

European Journal of Law and Economics (2006) 21: 5–12  
DOI 10.1007/s10657-006-5668-z

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## 1 European integration from the agency theory perspective

2 **J. Andrés Faña · Antonio García-Lorenzo ·**  
3 **Jesús López-Rodríguez**

4 Received: XXX / Revised: XXX / Accepted: XXX  
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6 **Abstract** European integration is a process in which national governments look for higher  
7 levels of integration and promote new requests for allocations from the supranational author-  
8 ity while the balance between the benefits and costs of the supranational collective action  
9 becomes increasingly favourable. This process may be analyzed as an agency problem where  
10 different national governments, acting as principals, try to lead a single agent—the supra-  
11 national authority—to make a decision on the level of integration. In this paper, decisions  
12 on integration of equilibrium are studied as the result of a non co-operative two-stage game,  
13 where national governments outline their political support strategies in the first stage and the  
14 supranational authority decides the level of integration in the second stage.

15 **Keywords** European integration · Agency theory · Benefits and costs of integration

16 **JEL Classification** D72

### 18 1. Introduction

19 The theories traditionally used for explaining the nature of the process of European integration  
20 have highlighted several aspects of the process without providing a convincing answer, thus  
21 emphasizing the absence of a dominant paradigm. Each of them has tried to justify what has  
22 taken place at each historic moment of the process after the event, but none of them has been  
23 able to explain the result (see Michelmann and Soldatos, 1994; Pelkmans 2001). As a result  
24 of the lack of explanation from these theories and in the face of the recent changes which  
25 have taken place in the European Union in favour of a higher level of integration, we consider  
26 that new approaches have to be used.

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J. A. Faña  
Jean Monnet Chair in European Industrial Economics, University of A Coruña

A. García-Lorenzo · J. L. Rodríguez Department of Economic Analysis and Business Administration,  
University of A Coruña Jesús López-Rodríguez  
email: {aglec@udc}{jelopez@udc}.es

One of the main theoretical contributions has consisted of the application to the integration process of the concept of spillover, taken from economic theory according to which the decision to start up the process of integration would generate an economic dynamic leading to increasingly high levels of integration (see Cecchini et al., 1988; Bean, 1992; Eichengreen, 1995; De Grauwe, 2000; Levitt and Lord, 2000). Those receiving most benefit from economic integration would put pressure on their respective Governments for them to accept transferring higher power to the supranational authorities. At the same time, pressure would also be brought to bear if Governments made any attempt to back-pedal on the levels of integration already achieved.

However, for spillover to take place, an intergovernmental negotiation process is necessary, which takes into consideration the conditioning factors imposed by the supranational authority. The results of the negotiation will respond to the effective power of the various national governments and the incentives to institutionalization generated by high transaction costs. Then, when taking into consideration the benefits of the increase in integration, it should not be forgotten that the creation of a supranational area for decision making will also generate costs which, according to Buchanan and Tullock (1962), are the result of collective action in that area. The Buchanan-Tullock model has been modified by various contributions which have appeared since—Cebula and Kafoglis (1981, 1983), Wickström (1986) and Toumanoff (1989), amongst others—and which have been used to develop a major line of research from it.

The need to reduce transaction costs, together with the conflict of interests and uncertainty, lead to the appearance of agency relationships in the integration process. Although it is excessive to state that agency theory offers a full explanation of this process, it will undoubtedly constitute an obligatory reference for its analysis. Different agency models which allow a response to be given to a large number of situations of this type can be found in Bamberg and Spremann (1987) and Wright, Mukherji and Kroll (2001).

This paper aims to find new results in the agency literature through the construction of a model which reflects a new way of thinking on the process of European integration. Traditionally, economic theory only considers market benefits and market costs when it analyzes the integration processes. The consideration of a new cost component in the European Union integration processes, *cost of the supranational collective action*, is incorporated in our model which constitutes its main contribution.

In our model, decisions on integration will comply with the supranational authority's need to maximize its target function, which depends on the political support it receives from national governments, on the one hand, and the general well-being of the economic space related to the integration process, on the other hand. We will thus study the decisions on integration of equilibrium as the result of a non co-operative two-stage game, where national governments outline their political support strategies in the first stage and the supranational authority decides the level of integration in the second stage.

The remaining part of the paper is structured as follows: Section 2 contains a Principal-Agent model which will allow us to formalize, rigorously, the participation of national governments in the European integration process. Section 3 determines the model's conditions of equilibrium and their main implications. Finally, Section 4 contains the conclusions.

## 2. The model

Traditionally the integration processes means more competencies transferred to the supranational authority. However if we want to speed up the integration processes a modification in

decision-making rules are necessary. National governments may make their requests felt in very different ways during the integration process: they may influence decisions by offering or withdrawing their support for the measures adopted by the supranational authority, or by taking on the financial commitments they involve. Each national government  $n$  will formulate its proposal for political support for a vector of integration  $i$  so that it maximizes its target function:

$$G_n = W_n - E_n \quad (1)$$

71 where  $W_n$  represents national well-being and  $E_n$  the effort involved in its proposal for sup-  
72 porting the supranational authority's initiative,  $n = 1, 2, \dots, N$ . The support that a national  
73 government provides for a specific vector of integration should not be necessarily understood  
74 as a financial commitment. However, this support is also expensive for national governments,  
75 since they have to incur information costs to assess the consequences on national well-being  
76 of the different decisions which may be adopted. Also, it is evident that some decisions may  
77 not be acceptable to governments, in which case, their proposal for support would not exist.

Formally, national well-being could be determined in the following way:

$$W_n(i) = B_n(i) + \alpha_n[(i - i^*)\{C(i) + D(i)\}] \quad (2)$$

78 where  $B_n(i)$  represents the market benefits, i.e., those associated with efficiency gains –  
79 economies of scale, technical progress, increase in the market size – which in the market  
80 sector generates the enlargement of the economic space related to the integration process.  
81 According to Economic theory, in integration processes there will be winners and losers  
82 but the overall net effect is potentially positive, in other words, the gains are sufficient to  
83 compensate the losses eventually (see Molle, 1990; Baldwin and Venables, 1995).

84 The costs of the supranational collective action,  $(i - i^*)\{C(i) + D(i)\}$ , are obtained from  
85 the deviations existing between the vector of integration under consideration, with little  
86 competence being attributed to the supranational authorities and action taking place on a basis  
87 which is very close to intergovernmentalism  $i^*$ , and the one to be taken into consideration  
88 once most of the competences are attributed to a supranational authority  $i$ . Such costs can be  
89 divided into two main types:

- 90 (1) External or imposed costs,  $C(i)$ , which are those resulting from the adoption of coercive  
91 decisions contrary to our interests, according to Buchanan and Tullock (1962); These  
92 costs are an increasing function of  $i$
- 93 (2) Decision costs,  $D(i)$  i.e. the transaction, negotiation and voting costs required to reach  
94 a decision. Toumanoff (1989) defined these costs as “opportunity costs of the resources  
95 devoted to the identification, negotiation and enforcement of transactions”. Defining inter-  
96 governmentalism as “. . . classical bargaining and coalition formation among national  
97 governments seeking consensus, if not explicit unanimity. . .” (Pelkmans, 2001), deci-  
98 sion costs can be thought to be lower when further integration leads to a broader scope  
99 for majority voting.

100 Both kinds, imposition and decision-making costs, are not independent of the rules govern-  
101 ing the decision-making procedures or the starting positions and the distributions of interests  
102 within the different areas of the states committed to the integration process.

103 Finally,  $\alpha_n$  represents the coefficient for allocation of the costs mentioned to each of the  
104 countries participating in the integration process and  $I$  the group of integration vectors from  
105 which the supranational authority can choose.

We will consider the supranational authority as an agent with motivations and strategies which are no different from those of any other agent, in other words, as an endogenous player in the integration process which is influenced by the political pressure brought to bear by national governments. In this way, it will establish its resistance to national governments according to a maximizing criterion determined by two opposing influences: the tendency to favour them by the political support they give and the need to maintain the general well-being of the economic space related to the integration process.

Formally, its target function could be expressed in the following way:

$$SG = \sum_{n \in N} E_n(i) + aW(i) \quad a \geq 0 \quad (3)$$

where  $W(i)$  represents the general well-being of the economic space related to the integration process and  $a$  allows us to pick out the difference between the value the supranational authority assigns to the political, and possibly economic, support of the national governments, and that assigned to the impact which the variation in the level of integration will have on general well-being. Finally, general well-being could be determined in the following way:

$$W_i = \sum_{n \in N} B_n(i) + [(i - i^*)\{C(i) + D(i)\}] \quad (4)$$

We are thus faced with a situation in which the different national governments, acting as principals, try to lead a single agent, the supranational authority, to make a decision on the level of integration. The supranational authority acts as an agent for several national governments and, as a result, bears the cost involved in adopting a decision which is ineffective and prejudicial to general well-being.

### 3. Determination of the equilibrium of the model

In this section we determine the equilibrium of the game that ensues.

The situation we are studying responds to the structure of an agency problem, analysed by Bernheim and Whinston (1986) through an auction model which allows characterization of the equilibrium in a situation in which the participants, who are fully informed, announce a list of offers and the payments associated with the different actions which the auctioneer may take. In spite of the fact that, in this model, analysis is limited to situations where the players propose a finite set of targets, their results could be applied for dealing with cases such as the one in hand, where the auctioneer may choose between a continuous group of possible actions.

Next, we begin to characterize the equilibrium which is a result of the game. In the first stage, the national governments formulate their proposals for support taking into account the levels of effort they are prepared to make regarding the different decisions that the supranational authority can make. Taking all these proposals into consideration, the supranational authority adopts the decision which best responds to its objectives and receives the support associated with this from each national government.

This type of analysis involves two basic suppositions, one on the institutional structure and another one on the behaviour of the national governments. First of all, it is supposed that the participants in the game have additional interests: governments organized to express the demands of integration of the societies they represent and a supranational authority interested

138 in knowing what these demands are in order to translate them into decisions on integration.  
 139 Secondly, it is supposed that the actions of all the governments are carried out with the  
 140 primordial, but not sole, objective of maximizing their target functions.

141 Definition 2 of the Bernheim and Whinston model (1986) allows equilibrium to be char-  
 142 acterized in the following way: a group of proposals for political support  $\{E_n^0(i)\}$  so that  
 143 each national government jointly maximizes its target function and that of the supranational  
 144 authority, given the set of strategies of the other governments; and a vector of integration  
 145  $\{i^0\}$  which maximizes the target function of the supranational authority taking the support  
 146 strategies of the national governments as given.

147 *Definition 1.*  $(\{E_n^0\}_{n \in N}, i^0)$  is a perfect Nash equilibrium in subgames of this decision-making  
 148 game if and only if :

- 149 a.  $E_n^0$  is feasible  $\forall n \in N$ ;  
 150 b.  $i^0$  maximizes  $\sum_{n \in N} E_n^0 + aW(i)$  in  $I$ ;  
 151 c.  $i^0$  maximizes  $W_m(i) - E_m^0(i) + \sum_{n \in N} E_n^0(i) + aW(i)$  in  $I$  for each  $m \in N$ ;  
 152 d. for each  $m \in N$  there is a  $i^m \in I$  which maximizes  $\sum_{n \in N} E_n^0(i) + aW(i)$  in  $I$  subject to  
 153  $E_m^0(i^m) = 0$ .

154 Condition (a) limits the support strategies of the national governments to those for which  
 155 they are feasible, in other words, in no case those which involve a level of effort over and  
 156 above that which the governments are prepared to take on be acceptable. While condition  
 157 (b) establishes that, given the support strategies proposed by the national governments, the  
 158 decision that the supranational authority adopts for each of them will allow it to maximize  
 159 its objectives.

160 In accordance with condition (c), the vector of integration of equilibrium should maximize  
 161 jointly the target function of a government and that of the supranational authority, given  
 162 the support strategies of the remaining national governments. If this does not happen, any  
 163 government may reformulate its strategy and lead the supranational authority to make a  
 164 decision in accordance with this new approach. Finally, condition (d) includes the possibility  
 165 that there is a vector of integration associated with the total lack of support from a government,  
 166 which the supranational authority considers as attractive as that of equilibrium.

If we suppose that the political support strategies designed by governments can be dif-  
 ferentiated, at least around the point of equilibrium,  $i^0$ , which jointly maximizes the target  
 function of a government and the supranational authority, given the support strategies of the  
 remaining governments, fulfils the primordial condition:

$$\nabla W_m(i^0) - \nabla E_m^0(i^0) + \sum_{n \in N} \nabla E_n^0(i^0) + a \nabla W(i^0) = 0 \quad \forall m \in N \quad (5)$$

Taking into account, also, that the maximization of the target function of the supranational  
 authority satisfies the primordial condition:

$$\sum_{n \in N} \nabla E_n^0(i^0) + a \nabla W(i^0) = 0 \quad (6)$$

We can obtain, based on the above two equations:

$$\nabla E_n^0(i^0) = \nabla W_n(i^0) \quad \forall n \in N \quad (7)$$

This equation allows us to establish that each government designs its strategy, so that any marginal variation in its efforts to achieve a small change in the decision on integration from the supranational authority coincides with the variation experienced in its national well-being, which is the result of such a modification. As a result, all the political support strategies can be considered as locally true with respect to  $i^0$ , in other words, they reflect the true preferences of the national governments.

If we add Eq. (7) in  $i$  and we substitute the result obtained in Eq. (6), we come to the conclusion that:

$$\sum_{n \in N} \nabla W_n(i^o) + a \nabla W(i^o) = 0 \quad (8)$$

This equation is used to characterize the decision on integration of equilibrium under support strategies which can be differentiated. This equilibrium has an interesting property: the vector of decision on integration under consideration leads the supranational authority to behave as a maximizer of a function for well-being which includes different weightings applicable to general well-being and that of the different national governments.

Finally, let's see what effect a minor change in the decision on integration has on the well-being of national governments, in particular, and on the economic space related to the integration process, in general. First of all, we can calculate the variation in the national well-being of a government  $n$ , in the following way:

$$\frac{\partial W_n}{\partial i_j} = B'_n(i_j) - \alpha_n [(i_j - i_j^*) \{C'(i_j) + D'(i_j)\} + C(i_j) + D(i_j)] \quad (9)$$

Adding the above equation  $\forall n \in N$ , we can find out the effect of the modification to the decision on the well-being of all the governments which participate in the integration process:

$$\sum_{n \in N} \frac{\partial W_n}{\partial i_j} = \sum_{n \in N} B'_n(i_j) - \alpha_N [(i_j - i_j^*) \{C'(i_j) + D'(i_j)\} + C(i_j) + D(i_j)] \quad (10)$$

where  $\alpha_N = \sum_{n \in N} \alpha_n = 1$  since the costs of the supranational collective action have full repercussions on the governments which promote it.

Similarly, we can study how this modification to the decision affects the well-being of the economic space related to the integration process, using the equation:

$$\frac{\partial W}{\partial i_j} = \sum_{n \in N} B'_n(i_j) - [(i_j - i_j^*) \{C'(i_j) + D'(i_j)\} + C(i_j) + D(i_j)] \quad (11)$$

which reflects, jointly, the effect of such a modification to the market benefits and the costs of the supranational collective action that generates the enlargement of the economic space related to the integration process.

Substituting (10) and (11) in (8), we will be capable of identifying the decision on integration of equilibrium, which we will express in terms of the deviations existing with respect to the decision on integration under consideration when the collective action is limited to the essential and action is taken on a basis which is very close to intergovernmentalism:

$$(i_j^0 - i_j') = \frac{\sum_{n \in N} B'_n(i_j) - \{C(i_j) + D(i_j)\}}{C'(i_j) + D'(i_j)} \quad (12)$$

#### 183 4. Conclusions

184 The model we have shown supports the strength of the conclusions which we will list briefly  
185 below:

- 186 1. The results obtained show that the advance in the process of European integration depends  
187 positively on the potential benefits associated with the free movement of the market and  
188 the enlargement of the economic space related to the integration process. To obtain these  
189 benefits, changes are necessary in the political aspect—the creation of a supranational  
190 decision-making area—with major implications which have to be assessed, since on oc-  
191 casions they may originate political reticence to integration which can only be dissipated  
192 by economic benefits.
- 193 2. Given that the total costs of the joint supranational action have two components, imposition  
194 costs and decision costs, with opposite behaviour with respect to the degree of integration,  
195 there is an optimal integration level that minimizes the sum of the total costs of the joint  
196 supranational action.

197 Summarizing, our model allow us to identify an optimal level of integration which once  
198 it is reached vanishes the incentives to move forward in the integration process, so we can  
199 state that the integration process has limits.

200 Finally, a stable legal framework must be created and constitutional precautionary mea-  
201 sures adopted so that the costs of the supranational collective action can be reduced and the  
202 process can culminate in the adoption of political forms with institutions or mechanisms for  
203 federalization or political integration. It should be pointed out that this solution relates fully  
204 to the problems which arise from the extension to a very high number of countries, since the  
205 expected increase in the costs of collective action is very similar.

#### 206 References

- 207 Baldwin, R. & Venables, A. (1995). "Regional Economic Integration." In G. Grossman and K. Rogoff, (eds.),  
208 *Handbook of International Economics*, Vol. III, North-Holland, 1597–1644.
- 209 Bamberg, G. & K. Spremann, (eds.) (1987). *Agency Theory, Information and Incentives*, New York, Springer.
- 210 Bean, Ch. (1992). "European and Monetary Union in Europe." *Journal of Economic Perspectives*, Autumn,  
211 31–52.
- 212 Bernheim, B.D. & M.D. Whinston, (1986). "Menu Auctions, Resource Allocation, and Economic Influence."  
213 *Quarterly Journal of Economics*. 101(1), 1–31.
- 214 Buchanan, J. & G. Tullock, (1962). *The Calculus of Consent: Logical Foundations of Constitutional Democ-*  
215 *racy*, Ann Arbor. University of Michigan Press.
- 216 Cebula, R. J. & Kafoglis, M. Z. (1981). "The Buchanan-Tullock Model: Some Extensions." *Public Choice*.  
217 36, 179–186.
- 218 Cebula, R. J. & Kafoglis, M. Z. (1983). "In Search of Optimum Relative Unanimity." *Public Choice*. 40,  
219 195–201.
- 220 Cecchini, P., M. Catinat, & A. Jacquemin, (1988). *The European Challenges 1992: The Benefits of a Single*  
221 *Market*, Aldershot: Wildwood House.
- 222 De Grauwe, P. (2000). *Economics of Monetary Union*, Oxford, Oxford University Press.
- 223 Eichengreen, B. (1995). "European Monetary Unification." *Journal of Economic Literature*. January, 162–172.
- 224 Levitt, M. & Lord, C. (2000). "The political economy of monetary union." *European Union Series*. New York:  
225 St. Martin's Press.
- 226 Michelmann, H. & Soldatos, P. (eds.) (1994). *European Integration. Theories and Approaches*. Maryland.  
227 University Press of America.
- 228 Molle, W. (1990). *The Economics of European Integration*, Dartmouth Publishing Co.
- 229 Pelkmans, J. (2001). *European Integration. Methods and Economic Analysis*, London. Prentice Hall.

- Toumanoff, P. (1989). "Economic Factors in Institutional Choice." *Papers on Democracy*. Bradley Institute for Democracy and Public Values, Marquette University. 230
- Wickström, B. (1986). "Optimal Majorities for Decisions of Varying Importance." *Public Choice*. 48, 273–290. 231
- Wright, P., Mukherji, A. & Kroll, M.J. (2001). "A Reexamination of Agency Theory Assumptions: Extensions and Extrapolations." *Journal of Socio Economics*. 30(5), 413–29. 232
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