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The Euro Crisis

An institutionalist approach

PADOVA UP

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CONTENTS

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This book is a collection of reflections I have made over the years with a focus on the relationship between institutional systems and the functioning of the euro, or if you will, "the euro crisis". In reality, the euro is an opportunity to deal with a pivotal issue, namely the determination of institutional and supranational systems to ensure the governance of economic and monetary integration processes. The aim of this work is not to explain the so-called euro crisis, but to offer approaches that can help in understanding the potential difficulties of the functioning of an institutional system such as that built around the euro.

The institutionalist approach to the euro affair is the main protagonist of this work, attributing fundamental importance to institutional systems, sometimes undeservedly neglected in economic analyses. In constructing this volume, I have used a series of articles I published over the years in a number of journals whose editors kindly allowed me to use them. Specifically, I refer to: 1**)** "*The schizophrenic nature of the euro. Institutional aspects of the euro crisis"* in *Interdisciplinary Journal of Economics and Business Law,* 2013 vol. 2, issue 2: 8-40; replicated in part in Chapter 2 and Chapter 3; 2) "*From Bretton Woods to the euro. Critical consideration according to the hegemonic stability approach",* in *Boletim de Ciencias Economicas*, II/2014: 2275-2314; replicated in part in Chapter 1; 3**)** "*The euro crisis. A map to understand the institutional dynamics and correlated cognitive processes*", in *Interdisciplinary Journal of Economics and Business Law*, 2015, vol. 4, issue 2: 8-35; replicated in part in Chapter 4; 4**)** "*Euro and institutional domains. A question of method*", in *Interdisciplinary Journal of Economics and Business Law*, 2017, vol. 6, issue 1: 27-57; replicated in part in Chapter 2, in Chapter 3, and Chapter 6; 5**)** "*Economic integration and institutional capital: shadows on the Eurozone*", in *Interdisciplinary Journal of Economics and Business Law*, 2018, vol. 7, issue 1: 71-97; replicated in part in Chapter 3, in Chapter 4, and Chapter 6; 6**) "***The euro crisis as an institutional polycentrism crisis*", in *Interdisciplinary Journal of Economics and Business Law,* 2019, vol. 8, issue 1: 40-66; replicated in part in Chapter 6; 7**)** "*Institutions and conflicts between national preferences in the euro crisis*", in

Interdisciplinary Journal of Economics and Business Law, 2020, vol. 9, issue 1: 0-42; replicated in part in Chapter 4, in Chapter 5, and in Chapter 6.

These articles were the starting point of re-reading and recasting my contributions in a volume with its own organic character. Finally, a word of thanks to my colleagues who have read one or more of the above articles, whose comments over time I have always welcomed. I refer to professors Riccardo Fiorentini, Fabio Masini, Gabriele Orcalli, Mario Pomini, Rino Rumiati, Ruth Taplin, Gianfranco Tusset, and Viktor Vanberg. To Ruth Taplin I owe the encouragement to give life to this book. The author takes full responsibility for the content of this book. Thanks to Jacqueline Fuchs who contributed to the editing work.

A last-minute annotation. The book deals with binding rules established to ensure the satisfactory functioning of the euro. At the time of the final writing, the Euroland countries suffered the impact of a health crisis resulting from the coronavirus pandemic. A health crisis that turned into a potential economic crisis so much so that in Brussels it was decided to suspend the Stability and Growth Pact. At this point, we do not know what will remain of the Pact, whether it will come back into force or if it will be "repealed" by the new economic dynamics. However, this does not affect the structure of this work considering its theoretical perspective and substantial generality.

LIST OF ABBREVIATIONS

C – a coalition of states, such as the EU
C_{EU} – the coalition of Euroland states
C-20 – Committee of Twenty
CAP – Common Agricultural Policy
COMECON – Common market among the Soviet Union and allied countries
CPE – Constitutional Political Economy
ECB – European Central Bank
ECM – European Common Market
ECU – European Currency Unit
ECSC – European Coal and Steel Community
EMS – European Monetary System
EMU – European Monetary Union
EPU – European Payments Union
EU – European Union
FED – Federal Reserve Board (USA)
GNP – Gross National Product
ICB – International Clearing Bank
IMF – International Monetary Fund
MLG – Multi-Level Governance
MLS – Multi-Level System
NATO – North Atlantic Treaty Organization
NCM – New Classical Macroeconomics
NIE – New Institutional Economics
NIEO – New International Economic Order
OPEC – Organization of Petroleum Exporting Countries
REI – Regional Economic Integration
SGP – Stability and Growth Pact

CHAPTER 1

INTRODUCTION. ORIGINS OF THE EURO

1.1 Methodological premise

The euro story may be presented as a case study with formidable challenges in terms of macroeconomic theories and analyses. This challenge originates from the emergence of what is now recognized as the substantial inadequacy of the methodological construction of the euro. Indeed, a sort of rift has manifested between the outcomes expected by European policymakers and the actual results of the process of economic and monetary integration of much of Europe. One way of analyzing the dichotomy between the expected and actual outcomes is focusing attention on the role of the institutional systems in Europe, both national and supranational, or more appropriately European, with an approach that is simultaneously institutionalist and cognitive. The European Union (EU) and above all Euroland – the countries that have joined the euro – have created complex systems of institutions whose creation can be explained in part by making recourse to the methodological approach of Thomas Schelling (1960) in *The Strategy of Conflict,* and in part, the theoretical accomplishments of institutional economics, with a particular focus on the systemic logic with which to evaluate the institutions and considering the dynamics set in motion. Generally, these are dynamics in which one can assume the decomposition of complex strategies into a sequence of individually simpler strategies. I intend to show that the Euroland crisis can be significantly attributed to the absence of full functional coherence between the institutional systems of each European country and the institutional system of Euroland. I believe that this perspective can help in understanding what has occurred, for example, with regard to the Greek crisis, and what is happening with regard to the growing popular disaffection with the European economic integration process. In this context, the agreements made between national governments can be considered as solutions to problems of potential conflict, or if you will, the trans-

formation of a latent or actual conflict into a potentially unfair form of cooperation. Of particular interest are the operational modes of conflict resolution, among which, for example, Schelling counts the decomposition of the decisional processes, which then become multi-period decisional processes in conditions of bounded rationality. In concrete terms, the European integration process has taken place through the decomposition of the central problem into a certain number of sub-problems, the solutions of which, however, entail the complexification of the institutional system composed of national and supranational institutions, that is, European.

In Schelling's approach, there is an immediate transition to a synthetic analysis of the process of forming the institutional system, consisting of standards generated in the national states and standards issued by European bodies. With regard to this issue, I refer later on to the logical-functional coherence between endogenous or national institutions and exogenous institutions determined at the supranational level. Institutions determined at the supranational level are not always logically and functionally coherent with institutions at the national level, despite the fact that in negotiation processes, policymakers attempt to find possible points of agreement. At the base of this problem lie the differences that characterize the various national economies, and therefore the markets in these economies. In this work, I assume there is a type of morphism (a concept I will explain later) between a market and one or more institutions dedicated to regulating the functioning of that market. In this regard, after recalling the fundamental concepts that underlie the institutionalist approach, I briefly describe the formation of institutions based substantially on an evolutionary approach. This mode of representing the institution formation process derives from the fact that a market can be considered a *habitat* characterized by the organizational prevalence of a particular institution. In this regard, opportune to outline is the relationship that exists between forms of markets and institutional forms, considering that both are destined to evolve over time.

The question of the differences between the endogenous institutions of one state and the endogenous institutions of another state is central in the case of Euroland, as the institutions of each state, sometimes very different from one another, must combine with exogenous or supranational institutions that have a universal value in Euroland. With regard to the exogenous institutions, the problem remains as to the elements

on which the decisions of policymakers are based, considering that they move in a context of bounded rationality wherein both the endogenous cultural heritage and the cognitive modalities with which the policymakers of each state elaborate the available information are relevant. The findings of behavioral economics are important to understand how policymakers can make assessment errors. Strategy choices are conditioned by expected outcomes, by what Daniel Kahneman and Amos Tversky call *frames* (Kahneman, 2011). A case of systematic errors can be detected when an individual is affected by dependence on some good, understood in the broadest sense. From this point of view, even a state can have dependence, for example, on public debt. Such dependence is based on the tendency to procrastinate and give relatively light weight to future commitments.

In summary, this book will ascribe fundamental importance to institutions, seen as socially shared rules of behavior, namely methodological approach in which national governments' decisions on economic policy cannot be explained with the methodological tools of economics alone but require the contributions of political science. For example, Carlo Carraro and Francesco Giavazzi (1989, p. 5) wrote, "The analysis of institutions has assumed a central role in [economic] theory, and has brought economic policy closer to the studies of those political scientists who have long used game theory to analyze the interaction between institutions and their evolution over time" (my translation).

1.2 The question of the euro crisis

In the Treaty on European Union, more commonly referred to as the Maastricht Treaty, signed in July 1992, among the various objectives that the signatories listed are two that, in my view, deserve to be highlighted for their practical rather than doctrinal importance. The first of these objectives intended to highlight the desire to strengthen the democratic and efficient functioning of the institutions so that they could fulfil their functions more effectively within a balanced institutional framework. With the second objective, the signatories affirmed their determination to achieve the strengthening and convergence of their economies and establish an Economic and Monetary Union (EMU) entailing, in accordance with the provisions of the Treaty, a single and stable currency. The role assigned to the European Central Bank (ECB) is strategic, with the

task of achieving three fundamental objectives: 1) price stability together with the convergence of national inflation rates; 2) product and employment stability; and 3) financial stability (De Grauwe, 2016).

With regard to the convergence of basic economic variables, to be recognized is that the EU has not succeeded in satisfactorily ensuring the achievement of this objective, at the same time failing to ensure the democratic and efficient functioning of the institutions, nor has it succeeded in creating a coherent institutional framework among all parties. As known, the institutional frameworks are manifold, since alongside the institutions that the EU itself has given birth to are national institutions that are not always necessarily coherent with the more strictly European institutions. In such context, we can speak of a "euro crisis", understood not so much as a crisis in the functioning of the single currency, but as the difficulty of ensuring the perfect complementarity between the institutions that ensure the governance of the European monetary and financial system, and the institutions that ensure the governance of the real national economies.

In this section, I examine the question of the euro crisis that has manifested in recent years. The term "euro crisis" may also be challenged by those who, while recognizing that the functioning of the single European currency does not fully correspond to the objectives to be achieved with the euro, deem these objectives could be achieved with some adjustments to the specific rules underpinning the current European monetary system. For example, there are those calling for a single fiscal policy, or those calling for debt-sharing, or those calling for overcoming the budgetary and financial constraints foreseen in the Maastricht Treaty. With regard to the latter, a "temporary" overcoming of these constraints was agreed by the Commission after the outbreak of the coronavirus pandemic in early 2020. In addition, there are those calling for European bonds in replacement (partially for now) of the public debt securities of Euroland (indicating all the countries that have adopted the euro). Others are calling for the convergence of the real economies of Euroland by way of Germany assuming the role of the engine of the entire European economy. All in all, these proposals are legitimate in themselves, even if not always consistent with the rules, and might be called the institutions underpinning the functioning of the euro.

As such, this book outlines a mainly theoretical-institutionalist approach to the so-called euro crisis that has recently entered into the sci-

entific debate, assuming that the crisis is essentially due to the absence of functional coherence between the national institutional systems and those institutions laid down by the EU governing bodies. Recently, Enrico Marelli and Marcello Signorelli (2017, p. XIII) wrote, "The last decade was dominated by a dramatic 'double crisis' in the Eurozone, aggravated by inadequacies in the EU's policies and institutions. In particular, mainly due to deficiencies in the design of an adequate multilevel governance, the 'too little too late' approach in European policies contributed to a deep recession followed by stagnation and deflation".

The European economic integration process is an ambitious political-institutional engineering project that is today partly questioned. In recent years, after the financial crisis that erupted in 2007 in the USA and then shifted to Europe, weaknesses have emerged in the construction of the system of institutions created to ensure the governance of the Eurozone economies. I define with C_{EU} the coalition of states that have adopted the euro, such that $C_{EU} \subset C$, where C denotes the coalition of states that are members of the European Union (EU).

In recent times, numerous economists have approached the question of the euro crisis from different perspectives. A significant number of books, special issues of academic journals, and a substantial number of papers have been published on this topic. Without claiming exhaustiveness, among the books I highlight are those of Arestis, Brown, and Sawyer (2001), Arestis and Sawyer (2012, 2013), Brunnermeier, James, and Landau (2016), Marelli and Signorelli (2017), Hinarejos (2015), Jesperson (2017), Johnston (2016), and Stiglitz (2016). Among the special issues of academic journals, I draw attention to the *Journal of Macroeconomics* (2014, n. 2), the *Review of Political Economy* (2014), *Comparative Political Studies* (2016, n. 7), as well as numerous articles published in the *Journal of Common Market Studies*.

The critical works I have mentioned are a limited sample within a very large universe. However, beyond its numerical limits, the sample indicates an interpretation of the crisis oriented toward the Keynesian approach, as opposed to the monetarist-neoclassical approach assumed at the base of the institutional construction of the euro. The Keynesian approach, for example, is supported by Arestis and Sawyer (2013, p. 2) stating, "From a broadly Keynesian perspective it was the deflationary fiscal policy with limits on national budget deficit enshrined in the Stability and Growth Pact (SGP) that became the focus of intense criticism". Various authors charge

the SGP with the difficulties the C_{EU} economies encountered, giving rise to the divarication of the evolutionary dynamics of their economies. In other words, according to the critics, the defense of the euro's stability has manifested in the obligation to adopt budgetary constraints particularly suffered by countries with a high level of public debt.

It follows that the euro, instead of having strengthened the convergence of the economies of C_{EU} member countries, would cause a relative impoverishment of the economies of countries with a greater propensity toward public debt. The dynamic divergence of a territorial and sectoral type can also occur when the economy of one country grows but less than the economies of other countries. This is a problem of "asymmetric relative gains" (Morrow, 1997). The difficulties that a single currency can produce in an economically integrated area are illustrated by, amongst others, Stiglitz (2016) who noted that C_{EU} is formed of countries whose economies manifest substantial structural differences. In turn, Feldstein (2015: 1) deemed the euro "an attempt to force a heterogeneous group of countries to use de facto labor mobility and the large interstate fiscal transfers that allow the USA to operate successfully with a single currency". While Drazen (2000, p. 555) maintained, "The general view is that Europe does not satisfy the standard conditions to constitute an optimum currency area". It follows that the introduction of a single currency may not be neutral with respect to the functioning of national institutions, increasing the structural differences.

Therefore, according to Stiglitz and other "critical" economists, the structural differences between economies endowed with a system of polycentric institutions acquire a central role in determining situations of crisis in some of the C_{EU} member countries in contrast to situations of more sustained growth in other C_{EU} countries. Let us assume that the weakest national economies must respect the constraints imposed by the adoption of a single currency, often without succeeding in reforming the national institutional systems to which the weak growth in national competitiveness is charged. It follows that non-symmetric dynamics may be generated in the national labor markets (Johnston, 2016), without being able to achieve the objective of real convergence toward the common values of the economies concerned. On the contrary, accentuated asymmetries might manifest between the economies of the countries of Southern Europe and the economies of the countries of Northern Europe (Gambarotto and Solari, 2015).

Especially after the financial crisis of 2007–2008, which led to recessionary dynamics in the economies of many European countries, criticisms grew during the period in which the effects of the crisis were also felt in Europe. Such criticisms have been manifold, especially in Mediterranean countries with regard to the financial and budgetary austerity policies at the base of the Maastricht Treaty, and largely aimed at Germany, seen as the custodian of an austerity policy that some European governments blame for the economic stagnation of their countries and the consequent increase in unemployment levels.

In a difficult period for the economies of Eurozone countries, many voices have been raised against the policies inspired by so-called austerity, so much so that the word "austerity" has assumed a negative connotation, in the name of Keynesianism that I would nevertheless call "counterfeit". As can be seen from the important work of Alberto Alesina, Carlo Favero, and Francesco Giavazzi (2019), there are situations in which an austerity policy can be useful, and others in which it can be counterproductive. In fact, the scientific debate on the subject offers non-resolutory ideas that may be adopted, without the necessary prudence, by one political orientation or another. Let us take, for example, the essentially political position of those who believe that an accommodating fiscal policy combined with a so-called "expansionary" budgetary policy will lead to growth capable of neutralizing the additional budget deficit and creating a corresponding increase in employment.

With regard to the validity of such assumption, I believe that a great deal of caution is needed, especially when moving in an economy open to international trade. Those who assume that the national income, Y, will grow thanks to an increase in public debt, D, should at least ensure that the elasticity of Y with respect to D, which I indicate with e_d, is greater than 1. If $e_d < 1$, the growth of Y would be less than the growth of D, so the conditions of the economy would tend to worsen. Much depends on the expectations of businesses and consumers. If these expectations are inspired by substantial pessimism about the effectiveness of the fiscal policy measures, even at extremely low, sometimes negative interest rates, consumers and businesses will refrain from making significant purchases and investments. In other words, they could conceive of a policy inspired by so-called quantitative easing as a sign of structural economic difficulty. The difficulties of the current Euroland governance can be seen as an indicator of the existence of certain institutional

inadequacies rooted in the history of European integration and in the substantial impossibility for European policymakers to predict the economic and political dynamics that have emerged at the global level, and have proven difficult to control.

1.3 The roots of European economic integration and institutional pathways

In a temporal perspective, the European economic integration process is located in the period immediately following the end of the World War II. This period was actually preceded by the Bretton Woods Conference (1944) through which the USA laid the foundations for a New International Economic Order (NIEO) based on a reconstructed international monetary system and an equally reconstructed international trade system. The political framework into which this NIEO fits is that of the Cold War, that is, the conflict between the USA and the USSR, a conflict in which European countries were passive rather than active subjects. In concrete terms, the NIEO did not concern the whole world, but that part of the world that had in the USA a military guarantor, the ideological inspirer also willing to economically support Western European countries. The cohesion of this part of the world, summarily even if improperly referred to as the West, was strengthened by the hegemonic role of the USA. Here I use the concept of hegemony in the sense of Robert Keohane (1984) and Robert Gilpin (2001), which I will elaborate on later.

European economic integration itself is in fact part of a complex framework designed to guarantee the European part of the West access to common goods, such as political freedom and economic freedom, thanks to suitable institutions that have gradually been created: national (endogenous) institutions and supranational (exogenous) institutions. Both have served to strengthen Western Europe, and perhaps paradoxically contributed to dampening the harshest traits of the Cold War by forcing the USA and USSR to find strategies capable of transforming an otherwise deadly conflict into competition between political-economic-military blocs that, as game theory well describes, could have turned into a game of chicken, with deadly risks for all contenders. The weakening of the Cold War between the USA and the USSR was not the result of an explicit but an implicit cooperative choice. Situations of this kind are clearly explained in Schelling's *The Strategy of Conflict* (1960). In the meantime, cooperative choices began to develop in all Western European countries, tending to

weaken the original vocations to national political-military supremacy and the traditional vocations to trade conflict, even if resorting to periodic competitive currency devaluations. The weakening took place through socially shared rules aimed at guaranteeing the governance of the functional domains of the economies of European countries.

Schelling introduced some ideas of great interest and value on negotiation and the function it has had, and still has, in the evolution of an international political project. One of these is related to the concept of focal point, understood as an obvious or intuitive point of compromise. I may venture that in the case of European integration, an "obvious" focal point may have been the *ideology* that informed the entire integrative strategy; an ideology that in some way represents a form of constraint. As stated, another important idea is that of decomposing the negotiation process into stages, because through such decomposition it is always possible that a player dissatisfied with the previously agreed measures can recoup in a subsequent round. And yet another idea is that of commitments, which the players make and/or sign. Ending a round of negotiations by signing commitments means avoiding reopening discussions that have already been closed. Of course, commitments can be honored if all players put in place satisfactory deterrence measures.

1.4 Euro crisis, commitments, and an unlikely focal point

The austerity policy pursued with restrictive budgetary policies is ascribed by various observers to the prevalence of the philosophy that inspires Germany's economic and financial policy, which various European governments blame for a type of political and economic hegemony to the detriment of other European countries. In reality, it has not been considered that, at the time of the creation of the single European currency, the governments of the countries that would constitute the Eurozone necessarily had to choose a system that would guarantee a homogeneous execution of the commitments of each of the countries that are part of C_{EU}, so as to minimize the possible propensity of some member countries toward opportunistic behavior, i.e., behavior sometimes resulting from specific institutional structures. The EU is not a federal state, but a set of states that intended to integrate their economies, and to do so, assumed the need to converge national institutional systems, together with national economic systems, toward a model accepted by all governments in

a situation in which national institutional systems tend to not be entirely coherent, remaining, amongst other things, strongly resilient.

In a context where many actors try to coordinate themselves through a process of self-organization, one can assume there is a focal point in accordance with Schelling (1960, p. 57), that is, a point toward which they will tend to converge, or if they wish, to agree. On the other hand, in a context in which some players determine binding rules that a community of players will have to follow, such as the rules characterizing the governance of the euro, one could assume that these binding rules represent a focal point. However, the interests at stake are mixed, because the strategies put in place by the EU are necessarily multi-objectives strategies so that the focal point thus identified becomes unlikely. It will have this configuration because a binding rule that is placed on already operating rule systems may not be functionally consistent with such rules.

The objectives contained in the Maastricht Treaty foresee that the economic and monetary integration of the Eurozone can be treated as a cooperative game, rather than a coordination game, whose players are the national governments. Coordination games "which are characterized by the coincidence of the players' interests" (Colman, 2016, p. 33) presuppose the existence of a confrontation between the players aimed at defining the objectives, rules, and related commitments. Hence, "In a coordination game, it is in every player's interest to try to anticipate the other' choices in order to obtain a mutually beneficial outcome, and they all know that the other players are similarly motivated" (ibid). Finally, "The defining property of a coordination game is agreement among the players as to their preferences among the possible outcomes" (ibid, p. 126). While "A *pure coordination game* is one in which *all* the players' preferences are identical" (ibid, p. 126). Within this framework, however, the players do not originally have the same defined preference functions in the economic and financial policy action space. There are differences whose partial overcoming requires complex negotiations aimed at reducing the differences between national institutional systems. It is my impression that participation in a project like that which gave birth to the Eurozone is only possible if the ways in which the various institutions, which are designed to ensure the governance of a certain functional area, are sufficiently consistent with each other. Take, for example, the issue of national public debt. We know that the limit placed on national deficit levels of 3% of national GDP is in itself arbitrary, but only up to a

certain point. Indeed, a very high deficit of any country in the Eurozone may have a negative effect on the economies and financial stability of the partner countries. Therefore, "lax" interpretations of certain institutions triggering competitive dynamics between the governments of the countries of C*EU* have to be avoided, as well as the excessive weight of the consolidated debt of any C*EU* country giving rise to systemic risks of a financial nature involving the other C*EU* countries or some of them.

An economic integration process such as that of the Eurozone can therefore only be based on a design that takes place gradually, if anything by breaking down the various design phases over time, based on what Thomas Schelling in *The Strategy of Conflict* (1960) calls commitments, understood as a commitment to behave within certain rules made by an entity that in the field of international economic relations is normally a national government.

I somewhat arbitrarily assume that the range of variation of the ratio between consolidated debt, *D*, and the Gross National Product, *GNP*, is the *D/GNP* ratio. This ratio could be defined in the closed range, on the line of real numbers, $\mathbb{R} = \{x \in \mathbb{R}: 0.01 \leq x \leq 0.03\}$, where x indicates the *D/GNP* ratio, and where the minimum and maximum value of this ratio is arbitrarily defined. Sometimes overruns of the maximum level are allowed, so that, at least in theory, any national government may choose any of the points within this range. This leaves national governments some flexibility in choosing the level of their *D/GNP* ratio, suggesting that each government adopts a mixed approach to both the annual deficit and the level of consolidated debt. It may be questioned whether such flexibility is useful or detrimental to the cohesion of Euroland. The credibility of an institutional engineering project, such as the euro, depends greatly on the ability of national governments to meet the commitments underlying the overall institutional project itself. Very often, the architecture of an institutional project entails that each partner fulfils the commitments made, or in any case is "forced to do so" by the existence of what Schelling calls enforcement schemes (1960, p. 134). In this regard Schelling (ibid) writes, "agreements are unenforceable if no outside authority exists to enforce them or if noncompliance would be inherently undetectable. The problem arises, then, of finding forms of agreement, or terms to agree on, that provide no incentive to cheat or that make noncompliance automatically visible or that incur the penalties in which the possibility of enforcement rests".

The existence of some form of sanctions in the face of opportunistic behavior by one or more partners may be a necessary factor in ensuring that the partners comply with the rules set out in the agreements that give rise to some kind of institutional engineering operation. In the case of the Eurozone, following infringement procedures, a partner may be subject to sanctions.

The fact that the *D/GNP* ratio of each European country may vary suggests there is not necessarily convergence toward a single value of this ratio. However, such convergence can also be interpreted, in a less restrictive way, as a movement toward a single value that the various *D/GNP* ratios show over time. As mentioned, I assume that the economic and financial policy preferences of national governments are defined in a specific economic and financial policy action space. It follows that we can assume that each national government defines a preferred basket of actions. As in the case of national preferences, Arrow's (1951) impossibility theorem would apply. The theoretical way out would be to create a coalition of national governments able to impose their own specific system of preferences, a system that in turn could be accepted by countries that would otherwise feel damaged. Such acceptance could take place if negotiations were to involve the possibility of side payments. The ability of a national government, *j*, to impose its own system of preferences on other countries of a coalition on the economic and financial policy action space in exchange for side payments might be seen as a way, albeit very theoretical, of expressing *j*'s hegemony.

1.5 In search of the euro's DNA

The birth of the euro is the culmination of a process, preceding the economic one, which was essentially political due to the reunification of Germany. A reunification that would change the balance of power between the main partners of the coalition representing the EU.

The Mediterranean countries, among all the Eurozone countries, under French leadership at the negotiation stage of the Maastricht Treaty, were among the greatest proponents of European monetary integration as evidenced by the fundamental works of Kenneth Dyson and Kevin Featherstone (1999) and Harold James (2012, p. 168), as well as an interesting book by a central banker, the Dutchman André Szàsz (1999). Indeed, Germany was seen as the *hegemonic* country in the euro area; hegemonic

because it was economically the strongest country, and as such, imposed the financial austerity policy on other countries. On the nature of the euro, Drazen (2000, p. 555) writes, "The issues surrounding EMU are not simply economic, but also political. Although the political nature of EMU is widely recognized, there has been relatively little formal political-economic analysis".

The creation of the euro has manifested some significant flaws and it would be interesting to investigate the reasons that led to the institutional dysfunctionality of the single European currency. In my opinion, these reasons must be sought primarily in the ways in which the negotiations for the creation of the euro took place. These negotiations were dominated by the relationship between France and Germany, whereby France considered itself the political *Dominus* of the *new Europe* while Germany aimed to strengthen its economy. France thought it needed Germany for greater weight in international assizes, and Germany thought it needed France for political legitimacy in the international arena. France could be seen as a type of aspiring hegemon, while Germany as a *de facto* hegemon, but which it did not want to be.

After a brief examination of the concept of hegemony according to the science of international relations, I analyze its materialization from the end of World War II, showing how a country, in this case Germany, found itself playing the role of hegemon within a group of countries without having had the intention and without having put in place a suitable project for this purpose. The history of the international monetary system, especially after the end of World War II shows that the rise of the hegemonic role of the USA in the West was determined by the unforeseen evolution of world political and military equilibria. In fact, from time to time, the creation of institutional equilibria was sought in relation to specific issues, drawing empirically on the concept of the decomposition of complex problems, as well illustrated by Thomas Schelling (1960) (see section 6.2).

The same method, which has the flavor of the heuristic approach adopted in institutional engineering, was used in the construction of the European integration process, first creating the European Coal and Steel Community (ECSC), not only to provide a solution to the European coal and steel problems, but to solve a dangerous political dispute between France and Germany. The ECSC was such a success that it became the reference model for any future strategies of these European

countries. The European Common Market (ECM) was inspired by this model whose philosophy was not however political federalism but a type of technocratic functionalism. Regarding the institutional models, when the countries of the European community began to address the problem of enlarging the cooperation method to the sphere of monetary policy, a model was already available, namely that which emerged from Bretton Woods. If it is true that some elements of the negotiations of the Bretton Woods agreement can to be found in the European monetary integration process, it is also true that the overall context in which the Bretton Woods agreements were determined differed somewhat from the context in which the Maastricht Treaty was determined.

1.6 Considerations on hegemonic stability

During the formation of the international political economy, some works emerged that reflected the concept of hegemonic stability, an expression of the political, military, and above all, economic power of a hegemonic country. The concept of hegemonic stability could be considered in part similar but not equal to the concept of an international economic order. If anything, the two concepts can be considered complementary because an international economic order can hardly be affirmed if there is no hegemonic country at its base. However, the concept of hegemonic stability has been the subject of extensive debate in international relations analyses. In recalling this concept, those economists and political scientists who are more sensitive to the issues of international political economy have somehow adapted it to their methodological needs, considering the influence of the schools of thought inspired by the New Institutional Economy (NIE) and the Constitutional Political Economy (CPE). In particular, both NIE and CPE moved away from some methodological assumptions of hegemonic stability typically developed by political studies, weakening the weight of the "power" factor of a state, to lean toward an approach more focused on the role of the theory of cooperative games, and more in line with the economic methodology.

In this sense, for example, so-called hegemonic cooperation (Ishiguro, 2003) can be evaluated based on two fundamental assumptions. The first relates to the existence of a set of states with a liberal-democratic regime and similar "strength", while the second relates to the manifestation of

Nash equilibria in cooperative games. Ishiguro hypothesized that if the equilibria produced through interaction processes between politically liberal countries with equal strength, then they may be stable, and the hegemony determined would seem to be mainly that of shared rules and not of the power of a hegemonic state. Nevertheless, it follows that there is stability if, and only if, the individual states at the time of the negotiation have substantially converging preferences on the objectives and the actions to be taken. To also consider is the problem of the correctness of the formulation of expectations of the results obtainable from agreed policy actions. Indeed, it is possible that at a later stage, one or more states could have second thoughts; the emergence of regret may depend on the cognitive limitations of the policymakers, limitations brought to light when dynamics and events occur that were not adequately taken into account.

The weakening of the concept of power plays an important role in how Robert Keohane (1984) interpreted the concept of hegemony, in view of the political events that took place after World War II. Keohane wrote (ibid, p. 137), "Hegemonic leadership does not begin with a tabula rasa, but rather builds on the interests of states. The hegemon seeks to persuade others to conform to its vision of world order and to defer to its leadership. American hegemonic leadership in the post-war period presupposed a rough consensus in the North Atlantic area, and later with Japan, on the maintenance of international capitalism, as opposed to socialism… This consensus can be viewed, in Gramscian terms, as the acceptance by its partners of the ideological hegemony of the United States".

In short, the political leaders of Western Europe and Japan accepted the leadership of the United States that guaranteed safety, and with it the construction of a model shared by societies, so as to suggest a community of countries that are in some way complementary, called on to share an international regime. It could be said that the hegemon rather than imposing institutional solutions puts its strength and credibility to the service of a specific institutional design. According to a vision in compliance with a certain conceptual extreme, which owes much to the doctrines of imperialism, a country is considered dominant when it is able to impose institutions to regulate international type relations that are more oriented to pursuing their own interests. It might thus influence the formation of institutions that regulate the internal life of the coun-

tries linked to it. A substantial conceptual chasm opens between a vision inspired by the theory of imperialism and a vision inspired by a liberal-democratic conception. Robert Gilpin, who was a significant supporter of the theory of hegemonic stability, highlighted that this approach met with some strong criticism from international relations scholars, such as, for example, Susan Strange (1987). Robert Gilpin (2001, pp. 93-94) wrote, "Political criticisms have ranged from denunciations of the theory as a defense of or rationale for American policies to the opposite idea that the theory predicted the absolute decline of the United States. No proponent of hegemonic stability theory, at least to my knowledge, has been motivated to justify American behavior; to the contrary, most were critical of the self-centered and irresponsible American behavior that began in the 1960s, if not earlier".

On the meaning of the concept of hegemonic stability, Gilpin expressed himself with clarity and balance, referring to strong realism that could not but turn into neorealism. Gilpin's state-centrism does not deny the role of forces that do not necessarily express themselves through a state; on the contrary, it assumes the possibility that international economic relations are the result of different forces, not only economic ones. In fact, Gilpin opened up the concept of complexity within which it is possible to frame, in my opinion, the dynamics that affect international economic relations. I believe that the concept of structure can be juxtaposed with that of a complex system, represented by networks of institutions, as illustrated by Shuanping Dai (2015). The theory was also criticized by liberal-democratic scholars, according to whom it is possible for some countries without a hegemonic vocation to identify a cooperative solution to the problem associated with establishing and maintaining a liberal economic order. In this regard Gilpin wrote (ibid, p. 93), "Although it may be possible to create a stable liberal-international order through cooperation but without a hegemon, this has never happened and with no counterfactual example neither the theory nor its critics can be proved wrong".

A further condition must be considered, namely a hegemonic state able to drag others into a process that could perhaps be considered abstract or even dangerous. The concept of hegemony should be clarified to avoid misinterpretations of an ideological order. In our case, I make recourse to this concept in the way it is understood in international regimes theory (Gilpin, 2001, p. 82 ff). More precisely, "A liberal interna-

tional economy – that is, an international economy characterized (at least in ideal terms) by such factors as open markets, freedom of capital movement, and non-discrimination – certainly needs agreed-upon rules. A liberal economy can only succeed if it provides public goods like a stable monetary system, eliminates market failures, and prevents cheating and free-riding" (ibid). The author also points out that although the primary purpose of rules or regimes is to solve economic problems, many are established for political rather than economic reasons.

Gilpin had the conviction that a liberal international economy required a hegemon that respected liberal economic principles, as did Great Britain in the nineteenth century and the USA in the twentieth. Barry Eichengreen (1989) was tepid toward Gilpin's position and claimed that empirical evidence to confirm the theory could not be found. In defense of the theory, Gilpin noted that the attitude of Eichengreen seemed to be based on the assumption – which Gilpin considered mistaken –that the hegemon must be an imperialist power that imposes its will on other countries. However, in further developments of Eichengreen's analysis, according to Gilpin (ibid, p. 95), significant acknowledgment could be found on the relationship that may manifest between the start of international cooperation processes and the action of a hegemonic power, but not imperialist. In a sense, a hegemonic country can be seen as one that obtains consensus on certain institutional choices and acts as the guarantor of the stability of such institutions.

Hegemonic stability theory (Keohane, 1984) is intended not only as a set of specific rules shared by a group of states, but also as an ideological vision shared by these states that conditions the national institutional order. However, for such a vision to be effective requires that the underlying international regime is guaranteed by precisely a hegemonic power, which when necessary must be able to implement side payments to some members of a given coalition. In the case of Western Europe, the hegemonic country, at least in the initial phase of the integration process, was a non-European country, namely, the USA. Immediately after World War II, it guaranteed important economic aid to the countries of Western Europe (the Marshall Plan) and imposed on some European governments that did not want to renew their relationship with other European governments the resumption of the relationship on a cooperative basis. The USA was able to do so because it could offer credible guarantees and safeguards in all Western European countries.

1.7 The decline of British hegemony

Just above I mentioned that the Bretton Woods system provided a conceptual framework and method to launch the European monetary integration process. Precisely for this reason, prior to addressing the issues most closely related to the euro, it would seem appropriate to consider the matter discussed at Bretton Woods in an attempt to ensure, at least in the Western world, a sufficiently stable international monetary and financial system capable of fostering greater integration between those economies whose ties had been broken by the war. Reference to what happened at Bretton Woods serves as a reminder that on the negotiation table at the time, especially between Britain and the USA, were some issues that in part reemerged during the negotiations for the creation of the euro. Among these issues was the identification of the country that had to assume the burden of the balance of payments (Eichengreen, 1996, pp. 96 ff). Then, as now, the issue on the agenda was that of reconciling the stability of the monetary yardstick with the fight against unemployment.

Among economists, in the period between the two World Wars, the prevailing opinion was that the stability that the international monetary system had enjoyed in the nineteenth century had been assured by the adoption of the gold standard, a monetary system anchored to gold. It was widely believed that gold anchorage would have avoided unwanted inflationary pressures and unfavorable foreign exchange fluctuations. At that time, high value was assigned to price stability as an instrument that would ensure economic development. Meanwhile, the safeguarding of national gold reserves would be assured by the adoption of "deflationary" measures and interest rate maneuvering. Nevertheless, the opinion was somewhat widespread that the stability of the gold standard in the pre-war period derived in part from the credibility of the behavior of countries that were part of the system (Casprini, 1995, p. 35). Numerous scholars believed that the possibility of the system functioning according to expectations rested on the behavior of England. This country, through appropriate monetary maneuvers, would have ensured stability thanks to the centrality of the international financial market in London. In short, in the nineteenth century, England, for a certain period of time, was the hegemonic country capable of ensuring the stability of the international monetary order. Gerard Kébabdjian (1999, p. 109) observed that up to World War I, the system worked by virtue of the hegemony

of England, which governed the financial market using primarily the instrument of interest rate maneuvers.

The consequences of World War I were devastating in that the war brought about the rapid growth of public spending of belligerent countries and the explosion of public debt, shattering the defense represented by the gold standard. This defense would prove unsuitable not so much when called on to confront economic type crises but situations of systemic type structural breaks. The first post-war period saw several attempts to restore the gold standard, which in reality history would have archived. England especially tried to anchor the pound to gold again in 1925, with effects that quickly proved disastrous, if for no other reason than the pound's overvaluation, fostering the growth of unemployment. In 1931, Britain devalued the pound and suspended gold conversion, ceasing to be the guarantor of the stability of the international monetary system.

Under exceptional economic conditions such as those of World War I, the gold standard proved unsuitable to simultaneously ensure the stability of the monetary yardstick and an adequate level of employment. Britain's abandonment of the gold standard was welcomed, for example, by John Maynard Keynes who had long fought for a different system of rules from those needed for the adoption of the gold standard. In his *A Tract on Monetary Reform* (1923), Keynes considered what in his opinion should have been an optimal monetary policy, at least for a country like England, linking domestic monetary policy to foreign monetary policy. Concerning this link, Keynes questioned whether it would be preferable to maintain exchange parity (no longer with gold, but with the dollar) or maintain the stability of domestic prices, avoiding those deflationary strategies that would have ensued from the first option. Keynes was clearly in favor of the second option, implying that national monetary policy should be maneuvered, with a degree of discretion, by the central bank to avoid deflations and at the same time control the employment dynamics. Moreover, rejecting a return to the gold standard was motivated by Keynes's fear that in this way, England's economic and monetary policy would be conditioned by FED strategies, losing what Keynes considered the necessary freedom of maneuver to implement active supply policies.

To note is that Keynes was convinced that abandoning the gold standard would not lead the various countries to resort to competitive deval-

uations. In fact, abandoning the gold standard led to a race to competitively devalue European currencies and the dollar, partly because the economically stronger countries were unable to give life to serious cooperation between them. However, while World War II was taking place, it seemed necessary, at least in the eyes of the Western powers, to set up an international monetary system that had as its goal the reconstruction of the network of trade relations, essential in accelerating a difficult economic recovery. In order to re-establish international trade relations, especially in Europe, some basic conditions related to the governance of the international monetary system were called for. One of these was that the European countries would be able to restore the convertibility of their currencies, and that such convertibility would be accompanied by sufficient exchange rate stability. Furthermore, to relaunch their economies, European countries needed to obtain robust credit lines, especially from the USA, the only country able to help finance the reconstruction of European economies.

1.8 Bretton Woods. From English hegemony to USA hegemony

In July 1944, an international conference was held at Bretton Woods in which delegates from 44 countries attempted to lay the foundations for new international monetary and financial systems. It was there that two different conceptions of the international monetary order encountered each other and clashed. The two notions to which I refer are that of the USA, whose delegation was led by Harry Dexter White, and the British, were the most influential member of the delegation was John M. Keynes (Cesarano, 2006; Gardner, 1956; Steil, 2013). The end of World War II marked the disruption of the old economic and financial world equilibria, where England still had some role in its governance, albeit waning, and the beginning of a new phase characterized by the emerging hegemony of the USA in an international political and economic situation where the future evolutionary processes were not known with certainty, especially after the substantial abandonment of the gold standard.

As mentioned, the period between World War I and II was marked by the end of the gold standard and the replacement of the old international monetary order with a "new" order based on a generalized propensity toward autarky. Roy Harrod (1951, ch. 8) recalled that Keynes' battle against the gold standard had been in act since the end of World War I. Keynes

was aware that a return to the gold standard was no longer possible and considered the problem of defining an active monetary policy within the framework of a renewed system of international trade. As mentioned, England, having re-established the gold standard in 1925 would abandon it in 1931 in the aftermath of the financial and economic crisis of 1929; a crisis that led to the fundamental problem of unemployment in both the USA and in European countries. Keynes interpreted this theme in a different way compared to those that, at least formally, were inspired by the economic policies of the major European countries and the USA during the hegemony of the gold standard. If Keynes was trying to harness the "beast" of deflation and with it that of unemployment, the USA feared that at the same time the other "beast", namely inflation, would be released.

Benn Steil (2013) appropriately titled his book *The battle of Bretton Woods,* since a real clash ensued between the two unaligned conceptions of the international monetary order that would have to be rebuilt. These two different conceptions reflected the non-converging and in part short-term interests of the USA and Great Britain, but also reflected the longer-term concerns of these two states. However, to also consider is that the delegations of the countries at Bretton Woods were called on to incorporate the rules of the new international monetary systems into the new international regime that was to be built. To first note is that the fundamental concerns of Great Britain and the USA, rather than aiming for the reconstruction of an international monetary system, primarily aimed at the reconstruction *per se* of a system of international trade based on multilateralism. As expected, awareness existed of the fact that no system of international trade could be created in a serious way without building a credible international monetary system.

In this perspective, Keynes proposed his Clearing Union project. Although Harrod believed that Keynes' project was intended to respond to the ideas of the USA state department, very strong concerns remained about a system that in White's opinion would have discharged on the USA the burden of adjustment of the trade balance of European countries in deficit. The Clearing Union project emphasized the importance of having an international monetary instrument that all countries would find acceptable in order to avoid blocked accounts and bilateral compensation. Keynes, in this regard, proposed giving life to an international unit of account, the *bancor,* which in his vision would not

have been subject to large fluctuations caused by the policies of individual countries in terms of gold reserves but governed by the current needs of world trade and capable of deliberate expansion and contraction to override inflationary and deflationary trends in effective global demand (Harrod, ibid).

Keynes' idea was to create an International Clearing Bank (ICB) whose function would be similar to that of an ordinary bank except that while the customers of an ordinary bank are individuals or companies, ICB customers would be the central banks of member countries. Hence, this would be a generalization of the essential banking principle; a principle consisting in the necessary equality between debt and the availability of credit of the bank's depositors. Countries that had a balance of payments surplus with the rest of the world, seen as a whole, would have a credit account with the ICB, while those in debt would have a debt account with the ICB. This would give a line of credit to the debtor countries based on their amount of foreign trade.

The instrumentation of the "Keynes Plan" was certainly more complex and ambitious than the "White Plan". However, from a cognitive point of view, the risk was that the expected results would be less certain and in some way without limiting the possible opportunistic behaviors of some ICB member states. In this regard Gardner (1956, p. 79) wrote, "the Clearing Union would make large overdraft facilities available to its members, facilities related to their pre-war share of the world trade [...]. Since no limits were set on the value of individual credit balances, the Union provided a complete clearing mechanism. Surpluses and deficits in the balance of payments of member countries would be reflected in credits and debits on the book of the Union, expressed in 'bancor', an international unit of accounts. With these vast reserves of liquidity at their disposal, members would be able to eliminate all exchange restrictions on current account, maintain stability in their exchange rate, and pursue policies of domestic expansion without fear of the consequences of their foreign balance". However, Gardner (*ibid,*) highlighted an aspect of the Keynes Plan that specifically concerned the Americans, that is to say, "The large overdraft facilities would certainly go far to assure the members that policies of domestic expansion would not be inhibited by deficits in their balance of payments". Following Barry Eichengreen (1996, pp. 75 ff), the Keynes Plan and White Plan differed largely in the obligations of creditor nations, the degree of flexibility of exchange rates,

and capital mobility. Keynes believed it possible that nations could vary the exchange rate and/or impose restrictions on foreign exchange and trade, while the White foresaw a fixed exchange rate system regulated by an international body.

1.9 The USA and minimizing the hegemon's regret

The abovementioned position was a difficult knot to untie. White manifested the fear that if the USA were to permanently play the part of creditor country, it would have been obliged to fund all the drawing rights of other nations, taking on unlimited liabilities (Harrod, 1951), and hence the USA's opposition to the Clearing Union that Keynes conceived. Regarding this point, Barry Eichengreen (1996, p. 97) noted that the USA would find itself at least in part in the position of the Bundesbank in 1978 during negotiations for the creation of the European Monetary System, inasmuch as the German central bank was opposed to a system that would oblige countries with a surplus balance of payments to indefinitely sustain nations with weak currencies. Thus, returning to Bretton Woods, the USA obtained the removal of the unlimited liability formula of surplus countries to replace it with a limited liability formula. The USA then posed the question of the commitments that structurally indebted countries would assume.

During the negotiations at Bretton Woods, a key issue emerged in relation to the role that a hegemonic country could assume to ensure the governance of a given international regime. What the UK asked the USA was to finance the trade deficits of economically weak countries. They wanted to create a stable institutional system based on the role of the USA as guarantor of the stability of the system itself, starting with the assumption that the USA would continue to play the role of creditor country. However, it was precisely the evolution of the international economic and financial system that demonstrated the weakness of the assumption that the USA would be creditor country *par excellence*. Indeed, after the start of the Korean War, the position of the USA changed from creditor country to debtor country (Catalano, 1972, p. 172) with the transfer of gold reserves from the USA to some European countries, Great Britain first in line. These flows were accompanied by the emergence of surging pressure for parity of the major European currencies against the dollar.

The USA trade deficit provided liquidity to the international monetary system, making it difficult, however, for the USA to maintain parity, fixed at the time, between the dollar and gold. If the structural parameters of an international monetary regime are not stable as they are exposed to the consequences of uncontrollable external dynamics, it becomes difficult to believe that a system of rules designed to ensure the governance of that international monetary regime can remain stable. The question that arises is whether and to what extent a country, even if politically and militarily "hegemonic", can accept binding financial commitments in a context of structural instability of the external environment and the balance of power between the economies of partner countries, power relations that vary over time.

During the Bretton Woods negotiations and in the subsequent decade, the role of the USA as guarantor of the multilateralization of international trade emerged, and the consequent functionality of an international financial system whereby a reasonable convertibility of currencies could be guaranteed. In reality, the system that resulted from Bretton Woods appeared mainly oriented to solving short-term imbalances in the balance of payments through a form of cooperation between states, leaving individual governments the task of working on the structural causes of the imbalances of the specific trade balances. This distinction is not insignificant because from this stems the nature and scope of commitments than could and/or should have been made by states that were structural debtors and those that were structural creditors. The nature of these commitments belongs to the sphere of negotiations between states that can find a point of agreement on the possible action space. According to game theory, players can find agreement within the set of values of the efficient frontier of the bargaining problem (Dixit, Skeath, and Reiley, 2009, p. 698).

These are, of course, estimated values. However, I hypothesize that the construction of a new monetary regime is an economic and social engineering choice whose materialization is highly uncertain, in the same way as there is no certainty that the results actually achieved will be consistent with the pre-determined goals. Due to this uncertainty, the countries that can play the role of hegemon are unwilling to make commitments when the consequences are not entirely under their control. There is no doubt that at the end of World War II, the USA agreed to assume certain commitments expected of a hegemon. It did so de-

spite rejecting the Keynes project that in its eyes would have forced it to assume commitments it considered potentially unlimited but accepting to engage in an aid plan, which went under the name of the Marshall Plan. The Marshall Plan committed the USA within substantially defined quantitative and temporal limits that would therefore not have exposed it to unlimited financial commitments. From this event, we can draw the conclusion that the strategies that a hegemon can accept are influenced by what one might call a type of "principle of minimizing the expected regret". However, it seems to me that the considerations that Cesarano (2006, p. 19) advanced are worth sharing, according to whom what the Bretton Woods negotiators attempted was unwise since it would have created an inherently unstable system.

1.10 Toward a European monetary regime. From Bretton Woods to the Werner Report

The issue of the construction of the international monetary system at Bretton Woods has been evaluated, albeit briefly, from the point of view of the roles assigned to countries with a balance of payments surplus, highlighting the problem of the crucial role played by a hegemonic country. These are issues that, to a large extent, resurfaced in the case of European monetary integration, punctuated by a series of projects and initiatives, starting from the failures of the first attempts to coordinate the monetary policies of Western European countries to arrive at the euro. At this point, it seems legitimate to question the relationship between the Bretton Woods institutions and the position that in terms of exchange rate systems became prevalent in Western Europe. In this regard, Emmanuel Apel (2000, p. 25) wrote, "The decision, taken at Bretton Woods in 1944 to establish an international monetary system based on fixed exchange rates, was in line with Continental European's general dislike for flexible exchange rates".

Although the governments of Western European countries had little sympathy for a flexible exchange rate system, at the time of drafting the Treaty establishing the ECM, the monetary question was not on the agenda. This was because the obligations in monetary policy matters did not go beyond a generic coordination of monetary policies. However, the emergence of the question of some form of monetary integration dates back to the early '60s. The aversion toward a system of flexible exchange

rates was determined in Western Europe for at least three fundamental reasons, evidenced, for example, by Francesco Giavazzi and Alberto Giovannini (1989, p. 1). The first reason was the evaluation of the experience of a system of flexible exchange rates in the 1919–1926 period. The second was the presumed negative impact of flexible exchange rates on trade and foreign investment flows, and the effect on relative open European economies. The third was the difficulty of managing the Common Agricultural Policy (CAP) implemented by the European Community with a system of flexible exchange rates. André Szasz (1999, p. 12) noted that at that stage, monetary integration was seen by the Commission as a "technical monetary problem" corresponding to the functioning of the Common Agricultural Policy to which France was particularly sensitive; as a catalogued "technical monetary problem", the wider implications of both an economic and political order were underestimated.

Against this, there was still the difficulty that had previously emerged at Bretton Woods of determining which among the countries with a balance of payments surplus and those with a balance of payments deficit should assume the role of guarantor of the adjustments of the imbalances. France and much of the Commission opted for inflationary type policies, while the Netherlands and Germany desisted a choice that could trigger inflationary impulses that could be transmitted from one country to another. Among other things, in the second half of the '60s, gaps were growing between the real economies of European countries, and with these the imbalance between the balance of payments, requiring a closer evaluation of the relationship between the functioning of the single national economic systems and that of a potential European monetary system.

A project of the Frenchman Raymond Barre was presented in this context, which in part recalled the logical framework of the Bretton Woods system. In Barre's project, exchange rate stability was essentially seen as a problem of a monetary nature, while the Netherlands and Germany aimed to overturn the terms of the problem in the sense that imbalances in the balance of payments were seen as a result of structural differences in the governance of the national economic systems. At the Hague Summit in December 1969, on the initiative of German Chancellor Willy Brandt and the Frenchman Georges Pompidou, the development of monetary cooperation was discussed based on the harmonization of economic policies. Political factors of an international order, such as the

by-now definitive weakening of the dollar and especially the crisis of the French economy, lead France to believe that the destabilizing forces of the dollar had to be counteracted with stronger coordination of the monetary and economic policies of European countries, encouraging Brandt to strengthen agreements with France.

After the Hague Summit, namely in March 1970, the Commission submitted a report to the Ecofin Council titled *A Plan for the Phases Establishment of an Economic and Monetary Union*. This plan proposed, with "a certain superficiality" as concerned André Szasz, an important negotiator of the Dutch Central Bank (Szasz, 1999, p. 34), a three-stage approach to economic and monetary union, which was supposed to start in 1971 and last for around ten years. The report proposed that in the last stage, the margins of the fluctuation of the currencies of member countries would be eliminated, thereby irrevocably setting parity. Based on this plan, the Council asked a panel of experts chaired by Pierre Werner to explore the question of the implementation of economic and monetary union in stages. The document that resulted, known as the Werner Report, foresaw the progressive elimination of currency fluctuations in countries belonging to the Community, and in the final stage, the introduction of fixed and irrevocable exchange rates between these currencies and the full liberalization of capital movements. In addition, the report proposed the creation of a European Fund for monetary cooperation as the potential core of a future European Central Bank. In sum, "The definitive text of the Werner Report was a compromise between two opposing schools called the 'monetarists' (not in the Chicago school sense), represented by the French and the Belgian/Luxembourgeois, and the 'economists', represented by the Germans and the Dutch" (Apel, 1998, p. 33) (see section 2.6).

The 'monetarists', in the wake of the now dominant technocratic formulation of communitarian bodies, believed that the single currency would become an identifying symbol, a type of European federator. Numerous policymakers in Western Europe saw monetary integration as a step toward political integration (Padoa-Schioppa, 2004, pp. 203 ff). By contrast, "The 'economists' believed that an essential prerequisite to major progress toward institutionalized forms of monetary integration, involving irrevocable fixed exchange rates and leading ultimately to a single currency and a single monetary policy, was a high degree of coordination and convergence of economic policies. According to this school, a monetary union can only be the crowning achievement of a gradu-

al process that would harmonize policies between the member states" (Apel, 1998, p. 33).

Indeed, in a type of compromise logic, the Werner Report spoke of parallel progress in terms of economic and monetary union. Specifically, the Werner Report avoided highlighting that, in fact, substantial temporal asymmetry existed in the rate of change of monetary institutions, once decided, and that of institutions that govern the real economy, which were much slower and conditioned by strong path dependencies. Particular attention should be paid to the reaction of a substantial number of academic economists to the Werner Report, especially in North America (Maes, 2002, p. 35). Skepticism was expressed, for example, by Fleming (1971), Corden (1972), Johnson (1972), and Dehem (1972). This skepticism was also based on the ascertainment that European countries had different national systems of preferences in terms of economic and financial policies (Feldstein, 1997b). These different systems of preferences, of norms, substantially corresponded to different tradeoffs in the relationship between inflation and unemployment.

1.11 The turbulent '70s and the revival of European monetary integration

The Werner Plan put the discussion of some concepts on the table, such as the coordination of budgetary policies and the construction of a supranational body in terms of monetary policy. However, these concepts were made operational also because at the beginning of the '70s the Bretton Woods system collapsed. The end of the monetary regime created at Bretton Woods inevitable brought about the waning of the idea that such a system could be based on the role of a hegemonic country. Meanwhile, after the end of the Bretton Woods system, the transition to a system of flexible exchange rates meant entering an institutional terrain that lacked solid points of reference. Some institutional formula was sought to restore minimal order to the international monetary system. Eichengreen (2019, p. 130) wrote, "In July of 1972 the governors of the International Monetary Fund set up the Committee of Twenty (C-20), composed of representatives of each of the twenty country groups represented by an IMF executive director, to prepare proposals for reforming the par value system".

The international currency market now saw the USA transform its role from a positive trade balance country to a negative trade balance

country, moving toward a system of flexible exchange rates, while Western European countries were still looking for a way to reduce the variability of exchange rates. Once again, the question was raised of the role assigned, or otherwise, to countries with surpluses in their trade balances. These countries did not want to be forced to correct their positive balances with an inflationary measure, and opposed the idea of using IMF reserves as a means of bridging the dollar chasm. In other words, they did not want the task of becoming guarantors of the deficits of others.

However, in April 1972, the central bank governors of the six member countries and Denmark, Ireland and the UK signed an agreement to fix the bilateral parities and maintain the exchange rate within a total fluctuation band of 5% around such parity, launching the so-called *European Monetary Snake*. However, the snake had a difficult life because the dynamics manifested fluctuations in the system, highlighting the differences between the economic and financial policies of member countries of the agreement. In particular, the two major oil shocks of 1973 and 1974 led to rapid high inflation in Europe combined with strong growth in the levels of unemployment in most European countries. These two dynamics, albeit shared by European countries, varied in intensity from country to country, thereby accentuating the divide between the economies of the various countries of Western Europe. At the same time, further differences manifested in national preferences on the possible monetary policies in Europe. France, after Italy, exited from the snake, and to resume the initiative in relation to a European monetary system called for the surplus countries to be involved in the adjustment policies.

The French position was rejected by Germany and Holland. As Maes (2002, p. 83) wrote, "More fundamentally, divergences about policy priorities between the European countries, especially France and Germany, came to the surface and led to wide differences in inflation rates and exchange rate turmoil in Europe". However, on the Franco-German initiative in March 1979, life was given to the European Monetary System (EMS), which differed from the snake in the fact that the fluctuation of currencies would not have occurred within a grid of bilateral parity but on the exchange rate with a currency basket (ECU) representative of all the currencies of member countries. The weaknesses of the EMS were highlighted by, amongst others, Szasz (1999, p. 64) who pointed out the problem that the common monetary policy was not accompanied by a common economic policy. That is to say, while attempting to strengthen currency type con-

straints, very little was said about the economic and budgetary policies of the various national governments. In this regard, Szasz (ibid, pp. 64-65) stated, "Participants entered into the European Monetary System in 1979 without having either a common strategy or common tactics. They did not agree on priorities for their domestic policies or in constraints to these policies; there were no common guidelines comparable to the convergence criteria in the Maastricht Treaty a decade later. They did not agree on the 'rules of the game' in managing the EMS". Under these circumstances, it did not take long for the EMS' insufficiencies to come to light.

In the absence of serious efforts of partner governments in matters of economics policy, the asymmetries between the economies of European countries led the governments of economically weaker countries to change the parities from time to time, effectively transforming the EMS into a system of adjustable fixed exchange rates. In practice, several realignments between European countries took place. In particular, Mitterrand's France enacted an inflationary policy, weakening the French franc compared to the German mark that gradually acquired a central role in the European financial market (Porta, 2009, p. 10). In France, the contrast heightened between Jacques Delors, the finance minister, and Mitterrand on the contents of the economic policy. Delors believed that France needed to remain in the EMS and at the same time convince Germany to bear some of the costs of adjustment even through a revaluation of the mark. The French position tended to privilege the role of purely monetary policies, although with short-term effects, with respect to the German position that continued giving priority to economic and budgetary policies. The conflict between France and Germany in the sphere of European monetary policy was, in fact, a sort of constant. The paths of the two economies were now divergent; faced with such divergence, France did not want to surrender to devaluing the franc, to the extent of asking that its currency be revalued by Germany.

In January 1988, the French minister of economy and finance, Edouard Balladour, anticipating considerations that would find more completeness in a report that would take the name of the president of the Committee who drafted it, namely Jacques Delors, proposed that life be given to a single currency, with a European Central Bank, to complete the European single market that was to begin in 1992. In practice, Balladour's move was seen as an attempt by France to absorb the force of the German mark and water down the German currency in a set of European curren-

cies. The reaction of the Bundesbank was prudent, not to say reticent, as the German side believed that the single currency should be the culmination of a long economic integration process.

However, in June 1988, the European Council created a committee chaired by Jacques Delors who was entrusted with the task of studying the transition to economic and monetary union between the member countries. In April 1989, the Delors Committee presented a report that included three action steps as well as identifying the objectives and conditions to participate. The goal was to irrevocably fix the exchange rates between European currencies and then arrive at a single currency. With regard to the Delors Report, Padoa-Schioppa (2004, p. 136) observed that this report, while incorporating the major terms of the Werner Report, went beyond the goal of a single monetary policy. The third stage was that which indicated, following a modification of the Treaty of Rome, the purpose of the creation of a European Central Bank.

1.12 The role of France as 'aspiring hegemon'

Also in 1989, in relation to the possibility of creating a European Central Bank, Mitterrand (as reported by Reuters) highlighted the political need affirming that the strongest currency in Europe was that of Germany. Mitterrand therefore questioned whether the French had to live in an area of the mark where only the Germans could express themselves. Mitterrand said he would prefer an assembly, a permanent conference of the different European governments where France could have its say on all aspects of economic policy. Mitterrand's position showed the difficulty of the political relationship that was establishing between the two most important countries of Western Europe. A difficulty exacerbated by the loss of France's economic weight in relation to Germany's increasing economic weight. Thus, Mitterrand claimed a sort of continuity with the action of Charles De Gaulle, based on the desire to be free of USA military protection and the economic conditioning imposed by the role of the dollar. At the same time, Mitterrand developed pressing diplomatic action in respect of Germany, beginning with its chancellor, Helmut Kohl. Mitterrand's political objective was to restore European centrality to French politics, making France a type of engine of the European integration. The Europeanization of money served France to contrast the dominance of the dollar and to neutralize the political role of the mark.

Dyson and Featherstone (1999) described in well-documented detail how Mitterrand's and the French government's strategy developed. A strategy designed to overcome the distrust of Germany, and especially of the Bundesbank, in respect of a process of monetary unification that the German side considered premature. In fact, in Germany, it was believed that monetary unification should develop in parallel with political unification, and especially in the Bundesbank, it was thought that monetary integration should follow political integration. Conversely, France argued that monetary unification should take place before political integration and would in fact accelerate political unification. Mitterrand was holding the Europeanism flag behind which was however the more concrete French project of co-managing European monetary policy alongside Germany. Feldstein (1997a, p. 28) wrote, "France sees EMU and the resulting political union as a way of becoming a co-manager of Europe and an equal of Germany, which has nearly 50 percent more people. In the economic sphere, the current domination of European monetary policy by the Bundesbank would be replaced by that of the ECB, in which France and Germany would sit and vote as equals".

The trump card that Mitterrand held was that of France's political position on the issue of German unification following the dissolution of the USSR. In turn, the German chancellor seemed more interested in the problem of German reunification than in the creation of a single European currency to the point of being prepared to pay France a price on the issue of the governance of the single currency. So much so that the German Chancellor, to some extent, distanced himself from the position taken by the Bundesbank in order to obtain French support for the reunification. The expressions of regret by André Szasz (1999, p. 113) were not absent in respect of Kohl's attitude to accepting the acceleration of the European monetary integration process imparted by Mitterrand. As Dyson and Featherstone (1999) noted, the creation of the European Monetary Union (EMU) responded to the strategic needs of Mitterrand's France. More precisely, "France would gain by retrieving a measure of influence over economic and monetary policy and the potential to reshape international and European economic and monetary relations on its own terms. In order to identify his Presidency with these gains Mitterrand was prepared to take the domestic political lead in getting acceptance of the difficult concessions that were the price of solving the problem of German monetary power and pursuing

Franco-German reconciliation, notably on central bank independence" (ibid, p. 199).

For Mitterrand's France, becoming the champion of the single European currency implied radically changing ideological positions stratified over time, partially submerged in a type of radical Keynesianism that was widespread in the political world. For example, France ended up accepting the idea that the aim of a European Central Bank should be that of price stability. Furthermore, Mitterrand, who had always shown a certain hostility toward the independence of the central banks of the respective governments, accepted the idea of independence from European national governments of the European Central Bank itself. Meanwhile, the Frenchman Trichet, resuming Mitterrand's position, in 1990 proposed the criterion according to which the budget deficit could not exceed 3% of GDP in a given country (Dyson and Featherstone, 1999, p. 215). Meanwhile, the French government was concerned about the German proposal to introduce sanctions against states with excessive deficits. At the beginning, such sanctions were seen by Mitterrand as a breach of the principle of national sovereignty. The issue that French and German negotiators had to face was the credibility of the commitments made by partner governments. Credibility that, at least in Germany's view, could only improve if the commitments were accompanied by credible threats against defector countries.

1.13 France meets Germany

However, at the time of concluding the negotiations that would give life to the Maastricht Treaty, France proposed a draft treaty in which the creation of the EMU was based on three principles: a) feasibility; b) democracy; c) the European dimension (Dyson and Featherstone, 1999, p. 229). The feasibility of the EMU would be ensured by strengthening the Ecofin policy instruments to ensure economic convergence including sanctions to avoid excessive deficits, the prohibition of debt bailout, and deficit financing through the issuance of currency. The French draft converged on the idea of entrusting the governance of prices to a future independent ECB recognizing a role to Ecofin in determining the exchange rate policy guidelines. Democratic legitimacy, according to the French draft, would depend on a "gouvernement économique", without which the European Monetary Union would not be feasible. The European dimension was based on the

empowerment of the European Council in defining the Community's economic policies guidelines. In this draft emerged both the acceptance of important German positions and the assertion of abstract principles that to a certain extent concealed the French desire to save the role of national governments in terms of economic policy.

Aiming to play a hegemonic role in European politics, France made some fundamental concessions to Germany, without which Germany would not accept the euro. One of these was the independence of the ECB, which would have as its mission the defense of price stability. Indeed, France agreed with Germany on the principle that the burden of the budget balance should fall on countries with excessive deficits. This was a type of adaptation of the principle that emerged at Bretton Woods according to which the burden of the adjustment of the trade balance deficit should fall on the countries that have these deficits. At Bretton Woods, it was the deficit of balance of payments, in the Maastricht Treaty, it was the budget deficit. It must be said that while France was pursuing vacuous dreams of grandeur, Germany focused its agenda on a few concrete objectives. Among other things, Kohl was able to utilize the well-known difficult relationship between the German government and the Bundesbank, and at the very beginning highlighted the non-negotiable points for Germany, where the political and cultural positions against the assignment of the mark to a supranational authority were very strong (Dyson and Featherstone, 1999, pp. 448 ff).

Faced with France's political pressing and Mitterrand's moral suasion in relation to German expectations on unification, Germany eventually adhered to the French project of rapidly creating the ECB (Feldstein, 1992). Feldstein's opinion was widely shared by international relations scholars, and suggested that France proposed itself as EU "hegemon" rather than Germany. If the goal of French politicians was to build a Franco-German diarchy with French political leadership, the goal of German politicians was, if anything, to orient EU financial and economic policy toward the German economic and social model in relation to which development was not assured by deficit spending policies, but by policies to increase the competitiveness of national economic systems and the correlated institutional systems. In the diarchy logic, France assumed assuring itself military and political leadership, and Germany economic leadership. In the long run, economic strength and the credibility of the economic institutions of Germany demarcated the emergence of a hegemony that was

certainly different from that which characterized USA hegemony after World War II. In this respect Feldstein (1997, p. 29) wrote, "It is clear that a French aspiration for equality and a German expectation of hegemony are not compatible. But both visions of the future drive their countrymen to support the pursuit of EMU". In reality, the equal diarchy entered into crisis due to both the greater growth of the German economy compared to the French and the entry of many Eastern European countries in the European Union that naturally looked to Germany, and certainly not to France, as the guiding country.

1.14 Origin of the political birth of the euro. France's "knight move"

The creation of the single European currency is the expression of an institutional revolution intended to complete the integrated European market, launched with the Single European Act. The Maastricht Treaty also intended to restructure the systems of rules called upon to supervise the governance of the EMS as well as the real economies and public finances of countries that acceded to the treaty. The Single European Act was an important step toward a stronger "formal" integration of Europe (Gilbert, 2003). I think it necessary to distinguish between "formal" integration, understood as the adoption of common standards by a set of states, and "substantial" integration, understood as a real convergence in the economic structures and political economy practices by the same set of states. One way in which "formal" integration can be expressed is the transfer of sovereignty to supranational bodies. As well known, of particular significance was the transfer of monetary sovereignty signed by several European governments through the Maastricht Treaty. At the base of the signing of this treaty were complex political issues that, amongst others, are well-delineated in the work of Emmanuel Apel (2000), Kenneth Dyson and Kevin Featherstone (1999), Otmar Issing (2008), Ivo Maes (2002), and André Szasz (1999).

All these works highlight especially the political motivation that at the time led influential European leaders to accept the idea of building a single European currency. These political motivations had a prevalent role with respect to strictly economic ones, not least because the terrain on which the decision was reached to move toward creating a single European currency was based – entirely politically – on the Franco-German relations on the eve of German reunification. These relationships

were characterized by fear, manifested by the French leader Mitterrand, which would result in a dominance of the German mark, especially after a possible reunification of Germany. On the role played by Mitterrand, Dyson and Featherstone (1999, p. 62) wrote, "Mitterrand was vital in giving sustained political direction to the French negotiating position, situating them at the interface of international and domestic pressures". A general consideration by Allan Drazen (2000, p. 60) allows a better understanding of what occurred during the creation of the Euro, "Our study of political economy began with the observation that in the real world, policies are chosen not by an infinitely lived social planner, but by a political mechanism that must balance conflicting interests".

Indeed, the political motivations led to an economic type institutional design even before finding a shared method to arrive at monetary integration. It follows that a political objective pursued with economic instruments prevailed. In this asymmetry between objectives and means, in my opinion, the origin of the problem of creating the single European currency must be sought as well as the difficulties of its functioning. Naturally, when European policymakers gave life to the euro they did not wish to highlight the political reasons for this choice, instead substantiating the economic rationale, underestimating the nature of the economic problems that such a form of monetary integration would entail at a later stage of the European economic story. Two important factors perhaps played a part in underestimating the real economic problems that would later manifest. The first was the apparent inability to reconcile a single European market with the diversity of inflation rates in several European countries. The second was the overconfidence in the economic modeling that had in the meantime been established. In fact, since the '60s, a school of thought was developing in economic science entirely focused on explaining the importance of strict inflation control that the governments of European countries were also called on to exercise. By contrast, the logical structure of the theories advanced in the context of this current thought overshadowed concerns about the fight against unemployment and maintaining employment levels socially acceptable, typical of the Keynesian approach.

The hypothesis that I support is that the operational difficulties of the euro are to be found in the creation of a situation of moral hazard caused by the "frivolousness" with which policymakers in Europe laid the foundations of the single European currency. A "frivolousness" that was probably conditioned by the fact that these policymakers moved in a condition of

bounded rationality (Simon, 1997) involving substantial uncertainty about their preferences influenced by the expected states of the world. In other words, uncertainty deriving not only from the computational limits of the policymakers, but also from the complexity of the actual situation and the unpredictability of the future states of the world. In general, the agreements that national governments were to make could lead to future dynamics that were unpredictable and even undesired. Especially in the field of international relations, an important role is played by incomplete information about the future states of the world. For example, James Morrow (1994, p. 221) noted, "Parties bargaining over an agreement typically do not know one another's value for an agreement [...] Players are often uncertain about one another's payoffs [...] One can create games where the players 'do not know' their own preferences".

Without doubt, this uncertainty existed in the case of the euro, fueling a far-reaching debate on monetary union. The political and scientific debate on the strategic options to be adopted on completion of the unified European market demonstrated the breadth of cognitive constraints that plagued all European governments, which could not possess sufficient knowledge about the long-term consequences of adopting the single currency in the short term. If anything, as discussed herewith following, the policymakers of countries with greater inflationary propensity wanted access to the euro as a kind of constraint seeking to modify their collective behavior in terms of fiscal and financial policies. However, it was a rather weak constraint, since strong coherence did not always manifest between prior commitments made and the budgetary policy practices that followed. The haste with which certain conservative positions against possible opportunistic behavior were disposed of by the ostensibly called "grasshopper" states was conditioned by Mitterrand's France. Thus, Mitterrand undertook, for eminently political reasons, to support the creation of the single European currency by ensuring France's strong commitment to Germany in terms of the stability of the monetary yardstick (Dyson and Featherstone, 1999, p. 153).

The strategy adopted by the Commission President, Jacques Delors, was instrumental in Mitterrand's strategy, recalling the "knight move". As well known to chess players, the knight's attack may simultaneously endanger two or more valuable pieces of the opposing player who is required to evaluate the consequences of his possible responses. Naturally, the consequences of a player's responses manifest cumulatively as the

game evolves in an unforeseen way either by the attacker when elaborating his response or by the attacked player. As Mitterrand expressed his opposition to German reunification and called on Germany, almost as a sort of side payment, to transfer monetary sovereignty, the focus of the problem shifted. He transformed a political problem into a technical problem, turning monetary unification into an instrument to allow achieving political objectives. When monetary union was seen as a functional tool to achieve a political objective, it was on this that the attention of European policymakers focused.

This resulted in an underestimation of the importance of appropriately analyzing the benefits and costs of a single currency, justifying its adoption through an over-evaluation of the benefits of the single currency. The French commitment to take strict enough measures in terms of the stability of the monetary yardstick seemed necessary to convince Germany of the seriousness of the French position in terms of economic policy actions. The German position on monetary and budgetary policy is today seen by some radical scholars (e.g., Sapir, 2012) as the result of a hegemonic strategy. Yet, many European policymakers wanted to see the positive aspect of this position because it would force "grasshopper" countries to become somewhat more "ant" countries. The amount of conviction on the ability or willingness to maintain this commitment would be seen in the future, as in fact many European governments underestimated the transaction costs in the medium/long term. Addressing these consequences would have entailed moving from a still *light* institutional system to a sufficiently *strong* institutional process, which is embodied in the adoption of constitutional rules.

1.15 The reluctant hegemon

Yet to be evaluated is whether Germany can consider itself the dominant country of the euro area and whether Germany already considered itself a hegemonic power in the EMS capable of imposing its own vision of monetary policy, as the USA did after the end of World War II. In this regard, Padoa-Schioppa (2004) raised the question as to whether Germany could play the same role in Europe as the USA in the world, and if therefore the German currency could play the same role as the dollar. The response that Padoa-Scioppa gave was, as it should be, negative, referring to the experience of the USA that although powerful, could not

sustain the burden arising from exercising hegemonic power in the monetary sphere. Furthermore, Padoa-Schioppa (2004, p. 148) pointed out that Germany is not the USA, and that the weight of the German economy within the EU is not comparable to the weight of the USA economy in the world. Consequently, with respect to the mark, "neither Germany nor the other member countries would agree that it has the role that the dollar had in the Bretton Woods system" (ibid). In conclusion, Padoa-Schioppa noted that since the USA was unable to bear the burden of being the leading country of the Bretton Woods monetary system, then such a role was even less likely for Germany.

The other hypothesis is that Germany had a vision of European monetary integration that was widely shared at the stage of negotiating the launch of the Maastricht Treaty. According to Padoa-Schioppa (2004), testimony of this is once again the relatively old debate between 'economists' and 'monetarists'. A debate that the Delors Report had tried to defuse, but which during the negotiations for the single currency swung, at least in part, in favor of the thesis of 'economists'. From the above it is clear that among the big European countries, Germany did not have a well-defined political project to economically dominate EU countries through the instrument of a single currency. On the contrary, it did not feel ready for an initiative of this type, and sought to curb the enthusiasm of other European countries, starting with France. If anything, France was the country that took the initiative to promote the rapid creation of the single currency and did so by "blackmailing" the German government on the issue of reunification. France put a strategy into play to achieve general policy objectives, disregarding the objective difficulties in giving birth to a single European currency.

The German government gave in to the French "blackmail" inasmuch as it was less concerned about the single currency than the unification of the two parts of the country. The German government was entrenched in the operating conditions that would allow the governance of the new European monetary system, namely determining the rules that such governance should obey. The governments of the major European countries certainly advocated a policy of financial rigor. For example, the Italian delegation declared its close proximity to the Delors Plan, and at the same time, expressed interest in accepting certain quantitative constraints to ensure budgetary discipline. Dyson and Featherstone (1999, p. 507) wrote that in the final stage the negotiations would be modelled

on the Bundesbank system, "which was, in turn, not so distant from the self-image of the Banca d'Italia" (ibid). It is worth reflecting on the reason why the credibility of the commitments of the various European countries was sought in the matter of budgetary policy by imposing quantitative constraints on the basic parameters of these policies.

A complex and delicate construction such as the euro would never have been born if confidence in the partner countries had been called into question by the actual opportunistic behavior of some of these countries. With opportunistic behavior I intend the propensity toward deficit spending policies together with inflationary policies. The Central and Northern European countries, on average with a lower propensity to inflation, were unwilling during the negotiation for the single currency to import inflation from less virtuous countries. These countries were unwilling to sustain the real economies of countries with a high propensity to inflation, implementing in turn inflationary policies. They feared that these "induced" inflationary policies would have had the effect of weakening the competitiveness of stronger European economies in the global market.

To some extent, the debate during the negotiations that led to the Maastricht Treaty echoed some of the content of the debate that took place at Bretton Woods, notwithstanding the obvious distinctions. If at Bretton Woods the debate was focused on identifying who – the creditor or debtor countries – would have to intervene if some countries manifested structural deficits in their balance of payments, in Maastricht the debate focused on identifying who – among countries with budgets in surplus and those with budgets in deficit – would have to concern themselves with correcting the deficit. The German position prevailed, namely that consolidated debt countries take action to remedy these positions, also because the governments of countries with a higher propensity to inflation and with greater disorder in their national budgets underestimated the implications of a commitment of this type and believed that the constraints in the Maastricht Treaty would have altered the collective behavior in terms of budgetary policies. The European partner countries in the Eurozone made the commitments not so much because of Germany's fiscal will, but the underlying sharing of the governance of such an integrated currency area. Consequently, Germany could be regarded, if anything, as a hegemon in the sense of Ishiguro, but cannot be considered a hegemonic country in the sense of Keohane.

CHAPTER 2

THE EMERGENCE OF SOME THEORETICAL QUESTIONS

2.1 The clash between theoretical lines

Just before, I argued that the choice of strategic options that constituted the conceptual core of the Maastricht Treaty coincided with the emergence of an economic approach that to some extent drew on the monetarist approach combined with that of "rational expectations" within the new classical macroeconomics (NCM) approach. Alessandro Vercelli (1983) identified these two integrated approaches as the basis of what has been called the *anti-Keynesian counterrevolution*. The hegemony of doctrine that NCM dominated around thirty years ago restricted consensus toward the Keynesian approach after World War II. This was not only a consequence of "academic conflict", but of the EU's economic policy and institutional structure choices, even constitutional. It may be useful to note that the gradual emergence of NCM found a sort of functional correspondence in the organizational logic of the EU itself. In fact, one of the core subjects of NCM is the *de facto* failure of the Keynesian-derived relationship between unemployment and inflation, as summarized in the original formulation of Phillips' (1958) short-run equation.

As well known, this relationship is the basis of the Phillips curve, which at that time had an important role in macroeconomic analyses and economic policy praxis. On the other hand, as Giovanni Magnifico (1971, p. 13) noted, to also be recognized is that each country has "a national propensity to inflation", reflecting the multiple forces of a given economic system, amongst which those expressed through institutions of a social and political order. Indeed, a specific action in the economic and financial policy space is almost always reflected in the consolidated social equilibria expressed through a system of social institutions, often with considerable inertial forces. These forces affect the performance of economic systems, and when these are considerable, they may transform the expected complementarity between certain institutions into actual

conflicts between these institutions. Thus, the presence of such conflicts can be read as an expression of the fact that an economic and monetary area is not an *optimal currency area* in the sense of Mundell (1961). If Western Europe were not an optimal currency area, then a monetary union would force a country to accept a trade-off between unemployment and inflation that would be considered sub-optimal (Maes, 2002, p. 35).

In its original formulation, the Phillips curve expressed a stable inverse relationship between the rate of unemployment U and the rate of change of nominal wages, gw, with $gw = (W - W\text{-}1)/W\text{-}1$, where W indicates the wages of the current period, and $W\text{-}1$ the wages of the previous period. In very general terms, one can state that the Phillips curve has been interpreted as the intellectual product of a particular climate dominated by the Keynesian approach. In this context, the Phillips curve affirmed the assumption of a stable relationship between inflation and unemployment (Massimo De Felice and Gianluigi Pelloni, 1982, p. 75). The Keynesian matrix of the Phillips curve can be construed according to the fact that a government is able to choose an "appropriate" mix between inflation and unemployment. This would make it possible to identify a tradeoff between inflation and unemployment levels. Rejection of the logical consistency of the hypothesis came with the rational expectations approach, under the hypothesis of the "natural rate of unemployment", a term that Milton Friedman (1968, p. 11) coined during his speech as president of the American Economic Association. Friedman's thesis was that there is always a temporary tradeoff between inflation and unemployment, but from unforeseen inflation, which usually means a rising rate of inflation.

In Friedman's vision, the natural rate of unemployment is the rate that occurs in the absence of unanticipated inflation. If inflation were fully anticipated, as would happen if maintained at a constant rate for a long period of time, people would be able to evaluate all contracts in real terms, without being distracted by the monetary veil, and labor market behavior would thus not be influenced by the rate of inflation (Robert Shiller, 1978, p. 8). Therefore, the consequence of the rational expectations approach is that in the long term, production and the natural rate of unemployment are not influenced by the dynamics of price levels. Friedman assumed that unexpected inflationary pressures produce effects on employment but only in the short term, deemed to be reabsorbed in the long run. Major consequences for the choice of macroeconomic policies

would derive. Indeed, according to the rational expectations approach, optimal macroeconomic policy is based on fixed rules (Friedman, 1968), given the long-term inefficiency of monetary policy and the assumptions underlying the NCM approach integrated with rational expectations.

It can be assumed that the validity of an economic policy strategy, including monetary policy, is measured by its long-term predictive capabilities. Carlo Carraro and Francesco Giavazzi (1989) illustrated that economic policy has long since failed to make full reference to established economic theories, such as the strictly Keynesian and the strictly monetarist, with the latter claiming to be the modern interpretation of the theory of general economic equilibrium. In fact, in the '60s, the issues emanating from the stagflation phenomenon and a certain difficulty in translating income policy into practice weakened the appeal of the Keynesian approach and gave new strength to the neoclassical approach. In this regard, Giorgio Rodano (1987, p.16) stated that, in simple terms, the paradigm of the NCM approach is constituted by the extension of the neoclassical theory of general equilibrium to conditions of uncertainty and incomplete information.

Carraro and Giavazzi (ibid, pp. 14-15) also argued that the analysis of institutions assumes a central role in the theory. More precisely, "The attention paid to the role of institutions naturally follows the attempts to endogenize the process of the formation of expectations that characterized the macroeconomics of the 1970s. After observing that rational agents form their expectations by questioning the future, rather than merely observing the past, it was natural to wonder what happens if agents also try to predict the incentives for authorities to deviate from the announced programs. This observation placed the credibility of the authorities, and the inefficiencies resulting from a lack of credibility, at the heart of economic policy. Institutional reforms are one way to reduce such inefficiencies" (ibid, p. 15) (my translation). The dissatisfaction with the weak operational role of both the Keynesian approach and the NCM approach, due to the difficulty of traditional economic therapies to adequately address the complexity of the modern economic world, meant that "Recent contributions to economic policy theory are detached from both the traditional approach and the new classical macroeconomics of the 1970s; they are differentiated by assuming that policies are not exogenous, but derive from the maximization of an explicit objective function of the authorities" (ibid).

In the period Δt_1, the clarification of the objectives that a government proposes to achieve in the period Δt_2 does not necessarily determine whether that government will be able to maintain the commitments originally made. This intertemporal imbalance may undermine the credibility the government had acquired with regard to its citizens, and perhaps in the context of international economic relations. The theory of cooperative games helps to explain why a coalition of states goes down the path of adopting institutional rules up to renouncing its sovereignty in certain functional domains. One of these is certainly the monetary policy domain in relation to which the states of coalition C_{EU} surrendered their sovereignty to a supranational technical body.

2.2 Strategy decomposability and the inflation knot

The sequential procedure in dealing with a complex problem is typical of heuristics based on a means-ends analysis. At this point, we can state that given the overall action space, policymakers focus attention on those actions that appear necessary to implement a convergent monetary policy. Of course, the concept of convergent monetary policy should be defined as clearly as possible, if only because in the European monetary integration story, two different strategies were enacted claiming the objective of stabilizing the exchange rates of European currencies. The first approach preceded entry into force of the euro and gave birth to the European Monetary System (EMS). The second approach created the European Monetary Union (EMU) whereby a multitude of national currencies were replaced by a single European currency, namely the euro. There are significant differences between the two approaches that arise from the way of conceiving the role of monetary policy within the broader economic policy. In the case of EMS, European governments had committed to maintaining the exchange rate of their currencies within a margin of fluctuation around their relative values that would be fixed. In fact, this was a weak fixed exchange rate system. For a fixed exchange rate system to work according the expectations of its promoters requires meeting certain conditions that affect the trade balances and payments of different countries. One of these is the equilibrium of trade balances and payments of the states in C_{EU}, that is, the coalition of EU member states. However, this working hypothesis is not easily verifiable because the economies of the different countries have different growth speeds,

different levels of competitiveness, different rates of inflation, and different levels of employment.

The failure of the EMS can be considered as the outcome of the structural instability of the fixed exchange rate systems. This instability formally determined the change that led to the birth of the EMU and then the euro. The economic model that formed the basis of the EMS appeared to have a link with the noted Phillips curve by virtue of which the governments of the Eurozone countries were called on to manage a *moderate* inflation policy in the context of a *discretionary* monetary policy implemented by national central banks. Naturally, these governments attempted to pursue an "activist" labor market policy. Robert Barro and David Gordon (1983) argued that in the case of a discretionary monetary policy, the Central Bank can print a larger quantity of money than the stability of prices, whereby this increased amount of money can result in some monetary shocks. However, the authors assert, "Although these inflation surprises can have some benefits, they cannot arise systematically in equilibrium when people understand the policymaker's incentives and form their expectations accordingly" (ibid, p. 101).

Interesting in Barro and Gordon's formulation, recalled by Avinash Dixit (2000), is that the authors assume the hypothesis that the fundamental strategic factor is the level of inflation. The cost of inflation thus assumes a central character as shown in the formula proposed precisely by Barro and Gordon (1983, p. 194), which I reproduce here:

$$[2.1] \qquad z_t = (a/2)^2 (\pi_i)^2 - bt (\pi_t - \pi_t^e) \text{ with a, } b_t > 0$$

In the Barro and Gordon approach [2.1], the objective function of policymakers, z_t, is represented by a first member $(a/2)^2 (\pi_t)^2$, which indicates the inflation benefits (ibid, p. 101). The first member of [2.1] is in quadratic form, given that Barro and Gordon assume that the cost of inflation increases more than proportionally with respect to the increase in the inflation rate. By contrast, the second member is assumed to have e linear form. Considering equation [2.1], one can observe that it could refer to the case where the central banks of different countries apply a discretionary monetary policy, determined by the fact that they may issue more money and create more inflation than expected. Barro and Gordon indicate that among the benefits of unexpected inflation are those pro-

vided by the Phillips curve, with expectations centered on the relationship between preferences for inflation and unemployment. Currently, the Phillips curve approach would seem to have lost much of its explanatory power, yet not entirely according to Oliver Blanchard (2016).

2.3 The Stability and Growth Pact, and the two "focal objectives"

Immediately observable is that the transition from the EMS to the EMU led to a substantial change in the preferences of the jurisdictions that adopted the Maastricht Treaty, despite the persistence of strong differences in the economic and financial policies of the dominant cultures in these countries. Meanwhile, the methodological apparatus that the ECB and the governments of C_{EU} would refer to following the redesign of the network of economic institutions of the whole Eurozone became fuzzy. The specific monetary functional domain was assigned to the ECB with the task of ensuring the stability of the monetary yardstick through actions aimed at maintaining a stable level of inflation at just under 2%. The residual economic policy actions remained a task for the governments of C_{EU} and are highlighted in the Stability and Growth Pact in which two objectives pertaining to fiscal policy are substantiated, namely that the annual deficit of each country shall not exceed 3% of the Gross Domestic Product (GDP) and that the consolidated debt of each country shall not exceed 60% of GDP.

A structural difference emerged between the philosophy of the EMS and that of the EMU. We have seen that with the introduction of the euro and the role of the ECB, the functional relationship between the inflation rate and the unemployment rate was obfuscated. However, the role of the inflation rate was in some way replaced by the role of public spending, albeit confined to the constraints imposed by the Maastricht Treaty. However, to broadly understand the role of public spending as part of the policies to combat unemployment, let us adopt the Phillips curve approach for the time being, using a simplified formulation enhanced by expectation. Thus:

$$[2.2] \qquad \pi = \pi^{e} - \beta(u - n^{n}) + v$$

where π indicates inflation, and π^{e} indicates the expected inflation; $(u - u^{n})$ indicates cyclical unemployment, u^{n} unemployment at its natural

level, v the supply shock, and parameter β measures the sensitivity of inflation to unemployment. [2.2] can easily be transformed into:

[2.3] $$(u - u^n) = -\alpha\,(\pi - \pi^n) - v$$

where the parameter α measures the sensitivity of unemployment to inflation. Moving from [2.2] to [2.3], inflation becomes the independent variable, and unemployment the dependent variable. In other words, national governments can no longer exert discretionary governance on the specific monetary functional domain. It follows that the governance of the labor market depends on how two different bodies, the national governments and the ECB, manage to coordinate their respective policy actions in accordance with the two different institutional settings.

As known, with EMU the governance of this specific functional domain is assigned to the ECB that sets the expected inflation rate π^e for the whole C_{EU} area. Corresponding to this rate is a unique level of unemployment, u, thus omitting u^n. Hence, according to the theory of complex systems and Haken's principle of subjugation (to which I refer in Section 5.11), the economic policies of the national governments can be "dominated" by the ECB's monetary governance.

Therefore, [2.3] can be transformed so that the rate of inflation of reference becomes that programmed by the ECB, namely π^e, and the only significant unemployment level is that which is effective in each state, namely u. Hence:

[2.4] $$u = -\alpha\,(\pi_{t-1} - \pi_t^e) - v \text{ with } \pi_{t-1} > \pi_t^e$$

In [2.4], I assume that the ECB's expected inflation rate π_t^e for the period Δ_t *i*s less than the actual rate of inflation in the period Δt_{-1}, with the assumption that the ECB implements a deflationary type monetary policy. Important is the parameter α indicating the sensitivity of the unemployment level to the deflationary policy. Due to the ECB's policy $\pi_{t-1} > \pi_t^e$, it follows that the unemployment rate will increase from period t_{-1} to period t. Equation [2.4] summarizes an *inflation targeting* strategy that acquired certain notoriety in the '90s when broad consensus was reached on containing the inflationary dynamics, especially in more advanced countries (Ben Bernanke and Michael Woodford, 2005). Bernanke, Laubach, and Mishkin (1999, p. 3) stated, "One element of the new consensus

is that low, stable inflation is important for market-driven growth, and that monetary policy is the most direct determinant of inflation".

In the background of policies inspired by *inflation targeting* is the natural unemployment rate approach, namely the unemployment rate associated with a stable inflation rate. Let us assume that in the coalition C_{EU} there are two states, A and B. For each of these states, I represent the equation given in [2.4], so that:

[2.5a] $$u_A = -\alpha_A \left({}_A\pi_{t-1} - {}_A\pi_t^e\right) - v$$

[2.5b] $$u_B = -\alpha_B \left({}_B\pi_{t-1} - {}_B\pi_t^e\right) - v$$

We can assume that ${}_A\pi_{t-1} = {}_B\pi_{t-1}$, and that such national inflation rates are higher than the expected inflation rate set by the ECB. Further, we assume that the two unemployment rates of A and B are not very distant when the two economic systems are in t_{-1}. The constraint that in t_{-1} the ECB lowers the expected inflation rate for t will generate an increase in the unemployment rates of both A and B. However, it may be that the Phillips curves of A and B, expressed linearly (Figure 2.1.), have different inclinations. I indicate with AA the Phillips curve of country *A* and with BB the Phillips curve of country *B*. The lesser responsiveness of α_B to inflation implies that in *B* unemployment increases more than in *A*.

Let us assume that $|\alpha_A| > |\alpha_B|$. The greater slope of α_A than α_B may express the greater ability of the real economy of A to bear a deflationary pressure. At a closer glance, [2.5a] approaches a curve describing a "natural" unemployment rate sloping more than curve [2.5b]. As Laurence Ball (1997, p. 168) noted with regard to Milton Friedman (1968) and Edmund Phelps' (1968) natural rate approach, "the NAIRU is determined by labor market imperfections".

In the above quite traditional models regarding the relationship between deflation and unemployment, and more specifically in the formula [2.3], the parameter α has been assigned the role of measuring the sensitivity of unemployment to deflationary impulses. The problem remains of identifying the forces acting on this sensitivity, especially if $\alpha_A \neq \alpha_B$. Let us assume that $\alpha_A > \alpha_B$, so there is a greater capacity of country A to react to deflationary impulses. There is nothing to prevent this increased capacity from being attributable, at least to a certain extent, to the differences in the national institutional systems.

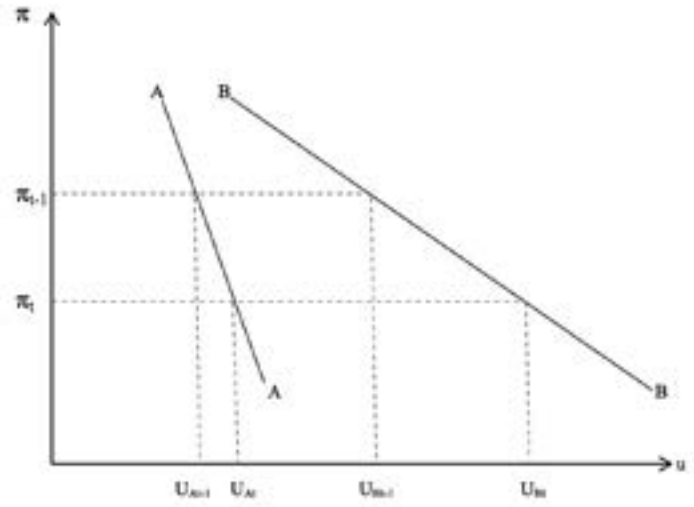

Figure 2.1. Unemployment/inflation. Asymmetrical responsiveness

2.4 Discretion vs. rules

In the monetarist view, the success of an inflation control policy, and one that does not lead to an increase in unemployment, is based on the credibility of the policy being implemented. At this point, one might ask on what elements can the credibility of a purely anti-inflationary policy be established? It is quite difficult to answer this question, if only because there are as many answers as there are theoretical models to be referenced in relation to the causes of inflation and its consequences. The monetarist approach assumes that an inflationary process is triggered by a substantial increase in money supply, greater than the growth in aggregate supply. More specifically, Thomas Sargent (1982) noted that inflation is the result of a long-term policy aimed at managing large budget deficits through money creation at high growth rates, which determines the pace of inflation. Consequently, according to Sargent (ibid, p. 42), "This is not to say that it would be easy to eradicate inflation. On the contrary, it would require more than a few temporary restrictive fiscal and monetary actions […] It would require a change in the policy *regime*: there must be an abrupt change in the continuing government *policy*, or *strategy,* for setting deficits now and in the future that it is sufficiently binding as to be widely believed".

If assuming there is a natural rate of unemployment, consistent with specific levels of inflation, it follows, according to Finn Kydland and Edward Prescott (1977, p. 477), that governments can only choose a policy of maintaining price stability, and correspondingly, a rule that does not allow deviations from the objective of maintaining the stability of the monetary yardstick. As seen, the position of the monetarist school emphasizes the role that the rules of a monetary policy should have, consistently with the objective of fighting inflation. Bernanke et al. (1999, p. 5) stated, "*Rules* are monetary policies that are essentially automatic, requiring little or nothing in the way of macroeconomic analysis or value judgments by the monetary authorities". These rules can include those hinging on gold-based currencies, or those that Milton Friedman (1968) indicated, according to which the change in money stock should grow by a fixed percentage each year, regardless of the economic or financial conditions of the country considered.

In this regard, Bernanke et al. (1999, p. 5) stated, "Advocates of rules usually speak about the 'discipline' or 'credibility' they create; by adhering rigorously to a certain rule, the monetary authority supposedly reassures the public that it will not engage in inflationary policies or otherwise abuse its powers". A central bank that follows a fixed rule makes a commitment to the national community, and lays down the conditions of this commitment. However, its credibility will be judged by its ability to concretely follow the commitments made. Nevertheless, it is quite easy to see that the monetarist hypothesis is satisfied only if all the other variables of the system follow certain behaviors. In a situation of exogenous changes of some relevant economic variables, the changes cannot be ignored by a government's monetary policy. A monetary policy that is substantially different from that inspired by fixed rules is a discretionary policy. That is to say, a central bank that follows a line of economic policy of a discretionary type does not make public commitments in relation to its objectives, apart from rather vague statements.

The central bank therefore tries to keep its hands free, with a substantially opposite strategy to that of tying its hands (Francesco Giavazzi and Marco Pagano, 1988). Advocates of the discretionary approach believe that it serves to grant flexibility to the economic and monetary policy strategies, responding adaptively to the emergence of new information and/or particular events. The response that the proponents of fixed rules may give to this argument is that the absence of a credible rule of mone-

tary authorities renders it almost impossible to engage in policies to fight inflation.

Returning to the case of the euro, we have two sources of inspiration. The first is implicitly drawn from the actual preferences "revealed" by the ECB. According to these, one may be inclined to think that the ECB itself follows a discretionary type policy that at times departs from the behavior indicated by the Maastricht Treaty. The second source of inspiration, precisely the Maastricht Treaty, places constraints on the support that the ECB can give to individual national governments as well as on the behaviors of national governments in the area of fiscal policy. In this case, it is national governments that have their hands tied, committed, at least formally, to maintaining budget deficits and public debt according to the constraints imposed by the Maastricht Treaty.

At this point, the question should concern a reasonable line of interpretation of the operative construction of the Maastricht Treaty. My impression is that this oscillates between the demand for strict observance of the rules laid down in the Treaty and granting exceptions to these rules. If the Maastricht Treaty appears to be based, but only in part, on the analysis and findings of the monetarist school, the ECB should be limited to ensuring the European economic system a money supply to grow at a steady rate of expansion. Of course, all this in normal times.

The comparison between the custodians of the budget orthodoxy and the proponents of a weakening of this orthodoxy can be interpreted as a gap between the *formal constitution* of the ECB, in a partially monetarist view, and the *real constitution* of the ECB, which assumes a partially Keynesian connotation. This implies that the ECB, Ecofin, and the Commission are obliged to consider the relation between the expected inflation rate and unemployment rate that the monetarist revolution seemed to have interred, denying the existence of a structural tradeoff between the expected inflation rate and the unemployment rate that in its Keynesian formulation was strongly attacked by the monetarist school.

2.5 Discretion vs. rules. The analysis of Tommaso Padoa-Schioppa

From the above, the relationship between rules and discretion would appear to be substantially inspired by a principle of mutual exclusion, in the sense that the use of the rules excludes that of discretion, but things are not necessarily such. In relation to this question, Tommaso

Padoa-Schioppa in a 1983 report, reissued twenty years later by *Il Mulino Publisher* (2004), assumed a position that placed the constitutional/institutional system underpinning the euro within a framework in which fixed rules can be complementary to discretionary behavior. Padoa-Schioppa (ibid, pp. 15 ff) noted that over time, especially in monetary policy, a certain impatience has grown toward discretion and a preference for fixed rules. Padoa-Schioppa argued that a rule does not necessarily have a stronger legal basis than discretion, and on the other hand, relying on "a rule makes sense only if the interpretation is univocal, because in practice discretion returns to the gray area of interpretative doubt" (ibid, p. 17). Padoa-Schioppa clearly highlighted that the drive to reducing the spaces left to discretion in the years to which the report referred appeared very strong in Europe in the area of monetary policy, taking the form of discretionary waiver adjustment policies (fine-tuning) and the adoption of quantitative targets. However, as Padoa-Schioppa observed, the international economic regulatory process involves the participation of "national" and "supranational" actors, each performing functions not necessarily contemporaneous in terms of the discretionality criterion or that of fixed rules. Indeed, it is possible that in a decision-making context, the discretionality criterion may become dominant.

Padoa-Schioppa noted that in the period when he wrote the report, it was more likely for strict rules to be adopted in the narrowest context of national economic policies. By contrast, in the wider context of international economic policy, it was more likely for discretionary rules to be adopted. Finally, Padoa-Schioppa (ibid, p. 19) stated, "Various considerations lead us to believe that the governance of multi-state economies now requires an expansion of the space reserved for discretionary decisions and the definition of a more efficient method in making them. This discretionality in some cases must replace the rules, but more often must be a complement" (my translation). The lesson from Padoa-Schioppa is that it would seem difficult to believe that an international institutional/constitutional system, such as that supporting monetary relations in Europe, can always be characterized by one working model or another. Looking at the current events of the euro and its governance, from the early twenty-first century at the supranational level, strict rules were applied, whereas on the national level the rules were only apparently strict, essentially leaving national governments room for discretionality. In more recent times, the ECB appeared to opt for more discretionary

policies, while national governments were asked for behaviors based on the principle of fixed rules.

2.6 The conflict between "monetarists" and "economists"

As noted above, in reality, the ECB's policy is only apparently of a monetarist type, while the stability of the monetary yardstick remains the polar star of the EMU. The contradiction between the formal constitution and the real constitution of the Maastricht Treaty was "resolved" by translating into practice what might be called the Schelling theorem, namely resorting to the decomposition of problems and the hierarchy of institutional agents. That is to say, if the ECB reserves the right to resort to discretionary practices, it is for national governments to implement policies that impose restrictive fiscal deficits and public debt when they exceed the levels established by inter-European agreements. However, in this decomposition of the institutional functions nests the deepest contradiction of the logical structure of the Maastricht Treaty. Given the commitment of each government to maintain the level of domestic inflation around an average value defined within a limited range of variation, around this average value there is growing divergence in national levels of unemployment. If reasoning according to the monetarist approach, we must conclude that every country of the Eurozone has its own natural level of unemployment determined by the different economic structures and levels of competitiveness of the various European economies. If this were the case, obviously under a monetarist approach, a single monetary policy for a variety of economies with different natural levels of unemployment would seem incongruous. Not only would it seem incongruous on doctrinal grounds, but damaging on practical grounds.

Damaging because economic policy has two different requirements, on the one hand, the economic policy of a state with greater inflationary propensity, and on the other, the economic policy of a state with lower inflationary propensity. As well known, the two economic policies are roughly personified by the countries of Southern Europe on the hand, and essentially by Germany on the other. If the former countries suffer the effects of gradually more expansive budgetary policies, fundamentally inflationary, the latter implement budgetary policies aimed at controlling inflationary pressures. This is a conflict, both practical and doctrinal, that has emerged since the first attempts to set up a monetary

integration process in Europe. Actual experience shows that the constitutional structure of the euro does not respond to a coherent design. If anything, this structure is characterized by the fact that a balance between opposing national preference functions has not – or has been unable to – be found.

The lack of a necessary point of equilibrium can also be attributed to the fact that the design of the single European currency underwent an acceleration in the aftermath of the fall of the Berlin Wall, which resulted in a rapid redesign of the political and economic equilibria throughout Europe, especially since the onset of the German push for reunification. We have seen that in the eyes of Mitterrand's France, German reunification would mean the end of demographic and economic equilibrium between Germany and France, to Germany's advantage. Such acceleration was desired by the French President Mitterrand and accepted by Germany's Chancellor Kohl (Issing, 2008, p. 11), leading to truncating the best scientific thinking on the way to giving life to a single currency.

A legitimate question is the role played by the schools of thought that have long dominated economic science, especially in the academic field, able to influence policymakers. While it is certainly true that in international economic negotiations the solutions that emerge are not necessarily *ideological neutral*, it is also true that these solutions ultimately reflect the influence of the schools of thought that in a given local context and in a certain historical moment have become dominant. At the end of the negotiation process of the European monetary integration, namely the launch of the Maastricht Treaty, an approach was largely established that, within certain limits, could be defined as monetarist with respect to that, also within certain limits, which could be defined as economist. The monetarist approach mentioned here is partly related to that elaborated by Milton Friedman and the NCM school. The negotiation vicissitudes through which the hegemony of the monetarist approach was consolidated are discussed in many valuable works, amongst which Otmar Issing (2008), Kenneth Dyson and Kevin Featherstone (1999), Ivo Maes (2002), David Marsh (2009), Karl Kaltenhaler (1998), and Andre Szasz (1999).

I mentioned the clash between two fundamental schools of thought (Marsh, 2009), elements of which could already be found in discussions concerning the first monetary integration project in the '60s. The "economists" school of thought has its bastion in Western Germany and other Northern European countries. They took the view, in my opinion the

most realistic, that some form of monetary integration – in those days essentially represented by a system of fixed exchange rates – could take shape only after the countries concerned were able to converge their economic policies toward common standards in order to obtain consistent results with regard to prices, wages, taxes and budgets, trade balances and internal competitiveness. In this regard, Marsh (2009, p. 45) stated, "Balance of payments deficits, according to the economists, were a sign of excessive expansionist policies in weaker countries, requiring strict corrective action. No country with a strong and persistent trade deficit, on this basis would be fit to join a monetary union".

The other school of thought, that of the "monetarists", was at the time substantially supported by France, Italy, and Belgium. The monetarists argued that the real convergence between the economies of countries could be the result of monetary type constraints and fiscal/budgetary policies. As David Marsh noted (ibid, p. 46), "A prerequisite was that stronger currency countries with balance of payment surpluses would pledge to support weaker nations through currency intervention and pooling of foreign exchange reserves". The monetarists, therefore, believed that the convergence of the fundamental values of the economies of individual countries would be manifested through the use of unified monetary instruments, including the pooling of foreign reserves. To some extent, this was a strategy that would favor the opportunistic behavior of countries structurally in deficit, and would meet strong opposition from the surplus countries. Among other things, a conflict between the two groups of countries emerged on defining the objectives and instruments. For economists, the objective of monetary integration presupposes recourse to preliminary economic policy actions and especially the convergence of strategies in budgetary policies. For so-called monetarists, the objective of the convergence of national economies is identified, as seen, in the transfer of financial resources from surplus countries to those in deficit.

The work of Kenneth Dyson and Kevin Featherstone (1999) details the different phases of the negotiation process, while the existence and manifestation of conflict between the two schools of thought to which I refer are appropriately emphasized. The countries that participated in the negotiation process were hence divided between these two positions, implicitly giving rise to two different sub-coalitions. The countries following the economist philosophy formed a coalition including Germany, Denmark, Holland, and before Brexit, Great Britain, although eventu-

ally Great Britain was unwilling to follow the former three countries in the final adventure of the euro creation. The countries following the monetarist philosophy formed a coalition including France, Italy, and Belgium. In summary, the distinction between the two approaches is that the economist approach assumes that it is important to first ensure the convergence of national economies and thus national budget policies before moving to a form of monetary integration, howsoever defined.

Conversely, the monetarist approach assumes starting from monetary integration. As Kenneth Dyson and Kevin Featherstone (ibid, p. 30) stated, the monetarist seemed more consistent with the traditional 'communitarian method' approach to European integration. Theoretically, the 'monetarist' coalition developed its arguments around the belief of using external discipline as a means of promoting both domestic policy reform and external credibility (ibid). According to Otmar Issing (2008, pp. 5 ff), this marked a turning point that affirmed the so-called monetarist position mainly supported by the French circles and based on the assumption that once the monetary agreements were signed, the consequences would be somehow predetermined.

CHAPTER 3

INSTITUTIONAL FRAMEWORKS. METHODOLOGICAL ISSUES

3.1 Introduction

The birth of the euro is an exemplary case of the change and evolution of a constitution in the sense of Buchanan (1990), namely a system of rules to govern an aspect of the economic and social life of a community, however determined. Although the regulation of relations between individuals provided fertile ground for these concepts, they can be legitimately applied to the case where certain rules of behavior are established by the collective agreements of parties, as in the case of international treaties that are here substantially considered as *constitutions*.

As previously mentioned, part of the DNA of a principle can be found in the negotiating process underlying the Bretton Woods conference that would guide the Maastricht negotiation process. Thus, some countries are called upon to make certain commitments to ensure that the institutional architectures resulting from either negotiation process maintain the institutional balances designed by their respective negotiators. In general terms, if all partner countries are called upon to make these commitments, some countries may be called upon to respect such commitments. These are countries that find themselves in an objective situation of contractual weakness due to imperfect adherence to the commitments made. In the case of the Bretton Woods negotiations, these were countries with persistent deficits in their balance of payments, in the case of the Maastricht negotiations, these were countries with persistent budget deficits. In both cases, the partner countries of the first agreement and the partner countries of the second agreement made certain commitments on the grounds that the expected benefits would outweigh the expected costs.

Of course, the estimations of the expected costs and benefits take place in a context in which evolutionary dynamics of various kinds might occur that are not easily predictable, especially if the agents (or players

in negotiation games) show limitations in their cognitive processes, i.e., they are in a situation of bounded rationality, such that regret may occur. In the case of the euro countries, participation in the euro is largely determined by the nature of the expectations that the governments of these countries formulate. These expectations are based on theoretical models considered reliable by the national governments themselves. Underlying these models are the objectives and national preferences defined on the economic and financial policy action space, assuming that the achievement of these objectives is guaranteed by the institutional arrangements on which the governments agree.

Arrangements made by a group of national governments, as in the case of the governments that have joined the euro, take the form of institutions, or if you like constitutions in the sense of James Buchanan (1990). Thus, "Constitutional economics directs analytical attention to the choice among constraints" (ibid, p. 3). Constitutions may be considered as belonging to the large family of institutions, generally deemed socially observed rules of behavior. A characteristic feature of the constitutions defined by the governments of the euroland countries is that they appear dominant over institutions defined at the national and local level and in specific markets. This leads to delicate problems of complementarity between the former and the latter. Complementarity that may sometimes manifest a certain lack of logical cohesion between one and the other, especially if the cultures of the acceding countries lack a system of values considered transcendental and capable of informing national, local institutions, and those typical of specific markets, as in the case of ideologies capable of structuring international economic regimes.

As mentioned in the second chapter, Carlo Carraro and Francesco Giavazzi (1989) emphasized a certain centrality of the role that institutions acquire in the analysis of modern economic policy. A centrality that I have taken up in this volume. I advance the hypothesis according to which part of the difficulties of the functioning of the euro depends on the incomplete logical and functional coherence between institutional systems, namely those launched by the EU and the national ones. Thus, the remainder of this chapter is dedicated to analyzing the foundations of the institutions, according to a strictly institutionalist approach in which the bounded rationality of the main players of the European integration process play an important role.

3.2 Institutional and constitutional frameworks

This section analyzes the factors that lead to determining specific constitutions according to an institutional design. To be recalled is that the implementation of an institutional design can generate asymmetries in the distribution of benefits globally derived from such design, and it is thus legitimate to assume that each national government not only attempts to maximize the benefits but also stipulates a kind of "insurance" with respect to the manifestation of probable and possible disadvantages. In the case of the euro, I think that the strategy has led to the adoption of a form of multi-level governance (MLG), namely a context in which a complex process is divided into sub-processes, each of which is governed by a specific level of institutional competence. One of the possible forms that an MLG system can take undoubtedly refers to fiscal federalism (Oates, 1972). Generally, the various forms that an MLG system assumes can be seen as the expression of that which Simon (1976) called *procedural rationality*, whereby a complex problem is broken down into more manageable problems, in the sense of Schelling (1960).

In the analysis that follows, the story of the euro acquires a rather complex characterization if we assume, as many authors do, that the real objective (kept hidden) of the creation of the euro was political, while the economic objective has ended up becoming the stated but unrealized goal. However, on giving life to the euro, a traditional asymmetry reappeared between the collective preferences of a group of countries ("ant" countries) with respect to those of another group of countries ("grasshopper" countries). These asymmetries highlighted the existence of a conflict between preference functions in national economic policy choices. Some countries (grasshoppers) exhibited preference functions characterized by a more marked propensity to inflation, together with a greater tolerance for budget deficits, while other countries (ants) exhibited preference functions for the stability of the monetary yardstick, together with greater rigor in public finance. In a situation such as this, credible cooperation between European governments is unlikely, unless shared understanding emerges from the negotiation process on the "economic constitution" formula to be adopted. The prestige enjoyed by the NCM school on one hand, and the ensuing effort to suppress inflationary tendencies on the other, led to the Maastricht Treaty and the constitutions that resulted.

The birth, adaptation, and evolution of international economic institutions and constitutions are aspects that find their field of investigation in the contributions appertaining to the evolutionary and the constructivist-constitutionalist approach, which are often mutually convergent (Buchanan, 1984, p. 24), although their genetic processes differ. To this end, the aforementioned contribution of Buchanan is relevant, where the signs of a substantial parting can be seen between the concept of the spontaneous evolutionary process, particularly characterized by institutions, and the evolutionary process affected by an implicit or explicit design that often finds its field of application mainly in projects with a constitutional framework. In the case of European integration, within the aforementioned Buchanan framework, I place emphasis on the voluntary nature and design of the processes of creating and/or reforming a constitution, and thus its procedural nature within the procedural rationality logic à la Simon.

However, a constitutional design requires the definition of objectives and the assessment of obstacles, and when such design involves several states, it presupposes identifying strategies that appear to make the objectives compatible with the tools available to policymakers.

If at times a tendency manifests to consider, in some aspects and a little coarsely, "institutions" and "constitutions" as substantially equivalent, then to some extent Buchanan and his school must be credited with having distinguished the two concepts, although it is possible to recognize a certain kinship among them. The central role assigned to the concept of institutions requires first making reference to the construction of the concept according to some scholars in the field. In general, institutionalist scholars, be they economists, anthropologists, sociologists, or political scientists, often emphasize the *mission* of institutions, intended as socially shared rules to ensure the governance of certain social, economic, or political relations.

Hence, in the sense of Buchanan, institutions are the rules of social order affirmed within a community of individuals or collectives essentially through spontaneous coordination processes. In a sense, they can be regarded as rules that meet certain Nash equilibria without prior bargaining. Alternatively, certain equilibria may be attained through negotiation that, although foreseeing commitments from the partners, does not guarantee the maintenance of such commitments through contractual forms with sanctions made explicit in some way. From a function-

alist perspective, institutions may serve as a means to reduce a specific uncertainty that emerges from the economic and/or social interactions between two or more parties.

One of the fields most intensely investigated by modern institutional economics is the formation of institutions, how they emerge, and how they become affirmed, possibly competing with other existing institutions (Gergen, 1995). The literature on the formation and functioning of institutions is abundant. Some important institutionalist economists tend to converge with the scientific work of scholars who intensively use the models developed in game theory (Aoki, 2001; Schelling, 1960; Schotter, 1981), as well as anthropologists engaged in the analysis of the cultural structures of different social communities (Beals and Hoijer, 1965), political scientists (Snidal, 1985; Ordeshook, 1986), sociologists (Bagnasco, Barbagli, and Cavalli, 1997), and even evolutionary biologists (Nowak, 2006).

Among the universe of economic institutions and political institutions there must be a certain interdependence (Arsenault, 2017, p. 8), without forgetting the role of national cultures. Culture, understood in an anthropological sense, plays an important role in determining institutional paths. In this regard, Peter Hall and David Soskice (2001, p. 13) stated, "Many actors learn to follow a set of informal rules by virtue of experience with a familiar set of actors and the shared understandings that accumulate from the experience constitute something like a common culture".

Given the multiplicity of situations and objectives to which different institutions refer, the term has a number of meanings. For example, Walter Neale (1994) noted that with "institutions" economists indicate specific patterns of behavior adopted by the members of a social group, and these models are conveyed through values that are expressed in specific and implicitly codified behavior. In a previous work (Mistri, 2003), I advanced the hypothesis that the construction of an institution cannot fail to take into account the conditioning deriving from culture, understood in the sense of anthropology, of which each institution is part, and which can play an important role in binding the form of that institution. According to anthropologists Carol Ember and Melvin Ember (2004, ch. 1), the elements that are part of a culture include language, religious beliefs, scientific knowledge, the way work is organized, the way politics is organized, and so forth. In this regard, Michael Porter (2000, p. 14) stated, "Attitudes, values, and beliefs that are sometimes collectively referred to

as 'culture' play an unquestioned role in human behavior and progress". Assuming that there is a relationship between institutions and culture, I believe no small importance should be given to the sedimentation of cultural patterns in a particular group of people and how these cultural patterns influence economic preferences. To this end, I refer to an important institution in ancient times, namely the "sacrifice to the Gods", a practice in which socially shared values were important.

There were many ways in which such sacrifices were made, for instance, offering up animals or even human beings. The purpose of the sacrifices was to obtain from the deity expected results considered valuable, such as rain for example. I indicate with p the expected payoff and with AS and HS the possible actions, where AS indicates the sacrifice of an animal and HS the sacrifice of a human being. Communities played against Nature, which could respond with R (rainfall) or D (drought). In the event a community chose AS, the payoff could be alternatively (p-c) in the case of rain or (-c) in the case of drought (Table 2.1).

Table 3.1. "The sacrifice to the Gods" game

Nature			
		R	**D**
Player	AS	$(p - c)$	-c
	HS	$(p - c^*)$	-c^*

If that community had chosen HS, the payoff would have been $(p - c^*)$ in the event of rain, or (- c^*) in the event of drought. Here c is the value (determined in monetary terms) given to the animal, and c^* the value given to the human being (also determined in monetary terms). Thus far, little is known about the choices that a society will make. In fact, the choices will also depend on "transcendent" values, so to speak. If that society thinks in purely economic terms, it will try to obtain the maximum result with the minimum expenditure. Hence, if for that community the cost of depriving an animal of its life is higher than that of a human being (e.g., a slave), we would have $c > c^*$; on the other hand,

if the cost of depriving a human being of life is higher than that of an animal, we would have $c^* > c$. In short, if a culture believes that socially the life of some people is worth less than the life of an animal, then they will choose the HS strategy, otherwise they will choose the AS strategy. However, this society may reason differently, assuming *a priori* that the deity's response will be all the more favorable the higher the value of the sacrifice. In this case, it would choose a human being on the assumption that the sacrifice has a higher value than that of an animal.

In analyzing social norms, it would be wrong to disregard the evolutionary history of the relationship between the social and cultural norms of a given group that gives life to those rules; a relationship that can be considered derived in the sense that prior to the rules, the group had a well-defined culture to which the rules will add some elements, as shown by the anthropologists Ralph Beals and Harry Hoijer (1965). In this framework, it can be assumed that the process of creating and/or modifying institutions takes place in the wake of substantial *path dependence*. Dynamic type institutional processes have the property of non-ergodicity, in the sense that institutional systems never return to the previous state in a sufficient long time interval (Elsner, 2012, p. 7).

3.3 From spontaneous institutional order to constitutions

In this type of analysis, it follows that an institution's ability to function depends on its rationality, namely its ability to restrict the area of relational uncertainty between the members of a given group (North, 1998). Manfred Streit, Uwe Mummert, and Daniel Kiwit (1997) argued that institutions reduce uncertainty by imposing constraints on human actions, so as to maximize the degree of predictability of the actions of social and economic agents. Streit et al.'s approach might in some ways be considered functionalist, since each member of a socially defined group expects that the behavior of the other members of the group is consistent with these constraints, howsoever determined. In turn, Elinor Ostrom (1990, p. 51) defined institutions as a set of operating rules whereby all rules contain prescriptions that forbid, permit, or require some action or outcome. Kurt Dopfer (1997) highlighted the significance of institutions as "correlated behavior patterns", standardized rules of behavior in society. These rules can be considered standardized in that they become real constraints to the social actions of individuals, although such con-

straints may not necessarily be formalized, given that when faced with "socially inconsistent" behavior, automatic reactive mechanisms are set in motion. In some game theory models, any socially inconsistent behavior is in conflict with the strategic rationality principle.

Emphasized in the standard analysis of economic and social institutions is the nature of entities determined by self-organizing processes that are essentially spontaneous, able to "empirically" solve coordination problems between two or more agents, which may not necessarily give rise to cooperation strategies with binding commitments. It is debatable whether cooperation identifies an operational level that differs from the purely institutional or informal, or whether setting up a system of informal agreements should also be considered. Against this, if agreements are made using specific formalities and the related commitments, then constitution is the more appropriate term. As John Nash (1951) noted, a cooperative game could imply a game of strategic interaction in which the players can give origin to coalitions, possibly making a commitment following preselected rules through a preventive negotiation process. Amongst others, Duncan Luce and Howard Raiffa (1957, p. 114) indicated the conditions that should be imposed in a cooperative game between two players. These conditions relate to the messages issued that each player must send to another player, without ambiguities. Secondly, all agreements should constrain the players, and these constraints must be strengthened through the rules of the game. Finally, the evaluation of the payoffs obtainable from the game must not be distorted by the way in which the preventive negotiations were conducted. I assume that the conditions specified by Luce and Raiffa (ibid) form the basis of a shift from an approach based solely on the formative processes of *institutions* to an approach based on the formative processes of *constitutions*.

In the sense of Buchanan (1977, p. 292), a constitution is "a set of rules which constrain the activity of persons and agents in the pursuit of their own ends and objectives". The existence of rules that engage two or more players leads Buchanan to consider a constitution as a contract stipulated between such players (Voigt, 1999, p. 21). Just above I mentioned the rules on which the players agree, and from this point of view, Buchanan's approach emphasizes the analysis of how players "choose the rules" of the game and not simply adapting to existing rules. At the same time, on the question of the choice of rules, Geoffrey Brennan and James Buchanan (2000, p. 9) argue, "One must be careful to make the distinction between

a choice among rules and a choice among strategies within rules applicable to the situation confronted by a well-defined decision-making unit".

James Buchanan and Gordon Tullock (1965) also highlighted the distinction between rules and strategies, since it is one thing when the players agree on rules, and quite another when, within these rules, players have their own strategies. For instance, consider the game of chess where the rules are well defined, while the strategies of players can differ greatly and lead to different results. Amongst other things, the game of chess is basically a zero-sum game, except in cases where the players draw. By contrast, cooperative games assume that there is an augmented value (surplus) to be distributed, according to certain rules, amongst the players themselves. Such is the case with games implemented in the relations between nation-states where the national governments reach agreement on rules, but each moves within these rules to obtain the maximum share of the surplus distributed. A widely shared idea based on empirical facts (Quaglia, 2003) is that the introduction of the euro constituted a change of state in the EU's institutional architecture characterized by a decisive change in institutional pace having as a landing point the drafting of a constitutional form. We know that institutions, in general, can be regarded as rules of behavior shared by a community of people and/or states. This implies that institutions must have adequate stability over time, but does not prevent them from being subject to change.

3.4 Institutions, constitutions, and functionalism

Gary Marks (1993) subsequently defined the European integration strategy, immediately following the signing of the Maastricht Treaty, as multi-level governance, evaluating whether it should be framed as a strategy inspired by functionalism and/or neo-functionalism, or as a strategy inspired by realism and/or neo-realism. For neo-functionalists, the European integration process, revisited in light of the Maastricht Treaty, is conceived as a process in which supranational institutions reduce the autonomy and sovereignty of states influencing institutional competencies, resources, and decision-making rules at the national level. In other respects, neo-realists believe that member states and their governments continue to dominate the decision-making processes of the European community. Marks (1993, p. 392) highlighted a further European integration aspect related to the increased importance of subnational

levels in decision-making processes, suggesting " [...] the emergence of *multilevel governance*, a system of continuous negotiation among nested governments at several territorial tiers – supranational, national, regional, and local – as the result of a broad process of institutional creation and decisional reallocation that has pulled some previously centralized functions of the state up to the supranational level and some down to the local/regional level".

In general, the scientific literature dedicated to economic institutions attempts to bring to light their *rational* nature, thereby *de facto* adhering to the functionalist principle that in turn, and to a certain extent, has been the basis of anthropological and sociological theories in the field of social institutions. Particularly in anthropology and sociology, functionalism seems to acquire the characteristics of a somewhat "strong" fundamental hypothesis. In the field of economics and political science, the functionalist hypothesis forms the basis of institutional design projects, especially when these projects are determined by cooperative strategies. In these latter two theoretical fields, an institutional type project can only refer to a normative view of the decision-making process in a way that responds to the prevailing logic of Simon's (1976) procedural rationality. However, to be learnt from Simon is the epistemological lesson in relation to the limitations of human rationality; if we accept these limitations, we must also accept the substantial structural instability of the institutions introduced from time to time. This enables discussing the nature of equilibrium and the conditions of stability of any set of institutions.

On the question of stability, for example, Robert Goodin (1996, p. 10) affirmed that this is the basis of new institutionalism in political science. Conversely, the temporary stability of a set of institutions is emphasized by scholars who adhere to the evolutionary perspective (Christian Schubert and Georg von Wangenheim, 2006), toward which my methodological preferences tend. Perhaps, rather than toward Nash equilibria, institutions evolve according to the "punctuated equilibria" that emerge from a set of possible equilibria.

In a sense, the use of an implicitly functionalist approach is also evident in some models used in game theory where institutions are considered, to a certain extent, as the result of self-organizing processes arising from the development of strategies defined within certain games. In these games, the set of available strategies is given, and the players are

called on to estimate the payoffs corresponding to different strategy vectors. However, in strategies of *nature,* which could be used to indicate the external environment, the players are not able to correctly predict the effective configurations of the institutional systems. Thus, the social and economic institutions can be seen as information vectors able to improve the level of knowledge that the players may have of the overall economic environment when prices alone are unable to enlighten the complex market scenario (Schotter, 1981, p. 109). In concrete terms, the rationality of the players' behavior is in the fact that they must find the best possible strategy given the aims and the conjectured relation between the ends and available means, considering the constraints created by nature. With regard to the effects of the dynamics of an exogenous nature, the players move in a climate of uncertainty that cannot be correctly measured in terms of mathematical probabilities.

Recalling some elements of the cognitive approach, the choice of one strategy over another is not only determined by the elements characterizing the cultures of different groups, but also by the cognitive processes used by the members of each group (Vanberg, 1994, p. 15). In fact, an institution does not come from nothing, but is the result of interactions between the actors as members of the group. At the same time, if the group is open to interactions with other groups, this will increase the evolutionary possibilities of the set of rules with which the given group ensures its governance.

3.5 The issue of evolutionary changes in institutions

Not by happenstance does the economic neo-institutionalism approach place great emphasis on the role of institutional change both in the structure of economies, and in more general terms, in political-social structures. As known, a classic analysis of institutional change is found in Douglas North's (1990) work, *Institutional Change and Economic Performance*. North points out that the change in an institution stems from a dialectic between the forces pushing for change and those seeking to maintain the stability of that institution (ibid, p. 83). More precisely, North states, "The sources of change are changing relative prices or preferences", while "stability is accomplished by a complex set of constraints that includes formal rules nested in a hierarchy, where each level is more costly to change than the previous one" (ibid). North also noted

that these often-informal constraints have a tenacious power of survival also because they have become part of habitual behavior. It follows that, in general, institutions have a certain stability over time, and although relatively stable, are not eternal, nor immutable (Goodin, 1996, p. 24).

With regard to the forces indicated by North as responsible for any constitutional and institutional changes, some specification should be introduced. In particular, North highlights the need to reflect on the role of the changes that occur in relative prices. It is clear that changes in the relative prices of goods and/or production factors can engender a drive toward changing the way in which the relative prices are formed, since when a shift in relative prices occurs in a country, especially in production factors, a correlated change in the distribution of income among different social classes follows. Along North's lines of assumption, if the relative (comparative) prices of existing production factors change in two or more countries with reciprocal exchange relations, a modification of the ratios at which income is distributed between the social groups of each country ensues. At the same time, North also introduced changes in agents' preferences amongst the forces that drive institutional change; preferences definable on the set of different rules to be adopted.

The question that naturally arises with regard to the changing preferences of agents in terms of institutions is related to the relation manifested between the implementation of multi-period institutional projects and the correctness, or not, of the assessments of the effects of the implementation of these projects. In this respect, a powerful factor of change in an institutional or constitutional design might be given by the high probability of institutional or constitutional design errors, so to speak. Of course, these design errors are the result of the limitations implicit in the assumption of procedural rationality affecting policymakers. In this context, the use of the concept of bounded rationality à la Simon is imperative. To some extent, the limitations of collective rationality may be greater than those of an individual's rationality (Bendor, 2010).

The variability over time of the conditions of the states of the world may prompt policymakers to anchor political strategies and/or economic policies to codified rules where constitutional models are substantiated. This is a contract focused on the choice of constraints, or as Viktor Vanberg (1994, p. 15), a scholar strongly bound to the Buchanan methodology, stated, "Rules are typically looked at as choice-constraining factors, basically in the same way as conventional income and price constraints". In

Buchanan's methodological perspective, the choice between constraints is oriented toward solving problems of cooperation and coordination between agents, so that the outcome of this cooperation produces a surplus to be distributed according to specific agreements, the result of negotiation processes. Regarding negotiation processes, Binmore and Dasgupta (1989) demonstrated that their tangible translation involves the practical solution of the commitment issues of partners, namely commitments that are credible and long-lasting in the sense that they are irrevocable or revocable through a modifying process on which the partners agree.

3.6 The euro between economics and political science

Thus far, many political science scholars have dealt with the approach of international regimes, placing the USA's hegemonic design at the center and at the same time outlining its characteristics, interpreted according to different, if not ideologically opposed, conceptual schemes. Consider the position of Susan Strange (1987), according to whom the hegemonic design of the USA is configured as an imperialist strategy, and consider the position of Robert Gilpin (2001), according to whom the hegemonic design is the result of progressive adjustments that take place within an area that shares a certain political doctrine and a certain economic policy doctrine. Until 1989, the year of the fall of the Berlin Wall, Western Europe was politically and economically linked to the USA. Thereafter, and with the accession of most Eastern European countries, the EU seems to be oriented toward weakening its traditional ties with the USA. With the birth of the euro, the countries that have joined the euro have found a kind of federator that is not a hegemonic state, but essentially a functional type supranational organization, namely the ECB. Certainly, the introduction of the euro set in motion normative dynamics emanating from the supranational dimension, and adding to or overlapping with the heritage of institutions of the single European states.

Well, the creation of the euro testifies to the importance of the intertwining of economics and politics in an international context. According to Gilpin (1975, p. 43), the international political economy can be seen as "the reciprocal and dynamic interactions in international relations of the pursuit of wealth and the pursuit of power". He attributed to the political economy the task of analyzing the operational choices with which to produce wealth, and to political science the operational choices with

which to seek power. Power that in a coalition of states finds its greatest expression in the possibility of sharing, for the benefit of some countries, the augmented value produced through potential cooperation between governments. In his volume *Global Political Economy* (2001, p. 40) Gilpin states, "The study of political economy and international political economy requires an analytic approach that takes into account economics, political sciences, and other social sciences. It must incorporate the many economic, political, and technological factors that determine, or at least influence, the nature and dynamics of the international economy". Ultimately, Gilpin believes that the international political economy should be dedicated to analyzing how governments make their decisions on international economic relations. This is a concept that Eichengreen and Frieden (1993, p. 1) also presented in a study dedicated to the analysis of the euro, asserting, "The decision to create the monetary union, the decision of whom to admit, and the decision of whom to appoint to run the ECB are political decisions, taken by political leaders, subject to political constraints, not the social-welfare maximizing decisions of some mythical social planner". Thus, a common ground of analysis is that of public choice. In Cain's (2001, p. 83) words, "Owing to its interdisciplinary focus, social choice has helped to re-establish neglected intellectual links between economics, political science, and philosophy".

In this case, it may also be considered that the current European construction is the result of an institutional design inspired by the idea that the political integration of Europe could only be implemented once economic integration had been completed. As the economic integration process progresses, the EU emerges as a player with potential autonomy from the USA, to the extent that the EU area could become the area in which a kind of specific international regime is determined, as it is supranational in Europe. Theorists of international regimes would most likely deny the validity of such an assumption because there is no hegemonic country in Europe. On the other hand, if one assumes that the hegemon, in the case of the EU, is the organization that has a monopoly on the governance of monetary policy, then one might think that an international regime with a continental dimension, albeit *sui generis*, could be determined in Europe. It cannot be excluded that such an international regime would be at risk of a possible future dissolution, because the system of institutions created on the stimulus of the functional federator (i.e., the ECB) could clash with the national institutional systems, without being able to find

a principle of functional coherence between the various institutional levels in the European institutional system as a whole.

3.7 Ideologies and international economic regimes

Alongside the forces that exert pressure toward institutional change, one emerges that, in certain cases, can be seen as a sort of stabilizer of institutional arrangements, namely ideology. On the other hand, radical changes in dominant ideologies can be elements of the destabilization of institutional structures.

The redesign of the structure of world equilibrium after World War II was intended as a reaction to the disorder left by the war itself. This reaction was interpreted differently, if not oppositely, by the two political parties into which the world had divided. In each of these parties, the redesign to which I refer received the seal from the institutional value systems, be it the Anglo-Saxon liberal and free trader or the Soviet centralist and collectivist. These values systems can be seen as ideologies as interpreted by North (1978; 1990) who ascribed these a significant role in determining institutions (Mantzavinos, 2001, p. 96). After World War II in Europe (divided into Western and Eastern Europe), two different economic integration processes emerged, the European Common Market (ECM) and the Council for Mutual Economic Assistance (COMECON) related to two different military integration processes (NATO and the Warsaw Pact). At the base of these two different integrative processes were two different ideological universes.

When two or more governments agree to give life to a supranational institution, they certainly do not move in a kind of institutional vacuum, but start from a system of previously existing international and national institutions that regulate the same matters and/or related matters. This in fact concerns institutions steered by a system of ruling values. In large part, new institutions are called upon to render the institutional system more effective in its entirety, therefore referring to principles and general objectives already defined at the outset, or "rules created by means of rules" (Mistri, 2003). However, as I have just mentioned, there are systems of norms that acquire a particular role in that they appear as real value systems capable of steering the determination of future institutions that cannot conflict with this value type rule, at least until they are recognized as such.

The value type rules to which I refer correspond to *ideologies* according to North's (1978) interpretation. More precisely, North considered an ideology as a set of beliefs and values shared by a group of people. Similarly, beliefs and values can be shared by a set of policymakers in several states that may forge a coalition. North (1994, p. 363), in resuming Geertz's (1964) approach, defined ideologies as common structures or schemes of mental models held by groups of people who provide an interpretation of the environment together with requirements on how to order such an environment. An ideology can be seen as a *leading concept* to which some governments may be willing to sacrifice some national interests, in the name of interests considered higher. At the same time, I believe it reasonable to consider an ideology as a *focal point*, in the sense of Thomas Schelling (1960, p. 57), or if you will, a *behavioral fence* whose boundaries delimit the areas of action of the governments involved. An ideology can have the power to determine one or more new institutions or modify or eliminate one or more existing institutions. In relation to the role of ideologies, to be highlighted is that an economic and/or political integration process between a group of states can be successful if these states have a common or sufficiently close vision of economic governance and political governance shared among their various structures.

In a certain sense, an ideology can also be seen as a kind of heuristic behavior that over time is maintained as an expression of the success of cooperative behavior. In the cognitive sciences, heuristics means a strategy for solving practical or strategic problems regardless of their content (Roberto Nicoletti and Rino Rumiati, 2006, p. 292). On the other hand, as Cristina Bicchieri (1997, p. 17) noted that generally, when cooperative behavior is consolidated, people end up expecting it to be maintained over time. In any event, Eirik Furubotn and Rudolf Richter (2005, p. 481), somewhat forcibly, consider an ideology as the result of a Nash equilibrium, and that such ideology ends up manifesting a certain stability over time, exercising a kind of cultural hegemony on real institutions. At the same time, the cultural hegemony that ideologies exercise places them in a position to become factors that influence the creation of new institutions, or modifying and/or abrogating existing institutions. Important from this point of view is the experience of the European integration process, which has at its base the affirmation of a general economic objective, in turn inspired by a general political objective. Thus a general

political objective was the implicit political integration of Europe that during the years of the creation of the European common market was believed to be more adequately achievable through the economic integration of Europe. Therefore, the idea was that setting in motion the process of eliminating inter-European trade barriers would generate logical inconsistencies that would encourage European countries to establish institutions increasingly geared toward achieving political objectives.

Complementarity between the international political economy and international political science would seem unavoidable when facing certain international economic issues. Jeffrey Frieden, David Lake, and Lawrence Broz (2010, p. 1) defined international political economy as "The study of the interplay of economics and politics in the world arena", further stating, "In the most general sense, the economy can be defined as the system of producing, distributing, and using wealth; politics is the set of institutions and rules by which social and economic interactions are governed". In reality, for some time now, the political economy has dealt with institutions, as evidenced by the mass of scientific works attributable to the institutional political economy approach.

If an ideology is firmly embedded in a community, it makes the introduction of new institutions that are inconsistent with it difficult. Against this, the change in an ideological paradigm involves changes in the set of institutions (Eggertsson, 1990, p. 73). It follows that in North's approach, ideologies acquire the features of *meta-institutions* capable of influencing the formation processes of real institutions. In the context of international relations, and consequently international economic relations, ideologies play a strong role in guiding the construction process of certain international economic institutions, within the complex framework of the institutions themselves that are part thereof. Consider the achievement of free trade and the power manifested by this conception – transformed into a real ideology – that was able to shape many choices of modern states in terms of economic policy. Of course, ideologies are not the only elements that enter the complex framework that enables the functioning of a partition of the system of international economic relations, a partition that regulates a specific matter. Other elements that enter into the complex governance framework of any partition of the international relations system are "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actor's expectations converge in a given area of international relations" (Krasner, 1983, p. 2).

The elements to which Krasner refers are the constituent parts of those which political science defines as *international regimes.* The various components of an international system should be considered as forming part of a complex system in which these components are ordered according to functional hierarchies. It follows that the principles of value identifiable in a dominant ideology enjoy a superior hierarchical position, in the sense that they are in a position to influence other components of the international regime. The theorization of international regimes has an influential representative in Robert Keohane (1984) who outlined its logical structure in his book *After Hegemony: Cooperation and Discord in the World Political Economy.* Keohane argued that international regimes are a structural element of the global economy and are necessary to facilitate its efficient functioning. In this respect, he identified several functions that international regimes are called on to carry out, such as the reduction of uncertainty and transaction costs, and the prevention of market failures. Donald Puchala and Raymond Hopkins (1982 p. 245) in turn pointed out, "Regimes constrain and regularize the behavior of participants, affect which issues among protagonists move on and off agendas, determine which activities are legitimized or condemned, and influence whether, when, and how conflicts are resolved".

Furthermore, an international system frequently identifies the appropriate decision-making procedures. Often found empirically is that their functioning is made efficient by the existence of a "hegemonic" power, and nothing can prevent that with its consolidation an international system ends up with its own life to the point that the governments involved can change their behavior and possibly redefine their strategic objectives. The approach of international regimes has aroused a great deal of controversy in the context of international political science (Gilpin, 2001, p. 4), especially by Susan Strange (1988), according to whom the international regimes approach has the objective of justifying the USA's hegemony. This is not the place to evaluate the criticisms of conflicting views, however, I think that this approach merits some attention for at least one reason, namely it allows framing the formation process of international economic institutions within a logic that is simultaneously systemic and evolutionary, recalling that the creation and changes in institutions are by their very nature evolutionary (Young, 1982).

3.8 Social relations and social capital

More specifically, Robert Keohane (1984, p. 8) noted that in the modern analysis of international regimes, institutions and rules are recognized schemes to achieve behavior whose expectations converge. In this perspective, cooperation is not strictly necessary, although it can help to generate behavioral rules converging in objectives. On this issue, I like to think that institutions determined in coalition states can be considered as conceptually corresponding to a form of social capital. In economic-institutionalist analyses, social capital acquires significant importance in reducing transaction costs and in cementing the trust that the partners of a social group have in each other. It follows that in the case of international economic relations it becomes necessary to enrich the economic analysis with a concept such as social capital.

Classical and partly neo-classical political economics, globally considered, are sciences that study how certain entities (production, consumption, trade, etc.) essentially form through social relationships synthesized in the Smithian-Ricardian formula as the economic structures emerging from the division of labor. While the neoclassical approach inspired by the theory of general economic equilibrium focuses on the concept of systemic equilibrium, economic development studies demonstrate that national development paths have structural differences. Very often, these differences are attributable to the role played by local cultures, but above all by institutions. Daron Acemoglu (2009, p. 21) clearly stated in his ponderous *Modern Economic Growth,* "To develop a better understanding of the fundamental causes of economic growth, we need to look at institutions and policies that affect the incentive to accumulate physical and human capital and improve technology".

Illuminating in this respect is the work of Robert Putnam (1993b), *Making Democracy Work: Civic Modern Tradition in Italy,* where he clearly shows that the economic development of Central and Northern Italian regions owes much to the quality of social capital created in these regions. Robert Putnam's (ibid) work on the different development trajectories of the "two Italys" highlights that two different forms of social capital were established that contributed to determining two different development models. This calls into question the role of public policies and their ability to influence local economic development. According to Putnam, the Italian case would demonstrate the substantial resilience of

the two different, if not opposed, conceptions of social capital in the face of certain public policies. Putnam's analysis is strongly linked to Giacomo Becattini's (2003) analysis of Italian industrial districts.

To note is that the literature is replete with definitions of social capital, and requires discerning the most useful for a strictly economic representation of the role of such an "entity". In addition, in the multiplicity of definitions, some noted economists find it difficult to accept homogenizing social capital with other forms of capital. Among the critical voices is that of Kenneth Arrow who in his contribution to the important collective volume edited by Partha Dasgupta and Ismail Serageldin (1999) supported the logical impossibility of considering what is commonly referred to as "social capital" in a homogenized form to other forms of capital, while recognizing that "there seems to be widespread consensus on the plausibility of the hypothesis that social networks can affect economic performances" (Arrow, 1999, p. 3).

The question of how social capital affects the ways of developing an economy remains open. Scientific literature in this area draws attention to the relationship between social capital and trust, whose function is to reduce transaction costs. This, for example, is the position of Francis Fukuyama (1995). Others, such as James Coleman (1987) identify social capital with a set of social norms. Along such lines, Elinor Ostrom (1999, p. 176) pointed out, "Social capital is the shared knowledge, understandings, norms, rules and expectations about patterns of interactions that groups of individual bring to a recurring activity".

A concern that Michael Woolcock (1998, p. 156) expressed is that, "matters are complicated further when social capital is classified as a public good that is, by definition, under-produced by society [...] a by-product of other collective endeavors such as participation in civic associations [...] leaving us with the problematic conceptual task of distinguishing between the sources of social capital and the benefits derived from them". Another concern that Woolcock expressed, in some way related to the above, "is that social capital can justify contradictory public-policy measures, which may explain in part why it has been seized upon by advocates from all points on the political spectrum" (ibid). In a certain sense, a relevant question arises with respect to any evolutionary process of a society's social capital. Such evolutionary process can be exogenously determined by political actions that affect the stability of a given social capital. With regard to the concept of social capital, I note that certainly

many studies show a positive correlation between the growth of a country's region social capital, howsoever defined, and the economy of that country or region.

3.9 From social capital to institutional capital

In fact, we are moving into a terrain in which it is difficult to identify exactly the boundary between the concept of social capital and that of institutional capital. There is now a body of literature, both economic and sociological, where institutions are at the heart of the social capital concept, thereby specifically enabling discussing the concept of institutional capital. Two important sets of papers primarily analyzing the relationship between social capital and economic development are those of Elinor Ostrom and T. K. Ahn (2003), and Gert Tingaard Svendsen and Gunnar Lind Haase Svendsen (2009). Generally, the concept of institutional capital is denoted with an entity that has positive effects on both the economic and social growth of a country. I synthetically express the concept of institutional capital as "embedded" in the concept of social capital, which finds its origins in the sociological studies of Pierre Bourdieu (1977) and James Coleman (1988). However, I believe that a more stringent concept of institutional capital makes it possible to define such capital in operational terms. Within this debate, the position of Alejandro Portes and Patricia Landolt (1996) should be considered, according to whom there is a hidden and negative side of social capital. This may be the case, for example, when a social group by virtue of the strength of its own ties manages to divert toward itself a quantity of resources such as to prevent balanced economic development (John Field, 2003, ch. 3). This leads to a necessary reflection, namely "There may be different types, levels, or dimensions of social capital, different performance outcomes associated with different combinations of these dimensions, and different sets of conditions that support or weaken favorable combinations" (Woolcock, 1998, p. 159).

In fact, "The various forms of social capital contribute to a successful collective action, almost always, by enhancing trust among the actors. In other words, trust is a core link between social capital and collective action. Trust is enhanced when individuals are trustworthy, they are networked with one another and are within institutions that reward honest behavior" (Svendsen and Svendsen, 2009, p. 22). This suggests

that trust, institutions, and social capital are interconnected, yet separable and partly complementary concepts. Conversely, Gaute Torsvik (2000) noted that trust is not in itself a form of social capital, but a result of the forms of social capital that lead to successful collective action. As seen, the concept of social capital appears to be a container of more specific concepts, amongst which I highlight institutional capital. Elinor Ostrom (1992, p. 27) speaks of rules as components of social capital, more precisely, "Trust is enhanced when individuals are trustworthy, are networked with one another, and are within institutions that reward honest behavior".

However, I prefer to make recourse to the concept of institutions as a functional subset of "social norms". Recalling that James Coleman (1987) titled his paper *Norms as Social Capital*, I could put forward the hypothesis that the core of social capital might be distilled into a set of institutions. The institutions emerge when the interactions of two or more players give rise to externalities. Such is the case of exchanges that take place in a market where trust is based on achieving the customary behavioral patterns of players.

If the concept of institutions, as in the case of the concept of social capital, can be defined in various ways, also according to different methodological approaches, the political economy can but adopt its own defining principle in matters of institution, assuming that institutions (together with constitutions) constitute the social capital of a specific social group. Social capital, in the economic sense, is defined by Eirik Furobotn and Rudolf Richter (2005, p. 11) as the "present value of actors' relationships with other actors". In this regard, I refer to North's (1990, p. 3) definition of institutions, related to Aoki's (2001), whereby institutions are "the rules of the game in a society". The preferred use of the concept of institutions rests on the possibility of interpreting an institution as the equilibrium solution of a strategy game. The influence of the economic approach to institutions led Michael Woolcock and Deepa Narayan (2000, p. 425) to emphasize what they call "the institutional view of social capital". More concretely, the authors stated, "This approach argues that the very capacity of social groups to act in their collective interest depends on the quality of the formal institutions under which they reside. It also stresses that the performance of states and firms themselves depends on their own internal coherence, credibility, and competence and on their external accountability to civil society" (ibid, p. 234).

Under the free movement of goods, and above all, a factors of production framework, it can be said that the countries that constitute a regional economic integration (REI) may have free access to material factors of production, capital (*K*) and labor (*L*), combining these in accordance with the principles of production optimization. However, manifest in the literature is that a large part of modern economic development is attributable to "immaterial" factors, such as institutional capital. In this regard, Ming Yu Cheng and Ron Mittelhammer (2008) claim, "Approximately 40 per cent to 60 percent of economic growth is left unexplained by changes in the factors of growth. In this regard, social capital and institutional quality capital are often cited as the missing links in the recent growth literature" (ibid, p. 862). Fairly recently, an important role has been assigned to institutions as a growth factor of economies. The advantage in considering institutions as such a factor is that, "Unlike social capital, which is elastic in its definition, institutions can be defined in a more direct way, even though there are studies that combine institutional factors and social capital together and treat them as a single concept to represent this new element in the growth model" (ibid, p. 865).

In the domain of institutions, particular importance should be assigned to two concepts that North (1990) developed: 1) institutional arrangements, and 2) environmental institutions. More precisely, the institutional arrangements and environmental institutions concepts constitute "a set of explicit (formal) or implicit (informal) rules that structure transactions between individuals in a particular way" (Furubotn and Richter, 2005, p. 11). Environmental institutions tend to identify themselves in constitutions, namely in the behavioral constraints a state imposes on itself. Indeed, both formal and informal institutions can significantly differ from country to country, and entail measuring the ability to meet the objectives they have been assigned. In other words, institutions may work differently according to the structural differences in their institutional capital.

3.10 An operational approach to institutional capital

In light of Ming Yu Cheng and Ron Mittelhammer's (2008) assertion, it seems legitimate to consider institutions as some form of social capital. In this way, the reforms that the countries of a REI implement substantially translate into institutional type reforms whose aim is to improve

the performances of the REI strategy. At this point, instead of "social capital" I use, perhaps forcibly, the term "institutional capital", which is a set of socially shared rules aimed at ensuring the governance of the various functional domains of the individual national economies. To simplify the analysis, I assume that each functional domain is regulated by an institution and/or several complementary institutions. The various functional domains of the national economy will be regulated by a system of institutions that Shuanping Dai (2015) calls "network of institutions".

Restricting social capital to institutional capital is certainly not intended to deny the role of social capital seen in its entirety, but simply responds to the need for an operational attribute. In so doing, I intend to focus on the important role of institutions, understood in the strict sense, and viewed as strategy game solutions in the sense of North and Aoki. A common assumption is that an institution is formed or created to reduce the transaction costs that the players in a given functional domain face. Following Furubotn and Richter (2005, pp. 58 ff), I focus on two main groups of transaction costs, namely "market transaction costs" and "political transaction costs". In synthesis, I assume that market transaction costs are those that players operating in the field of production and the exchange of goods and services face (businesses, workers, consumers, managers, etc.). At the same time, I assume that political transaction costs relate to the exercise and regulation of public functions, not necessarily neutral with respect to the functioning of markets.

In a subsequent stage of refining the analysis, I recall the close relationship between the transaction costs approach and contract theory, with particular regard to the adverse selection phenomenon. As known, adverse selection manifests when party α in a contractual process is unaware of the real commitment of counterparty β. In an agreement between the generic principal α and the generic agent β, the information asymmetries between the two players have a fundamental role in determining the remuneration that β can negotiate with α. Clearly, determining such remuneration is conditioned by α's expectations of β's behavior. It is precisely the issue of the players' behavioral patterns that in quite a number of social groups foreshadows the shared social rules on which the level of commitment of the professional players depends.

In economic realities that could be called *communitarian*, such as industrial districts, the professional players' behaviors are strongly influenced by the forms that the markets take. Thus, in the case of industrial

districts, where a large group of sub-suppliers in stiff competition face a sufficiently large group of customers (principals) who are also in competition with each other, it is rational to expect that the sub-suppliers (who take the role of agents) undertake to give effect to contracts with maximum effort, maximum attention, and maximum punctuality. In concrete terms, the agents, but also the principals, under the logic of the markets in which they operate, are forced to avoid opportunistic behaviors. This implies that both the agents and the principals minimize transaction costs. In such a context, the behavior of the agents (sub-suppliers) converges toward a type of common behavior, and I hence refer to a representative agent, *j* . Given the structure of this type of market, Furubotn and Richter (2005, p. 222) assume that a generic principal and an agent, *j*, operate under conditions of asymmetric information, and that the principal does not know the agent's subjective cost function, indicated with:

[3.1] $c_j/(e_j)$

It follows that the effort level, e_j, which each individual worker (in my example the worker is substituted by a sub-supplier) provides after contract conclusion is perfectly observable by the principal.

The e_j in parentheses represents the high level of commitment of *j*. As mentioned above, if *j*'s effort is at the highest level, the transaction costs will tend to be contained. A different group of contracts concerns the various public administration frameworks where the principal (in fact, a "remote" principal) is the electorate, while the agent is the government and the political and administrative bodies that make decisions in relation to the acquisition and allocation of financial resources. It goes without saying that it is reasonable to expect that the transaction costs relating to the market as well as those relating to the public function may differ from country to country.

3.11 Metagames and international economic institutions

According to a methodological perspective linking the birth and affirmation of institutions to game theory, Masahiko Aoki (2001, p. 26) defined an institution as a "self-sustaining system of shared beliefs about how the game is played. Its substance is a compressed representation of the salient, invariant features of an equilibrium path, perceived by

almost all the agents in the domain as relevant in their own strategic choices. As such, it governs the strategic interactions of the agents in a self-enforcing manner and in turn is reproduced by their actual choices in a continually changing environment". With regard to game theory, I in turn consider the reference to *metagames* relevant, particularly when the players are the policymakers of a group of states. The concept of metagames was developed by Nigel Howard (1971), and as Steven Brams (2004, p. 34) noted, "This theory extends the concept of strategy to include one player's responses to the possible strategy choices of his opponent, the opponent's responses in turn to the first player's conditional choices, and so forth". Steven Brams (ibid) adds, "Because this concept involves choosing a rule to select a strategy conditional upon the strategy choice of one's opponent, it is called a *metastrategy*, which may be thought of as a strategy for selecting a strategy". In concrete terms, a metastrategy foresees possible intermediate stages with actions of a strategic nature, transforming a game in which every player has a one shot strategy into a game in which every player plays a sequential shots strategy.

The fact that the game determines the solution does not necessarily preclude the possibility that a solution is a spontaneous and self-organized outcome and not coordinated by the game itself (especially if the players are non-cooperative), or the outcome of the planned institutional design of a group of *co-operators,* as in the case of C_{EU}, the coalition of Euroland countries. However, cooperation may not necessarily lead to dynamically optimal results, that it to say, those results that the players at an early stage Δt_1 of the negotiation process expected in the subsequent period Δt_2. It seems to me that this situation has characterized the euro negotiation process.

As Andrew Colman (1999, p. 121) explained, "An embryonic version of the metagame approach can be found in von Neumann and Morgenstern's (1944, pp. 100-105) classic exposition of game theory. The basic idea involves the construction of a model that transcends the strategies of a basic game. In the metagame model, each player is assumed to choose from among a set of *metastrategies* that are conditional on the strategies that the other player might choose. These strategies could be given to a referee who, after examining them, would be able to make the necessary moves on behalf of the players in accordance with their wishes". In the sphere of international relations, whether they be merely political or merely economic, an important role is ascribed to the family of insti-

tutions that results from cooperative strategies within a group of states. Such strategies clearly have a significant effect if these states are ruled by fully democratic systems, if only because within these, dialectic policies between government forces and opposition forces develop in a context in which the discussion on certain issues extends to different social groups and thus the media.

Let us assume that a group of states is given by the set $N = \{1, 2, 3, \ldots j, \ldots n\}$. According to the metagames approach, a player j can consider as possible strategies of $n - j$ states those conditioned by possible actions adoptable by all members of N. Knowledge of the strategies conditioned by any state j may emerge as a strategic hypothesis of the debate itself that ensues in j on certain themes between the political parties and the social forces. In the field of economic relations between N states, especially when these are governed by democratic political systems, the policymakers of j are able to obtain information on the potential strategies of other $n - j$ states from the political debates that take place therein. In a sense, the political debates that occur in states with a democratic regime generate signaling phenomena, even if *fuzzy signaling*, because it does not entirely concern communications sent by other states to state j, but information that state j obtained from the political debates taking place in other $n - j$ states. From James Morrow (1999, p. 86), we know that "signaling can occur when one actor knows something of relevance to another actor's decisions".

In reference to j, the possibility of knowing the potential strategies conditioned by the other players can help identify possible cooperative paths among the states involved, eliminating from the set of possible hypotheses those that have no place in the political debates of the $n - j$ states. This information acquires value when certain considerations emerge on the *expected* benefits of strengthening cooperative relations between the states. Recourse to the metagames concept can overcome, at least in part, the clean break discernible between competitive and cooperative games. To identify key differences between the two forms of games, I refer to Duncan Luce and Howard Raiffa's (1957, p. 89) classic *Games and Decisions*. The authors state, "By a *cooperative game* is meant a game in which the players have complete freedom of preplay communication to make joint *binding* agreements. In a *non-cooperative game* no preplay communication is permitted between the players". Of course, the consolidated experiences of cooperation, even if partial, can have

considerable importance. In turn, Robert Axelrod (1981) showed that if the interactions between the players who are members of a group are repeated, conditions manifest that lead to the emergence of cooperative behavior even if resulting in a "prisoner's dilemma".

Specifically, the author emphasizes the importance that repeated moves have on the emergence of cooperative behaviors. In the case of C_{EU}, and as Luce and Raiffa (1957) stated, the members had occasion to talk in previous periods. For example, they were able to enter into negotiations in relation to the creation of the European Payments Union (EPU), and shortly thereafter on the occasion of the creation of the European Coal and Steel Community (ECSC). In addition, each partner had the opportunity to verify that the other partners maintained the commitments made in the negotiations. Finally, following the creation of the EPU and the ECSC, they were able verify the expected benefits that C_{EU} members derived in whole or in part.

CHAPTER 4
THE EU AND INTERNATIONAL REGIMES

4.1 Institutions in the international dimension

This chapter deals with an important issue, especially if looking at it from the point of view of an institutional system like the EU, certainly built from the national institutional systems, but also able to affect these.

The analysis is based on the hypothesis that an international economic institution is part of a system of institutions whose *mission* is to achieve the *meta-objective* of maintaining the field of agreements between two or more states as open as possible. The possibility of achieving this meta-objective rests on the possibility of remodeling agreements not only on a specific institution, but also other connected institutions. In the context of a systemic logic, it is important to ensure the flexibility of the system through reciprocal and interdependent adjustments within the networks of institutions. As mentioned above, the meta-system is based on the ideology that defines the structure of relations between institutions. The fact that an institution can modify itself does not necessarily damage the system. Paradoxically, in certain cases, it may strengthen it.

It could strengthen if demonstrating how certain asymmetries determined in the increased payoff distribution could be corrected through the implementation of institutional ties. In other words, a possible renegotiation of previous agreements is not necessarily a weakening of the system of the commitments made by governments and the obligations among them. The role of sunk costs emerges, inasmuch as sunk costs increase the inertia of the system of rules that became established. Of course, if a government considers that a loss of position proves greater than the sunk costs, then a tendency to exit from past agreements could manifest. It remains to be understood whether the resilience of national institutions is such as to determine the path dependence of the institutional processes and/or whether such resilience is determined by the sunk costs incurred over time to give stability to the national institutions.

With regard to the path dependence of institutional processes at the international level, Vinod Aggarwal (1998, p. 1) wrote, "International institutions are rarely created in a vacuum. When new institutions are developed, they often must be reconciled with existing ones. One approach to achieving such reconciliation is the nesting of broader and narrower institutions in hierarchical fashion. Another means of achieving harmony among institutions is through division of labor, or parallel linkages". This makes it possible that in a certain stage of the evolutionary process the set of preferences exhibited by national governments in the field of economic policy have crossed over, and the structure of the preferences of some governments or even all governments will be modified. If in a given period the preferences of some governments change while the preferences of other governments remain stable, then conflicts may arise between the governments in relation to institutional choices.

With regard to international economic relations, the system must be ascribed the ability to influence the lives of single nations, especially when none of these nations has a hegemonic role. In political science, the concept of hegemony takes on a different meaning from that in everyday language. I consider that a state can be said to be hegemonic when its institutional type options are shared by partner countries converging toward a precise Nash equilibrium (Gilpin, 2001, p. 93), but also when the hegemon is able to commit to preserving the functionality of the system.

Therefore, in a situation where one of the partner countries is hegemonic, the institutional design follows the same basic approach, as long as the dominant hegemon is willing to assume certain obligations, if anything making side payments in favor of the partner countries, or some of them. The hegemon can thus guarantee the stability of the institutionalized rules. Conversely, in a situation in which no country in the coalition is an actual hegemon, agreements may be more difficult to achieve, especially if the preference orderings of individual countries on the economic and financial policy action space diverge significantly, risking conflicts. Currently, in the Euroland case, some European governments ask that the guarantor function be carried out by Germany, seen as the *de facto* hegemon. In reality, although Germany has had a strong economy up to 2019 and good international credibility, its economy is relatively speaking too small for it to assume the role of hegemonic state. Thus, Germany would be unable to act as hegemon, above all if the

commitments that it must satisfy were to become a dependent variable of the choices of other countries.

Compliance with the institutional type rules that underlie Euroland's functioning has not only been weakened by the extreme, if not excessive, varieties of capitalism in Europe, but also by the lack of clear rules in the wider international arena, where at times events occur that negatively affect the functioning of Euroland. As Eirik Furubotn and Rudolf Richter (2005, p. 486) stated, "The problem with the order of international relationships is that it is not guaranteed by a superior authority. It is anarchical and self-organizing". This is true, but only in part. In fact, within the chaotic set of international economic relations, sub-sets of relations emerge governed by rules defined in agreements between national governments. At times, as in the case of the EU, the functioning of such rules is ensured by organizations with supranational powers. Thus, in the EU, and even more in Euroland, there are institutions directly related to national governments that to some degree are complementary to the institutions that are under the authority of European organizations. The existence of relations of complementarity between national institutions and European institutions does not however necessarily ensure complete autonomy between the two decision-making levels. At times, this can result in jurisdictional disputes or conditioning exercised by one decision-making level in respect of the other decision-making level.

At least in very general terms, it can thus be said that the introduction of an institution at the international level, as enacted by two or more national governments, if leading to the redesign of an existing network of international type institutions, can in turn lead to the redesign of many national institutions. It remains to be seen whether the objectives that government partners intend to achieve with the launch of a specific institution correspond to those actually desired by the government partners themselves. It should also be noted that an institutional design in the international dimension leads to an increase in decision-making complexity, and necessarily implies that national policymakers must move on two-levels, in the logic of what Robert Putnam (1988) calls two-level games. As Eirik Furubotn and Rudolf Richter (2005, p. 486) observe, "Competition between states plays a role and may or may not lead to Pareto improvements. Competitive interdependence produces competitive uncertainty between states [...] The desire to co-opt one's competitors, and thus reduce competitive uncertainty, is an important motive for entering

into strategic alliances between states". Deriving to a certain extent from this type of logic is the need to decompose a macro problem into a set of smaller problems according to the approach of Thomas Schelling (1960).

4.2 International economic negotiations and the two-level game approach

It is assumed that the objective of a REI is to foster the homogenization of the economies of the countries that are part of *C*, a generic coalition of States. The instrument of the free movement of goods and factors of production does not necessarily fully achieve this goal, especially if the national institutions manifest a type of inertial force, since the defense of national institutional arrangements may be the strategy that national governments adopt when under pressure from different social forces. The negotiators are necessarily national policymakers flanked by top-level national government executives. These players find themselves negotiating with the equivalent players of the other countries in *C*, while having to take into account the demands of their constituents and the enterprises that may be affected by the institutional changes imposed by the negotiation outcomes. Thus, a nation's policy players only sign eventual agreements with the policy players of other nations if they can demonstrate to their constituents that the payoffs obtained are higher than the "relative" gains obtained with different types of policies. I allude to relative gains, since the policymakers of a country may be less interested in the absolute gains, even if positive, than in the relative gains, or rather, with respect to the partner countries' payoffs (Morrow, 1997).

According to James Morrow (ibid), at least in part, national policymakers move along two different levels of negotiation. A first level is conducted on the domain of economic relations with the governments of *C*. The second level in turn is conducted on two functional domains. The first is the policymakers' relations with the state's technocratic and bureaucratic apparatus. The second is the relations with the trade unions operating in the public sector, and simultaneously, with private-type economic organizations. With regard to the second level of negotiations, according to Daniel Druckman (1978, p. 100), a negotiator "attempts to build a package that will be acceptable both to the other side and to his bureaucracy".

If the relations between a government and the techno-bureaucracy that interprets the decisions are important, the highest focus of policy-

makers must be on the voters' perceptions of the possible consequences of the agreements made at the international level on the existing institutional capital. The emergence of international agreements capable of modifying the existing institutional arrangements causes public sector unions to negotiate so that *backstop payoffs* are not exceeded downwards, with particular attention to the commitment levels required for the national bureaucracies. This is crucial, especially if agreements to strengthen a REI strategy entail a transfer of power from national governments to supranational political and administrative entities. Typically, such a transfer of power is based on the creation of one or more new constitutions within national institutional networks.

The aspect of political conditioning on economic policy choices is highly central, so much so that both in the EU and in Euroland the organization of decision-making processes attempts to respect more or less consistent equilibria between the different states. That in international relations the political dimension counts in the same way as the economic dimension is supported by the political scientist Robert Putnam (1988) who speaks of an admixture of diplomacy and national politics. Putnam's paper has the merit of having made a sort of inventory of the interpretations that the different schools give to the phenomenon. For example, again in relation to the EU, the current literature on the subject tends to highlight the role of international regimes to which EU countries have acceded, and how the political parties have played within these international regimes with regard to the conditioning pressure that interest groups can exert in the European integration process.

Putnam recalls Peter Katzenstein's (1976) position that the main aim of any international economic policy strategy is to make domestic policies compatible with international economic policy, speaking of a mixture of diplomacy and national policy. Therefore, in the words of Robert Putnam (1988, p. 434), "The politics of many international negotiations can usefully be conceived as a two-level game. At the national level, domestic groups pursue their interests by pressuring the government to adopt favorable policies, and politicians seek power by constructing coalitions among those groups. At the international level, national governments seek to maximize their own ability to satisfy domestic pressures, while minimizing the adverse consequences of foreign developments. Neither of the two games can be ignored by central decision-making, so long as their countries remain interdependent, yet sovereign". Hence, two-level games are

those that agents (i.e., national governments) play on one hand with their electorates and national pressure groups, and on the other hand, with the governments of the partner countries (Drazen, 2000, pp. 577 ff). An example of a two-level game approach can be singled out in negotiations between the Greek government and the European Commission.

4.3 From institutional stability to institutional change and institutional failures

After having identified the structural elements that characterize international economic institutions, the forces that generally produce institutional changes, and particularly changes in international economic institutions, must be identified. It is clear that a process of institutional change is in some way conceptually opposite to the process that guarantees the stability of institutions. As we have seen, North (1990) in this respect, focuses attention on both the concept of institutional equilibrium and institutional change. The two concepts are inversely related because it is impossible to understand the manifestation of an institutional change if we do not evaluate the concept of institutional equilibrium, which characterizes the way of being and the functioning of the institutions themselves. In fact, an institution is not such if it does not guarantee the achievement of certain objectives that a society has given itself in an evolving world.

According to North (1990, p. 86), "institutional equilibrium" implies a situation in which, given the bargaining power of the players and a set of negotiations that represent the range of economic exchanges, no player can benefit from committing further resources to modify the agreements in place. In the wake of North, once the concept of institutional stability has been defined, we can move on to identifying the forces, or at least the most relevant among them, that determine institutional changes. In this respect, two groups of forces are pertinent, the first refers to forces of a cognitive nature, and the second to forces of a structural nature. I recall Aoki's work among studies highlighting the role of cognitive forces. Following Aoki (2001), "According to the equilibrium-of-the-game view of institutions, an institutional change may be identified with a shift from one equilibrium (sequence) to another equilibrium (sequence) associated with a systematic, qualitative change in the action-choice rules of agents as well as their common cognitive representation/beliefs about them" (ibid, p. 235).

In the context of analyses relating to the formation of economic and social institutions, an essential role is played by the uncertainty that each agents perceives in the behavior of other agents, and from this uncertainty, exacerbated by environmental uncertainty, transaction costs can derive. I have referred to transaction costs in the context of international regimes, a reference that leads to a relevant research stream dedicated to the formation of economic and social institutions. All modern approaches to the formation of economic and social institutions, with particular regard to those referring to game theory, assign an important role to the uncertainty of behaviors of those involved in some form of transaction. In particular, North (1990) links to the Coasean formulation of transaction costs according to which if the cost of the implementation and exchange is higher than the gains resulting from the exchange, then the exchange will not take place. North (1998) himself stated that an institution's ability to function depends on its "rationality", i.e., on its ability to reduce the relational uncertainty between the members of a particular social group.

Uncertainty concerning behavior expected from third parties is determined by the subject's computational limits, according to the logic at the base of the bounded rationality approach. It is precisely for this reason that the evolutionary thrust of institutions can only be understood when the hypothesis of perfect knowledge is abandoned (Aoki, 2001). Abandoning this hypothesis, we can thus assume that the actors affected by a rule of conduct can over time experience a type of regret if a total or partial lack of expected results manifests. Aoki (2001, p. 240) terms the gap manifested between an agent's aspirations and results obtained as *general cognitive disequilibrium*. As a consequence of this disequilibrium, real "institutional failures" can be identified, in which case, subjects may try to modify existing or create new rules, taking into account the role that exogenous dynamic processes play. In fact, unlike that which takes place in static societies – studied by anthropology – the evolutionary phenomena that influence the rules called on to govern industrial and post-industrial societies take on the features of processes such as technological progress, the resulting accumulation of knowledge and capital, shifting the center of gravity of political power, changes in a society's organization. Such changes are triggered by the aforementioned forces of a structural nature.

A new institution is oriented toward allowing a hypothetical collective utility function, $u(.)$, to reach a higher level, obtaining a surplus in

period Δt_2 compared to that produced in the previous period Δt_1. At the same time, it is called on to secure a different and shared allocation of the surplus.

Just above I referred to the Aokian concept of general cognitive disequilibrium that is at the base of the gap between the results expected by certain institutions and the results actually obtained. In this respect, Aoki (2001, p. 16) traces cognitive disequilibrium back to the cognitive limitations of agents and the complexity of the environment in which they operate. More specifically, Aoki makes an example of a pharmaceutical company that produces a new drug and tests it on animals. However, contrary to expectations, the new drug does not attain the results that the company expected and even produces harmful side effects. Similarly, institutional failure can occur when there is no adequate correspondence between the conceived plan and the existing institutional environment that reflects a certain historical trajectory of institutional development. This suggests that the only possible institutional adjustments in an economy, and therefore in the system of international economic relations, are those that are mutually compatible, and thus, each attempt to implement an institutional project that does not satisfy the condition of compatibility indicated may prove somewhat unstable.

Therefore, institutional failure does not generate the expected economic development. By contrast, North (1990, p. 93) defined an institution "efficient" when the system of constraints that it introduces generates economic development. This line of thought is resumed by Daron Acemoglu, Simon Johnson, and James Robinson (2005, p. 389), according to whom economic development is determined, at least to some extent, by the nature and functionality of institutions, but also by their systemic coherence. The role that institutions can play in economic development is illustrated by Richard Lipsey (2009) who emphasizes the mutual interdependence between economic development, institutions, and technological progress, in a continuous process where a change in one of these three dimensions can generate changes in the other two. Brian Arthur (1988) made an original evaluation of the concept of institutional innovation, which he considered as a type of technological innovation. This is an interesting combination also because an innovative process, whether institutional or technological, responds to procedural rationality (Mistri, 2003) according to Herbert Simon (1976). In the case of institutions, procedural rationality foreshadows institutional design. For Herbert Simon (ibid, p. 31), the behavior of an

agent is rational from a procedural point of view when able to appropriately achieve a result that the agent considers satisfactory.

Therefore, an institution put in act by a group of economic agents is rational if it improves the economic performance of the system in which those players are immersed. When actors are national governments, the institutions to which they give life are considered procedurally rational if they are able to produce additional value, defined in the trade domain, above the payoffs that individual countries previously obtained. The manifestation of an additional payoff, which I call *augmented payoff*, in relation to that achieved with non-cooperative strategies is, as seen, the justification for a cooperative agreement, or if you will, the creation of a coalition. It is currently assumed that the development of international economic relations is the force that acts on the specialization of economic functions that contracting countries could undertake. This is a significant conquest for the classical and neoclassical approach, eluding them however is the fact that specializations do not only concern production but in a certain sense also the institutions that govern economic activities within nations and between nations.

The real economic world is a world in which a multitude of institutions coexist, and even when equilibrium is unstable, are divisible by functional areas, and if anything according to a hierarchical order. I previously made reference to the bounded rationality approach to which the transaction cost approach that Ronald Coase proposed is linked. In this respect, Coase (1992, p. 713) assumed that the effects of higher transaction costs are pervasive in the world of economic exchanges. Of course, they are – we add – in the world of international economic trade. The pervasiveness of transaction costs increases with the increase in complexity of society and social networks, whereby institutions emerge as a response to the problems generated by the complexification of economic relations.

In the opening paragraph, I mentioned the forces that I identified as of a structural nature. From this perspective, North's (1990) contribution once again deserves attention, especially because it can be linked back to the fundamental stipulations of international trade theory. In fact, North (ibid, p. 86) described the process of change as the consequence of the adaptation of institutions that govern economic transactions to a change in relative prices of goods and/or production factors. Such change involves revising the evaluation of the respective advantages by those involved in the negotiations, and consequently also revising the economic and policy rules.

A new institution is oriented toward allowing a hypothetical collective utility function, $u(\cdot)$, to reach a higher level, obtaining a surplus in period Δt_2 compared to that produced in the previous period Δt_1. At the same time, it is called on to secure a different and shared allocation of the surplus.

4.4 International institutions. International economic relations and coalitions between governments

As known in standard game theory models, agents (or players) are called upon to choose between fully differentiated strategies where the agents must choose between "cooperating" and "defecting". A well-known example is the popular "prisoner's dilemma" that is also often used in the analysis of international relations. However, it can generally be assumed that in the transition from the "defection" strategy to the "cooperation" strategy, the possibility of agents to reiterate the moves has a decisive role, giving the parties the opportunity to begin negotiations that allow reaching an equilibrium given by the "cooperate/cooperate" strategy coupling (John McMillan, 1986, p. 43). In reality, the strategies that agents can put in the field are definable on continuous strategy spaces, that is to say, every agent can choose strategies whose intensities vary along a *continuous range* of choices. This possibility is often resorted to in international negotiations.

To be further noted is that the analysis of standard negotiating processes in cooperative and negotiation games usually assumes that contracting parties know the respective payoffs and will choose the behavioral rules that are judged best based on the estimated expected payoffs. In this respect, Duncan Luce and Howard Raiffa (1957) defined two-person games with reference to the payoff matrix, introducing some behavioral conditions, such as the full exchange of information, the adoption of binding agreements based on the rules of the game, and the non-impact of negotiations carried out previously in the evaluation of results. Luce and Raiffa's formulation derives from the definition John Nash (1953) gave to the concept of two-player cooperative games. That is to say, a game in which the two counterparts not only know the rules but are in a position to communicate and make commitments reinforced by possible threats of reaction. The hypothesis of a correct evaluation of payoffs can also be conceded in transactions between private individuals who know the

costs and returns of the activities they are negotiating, while a correct evaluation of expected returns and costs in agreements between governments appears difficult, since they tend to agree on the general rules, but then verify whether and to what extent the actual results correspond to the expected results. As mentioned, the reasons for the formation of such a gap are in the incomplete predictability of the environmental dynamics and in the fact that the emergence of a new institution on an international level produces effects that are not entirely predictable in the order of existing national institutions, and consequently, in the structure of the national economies concerned. The breadth of the actual effects on the economies of the countries involved, as well as the political reactions on an international and national level, is determined by inevitable evaluation errors generated by the cognitive constraints of agents.

A significant consequence of these errors is the asymmetry in payoffs that Thomas Schelling (1960, pp. 267 ff) observed, rejecting Luce and Raiffa's hypothesis, according to whom rules and payoffs in cooperative games are symmetrical. The consequence of the existence of asymmetries in payoffs in games with symmetrical rules involves the possibility, if not the necessity, to renegotiate the international agreements and/or parts thereof, reviewing the structure of certain institutions and also the nature of relations between international and national institutions. Thus, an apparent problem arises in relation to the binding nature of international agreements. Apparent because in the context of the rules imposed by a coalition of states to improve the governance of certain partitions of the economic system, there is room for flexibility, especially in those points of juncture between international and national institutions where both institutional complementarity and institutionalized linkages are identified.

Referring to international regimes and following Schelling, Stephen Krasner (1983, p. 8) stated that international regimes cannot have meaning in zero-sum games. From this derives the shared interest of governments to seek those outcomes that are mutually beneficial. In this way, a conflict between countries does not necessarily result in the destruction of one of the contenders, but in the identification of a very broad range of compromising solutions sought through a mix of actions that include promises of threats compensated by promises of "positive" supportive actions. In Schelling's view, an institution represents equilibrium between the threat and the search for agreement, in the shadow of cred-

ible deterrence, gradually exercised and with variable intensity. Negotiation strategies on an international level end up developing through successive steps – which Schelling calls the *decomposition* of promises and threats – in order to create sunk costs over time that render abandoning the negotiation process progressively more expensive for participants once it has begun and partial results have been consolidated. One of the aims of a gradual approach is that of making the necessary expectations mutually compatible. It is interesting that Schelling noted that what makes many agreements binding is the recognition of future occasions for agreements, which would otherwise be voided if mutual trust were not created and retained, whose value exceeds the momentary gain of a current "fool's bargaining" (ibid, p. 45). It could be added that the possibility of recognizing the need to keep the field open to future occasions of agreement is reinforced by the existence of value rules.

Therefore, the search for agreements in the sphere of international economic relations is based on the existence of shared values, giving rise to forms of coalition between national governments. Sometimes these are coalitions with a regional dimension, such as the EU for example, or with an industrial dimension, such as OPEC. In game theory, we assume that the foundations of cooperative behavior giving rise to a coalition are constituted by an expected *augmented payoff* defined through a probability distribution of the value that this will assume, and which the individual governments consider being able to obtain from the coalition through its distribution. The formalization of agreements, according to game theory, that result in a coalition can be found in the two seminal studies of Lloyd Shapley (1951, 1953) where an n-person game is assumed in the form of a coalition, sometimes with side payments, namely with compensation by one or more agents in respect of one or more other agents.

At the base of a strategy of regional economic integration lies the conviction that policymakers have made themselves aware of the advantages they believe they can derive from such a project, dividing the competences in the field of economic and financial policy between the nation states and European supranational bodies. All this within the framework of multi-level governance, the functioning of which presupposes that these competences are manifested through economic and financial policy actions. An important condition for multi-level governance to work properly is that the respective economic and financial policy actions are consistent with each other, more specifically, operationally complementary.

In this respect, it seems necessary that the national governments' systems of preference for each specific action are closely convergent, if not equal, and that the expectations regarding payoffs expected from the implementation of each action are also equal. For example, the governments of C_{EU} should be in a position to converge not only on the need for monetary yardstick stability, but also on the need to adopt homogeneous measures on budget deficits and consolidated public debt. A coalition characterized by the adoption by member countries of preferably strictly convergent systems implicitly shares the same expectations about the results of the economic and financial policy actions. If the convergent medium- and long-term expectations are positive, then the conditions may be favorable for the creation of a coalition that has the characteristic of being subadditive.

We assume a game that is constituted by a finite number, *N*, of players with a characteristic function, *v,* that it associates with each subset *C of N*, and a real number, *v(C)*, which is the value of the characteristic function. In general, "The characteristic function of any game is a rule that assigns a maximum payoff, called the *value* of the game, to every logically possible coalition of players that might form. The coalition's value is the best payoff that the coalition can achieve irrespective of the strategy choices of the remaining players" (Colman, 1999, p. 163). In relation to the property of superadditivity, and recalling Colman (ibid), "A game is superadditive if any two coalitions *S* and *T* with no members in common can achieve at least as high a payoff by joint effort as they can obtain separately". Mathematically, superadditivity is expressed in the following way:

$$[4.1] \qquad v(S \cup T) \geq v(S) + v(T) \qquad \text{for all } S,T \subseteq N$$

Specifically, the formula [4.1] indicates that two subsets of players "joining together" and coordinating their strategies to form a larger coalition can always obtain higher total payoffs than they would if they operated separately. This formula tells us that, at worst, they can obtain a total payoff equal to the sum of the payoffs that can be obtained if they operate separately. In sum, "The superadditivity requirement states that larger coalitions can guarantee for themselves *at least as much,* in terms of total payoffs, as smaller coalitions can guarantee, but not that they can necessarily guarantee *more*" (Colman, 1999, p. 164). As mentioned, the fun-

damental principle of participating in such a coalition is that the payoff that participants draw from being members of the coalition is higher than the payoff they would draw from being isolated, and thus an augmented payoff is determined that is nevertheless distributed among participants.

In a certain sense, the superadditivity principle appears consistent with the economies of scale approach if we focus on institutions considered as functionally specialized factors of production. A particular aspect that needs to be taken into account is that of the distribution of the augmented payoff. The distribution can follow the incardinated criterion of the neoclassical approach or a criterion that politically "adjusts" the neoclassical approach.

In the first case, the distribution is effected by the market, while in the second case, the distribution is effected by also taking into account certain politically determined compensations through side payments. In any event, countries participating in the coalition anchor the agreement to the situation that is determined when deciding to initiate it, that is to say, before the effects of free trade are manifested. In a closed market, each country is able to assess the payoff that can be obtained, namely the goods and services that it can produce and consume. Based on information relating to the benefits of the free trade agreement, the governments of those countries involved can express an interest in accepting the system of relative prices that are determined in the open market. It is clear that each government must estimate the expected augmented payoffs resulting from the institutional change represented by the shift from a protectionist to a free trade strategy; it can thus be said that the principle that is at the base of the theory of comparative advantage is respected. By contrast, should successive changes manifest in some structural dimensions, such as for example in the relative prices of goods or factors, at least one of the participants would see their relative position worsen and could ask to reopen negotiations.

Returning to the hypothesis according to which contracting countries accept the system of relative prices in the open market, respecting the balance of power between the different economies, and without further specifications, we find ourselves on the terrain of the neoclassical approach to international trade theory, whose theoretical foundations are well known. In fact, suppose we have two countries α and β, each with its own factor endowments, producing goods A and B. Owing to the factor endowments and given the level of technology, in *closed market condi-*

tions, we can assume that each of the two countries obtains one unit of good *A* and one unit of good *B*. For simplicity, the monetary value of each unit of *A* and *B* is equal to 1, and thus the value of goods obtained overall by the two countries is equal to 4. If these two countries opened up to trade, giving life to a coalition, they could specialize in such a way that α obtains 3 units of good *A* and 0 units of good *B*; in turn, β could obtain 0 units of good *A* and 3 units of good *B*. The two countries would produce goods to a total value of 6. Indicating the coalition with $\{\alpha, \beta\}$ and the characteristic equation of the coalition with v $[\{\alpha, \beta\}]$, the *augmented payoff* of the coalition will be equal to $V(2)$.

It is well-known that the comparative advantage approach mentioned earlier derives from the classical (Ricardian) formulation successively incorporated in the neoclassical formulation, and assumes that there are costs involved in the conversion of production factors so that $V(6)$ is the maximum level assumable from the value of the coalition. In reality, it must be conceded that over time, real *sunk costs* manifest, and hence conversion will ensue that some economic sectors will have to endure due to the effects of international labor specialization. These are of course economic costs that will also result in social costs that the governments must take into account when determining the respective function of the collective utilities.

It follows that the incentive to eliminate certain protections from weaker sectors, for social and therefore political reasons, can be restrained by the governments concerned. Therefore, very often in international economic relations, the choice between strategies is made at levels that represent compromises between the two extreme options (free trade or protection). These compromises emerge through negotiation processes that foresee the affirmation of a strategic option tempered by the granting of financial or other benefits to the country that "endures" the nevertheless shared strategic choice. For example, governments that move within this logic could decide to eliminate customs protection in different ways, and this consents a lesser reduction of customs duties imposed on production in which the conversion of employees is socially more costly.

Alternatively, they could agree that the government that endures lower conversion costs together with greater advantages resulting from the agreement sustains a part of the conversion cost that the other government must sustain with a transfer of financial resources. A significant example of this strategy derives from questions posed by environmental

policies, as in the case where two or more governments are called on to choose between a containment policy of radical harmful emissions and a non-intervention policy on harmful emission levels. This would represent two extreme choices. In fact, those governments would most probably choose a policy of moderate intervention that can also be read as a moderate non-intervention policy. This is a moderate option, in one sense or other, if anything tempered by the concessions in other sectors has an influence on other types of institutions. The history of the European economic integration process has a wealth of cases where some governments ask that a specific strategy be affirmed in one field to concede concessions in other fields.

4.5 The case of international trade and institutions. The model of Dixit, Skeath, and Reiley

Traditional international trade theory is a methodological extension of trade theory between individuals interacting to trade between nations that also interact according to a principle of absolute rationality. Particularly in the neoclassical approach, synthesized by the Heckscher-Ohlin theorem, the manifestation of trade seems to respond to the hypothesis that economic agents obey a principle of absolutely rationality, a principle that is nothing other than the rationality expressed in the behavior of agents who have perfect knowledge of the environmental dynamics and the preferences and behaviors of the other economic agents.

The Ricardian theorem of comparative advantages offers a fundamental theoretical justification for the emergence of the principle of free trade. Adam Smith had already seen in trade liberalization an important market enlargement factor, and through this enlargement, the element to increase the division of labor between people, businesses, and states. The reference to Smith and Ricardo serves as a recollection with respect to the formulation of North's (1990) approach to the formation of institutions, according to which the birth and/or evolution of some institutions comes from market enlargement, from the capacity of some human societies to link their economies. With market enlargement and with increased levels of specialization, societies switch from elementary institutional forms to more complex institutional forms. Institutional models are thus affirmed that switch from informal models based on family, ethnic, religious, or similar networks, to new types of ties.

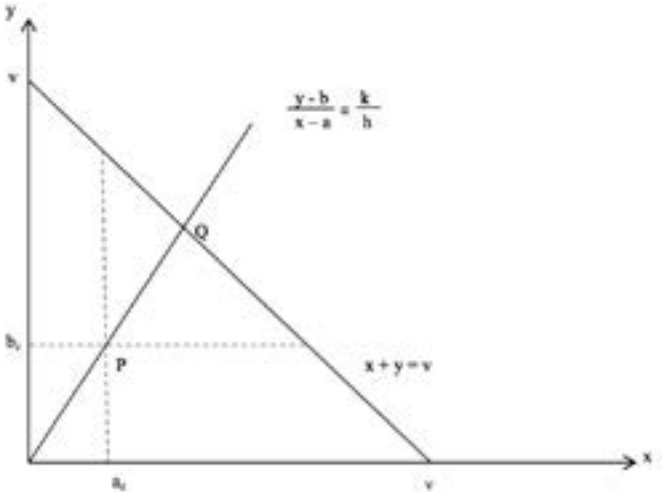

Figure 4.1. Nash-type negotiation between two governments. A simplified case

For our purposes, we assume that the payoffs of the countries involved (α and β) in a system of relationships, whatever they may be, depend first of all on the nature of these relationships and therefore on the type of strategies they follow, which can synthetically be indicated as cooperative or non-cooperative, or if you will, opportunistic. The simplest case is the elimination of trade barriers between the two countries. Therefore, a strategy to eliminate customs duties between α and β will be defined as cooperative. The governments of α and β will move based on the hypothesis that the augmented payoff is distributed symmetrically between α and β, synthesized by consolidated economic theory expressed by the comparative cost theorem. On the other hand, the strategy of one of the two countries to protect and/or favor its own exports to the disadvantage of the partner country's exports will be indicated as opportunistic. In concrete terms, I assume that if the two countries resort to opportunistic behavior, the augmented payoff may be equal to 0 for both. Then the two countries will obtain as payoffs respectively a_c and b_c, i.e., closed market payoffs. Referring to Dixit, Skeath, and Reiley (2009, pp. 666-667), a_c and b_c are their backstop payoffs.

Dixit et al. (2015), for reasons of practicality and simplification, offer us an analytical and graphic scheme in which there are only the two aforementioned contractors, α and β. I assume that α and β are the two governments of two countries whose payoffs, before the conclusion of an ongoing negotiation, are respectively a_c for α and b_c for β (Figure 4.1).

In our case, points a_c and b_c represent the payoffs acquired during Δt_1 (the period in which the negotiations process started), which for α and β are given. In Figure 4.1, point P represents the BATNA (Best Alternative to a Negotiated Agreement) point acquired in Δt_1 while Q represents an expected point in Δt_2 (the period in which the negotiation ends). The governments of α and β assume that an agreement will result in an increase in their respective payoffs, overall indicated with v, for which we would have $(a + b) < v$; therefore $v - (a + b) = \pi$, where π is the augmented value of the cooperation operation. The two governments expect to obtain, once the negotiations have been completed, a part of the expected value added, π, equal to h for α and k for β, so that $h + k = 1$. Following Dixit at al. (2015), I indicate with x the final payoff of α and with y the final payoff of β. Through a simple manipulation of the symbols we have:

[4.2] $$x = a + h\,(v - a - b) = a\,(1 - \mathrm{h}) + h(v - b)$$
$$x - a = h\,(v - a - b)$$

[4.3] $$y = b + k\,(v - a - b) = b\,(1 - k) + k\,(v - a)$$
$$y - b = k\,(v - a - b)$$

Dixit at al. (ibid) call [4.2] and [4.3] the Nash formulae. A further elaboration of these formulae allows dividing the surplus $(v - a - b)$ between the two negotiators in the proportion of h/k, or:

[4.4] $$(y - b)/(x - a) = k/h$$

Note that h and k are the expected payoff quotas in Δt_1; expected but not certain, because their value depends on dynamics that will manifest in the future. In our case (Figure 4.1), country α expects its payoff to go from a to a', with $a' > a$, while country β expects its payoff to go from b to b', with $b' > b$. These are therefore values conjectured by policymakers. If, for example, α and β are two Euroland countries with different institutional structures, it is likely that one country has a higher growth rate than the other, so the real relationship, which I indicate with k^*/h^*, could differ from the expected relationship, which I indicate with k/h, namely:

[4.5] $$k^*/h^* \neq k/h$$

This case reflects what has taken place in Euroland to date, with the risk of conflicts emerging between the acceding countries. This is a situation that Martin Feldman (1979, p. 60) anticipated, "As the monetary union evolves into a more general political union, conflicts would arise from incompatible expectations about the sharing of power".

4.6 Increased returns and asymmetries in national growth

Furthermore, the neoclassical approach introduces a further methodological constraint in understanding the true complexity that distinguishes economic decision-making processes, especially when these occur on a level of maximum systemic complexity, namely those dealing particularly with relations between governments. The methodological constraint to which I refer, which must be overcome, stems from the hypothesis that the preferences of agents engaged in the governance of international economic relations are given, and thus the preferences conditioned by changing environmental conditions are not discernible (Samuel Bowles, 2004, p. 371).

Over time, also thanks to the extension of economic relations, income growth and population growth manifest. Growth in income in turn is able to ensure increasing resources for research activities, both theoretical and applied to production activities. A cumulative process is put in motion that accentuates the thrust of specialization and the creation of information subsets that distinguish the language and behavior of the various social and professional groups. The growing complexity of specific language generates increased levels of transaction costs that must be addressed. The demand for rules no longer based on informal relations but on constraints of a formal nature manifests, and subjects endowed with specific power are called upon to monitor their compliance (Mary Shirley, 2005, p. 613).

I recall that in North's (1990, p. 95) view two fundamental forces guide the institutional change process, namely increased returns and, as we know, market imperfection due to the presence of significant transaction costs, and the change in systems or relative prices. In the context of international trade theory, increased returns can be considered a function of radical institutional change, i.e., the transition from a system of closed national markets to a system of integrated national markets. At the same time, increased returns can require new institutions to regulate

the division of labor processes, both among states and within individual states, and to tackle the problems posed by the divergent professional languages. Nor should it be forgotten that an enlarged international trade system generates a change in relative prices determined on an international level, which become the relative prices at which goods and factors in individual states are exchanged. In the preceding paragraph I referred to a relative price change as a factor that can trigger a revision of international economic agreements. As seen, North (1990, p. 86) himself assigned to changes in the relative prices of goods and/or production factors a fundamental function determining the change of institutions. In fact, North maintains that a change in relative prices pushes one or both parties toward exchanges, both political and economic, because they realize the improvements that are obtainable with an agreement to revise the previous agreements.

To a certain extent, the revision of rules is identified with a renegotiation of the pacts through which the surplus generated by the improvement in market efficiency is redistributed due to the effects of environmental or technological type changes. This is a delicate point, if only because the renegotiation of an international economic agreement can be put in the field when, as a result of this agreement, asymmetries dynamically manifest between the payoffs that can be derived. According to North's aforementioned affirmation, a modification of relative prices can trigger a rule renegotiation process. To illustrate this statement, let us hypothesize that the two countries that I referred to earlier, namely α and β, based on the evaluation of their production and expected return functions, w_α and w_β, completely adopt the rule of free trade and specialized production, without other complementary hypotheses.

I indicate with a_o and b_o the incremented values of the aggregate production available from α and β in the open market, while I indicate with a_c the aggregate production obtainable from α in a closed market, and with b_c the aggregate production obtainable from β in a closed market. It is hypothesized that the two governments estimate that $(a_o + b_o) > (a_c + b_c)$. Based on the information collected on the expected benefits of free trade, the two governments agree to eliminate trade barriers and to specialize in the production that they are comparatively more efficient in given the prices of goods exchanged. If the condition $(a_o + b_o) > (a_c + b_c)$ holds, the two countries may be forced to adopt a free trade policy, with consequent specialization, producing an augmented payoff indicated with V. There-

fore $(a_o + b_o) - (a_c + b_c) = V$. Now countries α and β must distribute the augmented payoff, and h and k indicate the proportions in which the two countries can divided V. The total income expected by α and β in period Δt_1 will be equal to:

[4.6] $$a_o = a_c + hV; \quad b_o = b_c + kV; \quad with\ h + k = 1$$

However, it would be quite reasonable to assume that α is not prepared to surrender all of V to β, and that in turn, β is not prepared to surrender all V to α, therefore requiring that $h > 0$ and $k > 0$. In this way, once in agreement on the allocation criteria, h and k are values that assure a distribution that is also in equilibrium over time. Considering the augmented payoffs as flows, it follows that the gains expected by the two countries, from time Δt_1 to time Δt_n, will be equal to the discounted value of the expected augmented payoffs in future periods. I indicate with $hv=R_\alpha$ and $kv=R_\beta$ the augmented payoffs of country α and β. In [4.7] the discounted values of the two augmented payoffs are calculated at the interval from Δt_1 to Δ_{tn}, indicated respectively with $\pi_{\alpha,1}$ and $\pi_{\beta,1}$.

[4.7] $$\pi_{\alpha,1} = \int_1^n R_\alpha (t)\, e^{-rt}\, dt \qquad \pi_{\beta,1} = \int_1^n R (t)\, e^{-rt}\, dt$$

where r is the discount rate. Assuming *ceteris paribus* conditions, augmented payoffs in an open market will be conditioned by the relative prices of the goods that the two countries will be specialized in after adopting a free trade policy. I indicate these relative prices with p_α and p_β, and we can thus assume that $(p_\alpha/p_\beta = \text{const}) \leftrightarrow (h/k = \text{const})$. In other words, if no changes are made in the relative prices of goods, the ratio h/k remains constant since there are no other factors that can lead to a change in the augmented payoff distribution percentages. Following North's hypothesis, in a subsequent period indicated with Δt_2, the relative prices are modified, possibly due to exogenous forces. More specifically, the assumption is that the price of goods that country β is specialized in is reduced with respect to the price of goods that country α is specialized in, while the demand for good B of country α remains constant in quantitative terms. This reduction of p_β is indicated with $-p_\beta$ and thus a reduction of k equal to $-\Delta k$ and a corresponding increase in h

equal to $+\Delta h$ will be obtained. Therefore $h + \Delta h = h^*$ and conversely $k - \Delta k = k^*$. The consequence is immediate on the expected values expressed by [4.6] calculated from period Δt_2 and indicated respectively with ${}^*\pi_{\alpha,2}$ and ${}^*\pi_{\beta,2}$, which be equal to:

$$[4.8] \qquad {}^*\pi_{\alpha,2} = \int_1^n R_\alpha (t)\, e^{-rt}\, dt \qquad {}^*\pi_{\beta,2} = \int_1^n R_\beta (t)\, e^{-rt}\, dt$$

If the augmented payoff flows deriving from the two countries were calculated with the original distribution criteria, namely h and k, starting from period Δt_2, the discounted values of these flows would be:

$$[4.9] \qquad \pi_{\alpha,2} = \int_1^n R_\alpha (t)\, e^{-rt}\, dt \qquad \pi_{\beta,2} = \int_1^n R_\beta (t)\, e^{-rt}\, dt$$

Since ${}^*\pi_{\alpha,2} > \pi_{\alpha,2}$ and ${}^*\pi_{\beta,2} < \pi_{\beta,2}$ the relative prices of goods that the two countries are specialized in as determined in period Δt_2 manifest a reduction of the relative share of V of country β and a gain of the relative share of V of country α, so that country β could start a revision of the distribution pact, which could entail adjustments on matters governed by complementary institutions.

CHAPTER 5

THE EURO AND THE VARIETIES OF NATIONAL CAPITALISM

5.1 Introduction

In the previous chapter, I put forward some "problematic" issues related to the evolutionary processes of international institutions without prejudice to the question of whether the EU, especially after the creation of the euro, created an international regime, albeit *sui generis*, or not. To tell the truth, I think it is difficult to find in the European economic integration process a form of order that can be properly defined as an international regime, since the EU has some, even if partial, characteristics of a confederal state together with some characteristics that distinguish it as a set of structurally independent states. In fact, a regional integration process, such as that characterizing the EU, constitutes a substantially "hybrid" organizational and institutional condition.

In more general terms, such a regional integration process can be analyzed with some simple conceptual tools of game theory. After the seminal work of Robert Putnam (1988) dedicated to intergovernmental negotiations that can be represented as two-level games, there have been no lack of contributions dedicated to the analysis of the creation of the EMU based on the two-level game approach. Among these contributions, I highlight that of Madeleine Hosli (2000, p. 744) who shortly before the launch of the euro wrote, "The European economic and monetary union (EMU), constitutes a most important challenge to the members of the European Union (EU) and key actors outside the EU alike. EMU has the potential to significantly affect international monetary and financial relations, although currently it is still uncertain how stable EMU and the new common currency, the euro, will be". Suggestively, Hosli (ibid) added, "it significantly constrains the autonomy of EU states with respect to their macroeconomic and monetary policies".

5.2 Procedural rationality and institutions

In general, the integration process could be interpreted as a process whereby the governments of N states that constitute coalition C pursue, within certain limits, the homogenization of the institutional systems through two operating modes: (a) ensuring greater similarity among the institutions called on to ensure the governance of the *specific functional domains* (a definition is provided in Section 5.4) and between those considered fundamental by policymakers with similarities from state to state; (b) assigning to a supranational authority the task of ensuring the governance of a political and economic domain whose sovereignty is transferred by each state to this supranational authority. Let us again indicate with C_{EU} the coalition of Eurozone states that seek to implement an economic integration strategy focused on the euro. Options (a) and (b) are not necessarily alternatives, but may give rise to a mix of strategic actions, as in the case of the EU.

I believe that the functional difficulties that the euro has encountered are precisely in the way of implementing a complex type of institutional engineering intended to conceive the networks of institutions operating in the European dimension. The relationship between the beliefs of policymakers and their actions has certainly been significant in this implementation. In principle, the beliefs on which the policymakers of C_{EU} member states made their decisions have had as their primary source some theoretical models developed under a macroeconomic framework with reference to international trade and equilibrium in the balance of payments.

The aforementioned modes (a) and (b) have a common point determined by the fact that both constitute the elements, albeit differing, of constitutional engineering, or if you will, an institutional design to redefine the networks whose elements are institutional sub-networks (Vinod Aggarwal, 1998). Naturally, institutional designs are formulated not only based on the beliefs eventually shared by a group of states, but also on the collective utility functions *expected* of each of these states. The choice of one mode or other appertains to the sphere of negotiations that the partner states commit to conducting over a long period of time, breaking the negotiation path into a sequence of sub-negotiation paths. As will be explained later, the temporal decomposition of the decision-making process reflects the aim of enabling negotiations in which potential com-

pensations emerge in order to reduce the occurrence of regret among some of the players.

Beyond the question of whether European integration in the aftermath of the Maastricht Treaty is explainable in the neo-functionalist or neo-realist approach, interesting to note is that this integration process is the result of a strategy that would ideally be inspired by some form of procedural rationality understood in the sense of Simon (1976). Recourse to procedural rationality seems legitimate here since this concept indicates the cognitive, but also operational modes with which a person or group of persons intends to reach a certain goal. In general, in the Simonian approach, a behavior is rational from a procedural point of view if it is the result of appropriate deliberation. Thus, the procedural rationality of a project depends on the modality of the process with which the project is determined. Simon assumes that "procedural rationality is usually studied in problem situations in which the subject must gather information of various kinds and process it in different ways in order to arrive at a reasonable course of action, a solution to the problem" (ibid, p. 132). In the case of adopting a common currency, monetary policy is substantiated in the correlated adoption of measures to ensure common governance for all C_{EU} states. Such governance has been delegated to the ECB and positioned as a hierarchically superior organism to national central banks, and overall, to national governments.

In some cases, the identification of the benefits expected from strengthening cooperative strategies can trigger evolutionary processes in the existing networks of national and possibly supranational institutions. The evolutionary processes may include: a) changes in the pre-existing national institutions to make them more consistent with each other; b) the creation of new supranational type institutions if the policymakers of N states believe these useful to ensuring a unique governance in certain domains of their economic life. This was precisely the case of the European economic integration process, starting from the creation of the European Payment Union and the European Coal and Steel Community, and leading to the creation of the EU. Nesting among all institutions operating in and between EU countries is the supranational regulation of monetary policy with a single currency and the ECB. Obvious in the present situation is that the system of institutions in each C_{EU} member state does not ensure what Douglas North (1990, p. 86) called "institutional balance", meaning a situation in which, given the bargaining power of

players and a set of negotiations that represent the full range of economics exchanges, no player can benefit from employing additional resources to modify existing agreements.

Indeed, North's vision portends a Nash equilibrium between different institutions. In reality, this equilibrium can be altered by virtue of the exogenous dynamics of the system of existing institutions. Among the exogenous dynamics, North highlights those occurring in the system of relative prices. Thus, in North's opinion, a process of institutional change is the result of adapting the rules that govern trade to a change in relative prices of both goods and production factors. Such a change, if exceeding certain sensitive thresholds, can lead to a revision of the assessment of their convenience by those involved in the negotiations, and may therefore lead to a revision of the economic rules to which the players may submit.

We have seen (Section 3.5) that in North's (1990, p. 95) vision, two major forces drive the process of institutional change, namely increasing returns and the imperfection of markets that determine the formation of transaction costs. In economic relations between two or more states, transaction costs tend to be highest when there are obstacles that make trade between these states difficult if not impossible, and thus the formation of interdependencies between the n national economies that enable the formation of specialization processes and external economies. However, I believe that we should fully take into account the importance of the role of transaction costs. If anything, emphasis should be on the fact that the strengthening of trade ensuing from eliminating tariff and non-tariff barriers can lead to the greater convergence of institutions aimed at guaranteeing the governance of the major domains of the economies of individual states of a generic coalition C.

5.3 International institutions and varieties of capitalism

If on a methodological level it seems useful to make recourse to the joint international political economy and international political science contributions, with their attention to institutions, I observe that those who drafted the Maastricht Treaty on the other hand downplayed the importance of the role of institutions, which in the case of C_{EU} are institutions of an economic nature but also of a political and social nature. Moreover, they lost sight of the fact that capitalism presents unavoidable

organizational and institutional varieties (Alison Johnston and Aidan Regan, 2016). One might reflect on whether the varieties and variations in the forms of capitalism are a negative characteristic or whether conversely they are a positive characteristic, reflecting its evolutionary capacity, and naturally reflected in institutional differences.

Institutional differences can determine comparative institutional advantages. According to Hall and Soskice (2001, p. 37), "The basic idea is that the institutional structure of a particular economy provides firms with advantages for engaging in specific types of activities there". That certain institutions can determine a competitive advantage, at least in certain activities, is recognized, for example, by scholars of the theory of endogenous development. At the same time, that certain institutions may lead to competitive disadvantages in certain economic and social realities is recognized in the social capital literature (Nan Lin, 2001; Robert Putnam, 1993a). We can also talk about comparative institutional disadvantages, which generally derive from the heterogeneity of resilient political cultures called on to deal with sometimes completely new institutional designs.

Alison Johnston and Aidan Regan (2016, pp. 319-320) argued, "Monetary integration may have rendered the diverse co-existence of national varieties of capitalism incompatible. The domestic organization of different political economies in the North and South has interacted with transnational European monetary policy to produce a persistent, unsustainable divergence in trade and external lending [...] We trace this divergence to the incompatibility of two distinct growth regimes that produce different inflation rates; high inflation-prone, domestic demand-led models, which predominate in the 'mixed market' economies of southern Europe, and low inflation-prone, export-led models, which dominate northern coordinated market economies". Hence the existence of a conflict between different political and cultural models in the field of economic and financial policies; a conflict that Brunnermeier et al. (2016) illustrate in their *Euro and the Battle of Ideas"*.

Institutions, understood as rules of social behavior shared by specific communities, are manifold and have different origins and characteristics. Economists use different approaches to "explain" the birth and survival of institutions. One of these is inspired by functionalism that, to a certain extent, refers to anthropology. As known, a second approach is modelled on game theory (Aoki, 2001). For example, North (1990) considered institutions as rules imposed in a social game. It can be said that

and institution is a social rule that in a game of strategy can "dominate" other possible social rules. A third approach has a cognitivist structure, considering institutions as the result of resolving negotiation problems in conditions of bounded rationality and incompleteness of information.

In a different light, Wolfgang Kasper, Manfred Streit, and Peter Boettke (2012, p. 108) distinguish between internal institutions and external institutions, "Internal institutions are defined as rules that evolve within a group in the light of experience, and external institutions are rules designed externally and imposed in the community from above the political action". The case of external institutions is more complex when these are generated by international agreements. They are the result of negotiations between national governments that create a coalition of states, such as C and/or C_{EU}. In general, a coalition could reflect a shared political culture, or better, a shared ideology, seen as a connector capable of stabilizing a system of national institutions; a system definable as an international regime according to political science, in the sense of Gilpin.

5.4 Functional institutional domains

Both C and C_{EU} are organizations with multiple levels of institutions, some ordered horizontally and others hierarchically, with a tendency toward interdependence. In aggregate, they constitute a system of networks of institutions, according to Dai (2015). The concept of interdependent institutions is linked to the holistic approach, typical in the analysis of complex and evolutionary systems. Originally, this systemic approach was proposed by biologists Ludwig Bertalanffy (1967) and James Miller (1978), according to whom living organisms can be seen as an integrated systemic totality, composed of parts that in turn can be considered sub-systems. The interactions between some sub-systems can determine the emergence of new properties that are at the base of a system considered "hierarchically superior". In Alberto Gandolfi's (1999, p. 17) words, "A system forms an organic, comprehensive and organized entity, such that removing a part changes its nature and function" (my translation). Indeed the behaviors of the parts of a system generally differ from the behavior of the system as a whole.

I mentioned polycentric and hierarchical institutional networks, which in their totality should be seen as complex systems. The ways in which the institutions are formed are multiple and subject to the char-

acteristics of functional domains in the sense of Aoki (2001, p. 21). Aoki identifies six domains, namely: 1) the domain of the commons; 2) the economic exchange domain; 3) the organization domain; 4) the organizational field domain; 5) the polity domain; and 6) the social exchange domain. In each of these domains, the formation processes of institutions have their own specificity, but all may give rise to functional coupling between agents belonging to one or other domain and/or between agents belonging to the same domain. Aoki assumes the domain of a strategic game as the unit of analysis composed of a set of agents – individuals or organizations – and a set of actions that can be implemented by each player in a sequence of periods, from Δt_1 to Δt_n.

The institutions of C and C_{EU} are multi-level systems. At the first level (level A), I place the institutions of the Aokian economic exchange domain, with a mainly national territorial extension. Even if the domain of the commons, the organization domain, and the organizational field domain may also appertain to level A, for the sake of simplicity, I here omit considering the functional coupling between these domains and that of economic exchange. Therefore, in operational terms, the macro-group of players operating at level A can be divided into two subsets, namely companies and individuals. Companies are not homogeneous among themselves and neither are individuals. The set of companies, which I indicate with S, is divided into a series of subsets in which the companies can be considered similar by type of products, size, strategies, and so forth. Therefore, the subsets of S will be $\{S_1, S_2, \ldots, S_n\}$ The subset of individuals, which I indicate with P, is in turn subdivided into a family of subsets, $\{P_1, P_2, \ldots, P_n\}$, in which individuals can be considered similar by type of income, profession, cultural level, and so forth. Taking a subset of S, S_1, such that $S_1 \sqsubset S$, and a subset P_3 of P, such that $P_3 \sqsubset P$, I assume that it is possible to derive a relationship between the individual members of S_1 and the individual members of P_3. In economic terms, such a relation identifies the possible transactions that occur between the members of the two subsets and therefore the institution that guarantees the development of transactions between companies and individuals. Each of these institutions identifies a behavioral balance in the relationship between the members of S_1 and those of P_3. I indicate the institution with r, such that r is a defined social rule on the space of the Cartesian product $S_1 \times P_3$. We will therefore have $r = (S_1, P_3) \in \mathcal{R}$, where $\mathcal{R}$ is the set of all institutions of the economic system considered.

In turn, S generates two fundamental subsets, namely the vendor companies, S_V, and the acquiring companies, S_A. Marketing theory suggests the way in which these two fundamental groups will be divided into sufficiently homogeneous classes. I assume that $S_V = \{S_{V,1}, S_{V,2}, \ldots, S_{V,n}\}$ and $S_A = \{S_{A,1}, S_{A,2}, \ldots, S_{A,n}\}$. Also in this case, it is possible to identify in the abstract a subset of vendor companies, let us say $S_{V,1}$, and a subset of acquiring companies, let us say, $S_{A,2}$, which are economically compatible. Again in the abstract, it is possible to conceive that the two subsets give rise to a relationship between $(S_{V,1}, S_{A,2})$ to which an institution will correspond, $r(S_{V,1}, S_{A,2}) \in \mathscr{R}$.

At a second functional level (level B), I place a part of the institutions determined in the polity domain. These are institutions that govern relations between the state and other national bodies on the one hand, and businesses and individuals on the other. To a large extent, these institutions are mainly of a public nature, with rules that aim to introduce some elements of homogeneity in the behaviors manifested in local markets. The set of these second-level institutions also belongs to the general set $\mathscr{R}$.

Finally, at the third functional level (level C), I place those institutions always belonging to the European political domain that have the characteristic of being supranational. They aim to regulate in a sufficiently homogeneous way certain sectors and/or areas of national economies; sectors and areas whose governance can be assigned to a supranational body, for example, the monetary and finance sector whose governance is assigned to the ECB. These institutions also belong to set $\mathscr{R}$. For simplification, while recognizing its importance, I do not introduce an additional level, which is that of agreements between C_{EU} with foreign states and/or with international organizations.

5.5 Institutional networks, markets, and transaction costs

In the three general institutional levels to which I refer, the various institutions have the task of ensuring governance that reduces, if not eliminates, transaction costs. In Ronald Coase's (1937) approach, transaction costs characterize real economic systems, and to a certain extent, are a consequence of the bounded rationality of economic agents (Furubotn and Richter, 2005, p. 47).

The question of transaction costs played an important role in the design of the euro. In fact, numerous studies state that particularly the

variability of exchange rates between the currencies of the countries that constitute a generic C determine a high level of transaction costs, introducing elements of uncertainty with respect to exchange rates. On the other hand, it is assumed that in a regional economic integration, such as C_{EU}, monetary type transaction costs are minimal. According to Barry Eichengreen and Jeffrey Frieden (1993), numerous studies on European monetary integration were inspired by the seminal paper of Robert Mundell (1961) on the optimal currency areas. Eichengreen and Frieden (ibid, p. 5) state, "In Mundell's model the benefits of monetary unification, which take the form of the reduction in transaction costs consequent on replacing distinct currencies with a single (common) currency, are balanced against the costs of sacrificing monetary and fiscal autonomy".

The fundamental literature on transaction costs is well known, even if, as Geoffrey Hodgson (1993, p. 81) noted, "the concept of transaction costs seems to elude clear definition". In the case of the creation of the euro, there is no doubt that its supporters had in mind especially the transaction costs arising from the fluctuations that occurred in a system of flexible exchange rates between the currencies of European countries (Jacques Melitz, 1997). An important concept lacking in what has thus far been said about institutions is the market. Neoclassical theory does not provide significant help in framing and understanding this concept (Geoffrey Hodgson, 1988). I assume the existence of a multiplicity of markets, and for each of these markets, one or more institutions contribute to their governance. It is possible to represent a market by way of the institutions through which it functions, so that a market can be understood as a virtual space in which networks of institutions operate.

Each of the countries of C_{EU} has a multiplicity of markets, and in any case, contractual relations governed by institutions, understood in the sense of North, and sometimes by constitutions, understood in the sense of Buchanan. These institutions may give rise to networks of institutions (Dai, 2015). These institutional networks are the expression of the structural complexity of the markets and the relationships determined through these markets. In turn, the aforementioned structural complexity creates economic productive habitats in each of which institutional dynamics develop in part autonomously and in part influenced by the institutional dynamics that occur in neighboring, complementary, or hierarchically "superior" habitats. In this regard, Shuanping Dai (2015, p. 3) recalled, "However, no single institution can be capable of shaping the

whole society or economy. It therefore follows the economy and society are shaped by coexisting and coevolutionary institutions that function in interrelated ways".

The above consideration of Dai leads us to reflect on the phenomenon of the change of institutions. According to John Campbell (2004, p. 31), the two fundamental approaches to institutional change are evolutionary and punctuated equilibria, two concepts taken from biology. Biologists use the term "punctuated equilibria" to describe the alternation of phases of stasis with phases in which rapid changes occur (Niles Eldredge and Stephen Gould, 1972). The case of C_{EU}, especially with reference to the *new* institutions belonging to functional level C, suggests a change in the punctuated equilibria, equilibria that are determined after an adequate period of stability. In this context, the institutional history of C_{EU} is characterized by frequent political pressures aimed at modifying, to some extent, the institutional levels A and B in the single countries of C_{EU}, if anything by introducing constitutions that modify the pre-existing institutional hierarchies. Thus, the institutional order in C_{EU} changes and evolves, both at the base represented by the typically national institutions and at the pinnacle represented above all by supranational constitutions. Overall, the evolutionary processes to which I refer are characterized by the fact that they increase the powers of supranational bodies by decreasing those of European national governments through progressive shifts in competences over a fairly long sequence of inter-European summits (Kenneth Dyson and Kevin Featherstone, 1999; Harold James, 2012).

Looking at the networks of institutions as sufficiently large sets of rules, each of which governs a specific market, one is struck by the multiplicity of dynamics that occur in such sets in which old and temporarily stable rules coexist with evolving rules and other newly coined rules. The existence of similar sets of rules can certainly be seen as a testimony of the "varieties of capitalism" (Peter Hall and David Soskice, 2001), but also of the variety of political-social systems, even within a common system that recalls the market economy. In the words of Donald Katzner (2006, p. 5), "A market is nothing more than an institutional arrangement facilitating such exchanges. As there are many different kinds of institutional arrangements, markets may assume a variety of forms". From the point of view of the institutional order, the C_{EU} market is an imperfect market, if only for the survival on many level A and level B institutions within it.

Assuming that a specific subnetwork of institutions can correspond to each specific market, it remains to be seen whether the evolutionary processes occurring in a subnetwork are independent or dependent on the structure of the entire network whose stability depends on the evolutionary path dependence of the whole institutional order. In the case of C_{EU}, the stability of an institutional network does not imply the immobility *in* or *of* the institutions. It implies they can also change within certain limits compatible with the stability of the network, which in economic-political terms can be guaranteed by the membership of the countries that consider themselves an international regime, in the sense of Gilpin (2001). An international regime forces national institutions to move within the limits of the commitments that national governments declare observed (Schelling, 1960, p.24).

5.6 Institutions and markets, and the biological paradigm

The negotiations to which Schelling refers extensively are intended to lead to the creation of institutions, i.e., rules that are socially shared, in our case, by a group of European national governments. We know that in certain contexts, institutions can be formed autonomously by virtue of self-organizing processes, or they can derive from projects conceived by national governments or international bodies. Since institutions, according to the opinion widely shared among institutionalist economists, represent balanced solutions in the way transactions are conducted, it is clear that there is a morphism between institutions and markets. In short, the concept of morphism in the mathematical theory of categories generalizes the relationship concept (William Lawvere and Stephen Schanuel, 1991). Thus, we can say that a market is defined by the institution or institutions that regulate the transactions that take place within it. In all this, there is a substantial difference with the traditional economic view in which the market is seen as a virtual place, defined in an abstract way, in which economic transactions are determined through which the parties would increase their level of wellbeing, or in economists' language, utility. A virtual place, therefore, in which together with the transactions, the relative prices of goods and factors of production are determined. In the approach considered here, while assuming the role of the market as a virtual place where the prices of goods and factors of production are determined together with the quantities bought and sold, the focus is

on the negotiating methods with which these prices and quantities are determined. The nature of these modalities conditions the structure and also the territorial breadth of each market.

In fact, in the matter of determining prices and quantities, it is precisely the institutions that play a central part. Perhaps one could consider a type of morphism between institutions and equilibrium values in the prices and quantities of goods and factors of production bought and sold. However, this matter requires acting with prudence, even if I think it reasonable to assume that there is necessarily a morphism between the institutions that assert themselves in each market and the quantities (of goods and factors) that would allow determining market equilibrium. We know that an institution identifies the equilibrium of a game of relationships, and in relation to this equilibrium, it may, albeit not always, correspond to market equilibrium. It may also occur that in a market, at some point, two institutions are determined to ensure the governance of that market, and that these institutions are in competition with each other. Two institutions, constructed for the governance of the same market, all other things being equal, can ultimately only express two different price systems, and I believe, no longer a single market, breaking up the original market into two different markets.

Markets, therefore, cannot exist without rules designed to enable economic transactions in terms of property rights, rules on contracts, standard in products and production processes, etc. The goodness of these rules (both formal and informal institutions) plays an important role in determining the growth capacity of an economic system (Acemoglu, Johnson, and Robinson, 2005). The goodness of these rules is in turn determined by the quality of the relationships formed between the rules, government organizations, and economic actors. In this way, even large differences in the economic performance of different states can consistently be explained by taking into account the differences between their institutional structures.

The evolution of markets, understood as sets of exchanges regulated by institutional systems, has been the subject of numerous studies in various social disciplines. Within the methodological ambit of neo-institutionalism, the position of economists who refer to this inspiration is well known, that is, recognizing the presence and role of transaction costs, the market understood as "a social arrangement that facilitates repeated exchanges among a plurality of parties" (Furubotn and Richter, 2005, p. 284), recalling the cited position of Donald Katzner (2006).

For these reason, I believe that a market can be understood, as mentioned above, as a morphism between shared social rules and transactions capable of giving rise to equilibrium among prices and quantities, although not to be excluded is that certain rules may determine sub-optimal equilibria in certain markets. The fact remains, however, that the objective of creating an institution is to obtain higher utility levels than those possible in the absence of any kind of rules.

With regard to the structure of the markets, in economics, it is methodologically legitimate to take at least two opposing views: one in the neoclassical mold that tends to "typify" the goods and factors of production, so much so that all types of goods are identified by a type-good and all types of factors by a type-factor, rendering the hypothesis of a market in which the dynamics have an entropic nature conceptually acceptable in the sense that the price of each type-good is assumed be the same for that type-good in all its market, and equally, the price of each type-factor is assumed to be the same in all its market. The other view, which I favor, refers in part to the monopolistic competition approach, and above all to an evolutionary approach by virtue of which goods differ in form, physical space, and time, so that multiple markets are determined in correspondence with multiple products. In this sense, I recall Katzner's (2006) observation, "As there are many different kinds of institutional arrangements, markets may assume a variety of forms".

According to this view, there are no general type-goods and no general type-factors, but there is a dense multiplicity of different markets, even when goods belonging to the same genotype are traded therein. In my opinion, the concept of genotype and the concept of phenotype applied to goods allows us to overcome the limitations inherent in the general type-good concept. From biology (Solomon, Berg, and Martin, 1996, ch. 10), we know that a genotype identifies the genetic constitution of an individual, while phenotype is the term used to indicate the appearance of an individual in a given environment with respect to a specific hereditary characteristic. In the real economy, many products are similar in their functional aspect and differ in some elements or characteristics. I assume that the theory of monopolistic competition implicitly utilizes the concept of genotype and phenotype, that is, the differentiation of a good with respect to similar goods (Edward Chamberlin, 1960, ch. 4).

Following Alfred Marshall (1920), as far as economics is concerned, I deem it useful to use a biological metaphor, or if you will, the scientif-

ic biological paradigm. I think it plausible, in a first approximation, to adopt the market definition given, for example, by Douglas Bernheim and Michael Whinston (2008, p. 5), according to which each market can be associated with a single group of closely related products that are offered for sale within particular geographic boundaries. However, Bernheim and Whinston's definition is somewhat blurred, not least because it has to be recognized that it is not easy to establish exactly which product group is appropriate and which is the most appropriate geographic definition. However, Bernheim and Whinston offer an operational criterion considering that products belong to the same market when they are in a position of high substitutability. In fact, this definition presupposes that the market can also be conceived as a set of sub-markets, each of which can be considered as a *specific functional domain.*

This definition is sufficient for now, even if presenting some blurry elements that merit an in-depth examination. We need to at least introduce an evolutionary view that owes a great deal to the biological paradigm. In this way, I assume that markets resemble ecological habitats to some extent. In nature, different habitats can coexist in the same physical environment. Some of these habitats can be extremely extensive and include more physically limited habitats that are rich in biological life forms. From the science of ecology (Thomas Smith and Robert Smith, 2012, ch. 1), we know that the different populations living in a wide natural environment can survive if they can carve out a physical space that allows them to obtain the resources necessary to live and survive. This space, which I call habitat, is called an ecosystem by ecology scholars to indicate the existence of interactions between living entities and habitats. In economics, the market can be interpreted as the space that allows an economic form, such as a company or a set of companies, to live and operate.

Just as ecosystems in a large natural environment coexist, and such coexistence can give rise to interactions, sometimes negative and sometimes positive for a species, markets also coexist, ensuring the possibility of manifesting into what we might generically call "forms of economic life". In each of these ecosystems-markets, a form of enterprise takes on specific characteristics, although some of these may be shared by a certain number of forms of enterprises. It is here that the aforementioned conceptual difference between genotype and phenotype emerges. In nature, these are differences that the diversity of ecosystems can make more

pronounced; in real economic systems, the diversity of markets-habitats can in turn make those differences that give rise to a plurality of phenotypes more pronounced.

Drawing attention to the evolutionary phenomena and the variety of organizational forms with respect to the perfect competition approach does not only imply "extending" the analysis of economic factors, but above all a shift in scientific paradigm, at least according to Thomas Khun's (1962) seminal work. A scientific paradigm is first and foremost a constellation of beliefs shared by a group of scholars, that is to say, the set of theories, values, and research techniques of a given community of scholars. For an economic analysis, accepting a paradigm shift means shifting attention from phenomena expressing the forces that generate evolutionary changes. In a certain sense, if the paradigm of neoclassical economic theory owes much to the mechanistic conception of the economic universe, the paradigm of evolutionary economic theory owes much to a conception of the economic universe that we could call biological-evolutionary.

The abundance of types of enterprises and organizational forms in general recalls the extreme number of types of living beings, those that biologist Sean Carroll (2005) called "endless forms most beautiful". However, while in biology it is possible to classify living beings with appropriate taxonomic criteria, in economics it is not possible to precisely classify, for example, enterprises, the basic units of economic analyses. As mentioned above, according to Bernheim and Whinston (2008), we could venture to classify enterprises by type of products. While this classification is often used in economic statistics, there are companies that belong to multi-product conglomerates, making it difficult to classify by product. We could also venture to classify companies in terms of size, but even this classification could lose meaning because in many cases company size has quite wide areas of variation such as to give rise to what in statistics is defined as normal distribution, hence another classification that leads to methodological problems.

A classification taxonomy of enterprises that contemplates at least a mix of criteria could help in identifying the market to which the enterprise belongs, and therefore the way in which a type of institution is affirmed rather than another, allowing to advance some steps on the path of the realism of the hypotheses. For example, we might have two companies operating, say, in the automotive tire sector. One of them "Al-

pha", is a large company in terms of number of employees, with an international projection. On the other hand, "Beta" is smaller in size, with a commercial projection at the more national level. From a commodity point of view, the two companies belong to the same sector, but from the point of view of market extension, as well as their organizational methods, they belong to two different classes. The ways in which the two companies deal with trade unions, banks, and customers are expected to be quite different, and hence also the related institutions.

5.7 Economic choices and political choices. The indeterminacy of preferences

The question of preferences and their formation is important in the analysis of the formation of international economic institutions inasmuch as relations between national governments must not only take into consideration the preferences of a given set of subjects, namely voters, but also and above all the preferences of another set of subjects, namely governments. These are preferences that can be defined in the international economic policy action space. They are conditioned by the level of knowledge on the consequences that every economic policy action can determine in respect of the level of welfare expected by the populations concerned.

It can be said that a specific institution relating to a market reflects the behavioral preferences of the players operating in that market. Assuming the varieties of capitalism hypothesis, it must be concluded that players in a specific market in country "Alpha" do not necessarily have the same behavioral preferences as players in the country "Beta", although acting in a market very similar to that of "Alpha". It is therefore possible that the various institutions relating to functional levels A and B in Alpha and Beta will differ. At this point, we must ask whether the collective preferences, in their national dimension, defined on economic and financial policy action space of Alpha relative to the institutions belonging to functional level A (indicated with α_A) are, if not equal, at least similar to the preferences defined on the corresponding economic and financial policy action space of Beta, also relative to functional level A (indicated with β_A). The same can be said about the institutions belonging to functional level B. This is an issue that belongs to the methodological framework of public choice.

In this regard, Allan Schmid (1994, p. 184) pointed out that institutional and evolutionary economics "has as its core a theory of collective action,

that is, public choice", and it is in this core issue that the link between economic institutions and political institutions manifests. In short, it can be said that "public choice is the process of aggregating individual preferences, including constitutional issues such as voting and the structure of government" (ibid). In the case of preferences regarding economic and financial policy actions, serious methodological problems emerge.

In fact, national policymakers, when discussing the introduction of new institutions aimed at strengthening the economic and monetary integration of a reality such as C_{EU}, cannot be expected to make assumptions about their citizens' preferences with regard to the economic and financial policy actions to be implemented. At the same time, policymakers have the problem of understanding how new institutions modify the power structures. Daron Acemoglu and James Robinson (2008, p. 267) highlight that institutional reforms on the political front are not neutral with respect to the balance of political power. More precisely, they state, "Changes in political institutions [...] ought to have led to significant changes in economic outcomes". In the case of the C_{EU} countries, for example, securing substantial operational independence from the ECB has shifted the center of gravity of political and economic power.

Under the public choice framework, where economic and political institutions coexist and condition each other, one must ask what the aggregation of preferences that Schmid (1994) refers to consists in, especially if focusing on the construction of a C and/or C_{EU}. Such institutional projects necessarily contemplate the introduction of new institutions and the modification of existing institutions. The substantial difficulty in aggregating citizens' preferences in economic and financial policy lies in the fact that the electorate is generally unable to express preferences in this matter. Along with the lack of adequate information (Hodgson, 1988, p. 111), the cognitive limitations of people have a significant weight within the bounded rationality framework.

In practice, there is a substantial logical and cognitive impossibility to transform a set of individual preferences in economic and financial matters into an order of collective preferences. As Erik Jones (2002, p. 147) stated, "The assumption that macroeconomic outcomes are the subject of direct and relative preferences within the democratic electorate is simply incorrect. Voters do not seek to trade off inflation and unemployment either directly or against other macroeconomic outcomes [...]. The voters want inflation and unemployment to be as low as possible given the

circumstances". On this issue, the political scientist Aaron Wildavsky (1987) is skeptical about the possibility that the N electors of a generic country, j, can form orders of preferences in choices in which the political component is strong when there is no serious theory on the matter. In this regard, he stated, "An obstacle to the development of a theory of political preference formation is the view, dominant in psychology, that cognition must precede affect" (ibid, p. 8), noting that it is difficult for a person to form significant preferences in the absence of cognitive tools. In terms of economic and financial policy choices, knowledge is rather esoteric and is in the hands of small groups of "experts" who sometimes claim exclusive knowledge.

In addition to Wildavsky's claims, I observe that for any citizen, in an initial period Δt_1, it is difficult to derive an order of preferences on actions that could become operational in subsequent periods $<\ldots \Delta t_2, \Delta t_3, \ldots, \Delta t_n>$. Ordinary citizen cannot have rational expectations on the as yet unknown actions that policymakers will implement in future periods. Between the signing of the Maastricht Treaty and its introduction, European policymakers were called on, with the assistance of technical committees, to identify and define the concrete actions on which the governance of the single currency would be based. With reference to the USA, Henry Chappel, Roy McGregor, and Todd Vermilyea (2005, p. XIII) stated, "In the USA and many other countries, monetary policy decisions are made by committees. Committees' policy reflect the preferences of their members as well as the institutional arrangements that govern the aggregation of individual preferences into collective choices".

Also with regard to C_{EU}, the role of technical committees, armed with a body of mainstream theories, has been significant. Policymakers were more interested in building a program of decisions staggered over time, according to Schelling's (1960) approach on the decomposability of negotiation processes. The changes that have taken place in the European institutions, especially with regard to C_{EU}, suggest reforms interspersed with rather long stationary periods. On such alternation, John Campbell (2004, p. 33) asserted, "For years, it has been argued that institutions are sticky and prone to inertia and, as a result, change quite gradually [...] decision makers often suffer from insufficient information about the problems at hand, poor methods for evaluating policy effectiveness, and other difficulties – conditions that rational choice and organizational institutionalists regard as problems of bounded rationality". Coming into play are the collective

utility functions representing the utility functions of each state, assuming that the difficulties illustrated in Arrow's (1951) impossibility theorem can be surmounted. Surmising that it is possible to construct collective utility functions able to avoid the pitfalls of Arrow's impossibility theorem, the problem remains of the derivation of dynamically consistent predictive evaluations, namely consistent with the actual evolutionary processes that individual national economic systems can manage subsequent to the determination of new international economic institutions.

The existence of this type of predictive uncertainty leads to reflecting on the conditions that determine agents' expectations on the consequences of the institutional choices made (Aoki, 2001, p. 17). Moreover, to recall is that these choices develop on a composite terrain where not only economic factors but also factors of a political nature come into play. The elimination of political factors and even those of a cognitive type, implemented by *standard economics*, has led to neoclassical economic policy being unable to explain the institutional processes, resulting in the belief that they can do without them or reduce them to the role of fictitious Walrasian auctioneer. This mutilation weighed on the theory of international political economy for some time. In this respect, Bruno Frey (1984, p. 199) noted, "There can be no question that the study of international political economy has received insufficient attention in both economics and political science". In fact, a kind of rift registered in the twentieth century between economics and political studies where a fragmentation of the international political economy manifested (Kébabdjian, 1999), divided between international politics and international economics (Spero, 1977). Some valuable attempts have been made in recent years to overcome the rift that Frey referred to by a group of political scientists attracted to the role that interdisciplinarity can play in understanding international relations and by those economists who consider economics a well-rounded social science.

Gilpin's (2001) study is highlighted among the contributions stemming from political studies, whereas in respect to economists, reference is made to contributions from those scholars who follow an institutionalist approach, thus oriented to focusing on the formation of international economic institutions and the rules fielded to ensure the governance of important international economic phenomena. In particular, a significant number of studies analyze economic relations between states using game theory (Pierre Allan and Christian Schmidt, 1994; John McMillan,

1986; Barry O'Neill, 1994). In other works, importance is instead assigned to negotiation (Steven Brams, 1990; Henner Gimpel, 2007; Peter Ordeshook, 1986; Peyton Young, 1991; Howard Raiffa, John Richardson and David Metcalf, 2002). Both political scientists and economists use game theory to identify some structural conditions that lead to the affirmation of economic institutions operating on an international level.

Generally, the formation and evolution of institutions, intended as the rules of conduct followed by a community of subjects, is certainly the core of a scientific program of institutional economics and more precisely new institutional economics (NIE). The NIE fields of application are manifold, since there are many aspects of economic life that can be investigated, from negotiations between two or more individuals to firm organization, from competition between firms to competition between national governments called on to manage the conflict that could potentially ignite between national communities.

5.8 From the Arrowian logic to the economic and financial policy action space

It is not a bold assumption that the position of strength of the technical committees also derives from the impossibility of obtaining collective preference functions from a set of individual preference functions, a relevant theme in Kenneth Arrow's (1951) analysis. Precisely the asymmetries between the formation of preferences of individuals and those of governments would oblige serious reflections on the modalities of the formation of collective preferences, resorting to behavioral economics models. Here I limit myself to enunciating a methodological requirement that is still somewhat far from being satisfied by economics. At present, the economic and financial policy choices that national governments make give rise to systems of objectives and instruments, or actions, which are largely part of the conceptual heritage of macroeconomics. In general, the objectives of the policymakers of a state can be: a) the tendential stability of the monetary yardstick; b) full employment; c) national competitiveness (if anything, trying to obtain a trade balance surplus). While the actions may concern: 1) maneuvering the interest rate; 2) taxation policy; 3) exchange rate governance; 4) budget policies; 5) monetary policy (expansive or restrictive); 6) the control of inflation.

As known, Kenneth Arrow, in the attempt to identify an "objective" criterion to satisfy a principle of coherence between individual prefer-

ences and collective preferences, demonstrated that only under very strong restrictions in the axioms at the base of his theory is it possible to guarantee the effective operation of such principle (Eric Maskin and Amartya Sen, 2014). Arrow's original objective was to provide a theoretical approach to the way individuals determine their order of preferences, if anything transformed into utility functions. Arrow (1951, p. 6) highlighted that these systems are defined on sets of alternatives, "In the theory of consumers' choice, each alternative would be a commodity bundle; in the theory of the firm, each alternative would be a complete decision on all inputs and outputs; in welfare economics, each alternative would be a distribution of commodities and labor requirements". However, in the case of public choice, preferences are defined in the economic and financial policy action space.

As Walter Bossert and John Weymark (2004, p. 1100) illustrated, "This negative result has initiated a series of contributions which attempt to avoid Arrow's impossibility theorem by weakening one or more of the original axioms". Given this is a social choice, Arrow (1951) assumed that the objects of choice are social states, providing a rather broad definition of social states as a specification of the distribution of commodities availability to each individual, the amount of labor provided by each individual, the amount of resources used in their productions, and the amount of services provided by the public sector. Moreover, Arrow (ibid) assumed, "each individual in the community has a definite ordering of all conceivable social states in terms of their desirability to him". Arrow's assumption presupposes a static condition of the states of the world on which individuals can express their preferences. The importance of the Arrowian approach is above all in showing the difficulty of transforming a set of individual preference orders into a collective preference order, unless we limit ourselves to the case of a dictatorial situation. Inevitably, the most radical way to bypass the difficulties posed by Arrow's impossibility theorem seems to be to construct analyses of public choices based on substantial bounded rationality and on the role assumed by the technical committees, as seen in the previous section.

5.9 International monetary regimes and the case of the euro

From the analysis of international cooperation processes emerges that certain agreements, especially those involving stringent com-

mitments between states, are possible, at least theoretically, if these states are sufficiently close, both geographically and culturally, sharing common ideals and political values. This could be the case of the EU, although substantially a fault line manifested between two groups of countries that showed different preferences in terms of economic and financial policy. In this case, it becomes difficult to speak of the hegemony of one state over others, while the contrast between the national preference functions strengthens the role of the nation-state whose institutions should be positioned as complementary to the supranational (Aoki, 2001, pp. 267 ff). International monetary relations can be seen as a sub-system belonging to the more general system of international economic relations based on the rules of the various national governments, at times individually and more often collectively. In the case of EU countries, the need to modify existing institutions became evident to provide, at least in some matters, an institutional framework consistent in all member countries.

However, a new institution, even if attempting to homogenize the governance of a particular matter, may enter into a logical/operating conflict with all other institutions that ensure the governance of interconnected or interdependent economic and financial matters. Such is the case of the system composed of institutions that regulate particular economic and financial matters. A system that in turn can be regarded as composed of two sub-systems, namely that of institutions that govern "internal" economic and financial matters, and those that govern economic and financial issued related to international relations. In addition, in the case of the EU, the sub-system of institutions that govern international type economic and financial matters must be divided into two further sub-systems, namely the institutions that govern economic and financial matters relating to relations between EU Member states, and those that govern economic and financial matters relating to relations between the EU and countries outside of it. The distinctions listed above are ideally inspired by a complementarity principle, but this does not eliminate the possibility that a sub-system affects another sub-system.

This is a specific conceptual scheme of the experience in relation to the European integration process, particularly with regard to European monetary integration. The latter was substantially supported by France and Germany with some methodological specifications, almost giving a tangible form to the Ishiguro model (Section 1.6). However, in the case

of European monetary integration, as we have already seen, precisely the lack of an effective hegemon made the institutional process, such as that of the euro, difficult. Therefore, the argument that I espouse is that the birth of the euro took place without the leadership role of a true hegemon, but under the pressure of France that could not be hegemonic, although aspiring to be such. On the other hand, numerous works emphasize the hegemonic role of Germany in determining the philosophy and structure of the Maastricht Treaty, and thus the architecture of the European monetary system.

Especially in Southern Europe, some politicians and scholars believe that the economic hegemony of Germany is interpreted as an expression of a vision of free trade imposed by using some kind of force. Some critical writings in respect of the euro and its rules state that these were sought by Germany to stifle the peripheral economies in Europe (Kouvelakis, 2012, p. 16). Germany was accused of wanting to put a kind of ideology at the heart of the construction of the euro, namely price stability, in some way aimed at conquering economic hegemony in the European market, at the cost of the progressive marginalization of "peripheral" countries. From credible historical reconstructions, such as that of Dyson and Featherstone (1999), and André Szasz (1999), the reality was rather different. At the signing of the Maastricht Treaty, there was little enthusiasm in Germany for the eventual entry, for example, of Mediterranean countries. Indeed, Central and Northern European countries feared that Mediterranean countries would "export" the inflationary pressures that had long characterized their economic policies to Central and Northern European countries.

5.10 Multi-level governance and the EU

From the aforementioned it is clear that even for the same genotype of goods it is possible to identify several organizational forms (phenotypes) that from an evolutionary point of view could give rise to specific markets, with a consequent increase in the complexity of institutional networks. This increase in complexity also derives from the fact that, in turn, national governments can create generative agreements of supranational institutions, as in the case of Euroland. The institutional system of Euroland is a multi-level system (MLS_{EU}), indicating a system made up of a number of sub-systems that are not necessarily homogeneous in

terms of formation and governance methods. From this we deduce that MLS_{EU} has a multiplicity of institutions, which in theory should satisfy a functional coherence principle, even if this does not always occur. However a multi-level system allows institutions to exist that: a) spontaneously form through interactions between individual subjects (individuals and enterprises); b) derive from the decisions of national authorities, policies, and administrations; c) derive from decisions taken at the supranational level by a group of national governments and/or groups of social organizations. The plurality of institutions to which I refer allows us to speak of a plurality of theories regarding the formation of institutions. In this regard, Andrew Schotter (1981, p. 52) in *The Economic Theory of Social Institutions* mentions his attempt to offer a theory of institution-building processes, pointing out that he presents "a mathematical theory of institution creation. Being only *a* theory as opposed to *the* theory, it cannot be considered the only possible approach that one could take".

At the same time, Schotter emphasized the need for any theory of institutions to have a fundamental conceptual core capable of explaining the institution formation processes, understood as social behavioral regularity. In fact, Schotter, in the wake of North's approach, defines social institutions as regularity (R) in the behavior of members of a population when such members act in recurrent situations (Γ), such that: 1) everyone conforms to R; 2) everyone expects others to conform to R; 3) everyone prefers to conform to R under the condition that others also do so if Γ is a coordination problem. In this case, uniform compliance with R is a coordination equilibrium; or 4) if someone eventually deviates from R, other members of the group may also deviate, so that the payoffs associated with such strategy represent a sub-optimal result. To the conditions set by Schotter we could add another: 5) if someone eventually deviates from R they will be sanctioned by other players (or by the organizations created for this purpose).

Schotter expressed the conditions of the existence of an institution, representing the equilibrium of a strategic interaction game. Completing the formulation of the conditions that ensure the equilibrium of an institution requires identifying the conditions that allow this equilibrium to have adequate stability, once achieved. Presumably condition (5) added above could be one of these. However, another important problem is understanding how institutional equilibrium can be established based on a situation that still lacks more or less stable equilibrium. As mentioned

at the beginning of this section, in the case of Euroland, a multiplicity of institutions exist, some of which are determined spontaneously in the various markets, others created by national governments and/or national social groups, while others still created by supranational bodies of the European type, so that the decision-making processes in Euroland see national governments as fundamental players. This is a substantiation of what Luder Gerken (1995, p. 19) represented as a vertical integration of institutions, remarking that, "Political agents of the central level strive for influence and power and therefore have incentives to take regulatory power from the regional level and to shift it to the central unit". In sum, Gerken observes that hierarchically superior powers in a vertical institutional system tend to force equilibria in their favor.

In Mistri (2019), I attempted to work on a first simple formalization of the concept of the structure of the institutional system of Euroland. In short, the global institutional network of Euroland, which I consider to be made up of three different levels, is indicated overall by $\mathscr{R}$. In this regard, I recall that functional level A is that of institutions called on to govern the numerous markets in which a national market is divided; functional level B is that in which the institutions generated by the state and by intermediate public bodies are located. These are institutions that govern the relations between the state and other national organizational bodies on the one hand and businesses on the other. To a large extent, these second institutions are mainly of a public nature. Finally, the third functional level C contains those institutions that essentially derive from the bodies of Euroland. With $\mathscr{R}_{\mathrm{A}}$ I indicate the set of institutions that belong to level A, with $\mathscr{R}_{\mathrm{B}}$ I indicate the set of institutions that belong to level B, and with $\mathscr{R}_{\mathrm{C}}$ the set of institutions that belong to level C. Consequently, we have $\mathscr{R}_{\mathrm{A}} \sqsubset \mathscr{R}$, $\mathscr{R}_{\mathrm{B}} \sqsubset \mathscr{R}$, $\mathscr{R}_{\mathrm{C}} \sqsubset \mathscr{R}$, and therefore $\mathscr{R}_{\mathrm{A}} \sqcup \mathscr{R}_{\mathrm{B}} \sqcup \mathscr{R}_{\mathrm{C}} = \mathscr{R}$. That said, remaining to operationally identify are the factors that determine the substantial differences between $\mathscr{R}_{\mathrm{A}}$, $\mathscr{R}_{\mathrm{B}}$, $\mathscr{R}_{\mathrm{C}}$, which concern the roles of the different agents, their functional identity, their contractual strength, the information universe, and their cognitive abilities. However, the starting point to build a taxonomy suitable to classify institutions would seem to be the taxonomy of functional domains of Masahiko Aoki (2001), having as reference the concept of institutions as a balance of a game of strategic interactions. This concept can be very well applied to the operating conditions in which specific markets are located according to the Aokian domains.

5.11 Toward a systemic conception

In terms of the synergetic approach to complex systems, it is a matter of analyzing the relationship between the microscopic level (functional level A and partially level B) and the macroscopic level (level C and partially level B). According to the physicist Hermann Haken (2005, p. 176), the relationship that exist between the macroscopic level and the microscopic level is determined using the concept of order-parameters, or ordinators, and the enslavement principle, a very important principle in the case of regulating international economic relations. In Haken's approach, the order-parameters are in fact the institutions (ibid, p. 128). According to the enslavement principle, the behavior of the microscopic elements is determined when the order parameters are given, that is to say, in our case, the rules. In other words, the behavior of economic agents is bound by the institutions that assert themselves in their respective functional levels. Moreover, the institutions referred to in level A and level B can be constrained to a greater or lesser degree by institutions of the functional level C, once the latter have become part of the institutional macro-system, in our case C_{EU}. In other words, they become functional to the global, holistic behavior of the system.

From the complexity approach we know that "every time we move up a hierarchical level the creative or combinatorial possibilities increase exponentially" (Gandolfi, 1999, p. 39) (my translation). Furthermore, "The elements of a lower hierarchical system, said microscopic elements, once organized into a system are subservient to the top level. This drastically reduces the theoretical freedom that the elements of the system enjoy" (ibid). Easily understood is that this relates to a property that in the world of international relations can have serious consequences in determining a multi-level governance system, particularly in the field of international economic relations.

Hence, the institutional typologies indicated above identify complex institutional networks in the sense of Brian Arthur, Steven Durlauf, and David Lane (1997), and reported in Cristoforo Bertuglia and Franco Vaio (2011, p. 7) who highlight that such systems share some characteristics, for example: a) they have widespread relationships among the heterogeneous parts that act locally on each other within a certain space; b) they have a substantially horizontal organization with possible constraints

and with many types of intertwined interactions; c) they are subject to continuous adaptation through the evolutionary processes of the individual parts (in economic agents); d) their dynamics are in states distant from equilibrium or even without equilibrium; e) if subjected to new external stimuli, they react by creating endogenous new dynamics, totally unpredictable a priori and ungovernable.

The characteristics that Arthur et al. (1997) and Bertuglia and Vaio (2011) propose are to be deployed in the reality of C and especially in the reality of C_{EU}. Simplifying, let us assume that we are limited to considering a state Alpha, a member of C but not of C_{EU}, in which institutions of functional level A and functional level B operate. Now let us consider a second state Beta, also e member of C and not of C_{EU}, in which institutions of functional levels A and B operate, with similar characteristics to the Alpha institutions, even if not entirely identical when assuming the varieties of capitalism. Thus, it can be assumed that these institutions, although belonging to the same functional levels, are heterogeneous. This heterogeneity can most probably be attributed to differences in national preferences for economic and financial policy actions. Paul Aligica (2014, p. 4) states, "The definition of heterogeneity [...] has come in time to pivot around three dimensions or facets: heterogeneity of capabilities, heterogeneity of preferences, and heterogeneity of beliefs and information". Among these forms of heterogeneity, I highlight the form relating to preferences.

If preferences are defined in terms of economic and financial policy actions, they are important in influencing the nature and form of agreements between national governments. Indeed, a process of complete economic integration would presuppose the achievement of institutional homogeneity in both countries at the various functional levels, as well as a high degree of complementarity between the different institutional levels. As Aligica (2014, p. 19) asserted, "Although homogeneity is fully considered a key element, heterogeneity and not homogeneity is the premier background condition to be dealt with in social theorizing. The challenge of heterogeneity is foundational and does not lend itself to easy solutions, be they theoretical or normative, such as universal institutional recipes for institutional design".

The question of the heterogeneity of preferences definable on the economic and financial policy action space is touched upon by Allan Drazen (2000, p. 555), amongst others, highlighting that heterogeneity

can be found in the diversity of objectives and conflicts that on these objectives divide national governments. In fact, heterogeneity is a constitutive factor of institutional networks. This heterogeneity can in turn determine different levels of transaction costs, which will produce different responses to exogenous shocks by the institutional systems of Alpha and Beta.

Now, let us assume that there is another state, Gamma, a member of C_{EU} as well as C. I assume that countries such as Gamma that belong to C_{EU} compared to countries belonging only to C will respond differently to those countries belonging to C in the face of the same exogenous shocks.

5.12 Interaction between institutional levels, and the issue of institutional complementarities

According to the enslavement principle, level B institutions may exert pressure on level A institutions in such a way that the latter become as coherent as possible with the former. In turn, level C institutions may exert pressure on both level A and level B institutions to become as coherent as possible with these institutions. In our case, the enslavement principle, which should ensure coherence and operationally identifies the positive complementarity between the different institutional levels, encounters and clashes with the differences in the institutional systems belonging to functional level A and functional level B. Combining with institutions belonging to functional level C does not necessarily lead to similar outcomes. In other words, the systemic responses may differ. In this regard, Aoki (2001, p. 16) noted that institutional divergence between two economies can produce different global (systemic) institutional adjustments, even if these economies are exposed to the same technical and market conditions.

Scholars of complementarity between institutional systems, such as Amable (2000), Hopner (2005), and Dai (2015), have analyzed this phenomenon. In fact, lack of complementarity between institutional levels can cause the failure of the convergence strategies between the economies of the C_{EU} countries. Another cause is to be found in the diversity of collective preferences regarding strategies defined on the economic and financial policy action space. To a certain extent, national preferences in economic and financial policy are largely reflected in institutions belonging to functional level A and functional level B.

I think the best way to represent the concept of complementarity between institutions is that illustrated by Robert Boyer (2005) defining complementarity in terms of institutional performance. With regard to this concept, Martin Hopner (2005, p. 383) wrote, "Institutional complementarity means that the functional performance of an institution of level A is conditioned by the presence of another institution of level B and vice versa". Moreover, he emphasizes the importance of coherence between institutions, as complementarity cannot exist without coherence. The two concepts are operationally different: complementarity finds its basis in the objectives that are assigned to institutions, in our case by policymakers, coherence instead has its basis in the institutions' ability to achieve the objectives set.

According to Boyer's (ibid) approach, it can said that there is a relationship between the level of performance of a system of institutions and the coherence among complementary institutions. Thus, two or more institutions called on to ensure the governance of a functional domain, if used together in compliance with the principle of coherence, strengthen the achievement of the objectives set by policymakers. I assume that a given market, $\mathcal{M}$, is regulated by institution r_V (level B) and that the policymakers intend to introduce a new institution, r_W (level C), aimed at partly regulating $\mathcal{M}$, in coexistence with r_V. The payoff deriving from only r_V can be expressed in terms of reducing transaction costs in $\mathcal{M}$ with respect to their level in Δt_o, for instance, in a period prior to the introduction of r_V in Δt_1, that is to say, in the period characterized by the introduction of r_V, the transaction costs decreased by $k\%$ compared to the level existing in Δt_0. I suppose that in Δt_2, policymakers introduce an institution, r_W, participating together with r_V in the governance of $\mathcal{M}$. The payoff deriving from the governance ensured by r_V alone is $\pi_V = \varphi(r_V)$. With the introduction of the institution r_W, the payoff, expressed in terms of the reduction in transaction costs, will be given by the Cartesian product $r_V \times r_W$:

$$[5.1] \qquad \pi_{v,w} = \varphi\,[r_v \times r_w]$$

If $\pi_{V,W} > \pi_V$, then we can state that they exhibit positive complementarity. On the other hand, if $\pi_{V,W} < \pi_V$, then the payoff of the combination of the two institutions would be negative. In other words, two non-complementary institutions could increase instead of decrease the transac-

tion costs. This might occur when the introduction of a new institution, presumably by the "government" of C_{EU}, is not functionally coherent with the other institution. Let us concede this might be a borderline case.

CHAPTER 6

MULTIPLICITY OF MARKETS. THE PROBLEM OF INSTITUTIONAL COMPLEMENTARITY

6.1 Introduction

Previously, I proposed a taxonomy of institutional levels following the Aokian domain approach. This taxonomy is a general framework of the broad categories into which we can place the institutions, but not that of the many institutions found in the multiplicity of markets.

Following the theory of monopolistic competition, given that goods and services are differentiated, they are necessarily manifold. Correspondingly, we can refer to a multiplicity of production factors, at least if we assume that these are overall specific. Hence, we might refer to *specific factors*, understood in the sense in which these are conceived in international economics (Paul Krugman, Maurice Obstfeld, and Marc Melitz, 2012, ch. 4). In this model, innovating the neoclassical theory of international trade, it is assumed that alongside a mobile productive factor, there are others that can be used for the production of particular goods, but not other goods. In this sense, they are specific. Extending the concept, we assume that the generic market can be divided into a multiplicity of *specific* markets. By specific market I intend a market in which a product has characteristics that are structurally different from other products produced and/or exchanged. In this sense, these factors cannot be transferred from one production to another. Each of these products belongs to a set of possible products or goods G = {1,2, 3,…n}. Similarly, as the goods and services markets are decomposed into specific markets, we might also assume that the markets decompose according to the characteristics of these factors.

In the case of regional economic integration processes, two very different dynamics manifest. On the one hand, products of a given type tend to be similar to meet the tastes of customers in a continental dimension. On the other hand, products tend to differ according to the logic

of monopolistic competition and the influences of the characteristics of national institutional systems. Thus, in a first approximation, we might define a specific market as a unit composed of at least one specific good and at least one specific factor. It goes without saying that correspondences can be identified in each specific market or even among a set of specific markets and one or more institutions, so that the particular institution or institutions ensure the governance of the specific markets under consideration.

The multiplicity, or if you will, the "varieties of capitalism", in the sense of Peter Hall and David Soskice (2001), are reflected in the manifold institutional systems, and naturally linked to the concept of *institutional diversity* that Elinor Ostrom (2005, pp. 5 ff) proposed. One could assume the existence of a set $\mathcal{M}$ of specific markets and a set $\Im$ of possible institutions. Following the mathematical theory of categories (Lawvere and Schanuel, 1991), in a specific market or among a set of specific markets $\mathcal{M}$ = {1, 2, … n} and a set of institutions $\Im$ = {1, 2, … n}, a morphism f exists, where f is a rule that assigns to each element $m \in \mathcal{M}$ an element $j \in \Im$. In other words, I hypothesize that to each m, whatever it be may, corresponds a rule (specifically, an institution) that ensures its governance, and that this rule can be seen as the equilibrium of a strategic interaction game.

These considerations extend the Aokian concept of the domains of a strategic game taken as the unit of analysis. More precisely, for Masahiko Aoki (2001, p. 21), "The domain of the game is composed of a set of agents – either individuals or organizations – and physically feasible sets of actions open to each agent in subsequent periods". In addition, "A combination of actions chosen in one period by all the agents in the domain is termed an *action profile*. An action profile determines the distribution of the payoffs among the agents in the domains" (ibid). Here I interpret the Aokian concept of domains as meta-categories of economic functions, for example, the business domain, the organization domain, the polity domain, the social exchange domain. Recalling, but in part revising, that stated in the field of Aoki domains, I define as a *specific domain* the whole consisting of: a) a possible area of intervention, represented by a category of goods or more categories of specific goods and by one or more specific factors; b) the actions to which governments may make recourse; c) the consequences of such actions. The institutions take shape in selected actions, namely the rules that ensure the governance of the various *specific*

functional domains, because corresponding to a specific domain is one, or sometimes more than one, institution that becomes its constitutive element, precisely *functional* to the governance of the specific domain.

As mentioned earlier, I start from the assumption that the real economic world offers a variety of domains and at the same time a variety of organizational forms of these domains in which specific institutions participate. It follows that there will be a multiplicity of specific functional domains. To note is that, at least in terms of international economic relations, there may be two fundamental ways in which the specific functional domains are positioned. A first way is when some specific functional domains are in a position of vertical complementarity, typical of multi-level governance. The concept of complementarity recalls that institutions can form a "network of institutions", whereby complementarity can be traced to the manifestation of the institutional complexity of a domain or a set of specific functional domains. At the same time, following Bruno Amable (2009), complementarity should be sought in the institution's ability to influence others, so that it can be interpreted in terms of "joint influence institutions" (ibid, p. 59).

6.2 Complementarity and decomposition strategy in the decision space

At the same time, an interpretation can be offered of the *rules* of complementarity among institutions, intended as the ability of these institutions, if belonging to a set of strongly connected specific functional domains, to produce augmented value in the period Δt_2 compared to the existing institutional situation in the period Δt_1. Just above I mentioned a second way in which institutions belonging to a specific functional domain can be positioned with respect to another. This second way, especially in the case of international regional integration, is when forces manifest toward the homogenization of national institutions that belong to the same type of specific functional domain, especially if such rules are in a position of vertical complementarity with a supranational rule in respect to which some of the national rules are in a position of subordination. Bob Jessop (1994, pp. 103 ff) noted that in modern economic realities, dynamics occur that have at their core national states as actors aiming to redefine the overall architecture of the institutional systems. At times, national states cede power to supranational bodies. In fact, especially in the field of international economic relations, individual national govern-

ments may create multi-level institutional networks. Gary Marks (1993) originally used the concept of multilevel governance precisely to capture the developments of the EU institutional system.

The decision to assign the governance of a specific functional domain (in our case, monetary) to a supranational, national, or even subnational organization is not neutral with respect to the consequences that ensue on the economic structures of the states belonging to C_{EU} nor in the cohesion or compatibility of the institutional systems operating at different hierarchical levels. Therefore, the creation of a multi-level governance system can lead to a transition from substantial national decision-making autonomy to a decision constraint, at least for some specific functional domains, with consequent limitations to national decision-making autonomy. Easily understood is that this relates to a property that in the world of international relations can have serious consequences in determining a multi-level governance system, particularly on international economic relations.

Having assumed that the overall institutional system of C_{EU} is a multi-level system, a macro-consequence of an organizational nature derives, consisting in having to identify the competences at the various levels and determine the time scale of the activation of these competences, dedicated to guaranteeing the governance of various specific functional domains. As I pointed out, the concept of the decomposition of a negotiation process is at the center of Thomas Schelling's (1960) analysis of negotiation in *The Strategy of Conflict*. A negotiation process can be defined through bargaining in a temporal and possibly functional sequence. In this regard Schelling (ibid, p. 44) states, "Bargaining may have to concern itself with an 'incentive' system as well as the division of gains. Oligopolists may lobby for a 'fair-trade' law; or exchange shares of stocks. An agreement to stay out of each other's market may require an agreement to redesign the products to be unsuitable in each other's area". In Schelling's approach, the decomposition tactic applies to promises as well as threats. In fact, "What makes agreements enforceable is only the recognition of future opportunities for agreement that will be eliminated if mutual trust is not created and maintained, and whose value outweighs the momentary gain from cheating in the present instance" (ibid, p. 45). What makes many agreements binding is the recognition of future opportunities for agreements that could be frustrated if they infringe mutual trust. Moreover, "Each party must be confident that the other

will not jeopardize future opportunities by destroying trust at the outset. This confidence does not always exist; and one of the purposes of piecemeal bargains is to cultivate the necessary mutual expectations. Neither may be willing to trust the other's prudence [...] on a large issue. But, if a number of preparatory bargains can be struck on a small scale, each may be willing to risk a small investment to create a tradition of trust. The purpose is to let each party demonstrate that he appreciates the need for trust and that he knows the other does too" (ibid).

The strategy decomposition methodology (Schelling, 1960, p. 45) is based on the assumption that agents are able to evaluate the expected payoffs at the various stages of the negotiation process. In this way, certain decisions, if difficult to take, are postponed in time, probably in the hope that the passage of time will soften opposing strategic positions. However, I would like to advance the hypothesis that the postponement of certain decisions responds to a logic explicable with the use of the cognitive sciences that offer ways of understanding individual and/or collective choices not always responding to the principles of absolute rationality. It follows that the players may still find themselves incorrectly estimating the payoffs expected in future periods. Despite these difficulties, the strategic decision to break down a negotiation process may appear the least risky for the purpose of reaching an agreement. From a theoretical point of view, it can be said that at the end of each phase, an equilibrium is reached, albeit temporarily. In this equilibrium, each player can assess whether the expected payoffs correspond to those actually produced or not. At this point, regret phenomena may manifest, with a possible paralysis of the decision processes, or potentially breaking the commitments made previously by some national governments.

What matters is creating trust capital that no party has an interest in dissipating. In the case of the EU, and even more so in the case of Euroland, dealing with and solving some "minor" negotiating issues from time to time led to strengthening trust in the collective will to solve more complicated issues among the partner countries. The history of the EU demonstrates the ways of breaking down an overall strategy according to Schelling. At the origin of the integration project were the ECSC and the ECM. The adoption of the ECM was the result of the six founding countries' positive evaluation of the usefulness of eliminating customs duties between neighboring countries sufficiently integrated from an economic point of view. A utility "certified" by the pure theory of in-

ternational trade, at the center of which lies the theory of comparative advantages, in the Ricardian version, together with developments in the Heckscher-Ohlin theorem. Such utility derives from the evaluation of the expected benefits and costs of an economic integration process according to schemes that do not eliminate in an entirely convincing way the socially and politically negative possibility that an increase in GDP produced as a result of the integration process will correspond to asymmetries in the distribution of the value added thus obtained.

However, to note is that the elimination of exchange rate fluctuations between countries that are commercially interdependent creates a constraint, expressed by a sub-system of institutions, that can lead to a decrease in the capacity of the economies of some of these countries to self-correct any imbalances in the real economic system. The consequence may be tightening the structures of the individual national economic systems, making the convergence of national economic structures themselves more difficult, and reinforcing those structural differences that contribute to talking about the varieties of capitalism (Peter Hall and David Soskice, 2001). Varieties that can also be strengthened within an economically integrated area.

In his seminal work dedicated to the economic integration of Western Europe, Tibor Scitovsky (1958) addressed the question of the advantages and disadvantages of such process. However, to note is that when the issue of Western European economic integration emerged, the related studies showed a prevailing belief in the benefits of such a union following the philosophy of the classical free trade approach. Interesting to note is that, already back in 1958, Scitovsky raised the issue of a single European currency as a means of avoiding the uncertainty arising from the fluctuations of different currencies relative to each other in a context of a regionally integrated economy. Significantly, even at that time, an issue that would gain great importance only in subsequent years drew the attention of economic scholars.

I now refer to the actions that two or more countries that are part of a coalition can take to implement an economic integration process. The starting point is necessarily related to the nature of the system of national preferences defined on the action space, subject to the expected consequences. In any international economic agreement, negotiators identify a sufficiently limited set of goals and thereafter the actions deemed appropriate to achieve these goals. The reasons why a group of states party to

a coalition decide to proceed along the economic integration path are essentially in the will to: a) further strengthen the ties between them, and b) the underlying idea that economic integration improves the economic performance of these countries. A project of this nature may appear appealing to the extent that these two objectives seem interdependent so that what is ceded in one matter can be offset by that which is acquired in another matter.

Schelling's (1960) analysis to which I referred can be applied to all types of international relations and can therefore also be used in international economic institutions. Schelling's concept is that the study of international relations, in general terms, is a study of conflict, intended not as the efficient application of a force, but as the use of a potential strength. Conflict "is concerned not just with enemies who dislike each other but with partners who distrust or disagree with each other. It is concerned not just with the division of gains and losses between two claimants but with the possibility that particular outcomes are worse (better) for *both* claimants than certain other outcomes" (ibid, p. 5). According to game theory terminology, the most interesting international conflicts are not those actable as "constant-sum games" but those actable as "variable-sum games". Hence, "The sum of the gains of the participants involved is not fixed so that more for one inexorably means less for the other. There is a common interest in reaching outcomes that are mutually advantageous" (ibid). Schelling's observation emphasizes the fundamental way in which two or more governments can transform a situation of potential conflict into a cooperative situation.

Hence, the importance of bargaining whose effectiveness can be increased if decomposed over time and matter. Lucidly, Schelling (ibid, p. 32) pointed out that negotiations can be facilitated by the decomposition of complex problems into a sequence of simpler, more circumscribed problems. The decomposability of what could be called the "chain of the integrative strategic process" can be considered a method of strategy, typical of procedural rationality, in the sense of Simon (1976), used by a group of national governments to forge a coalition. As mentioned, the decomposability of strategies can also be seen as a way of solving a subset of problems that were part of a larger set of problems and for cognitive convenience have been extrapolated from the context in which they were embedded. Following the cognitive sciences approach, policymakers can be said to adopt *heuristics*, which are strategies for simplifying

complex problems (Robert Sternberg and Talia Ben-Zeev, 2001, p. 145). An important heuristic is certainly the *means-ends* analysis, by virtue of which a too-extended cognitive problem is transformed into a sequence of sub-problems each of which has a specific sub-objective. The solution of the problem involves the solution of the individual sub-problems by identifying the means to achieve their sub-objectives.

However, the working hypothesis that the policymakers of C_{EU} make recourse to is that once the first sub-group of problems in Δt_1 have been resolved, they will move on the resolving the second sub-group of problems in Δt_2, and so forth, from period to period. This approach is typical of heuristics based on a means-ends analysis. The use of this type of heuristic has significant consequences on the relationship between economic policy strategies and the economic analysis methodology. Resolving a sub-group of problems regardless of the overall metaproblem means overshadowing the systemic nature of the different economic factors, and therefore, the different types of economic policy actions. In other words, the policymakers of C_{EU} do not reason according to *neo-classical economists*, attentive to the interdependence between the fundamental economic factors and their relative prices. They conduct their negotiations on a limited number of objectives and consequently on a limited number of actions.

Despite that the decomposability of strategic actions entails that policymakers risk losing sight of the overall view of the problems, making recourse to the decomposability of strategies is often an obligatory path for the creation of supranational institutions. Such path is obligatory when the effects of a strategy of this type necessarily manifest over a long span of time, so that the choices that the coalition makes are intertemporal. I therefore believe that precisely the variety of forms assumed by specific functional domains, as well as the differences in the interests of states, justify the decomposability of negotiating strategies in order to keep open the possibility of negotiations that enable the parties to obtain compensations in some domains when they feel penalized in negotiating the outcomes in other domains. In this regard Schelling (ibid, p. 45) stated, "What makes many agreements enforceable is only the recognition of future opportunities for agreement that will be eliminated if mutual trust is not created and maintained, and whose value outweighs the momentary gain from cheating in the present instance".

6.3 Types of regional economic integration

In a seemingly simplified approach, regional economic integration (REI) is the general concept that contains all forms of economic integration implemented by a group of M states. Formally, a REI may coincide with the elimination of obstacles to trade between these states, whereby the choice of institutional arrangements reflects the different degrees of intensity of any REI process. In fact, the manifold forms of REI are differentiated by the degree of intensity of the ties between the countries and the agreements at the base of specific commitments. Such agreements may result from the constraints imposed on the actions of individual governments, leading the integration process to bring about changes in the national institutional systems, together with, where applicable, the introduction of supranational institutional systems and/or supranational constitutions.

The many REI forms are classifiable in the order of increasing "intensity" of the integration processes and the consequent complexity of the underlying agreements of national governments. Thus, we know that a *free trade* area is a form of REI that provides for the free movement of goods, leaving each of the participating countries to decide on matters of trade policy with the countries that are part of the "coalition of excluded". I call this form type (*a*). A higher intensity of agreements can be found in the typical REI *customs union* form that foresees the free movement of goods and a common external trade policy. Let us call this form type (*b*). At a higher level of integration lies the REI form that consists in the creation of a *common market*, which besides a customs union also foresees the free movement of the factors of production. I call this form type (*c*). At an even higher level of integration lies the REI *economic and monetary union* form, which involves the adoption of common economic policies, or at least meeting certain constraints, to achieve a single currency. I call this form type (*d*).

Beyond this type of integration process lies the transfer of more strictly political powers to a supranational entity. The antithesis of all these REI forms is protectionism, a form of organization of international trade relations that I call type (*p*). Every step from a simpler REI form to a more complex form to a certain extent involves a review of the structure of the institutional systems, and where appropriate, the constitutions. In particular, there is a tendency to narrow the areas of influence of national institution-

al systems by expanding the area of influence of the supranational institutional system. Indeed, in abstract terms, the concept of integration, such as that defined by Bela Balassa (1961, p. 1), denotes the "bringing together of parts into a whole". However, Balassa himself in his seminal work on the theory of economic integration (ibid) points out that in economics, the concept of integration does not have such a "clear-cut" meaning.

I attribute positive operational significance and a useful starting point to Balassa's definition of integration as "a process and a state of affairs" (ibid). Integration as a process implies that the partner countries of an integration process agree to: a) foster the convergence of the economic structures of the different partner countries; b) eliminate some types of discrimination between countries in the governance of those that Aoki (2001, p. 21) calls the domains of the games, intended "as a unit of analysis". In this sense, in the first instance, I adopt the extensive Aokian concept of domains, and in a successive instance, the concept of specific functional domains, emphasizing that each specific functional domain has a governance regulated by an institution, and at times, by one or more institutions, comprising constitutions. Precisely the concepts of institutions and constitutions are the elements that could enrich Balassa's REI definition. To a certain extent, an increase in the size of the market involves the need to refine the system of institutions responsible for the governance of the various specific functional domains, those already existing and those that emerge from market expansion as a consequence of new functional specializations, in other words, specific functional domains.

6.4 Coalitions and preferences on the action space

In section 4.4, I offered some considerations on the "coalition" concept, which I take up in this section to highlight the relationship between a coalition and the varieties of capitalism. The concept of regional economic integration is necessarily accompanied by that of coalition. From the theory of games, we know that a coalition is a group of players who coordinate their strategies (Luce and Raiffa, 1989, pp. 182 ff). In more abstract terms, a coalition "is a nonempty subset of the set of all players" (Morrow, 1994, p. 116). In very general terms, I indicate with S a set of states that seek to give life to a form of REI, in our case the EU. As mentioned, C_{EU} indicates the group of countries that belong to Euroland, such that $C_{EU} \sqsubset S$, since C_{EU} is a subset *of* S.

At this point, it is possible to state that the transition from a non-integrative form of type (*p*) to one of the aforementioned integrative forms of type {a, b, c, d} corresponds to economic type strategies, although political reasons cannot be excluded. If policymakers expect external economies of scale from the institutional remodeling, in some cases, external diseconomies of scale may occur in contrast to the initial expectations. Balassa's REI enunciation is compatible with Schelling's approach in relation to the way in which a REI process is considered. Indeed, a REI process can be seen as a potential solution to a current or latent economic conflict between states through their cooperation.

As stated, $S = \{1, 2, ..., n\}$ is the set of states in the European region, and $C_{EU} = \{1, 2, ..., m\}$ is the set of Euroland states that intend to coordinate at least some of their actions to ensure the governance of some specific functional domains. Assuming, $m < n$, we have, as we have already seen, $C_{EU} \sqsubset S$. Obviously, C_{EU} will turn toward a RIE of type (*c*) if deeming that the manifestation of such REI will result in an increase in payoffs, however estimable, for the respective states. Generally speaking, the valuation of payoffs can be very complex, covering both material and generic social objectives. Here I will only consider material objectives synthesized as national income Y. In summary, at the base of the decision to create C_{EU} is the expectation that the resulting economic integration process would yield an increase in the total returns of the C_{EU} area and in each of the countries belonging to it, thanks to an appropriate division of the augmented value thus obtained.

The assumption is that the creation of C_{EU} results in greater growth than these economies would achieve if the governments of C_{EU} adopted a strategy of type (*p*). The fact that the C_{EU} governments deem the prospect of such a type plausible does not mean that its manifestation is an automatic result of each of the different types of REI. We can assume that more than the beliefs deriving from irrefutable empirical findings, it is a matter of beliefs deriving from the wealth of theoretical literature on foreign trade and REI. In particular, the growth of retractable payoffs from a transition from a form of type (*p*) to a form of type (*a*) is certainly supported by seemingly solid theoretical contributions. Naturally, I refer to the theory of comparative advantages elaborated in the classical Ricardo model and re-elaborated in the neoclassical Heckscher-Ohlin model. Conversely, the transition from form (*p*) and/or form (*a*) to forms (*b*), (*c*), and (*d*) are more problematic from a methodological point of view.

After the emergence of the neoclassical approach to foreign trade, approaches emerged that make any positive outcomes of extreme integration processes less certain. For some references, I recall the monopolistic competition approach, the international trade in specific factors approach, the new economic geography approach, and that of bounded rationality. Specific difficulties may also emerge in relation to the convergence of national institutional arrangements. For instance, in the case of the European monetary integration process, "National institutions being deeply rooted in national history, there was little reason to expect sharp changes over short periods" (Eichengreen, 2012, p. 126). Eichengreen also raised the problem of the viscosity of institutional arrangements, making it easier for policymakers to identify the actual trajectories of any REI process.

6.5 Institutional design and national preferences

The creation of an economically integrated area, especially as regards Euroland, represents the implementation of an institutional design that flanks the national institutional systems, sometimes trying to modify them, especially when the governance of some important matters is transferred to a supranational authority. To note is that the European integration process, managed by a group of national governments, is aimed at implementing an institutional design formalized in treaties identifying specific institutions. The question that obviously needs to be asked is why a group of national governments would plan to transfer certain competences, especially in economic matters, to supranational authorities. Simply, the response that these governments might give is that through such transfer of competences it is possible to obtain advantages, always of an economic nature, that would otherwise not be obtainable. Advantages predicted by economic theory, recalling both the classical and neoclassical theory of international exchanges, with the comparative advantages theorem.

In the field of international relations, one might think that in addition to the supposed economic advantages, a new institutions is created to strengthen a given policy, to provide concreteness, stability, and security to an international regime, as defined by Robert Gilpin (2001). Indeed in Gilpin's view (ibid, p. 83), an international regime provides "sets of implicit or explicit principles, norms, rules, and decision-mak-

ing procedures around which actor's expectations converge on a given area of international relations". An international regime is certainly a complex construction that takes shape over a more or less long period of time, taking into account existing institutions, those they would like to change, and those they would like to create. Thus, the system of institutions governing an international regime does not obviate the possibility of introducing institutional innovations. On the contrary, it can exert pressure so that the overall institutional system evolves, giving concrete form to certain *idée-force* or main ideas.

Main ideas are not born from nothing, if anything, they are a distillation of political and economic policy preferences, especially of governments capable of exercising adequate hegemony over the system of countries that created an international regime. Formally, and only in part substantially, these national governments act in the name and on behalf of their respective electorates according to roles that could find a theoretical interpretation in the principal-agent model, where the agents would be the national governments and the principal would be their electorates, each with their own preferences. However, the agent-based approach does not fully reflect what occurs in the international economic relations domain. The difficulties in accepting without qualms such approach in this domain stem from substantial differences in the knowledge capital of different governments. Among other things, the principal-agent approach teaches us that the agent does not necessarily operate in the principal's interest, as we know from the moral hazard model, because the information assets of both are very different, so the principal has the correlated difficulty of knowing the economic and financial policy preferences and actions that are likely to be proposed by the agent, especially when dealing with the choice of actions in the international relations domain.

However, in the logic of reality, there is a division of functions whereby, alongside the institutions built at the supranational level, there are still national institutions that may represent consolidated social capital, or in any case, a cultural heritage in respect of which at least some national governments are unwilling to make concessions. If institutions are established and consolidated when they respond to a demand for a reduction in transaction costs, then it must be assumed that endogenous or national institutions have generated social capital that in some way correlates to the value of the transaction costs saved by these institutions.

First, the information available to the electorate is limited, such as not to allow the formation of knowledge that would be necessary in a matter such as international economic relations. Second, the majority of voters are limited, from a cognitive point of view, in transforming information into knowledge. Voters are boundedly rational players. The bounded nature of the information universe combined with the difficulties of voters cognitively processing such information largely prevents them from grasping the practical implications of the choices that governments engaged in an international economic integration process will have to make. It follows that the preferences of the electorate in matters of economic policy at the international level are, so to speak, "founded on sand". Moreover, another aspect must be considered, namely when an organization such as the EU introduces institutions having the character of constitutions, whose function is to introduce constraints on the actions of governments, voters are deprived of the possibility of expressing preferences among those defined on the subspace of the constraints thus placed. On the other hand, the only ones empowered to express preferences in terms of economic and financial policy actions are the policymakers called on to negotiate the choices of the EU, and above all, Euroland.

This necessarily leads to Herbert Simon's bounded rationality concept whereby individual national governments do not have direct and complete knowledge of the results of the strategies they could make recourse to. In reality, they have above all knowledge "mediated" by the scientific literature on REI. This is due to the lack of adequate certainty regarding the outcomes of extreme integration processes, measurable in terms of payoffs, so that policymakers and voters in some states may regret the decisions. Regret can manifest when the national preference functions differ greatly. These preference functions are defined in the economic and financial policy action space of individual national governments, giving rise to possible conflicts over the objectives to be achieved. If the preference of the electorate with regard to economic and financial policy in the context of international economic policy are of subordinate importance with respect to those of other players, the question arises as to who actually has the capacity to influence the choices of the actions of national policymakers. Previously, I spoke of international regimes whose role is to convey a certain vision of the world with certain ideologies that act as focal points, in the sense of Schelling, in determining supranational institutions. After all, this is the political side of an international economic integration pro-

cess that allows affirming that such process cannot be analyzed with the instruments of political economy alone, but most adopt the instruments of political science. In this regard, Allan Drazen (2000, p. 60) stated, "Our study of political economy began with the observation that in the real world, policies are chosen not by an infinitely lived social planner, but by a political mechanism that must balance conflicting interests".

In a first approximation, according to perhaps a somewhat naïve view of things, it can be assumed that institutions, especially those belonging to supranational level, are created to achieve certain outcomes, as in the initial stages of a given negotiation process. As George Tsebelis (1990, p. 98) noted, "Knowledge of the kinds of outcomes different institutions produce can transform preferences over politics into preferences over institutions". What remains to be understood is whether such changes in institutional preferences strengthen or weaken a mega-institutional system such as that of the EU and/or Euroland. For example, Euroland has seen a shift from decisions taken unanimously to decisions taken by qualified majority voting. In this case, it is a question of a change in the rules that define the decision-making process, which can however lead to changes in outcomes.

The aspect of political conditioning on economic policy choices is highly central, so much so that both in the EU and in Euroland the organization of decision-making processes attempts to respect more or less consistent equilibria between the different states. That in international relations the political dimension counts in the same way as the economic dimension is supported by the political scientist Robert Putnam (1988). Putnam's paper has the merit of having made a sort of inventory of the interpretations that the different schools give to the phenomenon. For example, according to Putnam, again in relation to the EU, the literature on the subject has tended to highlight the role of international regimes to which EU countries have acceded, and how the political parties have played within these international regimes with regard to the conditioning pressure that interest groups can exert in the European integration process.

6.6 REI and factors of production

Strategies for REI processes in forms (*c*) and (*d*) are in fact extremely complex, making it difficult for individual governments to evaluate ex-ante all the consequences of an evolutionary complex institutional

process. A more placatory institutional process seems to be the transition from a REI of form (*a*) to form (*b*). More placatory in the sense that from standard international trade theory, national policymakers learn that while the acquired form (*a*) leads to a gradually convergence of the relative prices of goods, form (*b*) results in accelerating the equalization of the relative prices of production factors with which it would be legitimate to assume that in this case, at least in theory, all member states of C_{EU} would be able to produce the goods obtainable in the C_{EU} area with equal levels of efficiency. In other words, they would have the same production functions. This could be true if the C_{EU} market were perfectly competitive and the players were equipped with Olympian rationality, which allows completely eliminating any type of transaction costs in a context in which the players (individuals, businesses, and political and/or para-political organizations) could move with full mutual trust. This hypothesis, which assumes the founding principles of the theory of perfect competition, would not require considering the institutions, and of course, the constitutions.

Leaving aside institutions for the moment, I hypothesize that each of the states of C_{EU} can derive a Cobb-Douglas function that expresses an aggregate production function, necessarily employed in macroeconomic analyses. On the Cobb-Douglas methodological validity, I recall that its emergence and use has aroused ample debate. Particularly, I recall Paul Douglas's seminal work (1976), the critical review of Jesus Felipe and Franklin Fisher (2006), as well the work of Jesus Felipe and John McCombie (2012) in response to Johnathan Temple's (2010) work. Despite some unresolved issues of the aggregation of a set of production functions, each of which is representative of a specific enterprise, I find it useful to adopt these in the Cobb-Douglas specification. Richard Nelson (1964, p. 575) asserted, "The conceptual basis for believing in the existence of a simple and stable relationship between a measure of aggregate inputs and a measure of aggregate outputs is uncertain at best. Yet an aggregate production function is a very convenient tool for theoretically exploring some of the determinants of economic growth, and it has served as a framework for some empirical studies". Aggregate supply curves, indeed aggregate production functions, are widely used in the macroeconomic literature, although predominantly in the neoclassical version of the Keynesian approach (David Romer, 2012, p. 262) and in the theory of economic development (David Weil, 2005, ch. 3).

From my point of view, the use of the Cobb-Douglas function finds justification in the implications of the factor price equalization theorem following a complete economic integration process. This equalization assumes that in the countries that make up C_{EU}, the combination of capital and labor used to produce good-types takes place with the same relations, and this eliminates the issue of aggregating production functions with regard to the eventual diversity of these functions. Daron Acemoglu (2009, p. 158) addressed the issue of aggregating a set of production functions in terms of a representative firm. In particular, Acemoglu assumes that it is possible to represent the entire production of an economy by an aggregate set of production possibilities, which can be thought of as the set of production possibilities or the production function of a representative enterprise (ibid). In a first approximation, I assume that the aggregate production function of a country has the usual form, i.e., expressed in the Cobb-Douglas formula:

$$[6.1] \qquad Y = F(L, K) = A\, L^a\, K^b$$

where the variable A captures the general level of economic productivity of the country concerned (Richard Nelson, 1964, p. 578; David Weil, 2005, p. 51), L is the labor factor, and K the capital factor; the parameters a and b capture the relative labor and capital productivity, but do not depend on A. The factor price equalization principle enables deriving that the returns to scale are the same for all states of C_{EU} whether they be constant, increase or decrease, depending on the weight of the parameters pair (a, b). Oversimplifying, let us assume that in a perspective of perfect competition with complete information, all the states of C_{EU} have the same Cobb-Douglas aggregate production function of the type:

$$[6.2] \qquad Y = \sum_{1}^{n} y_i \text{ with } \mathrm{l} = (1, 2, 3, \ldots, \mathrm{n})$$

where y_i is the production of each state and Y is the total production of C_{EU}. For each of these productions, we have the same marginal productivity of K and L. As known, [6.1] is a homogeneous degree function $(a + b)$. If assigning to the exponents of [6.1] the condition that $(a + b) = 1$, then the scale of returns will be constant in all states, the marginal productivity of L will be the same for each state, as will the marginal productivity

of *K*. C_{EU} is defined by a set if states, $\mathscr{M}$ = {1, 2, 3,……m}; the subscripts (1, 2, 3, …, m) indicate the possible member states of the coalition. The principle of marginal productivity equalization may be expressed as:

$$\partial Y_1/\partial L_1 = \partial Y_2/\partial L_2 = \ldots\ldots\ldots \partial Y_m/\partial L_m$$
$$\partial Y_1/\partial K_1 = \partial Y_2/\partial K_2 = \ldots\ldots\ldots \partial Y_m/\partial K_m \quad [6.3]$$

In production function [6.2], the marginal productivity levels of *K* and *L* depend on physical and technological factors that, at least in theory, can be considered transferable from one state to another. Therefore, if the conditions of the Heckscher-Ohlin theorem with transferability assumptions of K and *L* within the C_{EU} area apply, the hypothesis of homogeneous growth *Y* in all the C_{EU} states can be assured. The factor price equalization concept in a perfectly integrated market identifies a possible evolutionary path of this market. Of course, to note is that the equalization hypothesis over time of the relative *K* and *L* factor prices holds if we assume that, in every country, *a* and *b* remain constant, or in any case constantly maintain their relative weights. By contrast, in the case of non-constancy of *a* and *b* in the long run, I refer to the interesting critique of Thomas Piketty (2013, ch. 6). For my purposes, in the short and medium term, I assume that the *a* to *b* ratio is constant.

Implicit in the factor price equalization assumption of the relative prices of *L* and *K* is the hypothesis that the countries involved in the REI grow at the same rate. This is consistent with the neoclassical assumptions of the Heckscher-Ohlin theorem. However, this hypothesis is destined to fail if the aggregate production functions of individual countries are complemented by the inclusion of a third or more factors, such as human capital, social capital, and similar. I denote social capital with *S*, and provisionally make recourse to the concept of social capital in homage to those scholars (Coleman, 1987, 1988; Putnam, 1993a) who first identified the role of this factor in the economic development of states. However, in this work, I consider that part of the social capital is identified in institutional capital, denoted with *I*. Following William Neilson and Harold Winter (1998, ch. 5), [6.1] can be enriched with an additional factor of production. If the institutional capital, *I*, of each of the countries of C_{EU} differs, then necessarily the possible growth rates of the various countries also differ, despite that the relative prices of the real (in the sense of material) factors of production

are identical in all countries. The result can be presented by a standard aggregate production function of the type:

[6.4] $$Y = \varphi\,(L, F, S) = A\,L^{a}\,K^{b}\,I^{c}$$

I have provisionally enriched the aggregate production function with "national" institutional capital. Although I deem Putnam's approach and the related Ostrom and Ahn (2003) approach interesting, I limit myself to reasoning in terms of institutional capital, that is to say, those social rules that represent the solution of coordination games between different players, even ordered hierarchically. Thus, we note that there are coordination games that take place: a) in micro markets at the enterprise level; b) at the national level between enterprises and unions; c) between the governments of the countries that form a REI. These games can give rise to hierarchically ordered rules at a higher level and replace the rules subject to the jurisdiction of national governments.

A REI design implemented as in our case by C_{EU} requires finding points of convergence between the institutional capital of the different states, including the hypothesis that a REI could lead to the creation of institutions created by individual national governments transferring parts of the governance of one or more specific functional domains to supranational entities.

6.7 Institutional complementarities

Just above, I emphasized the importance that in certain contingencies the creation of institutions indicated as constitutions might assume, especially when these increase the powers of supranational entities. As such, these constitutions become part of the institutional network of each country of C_{EU}. With regard to this aspect, we can assume that I^{c} is a variable that synthesizes the presence of two institutions called on to ensure the governance of a specific functional domain, institutions that I indicate with V and W, so that [6.4] becomes:

[6.5] $$Y = \varphi\,(L, F, V, W) = A\,L^{a}\,K^{b}\,V^{c}\,W^{d}$$

In a first approximation, I consider that V and W are national institutions with a determined and sufficiently high level of coherence.

Of course, the institutions of this type of system are assumed to be coherent, where at the center of an analysis based on the existence of networks of institutions the problem arises of the so-called "complementarity among institutions" (Amable, 2000). In this sense, institutional complementarity can be understood as substantial coherence between the institutions called on to ensure the governance of a specific functional domain of a generic state *J*. With functional coherence between institutions I mean that two or more institutions, if jointly used, improve the achievement, understood as a satisficing level, of the objectives specifically identified by the policymakers. Thus, the coherence I mention can be seen as a necessary condition for two or more institutions to be positively complementary. I speculate that two separately or jointly considerable institutions (V) and (*W*) are given, as in the usual production functions.

I also assume that the policymakers undertake an evaluation of the performance of institutions *V* and *W*. Such performance can be interpreted in terms of the gains generated by each institution, indicated with ΔY_V and ΔY_W. Such gain is evaluated with respect to the performance of the economic system of *J* under the hypothesis that such institutions did not exist in the period Δt_0.

We assume that policymakers know the outcome generated by institution *V* at time Δt_1, expressed by $\Delta_1 Y_V$, and another outcome generated by institution *W* also at time Δt_1, expressed by $\Delta_1 Y_W$. Boyer (2005) assumes that the interrelationship between two institutions, represented as their Cartesian product $V \times W$, can give rise to a contribution to the outcome, valued by $[\Delta_1 Y_V \times \Delta_1 Y_W]$. Now let us assume that in Δt_1 for Δt_2 the policymakers of state *J* belonging to C_{EU} decide to accept that one of the two institutions of a national nature is replaced by an institution of a supranational nature, and that this institution belongs to the domain *W*. The new supranational institution is indicated with *W(*)*. The policymakers of *J* accept such a "reform" with the expectation that it will generate a higher payoff than that generated over time by institution *W*, according to the following formula:

$$[6.6] \qquad E\,[\Delta_2 Y_V \times \Delta_2\, Y_W(*)] > [\Delta_1 Y_V \times \Delta_1 Y_W]$$

With [6.6] I essentially state that a combination, in terms of complementarity and functional coherence, of the new institution may result in

the augmented value of the national income of a hypothetical country $\mathcal{J}$. This augmented value is denoted with ΔYA:

$$[6.7] \qquad E\,[\Delta Y_{\mathcal{J}}] = E\,[\Delta_2\, Y_V \times \Delta Y_{2\,W}(^*)] - [\Delta_1\, Y_V \times \Delta_1\, Y_W]$$

I believe it correct to assume that the economic development of whichever country can be determined by, aside from the combination of *K* and *L*, a system of complementary and coherent institutions, indicated with *I*, and hence from the combination of *K* and *L* with *I*.

6.8 Institutional dis-complementarities

The introduction of an institution or a constitution that refers to a new and different decision process could give rise to the problem of establishing whether this modification of the institutional systems structure can affect the nature of the concept of complementarity between institutions, which does not necessarily produce augmented payoffs. Such concept of complementarity gives way to the notion that a reform of institutional capital always produces positive effects (Boyer, 2005). In this case, it is implicitly assumed that the Cartesian product of two or more sets of institutions always generates positive augmented value. However, the reality may differ because the introduction of a new constitution in the institutional network of a group of states forming a coalition, such as C_{EU}, does not necessarily give rise to the uniform growth of the economies of this coalition.

In support of the above, I provide some considerations that Joseph Stiglitz (2016) developed in a book dedicated to the so-called dysfunctionality of the euro. These considerations revolve around the question of the introduction of homogeneous monetary policy rules for dis-homogeneous countries both in terms of economic structure and the preference functions defined on the economic policy action space. Stiglitz insists on the fact that there is functional incompatibility between the imposition of a single currency and the aforementioned dis-homogeneities. Furthermore, Stiglitz (ibid, ch. 2) deems that because a single currency can work in a satisficing way, sufficient similarity is required between the national economic structures and the national preference functions in the economic and financial policies domain. It can be assumed that the introduction of the euro has led to the introduction of new institutions

managed by a substantially technocratic body, such as the ECB, which has been assured full decision-making autonomy. In any case, such autonomy is today recognized to the central banks of many states, and in some way breaks the interdependency relations between the different macroeconomic variables, with the Hakenian subjugation of various national institutions to some supranational institutions.

The existence of a single currency, considering the inertia of many national institutions, establishes a constraint for the weaker national economies. However, such decision-making autonomy in some way breaks the interdependency relations between the different macroeconomic variables, with the subjugation of various national institutions to some supranational institutions. In this way, some of the economic policy and financial decisions of the Eurozone countries become dependent variables of ECB choices. The existence of a single currency, considering the inertia of many national institutions, establishes a constraint for the weaker national economies and at the same time offers an opportunity for stronger national economies.

The introduction of rules established through constitutional mechanisms in the monetary domain may allow analyzing a stylized situation in which there are only two countries, namely *G* and *S*, whose real economies are seamlessly integrated. However, after the introduction of the single currency, we have dominant institutional systems that are not necessarily consistent with the dominated national institutional systems. In terms of a four-factor Cobb-Douglas function – labor (*L*), capital (*K*), and institutional capital (*V,W*(*)), namely a mix between national and supranational institutions – might (hypothetically) be the following, where with Y_g and Y_s I indicate the aggregate output respectively of *G* and *S*.

I make the assumption that the two economies before the introduction of the euro exhibited the following two functions of aggregate domestic production, including institutional capital:

[6.8a] $$Y_g = \varphi\,(L, K, I) = A\,L^{0.4}\,K^{0.4}\,V^{0.1}\,W^{0.2}$$

[6.8b] $$Y_s = \varphi\,(L, K, I) = A\,L^{0.4}\,K^{0.4}\,V^{0.1}\,W^{0.1}$$

Compared to the simpler Cobb-Douglas function, [6.8a] and [6.8b] include institutional capital among the factors. The parameter 0.3 relative to the institutional capital of *G* is higher than the 0.2 parameter relating to

the institutional capital *of S*. In this case, the aggregate production function of *G* exhibits the property of increasing returns, although the parameters of *K* and *L* of both *G* and *S* are equal in obedience to the principle of the equalization of *real* production factors. By contrast, the partition of the institutional capital (*V,W*) of the aggregate production function of *S* exhibits the property of constant returns to scale, while the aggregate production function of *G* exhibits increasing returns to scale. In concrete terms, the economy of G is growing faster than the economy of S.

At this point, all that remains is to synthetically introduce the hypothesis made just above regarding the replacement of institution *W* in its national dimension with institution *W(*)* in its supranational dimension. This institution will enter the network of institutions called on to guarantee the governance of one or more specific functional domains. We can assume that the new constitution is functionally coherent with the national institutions of country *G* and functionally non-coherent with the national institutions of country *S*. Then [6.8a] and [6.8b] could be transformed into:

[6.9a] $Y_g = A\ L^{0.4}\ K^{0.4}\ V^{0.2}\ W^{0.3}\ (*)$

[6.9b] $Y_s = A\ L^{0.4}\ K^{0.4}\ V^{0.1}\ W^{-0.1}\ (*)$

In this case, there is a gap between the growth rates of *G* and *S*, because country *G* has 0.4 + 0.4 + 0.2 + 0.3 = 1.3, while country S has 0.4 + 0.4 + 0.1 − 0.1 = 0.8.

While the economy of *G* keeps strengthening at the level of returns, the economy of *S* registers a weakening in returns. This makes it possible to explain Stiglitz's assertion that the euro, namely a system of institutions within the national institutional systems, generates dis-functional complementarity.

6.9 Asymmetries in national growth paths and the problem of functional coherence between institutional systems

In section 6.8, I sought to show that the occurrence of asymmetries in the evolutionary pathways of national economies adhering to a RIA can be caused by the occurrence of differences in the adaptation of the network of national institutions with supranational institutions. In concrete

terms, the creation of a coalition like the C_{EU} does not guarantee that national institutions always integrate satisfactorily with supranational institutions. Thus, it may be that at the root of such asymmetry are differences in national economic and financial policy preferences, so that the preferences of some countries are consistent with the constitutions created at the supranational level, while the preferences of other countries are not as consistent.

Institutions determined at the supranational level do not always prove logically and functionally coherent with existing institutions at the national level, despite the fact that in negotiation processes, policymakers attempt to find possible points of agreement. The question of the differences between the endogenous (national) institutions of one state and the endogenous institutions of another state is central in the case of Euroland, as the institutions of each state, sometimes very different from one another, must combine with exogenous or supranational institutions to have a universal value in Euroland. With regard to the exogenous (supranational) institutions, the problem remains as to the elements on which the decisions of policymakers are based, considering that they move in a context of bounded rationality wherein both the endogenous cultural heritage and the cognitive modalities with which the policymakers of each state elaborate the available information are relevant.

In section 3.6, I suggested that it is difficult to identify a coherent international regime in the Euroland institutional system. This difficulty stems, in my view, from the weak balance between policymakers' preferences at the national level and those at the supranational level. The lack of substantial functional coherence between the two fundamental institutional levels (national and supranational) makes it more complicated to accept the idea that, especially in Euroland, an international regime is established. Such perspective would reflect the idea that an international regime should be seen as a complex system of functionally and ideologically coherent institutions. This coherence is not affected by changes in the form of one or more institutions in a given country over time, provided that such changes are consistent with the dominant philosophy of that country's institutional system. In a previous work (Mistri, 2003), I hypothesized that the institutional system of a country maintains over time the genotypes that characterized it at the start, while allowing a modification of its phenotypes. Therefore, we might hypothesize that a

system of social norms in the Δtn period continues living over time, albeit with non-structural adjustments.

Referring to Arrrow's well-known "impossibility theorem", even if it is logically impossible to derive a system of collective preferences from a set of preferences of national electors, both of which can be defined in the economic and financial policy action space, it does not mean that policymakers renounce building supranational institutions capable of guaranteeing the governance of certain functional domains of the economy and society. The solution that national governments might find must be sought, according to Schelling, in negotiation theory and practice. Negotiation theory identifies the conditions that allow two or more players to find a point of agreement, the result of a subjective perception of the so-called "area of possible agreements", as well as the modification of this perception (Augusto Schianchi, 1997, p. 169). In summary, as I previously mentioned, the players move in a substantial condition of bounded rationality to the point that they may wish to obtain satisfactory results within the area of possible agreements, even if only slightly above the BATNA (Best Alternative to a Negotiated Agreement) point, which indicates the level of payoffs that they could obtain in the absence of negotiated agreements (Dixit et al., 2015, p. 667).

With regard to the collective preferences expressed by individual national governments that intend to implement an international economic integration process, such process can better respond to the expectations of its political designers if the collective preferences of the governments concerned become interdependent, overcoming the typical notion in the neoclassical approach that the preferences are given and cannot be modified. The concept of interdependent preferences, originally used in consumer behavior analyses, can legitimately be used in the analysis of the preferences of national governments defined on the economic and financial policy action space. The concept of interdependent preferences implies that these can change over time, if need be from period to period, following a sequence of choices with temporary equilibria. These choices are only possible if the national governments involved in the supranational integration process gradually converge their preferences to the institutions at the supranational level, or rather, obtaining lateral payments useful to compensate, at least in part, possible future regrets. Future compensations can lead to the greater freedom of choice of national governments and make constitutional constraints less stringent.

6.10 Decision space and "experts"

Very often, the decisions of a national government are conditioned by the opinions of the "experts" who accompany the policymakers of a state during negotiations with the representatives of the governments of other states, often finding themselves in *ad hoc* technical committees. The expert opinions are developed through processes influenced by the positions of the policymakers and the cultural and scientific heritage of the experts themselves who very often have common scientific backgrounds. It follows that it is very likely that the expert opinions to a large extent reflect the theoretical assumptions of the hegemonic economic thinking at the time.

Defining an economic and financial policy action requires referring to macroeconomics and therefore to the macroeconomic type magnitudes that constitute the object of interest of the economic and financial policy, even if macroeconomics has a plurality of methodological schools (Sheila Dow, 1996). In any case, it was immediately after World War II, and therefore after the publication of Keynes' *The General Theory of Employment, Interest, and Money* (1936) that Keynesian macroeconomics affirmed in Europe and in the USA. The Keynesian approach highlights some economic variables that can be considered strategic, such as national income, Y, investments, I, consumption, C, public expenditure, G, and how these variables may interact. In addition, two other fundamental variables must be considered: the inflation rate and the unemployment rate, more or less united by the relation indicated with the Phillips curve. Today, the foundations of the Phillips curve would seem rather shaky. Since it is assumed, for example, that the employment rate is positively correlated with income growth, it is clear that the world of policymakers is interested in economic and financial policy actions capable of raising the employment rate, without triggering excessive inflationary waves. The Keynesian equation below can be considered the double-edged elementary sword of the strategies of the governments of the Euroland countries in which two different possible actions of economic policy are implicitly shown, namely the variation of consumer spending and/or the variation of investment spending. These actions can of course be complementary, however, many European governments consider them partly substitutable, as their effects on growth differ:

[6.10] $$Y = C + I$$

In general, there are many possible economic policy actions considering the Keynesian approach. For example, they may concern fiscal policy (high, medium, low taxation), public expenditure policy (extensive, restrictive, medium), monetary policy (extensive, restrictive, medium), and so forth. Restricting ourselves to Euroland policies by looking at the simple formula [6.10], we know that the governments of two hypothetical Euroland countries could use completely different actions to promote employment growth. For example, the government of state *G* could aim at increasing investments, while the government of state *E* could aim at increasing current expenditure, if anything, increasing consolidated debt.

The Maastricht Treaty provides important information on the economic policy actions negotiated and implemented by the Euroland countries. As Paul De Grauwe (2016, ch. 7) noted, the approach outlined in the Maastricht Treaty is based on the principles of gradualism and convergence. These two principles are pursued through a system of multi-level institutions entrusted with the governance of the fundamental magnitudes of real economies. As well known, the governance of monetary policy is entrusted to the ECB, which pays particular attention to controlling inflation. Also linked to the control of inflation are the budgetary and fiscal policies of national governments.

6.11 At the roots of the impossibility theorem. Conflicts between preference domains

As mentioned, the life of Euroland is dominated by a system of institutions that establish the rules for the governance of entire functional domains, understood in the sense of Aoki, and that condition the rules that ensure the governance of national markets. In relation to institutions, I take up the simple notion of institutions as formal and informal rules seen as forms of social capital. For our purposes, it seems useful to quote the definition of institutions of Ostrom and Ahn (2003, p. XXII) defining "institutions in broad terms as prescription that specify what actions (or outcomes) are required, prohibited, or permitted, and the sanctions authorized if the rules are not followed".

Interesting in their analysis is the attention they pay to the relationship between institutions and the different forms that social capital can take. The multiplicity of forms that social capital can assume, including the multiplicity of forms that the different institutions can take, enables

us to understand that the development processes of one or more states may not necessarily follow identical trajectories. In the case of Euroland, the different countries, and even regions, have different social capital and institutional networks. Thus, although the EU tends to build class *C* institutional systems added to class *A* and class *B* institutional systems, the three classes do not necessarily present maximum complementarity, partly due to the resilience of different institutional networks belonging to class *A* and class *B*, and partly due to a certain abstractness of class *C* institutions.

I have assumed that preferences for economic and financial policy actions may differ from national government to national government, as they reflect cultural specificities that in turn are reflected in collective preferences quite different from state to state. The national government preferences defined on the economic and financial action space are a partition of what Arrow generically calls alternatives. For now, following Arrow, I limit myself to constructing individual preference systems, assigning to each individual i = (1, 2, 3, ..., n) a system of R_i preferences defined on the economic and financial policy action space in the alternative conceivable for *i*. Assigned to the ordering is the property of being transitive and the property of being complete, so that for each pair of alternatives *x* and *y,* at least one of the following two relationships $x\,R_i\,y$ or $y\,R_i\,x$ prevails. The fundamental question that Arrow intended to address in his book *Social Choice and Individual Values* (1951) is that of identifying "a social preference ordering, *R*, over all alternatives from which the social choice for every set of alternatives, *S*, can be derived as the maximal elements of *S* under the ordering *R*" (Arrow, 2014, p. 144). In a nutshell, "Arrow's celebrated theorem shows that certain value judgments which society find fair to incorporate into a voting rule are logically inconsistent (Patrick McNutt, 1996, p. 26).

Arrow's impossibility theorem provides further evidence for the thesis that it is impossible to find an operationally coherent synthesis of national voter preferences on national economic policy preferences. All the more so because the preferences of voters of the various European countries have a low possibility of counting at the supranational level. On the other hand, we know that governments are sensitive to the views of national bureaucracies, and to some extent, national economic and social power groups (Putnam, 1988). In terms of negotiating processes, national governments are particularly sensitive to the preferences of ex-

perts who make up the technical committees, which in Brussels work alongside national policymakers. In this regard, we have seen that the work of the technical committees favors the convergence of the strategic positions of the national governments.

Just above, I reported the simplest Keynesian formula of the national income structure in its most basic form. It is a structure that helps in understanding, albeit in part, the strategic orientation of a government, and more generally its economic policy philosophy. As we know, the Maastricht Treaty sets constraints on national consolidated deficits and debt, but does not set constraints on the way in which budgetary resources are used, the disbursement of which affects consumption and investment. In this way, we can construct a simplified system of preferences for the governments of two hypothetical European countries that I indicate with *G* and *E*. To simplify the reasoning, I assume that the choices that *G* and *E* can make in terms of consumer spending and investment spending are threefold: a weak one, equal to 30% of available financial resources, a medium one equal to 50%, and a strong one equal to 70% of available resources. Table 6.1 shows the three possible options for *G* and *E*.

Table 6.1. Expenditure options for *G* and *E* in %

	G	***E***
C	30, 50, 70	30, 50, 70
I	30, 50, 70	30, 50, 70

The governments of *G* and *E* are faced with building three possible baskets representing their preferences in terms of expenditure structure. These baskets, which may alternate, are as follows:

[6.11] (30 C, 70 I), (50 C, 50 I), (70 C, 30 I)

Each basket, as is evident, reveals the different sensitivities of national governments. Let us assume that the ordering of preferences of the government of *G* is as follows:

[6.12] (30 C, 70 I) > (50 C, 50 I) > (70 C, 30)

While the ordering of preferences of the government of *E* is as follows:

[6.13] (70 C, 30 I) > (50 C, 50 I) > (30 C, 70 I)

As is easy to see, the governments of country *G* will choose the basket (30 C, 70 I), while the government of country *E* will choose the basket (70 C, 30 I), These are two totally different baskets in their structures, with the result of identifying two different cultures in the matter. In the case reported here, these cultures, at least in the short term, may also coexist, but it is in the long term that their coexistence can prove difficult, if not impossible. Conversely, there may be economic policy choices that must be unequivocal, since they are predetermined by the competent community bodies. National governments, even if they consider such choices as harmful, cannot derogate from them. However, the reality seems different, because the resilience of national institutions can lead to conflicts between national and supranational institutions, to the point of making it impossible to reconcile the two institutional levels.

Arrow's impossibility theorem is implicitly at the base of the conceptual scheme offered by Richard Baldwin and Charles Wyplosz (2012). The authors report that, in the case of Euroland in particular, there may be difficulties in reconciling national institutions with supranational institutions given the substantial differences in national economic and financial policy preferences, noting, "When people have very different preferences, centralized decision-making creates inefficiencies" (ibid, p. 93). Thus, Baldwin and Wyplosz implicitly show that a single institutional system adopted by two countries in the presence of highly differentiated national preferences can damage both countries. They conclude their analysis by stating, "To sum up, economies arising from joint decision-making tend to favor centralization, while diversity of preferences and local information advantages favor decentralization" (ibid, p. 95).

6.12 Final considerations. A look at the cognitive sciences

It is reasonable to argue that in organizations such as Euroland, conflicts may arise between national institutions and institutions determined at the supranational level. These conflicts will be all the greater as the differences between the cultural values that underlie the economic and financial policy choices of the national states and the cultural values

that express the results of negotiations conducted at the international level become more pronounced. In this regard, we can speak of the resilience of national cultures. With the term resilience I seek to indicate an attachment to institutions that reflect certain consolidated cultures. An attachment that, in turn, may represent a certain difficulty in freeing itself from the sunk costs that a given community has incurred in order to provide itself certain institutional structures.

Here then are two fears of a national government: 1) that of losing the costs incurred in building the national institutional system; 2) that of being uncertain about the value of the outcomes that can be obtained with a new institutional system, if any, promoted by a supranational authority. With regard to the issue of sunk costs, I affirm the notion that the social capital of a state can also be seen in the sum of the transaction costs saved. These costs, in turn, become sunk costs.

The attachment to certain value systems that have become "cultures" can affect the economic policy choices of national governments. Choices that, in the end, can be determined by what Daniel Kahneman and Amos Tversky call framing effects. Kahneman illustrates this concept in his *Thinking, Fast and Slow* (2011), noting that he and Tversky assigned the "framing effects" label to the unjustified influences that the formulation has on beliefs and preferences (ibid, p. 364). As Dilip Soman (2007, p. 380) stated, "A frame refers to a mental model of the decision problem that individuals use to solve the problem, and includes details about the elements of the decision problems (i.e., information) as well as a context". It is natural to assume that these models may "suffer" from prejudices, if any ideological, or otherwise resulting from systematic errors of judgment, called biases. The findings of behavioral economics are important to understand how policymakers can make assessment errors, especially in the case of the single European currency (Thomas Willet and Nancy Srisorn, 2014). A corollary of the frames approach is the question of how frames are presented, since it is inevitable that different modes of presentation can only reveal the preferences of those who process the frames.

As I have mentioned on several occasions, these are preferences defined on the economic and financial policy action space in respect of which national governments are led to anchor themselves in the heritage of behavior consolidated in the economic and financial policies. I note that such behavior represents a portion of the economic and social culture of each country. Moreover, the cognitive sciences have shown that

when policymakers have to make choices, they tend to move on the basis of heuristics, namely behavioral patterns on which they rely, avoiding having to make too many calculations and evaluations. Since the continuous application of a heuristic can lead to systematically wrong answers, it follows that such application ends up determining the formation of biases. Synthetically, a bias can be defined, following Gideon Keren and Karl Teigen (2007, p. 91), as "a tendency to slant in one way rather than another". Some Euroland countries have very strong cultures, believing, in the name of naïve Keynesianism, that they are entrusting the task of increasing employment in their own country to policies that favor consumer spending over investment spending, sustained by high levels of annual deficits and consolidated debt. Therefore, naïve Keynesianism becomes the justification of consolidated biases.

The constraints set by the Maastricht Treaty on the indebtedness of Euroland countries are seen by some national governments as dictated by an "outdated" view of economic policy. In fact, these constraints are a reminder to avoid taking risks linked to unduly excessive debt in a world in which economies are increasingly integrated, especially in Euroland. While the exposure of these economies to exogenous shocks increases with the growth of consolidated debt, countries with high consolidated debt may in turn to be the source of exogenous shocks for other countries, especially those to have strong ties with the economies of heavily indebted countries. The push toward debt, both by individuals and national governments, is an argument analyzed under the theory of intertemporal choice (George Loewenstein and John Elster, 1992). Within this line of research, I would position the analysis of habituation processes (John Elster, 1999), identifying a real addiction phenomenon in the push to increasing indebtedness. However, to consider is that for extraordinary events, such as the recent coronavirus pandemic, recourse to debt becomes a necessity.

BIBLIOGRAPHY

Acemoglu D. (2009), *Modern Economic Growth*, Princeton, NJ, Princeton University Press.

Acemoglu D., Johnson S. and Robinson J. A. (2005), "Institutions as a Fundamental Cause of Long-Run Growth", in P. Aghion and S. Durlauf (eds.), *Handbook of Economic Growth*, vol. 1A, Amsterdam, North Holland: 386-472.

Acemoglu D. and Robinson J. (2008), "Persistence of Power, Elites, and Institutions", *American Economic Review*, 98(1): 256-293.

Aggarwal V. (1998), "Reconciling Multiple Institutions: Bargaining, Linkages, and Nesting", in V. Aggarwal (ed.), *Institutional Designs for a Complex World,* Ithaca, Cornell University Press: 1-31.

Alesina A., Favero C. and Giavazzi F. (2019), *Austerity. When It Works and When It Doesn't,* Princeton, NJ, Princeton University Press.

Aligica P. (2014), *Institutional Diversity and Political Economy. The Ostroms and Beyond*, New York, Oxford University Press.

Allan P. and Schmidt C. (1994), *Game Theory and International Relations,* Cheltenham, UK, Elgar.

Amable B. (2000), "Institutional Complementarity and Diversity of Social Systems of Innovation and Production", *Review of International Political Economy*, 7(4): 37-41.

Amable B. (2009), *The Diversity of Modern Capitalism*, Cambridge, MA, Oxford University Press.

Angner E. (2016), *A Course in Behavioral Economics,* (2nd ed.), London, Palgrave Macmillan.

Aoki M. (2001), *Toward a Comparative Institutional Analysis,* Cambridge, MA, MIT Press.

Apel E. (2000), *European Monetary Integration. 1958-2002,* London, Routledge. .

Arestis P., Brown A., and Sawyer M. (2001), *The Euro. Evolution and Prospect.* Cheltenham, UK, Elgar.

Arestis P. and Sawyer M. (2012), "Can the Euro Survive after the European Crisis? In P. Arestis and M. Sawyer (eds.), *The Euro Crisis,* Basingstoke, UK, Palgrave Macmillan: 1-34.

Arestis P. and Sawyer M. (2013), *Economic and Monetary Union Macroeconomic Policies,* Basingstoke, UK, Palgrave Macmillan.

Aronson R., Wilson T., and Akert T. (eds.) (1997), *Social Psychology*, Reading, MA, Longman.

Arrow K. (1951), *Social Choice and Individual Values*, London, Yale University Press.

Arrow K. (1999), "Observations on Social Capital", in P. Dasgupta and I. Serageldin (eds.), *Social Capital. A Multifaceted Perspective,* Washington, DC, The World Bank: 3-5.

Arrow K. (2014), "The Origins of the Impossibility Theorem", in E. Maskin and A. Sen (eds.), *The Arrow Impossibility Theorem*, New York, Columbia University Press: 143-148.

Arsenault M. (2017), *The Effects of Political Institutions on Varieties of Capitalism,* London, Palgrave McMillan.

Arthur B. (1988), "Self-Reinforcing Mechanism in Economics", in P. W. Anderson, J. K. Arrow and D. Pines (eds.),*The Economy as an Evolving Complex System,* Boulder, COL, West View Press: 9-31.

Arthur B., Durlauf S. and Lane D. (1997), "Introduction" in B. Arthur, S. Durlauf, D. Lane (eds.), *The Economy as an Evolving Complex System II,* Boulder, CO, Westview Press: 1-14.

Axelrod R. (1981), "The Emergence of Cooperation among Egoists", *American Political Science Review,* 75: 306-318.

Bagnasco A., Barbagli M. and Cavalli, A. (1997), *Corso di Sociologia*, Bologna, Il Mulino.

Balassa B. (1961), *The Theory of Economic Integration*, Oxford, UK, George Allen & Unwin.

Baldwin R. and Wyplosz C. (2012), *Economics of Monetary Union,* London, McGraw Hill.

Ball L. (1997), "Disinflation and the NAIRU", in C. Romer and D. Romer (eds.), *Reducing Inflation. Motivation and Strategy,* Chicago, The University of Chicago Press: 167-184.

Barro R. and Gordon D. (1983), "Rules, Discretion and Reputation in a Model of Monetary Policy", *Journal of Monetary Economics*, 12: 101-121.

Beals R. and Hoijer H. (1965), *An Introduction to Anthropology,* New York, Macmillan.

Becattini G. (2003), "Industrial Districts in the Development of Tuscany", in G. Becattini et al. (eds.), *From Industrial Districts in Local Development*, Cheltenham, UK, Elgar: 11-28.

Becattini G., Bellandi M. and De Propris L. (eds.) (2009), *Handbook of Industrial Districts,* Cheltenham, UK, Elgar. .

Bendor J. (2010), *Bounded Rationality and Politics*, Berkeley, University of California Press .

Ben-Ner A. and Putterman L. (1998), "Values and Institutions in Economic

Analysis", in A.Ben-Ner and L.Putterman (eds.),*Economic Values and Organization*, Cambridge, UK, Cambridge University Press: 3-69.
Bernanke B., Laubach T. and Mishkin F. (1999), *Inflation Targeting,* Princeton, NJ, Princeton University Press. .
Bernanke B. and Woodford M. (2005), *The inflation-Targeting Debate*, The University of Chicago Press.
Bernheim D. and Whinston M. (2008), *Microeconomics*, New York, McGraw Hill.
Bertalanffy L. (1967), *General System Theory. Foundations, Development, Applications*, New York, Penguin Books.
Bertuglia C. and Vaio F. (2011), *Complessità e Modelli*, Torino, Bollati Boringhieri.
Bicchieri C. (1993), *Rationality and Coordination*, New York, Cambridge University Press.
Bicchieri C. (1997), "Learning to Cooperate" in C. Bicchieri, R. Jeffrey and B. Skyrms (eds.), *The Dynamics of Norms,* New York, Cambridge University Press.
Binmore K. and Dasgupta P. (eds.) (1989), *The Economics of Bargaining,* Oxford, UK, Blackwell.
Blanchard O. (2016), "The Phillips Curve: Back to the '60?", *American Economic Review. Papers & Proceedings*, 106(5): 31-34.
Bossert W. and Weymark J. (2004), "Utility in Social Choice", in S. Barberà, P. Hammond and C. Seidl (eds.), *Handbook of Utility Theory* (vol. 2), Dordrecht, NL, Kluwer Academic: 1099-1177.
Bourdieu P. (1977), "Le Capital Social: Notes Provisoires!", *Actes de la Recherche en Sciences Sociales*, 32: 2-3.
Bowles S. (2004), *Microeconomics. Behavior, Institutions, and Evolution, Princeton,* NJ, Princeton University Press.
Boyer R. (2005), "Coherence, Diversity, and the Evolution of Capitalism. The Institutional Complementarity Hypothesis", *Evolutionary and Institutional Review*, 2(1): 43-80.
Brams S. (1990), *Negotiation Games*, New York, Routledge.
Brams S. (2004), *Game Theory and Politics,* New York, Dover.
Brennan G. and Buchanan J. M. (2000), *The Reason of the Rules. Constitutional Political Economy*, Indianapolis, The Liberty Fund.
Brunnermeier M., James H. and Landau J. P. (2016), *The Euro and the Battle of Ideas*, Princeton, NJ, Princeton University Press.
Buchanan J. M. (1977), *Freedom in Constitutional Contract. Perspectives of a Political Economist*, London, Texas A&M University Press.
Buchanan J. M. (1984), "Source of Opposition to Constitutional Reform", in R. B. McKenzie (ed.), *Constitutional Economics,* Lexington, Heath: 21-34.
Buchanan J. M. (1990), "The Domain of Constitutional Economics", *Constitutional Political Economy,* 1(1): 1-20.

Buchanan J. M. and Tullock G. (1965), *The Calculus of Consent,* Ann Arbor, University of Michigan Press.
Cain M. (2001), "Social Choice Theory", in E. Shughart and L. Razzolini (eds.), *The Elgar Companion to Public Choice,* Cheltenham, UK, Elgar: 83-114.
Campbell J. (2004), *Institutional Change and Globalization,* Princeton, NJ, Princeton University Press.
Carraro C. and Giavazzi F. (1989), *Teoria dei Giochi e Teoria della Politica Economica*. Università degli Studi di Venezia, Dipartimento di Scienze Economiche.
Carrol S. (2005), *Endless Forms Most Beautiful,* Armonk, NY, Baror International.
Casprini F. (1995), *L'Economia delle Relazioni Monetarie Internazionali,* Roma, La Nuova Italia Scientifica.
Catalano F. (1972), *La Crisi del Sistema Monetario Internazionale*, Milano, Etas Libri.
Cesarano F. (2006), *Monetary Theory and Bretton Woods,* Cambridge, UK, Cambridge University Press.
Chamberlin E. H. (1960), *The Theory of Monopolistic Competition,* Cambridge, MA, Harvard University Press.
Chappel H., McGregor R. and Vermilyea T. (2005), *Committee Decision on Monetary Policy,* Cambridge, MA, MIT Press.
Cheng M. Y. and Mittelhammer R. (2008), "Globalization and Economics Development. Impact of Social Capital and Institutional Building", *American Journal of Economics and Sociology,* 67(5): 859-888. .
Coase R. H. (1937), "The Nature of the Firm", *Economica,* 4: 386-405.
Coase R. H. (1992), "The Economic Structure of Production", *American Economic Review*, 82(3): 713-719.
Coleman J. (1987), "Norms as Social Capitals", in G. Radnitzky and P. Bernholtz (eds.), *Economic Imperialism: The Economic Approach Applied Outside the Field of Economics*, New York, Paragon House: 133-155.
Coleman J. (1988), "Social Capital in the Creation of Human Capital", *American Journal of Sociology,* 94 (suppl.): S95-S120.
Colman A. (1999), *Game Theory and its Applications in the Social and Biological Sciences*, London, Routledge. .
Corden W. (1972), *Essays in International Finance,* Princeton, NJ, Princeton University Press.
Dai S. (2015), *Networks of Institutions,* London, Routledge.
Dasgupta P. and Serageldin I. (1999), *Social Capital: A Multifaceted Perspective,* The World Bank.
David P. (1994), "Are Institutions the Carries of History? Path Dependence and the Evolutions of Conventions, Organizations and Institutions", *Structural Change and Economic Dynamics,* 5 (2): 205-220.
De Felice M. and Pelloni G. (1982), *Aspettative Razionali. Teoria Economica e Politiche di Stabilizzazione,* Milano, Isedi.

De Grauwe P. (2016), *Economics of Monetary Union,* Oxford, Oxford University Press. .

Dehem R. (1972), "Le Mirage Monetaire Européen, son Cout at son Aléas", *Recherches Economiques de Louvain*: 257-265. .

Denzau A. and North D. (1994), "Shared Mental Models: Ideologies and Institutions", *Kyklos* 1 (47): 1-31.

Dixit A. (2000), "A Repeated Game Model of Monetary Union", *The Economic Journal*, 110(466): 759- 780.

Dixit A., Skeath S. and Reiley D. (2009), *Games of Strategy* (3rd ed.), New York, Norton & Company.

Dixit A., Skeath S. and Reiley D. (2015), *Games of Strategy* (4th ed.), New York, Norton & Company.

Dopfer K. (1997), "Come emergono le Istituzioni Economiche: Gli Agenti Istituzionali ed i Germi del Comportamento", in E. Benedetti, M. Mistri and S. Solari (eds.), *Teorie Evolutive e Trasformazioni Economiche,* Padova, Cedam: 183-211.

Douglas P. (1976), "The Cobb-Douglas Production Function Once Again: Its History, its Testing, and Some New Empirical Values", *Journal of Political Economy,* 84 (5): 903-917.

Dow S. (1996), *The Methodology of Macroeconomics Thought*, Cheltenham, UK, Elgar.

Drazen A. (2000), *Political Economy in Macroeconomics*, Princeton, NJ, Princeton University Press.

Druckman D. (1978), "Boundary Role Conflict: Negotiation as Dual Responsiveness", in I. Cartman (ed.), *The Negotiation Process: Theories and Applications*, Beverly Hills, Sage.

Dyson K. and Featherstone K. (1999), *The Road to Maastricht. Negotiation Economic and Monetary Union,* Oxford, Oxford University Press.

Eggertsson T. (1990), *Economic Behavior and Institutions,* Cambridge, Cambridge University Press.

Eggertsson T. (1999), "Norms in Economics, with Special Reference to Economic Development", Max Plank Institute for Research into Economic Systems, Discussion paper n.6.

Eichengreen B. (1989), "Hegemonic Stability Theory of the International Monetary System", in R. Cooper et al. (eds.), *Can Nations Agree? Issues in International Economic Cooperation,* Washington, DC, Brookings Institution: 255-298.

Eichengreen B. (1996), *Globalizing Capital. A History of the International Monetary System*, Princeton, NJ, Princeton University Press.

Eichengreen B. (2012), "European Monetary Integration with Benefit of Hindsight", *Journal of Common Market Studies,* 50(special issue 1): 123-136.

Eichengreen, B. (2019), *Globalizing Capital: A History of the International Monetary System*, Princeton University Press.
Eichengreen B. and Frieden J. (1993), "The Political Economy of European Unification: An Analytical Introduction", *Economics and Policy*, 3: 85-104.
Eldredge N. and Gould S. (1972), "Punctuated Equilibria: an Alternative to Phyletic Gradualism", in T. J. Schoopf (ed.), *Models in Paleobiology*, San Francisco, CAL, Freeman Cooper: 82-115.
Elsner W. (2012), *Microeconomics of Interactive Economies,* Cheltenham, UK, Elgar.
Elster J. (1987), "*Rationality and Social Norms"*, Department of Political Science, University of Chicago, Discussion Paper.
Elster J. (1999), *Addiction: Entries and Exits*, New York, Russel Sage Foundation.
Ember C. and Ember M. (2004), *Cultural Anthropology,* Upper Saddle River, NJ, Prentice Hall. .
Feldman M. (1997), "EMU and International Conflict", *Foreign Affairs*, Nov-Dec: 60-73.
Feldstein M. (1992), "Europe's Monetary Union. The Case Against EMU". *The Economist*, June 13.
Feldstein M. (1997a), "The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability", *Journal of Economic Perspectives*, 11(4): 23-42.
Feldstein M. (1997b), "EMU and the International Conflict", *Foreign Affairs*, 76(6): 60-73.
Feldstein M. (2015), "Ending the Euro Crisis?", *NBER*,W.P. 20862: 1-19.
Felipe J. and Fisher F. (2006), "Aggregate Production Functions, Neoclassical Growth Models and Aggregation Problem", *Estudios de Economia Aplicada*, 24(1): 127-163.
Felipe J. and McCombie J. (2012), "Aggregating Production Functions and the Accounting Identify Critique: Further Reflections on Temple's Criticism and Misunderstandings", *Levy Economics Institutes*, W.P. 718.
Field J. (2003), *Social Capital*, London, Routledge.
Fleming J. M. (1971*), "*On Exchange Rate Unification*", Economic Journal*, 81: 467-488.
Frey B. (1984), "The Public Choice View of International Political Economy", *International Organization*, 38(1): 199-223.
Frieden J., Lake D. and Broz L. (2010), *International Political Economy*, New York, Norton & Co.
Friedman M. (1968), "The Role of Monetary Policy", *American Economic Review,* 58: 1-17.
Fukuyama F. (1995), *Trust. The Social Virtues and the Creation of Prosperity*, New York, Free Press Paperbacks.

Furubotn E. and Richter R. (2005), *Institutions and Economic Theory*, Ann Arbor, The University of Michigan Press.

Gambarotto F. and Solari S. (2015), "The Peripheralization of Southern European Capitalism within the EMU", *Review of International Political Economy,* 22(4): 788-812.

Gandolfi A. (1999), *Formicai, Imperi, Cervelli. Introduzione alla Scienza della Complessità*, Torino, Bollati Boringhieri.

Gardner R. N. (1956), *Sterling-Dollar Diplomacy in Current Perspective,* New York, Columbia University Press.

Geertz C. (1964), "Ideology as a Cultural System", in D. Apter (ed.), *Ideology and Discontent*, Glencoe, Ill, Free Press.

Gergen L. (ed.) (1995), *Competition among Institutions,* London, Macmillan.

Giavazzi F. and Giovannini A. (1989), *Limiting Exchange Rate Flexibility,* Cambridge, MA, MIT Press. .

Giavazzi F. and Pagano M. (1988), "The Advantage of Tying Ones Hands. EMS Discipline and Central Banks Credibility", *European Economic Review,* 32: 1055-1082.

Gilbert M. (2003), *Surpassing Realism. The Politics of European Integrations since 1945,* Lanham, UK, Rowman & Littlefield.

Gilpin R. (1975), *US Power and the Multinational Corporation,* Princeton, NJ, Princeton University Press.

Gilpin R. (2001), *Global Political Economy*, Princeton, NJ, Princeton University Press.

Gimpel H. (2007), *Preferences in Negotiations*, Berlin, Springer.

Gooding R. (1996), "Institutions and their Design", in R. Goodin (ed.) *The Theory of Institutional Design,* Cambridge, UK, Cambridge University Press: 1-54.

Haken H. (2005), *Nel Senso della Sinergetica,* Roma, Di Renzo Editore.

Hall P. and Soskice D. (eds.) (2001), *Varieties of Capitalism,* Oxford, UK, Oxford University Press.

Harrod R. (1951), *The Life of John Maynard Keynes,* London, Macmillan.

Hayek F. (1945), "The Use of Knowledge in Society", *American Economic Review*, 45 (4): 519-530.

Hayek F. (1952), *The Sensory Order. An Inquiry into the Foundations of Theoretical Psychology*, London, Routledge & Kegan.

Hayek F. (1960), *The Constitution of Liberty*, Chicago, Chicago University Press.

Hayek F. (1973), *Rules and Order*, Routledge & Kegan.

Hayek F. (1976), *The Mirage of Social Justice*, London, Routledge & Kegan.

Hinarejos A. (2015), *The Euro Area. Crisis in Constitutional Perspective,* Oxford, UK, Oxford University Press.

Hodgson G. (1988), *Economics and Institutions. A Manifesto for a Modern Institutional Economics,* Cambridge, UK, Basil Blackwell.

Hodgson G. (1993), "Transaction Costs and the Evolution of the Firm", in C. Pitelis (ed.), *Transaction Costs, Market and Hierarchies*, Oxford, UK, Blackwell: 77-100. .

Hodgson G. (1999), *Evolutions and Institutions*, Cheltenham, UK, Elgar. .

Hopner M. (2005), "Epilogue to Explaining Institutional Complementarity", *Socio Economic Review,* 3: 383-387.

Hosli M. (2000), "The Creation of the European Economic and Monetary Union (EMU): Intergovernmental Negotiations and Two-Level games", *Journal of European Public Policy*, special issue: 744-766.

Howard N. (1971), *Paradoxes of Rationality: Theory of metagames and Political Behavior,* Cambridge, MA, MIT Press.

Ishiguro K. (2003), "Rethinking Theory of Hegemonic Stability: Toward a Theory of Hegemonic Cooperation", *Kobe University Economic Review*, 49: 19-44.

Issing O. (2008), *The Birth of the Euro*, Cambridge, UK, Cambridge University Press.

James H. (2012), *Making the European Monetary Union,* Cambridge, MA, Harvard University Press.

Jesperson J. (2017), *The Euro, Why it Failed,* Basingstoke, UK, Palgrave Macmillan.

Jessop B. (1994), "Multi-Level Governance and Multi-Level Metagovernance. Changes in the European Union as Integral Moments in the Transformation and Reorientation of Contemporary Statehood", in I. Bache and M. Flinders (eds.), *Multi-Level Governance,* New York, Oxford University Press: 48-94. .

Johnson H. (1972), "Problems of European Monetary Union", in H. Johnson, *Further Essays in Monetary Economics*, London, Allen & Unwin: 312-324.

Johnston A. (2016), *From Convergence to Crisis. Labor Markets and the Instability of the Euro,* Ithaca, USA, Cornell University Press.

Johnston A. and Regan A. (2016), "European Monetary Integration and the Incompatibility of National Varieties of Capitalism", *Journal of Common Market Studies,*54(2): 318-336.

Jones E. (2002), "Macroeconomic Preferences and Europe's Democratic Deficit", in A. Verdun (ed,), *The Euro. European Integration Theory and Economic and Monetary Union,* Lanham (USA), Rowman & Littlefield Publishers: 145-164.

Kahneman D. (2011), *Thinking, Fast and Slow*, New York, Ferrar, Straus and Giroux.

Kaltenhaler K. (1998), *Germany and the Politics of Europe's Money,* London, Duke University Press.

Kasper W. and Streit M.E. (1998), *Institutional Economics,*Cheltenham, UK, Elgar.

Kasper W., Streit M. and Boettke M. (2012), *Institutional Economics. Property, Competition, Policies,* Cheltenham, UK, Elgar.

Katzenstein P. (1976), "International Relations and Domestic Structure: Foreign Economic Policies of Advanced Industrial States", *International Organization,* 30: 1-45.

Katzner D. W. (2006), *An Introduction to the Economic Theory of Market Behavior,* Cheltenham, UK, Elgar.

Kébabdjian G. (1999), *Les Théories de l'Economie Politique Internationale,* Paris, Edition du Seuil.

Keohane R. (1984), *After Hegemony. Cooperation and Discord in the World Political Economy*, Princeton, NJ, Princeton University Press.

Keren G. and Teigen K. (2007), "Yet Another Look at the Heuristics and Biases Approach", in D. Kieler and N. Harvey (eds.), *Blackwell Handbook of Judgment & and Decision Making,* Malden, MA, Blackwell.

Keynes J. M. (1923), *A Tract on Monetary Reform,* London, Macmillan.

Keynes J. M. (1936), *The General Theory of Employment, Interest, and Money*, Macmillan, Houndsmills, UK.

Khun T. (1962), *The Structure of Scientific Revolution,* Chicago, University of Chicago Press. .

Knight J. (1997), "Social Institutions and Human Cognition. Thinking about Old Questions in New Ways", *Journal of Institutional and Theoretical Economics*, 153: 693-699. .

Kohonen T. (1995), *Self-Organizing Maps,* Berlin, Springer.

Kouvelakis S. (2012), "Introduction: The End of Europeanism", in C. Lapavitsas (ed.), *Crisis in the Euro Zone.* London, Verso.

Krasner S. D. (1983), "Structural Causes and Regime Consequence: Regimes as Intervening Variables", in S. D. Krasner (ed.), *International Regimes*, Ithaca, NY, Cornell University Press.

Krugman P, Obstfeld M. and Meliz M. (2012), *International Economics: Global Edition*, Boston, MA, Pearson International.

Kydland F. and Prescott E. (1977), "Rules rather Discretion: the Inconsistency of Optimal Plans", *Journal of Political Economy,* 85(3): 473-491. .

Langlois R.N. (1986), "The New Institutional Economics; An Introductory Essay", in R.N. Langlois (ed.), *Economics as a Process. Essays in the New Institutional Economics*, New York, Cambridge University Press: 1-25.

Lawvere F. and Schanuel S. (1991), *Conceptual Mathematics: a First Introduction to Categories*, New York, Buffalo Workshop Press. .

Leyderdorf L. and Van Den Besselaar P. (1994), *Evolutionary Economics and Chaos Theory*, London, Pinter.

Lin N. (2001), *Social Capital. A Theory of Social Structure and Action,* Cambridge, UK, Cambridge University Press.

Lipsey R. (2009), "Economic Growth Related to Interdependent Institutions and Technology", *Journal of Institutional Economics*, (5)3: 259-288.

Loewenstein G. and Elster J. (1992), *Choice over Time*, New York, Russel Sage Foundation.
Luce D. and Raiffa H. (1957), *Games and Decisions*, New York, Wiley.
Luce D. and Raiffa H. (1989), *Games and Decisions: Introduction and Critical Survey*. Courier Corporation.
Maes I. (2002), *Economic Thought and the Making of European Monetary Union*, Cheltenham, UK, Elgar.
Magnifico G. (1971), "European Monetary Unification for Balanced Growth: A New Approach", in G. Magnifico (ed.), *European Monetary Unification*, London, Macmillan: 1-42.
Magnusson L. and Ottosson J. (eds.) (1997), *Evolutionary Economics and Path Dependence,* Cheltenham, UK, Elgar.
Malinowski B. (1939), "The Group and the Individual in Functional Analysis", *American Journal of Sociology*, 44: 938-964 .
Malinovski B. (1944), *A Scientific Theory of Culture and Other Essays,* Chapel Hill, The University of North Carolina Press.
Mantzavinos C. (2001), *Individuals, Institutions, and Markets*, Cambridge, UK, Cambridge University Press.
March J. (1994), *A Primer on Decision Making. How Decision Happen,* New York, The Free Press.
Marelli E. and Signorelli M. (2017), *Europe and the Euro Integration, Crisis and Policies,* Basingstoke, UK, Palgrave Macmillan.
Marks G. (1993), "Structural Policy and Multilevel Governance in the EC", in A. Cafruny and G. Rosenthal (eds.), *The State of the European Community (vol. 2): The Maastricht Debates and Beyond*, Boulder, CO, Longman: 391-410.
Marsh D. (2009), *The Euro. The Battle for the New Global Currency*, New Haven, Yale University Press.
Marshall A. (1920), *Principles of Economics*, London, Macmillan.
Maskin E. and Sen A. (2014), *The Arrow Impossibility Theorem,* New York, Columbia University Press.
Maturana H. and Varela F. (1980), *Autopoiesis and Cognition. The Realization of Living,* Dordrecht, Reidel.
McMillan J. (1986), *Game Theory in International Economics*, Oxon, UK, Harwood Academic Publisher.
McNutt P. (1996), *The Economics of Public Choice*, Cheltenham, UK, Elgar.
Melitz J. (1997), "The Evidence about the Costs and Benefits of the EMU", *Swedish Economic Policy Review*, 4: 359-410.
Miller J. (1978), *Living Systems,* New York, McGraw Hill.
Mistri M. (2002), "Consumer Learning, Connectionism and Hayek's Theoretical Legacy", *Eastern Economic Journal,* 28(3): 300-317.

Mistri M. (2003), "Procedural Rationality and Institutions: The Production of Norms by Means of Norms", *Constitutional Political Economy*,14(3): 301-317.
Mistri M. (2010), "Economic Institutions, Institutional Complementarities, and Institutionalized Linkages: The International Trade Case", *Studi Economici*, 101: 67-90.
Mistri M. (2013), "The Schizophrenic Nature of the Euro. Institutional Aspects of the Euro Crisis", *Interdisciplinary Journal of Economics and Business Law*, 2: 8-40.
Mistri M. (2014), "From Bretton Woods to the Euro. Critical Consideration according to the Hegemonic Stability Approach", *Boletim de Ciencias Economicas*, II: 2275-2314.
Mistri M. (2015), "The Euro Crisis. A Map to Understand the Institutional Dynamics and Correlated Cognitive Processes", *Interdisciplinary Journal of Economics and Business Law*, 4: 8-35.
Mistri M. (2017), "Euro and Institutional Domains. A Question of Method" *Interdisciplinary Journal of Economics and Business Law*, 6(1): 27-57.
Mistri M. (2018), "Economic Integration and Institutional Capital: Shadows on the Eurozone", *Interdisciplinary Journal of Economics and Business Law,* 7(1): 71-97.
Mistri M. (2019), "The Euro Crisis as an Institutional Polycentrism Crisis", *Interdisciplinary Journal of Economics and Business Law,* 8(1): 40-66.
Mistri M. (2020), "Institutions and Conflicts between National Preferences in the Euro Crisis", *Interdisciplinary Journal of Economics and Business Law*, 9(1): 1-37.
Morrow, J. (1994), *Game Theory for Political Scientists.* Princeton, NJ, Princeton University Press. .
Morrow J. (1997), "When do 'Relative Gains' Impede Trade?", *Journal of Conflict Resolution*, 41(1): 12-37. .
Morrow J. (1999), "The Strategic Setting of Choices: Signaling, Commitment, and Negotiation in International Politics", in S. Lake and R. Powell (eds.), *Strategic Choice and International Relations,* Princeton, NJ, Princeton University Press: 77-114.
Mundell J. (1961), "A Theory of Optimum Currency Areas", *The American Economic Review*, 4: 657-664.
Nash J. (1951), "Non-Cooperative Games", *Annals of Mathematics*, 51: 286-295.
Nash J. (1953), "Two-Person Cooperative Games", *Econometrica*, 21(1): 128-140.
Neale W. C. (1994), "Institutions", in Hodgson G., Samuels W. J., and Tool M. R. (eds.) *The Elgar Companion to Institutional and Evolutionary Economics,* vol. I, Cheltenham, UK, Elgar: 402-406.
Neilson W. and Winter H. (1998), *Intermediate Microeconomics*, Cincinnati, South Western College Publishing.

Nelson R. (1964), "Aggregate Production Functions and Medium Range Growth Projections", *American Economic Review*, 54(5): 575-606.
Nicoletti R. and Rumiati E. (2006), *I Processi Cognitivi*, Bologna, Il Mulino.
Nooteboom B. (1997), "Path Dependence of Knowledge: Implications for the Theory of the Firm", in L. Magnusson, and J. Ottosson (eds.), *Evolutionary Economics and Path Dependence*, Cheltenham, UK, Elgar: 57-78.
North D. (1978), "Structure and Performance: The task of Economic History", *Journal of Economic Literature*, 16: 963-978.
North D. C. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge, UK, Cambridge University Press.
North D. C. (1994), "Economic Performance through Time", *American Economic Review,* 84: 359-368.
North D. C. (1995), "Five Propositions about Institutional Change", in J. Knight, and I. Senede (eds.), *Explaining Social Institutions*, Ann Arbor, The Michigan University Press: 15-26.
North D. C. (1998), "Where Have We and Where are We Going ?", in Ben-Ner A. and Putterman L. (eds.), *Economics Values and Organization,* Cambridge, UK, Cambridge University Press: 491-508.
Nowak M. (2006), *Evolutionary Dynamics*, Cambridge, MA, Belknap Press.
Nurmi H. (1998), *Rational Behavior and the Design of Institutions,* Cheltenham, UK, Elgar.
Oates W.E. (1972), *Fiscal Federalism,* New York, Harcourt Brace Jovanovich. .
O'Neill B. (1994), "Game Theory Models of Peace and War", in E. Aumann and S. Hart (eds.), *Handbook of Game Theory,* vol.2, Amsterdam, Elsevier: 995-1053.
Ordeshook P. (1986), *Game Theory and Political Theory,* Cambridge, UK, Cambridge University Press.
Ostrom E. (1990), *Governing the Commons,* Cambridge, UK, Cambridge University Press.
Ostrom E. (1992), "Institutions as Rules-in-Use", *Crafting Institutions for Self-Governing Irrigation Systems,* San Francisco, CA, ICS Press: 19-39.
Ostrom E. (1999), "Social Capital: A Fad or a Fundamental Concept", in P. Dasgupta and I. Serageldin (eds.), *Social Capital. A Multifaceted Perspective.* The World Bank.
Ostrom E. (2005), *Understanding Institutional Diversity*, Princeton, NJ, Princeton University Press.
Ostrom E. and Ahn T. (2003), "Introduction", in E. Ostrom and Ahn T. (eds.), *Foundations of Social Capital,* Cheltenham, UK, Elgar: XI-XXXIX.
Padoa-Schioppa T. (2004), *La Lunga Via per l'Euro,* Bologna, Il Mulino.
Phelps E. (1968), "Money-Wage Dynamics and Labor-Market Equilibrium", *Journal of Political Economy,* (76): 678-711.

Phillips A. W. (1958), "The Relation Between Unemployment and the Rate of Change of Money Wages in the United Kingdom, 1861-1957", *Economica,* 25: 283-299.

Pifferi M. and Porta A. (2001), *La Banca Centrale Europea,* Milano, Egea.

Piketty T. (2013), *Capital in the Twenty-First Century*, Harvard University Press, Cambridge, Mass.

Porta A. (2009), Central Banks and Financial Crisis-A First Assessment of the Tools Used for Interventions. Paolo Baffi Centre Research Paper, (2009-43).

Porter M. (2000), "Attitudes, Values, Beliefs, and the Microeconomics of Prosperity", in L. Harrison and S. Huntington (eds.), *Culture Matters,* New York, Basic Books: 14-28.

Portes A. and Landolt P. (1996), "The Downside of Social Capital", *American Prospect*, 26: 18-21.

Prigogine I. (1996), *La Fin des Certitudes. Temps, Chaos et le Lois de la Nature*, Paris, Editions Odile Jacob. .

Puchala D. J. and Hopkins R. F. (1982), "International Regimes: Lessons from Inductive Analysis", *International Organization*, 36(2): 245-275.

Putnam R. (1988), "Diplomacy and Domestic Policies: The Logic of Two-Level Games", *International Organization*, 42(3): 427-460.

Putnam R. (1993a), "The Prosperous Community: Social Capital and Public Life", *Journal of Democracy*, 6(1): 65-78.

Putnam R. (1993b), *Making Democracy Work. Civic Traditions in Modern Italy,* Princeton, NJ, Princeton University Press.

Quaglia L. (2003), "European Monetary Integration and the 'Constitutionalization' of Macroeconomic Policy Making", *Constitutional Political Economy*, 14: 223-251.

Radcliffe-Brown A. (1935), "On the Concept of Function in Social Science", *American Anthropologist*: 1-12.

Raiffa H., Richardson J. and Metcalfe D. (2002), *Negotiations Analysis, C*ambridge, MA, Harvard University Press.

Rizzello S. (1999), *The Economics of the Mind,* Cheltenham, UK, Elgar.

Rizzello S. and Turvani M.(2000), "Institutions Meet Mind: The Way out of an Impasse", *Constitutional Political Economy,*11: 165-180.

Rizzello S. and Turvani M. (2002), "Subjective Diversity and Social Learning: A Cognitive Perspective for Understanding Institutional Behavior", *Constitutional Political Economy,* 13: 197-210.

Rodano G. (1987), "L'illusione della Mano Invisibile", in G. Rodano (ed.), *Ascesa e Declino della Nuova Macroeconomia Classica,* Bologna, Il Mulino: 9-50.

Romer D. (2012), *Advanced Macroeconomics*, New York, McGraw-Hill.

Rutherford M. (1994), *Institutions in Economics. The Old and the News Institutionalism,* Cambridge, UK, Cambridge University Press.

Sapir J. (2012), *Faut-il sortir de l'Euro?* Paris, Editions du Seuil.
Sargent T. (1982), "The Ends of Four Big Inflations", in R. E. Hall (ed.), *Inflation: Causes and Effects*, Chicago, University of Chicago Press: 41-98.
Schelling T. (1960), *The Strategy of Conflict,* Cambridge MA, Harvard University Press.
Schianchi A. (1997), *Strategia della Razionalità*, Roma, La Nuova Italia Scientifica.
Schlicht E. (1997), "Pattern Variation: The Role of Psychological Dispositions in Social and Institutional Evolution", *Journal of Institutional and Theoretical Economics*, 153: 722-736.
Schmid A. (1994), "Public Choice", in G. Hodgson, W. Samuels and M. Tool (eds.), *The Elgar Companion to Institutional Evolutionary Economics,* vol. L-Z, Cheltenham, UK, Elgar: 184-188.
Schotter A. (1981), *The Economic Theory of Social Institutions,* Cambridge, UK, Cambridge University Press. .
Schotter A. (1986), "The Evolution of Rules", in Langlois R. (ed.), *Economics as a Process. Essays in The New Institutional Economics*, New York, Cambridge University Press: 117-133.
Schubert C. and von Wangenheim G. (eds.) (2006), *Evolution and Design of Institutions,* London Routledge. .
Scitovsky T. (1958), *Economic Theory and the Western European Integration,* London, Allen and Unwin. .
Shapley L. (1951), "Notes on the N-Person Game: The Value of an N-Person Game", Rand.
Shapley L. (1953), "A Value for N-Person Games", in H. W. Kuhn and A. W. Tucker (eds.), *Contributions to the Theory of Games,* Princeton, NJ, Princeton University Press.
Shiller R. (1978), "Rational Expectations and the Dynamic Structure of Macroeconomic Models: A Critical Review", *Journal of Monetary Economics*, 4(1): 1-44.
Shirley M. (2005), "Institutions and Development", in C. Menard and M. Shirley (eds.), *Handbook of New Institutional Economics,* Dordrecht, NL, Springer: 611-638.
Simon H. (1972), "Theories of Bounded Rationality", in C. B. Radner and R. Radner (eds.), *Decisions and Organization*, Amsterdam, North Holland: 161-176.
Simon H. (1976), "From Substantive to Procedural Rationality", in S. J. Latsis (ed.), *Methods and Appraisal in Economics,* Cambridge, UK, Cambridge University Press: 129-148.
Simon H. (1981), *The Sciences of the Artificial*, 2nd edition, Cambridge, MA, The MIT Press.
Simon H. (1997), *Models of Bounded Rationality*, vol. 3, Cambridge, MA, The MIT Press.

Simon H. and Newell A. (1972), *Human Problem Solving*, Englewood Cliffs, NJ, Prentice Hall.

Smith B. (1997), "The Connectionist Mind: A Study on Hayekian Psychology", in S. F. Frowen (ed.), *Hayek: Economist and Social Philosopher*, London, Macmillan: 9-24.

Smith T. and Smith R. (2012), *Elements of Ecology,* London, Pearson Education.

Snidal D. (1985), "*The Game Theory of International Politics", World Politics*, 38: 25-57.

Solomon E. P., Berg L. R. and Martin D. W. (1996), *Biology*, Philadelphia, NY, Saunders College Publishing.

Soman D. (2007), "Framing, Loss Aversion, and Mental Accounting", in S. Koehler and N. Harvey (eds.), *Blackwell Handbook of Judgment and Decision Making,* Malden, MA, Blackwell: 379-398.

Spero J. (1977), *The Politics of International Economic Relations,* London, UK, Allen & Unwin. .

Steil B. (2013), *The Battle of Bretton Woods,* Princeton, NJ, Princeton University Press.

Sternberg R. and Ben-Zeev T. (2001), *Complex Cognition*, New York, Oxford University Press.

Stiglitz J. (2016), *The Euro. How a Common Currency Threatens the Future of Europe,* New York: Norton & Co.

Strange S. (1987), "The Persistent Myth of Lost Hegemony", *International Organization,* 41(4): 259-274.

Strange S. (1988), *States and Markets*, New York, Basil Blackwell.

Streit M., Mummert V. and Kiwit D. (1997), "Views and Comments on Cognition, Rationality, and Institutions", *Journal of Institutional and Theoretical Economics*, 153: 688-692.

Sugden R. (1998), "Normative Expectations: The Simultaneous Evolutions of Institutions and Norms" in Ben-Ner A. and Putterman R. (eds.), *Economics, Values and Organization,* Cambridge, UK, Cambridge University Press: 74-100.

Svendsen G. T. and Svendsen G. L. H. (eds.) (2009), *Handbook of Social Capital*, Cheltenham, UK, Elgar.

Szàsz A. (1999), *The Road to European Monetary Union*, Basingstoke, UK, MacMillan Press.

Temple J. (2010), "Aggregate Production Functions, Growth Economics, and the Part-Time Tyranny of the Identity: Reply to Felipe and McCombie", *International Review of Applied Economics,* 24(6): 685-692.

Torsvik, G. (2000), "Social Capital and Economic Development: A Plea for the Mechanisms", *Rationality and Society*, 12(4): 451-476.

Tsebelis G. (1990), *Nested Games. Rational Choice in Comparative Politics*, Berkeley, CA, University of California Press.

Ullmann-Margalit E. (1977), *The Emergence of Norms,* Oxford, UK, Routledge.
Vanberg V. J. (1993) "Rational Choice, Rule-Following Institutions. An Evolutionary Perspective", in Maki U., Gustaffson B. and Knudsen C. (eds.) *Rationality, Institutions & Economic Methodology,* London. Routledge: 171-200.
Vanberg V. (1994), *Rules and Choice in Economics,* London, UK, Routledge.
Vercelli A. (1983), "Anti-Lucas, ovvero 'la Nuova Economia Classica' e la Rivoluzione Keynesiana", in Cozzi (ed.) *Keynes*, Torino, Cassa di Risparmio di Torino.
Voigt S. (1999), *Explaining Constitutional Change. A Positive Economics Approach*, Cheltenham, Elgar.
Von Neumann J. and Morgenstern O. (1944), *Theory of Games and Economic Behavior*, Princeton, Princeton University Press.
Weil D. (2005), *Economic Growth,* New York, Pearson.
Wildavsky A. (1987), "Choosing Preferences by Constructing: A Cultural Theory of Preference Formation", *American Political Science Review,* 81(3): 3-21.
Willett T. and Srisorn N. (2014), "The Political Economy of the Euro Crisis: Cognitive Biases, Faulty Mental Models, and Time Inconsistency", *Journal of Economics and Business,* 76: 39-54.
Williamson O. (1986), *The Economic Institutions of Capitalism. Firms, Markets, Relational Contracts*, New York, The Free Press.
Woolcock M. (1998), "Social Capital and Economic Development. Toward a Theoretical Synthesis and Policy Framework", *Theory and Society*, 27: 151-208.
Woolcock M. and Narayan D. (2000), "Social Capital: Implications for Development Theory, Research and Policy", *World Bank Research Observer*, 15(2): 225-249.
Young O. (1982), "Regime Dynamics. The Rise and Fall of International Regimes", *International Organization,*36(2): 277-297. .
Young P. (1991), *Negotiation Analysis*, Ann Arbor The University of Michigan Press.
Zeleny M. (1981), *Autopoiesis: A Theory of Living Organization*, New York, North Holland.

Taking its cue from the euro affair, this book discusses above all the complex institutional systems in the economic field, typically formed in the context of international economic relations. The EU in general, and Euroland in particular, constitute an area manifesting the issues debated by those institutionalist economists who deal with international economic relations. As never before, economic analyses require the support of other disciplines, starting from the political sciences to evolutionary and cognitivist approaches. After a brief analysis of the evolution of the European economic integration process and how this integration has been strongly influenced by political factors, a significant difficulty that scholars encounter lies in the intertwining of economic and political strategies. Since Euroland represents a coalition formed by a group of European countries that have attempted to transform a potentially conflictual political situation into a cooperative situation, due importance is given to the lessons in Thomas Schelling's (1960) The Strategy of Conflict. However, the core of this volume is an analysis of the institutionalist approach to the economic integration process experienced by the EU and Euroland. At the heart of this process is a controversial relationship, at least in the European reality, between national institutions on the one hand, and supranational institutions on the other. Thus, complementarity between institutions at different hierarchical levels within the framework of the varieties of international capitalism has been given ample space. A sensitive point of the analysis relates to the fact that in complex institutional systems, there may be situations in which certain institutions, especially supranational ones, can foster asymmetries, with the result of generating conflicts between member countries. This occurs when national preferences, defined on the economic and financial policy action space, collide, and so in this sense, we can speak of a "euro crisis".

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