CHAPTER 5

The Organizational Choice

Whether an organization is based on market mechanism or on the authoritarian relation that characterizes hierarchies, the gathering of many individuals within organized societies enables task specialization, which is impossible with small groups living in autarchy. And, as Adam Smith underlined, it is the specialization of labor that makes wealth production efficient. But specialization also poses the problem of the difficult coordination of individual activities.

In a collective production process, each specialized and independent producer only manufactures one part, one particular element or, in other words, a single "component" of the end product that will be sold to the consumer. It can be a tangible good, like for instance the engine of a car or the chip of a cell phone, or an intangible one, a service. The producer of each component chooses independently the precise characteristics and the production volumes that he intends to offer to his potential clients. In those conditions, how can the production of all the components of the end product or service be coordinated? How can elements designed and produced separately be assembled into something coherent—a product whose parts are compatible, properly connected and produced in the right quantity? How can we be sure that a car or a television works and is aesthetically pleasing, and that a mobile phone will be able to be connected to all the other telephones of the world network?

The universal problem with collective productions is to coordinate individual efforts and have all the specialists cooperate. It is the problem of how to organize production, to structure the relations between the producers, as organization is precisely meant to define the conditions of cooperation between a group of individuals.

There are only two ways to organize the most basic cooperation, that between two individuals only. These two coordination mechanisms are: voluntary market transactions and hierarchical subordination. What differentiates them is the distribution of the decision-making power, the answer to the question: who decides? In the decentralized mode (market transactions), each individual decides for himself what action he should undertake. In the hierarchical mode, only one person decides and the other accepts the directives and the orders given in return for a given pay.

These two organizational modes are mutually exclusive: if there is a market transaction between two individuals, there cannot be a hierarchical relation between them or within the group they belong to. On the contrary, if one of them accepts to be subordinate, there is a hierarchy, and the possibility of a negotiated market transaction thus disappears between these two people, as long as the hierarchical relationship is maintained.

Hierarchical organizations can be more or less developed and be composed of more or less employees. But each time they recruit new employees, they supplant the market mechanism that person used before to determine and sell its own production.

While the relations between two individuals merely implies a binary choice—all or nothing, market or hierarchy—a society necessarily consists of a multitude of hierarchical organizations of various sizes and of more or less developed market areas. As a consequence, societies' overall level of centralization evolves continuously from absolutely no hierarchical organizations (in a fully decentralized society) to Stalin's Soviet society which merely consists of one giant hierarchy—a single pyramid that covers all social fields and where all the decisions are eventually taken at the top.

In this continuity of organizational solutions, the degree of concentration of decision-making, that is the society's overall centralization rate, depends on the size of individual pyramids. The bigger the average pyramid, the more individuals it contains, the fewer pyramids there are in a society with a given population. And the fewer the hierarchical organizations, the fewer the decisions makers, the hierarchical heads, as the other members of the hierarchy do not decide for themselves. It follows that the decision-making process is all the more concentrated as hierarchies are bigger and fewer. Moreover, the development of large hierarchies reduces the market domain where there are as many decision makers as individual participants. Consequently, the fewer the markets, the bigger the hierarchies and the higher the society's centralization rate.[1] On the contrary, when the optimal pyramids are small, there can be many and there will be as

1. The centralization rate is not the concentration rate that economists calculate. In an economy with many companies, the concentration rate measure the disparities between their respective sizes. The fewer the very big companies and the more numerous the very small ones, the higher the rate. If all the companies have the same size—whether big or small, the concentration rate is minimal.

The centralization rate measures the concentration of decision making within a smaller or larger group of individuals. It is the total number of decision makers in the society divided by the total number of subordinates. For example, if there are 100 companies in a society consisting of 1,000 individuals, the centralization rate is 100/1,000, i.e. there is one decision maker per ten subordinates. If the number of companies falls to 10, the centralization rate will be 10/1000, i.e. one decision maker per 1,000 subordinates. But, if there are no hierarchies but only independent craftsmen, the centralization rate is 1,000/1,000 = 1, i.e. there are only decision makers and no subordinates. The decentralization rate thus ranges from 1 (full decentralization) to about 0 (concentration of all the decision making powers in a single person within a society with a very high population).

As such, the centralization rate is directly correlated to companies' average size measured by the number of employees. When the average company is small, the centralization rate of decision making is low and when the average company has many employees, the centralization rate is high.

many hierarchical decision makers. Moreover, there are more market transactions between several small hierarchies than between a few big integrated hierarchies. For the same population and production as in the previous case, the society's structure is thus much more decentralized.

THE SOCIAL ORDER

Politico-economic systems define a social order: a set of stable and established relations that rule the exchanges between individuals. The latter choose to belong to a society because of the production and consumption possibilities that the environment of an organized system offers, in opposition to what can be considered as the natural state in which men lived over a million years, in small nomadic groups of hunters-gatherers. In the numerous sedentary societies that developed since the invention of agriculture, the relations between individuals implied either subordination or consensual negotiations with shared decision-making power. The former result in the creation of hierarchically structured groups for production purposes that are commonly described as "organizations" although this word has a more general meaning of "order" or "system." In the restrictive sense it is considered as a synonym of "hierarchical organization," although there also exists decentralized and non-hierarchical organizations such as markets. In this book, it will have its common hierarchical meaning and if it does not we will specify as often as necessary that the organization we are referring to is a decentralized or a market organization.

An Organization of Organizations

The goal of any organization is production. Each of them is a group of individuals working as a team and producing collectively goods or services. This is true of industrial and business firms but also of athletic associations, universities, political parties, trade unions and public administrations who produce collective services focused on security, justice and wealth redistribution. To this list should be added the conglomeral state which produces a wide range of collective goods, and sometimes even private goods, under the sole leadership of its government and head of state.

Organizations are omnipresent in contemporary societies and have very different purposes.[2] Herbert Simon, one of the pioneers of organizational analysis, underlined their ubiquity:

> Suppose that a mythical visitor from Mars approaches the Earth from space, equipped with a telescope that reveals social structures. The firms reveal themselves, say, in solid green areas with faint interior contours marking out divisions and departments. Market transactions show as red lines connecting firms, forming a network in the spaces between them. No matter whether our visitor approached the United States or the Soviet Union, urban China or the European Community, the greater part of the space below it would be within green areas, for almost all of the inhabitants would be salaried workers and would thus work in firms. Organizations would be the dominant feature of the landscape.[3]

The society, in its contemporary sense of the largest community that an individual can join, is an organization given it is an "association of persons."[4] Its definition is the same as for an "organization" which the dictionary describes as "a group of individuals involved in long-lasting and organized relationships, most often established as in-

2. Thus, according to Douglass North: "Organizations include political bodies (political parties, the Senate, a city council, regulatory bodies), economic bodies (firms, trade unions, family farms, cooperatives), social bodies (churches, clubs, athletic associations) and educational bodies (schools, universities, vocational training centers). Organizations are made up of groups of individuals bound together by some common purpose to achieve certain objectives."

3. Herbert A. Simon, "Organizations and Markets," *Journal of Economic Perspectives*, Spring 1991.

4. As Bergson wrote: "Human or animal, a society is an organization."

stitutions and protected by sanctions." In other words, the terms "organization" and "society" describe the same realities.

However, it is convenient to distinguish between basic organizations (groups only composed of individuals) and societies (organizations composed of both individuals and simple organizations). A society is an organization of organizations. For instance, a nation (a national society) is composed not only of isolated individuals but also of a large number of smaller organizations such as regions, districts, trade unions, and families, which can be involved in various relationships. And the largest complex and non-hierarchical organization is the whole group of the world's nation-states as a whole. It is the global society or the society of nations, which accepts as members the organizations of organizations that nations are.[5]

There are thus different strata of organizations who sometimes juxtapose and sometimes stack within one another like Russian dolls. Unlike basic or simple organizations which are only composed of individuals, the society is an encompassing organization, an "envelope" organization consisting of a multitude of individuals and complex (or composite) organizations. We thus concur with Braudel who defines it as the "set of all sets" ("l'ensemble des ensembles").[6]

The national society, the most common and largest type of human societies after the world or global society itself, is mainly governed by the rules or institutions of the state in which it is located and which defines its geographical frontiers, unlike organizations such as firms

5. The national society can even exist without an international legal structure such as the League of Nations of the interwar period or its successor, the United Nations, given its components, the national societies, define its morphology (the number of members they are composed of and their relative dimensions) and accept some common behavioral rules. It is not a hierarchical or centralized society but a society with no common goal, a decentralized society which functions more like a market or rather an anarchic state which, unlike a market, does not follow common rules or institutions accepted by all participants.

6. Fernand Braudel, *The Perspective of the World: Civilization and Capitalism 15th–18th Century*. New York: Harper & Row, 1979, chapter 5.

or families who do not have a major territorial component.[7] The state, the encompassing organization which defines on which territory all the other organizations are, is characterized by a specific goal: the production of collective services which we will call "political production."

But is it really possible to perform the same analysis on profit-making organizations such as business companies and universities, churches or states?

Political production and private production are considered as two distinctive fields of contemporary social sciences. However, the decision to make this distinction is quite recent as economic sciences have given up studying politics since the beginning of the nineteenth century only. But since all organizations, whether public or private, have seen the same transformations during that century, it is necessary to show that the structures and management techniques are indeed the same in political organizations and private business organizations. Organizational economics, which is sometimes defined as the economics of institutions, is a new branch of economic sciences that concerns all organizations. And the recent emergence of an economic analysis of politics, called "public choice," shows that there is a trend towards a reunification of these sister disciplines given their fundamental problems are similar and require the use of the same conceptual tools, those used in the study of the choices concerning the allocation of scarce resources, which are precisely the instruments of economic analysis.

7. However, like families and firms, a nation-state's borders can also be defined by the people that it is composed of, that belong to it. Instead of using the concept of territoriality to define the word "national" as it is often the case, we can use the notion of filiation: national societies can thus introduce two types of rights of citizenship based either on kinship or on birthplace. However, they are composed not only of individuals (subjects or citizens) but also of many organizations: families, firms, associations, churches, trade unions, public and private administrations, the state, whose relations are defined by rules or institutions.

Political Production

Politics concern everything that is related to cities (*polis*) and by extension to societies, given cities were the first form of modern society in human history. Since the Neolithic agricultural revolution, when food resources increased suddenly, men have lived in increasingly larger societies instead of staying in small groups of hunters-gatherers. In highly populated societies, politics basically consists of producing a particular type of goods: public or collective goods.

Politics are often opposed to economics as if they were two totally distinct "spheres" of social activity, governed by diametrically opposed behavioral logics and pursuing fundamentally incomparable goals. But in fact the difference between both fields is much less obvious and even becomes insignificant when we consider the evolution of institutions. Just as private companies' organization is studied the same way whatever the sector (aeronautics or banks), the same principles do apply to both business and political firms.

Indeed, like other economic activities, political production necessarily has to answer to the following questions: what to produce, for whom and at what price? It also converts scarce resources into more useful goods and services. Politics are thus no more than a particular branch of the economy given it is also subjected to the laws of supply and demand, and to the selection of the most effective combinations of scarce resources.

Admittedly, each sector of an economy is different from all the others given each product is unique: a car is not a software, a concert or a novel. Production processes differ from one product to another as they use specific techniques, and cars are not commercialized through the same distribution networks as books and concerts.

However, the same economic laws apply to all goods and services. And many products can be classified according to common characteristics in large and more or less homogenous sectors. In its well known classification, Colin Clark distinguishes the primary sector (agriculture and mining) from the secondary sector (industry) and the tertiary sector (services).[8] Here, it is the nature of the product which determines the distinction.

There is, however, another distinction that is undeniably even more important for our societies: public and private goods. Here again, it is the respective characteristics of the products that make the difference. Admittedly, the state can produce private goods such as cars and telephones, goods that can be both bought by any individual consumer and commercialized by private firms. But it is not because that car or telephone is produced in the public sector that it will become a public good.

True public goods[9] are those that cannot be sold or exchanged retail but are produced wholesale for a group of users who do not pay directly for their use: the safety of goods and people, legal order, national defense. These services are states' "core business," the business where states have a decisive competitive advantage and for which they are in fact irreplaceable. Indeed, unlike the goods that are private by nature for which each consumer buys the quantity that he needs and which often differs from that bought by his neighbor, collective services can only be consumed in one quantity identical for all users, the one that is produced for the whole community. Hence, the commonly accepted idea that the public sector guarantees equality in consumption.

Once produced, these services will automatically benefit each citizen. This specificity results from two characteristics: non-rivalry in use and the difficulty to exclude some consumers or give only a selective access to the good. Hence the commonly held view according to which politics is capable of providing free goods.

8. Colin Clark, *The Conditions of Economic Progress*, London, Macmillan, 1939.

9. The traditional definition is that of Paul Samuelson: a public good is "one that each person can consume or use without subtracting from the consumption of the same good by others" ("The Pure Theory of Public Expenditure," *Review of Economics and Statistics*, 1954, vol. 36, p. 387).

The non-rivalry of consumption means that the use of a good or service by a person does not prevent this same service from being simultaneously available to other consumers, which is not the case of a private good like bread or books: if someone buys a loaf of bread and eats it, he will prevent other people from consuming the same loaf of bread at the same time. Conversely, the national defense is available to all the citizens of a country simultaneously. The benefits that it brings to one of them does not prevent the others from also taking advantage of it. A new resident can also benefit from this service without stopping the existing population from using it as they did before his arrival. In fact, the same unit of the product is consumed by several people.

The non-excludability results from the fact that once such a good or service is produced, it is available to everyone. Thus, once the Defense Department is created, it is difficult or impossible to prevent a particular citizen from benefiting from it. The state cannot stop him from consuming this protection, except if they expel him from the territory. The availability of this service does not depend on each citizen's capacity to pay. It automatically extends to all the other users from the moment the service starts being produced.

Because of these two characteristics, the private production of such a service is difficult and often practically impossible. As he cannot exclude some of his consumers, the private producer cannot ask for his service to be paid, given each of them can benefit from it for free. It is impossible to negotiate a voluntary payment in this case. To finance such a good, the producer must be able to force the consumer to pay and exclude from this social group (or territory) those who refuse to remunerate this contribution. For that, it is preferable (if not crucial) to have both a means of constraint to tax consumers and a territorial monopoly so as to spread the production costs over a large number of taxpayers. Hence, the necessity to have the monopoly of violence.

As we will see later on, the state, which initially set up through its specialization in the use of violence and consequently granted itself the legal monopoly of violence over a given territory, is exceedingly well placed to produce these kinds of services.

There are only very few "technically" true public goods and the most well known are the defense, the interior security of goods and people, the justice and police, the country's language, the currency, part of the elementary education, and, in contemporary times, some aspects of health—which is said "public" for that reason—such as compulsory vaccinations against contagious diseases.[10] However, we will add to this list the redistribution of incomes that shows the characteristics of a public good in the sense that a given redistribution of income is imposed on all members of a society: by definition, there is only one income distribution per population at a given time.

Although public services' characteristics are thus very different from those of private goods, the state is a producer just as any other productive organization. It finds an advantage in producing services for consumers that it cannot always control and on which it depends. It is thus faced with a demand from its market—the political market—where a government—in a democracy—provides a range of services in exchange for the votes that enable it to exert its management power and finance itself. Votes are indeed a means of payment for the public services provided. They are like many tax direct-debit forms, or credit lines, granted in advance by the taxpayers to the future government.[11]

As for any other firm, the political production rate of the state

10. The fight against contagious diseases is "indivisible" as everyone must be vaccinated to eradicate them.

11. In a dictatorship, the government is not free from constraints: by definition, the dictator is submitted to the control of a smaller group of individuals than in a democracy. Tullock (*Autocracy*, Martinus Nijhof, 1987) and Ronald Wintrobe (*The Political Economy of Dictatorship*, Cambridge University Press, 1998) have analyzed the dictator's strategy who must not dissatisfy the army and the members of the sole party too much if he wants to remain in power. Although the political market is smaller in that case, it plays almost the same role as an electoral market in democracies.

firm is determined by the costs and earnings of the marginal production. The political program—the program ruling the production of collective goods—is developed to the point where the government has reasons to believe that the taxpayers' marginal dissatisfaction is greater than their satisfaction. If it develops its production beyond or below that level, it may disappoint its people and thus be forced to hand over the responsibility for the political leadership to another government team who will perceive better the expectations of citizens regarding the services they accept to finance with their taxes.

The mechanism for the provision of a basket of public goods paid on a lump-sum basis on the political market is thus the same, at the margin, as for a good sold per unit at a given monetary price on a commercial market.

"Economic" and "political" activities are thus fundamentally similar. They are simply two distinct sectors of the economy in spite of apparent dissemblance. Their respective hierarchical organizations and the respective markets where exchanges are made work in the same way. In both cases, human decisions must be taken concerning the production and consumption of goods and services in a situation of scarcity of resources. The same is true when choosing the production's organizational mode. There are private hierarchies and markets in the economy and political hierarchies and markets in the sector producing collective goods.

And yet, the big difference between the political exchanges between the state and its citizens and the private economic exchanges in our ruled-by-law societies is the existence of a right to violence on only one side of the market: the state's side. When private agents make exchanges within a law abiding society, they cannot use violence, precisely because of the state's monopoly.

That is why economic analysis, which consists mainly in the study of private exchanges and monetized markets, did not take into consideration (until recently) violence and coercion. Traditional economics always consider exchanges as being "consensual." As they result from a reciprocal or shared will, they do not require the use of force which is only considered as a pathology, a dysfunction of the economy.

And this is why the economic theory of illegal, unlawful and violent behavior only developed rather recently both for individual acts such as theft and other offenses,[12] and collective acts such as revolutions and coups d'état.[13]

But the new theory including violence is crucial to understand the states' behavior who regularly use violence or the threat of violence between them or against their subjects or citizens. The state is not only a producer but also a predator. And it is as a rational predator that it becomes a producer as we will see.

Before that, we will study the ubiquitous and general choice between the organization modes of team productions—whether they concern public or private goods—that we have just proved similar in many respects. This organizational choice is the universal problem of social order.

THE PYRAMID AND LATTICE ORGANIZATIONAL PATTERNS

Obviously, collective/team production requires some cooperation between the individuals involved, harmonized decisions and complementary production choices: the good produced, the volumes, the methods and materials used, the production cost, the quality targeted, the deadline and the price. But there are two diametrically opposed ways of cooperating: either by centralizing decisions or by decentralizing them.

12. Gary Becker, "Crime and Punishment: An Economic Approach," *Journal of Political Economy*, 1968.

13. Gordon Tullock, *The Social Dilemma: The Economics of War and Revolution*, Center for the Study of Public Choice, 1974. Jack Hirshleifer, "The Technology of Conflict as an Economic Activity," *American Economic Review*, May 1991; and "Anarchy and Its Breakdown," *Journal of Political Economy*, 1995.

In a society, the polar organizational modes are total centralization on one side and total decentralization on the other. The relational pyramid of the former contrasts with the lattice pattern of the latter, the market network. As the word “network” generally refers to a number of relations structured around a central point (road network, railway network), we will use the word “lattice” given it makes no reference to a central point or hub, even though it has the disadvantage of evoking a rigid architectural design.

In the centralized mode, one individual makes decisions for all the others who accept to submit to his directives and act in compliance with his instructions. This is hierarchies’ basic organizational principle. The coherence of the whole depends on the manager’s vision. Flows of goods and services are coordinated by implementing the decisions taken by higher grades, especially as hierarchical order consists in ranking an organization’s members according to their decision-making skills. Higher-grade decisions necessarily impose themselves on lower grades or subordinates. It is the manager who selects the characteristics of the product, its price and its delivery date to the producers of the next stage of the value chain. Within a hierarchy, these internal “clients” do not choose their supplier among many others: they always work with the same supplier whose identity is predetermined by its belonging to the organization and its position within it.

On the contrary, in the decentralized mode, each individual makes his own decisions. Cooperation and the complementarity of individual decisions are obtained by gradually matching the production of some to the demand of the others, and by a reciprocal adjustment of individual productions, while no producer dominates the others. It is an exchange between peers. It is a market organization. Markets coordinate flows by expressing and confronting individual supply and demand and the transactions between the various suppliers and demanders. It is those exchanges that define and gradually modify the characteristics of the goods and services, the prices, the volumes and the production rate of intermediary goods at each stage of the value chain. The buyers of goods or services compare the supply of the various producers and chose one of them according to the preferred mix of their characteristics.

It follows that there are only two types of organizations in simple societies, those composed of two individuals: 1) the organization based on exchanges whose terms have been defined by a mutual agreement and where decisions are made by all independent participants ("free" or market exchanges) and 2) the organization based on hierarchical exchanges between a ruler and a ruled, where decisions are only made by the decider (subordinate or hierarchical exchanges).

The two types of organizations are differentiated by the centralization or decentralization of the decision-making process. Within a hierarchy, a common decision will have to be followed by all the members of the organization. The decision is centralized. In the case of the decentralized market exchanges, there is also a common target (to take part to a transaction that will be profitable to both parties) and thus an organization, but no common management as each trading partner retains its decision-making autonomy. The decision is decentralized.[14]

Variants of both mechanisms exist but they fundamentally belong to one or the other category. For example, when a producer is the sole supplier of one or several clients, he stands in a quasi-hierarchical position[15] (a monopoly), given his clients cannot choose other potential suppliers as is the case in a market. And yet, the producer and its clients are independent entities and their exchanges are ruled by the price mechanism. It is often the case with subcontracting as we will

14. The concept of "market" is often misunderstood and reduced to the meaning of "monetized" markets but there can be market transactions in all the consensual (or even partly consensual) exchanges between individuals that do not belong to the same hierarchy.

15. It is not a totally hierarchical position given the client can choose the quantity he will buy while this is impossible in a hierarchy.

see later on. Similarly, a single buyer, a "monopsonist," who uses several suppliers experiences market conditions given he can choose between several suppliers.[16]

The two production modes imply very different costs. This is why firms—hierarchies—exist and grow instead of having fully decentralized production processes only. The *raison d'être* of a firm (and more generally, a hierarchy) is to reduce the costs of operating the production process.

Let's take an example that illustrates the difference of costs between the decentralized market production and the centralized hierarchical production.

The Alternative

A computer is composed of many elements such as the screen and the central processing unit which contains the chip and the hard drive among others. With a decentralized market production, there would be screen producers and fitters manufacturing CPUs.

To complete the production process, we would have to assemble the screen with the CPU. But in our example of the industry there are 3 screen producers and 3 CPU fitters. What assembly, which combination of screens and CPUs will we chose? That is the problem of the meeting between suppliers and clients.

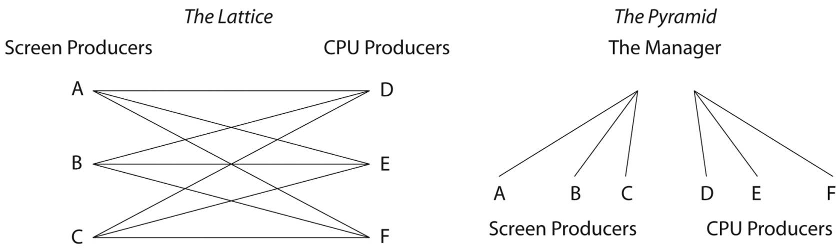
There are nine possibilities of transactions between the six CPU and screen producers as shown on page 159:

Each possible transaction, each possible match, between a screen producer and a CPU producer is materialized by a connecting line, which leaves us with a lattice pattern representing all the combinations possible on this market: A-D, A-E, A-F, B-D, B-E, B-F, C-D, C-E and C-F.

There are 9 (3×3) such combinations. Each craftsman must in-

16. Thomas W. Malone, Joanne Yates and Robert I. Benjamin, "Electronic Markets and Electronic Hierarchies," *Communications of the ACM*, June 1987, p. 485.

Market and Hierarchy



quire about all these possibilities before signing a contract with a specialist of the complementary trade (screen or CPU), and find out about the characteristics of these products, their prices and the volumes available.

And he should preferably do so for each new transaction. If for example D, E, and F produce one CPU per month, each of them will have to renew his observations each month to choose his partner, given the quality, price and availability of the other products may have changed since the latest transaction.

Each inquiry relating to a transaction has a cost, so that the overall production cost of three computers per month depends on 9 inquiries and negotiations about the 9 possible transactions.

If a production of the same size had been undertaken within a single company, things would have been totally different. The head of this single company would have hired 6 craftsmen to which he would have given precise and uniform directives regarding the production of screens and CPUs. The three screen producers would have continued to produce 3 screens per month and the three CPU fitters would have built 3 units per month but none of them would have to make inquiries to search for clients or suppliers. All this would be predefined and there would be only one supplier and one client: the company itself through its "screen" and "CPU" departments.

The time and money saved on inquiries and negotiations is significant. The process only occurs once, when the 6 craftsmen are hired by the business manager. And if they stay on average 5 or 6 years in the company, as is the case in real life, we see that the market negotiation takes place 60 times less often when the production is organized within the company than when the production process depends on the market (one inquiry and negotiation per month during 5 years equals 60 negotiations on the market, against only one on hiring for the firm).

Admittedly, business managers will have to give precise production directives to the workers manufacturing the screens and assembling the CPUs. But they will only do so from time to time when the product is redesigned or when the production process is rethought.

The number of inquiries and negotiations is thus much lower with a centralized production than with the market: while 9 transactions per month will be required on the market, only 6 transactions every 5 years will be necessary within the firm.

And if the number of producers increases because of a higher demand for computers, this gap will widen quickly: another two producers would bring the total number of possible transactions on the market to 16 (4×4) against only 8 transactions on hiring in the firm. If two other producers join the transactions, the possible matches on the market will rise to 25 (5×5), and then 36 (6×6) and so on.

The number of possible transactions in the market grows geometrically, while the transactions within the hierarchy only grow arithmetically. If each transaction has a given cost, the overall cost of the inquiries and negotiations in the market will exceed the hierarchical production cost very quickly as soon as the number of producers increases.

However, to continue this comparison it is necessary to understand better how the same production can be performed either through a market mechanism or through hierarchical integration even with complex objects. For that, we must go back in time to a period when companies were still in their infancy. A typical example of market production is the manufacturing of weapons in Birmingham in

1860, when the British economy was at its apogee compared with its rivals.

The Birmingham Weapon Industry in 1860

The local light weapon industry, then the most modern in the world, was organized as follows: 5,800 people worked in this field and most lived in a small district next to St. Mary's Church. Workers concentrated in the same area because many craftsmen were specialized in a certain production stage so that they frequently exchanged parts between workshops. It was thus preferable to live close to the other craftsmen. Generally, the gunsmith—the entrepreneur—only had one warehouse where he stored the parts that he bought from the various specialists before delegating the assembly to other specialists, the fitters. Each specialist focused on a very specific task, like producing the barrels, fixing the breechblock on them or manufacturing the triggers or the butts. But there were also polishers, drillers, engravers and adjusters specialized in the machining, assembly and finishing of each part of the rifle. All in all, there were tens of specialized trades and each of them required transfers of parts and market transactions between the producers.[17]

While today the various production stages of this type of gun are centralized within a single firm (Smith & Wesson, Uzi, Beretta, or others), these processes initially implied market transactions. The goods were traded at the successive production stages and prices of these elements at the next production stage were bilaterally negotiated between the manufacturers specialized in each of the element's production.

We can also find in contemporary economies similar mechanisms based on a decentralized production, which is no longer limited to a

17. G. C. Allen, *The Industrial Development of Birmingham and the Black Country, 1860–1927*, London, 1929.

city and its surroundings, but applied to the whole world. In particular, this has become the case with car production.

The Late-Century Car Industry

Recent globalization developments show a return to nineteenth-century-like decentralized procedures. The contemporary example of car production illustrates another version, geographically-decentralized, of this mechanism.

According to the 1998 annual report of the World Trade Organization, the production of a typical "American" car can be broken down as follows: 30 percent of the car's value comes from its assembly in Korea, 17.5 percent from its high-technology components imported from Japan, 7.5 percent from the purchase of the design in Germany, 4 percent from minor elements imported from Taiwan and Singapore, 2.5 percent from advertising and marketing services provided by British companies and 1.5 percent from the purchase of data processing services in Ireland and the Barbados.[18] In other words, only 37 percent of the car's value is produced in the United States.

This also means that independent producers have contributed to the manufacturing of this product in the proportion of two-thirds of its value, with the American producer merely assembling components provided by independent manufacturers. This resembles the totally decentralized methods that were used in Birmingham in the 1860s. The company that "hallmarks" the product mainly acts as a "designer-fitter" of components of various origins that it does not produce itself. This is what many authors call the "virtual firm." In fact, it is a decentralized or "network" firm whose functioning resembles the normal market production process at the beginning of the First Industrial Revolution. This implies that each producer has a lot of information about all the producers of components, equipments or services worldwide.

18. WTO, *Annual Report* 1998, Geneva, p. 36.

But between the late nineteenth century and the end of the twentieth century, all these processes were integrated within a single firm that paid wages directly to each specialist instead of negotiating with them the unit price of each component: their hierarchical superiors now gave them instructions about the quantities needed and the characteristics of the elements to be produced and the operations to be performed. This form of organization developed even more in the United States where markets were larger than in Europe, production volumes were higher, and where impressive productivity improvements accompanied this integration at all the production stages within weapon firms such as Colt or Remington. A different and more advantageous organizational mode replaced the existing one.

A first step toward the integration of all operations within a single firm to reduce the market utilization cost consists in keeping the same supplier faithfully, and by signing a long-term contract that guarantees him exclusive rights, that is a monopoly. But this technique of subcontracting also has drawbacks.

The Limits of Subcontracting

Subcontracting is the intermediary stage between the firm that is fully integrated vertically, from the extraction of raw materials to the delivery of the end product to the consumer, and the decentralized production based solely on the market mechanism.

Between the big integrated firms who produce everything they need and the Birmingham-like market production, there is a wide range of organizational structures that industries and sectors can adopt. In most cases, firms are integrated on a part of the production process that takes place from the extraction of raw materials to the end product. This part of the production process is described by Michael Porter as the company's "value chain" and this terminology is now widely used by strategy consultants. But for the rest of the process they bring in other specialized companies for which they are often the only client (or at least the main client).

With this method, centralization is less intense than with a company totally integrated vertically. In the 1960s, when the advantages of centralization became less obvious but decentralization was not yet widespread, the Japanese firm was taken as a model as it was less hierarchical than European, and more than American firms, had less levels of command and systematically worked with a dense network of subcontracting firms.

But this type of organization was already the rule for the first industrial economies of the early century in America and more especially in Europe.

The case of the automobile producer Panhard & Levassor gives a precise example of this organization in 1890: the firm produced a few hundred cars per year within a single plant, but often with independent suppliers and according to the specifications defined by each client.[19] The company had acquired a franchise to produce Daimler gasoline engines, which were the most powerful at the time. They built several hundred cars per year according to the "Panhard system," a layout where the engine was in the front of the car. The firm was mainly composed of qualified craftsmen who built the cars by hand. These specialists knew everything about mechanics and the materials they used. And many of them were in fact independent producers who worked in the Panhard & Levassor plant or even outside in their own workshops. It was thus a subcontracting system.

The company's two founders and managers, Panhard & Levassor, were in charge of client contacts and defined with them the particular specifications they wanted for their car. They then ordered the necessary elements and supervised the assembly of each car. However,

19. This example was mentioned by James P. Womack, Daniel T. Jones, and Daniel Roos in *The Machine That Changed the World*, Maxwell Macmillan International, 1990.

most of the production (even the design and engineering) took place in their subcontractors' workshops all across Paris.

In these conditions, average production costs could not decline if the volumes produced increased. Indeed, Panhard & Levassor could not manufacture two identical cars. Each of them was unique and thus cost the same to produce the previous and the next. There were no precise standards for each part of the car nor were there machine tools capable of cutting steel and mass-producing identical parts. It was up to each craftsman to produce these elements according to its own methods and measures. Then, in Panhard & Levassor's assembly hall, the hundred of components that composed each car had to be modified and adjusted to each other. They thus produced specific "tailor-made" cars at high costs.

To lower these costs, it was necessary to cut the time spent on the adjustments before the assembly. The solution was to manufacture strictly standardized parts that could be used directly as such, that is to mass-produce them with a single machine. The producers also had to abandon the idea of meeting the specifications of their clients (as Ford did later) as it made each car a unique prototype.

But given the advantages to integrate production costs compared to Panhard & Levassor's extreme form of traditional subcontracting, there were also drawbacks to use the more modern and industrialized subcontracting mechanism where the subcontractor was more than a simple craftsman. This became apparent in the 1920s with the collaboration between General Motors and its supplier of automobile bodies, Fisher Body.[20] The costs that this cooperation implied for General Motors led the firm to integrate purely and simply Fisher Body.

The problem is that, to meet more efficiently and at a lower cost his client's specific requests and standards, the subcontractor must invest in machines particularly adapted to those specific needs. This

20. Benjamin Klein, Robert Crawford, and Armen A. Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," *Journal of Law and Economics*, October 1978, pp. 297–396.

makes him vulnerable to the buyer's decisions as he totally depends on him. If the client decides to work with another subcontractor, he will have difficulty reusing his equipments to supply another company and will be unable to resell them on the secondhand market. He will be a net loser. This potential loss will leave him at the mercy of his client, once he has bought the specific equipments necessary, as he can be forced into cutting prices substantially to the point he makes no profits anymore. This is what managerial economists call the "moral risk" or the "hold-up."

To protect himself against that kind of risk, the subcontractor can ask for a long-term contract that guarantees him the sale of enough products to amortize the cost of these specific machine tools "dedicated" to a single client. This is precisely what had been done between General Motors and Fisher Body. But such a long-term contract cannot take into account all the future developments in the industry. In fact, Fisher Body's contract mentioned the sale price of automobile bodies to General Motors based on the production costs specified at the signature and with the equipments existing at the time, to which had to be added a profit margin representing a fixed percentage of costs that would be paid to the owners of Fisher Body (cost-plus pricing).

But the production techniques of automobile bodies evolved rapidly and it became possible in the late 1920s to produce bodies at lower costs by using the newly-born stamping presses. However, Fisher Body had no reason to make such an investment given their contract with General Motors guaranteed them a profit margin in addition to their production costs with the current equipment. So, why agree to buy new machines to reduce costs when they are sure to get a profit margin anyway? General Motors was trapped and eventually had to buy Fisher Body to modernize its equipments and reduce the cost of its automobile bodies. It was indeed better to integrate this business to its production chain and thus protect itself against possible conflicts of interest between the client and the supplier, and the exploitation of one by the other.

There are thus several reasons to integrate vertically companies and subcontractors in an economy where transaction costs are high. And the upsizing of the average firm resulting from vertical integration reduces the domain of market transactions between specialized suppliers.

Power and the Subordination Contract

Within the firm, transaction costs are indeed minimized. The decision-making power is concentrated at the top, centralized. The definition of the product and all its components are preset, in a coordinated way, and all its characteristics are clearly specified. These standards and directives are then passed on to the divisions and departments of the production line, without any market negotiations. And their proper execution is supervised by the administrative hierarchy.

With the centralized process, the pieces do not need to be adjusted anymore during the assembly, unlike with Panhard & Levassor. The divergences of interest between General Motors and Fisher Body also disappeared. The hierarchical production mode requires no adjustments, negotiations and thus little information. All the information needed by the firm is concentrated at the top, where the decision maker of the whole process lies. The other agents of the firm are either field workers or inspectors and supervisors. All employees are totally specialized in a specific task and do not need information from outside the firm.

On the market, the decision maker can be an individual who decides for himself or represents a group of individuals, such as a firm or an administration. But he cannot impose his decisions on his trading partners. On the contrary, in the hierarchical organization, the decision maker has a right to compel his subordinates to implement his decisions. That is why the basic characteristic of a hierarchy is the relation of subordination. That relation is the very foundation of the labor contract, which governs most inter-individual relations within the hierarchical organizations in contemporary societies.[21]

The distinction is not always made that way in the economic literature as theorists are still undecided about what differentiates a hierarchy from a market. The authority or power relation is often mentioned, especially in the theory of organization, but never clearly defined. Economists have, indeed, always felt uncomfortable with the notion of power, precisely because their discipline is based on the study of markets. As such, they tend to deny the existence of a hierarchical bilateral relation and focus on the market relation, which implies shared decisions and thus rules out a subordination or power relation.

A few authors like Alchian and Demsetz take the market approach to extremes and simply deny the existence of an authority relation, asserting that the relations are the same in firms and on markets.[22] According to them, a customer can "lay off" his butcher or grocer, just like a boss would dismiss his employee, and in return, wage earners can also "lay off" their employer by resigning. All inter-individual relations would thus be perfectly symmetric and there would never be any power relation. The very notion of "power" would be totally meaningless.

But in reality, it is obvious that this symmetry is purely fictitious. A field worker cannot lay off its company head. He can only "dismiss" the whole firm by resigning. To really lay off the company head, he would have to be able to impose his own decision on all the other people concerned—the other employees, the customers, the suppliers

21. In various societies, different forms of "quasi-employment contracts" have existed, each being characterized by a different degree of coercion, serfdom and various forms of slavery.

22. Armen A. Alchian and Harold Demsetz, "Production, Information Costs, and Economic Organization," *American Economic Review*, December 1972, pp. 777–795.

and the shareholders. Thus, he would have to be able to decide for the others, which is precisely the prerogative of the individual at the top of the hierarchical pyramid, and who holds the power, the centralized decision-making power.

And as the people ranked lower in the hierarchy do not have this power, the hierarchical relation is asymmetric. The power does exist. It can be defined as the decision-making power an individual has on people other than himself, and also by the number of these other people on whom the leader can impose his own decision.

Besides, the distinction between the hierarchical and market relations comes from the fact that in a company, a subordinate and his superior both take part together in the production of a same good or a service. There is no such relation between a customer and a grocer. The customer can buy—or not—the pasta he finds in a store, but for all that, he does not take part in the grocer's production.

The confusion between firms and markets is also fueled by the fact that the hierarchical relation between wage earners and their employer within a firm is complemented by market transactions between the firm and its customers and external suppliers. The business firm obviously works on the markets where it offers its products and services. It also acts as a buyer on the commodity market and on several markets of semi-finished goods. For its outside relations, the firm is a market participant and the transaction it makes is a symmetric exchange implying no subordination relation.

That is why many commentators use the terms "business economy" (or "free enterprise") and "market economy" indifferently, although both mechanisms are in fact opposites. The firm is a place of authority, command and subordination. The market is a place of shared decision-making, independence and equality.

The nineteenth century industrial developments saw the creation of numerous firms, plants and factories which gathered together a large and quickly increasing number of employees. As pointed out by Paul Milgrom and John Roberts, before 1850 the Church and the

Army were almost the only hierarchical structures.[23] The few exceptions were in North America, the Hudson's Bay Company, and in England, the East India Company.

However, with the rise of mass transportation, large companies developed quickly. Those bodies followed the principle of hierarchical subordination, with the top issuing compulsory directives, just like in public administrations. These methods, defined and formalized by Taylor, Fayol and Ford, represent the turn-of-the-century "administrative revolution."

The result was what economists call "vertical integration": the firm is under the hierarchical authority of a manager who controls all the transactions made during the production process, from the extraction of the raw materials to the delivery of the product to the final customer, while these transactions and conversions could also take place on markets between firms. With the integration of all these production stages within a single firm, the price mechanism is replaced with command. And thus most of the modern production occurs within administrative organizations rather than through the market mechanism.

It follows that within an economy or a society, we find both market productions and hierarchical productions. The larger the hierarchies, the more employees they contain, the more the authority, the decision-making power, is concentrated since the number of decision makers decreases while the number of subordinates increases. On the contrary, when hierarchies shrink and markets develop, the decision-making power is more widely spread among a large number of individuals.

The more hierarchical the production organization choice, the more centralized the society. The centralization rate thus gives an indication about the society's production system and distribution of the decision-making power. In other words, its political system.

23. Paul Milgrom and John Roberts, *Economics, Organization and Management*, Prentice-Hall, 1992.

CENTRALIZATION AND POLITICAL SYSTEMS

The functioning of a society is defined by its political system in its broad sense of the organizational structure of the relations between people. That relational structure provides a clear answer to the question of who decides what is produced, how and at which price. Given these problems are the same for all the hierarchies and markets in the sectors of private or collective production, the notions of "political system" and "economic system" are equivalent.

The centralization rate, based on the choice of the organizational modes of all productions, thus becomes the main characteristic of the political system. It indeed reflects the average size of the hierarchies, and consequently the dominant type of relation between individuals and collective organizations, together with the distribution of the decision-making power in the society. The centralization of power determines the predominance of human relations of subordination, obedience and conformity, as well as the room left for transactions negotiated equally and freely. It thus determines the dominant social values, peculiar to each society. Centralization also defines the role of the individuals in the society and their economic and political rights. It follows that these two types of rights generally go hand in hand as they result from the common operating needs of private and public organizations.

In a society that is not fully centralized, the individuals choose the production mode that suits them: they can either be independent producers who directly intervene in the market or join a hierarchy within an organization. The more or less centralized organizational structure of a society depends on all these individual choices. They are not based on pre-established preferences or political ideologies, but rather on the effectiveness and comparative costs of each production mechanism, market and hierarchy. The choice of an organization is thus economic and contingent: it depends on particular conditions, at a given time and in a given environment, on the respective costs of markets and hierarchies. Thus, there is not only one politico-economic system that is always and everywhere the best. There is an infinite range of organizational structures, and it is impossible to choose by a simple a priori reasoning which would be the most adapted to a particular society at a given point in history. The solution selected can only be empirical and most often decentralized.

Measuring the Systems

Companies' average optimal size within an industry determines, for a given market demand, the number of firms and, consequently, the centralization rate in that sector. The larger the average firm, the greater the number of employees working under a single hierarchical authority and the higher the centralization rate of decision making in that sector. That rate is at its highest level when all the individual producers are headed by a single management team. It is the case of a monopoly.

The subordination rate, that is the number of subordinates/number of managers ratio, increases steadily in line with the size of the hierarchical organization. The more an organization grows, the more centralized the decision-making process is. In a hierarchical organization of 10 people, the manager decides for the 9 others. In a hierarchical society of 100 people, the manager decides for the 99 others. In a society of one million people, the manager decides for the 999,999 other individuals.

The number of managers/number of subordinates ratio represents the decentralization or individualism rate which ranges from 1 (one leader for one subordinate, in the case of independent craftsmen) to 0 when there is only one leader for an infinite number of subordinates (a society organized as a single giant pyramid). As the maximal level of decentralization is also the minimal level of centralization, the centralization rate evolves in the opposite direction from the decentralization rate—from 0 for independent craftsmen to 1 for the hierarchy which counts a very large number of subordinates.

The centralization rate is 0 in a society which only includes individual craftsmen and it reaches 1 when the society only counts a single organization managed by a single leader. It can be calculated for any group of people—for a single pyramid but also for any society that counts a great number of pyramids and markets.

It represents a unidimensional and continuous measure that applies to any type of organizational system. Thus, while the choice of the production's organization is binary or dichotomous for individuals (they can stay independent craftsmen on the market or become employees within a hierarchy), in an organization it ranges continuously from the full decentralization to the full centralization of a unique hierarchy.

That simple remark shows that a society's organizational structure is not chosen the same way that individuals choose their production relations. The latter consists in a radical alternative between a relation of authority or a market relation implying shared decision making.

The overall centralization rate of a society depends on all the organizational choices made by individuals, as these define the size of the private and public pyramids, including the state. The number and sizes of the various hierarchies that coexist in a society comes down to one single figure situated in the infinite range of possibilities between 0 and 1.

Obviously, the centralization rate of a society gives an even more faithful image of these internal structures when all the organizations that it is composed of upsize or downsize at the same time. Otherwise, a constant overall centralization rate might hide opposite trends, for instance between public and private organizations. Yet, there are good reasons to think that the size of most organizations evolves at the same time and in the same direction.

While the various organizations can have different optimum sizes, they are all affected by the variables that influence the respective operating costs of the market mechanism and hierarchical production. Indeed these comparative advantages mostly vary according to information costs, as we will see in the next chapter. As the centralization rate depends on the size of public and private pyramids which in turn depends on information costs, it will follow similar trends in both the "economic" and "political" sectors.

This has a very deep consequence: highly statist societies cannot also have very developed markets. Market socialism is a myth. When the state is very powerful and centralized, the economic sector is also dominated by a few very large private hierarchies, by giant firms, and not by a great number of small firms and craftsmen trading together through market transactions. The large state develops at the same time and in the same conditions as large firms. This typically results in corporatist regimes or in a system of large public firms: a Socialist regime.

On the contrary, when the state is small, the firms are also smaller. The whole society is decentralized. Such was the case with nineteenth-century liberal or competitive capitalism.

There are thus only two extreme cases (liberal and craft capitalism on one side, full communism on the other) and an infinite number of intermediate solutions, each of which admitting a similar level of centralization of its public and private activities. And there are no really "mixed" regimes, with really distinct public and private centralization rates, combining, say, market capitalism (atomized companies) with a very large state holding a centralized political power. Nor is there any regime combining a truly discreet state and vast monopolistic private firms.

The first case of a mixed regime would be that of market socialism. But after the Yugoslavian illusion of the 1960s, one had to realize that there was no real example of market socialism in the socialist galaxy: extreme political centralization including the public ownership of firms is not favorable for the atomization of the production structures. The second case would be authoritarian capitalism. But in fact, in dictatorial regimes, the economic power is almost as concentrated as the political power. Such is the case in the “banana” and “mining” republics of the developing countries. It was also the case with the Fascist and Corporatist regimes of the 1930s in Europe (konzerns in Germany, large public “institutes” and powerful private firms in Italy and France) but also in Asia with the development of the zaïbatsus in Japan after World War I, which peaked with the imperialist “new order” imposed by the military and technocratic establishment on the eve of Word War II.[24] There was even an echo of that general trend in the United States, where large public institutions like the Tennessee Valley Authority, and the Public Utilities in general, emerged and developed during the first twentieth century and above all during the Great Depression of the 1930s, while the federal state grew increasingly influential and the vast industrial mergers continued. Such was also the case with the Scandinavian economies, where the state accounts for a very large part of the domestic product and where the industry is dominated by a small number of giant firms owned by a handful of powerful families.

That parallelism of centralization or decentralization in the public and private sectors has other consequences on social systems. We saw that the hierarchy reduces substantially individual rights, and instead derives its effectiveness from the behavior of subordination and standardization. It is thus reluctant to entrust the employees with a real power of control. It is true for both the state hierarchies, which employ a large part of the working population and thus represent a monopsony in many sectors, but also for the private hierarchies in a position of monopoly which lay off the employees who try to interfere in the company’s management. The most extreme cases are the Latin American mining companies which monopolize the job market, the Ford company in its early stages and other giant manufacturers, which impede as much as they can the development of trade unions.

24. William M. Tsutui, *Manufacturing Ideology: Scientific Management in Twentieth-Century Japan*, Princeton University Press, 1998.

Similarly, the great hierarchies which replace the markets with vertical and horizontal integration and reduce the number of firms—a source of competition—also endeavor to discourage external control—the democracy of the shareholders which gives the controlling power to a large number of individuals. The same is true of the big conglomerate-like states which, in practice, try to reduce the controlling power of their electors-taxpayers, the final owners of that collective enterprise. In state-controlled societies, the civil servants, who represent a large proportion of the voters, are also numerous among the elected representatives and thus find themselves collectively in a position of self-control, being both controllers in their capacity as elected representatives and controlled in their capacity as civil servants. In a similar way, as they cannot belong to only a small number of investors because of their huge financing needs (it would require immense individual wealth for a sole ownership, often more significant than the domestic product of many states), very large firms tend to become managerial companies, only controlled by their CEOs and not by their dispersed owners. The same is true of very big states, where democracy—when there is one—is largely monopolized by the executive. The managerial state echoes the managerial firm.

The centralization rate, which is simply the image of the hierarchies' size, is thus the main variable reflecting the general characteristics of the politico-economic systems, given that centralization evolves the same way in all the production sectors.

Counter-currents?

But has the parallel evolution of organizations been confirmed by the facts? Does the decentralization that characterizes the second twentieth century apply to the commercial hierarchies but also to all the other types of hierarchies? Since the late 1960s, the contemporary decentralizing revolution has concerned both the economic and political productions. The largest companies reduce their staff, while the biggest and the most heterogeneous states split into entities with smaller demographic and geographical dimensions.

But haven't we entered again an opposite phase of re-centralization a couple of years ago? The M&As and the multiple takeover bids give the feeling that the dominant trend is for the concentration of labor in an increasingly smaller number of giant enterprises, all striving to attain the mythical "international dimension." Henceforth, we would be living in the "World Company" era and firms such as Coca-Cola, Microsoft, McDonald's and Axa would be the best example of that.

On the economic level, the takeover bids and M&As tend to concentrate the decision-making power. Many observers draw the conclusion that the recent waves of takeover bids will lead us to a society essentially composed of giant firms, where the power will be extremely concentrated.

All that appears to be plain and simple and confirmed everyday by new operations, but it is only an illusion. Although a few firms show spectacular external growth, these are more an exception than a rule. As it was underlined in a recent INSEE survey, corporate downsizing is accelerating. Between 1985 and 1997, in France, the average number of employees working in big companies decreased steadily. If we consider the firms that employed more than 10,000 people at the beginning of the period, we see that the average number of employees fell from 25,408 in 1985 to 13,137 in 1997. In the companies with 5 to 10,000 people, the average retracted from 6,487 in 1985 to 3,797 in 1997. In the firms with 1,000 to 5,000 people, the average declined from 1,964 in 1985 to 1,524 in 1997. And in the 500 to 1,000 employees category, the average also eased slightly from 691 to 648 people.[25]

In percentage points, the reductions of the workforce in these

25. *Le poids des grandes entreprises dans l'emploi*, INSEE Première, no. 683, November 1999.

respective categories of big companies were of −48.3 percent, −41.5 percent, −22.4 percent and −6.3 percent over the twelve years under study.

Meanwhile, the average number of employees in small and medium companies increased steadily. It rose by 38.9 percent in the companies employing between 1 and 9 people, 21.9 percent in those counting 10 to 19 employees, 16.9 percent in the 20 to 49 employees category, 14.7 percent in the firms employing 50 to 200 people and finally 3.8 percent in those with 200 to 500 employees.

That movement was general, massive and consistent. The bigger the company initially, the sharper the job cuts. The smaller the company, the larger the increase in the average number of employees. Clearly, there is a global trend toward a reduction in firms' average size.[26]

Furthermore, we must distinguish between the employment dynamics among the population of the companies that survived the whole period (the "perennial" companies, as the INSEE calls them) and the dynamics of corporate demography, which concerns the birth of new companies, the definitive collapses or even the structural changes (mergers and takeovers or on the contrary de-mergers and disintegration). Whereas small companies often collapse and larger ones (over 1,000 employees) almost never die, the creation of numerous small firms also helps to reduce the average size of the company for the whole workforce.

The decrease in companies' average size during the last decade of the twentieth century, confirms the older and international trend mentioned in the second chapter: the downsizing of the production apparatus remains an underlying trend of the second twentieth century.

26. According to the Fortune 500 index, the three largest firms in the world in terms of turnover were General Motors, IRI, and IBM in 1990. They respectively employed 775,000, 416,000, and 383,000 people at the time, but only 756,000, 407,000, and 344,000 in 1992 and 647,000, 132,000, and 268,000 in 1997.

Consequently, the wave of M&As cannot be interpreted as a way to benefit from the advantages of big dimensions. The companies who upsize are the smallest, while the firms of over 500 employees obviously downsize. The takeover bids and other restructuring plans—that nevertheless result in the creation of a merged firm larger than the two initial companies—must thus meet other objectives than just upsizing.

But which are they?

M&As and the Redistribution of Talents

The growing wave of takeover bids and other restructuring plans is less the result of a race for "international" dimension—since companies' average size continues to decrease in all the developed countries—than of the redistribution of the decision-making power to the most effective managers due to increased competition. And indeed, the free movement of goods and people and the development of world trade suddenly increased the number of firms actually competing against one another on a now international or world market.

As the trading area widens with the opening of markets to foreign companies, the competition between the productive hierarchies becomes more direct and harsh, while on fragmented national markets the local firms are, in general, protected against external competitors and can cooperate more easily to sign trade agreements and form cartels. In conditions of reduced competition on narrow markets, the quality of the products and leaders is unequal and often limited. But the intensification of competition will confront the least competent leaders with their best competitors worldwide. The decision-making power is thus redistributed, as the most competent leaders can extend their field of command within their sector, while the least efficient ones are compelled to disappear or accept subordination. The same is true of the show business market, where the superstars widen the gap between them and second-rate artists. Indeed, the information broadcasting techniques make it easier to listen to the best or more popular singers in the world than to the less talented local singers. In companies, the increased competition between a larger population of managers on a worldwide market results in a redistribution of the decision-making power to the "superstars" (who can thus upsize the hierarchies they control) rather than to the less efficient leaders (who must on the contrary downsize the organizations they manage or even hand over the commands to others).

But these localized redistributions of the decision-making power are not incompatible with a general trend toward decentralization. The fact that a few stars manage to increase their audience does not preclude a decentralization of the industry if the number of newcomers setting up only small-sized organizations increases significantly. The space taken by the four or five biggest organizations can grow while the average size of the organizations diminishes, which increases the number of decision-making centers and reduces the overall centralization rate.

In the last few years many authors have explained the differences between the growth rates and dimensions of firms belonging to the same sector by the differences of talent between their leaders.[27] Takeover bids and mergers—the latter often being just disguised acquisitions through which a managerial team takes control of a new unit—are the proof of a manager's confidence in his ability to create more value from the resources of the target firm than its current leaders can do. That manager tries to convince the shareholders of the targeted firm with an overall takeover bid on the equity market. If he succeeds in obtaining enough stocks and voting rights, he replaces the ruling managerial team with his own staff and takes control of the company bought, which he restructures and merges with his own.

27. Robert Lucas Jr., "On the Size Distribution of Business Firms," *Bell Journal of Economics*, Autumn 1978; Sherwin Rosen, "Authority, Control, and the Distribution of Earnings," *Rand Journal of Economics*, 1982; "The Economics of Superstars," *American Economic Review*, 1981; and Todd L. Idson and Walter Y. Oi, "Workers are More Productive in Large Firms," *American Economic Review*, May 1999.

He then defines new strategies aimed at increasing the prospects of future profits and thus the current value of the stocks of the company bought, which is the purpose of the operation.

General studies about the results of takeover bids show that the value of the target firm increases while the value of the buying company decreases slightly. It is logical that the value of the target rises. First, the bidder must offer a higher price for the targeted stock than the current market price if he wants to convince enough shareholders to sell their stocks. This is called the takeover premium. By nature, it raises the price of the target firm. But the stock will only stay at that level if the new management team and its new strategy turn out to be better than the previous ones. This is often the case because the bidder will only accept to pay the takeover premium if he is sure he can improve the performance of the target company. Takeovers will thus be directed toward supposedly badly managed companies, and are likely to improve the management process and result in wealth creation.

But how can the decline of the bidder's stock price be explained? And why do the leaders launch these takeover bids that impoverish their shareholders? How are those operations possible on competitive financial markets? Why would the shareholders not systematically punish the managers who throw themselves into such hardly profitable ventures?

Well, actually, they do. The fall in the price of the purchasing firms means that the owners deem that the current value of the expected flow of future benefits has decreased. That decline represents sanctions against the ruling team, which it makes slightly more vulnerable to a possible takeover bid. So, why are there takeovers? That phenomenon can be explained by the leveling out of the managers' marginal productivity in the various firms. The talent of a leader enables him to control efficiently a company of a certain size, but that size is limited as we will see in the next chapter. The leader of a small company probably is, all things being equal, less talented than the manager of a big firm. By purchasing a new company through a takeover bid, the leader of the buying firm can dedicate his talent to a broader, more difficult management process but he also replaces a less talented leader. All the losses of control inherent in a large size hierarchy will increase within the newly merged unit he is in charge of. It follows that the competence of the leader will reach its limits, which means that his managerial productivity in terms of wealth creation will decline. It can nevertheless remain higher than that of the former manager of the target firm. But by devoting himself to that additional management, he necessarily manages the first firm—the bidder—less efficiently. The profitability of the target firm increases while that of the bidder diminishes.

The takeover bid is thus justified insofar as the new leader's decreased productivity in the management of the initial firm remains nevertheless higher than that of the previous manager of the target company. He thus dedicates his superior talent to that company, whose future gains and present value increase correspondingly. All in all, that superior talent will be devoted to a larger field of action and replace the inferior talent. The society as a whole and the economy's productive apparatus come off better. The value of all the companies together has globally increased in that case. The decision-making power has been centralized, the resources of the previously independent firms being concentrated under the leadership of the most efficient manager.

The same mechanism is seen in the sectors in overcapacity, where the demand stagnates or even declines. The least competitive companies show a lower-than-average profitability. Then, they have to leave that sector or buy out customers through the takeover of a competitor, whose production capacity will eventually be reduced. To do so, it is better to resort to superior talents. Since some companies have to limit their activity or disappear, it is better for them to reallocate their resources to the best managers and thus to replace the less gifted managers by more efficient ones.

The way these capacity-reducing takeovers take place illustrates the improved allocation of resources in the economy, the (rare) resources of the badly-managed firms being passed to those who can use them the most efficiently after the merger. The decision-making field of action of the most efficient managers thus develops until their "decision-making productivity" decreases and becomes equalized in all the companies. The takeover bids and other restructuring plans are thus a means to reallocate talents and responsibilities.

The productivity of all the leaders, in terms of wealth creation, thus tends to become equalized in all the firms as it is also a function of the differences of size between these companies. The productivity of the most talented manager will fall to the level of the least talented because of the sudden expansion of the former company. He will thus reach the limits of his competence and the profitability of his firm will be reduced to that of the smaller companies managed by less efficient leaders. At a given time, if the economy is competitive, that allocation of talents and resources tends to reach an equilibrium.

In conclusion, it appears that the growth or shrinking of the hierarchies in terms of employment, and consequently their increasing or falling number in the society, results from a process of allocation and efficient use of scarce resources—here, the leaders' talent.

The dimension of the hierarchies and of their opposite, the markets, and the economy's overall centralization rate result from that quest for the most efficient leaders.

The same factors are at play in the hierarchies producing public goods, and they have the same consequences. Thus, the whole structure of the politico-economic system depends on this quest for optimization. There must thus be objective organizational factors that determine the adoption of such politico-economic system. We are thus very far from the traditional conceptions according to which the ideologies—often despised as erroneous—would lead the societies to adopt a structure of political organization that would in fact be arbitrary and possibly unfavorable to the pursuit of prosperity and of the most recognized human values. This is an explanation by the absurd and irrational which implies that the political systems evolve according to a succession of ideological mistakes.

Before suggesting a more rational explanation, let us complete the picture of the social consequences implied by production centralization. It does not only determine the allocation of the management skills, it also explains the varying degrees of development of rights and liberties. The preferred legal order depends on the ethical and political priorities of each individual, whether in favor of liberties or of centralized redistribution of incomes. But whatever the subjective preferences of each of us, which can be both different and legitimate, there are objective factors determining the system of rights adopted by a society at a given time.

Centralization and the Two Types of Rights

The economic and political rights directly depend on the organizational structures. In the first stage of the great cycle, the dimension of all the organizations increased—including that of states—while the number of independent states in the world declined due to imperialism. The latter denies the right of peoples to self-determination. It denies the colonized the civil and economic rights that the citizens of the imperialist nation can benefit from, although those latter rights are themselves often reduced by the internal centralization of power.

During the second twentieth century, the increase in the number of nations and, within the nations, in the number of smaller organizations, led to an increase in the number of decision makers, which resulted in the decentralization of the decision-making process. This trend marks the return of democracy, human rights and economic liberties, as shown by the various editions of the *Economic Freedom of the World* report published by Raymond Gastil and then by James Gwartney, Robert Lawson and Walter Block. Based on the classification of countries according to their level of civil liberties provided by these reports, Robert Barro measured an average indicator of democracy in the world out for about a hundred countries between 1960 and 1994. That average index ranges from 0 to 1. It fell slightly from 0.65 in 1960 to 0.60 in 1994 but after passing by a low of 0.44 in 1975.[28]

In the first (decreasing) phase, the trend is towards a totalitarian society where a growing number of decisions affecting all individuals are made by only a few of them. In the second phase, the trend is towards an individualistic society with personal liberties, where each can decide by himself and for himself.

This is because human relations are very different within the hierarchies and markets. To run smoothly, the hierarchies need virtues such as subordination, obedience to the superiors, a single thought guiding the organization and the devotion of the individuals to the community. On the contrary, individual initiative, originality, personal autonomy, non-conformity or even deviance,[29] the recognition of the worth of a person and of his/her rights within the community, are essential to the good functioning of markets. Recent financial studies have shown for instance that financial markets are more developed and hierarchically-organized banks less significant in the countries where legal systems more generally and more effectively guarantee the rights of the creditors.[30]

Depending on how much a society leans toward hierarchies or markets, it is more or less gregarious and conformist, hardly inclined to define legal, commercial and civil guarantees or, on the contrary, individualistic and egalitarian by nature, supporting the legally constituted state and the constitutional guarantees that represent an explicit social contract.

28. Robert Barro, *Determinants of Economic Growth: A Cross-Country Empirical Study*, MIT Press, 1997.

29. Many authors define the entrepreneur as a deviant innovator, disrespectful toward customs and traditions.

30. Rafael La Porta, Francisco Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, "Law and Finance," *NBER Working Paper*, no. 5661, July 1996.

Rights are guarantees of the liberties, whether negative or positive. They indeed protect the individuals against the attacks and predations of other individuals or organizations. But they also define which actions are authorized and enable the individuals to perceive and retain the benefits of their actions, efforts and investments.

As a consequence, the political system takes very different shapes in very hierarchical societies and in very market-oriented societies. Even when they are very largely guaranteed on paper (for instance, in the Soviet constitution), political rights are difficult to implement in an extremely hierarchical society and can prevent its effective functioning: not only are the usual behaviors within a pyramid organization inimical to those rights, but also the expression of the debate, the confrontation of the opinions and ideas, becomes difficult or impossible in practice when all the media activities (editing, press and television) are concentrated within the hands of a small number of owners (if not a single owner), whether private or public. This is the argument against state control that Milton Friedman convincingly put forward in *Capitalism and Freedom*. Clearly, Soviet dissidents could not have had their work published and distributed by publishing houses as they all belonged to the state. They had no access to the radio or the public television channels. They were banned from the conferences and the universities. On the contrary, in the United States or in Europe, the protesters against the ruling order easily found a radical university or a non-conformist publisher to express and spread their ideas. In France, however, where the public monopoly of television has long been maintained without any economic justification, the political opposition has always had difficulties making itself heard—like the proponents of ideas too remote from the consensus of the dominant intellectual circles, generally opposed to the market mechanism and to competition.

Of course, the issue of private property—the individuals' right to property—and individual rights in general, depend on the development of hierarchies. Indeed, to work properly, the market and the price mechanism require the prior existence of a sophisticated system of rights on goods, services and the production factors (capital and labor) that are necessary to implement that production. This prerequisite to good functioning had always been underestimated until recently because the industrial and culturally-advanced countries had benefited from it for so long that people had forgotten that the same was not true of all the societies. But the recent de-hierarchization of Russia has shown what happens when markets and price mechanisms are implemented without having a legal and institutional system that actually guarantees rights. The economy does not function or gives deleterious results. Then comes anarchy and its law of the jungle.

Conversely, we can also conclude that a system of rights as sophisticated as that needed by a market economy is not essential to a hierarchy. In the latter, the individuals have less rights than an independent entrepreneur on a market. The subordinates must submit to their superiors. To work efficiently, a hierarchy requires that the decisions made by the superiors be implemented without being constantly discussed or modified. That implies a restriction of the subordinates' room for maneuver and right to dissent, that is, of their individual rights. Indeed, the easiest way to avoid protest is to ban criticism. Rights and hierarchies are not easy bedfellows, whereas markets can function only if individual rights are defined, extended and defended by the authorities.

That is why most observers have presented the system of rights, and especially property rights, as the main difference between capitalism and socialism. Having in mind a capitalism of small units, not very hierarchical and mostly market-oriented, they noted that it required a precise definition of the (property) rights of the ones and the others, especially concerning the private property of capital. On the contrary, the hierarchical socialism could abolish these rights or concentrate them in the hands of the leaders.

In the view of many liberal economists, political rights are less important than economic rights because they have no direct impact on growth and on wealth production. Some of them even suggest that political rights and democracy are obstacles to prosperity because they encourage the various social groups to ask for a greater redistribution of wealth in their favor, which weighs on the tax system, encourages greater state control and slows growth. Democracy is sometimes accused of being responsible for the atrophy of the economic liberties, the hypertrophy of the state and the reduction of the general well-being.[31]

We will show later on that the growth of the state-controlled pyramids admits much more convincing explanations than the autonomous—and so far unexplained by those authors—development of political rights. The most striking element is the parallel development of the public and private hierarchies which can be no simple accident, but also their similar consequences in terms of economic and political rights.

In fact, all the hierarchies, public or private, reduce the need for a sophisticated system of rights. In a hierarchy, the wage earners abandon some of their individual rights—though temporarily and in various proportions. The same is true of the political systems based on authority rather than on the democratic decentralization of rights. In the hierarchical systems, "some are more equal than others," as the leader holds most rights. As Molotov once declared, "law is not meant to protect individuals against the state but rather to protect the state against the individuals." And for Hitler, rights had to be subjected to policies.[32]

31. As Robert Barro (op. cit.) underlined, economic growth increases with democracy in the countries where the latter is underdeveloped but then the increase of the already large political freedom results in slower growth. According to Gerald W. Scully (*Constitutional Environments and Economic Growth*, Princeton University Press, 1992), over the 1950–1985 period, economic growth and the various indicators of economic and political freedom were positively correlated, while the state's role in the economy affects growth negatively.

32. Mazover, *Dark Continent: Europe's Twentieth Century*, Penguin, 1998, p. 31. The author also underlines that the German legal customs of the late nineteenth

The gradual development of markets in the Western societies, which had been evolving from hierarchical organization systems and customary authority, was accompanied by the development of people's rights—human rights in the broad sense, especially in the towns where markets developed the most. This, in turn, made possible a greater development of the markets. When the room for maneuver of each individual increases and becomes more discretionary, it is necessary to predefine its limits. In a hierarchy, everything that is not authorized by the superior is forbidden. In the market, everything that is not forbidden by the law is authorized.

There is thus a fundamental parallelism between the development of markets and the development of individual rights, including the capital ownership rights, but also human rights in general: the right to think, to speak and to criticize. There is a deep and necessary connection between markets and democracy, the latter being understood as a legal system increasing individual rights and reducing the discretionary rights of the central authority.

Indeed, in a hierarchy, individual efforts and productivity are encouraged by the wages and the administrative supervision. The purpose of the whole administrative hierarchy is to make sure that the orders coming from the top are followed and to supervise the productive performance of the subordinates.

In a market, the producer is watched by the consumer. But, if he is dissatisfied, the only action a consumer can take is to choose another supplier. The current producer is only affected to the extent that he is the legitimate owner of the possible gains resulting from his activity. Indeed, ownership rights have the effect of making each individual bear the full consequences of his actions. If the careless producer wants to offset the lower income that results from the disaffection of his clients, he has to improve the quality and efficiency of his production.

---

century encouraged the judges to view law as a protection for the state rather than for individuals.

Similarly, on the political market, democracy gives the consumers of public services the possibility to withdraw the confidence they had placed in the "producers," the politicians, through a vote. But this is only possible if all the users and taxpayers are guaranteed the right to give their opinions and elect their representatives.

So that capitalism, which is based on individual capital ownership rights, is a system which requires more rights than socialism, where there is no need to share the decision-making power. And in general, any system that relies on the price mechanism and on the decentralization of decision making to several agents must encourage individual initiatives. But initiatives can only be taken if a code of conduct defines rather precisely which individual behavior is acceptable and which is not.

Thus, it is true that the presence or the absence of individual ownership is what determines the fundamental choice of a society's organizational mode. But keeping to that view prevents realizing that in a society of private property and market, production centralization also leads to an atrophy of individual rights, or in other words, to characteristics increasingly similar to those of the societies in which individual ownership rights are banned. There is a continuity of systems, starting with the almost complete market capitalism, where the firms remain at the cottage industry stage, the great hierarchical capitalism, then corporatism and finally socialism, with or without any residual individual property.

Thus, the revival of shareholders' rights—and of ownership rights in general in the "capitalist" societies of the eighties and nineties—is due to the return of decentralization and markets which require a more developed legal system to function. On the contrary, in *The Managerial Revolution*, published in the 1940s, Burnham described a society in which owners' and shareholders' rights declined. That theme was taken up later by Galbraith in *The New Industrial State*.

The relation between the organizational structures and rights also accounts for the "excessive" increase in legal actions and for the major role of lawyers in the U.S., the most market-oriented system. Only the negative aspect of that system is usually focused on, but legal actions and disputes are meant to define more precisely people's rights or what actions individuals can take legitimately without wronging other people. This is one of the prerequisites to an improvement of the functioning of markets and of the price mechanism.

But the fact that the rights—including ownership rights—are correlated to the development of markets and nonexistent in the highly-hierarchical societies does not mean that the specification of rights determines the development of markets. A legal system is a prerequisite of a market's good functioning. It must even precede it, it seems, as the Russian experience of the last decade tends to prove. But a legal system is not enough to create markets. Rights can become reality and actually encourage the development of markets only if the fundamental economic conditions are met. It is not law that creates organizations, but rather the economic conditions—which we will analyze later on—that lead to the choice of such or such organization and the introduction of the economic or political legal systems that the architecture of organizations implies.

THE EVOLUTION OF POLITICAL REGIMES

We have seen that politico-economic systems are characterized by their centralization rate, which evolves similarly to whatever the type of goods produced, private or political. That rate is also influenced by the presence or absence of individual rights and liberties in the societies considered.

But can we explain why the systems are what they are and what makes them evolve? In other words, can we determine who chooses the system and what motivates that choice?

In the political debate, that question is often presented as if there was a clear-cut answer—as if the point was to decide between the terms of a relatively simple alternative. For instance, between capitalism and socialism, the market and the state.

But in fact, it is impossible to answer—and even ask—such a question because of the existence of an infinite range of politico-economic regimes, each corresponding to a different centralization rate. It is indeed inconceivable to try and find a definition of "the" best regime when we are unable to specify all the details of the precise organization of only one of them. Must we draw up a list of all the activities in which the state is involved, of the structure of its administrations, of its possible industrial holdings? And can we determine what the optimum structure and the number of firms of each industry must be? Can we compare and rank by preference an infinite number of organizations, when we do not even know the concrete differences between them? Obviously, the answer is no. But practically that does not prevent a government from deciding—if it wishes to—to fully nationalize the whole economy and to manage it in a centralized way with a Gosplan. We have good reasons to think that such a system will not be the best from a wealth production point of view. Yet, we are unable to say how much the government should interfere in the economy.

Hayek maintained that the overall structure of a political system should not be designed following a preconceived plan due to a lack of information, although firms often do so to define their own organization. The reason behind that assertion remains quite obscure. He accepts the principle of a "non-spontaneous" organization that would result from a conscious and constructive effort in the case of the firm, but rejects the "constructivist" organization of a very big public firm the size of a country. Yet, some commercial firms, private or public, have larger production volumes and workforces than some small countries. Besides, we make most of our decisions in a situation of incomplete information.[33]

33. If we understand Hayek's "spontaneous order" as an order resulting from

The argument we maintain here is quite different. It is very easy to imagine the development of a social system from scratch, from a common plan—if the opportunity arises. In that case, the process is very similar to the setting up of a firm. But, in both cases and because of the lack of complete information, we are unable to say which organization is the best, which dominates the whole range of other solutions which we cannot describe nor evaluate. We do not know how to solve such a complex problem of inventory and classification.

The task of the ideologists gets even more complicated if they take into account the fact that the definition of the best political regime might well change with circumstances and through time. Indeed, can we reasonably think that the same system could be optimal in third-dynasty Egypt, in Rome at the beginning of the first millennium and in twenty-first-century England? Obviously not. Indeed, suggesting that a centralized choice of social system, or social contract, could be made comes down to suggesting that the society is already fully centralized. So, the answer is in the question.

A Moralistic Caricature

To that impossible question about the best system in the abstract, ideologists currently try to reply in terms of individuals' moral preferences. That answer postulates the existence of moral preferences directly regarding the mechanisms of coordination of production activities. Thus, the very functioning of a market would only express selfish aspirations, while the mechanism of the state hierarchy—that allegedly implies democratic control through the political market—would meet the generous aspirations of solidarity and altruism.

That is pure nonsense. Although Adam Smith showed that the

---

many *decentralized* decisions, then the transmission of the information to all the society's members can account for the superiority of a "decentralized" order on a hierarchical, centralized, order or, in Hayek's inadequate terminology, a "constructivist" order.

market mechanism did not need altruistic motives to meet our demands, it accomodates them nevertheless and thus reflects the diverse nature of our longings. After all, it is thanks to the market-originated economic development that living standards improved spectacularly in the world since the Industrial Revolution, thus doing more for the human well-being than all the public redistribution of income. It would be as utterly ridiculous to claim that the Soviet Union or Nazi Germany were ethical models of solidarity and altruism because they chose the hierarchical mechanism. And it would be even more absurd to suggest that the people working on markets and those working in public administrations are not the same: are the former only motivated by money and the latter by solidarity with fellow citizens?

In fact, the decision-making mechanisms have nothing to do with ethical motivations. What differentiates the hierarchical mechanism from the market mechanism is the productivity and efficiency of the allocation of resources. It is likely that the self-claimed "ethical" ideology suggesting a priori individual preferences for markets or for state hierarchies comes from the fact that each mechanism is often used to produce different goods: on the one hand, the private goods, purchased and consumed by individuals and, on the other hand, the public goods which require a production taking into account the aspirations of all the members of the community managed by the state, as they can only be consumed in the same quantities by all individuals. Hence, probably, the idea that the former satisfy pure selfishness while the latter meet a need for solidarity. Quite a convenient confusion. We will see in Chapter 7 that the modern analysis of the state does not vindicate such a motivation among governments.

However, we can accept the idea that some individuals prefer, on principle, collective goods, while others prefer private goods. But sometimes the same goods can be produced both by public and private mechanism. For instance, in the insurance sector, health insurance is supplied both by public insurance and private policies. The two types of producers, the private companies and the public administrations, are thus potentially in competition. In these circumstances, the assertion according to which public insurance policies only meet a need for solidarity while the same insurance, in its private form, is only a source a profit, sounds like a misleading advertisement in a competition for the same clients. Which is precisely the case.

Can we then accept the idea that the choice of a society simply reflects individuals' preferences no longer between market mechanisms and public hierarchies, but between truly public or private goods. There again, we cannot. Economic analysis shows that this explanation is also false.

Indeed, preferences—whatever their nature—are not enough to determine choices. For instance, each of us can like both going to the movies and reading books. The extent of our preferences for these two activities is not enough to determine the time and money we will devote to them in our monthly budget. We must also be aware of the respective prices of these two consumptions and of our disposable income. The classical theory of consumption—largely supported by abundant empirical works—indeed shows that the levels of consumption of books and movies depend on the result of the arbitrage between our preferences and the costs that we have to incur to satisfy them. The changes in our consumption habits are determined not really by changes in our tastes and preferences for the two activities, but rather by changes in their respective prices: when a book becomes cheaper than a ticket to the movies, we tend to go less to the movies and buy more books instead.

Thus, if we assume that each of us has preferences for specific private or public goods, it is reasonable to think that we will adjust our demand for the former or the latter not because our conceptions inexplicably vary with time, but because the costs of private goods and public goods evolve differently. Even though we still prefer private goods, it is possible that if the fiscal cost of collective goods falls sharply compared with the price of private goods, we will consume more public transportation because the cost of car maintenance, insurance and parking becomes prohibitive.

Then, it is not our preferences that determine the evolution of political systems, but the conditions on which prices depend, that is, the evolution of productivities.

In that view, we switch from a conception based on inexplicable and unexplained changes regarding individual preferences for political or private production (How? Why? Under which influences? Are there evidences of that?), to the idea that political systems evolve according to the changes in the costs and efficiency of these two production modes which can be empirically quantified and tested.

If we assume that the changes in the respective costs of hierarchies and markets are the main determinant of political systems' evolution and of the state's influence, then the periods of decline in state power—and thus of relative market expansion—must also be periods of decline for all hierarchies, including big corporations since they are organized according to the principle of authority, just like states. This can be considered as a preview of our theory that can be—in this precise form—confronted by real and observed evolutions.

Although we have been focusing on individuals' ethical or preconceived preferences so far in this chapter, ideologists generally present the choice between political systems as a single and global issue, likely to have a single solution: 100 percent state, 100 percent market or a mix, which looks more realistic and reasonable but is much more difficult to define concretely, as we pointed out earlier.

This approach is built on the concept of "social contract," a kind of implied fundamental pact modern societies' actual constitutions are supposed to be based on. Nothing whatsoever resembling such a founding contract has ever been observed in historical or ethnographic reality. Maybe the Magna Carta was the closest we got to it, but it focused on fiscal issues only and evolved from an existing distribution of wealth and power. The notion certainly gained more credibility with the adoption of the American Constitution, then with the French Revolution and the adoption of the first French Constitution. But there was a big difference: the American and French constitutions were essentially designed to organize state power and public hierarchies. And in that view, they corresponded to a true internal logic. As the hierarchy is managed by the top, it can be reorganized from the top by a single act.

But the same approach cannot be applied to a whole society, which is an organization of organizations, as we underlined at the beginning of the chapter. A society includes both decentralized organizations, such as markets, and centralized organizations, that is hierarchies. But markets are not subjected to a central plan nor can their development be preconceived. They need a legal system that a state can set up easily and efficiently, but they do not require a central and unified structure. They develop according to the decentralized actions of their numerous participants.

Thus, trying to imagine the appropriate politico-economic system for a whole society (even if we give up the idea that one can know and choose the best) amounts to asking a self-answered question: if we can decide—even democratically—what a good organizational system for the whole French society would be, it is because that society is already fully centralized. If it was not, the question itself is impossible, meaningless. It has no theoretical answer. Nobody is able to know in advance what the detailed choices of millions of people will be as they act independently and adjust their choices each time the respective costs of the various alternatives diverge or converge.

The social system will be the outcome of a wide range of rational decisions and will not result from the implementation of a centralized project designed by a few individuals. Despite that, in extreme circumstances, if the relative functioning costs of markets and hierarchies reach exceptional ratios, all the decision makers can choose simultaneously to opt for the 100 percent market or 100 percent state solutions. But this is highly unlikely. As always in economics, the choices reveal a preference for diversity and mixed solutions. And after all, nobody chooses to spend his whole life watching movies or eating burgers!

Thus, we suggest to forget the existing ideological approaches of societal choices for a simple reason: choosing a political system (in a centralized or decentralized way) amounts to choosing an organization of organizations. And as it is a choice, it must be analyzed according to the science of choices and decisions, that is economics. The choice of an organizational system must be analyzed with the very tools of organizational economics.

As we showed above, the choice of the economic system is based on a series of individual and collective decisions which, whatever the underlying preferences, are influenced by the relative efficiency of the decision-making mechanisms on which organizations are based. It is thus the comparative efficiencies—and thus the comparative costs—of markets and hierarchies that determine the size of hierarchies, their number and, as a consequence, the space dedicated to the market transactions between individuals and hierarchies, and between hierarchies.

We are thus led to a more realistic approach of the evolution of political regimes. They change according to a multitude of decisions and to the modifications of the relative efficiency of the two fundamental mechanisms. This results in variable systems, whose centralization rate evolves with production conditions. There are an infinite range of possible systems. It is impossible to describe them all and to determine which is the best, just as it is impossible to calculate ex ante which is the best budget structure of a given household. What we can say is that the relative cost of markets and hierarchies will influence political systems' structure. Thus, there is no single system that is always better than the others in all countries and under all circumstances. But there is a trend towards more effective systems that evolve in line with comparative costs.

The question we must ask ourselves at this point of the reasoning is what the nature of these costs is and what determines their evolution. That problem will be tackled in the next chapter.