belonging to alternative families as identified in TCE. The combination of market and hierarchy for the very same transaction is the canonical example but, as stressed before, the plural form goes beyond this particular example. The second type corresponds to the coexistence of different governance structures that belong to the same family. The interplay between formal and informal contracts is a leading example. The coexistence of short- and long-term contracts provides another example, although other combinations of hybrid arrangements might coexist. Finally, the "combo" type recognizes the fact that some firms might combine both "between" and "within" types of plural forms to organize similar transactions. This is the case of some firms that procure their main inputs through spot market, relational contracts, formal contracts, *and* vertical integration.

Besides recognizing the variety of plural forms, recent works have started to explore what is offered specifically by each "type" of plural form that is not addressed by each single governance arrangement alone. As far as we could tell, only Krzeminska *et al.* (2013) and Schnaider *et al.* (2018) *very explicitly* provided explanations in that respect (although others have addressed this aspect in a less explicit way, for instance, Parmigiani and Mitchell, 2009). While the former focused on performance ambiguity and technological volatility, the latter added market uncertainty to this analysis and also proposed that these would only become relevant when firms need to secure specific assets to a certain extent (i.e., intermediate degrees of asset specificity). Also, what both works hold in common is the idea that each particular type or combination of plural forms will be better suited to deal with specific situations, such as different types of ambiguities. Notwithstanding these contributions, a lot remains to be done in this direction.

6. Conclusion

In this paper, we explored important aspects of the literature in organizational economics that acknowledges the rich governance landscape in which transactions take place (Gibbons and Roberts, 2013). In particular, we focused on the case where there seems to be no unique organizational solution outperforming other organizational arrangements to govern a particular transaction. Or, to echo Simon's colorful description shown in the introduction, we turned our attention to the recurring empirical regularity where green fields are simultaneously connected by red, blue, and other colorful lines; representing the various organizational arrangements that efficiently govern the acquisition/sale of products and services. These are the so-called "plural forms." We showed that the plural form is a prevalent (and sometimes dominant) organizational form in various empirical contexts, from franchising to industrial procurement. While there are no available statistics on the diversity of organizational arrangements, quite often because of the strategic nature of this information, the diversity of sectors and countries used in empirical papers suggests that plural forms exist in many different contexts.

We provided a microanalytical definition of plural forms and explained why the plural form is a puzzle for the most dominant analytical frameworks that have been relied on to explain governance decisions for private transactions. We then showed that most of the available empirical evidences suggest not only the prevalence of the plural form governance but also its stability over time, as described for instance in the empirical literature on franchising. Firms do not test among various organizational alternatives before selecting the most appropriate (or efficient) one, but they stick to the combination of alternative organization arrangements to govern a given transaction. As it is often the case in organizational economics, the stability of an organizational form opens the door for explanations driven by efficiency arguments. We then describe the most prominent motivations identified in the economics and management literature that drive firms to adopt plural forms. Most of them are related to the mitigation of various types of agency/transaction costs. We finally looked at some extensions and implications of the existing literature on plural forms. We think that these extensions pave the way to future research in this area and carry important implications for the field.

First, as stressed before, the plural form phenomenon goes beyond the "make and buy" situation, as several combinations are possible and have been observed in various contexts. One relevant question is to know whether the benefits of simultaneously making and buying a given input are the same as the benefits of, for instance, simultaneously relying on spot market and explicit contracts. Various combinations of alternative governance structures may carry different benefits and their identification would improve our understanding of the empirical diversity of plural forms. Thus, potential areas for future research include further exploring the motivations for each particular type of plural forms and determining whether there would be an optimal mix (% of each type or arrangement) in different types of plural forms, going beyond how much should be made and how much should be bought. In other words, expanding the discussion of the optimal proportion of company owned and franchised units to other plural form configurations in different businesses constitutes an interesting path for future developments. What are the differences across multiple industries and stages in the supply chain? What are the main drivers pushing those differences? What is the role of firm-specific aspects or contexts in this optimal mix? Does the optimal mix change depending on the type of plural form and the types of arrangements composing it? These are all questions to be explored in future contributions.

Second, most of the literature we surveyed describes various benefits attached to the combination of alternative governance structures to organize a given transaction. The complementarity view of plural forms is probably the leading example with its emphasis on synergy benefits. If these benefits are so prevalent, why do we still observe governance structures that are not plural forms? To put it differently, why is the plural form governance not the dominant governance structure in most business-to-business transactions? One possible answer is that plural forms also carry some costs. The characterization and the scope of these costs are still little explored in many contexts and deserve additional research. Part of these costs is the conflicts between franchisors and franchisees (see, for instance, Kaufmann and Rangan, 1990). But to what extent are these costs found in other businesses? What are other costs of using plural forms? In which cases can the costs outweigh the benefits of plural forms?

Finally, we demonstrate that most of the literature reviewed tends to focus either on concurrent sourcing (tapered-integration or plural sourcing) or in franchising (or dual distribution). But if the phenomenon at stake remains the same, why should the drivers for the organizational decision differ? By reviewing the most important drivers for plural forms described so far in the literature, we show that many explanations indeed overlap. This suggests that the explanatory power of each of these drivers can be much larger than previously believed, if they are expanded to other contexts. What lessons can be learnt from such expansion? Can this be the first step in building a comprehensive framework, to fully understand the prevalence, and stability of plural forms in any kind of business? These questions remain unanswered and can pave the way for future research.

Notes

1. The institutional environment refers here to "rules of the game" (North, 1991), i.e., the set of formal and informal institutions, in which transactions are embedded. Previous works suggested that differences in the institutions affects the choice of governance structures (see for instance Brickley *et al.*, 1991, in the franchising context and Oxley, 1997, in technology transfers).
2. The following situations can also be used to illustrate this idea: (i) a wine producer carrying two different labels, one for the product derived from regular, "mainstream" grapes and a different one for that derived from special types of grapes, for instance, bearing a certificate of origin. These different varieties can be sold through diversified distribution channels, for instance, in local supermarkets and in company-owned stores, depending on the label and on the characteristics of the product; (ii) a firm selling for instance special coffee in company-owned stores (Brand A), that acquires a different brand in the coffee industry operating purely as a franchise network (Brand B). The result will be a combination of company-owned stores (for brand A) and franchised units (brand B), although each organizational arrangement is used to deal with different brands. What both situations hold in common is that they are relying on different governance structures to transact very d*ifferent* types of goods.
3. For an extensive discussion on the degree of similarity required to characterize plural forms, see Krzeminska *et al.* (2013).
4. In this recent setting, equity joint ventures is a hybrid form that has been extensively studied (see for instance, Bai *et al.*, 2004, Dasgupta and Tao, 1998). Gattai and Natale (2016) provided a recent survey.
5. They have an incentive to do so for two reasons: first, in the spirit of the Coase theorem, the parties have a mutual interest of maximizing the joint value of the relationship. The mitigation of transaction costs is thus an integral part of this search for expected maximum joint profits (Ghosh and John, 1999). Second, the framework relies, often implicitly, on the assumption that firms are looking for an efficient alignment because they are under competitive pressure (Nickerson and Silverman, 2003).
6. See, for instance, Oxenfeldt and Kelly (1969); Ozanne and Hunt (1971); Caves and Murphy (1976); Gallini and Lutz (1992); Scott (1995); Dant *et al.* (1996).
7. The argument runs as follows: franchising is the dominant mode of governance because of its incentive properties. However, in order to attract new franchisees, chains need to credibly convey information about the value of the brand to new applicants. One way to credibly signal the value of the brand is to directly have a stake in the business by owning some stores.
8. They observe that within the first 8 years of experience in franchising, there is a drastic adjustment in the percentages of company-owned and franchised outlets. However, after this period, franchise chains would be likely to use an optimal stable combination of company-owned and franchised units. Even if this proportion is likely to vary according to the sector in which firms operate, Lafontaine and Shaw (2005) find that, on average, franchise chains operating in the USA and Canada directly controlled about 15% of their stores. Azevedo and Silva (2001, 2007), as well as Pénard *et al.* (2003), found similar results for franchise chains in Brazil and in France.
9. For instance, the manufacturer may provide training and assistance to its representative to sell and service its products.

10. The number of times a paper is cited in subsequent works can be a proxy for its influence. As of May, 2018, Dutta *et al.* (1995) was cited in 61 papers in Business (40), Management (28), Economics (5), and Operations Research Management Science (6) journals registered on the Web of Science platform. Only 26% of these papers directly address dual distribution or the relationship between firms and their buyers. In contrast, almost half of them have franchise chains as explicit object (13%), or address plural forms in upstream relations (concurrent sourcing or tapered integration – 18%), or verify or scrutinize Transaction Cost Economics (12%).
11. The level of quasi-rents depends on the comparison between the value within a transaction and the next best alternatives. Firm may be uncertain about the value of this alternative because of market price fluctuations.
12. An extension of the simple moral hazard situation occurs when the principal can also behave opportunistically (double-sided moral hazard). Franchising is an example because the franchisor's behavior has a strong impact on the franchisees' profits.
13. In mathematical terms, let $f(A, B)$ be the objective function and A and B two organizational choice variables. A can be present ($A = 1$) or absent ($A = 0$) and the same goes for B. The two variables are complements if $f(1, 1) - f(1, 0) \geq f(1, 0) - f(0, 0)$.
14. Going beyond organizational economics, complementarity has also been used in the analysis of economic and social institutions (see, for instance, Aoki, 2001).

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