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I. INTRODUCTION

The central message conveyed in this chapter is that there is a whole class of economic organizations that contribute substantially to what Coase (1992) called "the institutional structure of production". These arrangements fall neither under pure market relationships nor within 'firm boundaries'. They have multiplied because they are viewed as efficient in dealing with knowledge-based activities, solving hold-up problems, and reducing contractual hazards. They have properties of their own that deserve theoretical attention and empirical investigation.

Indeed, although the significance of these arrangements, hereafter identified as "hybrids", remains difficult to quantify, they play a major role in developed market economies. Joint ventures, strategic alliances, sports leagues, franchises, consortia provide instructive examples. As a first approximation, hybrids can be defined as arrangements in which two or more partners pool strategic decision rights as well as some property rights, while simultaneously keeping distinct ownership over key assets, so that they require specific devices to coordinate their joint activities and arbitrate the allocation of payoffs (Ménard, 1997, 2004).[2] Consequently, this chapter focuses on arrangements with joint mechanisms of

[1] This chapter owes much to the participants of the NBER workshop on "Organizational Economics" and to seminars and conferences held in Berkeley, Boston (MIT), Chania, Herdecke-Witten, Hertfordshire, Lausanne, Paris-Sorbonne, Pisa, Lucca, Rotterdam, and Delft. I have benefited from extensive exchanges with Robert Gibbons and John Roberts, and from fruitful questions raised by Claudine Desrieux, Anna Grandori, George Hendrikse, Geoffrey Hodgson, Chris Mantzavinos, Paolo Mariti, Mario Morroni, Joanne Oxley, Emmanuel Raynaud, Oliver Williamson, Josef Windsperger, and many others. The usual disclaimer applies.

[2] This chapter follows Alchian (1987) in identifying property rights with the capacity to appropriate residual earnings.

governance.[3] It pays particular attention to multilateral agreements (n > 2), so as to build 'ideal-types' in which contracts are complemented by other means of coordination.

Efforts for capturing the specificity of these arrangements within a coherent analytical framework remain underdeveloped. In economics, initial insights came from a Coasian perspective, with hybrids viewed as challenging the 'boundaries of the firm'. Richardson (1972) already emphasized the importance of modes of organization which mix cooperation and competition.[4] In his pioneering essay on franchising, Rubin (1978: 223) introduced the term "hybrid" as a catch word, extending the trade-off between market transactions and integration to situations in which decisions are jointly agreed upon among firms. This view concurred with the analysis developed simultaneously by Klein *et al.* (1978). Williamson also pointed out early the significance of these 'non-standard' agreements, although he initially considered them as unstable and transitory, before fully integrating hybrids into his model (Williamson, 1975, 1991; Ménard, 2009). Meanwhile, a significant literature has developed in sociology and managerial sciences, mostly about networks and alliances.

Nevertheless, hybrids remain 'theoretical orphans', as noted by Borys & Jemison (1989), and this deficiency translates into "a rather messy situation marked by a cacophony of heterogeneous concepts, theories, and research results" (Oliver & Ebers, 1998: 549). A wealth of empirical material has accumulated, while theory has focused on relatively narrow issues. As rightly emphasized by Baker *et al.* (2002: 71), economists have rarely paid attention to these arrangements, and when they have, "the focus has typically been on asset ownership and other formal aspects of organizational structure".

This chapter suggests that time might have come for economic theory to harvest the abundant insights on hybrids. One obstacle is the diversity of arrangements, from forms close

[3] Outsourcing illustrates the difficulty of delineating 'hybrids'. Most outsourcing arrangements are of the arm's length type, with no specific mechanisms of governance beside contracts. However, there are also outsourcing arrangements with coordinating devices going far beyond what is contractible (e.g., the 'Toyota system').
[4] Almost simultaneously, Blois (1972) pointed out the empirical significance of 'quasi-vertical integration', although with no reference to Coase.

to market relationships to quasi-integrated organizations.[5] However, I shall argue that structural characteristics underlie this diversity. In doing so, I focus on determinants of the existence and conditions of stability of hybrids. Particular attention is paid to the underlying modalities of governance. Section II illustrates distinctive features of hybrids with a stylized case, thereafter substantiated by an examination of the great diversity of these arrangements. Section III discusses the forces which lead to go hybrid, in the hope of outperforming markets as well as hierarchies. Section IV examines challenges hybrids face and strategic choices they can make to overcome opportunism. Section V explores the governance mechanisms on which hybrids rely in order to reach stability and remain sustainable. Section VI proposes a typology of hybrids based on the combination of the elements thus pinpointed. Section VII concludes with remarks on unsolved problems and policy issues.

II. WHAT HYBRIDS LOOK LIKE.

The fluctuating terminology about hybrids signals conceptual difficulties. Three competing terms prevail in the literature: 'hybrids', mostly used in economics, particularly in the Coase-Williamson tradition; 'alliances', a favorite in management journals; and 'networks' which dominates sociology.[6] 'Symbiotic arrangements', 'clans' etc., can also be found, although more sporadically. 'Hybrid' benefits from covering the variety of inter-firm agreements while rooted in theory and models explicitly derived from Coase (1937).[7] I do not intend to emphasize definitional issues here. The changing terminology reflects the richness of relationships among businesses resorting to means of coordination other than the price mechanism or direct integration. It also reflects the lack of a unified and satisfying theoretical explanation. To make these ideas clear, I start with an example that illustrates some of the key

[5] Cheung (1983) argued that there is a continuum in organizations and that contracts should be the sole focus of attention. In this chapter I try to show why this can be misleading.
[6] The term here refers to networks of firms, not to network industries.
[7] According to the *Oxford English Dictionary*, the term 'hybrid' goes back to 1601 and designates the offspring of two different species.

issues involved. The picture is then enriched by visiting the variety of observable forms of hybrids.

II.1: A stylized example[8]

In the late 1970s, confronted with declining bread consumption and strong competition from supermarkets using cheap flour and delivering mediocre products at low prices, a group of 35 French millers reacted by successfully developing high quality products. These were indicated by a brand name and supported by a complex organizational arrangement. This arrangement defines: (1) a formal structure, (2) an allocation of rights, and (3) governing modalities that markedly differ from the opposing situations of 'markets' and 'hierarchies'.

First, the millers created a legal entity to develop high quality products, to market them, and to guarantee compliance to their standards by all partners. This entity, let us call it the "*strategic center*", is governed by a Board of Administration, to which each miller belongs. Decisions by the Board are made according to a "one person, one vote" rule, notwithstanding the uneven distribution of capital: at one end of the spectrum, one miller holds 62 shares while at the other end another miller has 391 shares. The center legally owns the brand name, 'delegating' its use to the millers. The brand is marketed through a network of franchised bakers – over 3,000 bakers today – who are committed to selling exclusively products using inputs delivered by the millers or certified by the center. Each miller has an incentive to prospect bakers, whose affiliation is conditional to acceptance and monitoring by the center. Policies regarding the brand are implemented by an executive committee of twelve millers, elected by their peers for six years, and a marketing committee of three members. Lastly, an 'ethics committee' of three elected millers is in charge of solving conflicts. In sum, the millers own a franchisor to which they delegate the right to monitor and discipline them as well as to supervise the franchised bakers.

[8] This subsection draws from Ménard & Raynaud (2010).

Second, this arrangement proceeds through a complex allocation of rights. Each miller keeps control over key assets, i.e. mill(s) as well as the logistics necessary to collect inputs and deliver flour. Partners can use these assets for activities beyond the control of the joint entity: for example, producing and delivering flour to industrial bakeries not affiliated to the brand. However, the legally distinct strategic center holds property rights over the brand name and owns several facilities to carry out research, manage quality control, and train bakers. The strategic center also develops new products and thus creates new assets which it formally owns.

Decision rights are allocated accordingly. The millers remain fully responsible for their own resources and their strategies. The strategic center makes decisions regarding the evolution of the brand name (new processes, new products, quality standards, marketing strategies) and of the governance structure (status of shareholders, contracts with bakers, allocation of social capital, and acceptance of new entrants or exclusion of partners). When it comes to payoffs, each miller remains the sole residual claimant for profits generated by his/her own assets, including benefits from the spillover effects of the brand name. However, royalties paid by the bakers are shared with the strategic center, which also bills 'services' to the millers (e.g., quality control). In principle, profits made by the strategic center are redistributed according to the number of shares, although they have been systematically reinvested in the development of the brand.

Third, the governance by the strategic center is framed by contracts and by an 'ethics committee' that operates as a 'private court'.

There are two sets of contracts: contracts linking bakers to the network, which are typical franchise contracts;[9] and contracts between the millers and the strategic center, which determine the hard core of the arrangement. Indeed the millers, who are the shareholders, sign

[9] See Lafontaine & Slade (2007).

a contract with the strategic center that gives them the right to operate under the brand they formally own. The goal is to favor spillover effects by developing high quality products, new techniques, and advertising, while protecting parties against negative externalities, e.g., millers cheating on the quality of inputs delivered or adopting free-riding strategies to attract or capture franchisees (the bakers).[10] These goals are embedded in contractual clauses which codify: (i) the production process (control over equipment, determining the required quality of flour after each crop etc.); (ii) marketing conditions; (iii) conditions under which the center can ban a shareholder from the arrangement; (iv) the right for the center to authorize other millers to supply bakers previously affiliated to a 'deviant' partner.

These contractual arrangements give significant power to the center. They are further complemented by internal rules and the role of an "ethics committee".

Internal rules facilitate upstream and downstream control. Upstream, major decisions such as changes in statutes, in the contracts between millers and the center, or exclusion, require a two thirds majority of the votes on the Board. Rules preventing any miller from holding more than 15% of the rights and prohibiting the sale of shares to outsiders without Board approval reinforce this control. Downstream, strict internal rules regulate relationships between millers and franchisees (the bakers): entry is filtered by the center, which also keeps an eye on newly affiliated bakers during the probation period of six months. Once affiliated, technical and commercial 'assistance' provided by the center facilitates control over the relationships between a miller and the bakers in its pool.

Last, the so-called "ethics committee" operates as a private court regulating intra-brand competition. Indeed, the reputation premium of the brand name, remarkably stable at about 10%, as well as competition among millers to attract new bakers or capture affiliated ones fuel incentives to free-ride. The elected "ethics committee" is there to thwart these

[10] The affiliation of bakers determines volume sold, and hence profits. Typical free-riding behavior by a miller is to capture a baker who has been prospected and possibly initiated by another miller in the group, by offering advantageous conditions since the free-rider has not invested in the prospection and training process.

strategies, thanks its significant discretionary power, particularly its ability to impose penalties or recommend the exclusion of millers repeatedly transgressing the organization's rules. On all these issues, the Board operates as a Court of Appeal. With formal contracts binding partners, it would be technically possible to turn to the legal system. However, this is viewed as disruptive and risky, incompleteness of contracts making the issue highly uncertain. After thirty years of existence, the partners have never been to the courts.

To sum up, this case illustrates a mode of organization in which co-owners who compete in their joint activities as well as in activities independent of their arrangement delegate the right to monitor and discipline each other to a specific entity. They do so because the arrangement creates new assets generating extra profits, while simultaneously producing positive externalities to their other activities.[11] The complex allocation of rights that support the formal architecture involved, as well as the mechanisms of governance needed for the success and durability of the arrangement are not specific to the millers' case.

II.2: A short visit to the "zoo"

This stylized example captures only part of the richness of forms mixing cooperation and competition in inter-firm relationships. From joint ventures to franchisee-owned franchisors, sports leagues, condominiums, consortia, or even cooperatives, "firms have invented far more ways to work together than organizational economics has so far expressed (not to mention evaluated)" (Baker *et al.*, 2008). In what follows, I focus on situations in which firms hand over decision rights and even property rights across boundaries, so that some rights are no longer controlled by a single party. I illustrate the variety of solutions implemented by several different institutional structures dealing with shared control. This review does not intend to be exhaustive, but rather points out properties analyzed thereafter.

[11] For example, the reputation gained through the brand has a positive impact on a miller's relationship with parties not dealing with the brand (e.g., industrial bakeries or restaurants).

In its usual form, s*ubcontracting* goes side by side with standard market relationships, with parties sharing some decision rights, while keeping assets and property rights distinct. For example, Toyota shares substantial decisions regarding the design of its cars with its privileged subcontractors. This arrangement often relies on the stability of the relationship. In a pioneering paper based on extensive interviews with 38 homebuilders in Eastern Massachusetts, Eccles (1981) identified agreements between general contractors and subcontractors "over fairly long periods of time and only infrequently established through competitive bidding." Although most projects were short term, coordination requirements and the need for constant adaptation provided incentives to operate with the same partners. On average, relations persisted for over 5 years (one had even lasted for 37 years), largely exceeding the duration of formal contracts. In over 80 % of the cases, subcontractors were selected through bilateral negotiations, while less than 20 % went through competitive bidding. This does not eliminate the role of competition as the possibility of bidding maintains market pressure. Other studies, particularly in the automobile industry, have shown the diversity of subcontracting, from arm's length relationships to forms closer to supply chain systems, through to quasi-integration (Helper & Levine; 1992; Dyer, 1997; Holmstrom & Roberts, 1998). However, they all share at least two characteristics: key assets and decision rights remain distinct, as in the case of the millers, while one firm operates as the strategic center, which is distinct from that of the millers.

Supplier parks, "a cluster of suppliers located adjacent to, or close to, a final assembly point" (Sako, 2005), share properties with subcontractors although site interdependence usually imposes tighter coordination. The *Volskwagen* assembly line of trucks and buses in Resende (Brazil) is typical. Several firms operate under the same roof. They keep key property rights and decision rights distinct (and several also supply competitors). However, specific assets and substantial decision rights are shared on the site, e.g., decisions regarding

the physical distribution of equipment or the adjustments between partners along the assembly line, imposed by the modular design of the subsystems. Supplier parks can also be partially 'virtual', e.g., *Toshiba* and its 200 direct partners and 600 so-called 'grandchild companies', or almost entirely so as with *Dell*.[12] In all cases, the allocation of rights and payoffs, as well as the choice of coordination devices remain sensitive.

Whether physically located or virtual, supplier parks mostly operate under the control of one firm. However there are cases in which shared activities are monitored through different forms of joint agreements, with partners in a more or less symmetrical position.

Strategic alliances have attracted a lot of attention in managerial sciences. They can be characterized as "relatively enduring inter-firm cooperative arrangements, involving flows and linkages that utilize resources and/or governance structures from autonomous organizations, for the joint accomplishment of individual goals linked to the corporate mission of each sponsoring firm" (Parkhe, 1993: 795). Partners maintain core assets distinct and keep control over related property rights, thus departing from mergers and acquisitions. However they jointly plan and monitor substantial activities, as in the airline industry, using contracts to coordinate and build relational trust, which particularly matters when duration imposes continuing adjustments, making spot or short term agreements of the market type inappropriate (Gulati, 1995b; Jorde & Teece, 1989). Using a database of 12,500 contracts between biotech and pharmaceutical firms from 1973 to 2001, Baker *et al.* (2008) showed that the twelve top biotech firms and the twelve top pharmaceutical firms were directly involved in over 32 % of the alliances in the sector. Hence, a few firms make lots of alliances, defining a dense network of ties mostly related to R & D projects (55 % of the contracts). However, other studies show that R & D alliances can also be a one-shot game (Ryall & Sampson, 2006). Holmstrom (1989) suggested that R & D projects may be prone to alliances because

[12] Some integrated firms attempt to replicate the traits of these external networks, e.g., *ABB* and its 1,200 autonomous entities and 4,500 profit centers (Achrol, 1997).

they are: (a) risky; (b) unpredictable; (c) long-term and multistage; (d) labor intensive; and (e) idiosyncratic. The resulting problems of observability, with related risks of opportunism, favor recourse to constraining contractual clauses and carefully delineated rights. However, R & D projects are not the only engine of alliances. Strategic alliances exist in many other activities, from wholesaling in the American hardware industry (Dwyer & Oh, 1988) to the airline industry (Holmstrom & Roberts, 1998), to alliances between equipment and component suppliers (Artz & Brush, 2000). In all these arrangements, the relative symmetry among partners means that contracts have a key role as coordinating tool.

Supply chain systems also rely on contracts, but differ from strategic alliances with respect to the density and extension of shared rights. Based on complementary activities and/or competences among autonomous partners, they require tight coordination across stages, usually from production to distribution. In a pioneering paper, Brown (1984) pinpointed the tight organization of transactions among independent parties in the dairy milk industry, through 'administered channels' monitoring quantities, controlling assortments, and guaranteeing quality. Ménard (1996) exhibited similar arrangements in the poultry industry, with a complex set of contracts linking breeders, slaughterhouses, integrators and distributors. The design varies, according to whether the arrangement is monitored by a leading firm or a specific governing entity. Supply chain systems benefit from powerful market incentives while providing tight control over key transactions, without the burden of integration. The analysis of these forms is a booming industry in the agro-food sector, logistics, etc.[13]

Supply chains almost always involve production, while *franchises* concern primarily distribution. However, the boundaries between these forms are blurred, with many franchisors having developed tight vertical coordination to control inputs as well as output, as illustrated by *McDonald's*. What differentiates franchising from most supply chains is the large number

[13] See journals such as *Supply Chain Management*, *Journal of Chain and Network Sciences*, etc.

of partners giving up part of their decision rights while pooling property rights to benefit from brand names and joint actions. Franchise systems also share characteristics of subcontracting because of the central role of the franchisor, whether it is a unique entity or a group as in the millers' relation to bakers. The now-abundant literature on franchising almost entirely focuses on agency problems and financial constraints as explanations to their existence, with little concern for the various forms they take and the problems of governance they raise, beyond incentive issues (but see Lafontaine & Slade, 2007; 2011).

Joint Ventures exhibit important characteristics of hybrids in a relatively pure form. JVs "are simultaneously contractual agreements between two or more organizations and a separate legal (and usually organizational) entity with its own purpose" (Borys & Jemison, 1989: 245; also Hennart, 1988: 361-362). 'Parent' companies transfer some assets and property rights as well as some decision rights to a 'child' company monitored by a specific governing body, while 'parents' remain autonomous and often compete in other activities. This mix of global sovereignty and 'local' cooperation involves forms of hierarchy that complement contracts. The motivation comes from expected gains, either from knowledge-based activities requiring competences that exceed separate capabilities, as in R & D projects, or from economies of scale, as when competing automakers jointly produce transmissions. However, JVs face issues of: a) governance, e.g., about rights they can claim over parents' resources; b) of loss of control, e.g., the irreversibility of transfer of knowledge; and c) of rent allocation, e.g., measuring the value added of scientists involved in joint activities. Such problems may explain the short lifespan of many JVs (Hennart, 1988).

There are many other ways to organize interfaces among partners. *Partnership* is another non-standard mode of organization, taking various forms, from law firms to the collective organization of salmon fishermen of the Pacific Northwest (Farrell & Scotchmer, 1988). These arrangements often develop to deal with common pool resources. *Cooperatives*

define another important category, almost a class of its own. The variety of their forms makes their characterization difficult, since they are spread over a wide spectrum, from quasi-integrated firms to market-like arrangements. However, numerous cooperatives share characteristics of hybrids with respect to the joint allocation of rights and their mode of governance, dominated by the "one person, one vote" principle (see Hansmann, 1988; Ménard, 2007b).

In sociology and managerial sciences, hybrids are often described as *networks.*[14] In a pioneering paper, Thorelli (1986: 35) characterized networks as long term relationships between two or more organizations. Powell (1990) suggested a distinction between: (a) networks structuring craft industries, e.g., construction or publishing; (b) networks shaping industrial districts, e.g., the Modena area or the Silicon Valley; (c) networks framing vertical disaggregation, e.g., subcontracting in the automobile industry; and (d) networks organizing horizontal coordination, e.g., strategic alliances and partnerships. The term then becomes a label more than a concept. A more specific approach, closer to Thorelli and to our concept of hybrids, identifies networks with durable collective action that requires specific governance. Early developments in the telephone industry illustrate the point (Barnett, 1990; Barnett & Carroll, 1993). The introduction of wire coils and new power technology at the beginning of the 20th century allowed the development of long distance calls to take place. This in turn required coordination among hundreds of companies (public and private), cooperatives, and 'farmer lines' operated by groups of farmers.[15] Coordination imposed technological standardization, while parties maintained differentiated services and distinct rights. Similarly, the development of ATMs substantially increased the volume of transactions and the variety of services but also required costly coordination and control among banks, with ambiguous

[14] The term *cluster* is also used, although less often.

[15] In the period 1910-1930, 707 companies were operating in Pennsylvania. Interestingly, public authorities facilitated coordination. Between 1904 and 1919, 34 states adopted laws mandating interconnection among proximate systems. At the federal level, the 'Kingsbury agreement' obliged large American firms to accept connection all over the country.

organizational effects between incentives to integrate and incentives to outsource (Clemons & Row, 1992). The notion of a network is also often used, particularly in sociology, to label mini-societies "of interdependent, reciprocal exchange relationships" (Achrol, 1997: 68), shaped by "the density, multiplexity, and reciprocity of ties and a shared value system defining *membership* roles and social responsibilities" (ibid., 59). Aoki (2001, chap. 14) described the venture capitalists of the Silicon Valley accordingly.

All these arrangements, as well as others (condominiums, consortia, etc.), differ from integrated solutions (the 'firm'), which rely on a center that keeps control over decision rights and owns assets in the last resort, with well identified residual claimants. They also differ from markets, at least as defined in the neo-classical tradition, since markets preclude central coordination so that assets and related payoffs remain with separate owners, parties interacting exclusively through prices or through contracts that respect their autonomy of decision. However, hybrids can lean towards one or the other of these polar cases, depending on the intensity of the coordination required and the density of rights shared (see Section VI).

To contrast hybrids with hierarchies or markets, let us reduce their properties to their simplest content. Let us consider two firms, 1 and 2, and four assets {A,a; B,b}, with A and B related to the core activity of 1 and 2, respectively, and remaining within their boundaries, while a and b are assets which are valuable only if used jointly. Each firm holds full decision rights, D_A and D_B, while rights d_a and d_b require coordination as they are linked to the joint use of a and b. The resulting payoffs are therefore Π_A, Π_B, π_a, and π_b, with the latter two generated if, and only if, the corresponding assets are used jointly (profits are zero otherwise). Last, let us identify the governing entity, if it exists and whatever the form it takes, as the Strategic Center (SC). Three resulting "ideal types" (markets, hierarchies, hybrids) are summarized in Figure 1.

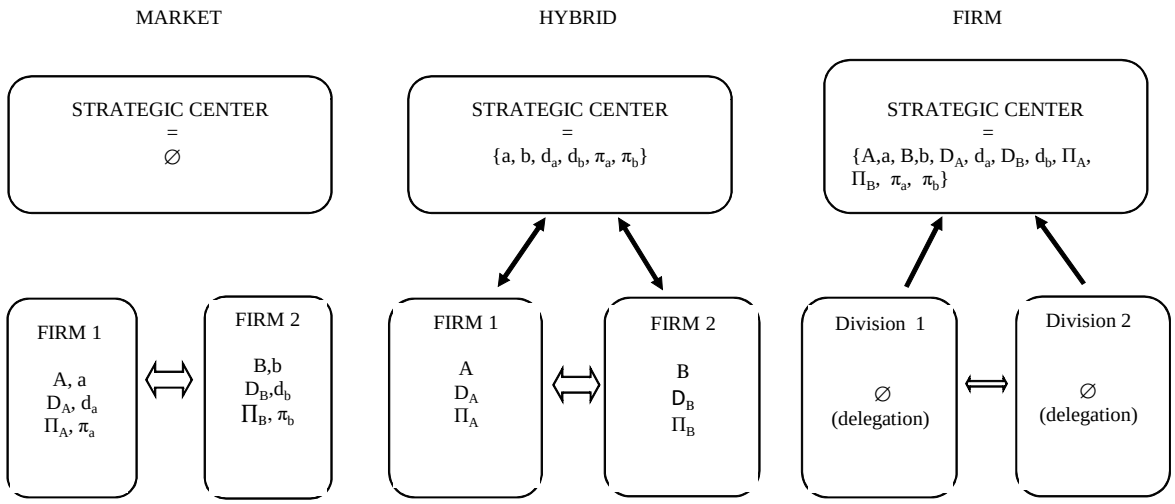

Figure 1: Forms of Organization Contrasted

In markets, rights are allocated distinctly and partners process transactions through the price system, without interference of a joint strategic center. Cooperation that might be required to value some assets is monitored through contracts that do not encroach on the rights of the parties. In firms, divisions hold rights under delegation: in the last resort, they remain submitted to the control of the strategic center (the 'headquarters'). In hybrids, key rights are in the hands of autonomous partners who retain titles as residual claimants, while subsets of assets, rights, and associated payoffs are shared and monitored jointly. The following three sections explore further why parties prefer this last variety of arrangements, what makes them sustainable, and what governance mechanisms could allow them to outperform other modes of organization.

III. REASONS FOR GOING HYBRID

Understanding why firms invest in projects that require loss of control over key rights raises important questions about why firms accept this loss of control and what pushes parties to go hybrid, rather than relying on pure market relationships or fully integrating.

As already noted by Rubin (1978, Part 7), these questions are very much in line with the problem raised by Coase (1937; also Cheung, 1983). Choosing alternatives to markets as well as to integration is motivated by expectations of the improved allocation of resources: if hybrids exist and remain stable over time, it is likely because under certain conditions they do better at handling transactions. However, the paucity of economic explanations of why hybrids develop is striking.[16] In what follows, I briefly review the theories embedded in the models exposed in other chapters of this book, and which assess the existence of hybrids. Then, I turn to a highly relevant empirical literature that relates only partially to these models, in order to understand better forces favoring hybrids.

III.1: Theoretical Explanations

Any satisfactory explanation to hybrids must shed light on what motivates parties to pool strategic assets and share rights without integrating. It must also demonstrate how these distinctive arrangements can provide adequate safeguards against risks of free-riding while keeping incentives superior to alternative solutions. Conceiving of a firm as a production function and of markets as a price formation device does not account for the existence of hybrids. Economies of specialization (as in the construction industry), of scale (as with shared trade-marks), or of scope (as in joint R & D projects) likely play a role in the decision to pool resources, but do not explain why the optimal solution would not be merger or acquisition.

Economic theory has paid attention to hybrids only recently, with transaction cost economics playing a pioneering role. Agency theory and relational contract theory have also taken into account some hybrid forms, while less developed approaches such as the resource-based views have provided useful insights. With leading theories exposed in other chapters of this book, I report here only elements relevant to the analysis of hybrids.

[16] Other disciplines have been taking hybrids into account more quickly. Grandori & Soda (1995) already provided a stimulating survey of organization studies on 'inter-firm networks' some time ago, while Oliver & Ebers (1998) reviewed a large set of contributions on 'Inter-organizational Relationships' already available in sociology and managerial sciences.

Transaction cost economics (TCE) deserves priority. The idea that there are alternative ways to organize transactions goes back to Coase (1937), followed by Williamson (1975). Both focused on the trade-off between markets and firms. However, in *Markets and Hierarchies* Williamson noted the existence of "intermediate forms of contracting" (1975:109), but expressed doubts about their stability and considered them as transitory. It is only in *The Economic Institutions of Capitalism* that he endorsed a more positive approach to arrangements later coined 'hybrids', going as far as considering them potentially 'dominant' (1985: 83). In 1991, he explicitly modeled them as **a governance structure that could be an efficient alternative to 'markets' and 'hierarchies',** from which they differ with respect to: (a) contract law, (b) adaptability, and (c) incentives and control. Hybrids would fit transactions requiring assets of intermediate specificity and facing moderate uncertainty, providing a 'middle-of-the-road' solution. The resulting concept remained a bit fuzzy, with its reference to 'semi-strong' governance captured essentially through 'contract law'. This may explain why some 'Williamsonians' questioned the viability of a theory of hybrids (Masten, 1996: 12), while critics challenged the idea that the attributes leading hierarchies to depart from markets (asset specificity, uncertainty, frequency) provide adequate tools to understand the existence and properties of hybrids (Powell, 1996; Hodgson, 2002).[17]

Nevertheless, TCE has inspired a huge empirical literature (see the next sub-section), partly oriented towards enriching the heuristic model in order to substantiate the reasons why parties go hybrid. An illustration is provided by Artz & Brush (2000), who intended to face the often rehearsed critique, going back to Granovetter (1985), that TCE does not capture the social dimension supporting inter-firm agreements. To catch the role of interactions in the governance of hybrids, they introduced 'relational norms' as a complementary attribute (see

[17] From a different perspective, Holmstrom & Roberts (1998: 92) argue that: "Many of the hybrid organizations that are emerging are characterized by high degrees of uncertainty, frequency and asset specificity, yet they do not lead to integration."

also Gulati *et al*., 2000).[18] From a different perspective, Ménard & Klein (2004) emphasized that the complexity of transactions at stake might explain the decision to go hybrid, while Ménard (1996) noted that interdependent transactions may command such arrangements when parties want to avoid the drawbacks of integration, particularly bureaucratic costs and weak incentives. Notwithstanding their limits, these contributions and numerous others testify to the efforts of TCE to capture better the nature and strength of hybrids as alternatives to markets or hierarchies.

The literature on ***relational contracts***, which partially follows on from TCE, has shown a growing interest in hybrids (Klein *et al.* 1978; Klein & Murphy, 1988; Baker *et al*., 2002 Malcomson, 2011). The initial inspiration comes from Macaulay (1963) and MacNeil (1974; 1978) who introduced the expression "relational" to emphasize the mix of contractible and non-contractible elements and the importance of the latter.[19] According to Goldberg (1980; also Baker *et al*., 2002), parties establish tightly meshed relations to limit the impact of: (a) imperfect and costly information, (b) opportunistic behavior, and (c) difficulties for outsiders to enforce agreements plagued with non-verifiable elements. Hence "[t]he parties will be willing to absorb a lot of apparent static inefficiency in pursuit of their relational goals" (Goldberg, 1980: 339).

Formalizing this approach in a model initially developed to account for labor relations within firms, Baker, Gibbons & Murphy combined TCE and the 'new property rights theory" to explain what forces push firms towards solutions such as joint ventures or strategic alliances (Baker *et al*., 2008). In this version, they differentiate governance structures

[18] Using a survey of 400 firms specializing in industrial and machining equipment, electronic and electrical machinery, computer equipment, and transportation machinery, Artz & Bush approximated 'relational norms' through three components (with associated proxies): collaboration, continuity in shared expectations, and communication strategy.

[19] When referring to 'relational contracts', economists emphasize the rational behavior of parties expecting future exchanges, while sociologists, who also refer to 'relational governance', intend to capture norms and social ties emerging from prior exchanges (Poppo & Zenger, 2002: 710). In the managerial literature, 'relational' often refers to informal contracts, as opposed to formal ones (Carson *et al.*, 2006). In line with Goldberg (1980), Baker *et al*. (2002) and Malcomson (2011) rather incorporate non-contractible elements in the analysis.

according to how rights over assets and 'spillover' payoffs are allocated. If relational contracts might help dealing with non-contractibilities, they can also generate tensions and conflicts, the magnitude of the resulting transaction costs depending on whether the coordinated use of assets complement or compete with the core activities of parties involved. The problem then becomes that of choosing a "governance structure" that allows parties to maximize their payoffs while facilitating adjustments. **Hybrids provide alternative solutions, possibly optimal ones, when there are significant non-contractibilities.**[20]

A major characteristic and a limit of this explanation is that rights remain ultimately in the hands of separate entities while non-contractibilities make agreements unenforceable by courts, so that the outcome depends on (relational) reputation. As Malcomson (2011, conclusion) rightly emphasizes, "Relational contracts in these models are a substitute for enforcement by courts, not a substitute for careful planning."

In contrast to TCE, this approach remains so far an exercise in theory. Some empirical analyses relates to "the spirit" of relational contracts in that they try to capture *ex-post* adaptations when some decisions are non-contractible. For example, referring explicitly to MacNeil (1978) and Baker *et al*. (2002), Poppo & Zenger (2002) use 152 reliable responses (out of 181) from randomly selected senior corporate managers of Information Services to show that 'relational governance' complement formal contracts. 'Relational governance' is here understood as social processes emerging from repeated interaction and which facilitate adaptation.[21] However, such tests relate only to a limited extent to theory, because of conceptual differences (e.g., between 'relational governance' and 'relational contract').

[20] This departs from the prevailing approach in "the new property rights", which focuses on whether A or B own assets; joint ownership may be feasible but is most of the time considered as suboptimal (see Holmstrom, 1999, who emphasized that in this approach it never pays to have joint ownership since either side can veto the use of the assets). Halonen (2002) extended the Grossman-Hart-Moore model (see Hart & Moore 1990) to cases in which it could be optimal to share some rights, but it is not clear if we end up with a different governance structure or simply a distinct sharing rule.

[21] 'Relational governance' is captured through four dimensions: open communication and sharing information; trust; dependence; cooperation, with associated indicators focusing on relations between vendors and buyers.

There are alternative explanations to the existence of hybrids. ***Agency theory*** has inspired much research into franchising (Brickley & Dark, 1987; Lafontaine & Slade, 1997; 2007), with **incentives and financial motivation** viewed as the main issues. For example, Maness (1996) and Holmstrom & Roberts (1998) suggest that franchising dominates fast food but not supermarkets because it provides better incentives to local managers having to monitor multiple inputs simultaneously, while costs in supermarkets mostly come from inventories and warehousing, which can be handled through specialized functions within an integrated structure. However, Lafontaine and Slade (1997; 2007) demonstrated that franchise contracts do not deliver tailored incentives, and that financial motivation has a weak explanatory power, contrary to what the theory predicts. More generally, Lafontaine & Slade (2007) show that TCE prevails over agency theory when it comes to predictability, and that the later hardly explains the existence and variety of franchise systems.

The ***resource-based view*** is another influential approach, particularly in organization studies and management sciences. Boiled down to its core, it explains networks and other hybrids as ways to **deal with uncertainties and change by sharing essential inputs**, particularly competencies (Wernerfelt, 1984; Nooteboom, 1999, chap.1). A positive contribution of this 'view' is to have attracted attention to the key role of learning and capabilities. However, it hardly explains why integration is not preferred to hybrids and why there are so many ways of facing uncertainty.

To sum up, we still need a convincing theory telling us why hybrids exist and prosper and how they differ from alternative modes of organization. However, and notwithstanding their limitation, the contributions summarized above help framing partial explanations dispersed in the empirical literature.

III.2: Empirical Evidence

A substantial part of this literature could be related to the unsettling question raised by Simon (1951) and reactivated by Cheung (1983): why do autonomous economic entities abandon substantial rights without certainties about payoffs? More specifically, it must be asked why arrangements exist that deliberately avoid relying primarily on prices to coordinate activity without going as far as integration, in the hope of outperforming markets as well as hierarchies. Three determinants emerge from an abundant literature which is only partially grounded in the theories above: an improved capacity to face uncertainty, the creation of value through mutually accepted dependence, and the expected positive spillovers if adequate rules for sharing are implemented.

A: *An instrument to deal with uncertainty*. A possible motivation to go hybrid is that sharing rights and pooling resources improve capacities to face uncertainty. I take uncertainty here to be contingencies which are difficult or impossible to predict and which generate problems of adaptation (John & Weitz, 1988). As already pointed out by Eccles (1981) in his study on the construction industry, inter-firm nettings respond to the combination of the specificity and high variability of each project, making adaptability a key issue.

Uncertainty has always been viewed by TCE as a key attribute conditioning organizational choices *ex-ante*. TCE also shares with the relational contract approach the idea that *ex-post* non-contractibilities impose adaptation, determining the 'fitness' of these choices. However, there are few tests in economics on the role of uncertainty in the decision to go hybrid,[22] while uncertainty is viewed as a driving force in the sociological and managerial literature (Gulati & Gargiulo, 1999). For example Carson *et al*. (2006: 1059) proposed a distinction between 'volatility', defined as "the rate and unpredictability of change in an environment over time," due to exogenous shocks; and 'ambiguity', understood as "the degree of uncertainty inherent in perceptions of the state of the environment, irrespective of

[22] There are some tests on the role of uncertainty in decisions to integrate, e.g., Anderson (1985) and Saussier (2000), who estimated the role of uncertainty in the 'make' or 'buy' trade-off.

its change over time." Using data from 125 informants on client-sponsored R & D relationships, they showed that formal contracts would be inefficient when *volatility* is high, while relational contracts fail when *ambiguity* is high.

This suggests diversity in the types and sources of uncertainty, pushing parties to pool resources without integrating. It might partially explain the variety of hybrids. **First** demand can be unstable or unpredictable. Using a survey of 183 responses collected in three Canadian industrial sectors (non-electrical machinery, electrical and electronic machinery, transportation equipment), Joshi & Stump (1999) showed that market turbulence plays a more significant role than competitive intensity in the decision to go hybrid. **Second**, technological change can promote hybrids as a means to accelerate innovation or its adoption (Park, 1996; Ghosh & John, 1999; Powell, 2003; Ryall & Sampson, 2006). Superior technologies require a flexibility that the bureaucracy of integrated firms hardly provides, while hybrids would benefit from shared learning and resources (Anderson & Gatignon, 2005). **Third,** variations in the quality of inputs and/or outputs may require tighter coordination than markets provide, as supply chain systems illustrate (Ménard & Valceschini, 2005). **Fourth**, risks of opportunism might encourage constraining agreements that mitigate hazards while preserving autonomy on key decisions. The role of opportunism in organizational choices (Williamson, 1975, chap. 2) underlies countless tests, starting with Anderson (1985),[23] and provoked strong reactions, particularly among sociologists who defend trust as a more likely response to uncertainty. In both cases, there is room for hybrids. **Last,** unsecured environments, e.g., property rights poorly defined or not backed by adequate institutions, generate "appropriability hazards", as in technology transfers, which hybrids could overcome without the disadvantages of full integration (Oxley, 1999).

[23] It is also a key argument used by Hansmann (2011) to explain the existence of franchisee-owned franchisors.

In developing joint strategies, sharing knowledge and risks, implementing common standards, and adopting adequate governance, hybrids might provide solutions not available to alternative arrangements (Robinson & Stuart, 2007; Baker *et al*., 2008). This could explain preferences for socially embedded relationships rather than arms' length relationships when uncertainty is high (Khanna, 1998; Gulati, 1998), when high adaptability is required (Uzzi, 1997; Podolny & Page 1998), or when it is difficult to differentiate between poor performance and bad luck (Park, 1996: 803). However, the exact impact of uncertainty on the choice and performance of hybrids remains under-explored, likely because of difficulties in finding adequate proxies and collecting appropriate data.

B: *Creating value through accepted interdependence*. Partners to hybrids share some rights and assets although they often remain competitors and face uncertainty over possible payoffs, as illustrated by the millers' case or sports leagues. Why do they accept this mutual dependence on strategic segments of their activities, even when uncertainty is low?

An unambiguous answer is that they expect added value from their joint investments as well as from the spillover effects of these investments on assets and capabilities which are not pooled: they commit in the hope of *creating values* unattainable otherwise (Borys & Jemison, 1989: 241). This strategic choice goes beyond cost minimization (Gulati, 1998). As noted by Madhok & Tallman (1998: 336): "The flows of quasi-rents that stem from the dynamics among these relationships tend to hold the system together so long as the participant actors recognize that rents could well disappear with the alliance relationship, thus providing an economic incentive to avoid opportunistic actions."[24]

The creation of value added may lie in the following sources.

Size is one possible determinant. When investments exceed the capacities of parties working solo (e.g., marketing products, promoting standards, supporting R & D), firms might

[24] See also Klein *et al.* (1978) and Klein (1996).

expect rents from bundled resources.[25] Joint assets might generate economies of scale and/or economies of scope (Park, 1996). However this explanation remains limited, notwithstanding the advantages rooted in technology. First, if capital markets are efficient, it needs to be asked why firms cannot find adequate support from banks or other lenders rather than taking the risk of pooling strategic resources. Second, if size matters, why not integrate? In a survey of 225 independently-owned companies in the human biotechnology sector over 1990-1994, Powell *et al*. (1996) demonstrated that it is from building "a sea of informal relations" (p. 120) rather than size that firms expect gains.[26]

In this respect, **complementarity** might provide a powerful incentive to go hybrid. Mutual dependence becomes strategically valuable if it secures supply of existing resources, allows access to new resources, or facilitates diversification. In the same vein, separate firms may not have resources to develop independent 'absorptive capacities' (Cohen & Levinthal, 1990), thus motivating strategic alliances, joint R & D projects, etc. Complementarities between innovative firms and well-established ones when financial markets impose tight constraints may also push firms towards hybrid arrangements. Lerner & Tsai (1999) argue that the receptivity of financial markets to the biotech industry is cyclical, so that when markets are 'cold', biotech firms turn to pharmaceutical and chemical companies. However, complementarities involve risk: innovation may fail, demand may change, and partners may behave opportunistically. Numerous studies emphasize the role of relational norms and social ties as buffers against these risks (e.g., Heide & John, 1992; Artz & Brush, 2000).

Learning effects provide another incentive to go hybrid, partially overlapping with complementarity. When markets cannot adequately bundle tacit knowledge and capabilities while firms need skills they cannot develop autonomously, incentives to join forces develop

[25] Powell (2003) argues the opposite, namely that spin-offs are often preferred to multidivisional structures by large corporations in order to benefit from financial advantages (e.g., federal grants, issuing stocks, attracting new investors fascinated by the 'new economy') as well as from legal ones (e.g., limited liability).

[26] "We argue that when knowledge is broadly distributed and brings a competitive advantage, the locus of innovation is found in a network of interorganizational relationships." (Powell *et al.*, 1996: 119).

(Teece *et al*., 1997; Madhok & Tallman, 1998; Ryall & Sampson, 2006). When hybrids become portfolios of skills, they transfer and recombine, leading to new know how (Powell *et al*. 1996; Stuart & Podolny, 1996; Podolny & Page, 1998; Dyer & Singh, 1998; Powell, 2003). However, joint learning effects remain difficult to capture and model, so that assessing their role is challenging.

These factors point to the expected gains from pooled resources. Yet, sharing resources has drawbacks: it requires inter-firm planning, which restricts individual decision rights and might generate costly negotiations and/or renegotiations. This begs the question of why integration is not preferred. Coase (1937) suggested limited managerial capacities as an explanation. Williamson (1996, p. 150) goes a step further, arguing that 'selective intervention' that would allow integrated firms to replicate successful properties of alternative arrangements can hardly be achieved. Brickley & Dark (1987) argue that franchising develops because acquisitions may be too costly or too difficult to swallow, or resources needed to integrate are too difficult to evaluate (also Madhok & Tallman, 1998; Brickley, 1999). Baker *et al*. (2002) propose an alternative explanation. Upstream ownership decreases downstream parties' temptations to renege but creates temptation for upstream parties to renege. If the first consideration dominates, integration is optimal; otherwise, sharing rights through non-integrative arrangements could offer the appropriate solution.

C: Sharing rent while checking opportunism. Williamson (1991) argued that when markets do not provide adequate coordination, hybrids might be the first best solution since they maintain higher incentives than integrated firms. Incentives in hybrids are three-dimensional: (1) each firm remains residual claimant on payoffs provided by its own assets; (2) each partner can claim a share of the rent generated by jointly used assets; (3) all partners may cash rents from activities unrelated to the arrangement, thanks to spillover effects of their joint reputation. In

sum, parties accept mutual dependence because they expect increased *ex-post* surplus, which improves *ex ante* incentives to join and invest.[27]

In this context, allocation of asset ownership becomes a key issue since "[it] provides levers that influence bargaining outcomes and hence incentives" (Holmstrom & Roberts, 1998: 79). However, this presumes the possibility of an unambiguous distribution of rights, while in many hybrids payoffs of type (2) and (3) are not contractible, or only partially so. Going hybrid and relying on relational contracts might then be an efficient solution when costs of integration would be too high while contributions from interdependent assets are difficult to assess. This approach is consistent with Hansmann (2011) who emphasizes the trade-off between costs of ownership and costs of contracting in choosing a mode of organization. Although there are cases with returns strictly proportionate to equity shares, as in many joint ventures, most hybrids rely on incomplete agreements, because standard contracts perform poorly or because of measurement problems – as in joint R & D – so that "organizing a satisfactory split of the gains becomes non-trivial" (Ghosh & John, 1999: 133).[28] The inadequate allocation of rents could challenge the comparative advantages of hybrids, with partners: (a) scaling back investments, (b) adapting less, or (c) forgoing activities that raise hazardous measurement problems. This explains why hybrids are often considered suboptimal (Rey & Tirole, 2001).

If we keep in mind this strategic significance of rent sharing rules in hybrids, we would expect an abundant literature on this issue. It is not so. Contributions remain scarce and focus essentially on two mechanisms, royalties and tournaments, which both presume well

[27] In the parlance of game theory, partners cooperate because they expect a net positive value. Parkhe (1993) compares strategic alliances to a stag hunt, with hunters pooling their skills in the hope of capturing stag rather than free-riding in the hope for some of them to get a rabbit. Cooperation then dominates alternative strategies.

[28] Referring to 42 R & D alliance contracts, Ryall & Sampson (2006) noticed that in most cases property rights were allocated according to who the primary developer is. This does not solve problems that emerge when anteriority is unclear or when input contributions are difficult to identify, which is often the case in hybrids.

defined rights. Royalty rules have been explored extensively for franchise systems. They typically have a linear form, e.g.:

$$Fees = F + \beta y,$$

where F is a lump sum, y the total sales, and β the royalty rate, in most cases in the 4-8 % range (Lafontaine, 1993; Lafontaine & Slade, 1997). This standardized rule challenges the idea that contracts vary incentives to match specific conditions across sectors, regions, etc. Ménard (1996) reached a similar conclusion in his analysis of producers' groups in the certified agri-food sector, and Rubin (1978: 227) already asked why franchisees accept such rigid rules.[29]

A variation of this rent sharing rule, and a more flexible one when factors determining contributions are difficult to assess, is to rank parties according to specific variables as in tournaments, with the possibility of integrating qualitative factors. Using data from contracts among breeders and integrators in the poultry industry, Knoeber (1989) showed that ranking breeders makes it possible: (a) to adapt cheaply to changing productivity without renegotiating; (b) to bind growers to integrators when the former provide their own assets; (c) to induce self-selection of high quality growers;[30] and (d) to facilitate truthful revelation.[31]

However, tournaments depend on the capacity to rank contributions and match them with contributors, which is hardly universal for hybrids. As argued by Ménard (2004; also Oudot & Ménard, 2010), when transactions become complex and contributions not verifiable, as in R & D projects, non-contractible rules such as "fairness" (Grandori & Soda, 1995: 196) or "perceived equity" (Fehr & Schmidt, 1999) and *ex-post* bargaining tend to prevail.

[29] Rubin's answer was that parties prefer this arrangement rather than relying on capital markets because it would better motivate franchisors. "The most plausible explanation seems to be that the franchisee has some incentive to motivate the franchisor to be efficient –that is, just as the franchisor desires the franchisee to run the operation efficiently, so the franchisee desires to give the franchisor an incentive to be efficient in those aspects of the relationship which require an ongoing performance by the franchisor." (Rubin, 1978, p. 227)

[30] Contracts can be cancelled if a breeder's performance is consistently below average.

[31] Other references to tournament rules among partners in agri-food chains are Tsoulouhas & Vukina, 2001; and Wu & Roe, 2006. A reference in sports is Ehrenberg & Bognanno (1990) about golf, but this is a limited example since performance can be easily associated with individual golfers.

These insights remain limited. Many discussions on sharing rules in hybrids focus on specific devices based on the allocation of risks, e.g.: (a) fix prices in chain systems in which suppliers support all risks; (b) 'target prices' with shared risks; and (c) cost-plus formulas in which the buyer supports all risks. These solutions apply to situations with rights unambiguously identified. When it comes to non-contractibilities, the literature remains elusive. Since finding ways to share rents while preventing free-riding is so crucial to hybrids, this paucity of analyses is striking. It may be due to the neglect of hybrids by economic theory, but also to the difficulty of capturing how rents are allocated without well-defined, contractible rights.

IV. HOW TO FACE OPPORTUNISM: THE SUSTAINABILITY OF HYBRIDS

The difficulties that hybrids face in finding appropriate rules for sharing out the profits of the positive externalities generated by their members' interaction, while simultaneously confronting competitive pressures from partners as well as from outsiders, are a source of tensions and impose hard choices.[32] Solutions condition the possibility for hybrids to outperform markets as well as hierarchies. The survival and stability of hybrids depend on their capacity to find the right partners, to circumscribe risks of opportunistic strategies, and to implement procedures for arbitrating conflicts and reducing tensions among parties.

IV.1: Challenges to stability

Hybrids combine joint efforts and competing goals, which continuously create tensions among partners who intend to maintain a fruitful cooperation while ensuring the worth of their own assets. Richardson (1972) already emphasized variations in tensions among partners to inter-firm agreements, depending on whether they share physical assets while

[32] Sako (2005) illustrates some of these dilemmas with the example of supplier parks. Should firms favor: (a) modularity or outsourcing? (b) voice (commitment) or exit (flexibility)? (c) diversified employment governance or a unified one? (d) suppliers' role as assemblers or as partners?

competing, or whether they create joint resources to benefit from complementarities without competing.

First, there is the strategic decision about what resources to pool. Partners might: (a) develop a subset of resources from which each one can draw, as in many R & D projects; (b) share resources sequentially, as with logistics in supply chain systems; (c) build and maintain joint assets, as in collective trademarks. Pooling financial resources is a classical example: it is a leading explanation to the existence of franchising,[33] in that this secures expanding markets that are hardly accessible otherwise (Brickley & Dark, 1987; Oxley, 1999) while simultaneously tightening links among partners (Aoki, 1988, chap. 4).[34] Pooling physical assets might also support mixed strategies, as with laboratories jointly built and monitored by partners in the biotechnology industry (Powell, 1996). Similarly, sharing human assets may allow spillover effects in competencies and know-how to emerge. However, pooling resources challenges the competitive advantage that each partner could expect from developing its own specific assets. Hence, *partners weigh up the need to commit versus the risk of capture*.

Second, the combination of separate and shared rights makes monitoring and disciplining parties particularly challenging, and is used as an argument to qualify hybrids as a second best solution (Rey & Tirole, 2001; Baker *et al*., 2008). Mixing cooperation and competition, termed 'coopetition' by Nalebuff & Brandenburger (1998), might not be exclusive to hybrids: employees or divisions compete within firms, notwithstanding expected cooperation.[35] What distinguishes hybrids is the need to stabilize cooperation among otherwise competing partners without relying on hierarchy and with limited control over strategic rights.

[33] This explanation has been seriously challenged (Lafontaine and Slade, 1997, 2007).
[34] Cross financial participation among top shareholders may end up with control in the hands of the network, which raises the issue of its adequate governance, as pointed out by Aoki in the case of 'keiretsu'.
[35] Tirole (1986; also 1988, chap.1) defined firms as a "network of coalitions and contracts that interplay."

On the one hand, accepted interdependence imposes constraints on the usage of pooled resources from which common returns as well as private benefits are expected (Gulati *et al*., 2000; Baker *et al*., 2008).[36] These benefits differ from those coming from the industry level (e.g., market structures or technological innovation) or from heterogeneity among firms (Dyer & Singh, 1998). On the other hand, partners remain competitors. Hergert & Morris (1988) noticed that 71% of strategic alliances concern parties competing on the same market. Ménard (1996) found similar results among networks in the poultry industry, and so did Park (1996) in a study of 204 equity-based inter-firm linkages in the electronics industry, as did Robinson & Stuart (2007) in the biotechnology and pharmaceutical industries.

The challenge of 'stability versus autonomy' that coopetition entails might help understanding observable gaps between the duration of formal contracts and the duration of contractual relationships in hybrids. Hakansson (1989; and Hakansson & Johansson, 1993) documented the stability of networks among small and medium-sized enterprises in Sweden, notwithstanding the short duration of formal contracts, with two thirds of partnerships lasting for more than 4 years, with an average duration of 13 years. This confirms similar observations in the construction industry (Eccles, 1981), among French small and medium-sized manufacturing firms (Paché & Paraponaris, 1993), in the agri-food sector (Ménard, 1996), etc. However, tensions over usage of pooled resources or rent sharing also carry risks of instability, which can go as far as a breach of contracts. For example, the 'mortality rate' in horizontal alliances is higher than in vertical ones, due to competition (Bleeke & Ernst, 1993). Sampson (2005) also found a high rate of dissatisfaction and alliance termination in 464 R & D alliances in the telecoms industry, over the period 1991-1993, while Khanna (1998) noted the risk that "racing" strategies among partners increases instability, particularly when mutual learning is at stake. Ambiguities about residual rights and difficulties in implementing clear

[36] Powel (1996: 211) noted for high tech sectors that "membership in a common technological/intellectual community creates strong and visible mechanisms for peer-based governance."

sharing rules push hybrids to search adequate mechanisms of governance (Park, 1996; Ménard, 2004). *Finding stability without challenging the autonomy of partners remains a key issue in hybrids*.

IV.2: Finding the right partners

In this respect, selecting the right partners becomes crucial. Two dimensions of selection have particularly attracted attention. **First**, antecedents signal the reliability of potential partners and provide insights into the compatibility of management systems and decision processes (Lorenzoni & Baden-Fuller, 1995). In a series of papers on strategic alliances and networks Gulati (1995b), Gulati & Gargiulo (1999), and Gulati *et al*. (2000) showed that repeated interaction among parties is a key component in the selection process. Using data from 1980 to 1989 on 166 organizations evenly distributed in the US (54), Europe (46) and Japan (66), and operating in three industrial sectors (new materials, industrial automation, and automotive products), Gulati & Gargiulo (1999) showed the importance of "trusted informants" and/or "information from one's own past dealing with this person" in choosing partners and reducing uncertainties in the formation of alliances. In line with Granovetter (1985; also Dyer & Singh, 1998: 666 & sq.), they emphasized: (a) past cooperation ("relational"), (b) indirect ties through third parties ("structural"); and (c) the role of potential partners in pre-existing ("positional") alliances as factors determining selection. The analysis of the role of 'centrality' and 'proximity' in Robinson & Stuart (2007) concurs. However, Poppo & Zenger (2002) and Ryall & Sampson (2006) highlighted some puzzling effects of antecedents: prior alliances develop trust, signaling the high value of a relationship and encouraging informal governance, but repeated interactions also improve information and the capacity to write detailed contracts, making highly formal relationships easier to implement.

Second, the imposition of restrictions on potential partners operates as a screening device. Selection means barriers to entry. Hybrids have a more or less open architecture. Powell (1996) emphasized that cross-traffic of researchers between universities and firms and among firms in the biotech industry facilitated the development of co-specialized assets. However, Ménard (1996) pointed out the tight restrictions imposed on partners in the French 'label' system, and Baker *et al*. (2008) found a similar pattern in biotechnology and pharmaceutical alliances, dominated by a hard core of 12 firms, while Grandori & Soda (1995: 196) argued that the broader the scope of cooperation, the stricter are the rules of access. According to Dyer & Singh (1998), variability in openness depends on: (a) the level of ambiguities about sources of rents; (b) the degree of replicability of resources generating rents; (c) the degree of imitability of resources to be pooled; (d) the availability of partners of the same type; (e) the accessibility to capabilities they offer; and (f) specificities of the institutional environment.

All in all, hybrids' permeability remains limited by provisions determining resources to be pooled, delineating decisions to be shared, and fixing rules of governance. The resulting contractual constraints, e.g., (a) non-linear pricing; (b) royalties; (c) minimum prices; (d) quotas; (e) exclusive territories; (f) exclusive distribution; (g) packages, and other commitments are integral components in selecting and monitoring partners. They also severely challenge competition policies (Rey & Tirole, 1986; Ménard, 1996; 2007a).

IV.3: Straightening ties to reduce opportunism

Beyond selection, the "willingness of trading partners to exert effort on behalf of the relationship" (Mohr & Spekman, 1994: 137) is central to sustaining a stable arrangement while checking opportunism. Shared goals and common expectations legitimize coordination, facilitate joint decisions, and prevent free-riding. In an extensive analysis of 166 alliances, Gulati (1995b) showed that firms prefer to deal with partners already interacting with others,

thus benefiting from informational advantages and mitigating control concerns. Many others confirm that "[t]he social dimensions of inter-organizational relationship play a crucial role in controlling and coordinating behavior in transactions" (Bradach, 1997: 294), including: Powell *et al*. (1996) or Robinson and Stuart (2007) on biotechnologies; Baker *et al*. (2008) on alliances between biotech and pharmaceutical firms; and Aoki (2001, chap. 14) on the role of venture capitalists in building networks in the Silicon Valley,

This importance of informal relationships was already emphasized by Macaulay in 1963. In the 1980s, several contributions focused on the role of **social ties** in 'non-standard' modes of organization. Ouchi (1980) introduced the notion of 'clans' as homogeneous networks minimizing goal incongruence while tolerating high ambiguity about outcomes, thanks to shared values. Ben-Porath (1980) pointed out the role of social ties in overcoming high uncertainty (e.g., about quality, or when obligations are spread over time). Granovetter (1985; also Zucker, 1986 and Adler, 2001) extended the idea to inter-firm relations in an influential critique of standard economic assumptions as well as of Williamson's emphasis on opportunism. 'Social ties' have become a leading theme in the sociology of networks.

This theme has also permeated managerial sciences, through the analysis of trust. Thorelli (1986) defined trust as "an assumption or reliance on the part of A that if either A or B encounters a problem in the fulfillment of his/her implicit or explicit transactional obligations, B may be counted on to do what A would do if B's resources would be at A's disposal." Trust could emerge from prior history, from expectations of continuity, or from the interdependence of these two.[37] It would operate through: (a) the convergence of expectations among partners with different goals; (b) the development of idiosyncratic languages for

[37]Sako & Helper (1998) identified three sources of trust: contractual (confidence that the other party will carry out the agreement); competence (confidence that the other party will be capable of doing what he/she says he/she would do); and goodwill (confidence that the other party will take initiatives mutually beneficial while restraining from taking unfair advantage). Their test, based on data collected from 3,000 suppliers in the automotive industry, showed that Japanese networks of suppliers are significantly more "trusting" than the competing US suppliers.

carrying routines and information; (c) the transformation of tacit rules in common knowledge through shared norms; (d) the adaptation to unforeseen contingencies with reduced transaction costs (Jones *et al*., 1997: 929; Sako & Helper, 1998: 388).

Williamson (1996, chap. 10) challenged the role of trust, boiling it down to calculative strategies. The resulting controversy, which is still going on, exhibited the complex role of trust in facilitating flexibility and solving conflicts (Achrol, 1997: 65 sq.). Using an example from Uzzi (1997: 55), about a manufacturer in the New York garment industry which moved its production to China after having notified its American partners ahead of time to let them adjust, while not notifying contractors at arm's length, Podolny & Page (1998: 61) concluded: "Cooperation does not arise as a route to future gains."

Economists and organization theorists interpret trust as a reputational issue (MacLeod, 2007). **Reputation** draws on various phenomena (Farrel & Scotchmer, 1988; Parkhe, 1993; Gulati, 1995b; Adler, 2001; Poppo & Zenger, 2002). It can grow out of: (a) recurrent transactions among partners, a central explanation in game theory; (b) familiarity among partners sharing a common background, due to social similarities, geographic proximity, or devices deliberately designed for that goal (e.g., training sessions, managerial seminars); (c) information about past agreements with third parties; (d) institutional roots, as when partners belong to professional associations that implement behavioral norms or technical standards.

More generally, the density of ties likely plays an important role in the decision to go hybrid but also in the choice of a specific form. In their survey of over 3,854 strategic alliances in biotechnology from 1976 to 1998, Robinson & Stuart (2007) showed that parties involved in a dense network (measured by the 'centrality' and 'proximity' of partners) are less likely to rely on equity participation and more likely to rely on extra contractual enforcement mechanisms to prevent hold-ups. However, there might be "a potential dark side

of over-embedded ties," which may sustain relationships that are no longer fruitful (Poppo *et al.*, 2008: 52; also Anderson & Jap, 2005).

IV.4: Implementing control

Ties help building a reputation that generates trust, facilitating the selection of partners, influencing the choice of the mode of governance, and smoothening adaptation. However, hybrids often need more drastic means to control and discipline partners.[38] These "different safeguards are likely to have different set-up costs and result in different transaction costs over different time horizons" (Dyer, 1997: 537).

The threat to expel underperforming partners or free-riders is such a tool. Threats work if the expected losses from being ousted exceed the gains of free-riding (Klein, 1996), and if the mode of governance adopted allows such radical sanctions. The implementation of a 'private court' to control and penalize deviant millers illustrates the complex devices that may be needed to make threats effective.[39] Ostracism in the film industry or the destruction of traps of interlopers and deviants in the Maine Lobsters industry provide other examples (Jones *et al*., 1997). Greif (1993; 2005) similarly showed the power and complexity of threats relying on collective sanctions in the network of the Maghribi traders.[40]

However, threats remain an ambiguous tool. First, a threat is often a one shot game. Second, it signals conflicts and difficulties in solving problems, which might tarnish reputation and challenge future partnerships. Third, ousting deviants challenge the existence of hybrids since they cannot rely on a central 'entrepreneur' to monitor such decisions.[41] Contracts may help disciplining free-riders, e.g., imposing penalties or defining conditions

[38] This could signal a difference between relational contracts among firms and within firms: in hybrids, reneging threatens the very existence of the agreement; within firms, hierarchy provides the means for dealing with the situation. See the comparison between reneging temptations in outsourcing and in the employment relationship in Baker *et al*. (2002)

[39] Raynaud (1997) emphasizes limits to the threat of expulsion, born out of the internal conflicts that could result among remaining partners. Bradach (1997), referring to the example of the "defranchising" of car dealers in the US, highlights more the limits resulting from a mix of institutional constraints and the risk of disrupting the network.

[40] See also the role of "merchants' laws" (Milgrom et al., 1989)

[41] This is precisely entrepreneurs' *raison d'être*, according to Alchian & Demsetz (1972).

under which a deviant can be expelled. However, they cannot do it all. In an extensive study of over 1,500 alliances, Gulati (1998) exhibited that in taking the decision to cooperate, partners are less concerned by contractual hazards than by the expected costs of governing their relationship. Brickley & Dark (1987) and Bradach (1997) reached a similar conclusion about franchising, and identified various control devices that: (a) limit the discretion of agents; (b) reduce opportunistic temptation by restricting residual claims; (c) establish benchmarks through company-owned outlets; (d) discipline franchisees through consultants in charge of persuading them to remedy violations of standards. Achrol (1997: 64 sq.) suggested that control is exercised through expertise, reputation, and influence (which he calls "referential"), while Mohr & Spekman (1994) already pinpointed several techniques implemented by hybrids to avoid relying on threat: (a) joint problem-solving devices (e.g., a specific committee); (b) persuasion; (c) smoothing; (d) domination; (e) harsh words; and (f) arbitration.

The central lesson of these studies (and several others) is that *checking free-riders exceeds the capacity of contracts and favors implementing specific control mechanisms, and ultimately a governing body***.** In the long run, the search for stability and the need to fight opportunism might well drag hybrids away from quasi-market relationships, towards quasi-integration. To sum up, the coexistence of pooled resources, autonomous rights, and distinct assets is a source of tensions that make devices to sustain hybrids both vulnerable and essential. Multi-task models (Holmstrom & Milgrom, 1991) might help managing the difficulty. Partners jointly owning some assets while keeping distinct rights on others must implement simultaneously joint actions and autonomous or even competing actions that can nevertheless benefit from spillover effects. How can parties limit risks that divert some of their attention from joint actions or even endorse choices harmful to joint activities? In exploring answers to this question, similarities with decision-making in teams and committees

are limited. Economic theory does not yet have adequate models to capture how partially pooled resources and imperfectly contractible outcomes affect decision process.[42]

V: GOVERNANCE OF HYBRIDS: A VARIETY OF SOLUTIONS.

In order to monitor joint assets and create new ones, partners take the risks of exposing shared rights to opportunistic behavior, to the point of negative spillover effects.[43] The need to control and discipline partners to make hybrids sustainable favors governance endowed with authority, the intensity of which varies according to the specificity of the assets pooled, the allocation of rights, and the incentives at stake. The stability of a hybrid depends on its governance, and how appropriate it is to meet the challenges facing it.

By governance, I understand devices that infuse order in joint activities through the allocation of assets and rights, so as to mitigate conflicts while allowing benefits from mutual gains (Williamson, 1996: 12). The specificity of governance in hybrids comes from the need for parties to coordinate while "partner sovereignty provides a constant strain" (Borys & Jemison, 1989: 242).

As the evidence from previous sections suggests, there are different ways of "encompassing the initiation, termination and ongoing relationship maintenance between a set of parties" (Heide, 1994: 72). If autonomy characterizes parties operating in markets, while administrative coordination prevails in hierarchies, then hybrids mix autonomy and cooperation. This mix takes various forms, from tight coordination by a 'strategic center' to looser ties relying on shared information. In what follows, I focus on three structural components of governance and the underlying role of relational contracts. Although these

[42] A stimulating approach to decision-making in complex organizations is proposed by Visser & Swank (2007). There are also similarities between decision-making in hybrids and choices in political sciences, with the key role of median voters. However, a non-negligible difference is that in many hybrids, 'voters' do not have the same weight. There are exceptions though, as with the millers or in cooperatives with the "one person one vote" rule, which is also a source of problems (Cook & Illiopoulos, 2000; Hendrikse, 2002; Ménard, 2007b).

[43] For example, in food franchising system spoiled food delivered by a single franchisee might lead to destructive externalities throughout the entire network.

components combine most of the time, I shall argue (in the next section) that the dominance of one component determines the type of hybrid.[44]

V.1: Coordinating through a 'Strategic Center'

Enduring competition among partners and the simultaneous quest for stability favor tighter coordination when shared assets and rights become significant. Risks of opportunistic behavior need to be circumscribed when strategic decisions must be made jointly among otherwise sovereign partners. This might explain the key role of strong coordinators or "strategic centers" in most stable hybrids. [45]

Strategic centers can be understood as a shorthand expression for institutional entities under which transactions are initiated, negotiated, monitored, adopted, enforced, and terminated.[46] The specificity of hybrids is that such centers exert authority on a limited subset of rights. They can constrain partners by: (a) adjusting collective action or joint decision rights; (b) designing enforcement mechanisms to discipline parties; (c) framing bargaining processes over quasi-rents; and (d) deciding dispute resolution procedures. Examples are provided by the millers' Board, assemblies ruling condominiums (Klein *et al*. 1978) or groups of producers (Sauvée 2002), as well as boards monitoring joint ventures.

First, strategic centers shape collective actions by monitoring joint decision rights. Thorelli (1986) referred to 'power', understood as "the ability to influence the decisions or actions of others." Ménard (1996, 1997, 2004) developed the concept of "authority" to capture the delegation of subsets of decision rights to an entity that is formally (and most of the time legally) distinct, with the power to discipline parties when it comes to joint actions. 'Authority' differs from 'hierarchy' in that it relies on consent rather than command,

[44] See also Hendrikse (2002). Bradach & Eccles (1989) argued early on that three basic control mechanisms govern transactions within and among firms: price, authority, and trust. The difference among modes of organization would depend on the prevalence of one mechanism over the others.
[45] I retroactively discovered that Lorenzoni & Baden-Fuller (1995) also referred to 'strategic centers' as coordinating devices.
[46] This definition is adapted from Palay (1984: 265)

maintaining some symmetry among holders of rights. In hybrids, authority is built through: (a) control over the allocation of pooled resources; (b) the development of shared competences; (c) the provision of expertise; (d) the creation of a sense of common purpose; and (e) legitimization through social acceptance.

Second, authority requires enforcement. Interpreting Williamson (1985), Park (1996) suggested that enforcement differs whether operating in *bilateral* or *trilateral* arrangements. In the former, parties enforce decisions through negotiations since in the last resort decisions remain in the hands of parent firms, as in joint ventures. When actions become more intertwined and/or the network extensive internal transactions and joint decisions on monitoring and enforcement become increasingly complex. As a result, coordination requires *trilateral* governance, with enforcement transferred to a well-identified entity, e.g., a professional staff or a central management that can select collective actions, evaluate performance, and penalize deviants.[47] Professional sports leagues or the millers illustrate the point.

Third, 'authority' allows strategic centers to frame the bargaining process. Ménard (1996) examined how a group of producers in the poultry industry implemented a central entity in charge of organizing negotiations among partners as well as the bargaining process with distributors. Analyzing the success of *Saveol*, a network of producers of high quality vegetables, Sauvée (2002) described an arrangement in which small owners delegate substantial decision rights to two distinct cooperatives that themselves delegate rights to two joint ventures, in charge of controlling inputs, developing products, and marketing them. However, the delegation of rights over a limited subset of assets raises a difficult trade-off for hybrids, namely: how to keep the arrangement adaptable through the transfer of adequate authority while keeping holders of this authority under control. This difficulty may explain

[47] "The central management has decision-making power over members and it monitors the members' cooperation activities and imposes sanctions, if necessary." (Park, 1996: 812)

why so many inter-firm agreements place a "high premium on personnel with long memories, sound hearts, and a penchant for looking both ways before crossing the street" (Palay, 1985: 164).

Fourth, the existence of multiple sources of tensions (see IV.1) favors the adoption of formalized mechanisms to solve disputes within the strategic center or between the center and its constituencies. In their study of the US hardware industry, Dwyer & Oh (1988) suggested that formal procedures might prevail over centralization and participation in differentiating modes of organization.[48] The development of routines that codify links among partners and serialize the decision process helps reducing disputes and/or facilitating their resolution. The implementation of transmission channels that facilitate control, e.g., automated management information systems, can similarly help formalizing relationships. Detailed technical appendixes to contracts also frame disputes and renegotiations among partners. Policing devices, such as "mystery shoppers" in franchises or field audits and internal inspections in the millers' case, similarly ease identifying and redressing deviant behavior. Enforcement procedures might go even further, implementing 'private courts' to 'judge' and 'discipline' deviant partners (see the millers, or the now classical analysis of 'merchant laws' in Champagne fairs in Milgrom *et al.* , 1989).

Numerous empirical studies (e.g., Brown, 1984; Lorenzoni & Baden-Fuller, 1995; 2002b; Ménard, 1996, 2004; Ménard & Raynaud, 2010) confirm this role of 'authority' delegated to, and implemented by a strategic center.[49] They are in line with what transaction cost economics predicts: *the more strategic the rights and assets shared the more formal the governance becomes.*

V.2: Third parties as ordering forces

[48] 'Formalization' has become a standard variable differentiating arrangement in organization theory.

[49] From a different perspective, Bradach (1997) noted that franchise systems also develop forms of strategic control to overcome agency problems, e.g., combining a large monolithic hierarchy (company-owned units) and a federation of semi-autonomous hierarchies (e.g., *KFC*, in which 17 actors owned half of all franchisees in 1989).

Strategic centers shape decisions from within, ideally making agreements self-sustainable. In last resort they remain offshoots of parent companies. Because they get their authority from delegation, they depend on the commitment of their constituencies and remain directly exposed to risks of opportunism. To confront these difficulties, hybrids might turn to exogenous entities to facilitate coordination and discipline partners, either because shared rights are not strategic enough to justify joint authority or because the impulse to cooperate comes from parties external to the relationship (e.g., public policies). These ordering forces can be public or private.

Public authorities can interfere directly in the development of hybrids through agencies, regulations, etc. In the French poultry industry, a quality certification system initiated by small producers was later formalized, on their demand, with the legal creation of 'certifying organizations'. These are governed by representatives from the government and the sector, as well by independent 'experts', and they have been key to the success of 'red label' products (Ménard, 1996). Another example are Research and Development projects that depend on subsidies conditional to inter-firm agreements, as with the European *Galileo* project, which is building a satellite positioning-system to compete with the United States' GPS. Lastly, public authorities can provide indirect incentives to cooperate, as when they ease access to scientific poles or technology parks to firms accepting to interact.

External monitoring of hybrids can also depend on private entities. Formal procedures can be embedded in arrangements to smoothen adaptation, such as when adjustments are delegated to identifiable arbitrators (often lawyers or experts) or to professional associations. In the French beef industry, privately-initiated networks turned early to professional trade associations to solve conflicts and enforce agreements (Mazé & Ménard, 2010). However, partners often prefer less formal devices, and refer to mediators to adapt their relationships (Rubin, 2005). Ryall & Sampson (2006) go even further, showing how partners may plan

penalties for those who become confrontational. One problem that researchers confront in identifying these devices is the difficulty of collecting information about the private monitoring of adaptation and conflicts.[50]

Last, numerous hybrids find support in mixed entities, in which private agents and public representatives jointly make decisions. Under the pressure of the competition authorities of the European Union, who considered the initial arrangement as collusive, the 'certifying organizations' mentioned above are now autonomous entities, in many cases with representatives from the private and public sectors while others are entirely private (Ménard & Valceschini, 2005; Raynaud *et al*., 2009).

However, the monitoring of hybrids by external actors runs into severe limitations. It entails problems of verifiability by third parties, a serious constraint in arrangements that maintain substantial rights separate and/or organize complex transactions. Implementing decisions by exogenous entities might also have dissuasive costs, involve unacceptable delays, or require controls that are hardly tolerable. Several studies suggest that these obstacles are better overcome through informal safeguards, which lower transaction costs and which are hardly imitable by competitors (Gulati, 1995a; Dyer & Singh, 1998; Robinson & Stuart, 2007).

V.3: Shared information

Asymmetric information is a major source of opportunism in hybrids. Of course information problems plague all modes of organization. They are amplified in hybrids because existing assets and rights are partly shared while new assets and rights are created that can hardly be attributed to specific contributions. Moreover, the autonomy of partners

[50] Lumineau & Oxley (2008) provide a rare analysis of the private resolution of conflicts, through arbitration, mediation, or negotiated settlement. They examined 102 contractual conflicts in which lawyers intervened, involving 178 firms operating in manufacturing and retail sectors, from 1991 to 2005, and showed that 41 conflicts were solved this way, while the remaining 61 ended in the courts.

prevents hierarchical solutions, while overlapping assets and rights require more information than market prices offer.

Relevant information might be collected through repeated transactions (Gulati, 1995b); or through appropriate information systems, e.g., integrated logistics, shared transportation facilities, common buying procedures, joint collection of data on customers, and so forth (Clemons & Row, 1992; Ménard, 1996, 2003). Using their dataset from alliances between biotechnology and pharmaceutical firms, Robinson & Stuart (2007) refer to networks as platforms disseminating information, thus reducing uncertainty and benefiting from shared capabilities. New information technologies might help, although data are inconclusive about whether they favor inter-firm agreements or integration, e.g., in the trucking industry. Following Arrow (1974), Heiman & Nickerson (2002) emphasize the role of physical channels linking partners. 'High bandwidth channels', e.g., co-location, would allow rich interfaces among partners, facilitating coordination but also raising problems of delineation and enforcement of rights over tacit knowledge; 'low bandwidth channels', e.g., e-mails or faxes, would reduce contractual hazards but restrict transfers of information.

In all cases, information devices intend to make partnerships sustainable by reducing risks of opportunism, facilitating mutual control, and lowering transaction costs. Shared information can help reaching these goals through: (a) modularity and replicability of know-how, which allow implementing joint routines; (b) open standards, which make communication easier while increasing the transparency of transactions; (c) implementation of devices that allow conversion and translation of protocols and interfaces at low cost; (d) the development of 'intuitive' interfaces (Langlois, 2002; Clemons & Row, 1992; Paché & Paraponaris, 1993; Anderson & Gatignon, 2005).

The literature on the role of information in the governance of hybrids and how it might differentiate them from other modes of organization remains surprisingly poor. Powell

(1990; also Powell *et al*. 1996), using data from the biotechnology sector, has suggested that information in networks is "thicker" and "freer" than in hierarchies, while it requires reciprocity that does not fit arms' length relationships of the market type. This remains an interesting intuition, to be explored further.

V.4: Underlying it all: contracts

In most hybrids, governance is at least partially framed by contracts. This provides a strong argument to examine hybrids through contractual lenses. Contracts are powerful tools, facilitating coordination as well as control. However, their role should not be overemphasized. Macaulay (1963) already noted that they primarily supply frameworks within which other devices prosper. Since the analysis of contracts plays an important role in this book, I hereafter focus solely on issues of particular relevance for the analysis of hybrids.[51]

Ideally, partners would rely on self-enforcing contracts, embedded in formal safeguards that keep calculative parties within the range delineated by the agreement or in social norms pervasive enough to discipline them (Ouchi, 1980; Artz & Brush, 2000). As argued by Klein (1996; also Baker *et al.*, 2002: 40, and Maze & Ménard, 2010) even when outcomes are not verifiable by a third party and prohibitively costly to specify *ex-ante*, no one may wish to renege if the expected value of the future relationship is sufficiently large.

However, theoretical insights on the importance of non-contractible elements as well as empirical studies on contractual flaws demonstrate the limited role of contracts. The complex overlapping of autonomy and cooperation in hybrids make contracts typically relational.[52] Changing market conditions, uncertainties surrounding the outcome of joint projects, measurement problems, ill-defined property rights and/or weak institutions making

[51] For a detailed review of contracts in inter-firm relations, see Lafontaine & Slade (2011) and Malcomson (2011, sections 8 and 9). Hansmann (2011) also discusses related issues.

[52] See Rey & Tirole (2001: 25-26): "there is little point writing a detailed contract that protects the partners by reducing potential externalities and specific covenants restricting the set of possible actions. Partners are already protected by their control rights; and such contractual features, which are pervasive under undivided control, only serve to reduce incentives without improving efficiency. Joint ventures may also want to shut down the partners' otherwise desirable outside opportunities in order to foster their commitment to the joint venture."

enforcement dubious, are all factors motivating flexibility and the potentially positive effects of renegotiations.[53] These problems are not exclusive to hybrids. The specificities of contracts in hybrids lies in the amplitude of adjustment variables and the room left for relational adaptation, a point already noticed by Borys & Jemison (1989: 243) and emphasized by Robinson & Stuart (2007) in their examination of alliances in biotechnology. Ryall & Sampson (2006) exhibit how the resulting heterogeneity in contractual clauses coagulates in 'boilerplate terms', motivated by the need to facilitate adjustments when hybrids face knowledge leakages or inefficiencies in dispute resolution devices.[54]

Non-contractibilities translate in out-of-contract adjustments. Already in 1984, Brown noted that in networks "the contract itself is more a formalization of an understanding than it is a legally-enforceable obligation" (p. 266). Breaches of contracts are rarely taken to court, even in the litigious US. This means that a contract can be renegotiated (or ignored) if needs arise and the contingent claims problems are thereby avoided." Almost simultaneously, Palay (1984) showed in a detailed study of 51 transactions between rail freight carriers and shippers, that if sticking to clauses or adjusting only at the margin prevailed in non-specific transactions, adjustments exceeding the terms of contracts dominated idiosyncratic transactions. Similar observations have been made in franchises, in which contractual provisions define only a framework (Bradach, 1997), or in strategic alliances, in which contracts operate primarily as facilitating devices. Grandori & Cacciatori (2006; also Grandori & Furlotti, 2006) showed in a survey of alliances motivated by innovation that contracts are typically simple and short (7-8 pages long), with clauses focused on a few core issues, mainly the assignment of property rights, while decisions on tasks and process are left aside. In their

[53] The idea that contracts are deliberately left open goes back to Simon (1951), but still faces resistance (see Tirole, 1999). For the potentially positive role of renegotiation, see Estache and Quesada, who already discussed the issue in 2002.

[54] These 'regularities' concern: 1) provisions concerning confidentiality; (2) the right to terminate through bankruptcy or change key management; (3) limitations of liability; and (4) arbitration provisions. Numerous contracts explicitly waive firm rights to bring disputes before the courts or other administrative bodies (Ryall & Sampson, 2006) or restrict the temptation to go to arbitration (e.g., clauses specifying that arbitration should be in the language and country of the partner NOT bringing the dispute).

study of 42 R & D alliances in the telecoms equipment and microelectronics industry, Ryall & Samson (2006) substantiate the role of contracts as blueprints which help plans for collaboration, which set partners' expectations, and which reduce misunderstanding and costly missteps. Moreover, similar contracts might carry different meanings according to their environment. In a survey of carmaker suppliers in Japan and the US, Sako & Helper (1998) demonstrate that American suppliers use long term contracts as a protection against opportunism by their customers, while Japanese suppliers view long term contracts as signalling opportunistic customers!

In sum, contracts are only one, though a structuring element of the governance of hybrids among a whole set of devices. The combination of these devices likely explains the variety of hybrids, while the prevalence of one of them would account for the subset to which an actual hybrid belongs.

VI. TOWARDS A TYPOLOGY OF HYBRIDS

Many economists are doubtful about the relevance of establishing a typology of organizations, although lessons from the history of sciences suggest otherwise.[55] Having described hybrids as a class of their own, Rubin (1978: 232) nevertheless concluded "the franchisee is in fact closer to being an employee of the franchisor than to being an independent entrepreneur." Cheung (1983: 1) went a step further, arguing that firms and other arrangements are simply shorthand descriptions of ways to organize activities through contracts. Williamson initially considered these 'intermediate' forms as unstable and transitory (1975: 109), while Masten (as late as 1996) argued that "their form must be assessed on a case-by-case basis" (1996:12). True, the variety of observable forms suggests a continuum of arrangements between 'markets' and 'hierarchies'. On the other hand, when we examine, say, joint ventures, we are

[55] Developing appropriate classifications played a major role in natural sciences (Linnaeus), chemistry (Mendeleev), medical sciences (nosology), etc.

aware of looking at something different from franchising or supply chain systems. It may thus be asked whether a classification of hybrids is possible without flattening their characteristics?[56]

VI.1: Alternative approaches

Numerous studies have provided affirmative answers to this question. They have either used criteria derived from organization theory, with an emphasis on: (a) the coordination mechanisms involved; (b) the degree of centralization; and (c) the formalization of decision making; or from transaction cost economics, with a key role given to the specificity of the investments involved and, to a lesser extent, the uncertainty surrounding the transactions at stake.

By stressing coordination, Grandori & Soda (1995) classified "inter-firm networks" as: social networks, relying on personalized relationships (e.g., industrial districts); bureaucratic networks, obeying formal rules (e.g., franchises); and proprietary networks, based on cross-holding property rights (e.g., joint ventures).[57] Sauvée (2002) categorized hybrids according to whether the allocation of decision rights requires horizontal or vertical coordination. Park (1996) differentiated forms according to their degree of centralization, with alliances, voluntary, and mandatory trilateral agreements as the main categories. More recently, Carson *et al*. (2006) argued that uncertainty should be the key variable for classifying inter-firm contracts as formal or relational.[58]

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[56] Biology provides a useful analogy here: the discovery that all living organisms share common characteristics, such as cells, did not eliminate the usefulness of identifying distinct species. At the end of the day, what matters are the advantages and disadvantages brought on by reducing the spectrum of organizational forms to discrete 'bands'. In my view the exercise plays a positive role in: (1) forcing the distillation of properties of classes and subclasses to a small number of determinants; (2) helping to identify flaws and "black holes" in our theories of organizations.

[57] Their typology also differentiates subclasses depending on whether relationships are symmetric or asymmetric.

[58] Between markets adapted to weakly specific assets, and hierarchies prevailing when specificity is high, arrangements would vary according to the type of uncertainty, with formal contracts being more efficient when the 'ambiguity' related to measurement problems is high, while relational contracts are more efficient when 'volatility' is high.

Endorsing a transaction cost perspective, Oxley (1997) identified three types of hybrid arrangements according to how they deal with contractual hazards and appropriability: *unilateral contracts* (e.g., licensing), close to markets although poorly adapted to strong hazards; *bilateral contracts* (e.g., technology sharing agreements), with more committed parties although exposed to *ex-post* haggling or third party adjudicative costs in solving conflicts; and quasi-integrated *equity-based alliances* in which partners share resources, organizational routines, and communication methods, but must deal with costly monitoring and control. Gulati & Singh (1998) have argued that anticipated coordination costs, not appropriation, determine organizational choices, since they delineate the authority acceptable by autonomous partners and the role of trust in alleviating costs.[59] Using a dataset on alliances, they differentiated: (a) *contractual alliances*, with no shared ownership but joint activities coordinated through negotiations (e.g., distribution agreements); (b) *minority alliances*, in which one or several partners take minority equity, so that (weak) hierarchical relationships develop (e.g., participation in the Board); (c) *joint ventures*, with an independent command structure that internalizes pricing, operating procedures, and dispute resolution. More recently, Baker *et al.* (2008) characterized the variety of governance structures according to the allocation of asset ownership, decision rights, and payoffs. Their typology runs from mergers and acquisitions to total divestitures, with intermediate agreements (licensing, alliances, and franchising, etc.) when some decision rights and/or payoff rights are contracted, with parties abandoning part of their autonomy in exchange of expected spillovers.

VI.2: A Governance perspective

[59] "By coordination costs, we mean the anticipated organizational complexity of decomposing tasks among partners along with ongoing coordination of activities to be completed jointly or individually across organizational boundaries and the related extent of communication and decisions that would be necessary" (p. 782). They tested their hypothesis with a multinomial logistic regression on a sample of 1,570 alliances involving U.S., European and Japanese firms from 1970 to 1989, in three sectors (bio-pharmacy, new materials, and automobiles).

Building on these contributions and based on the variables examined in the previous sections, I propose a typology that encapsulates these variables as instruments shaping the outcome, that is: the prevailing mode of governance. The underlying logic is that forces favoring a 'hybrid' on the one hand, and strategic choices commanding the degree of centralization needed to provide sustainability on the other hand, result in various governance structures.

If we contrast hybrids with the two standard polar cases of 'pure' markets, with autonomy of strategic resources and rights and decentralized coordination as key characteristics, and 'pure' hierarchy, with strategic assets and rights unified under a centralized entity in charge of their allocation and control in the last resort, we can substantiate our simplified Figure 1 (Section II).

To meet uncertainty and complexity through arrangements that allow the creation of extra value, organizations need to share rules which maintain cohesiveness. The intensity of these forces, which imply endorsing specific modes of governance, translates into the variable density of pooled, strategic rights and resources (horizontal axis). On the other hand, the sustainability of an arrangement requires instruments for checking on partners eager to preserve their autonomy, with various solutions determining the degree of control/coordination at hand (vertical axis). The outcome is the variety of arrangements summarized in Figure 2, in which the upper frontier relating the two axes captures what would be 'pure' modes of governance.

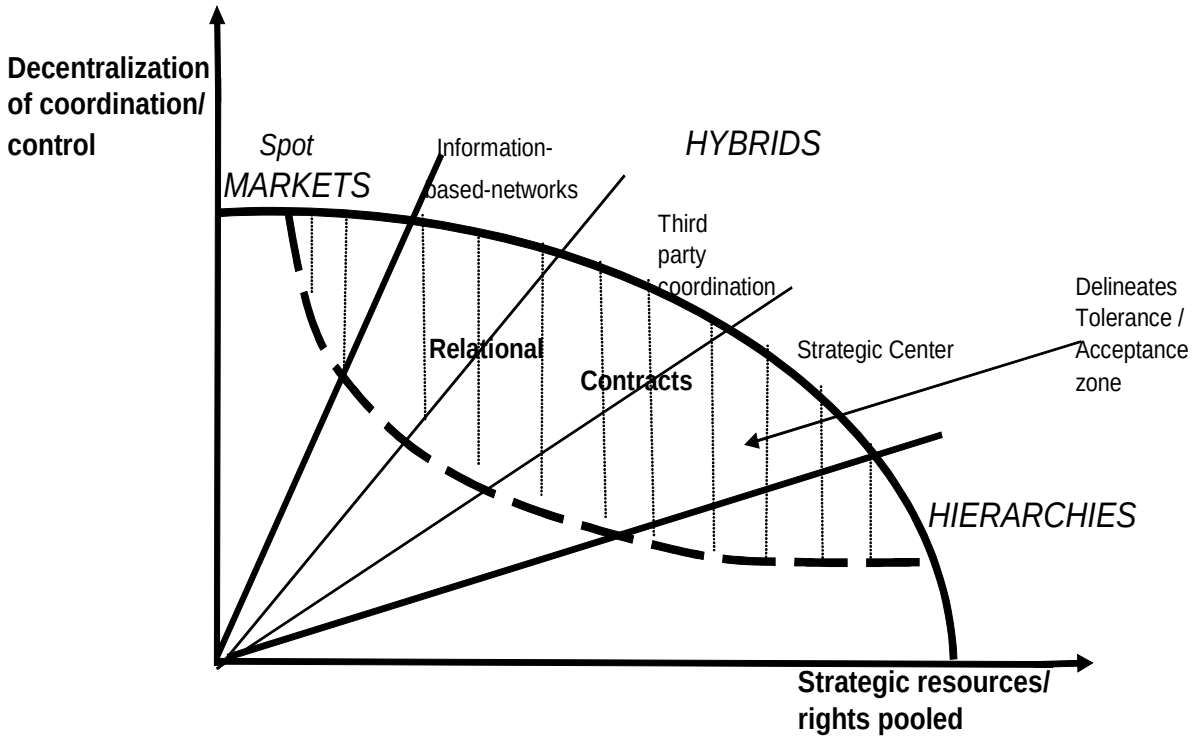

Figure 2: The Typology of Hybrids

The perspective adopted here builds on the Coase/Williamson tradition, with hybrids located between spot markets and hierarchies. In the former, autonomous parties appropriate the benefits of their own actions, and deliberate coordination is at its lowest; whereas hierarchies capitalize on the coordination and control of common resources and rights, while considerably reducing the autonomy of insiders and their capacity to appropriate surpluses privately. In the hybrid zone, we find the variety of answers to the issue of governance, according to the prevalence of one of the devices identified in Section V. The more partners expect from pooling resources, the more autonomy they will be ready to sacrifice with respect to their decision right and their property rights, up to the point where rights are fully integrated. Symmetrically, the more coordination is needed to maintain the stability of an arrangement, the more centralized the monitoring and control of that arrangement will be.

On the left of the spectrum, close to spot markets, *information-based networks* rely essentially on information platforms to coordinate activity, while ownership over assets and decision rights remains distinct, so that payoffs are closely linked to the actions of separate

parties. Porous frontiers and continuous exchanges among biotech firms in the Boston area or among information technology firms in the Silicon Valley, as well as forms of consumers' associations provide illustrations.[60] At the other end of the spectrum, partners rely on tight coordination by *strategic centers* empowered with formal authority, contractual clauses constraining members who pool significant rights, while appropriation of residual gains becomes a key issue. Joint ventures in R & D projects or the millers' case illustrate this point. In between, we find arrangements in which partners keep control over the hard core of their assets, although they develop non-negligible relationship-specific investments. Such arrangements tend to rely on third parties to monitor tensions and coordinate efforts, whether the third party is a public entity, as agencies monitoring part of the "label" system in the French agri-business; or a private arbitraging entity, jointly agreed upon and in charge of filling in blanks in contracts, as in many strategic alliances.

However, as argued in this chapter, organizations rarely find themselves on the optimal frontier. Since non-contractible rights are significant most of the time, the autonomy of parties and their rights impose constraints on arrangements, as relational contracts are at the core of hybrids. The lens-shaped area captures the idea of a tolerance/acceptance zone that allows adjustment and adaptation among partners. The lower bound delineates the inferior limit of what is acceptable to parties. Hence, the shaded area is where modes of governance operate most of the time

Most hybrids fall under one of the three types identified in the graph, according to the governing device that prevails. However, devices often overlap, 'polluting' pure types. The dotted line separating types of hybrids suggests this permeability. Indeed, one advantage of this typology is to help understanding why and how arrangements often grouped under the same umbrella, e.g., franchises or cooperatives, actually take many different forms according

[60] Recent studies suggest that networks can be more formal than expected. In their work on the biotechnology sector, Robinson and Stuart (2007) show that *centrality* in the network and *proximity* to potential partners give powerful means to some firms, facilitating control, and reducing the need to hold property rights.

to the activities they coordinate or the strategies they pursue, notwithstanding similarities in the transactions they organize. This richness results from: (1) the complex forces that explain the existence of hybrids and delineate the acceptance zone within which they operate; (2) the trade-offs hybrids continuously face in organizing transactions along non-standard procedures intended to maintain cohesion and stability in the partnership.

VII. CONCLUSION

The central lesson of this chapter is that "[t]here is an increasing sense that the network of relationships in which particular exchanges are embedded have properties that are greater than the sum of its parts and outcomes that cannot be explained by studying its parts alone" (Achrol, 1997: 63). Hybrids are 'institutional structures of production' with characteristics of their own. They resort to specific governing devices developed to deal with: (1) property rights that ultimately remain distinct, although significant assets are pooled; (2) decision rights that keep partners independent, although shared rights restrict their autonomy; and (3) the need to design adequate incentives in a context in which frontiers among residual claimants are blurred. Hybrids proliferate because advantages of coordination and cooperation overcome gains associated with market competition, while remaining autonomous provides more flexibility and better incentives than an integrated structure can offer.

The existence and characteristics of hybrids are substantiated by an abundant empirical literature. However, explanatory theories remain underdeveloped. Models are needed that would capture the role and richness of these arrangements in market economies. We also lack adequate data for estimating the weight and dynamics of these forms in modern capitalism. Five unsolved problems deserve a particular attention in my view. **First**, we need to understand why hybrids often co-exist with integrated firms. **Second**, we still remain in the dark with respect to the exact weight of these arrangements in the production and distribution

of goods and services. **Third**, we do not well understand the role of technological changes, e.g., ICT, in the evolution of their governance. **Fourth**, the interaction of hybrids with their institutional environment (e.g., rules governing property rights) requires in-depth studies. **Last**, several characteristics of hybrids challenge competition policies, which remain largely grounded in theories built on the simplistic trade-off between markets and firms, so that substantial revision of these policies is likely to be required.

These issues only define part of the rich research agenda opened up by the acknowledgement that hybrid arrangements may be the normal and prevailing way of doing business in modern market economies.

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