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The feasibility of European electric reforms, a new-institutional economics evaluation

KEY WORDS: market, institution, electricity sector, regulation, transaction cost economics

Introduction

The European electric sector is engaged in an institutional process of innovation under the impulse of the European Directive 96/92 CE and the "Marché Unique project". This institutional dynamics searches to insert a form of competitive coordination in traditional and hierarchical electric business coordination.

This dynamics also conducts each European nation to redefine a new operational organisation for production, transportation and distribution, and to operate a choice among different reformative options offer by the Directive. These choices are become possible by the economic redefinition of the electric system, a long time considered as a natural monopoly from production to consumers. This transformation and the introduction of new actors drive to the construction of a new Institutional Arrangement [1, 2, 3] embedded in Institutional Environment (North[1] [4, 5]). The old vertical integration and long terms contract coordination is going to be substituted by Hybrid Forms of economic coordination like electricity markets are.

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[1] Economic Prize in Honour of A. Nobel in 1993.

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By the early work of Joskow and Schmalensee [6], the scope of natural monopoly had now been restricted in transportation and distribution assets and com- petitive coordination are envisaged to manage production and commercialisation of electricity. It suits then to search to determine what are the Public authority capacities to transform the electric industry from production to supply. Our purpose is to give a New Institutional Economic analysis of electricity reform feasibility.

To deeply understand this problem, it seems necessary to carry out reasoning in two steps:

The first step will bring us to distinguish between feasibility lied in institutional endowments and feasibility in the characteristics of industrial electricity structures. Then we will to use this distinction to build two polar feasibility forms, called maximum and minimum opportunities for transformation. The second step will permit us to illustrate those polar forms with European national experiences and will permit either to assess cases in between. In particular we will use this framework to identify characteristics in reformative process in three European cases, England & Wales as an illustration of maximum feasibility features, Spain as a in between case, and we will give some insights concerning the minimum feasibility embedded in the German and Californian experiments.

The construction of polar cases of feasibility

Each nation is characterised by a specific Institutional Endowment build by history and men [7]. This institutional endowment influences feasibility process of reforms because it allows or constraints the choices that politicians can support in each nation. Our purpose here is to define a strict relation between the institutional endowment and the feasibility of electricity reform and to show that: **More the institutional endowment is concentrated and more the reform is institutionally feasible without negotiations with stakeholders.**

In this section, our aim is to rationalise cases studies comparisons by building two polar Institutional Endowment of feasibility. In order to doing so, we will use previous works made by different authors of the new institutional economy to clarify the four main characteristics of the whole institutional setting[2] of a contemporary democracy.

The feasibility in term of institutional endowment

If we assume that a change in a regulation structures provides both winners and looser this two groups tries to influence all the institutional setting describe in graph 1, the feasibility of reform is determine by four characteristics. There are the relations between executive and legislative powers in scope and intensity (Characteristic 1), the ex post constitutionally control of laws by special court (Characteristic 2); the organisation of political parties and the electoral rules (Characteristic 3) and the role of judicial power in economic regulation (Characteristic 4).

[2] In the institutional endowment there are two main sub-division: the formal and informal institutions as defined by North. In this paper we just deals with the most important formal institutions to economic analysis.

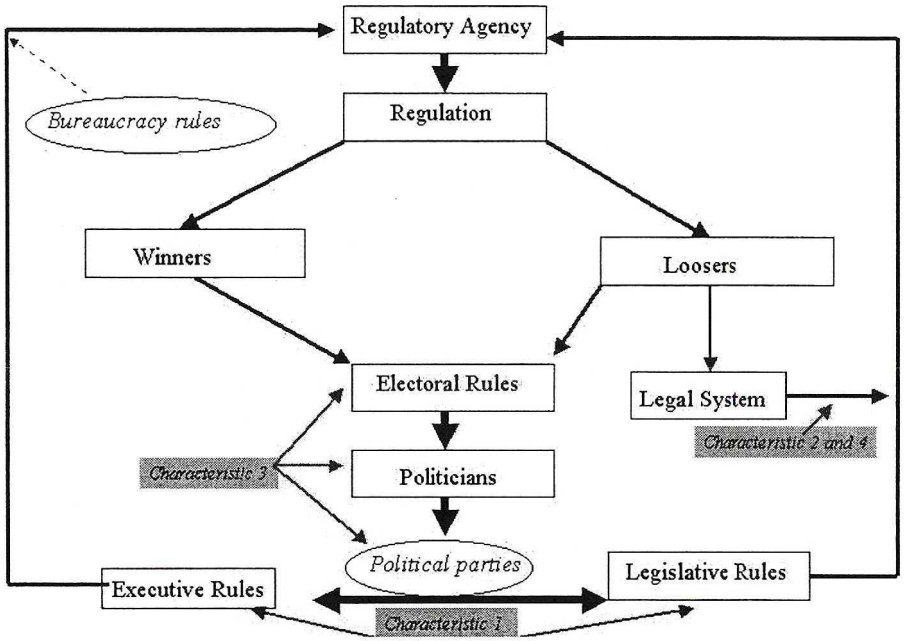

Fig. 1. The new-institutional economics framework for feasibility

Rys. 1. Nowy instytucjonalny ekonomiczny schemat badania realności przedsięwzięć

All of the four characteristics are history nationally construction and a way of simplification is to give two polar values for each of them as centralised and decentralised as a benchmark for further purpose.

If we decide to examine first **centralised rules for the relation between executive and legislative rules** (Characteristic 1), it will be possible to consider that a single government who control both executive and legislative powers is a strong public authority on a same territory. In this case there is not competition between the creation and the execution of laws for a determined period in the unique state nation with no local powers [8, 9, 10, 11, 12].

The opposite polar case of perfect decentralisation will be a strong competition between legislative and executive powers at more than one state level. This is generally the case in federal structures for instance with two geographical level of authority with specific legislation fields[3] [13, 14, 15, 16].

The ex post constitutionally control of laws by special court (Characteristic 2) is easiest to understand in our view of feasibility: If there is **a absence of constitutionally ex post control of laws** the law create by this unique authority will not be invalid by this court. This institutional determinant increased the range of feasible reforms. The opposed case is perfectly symmetric, and constitutional courts presence implies restraint in feasible reforms.

[3] We will postulate that we will study principally a structure has two levels, but the institutional reality main democracies counts him rather four, the central state, regions, townships and municipalities.

We are now going to define the two extreme values of characteristic 3. The most centralised electoral rules and political rules **are a political bipartite system organised by a majority poll**. In this system the two political parties competes for the access to the central authority of creation and execution of laws and this solution is really stable in time. The opposite **case is a multi parties political system in proportional poll**: In our decentralised regime, the multiple political parties system increases the dispersion and imposes composite coalitions in order to handle a limited power to reform. In this case, the stability of political coalitions in time is limited, and a voted law is potentially changed by a modification of political parties coalition [17, 18, 19].

The last characteristic **is the judicial allocation of powers in economic regulation**. As for the second characteristics the most centralised institutional endowment is defined by an absence of ex post judicial intervention in the specific topics of economic regulation. In our institutional centralised endowment, the independence of judicial powers exist outside of economic regulation purposes Newberry [20]. The opposite case is a large Judicial powers and has all latitudes to interfere in the process of creation and execution of economic regulation.

The two polar cases of institutional feasibility		
Characteristics	**Centralised institutional endowment**	**Decentralised institutional endowment**
Executive and legislative rules	Controlled by one government	Federalism and separation of executive and legislative rules
The ex post constitutionally control	Absence	Presence for all the rules issued by government
The organisation of political parties and the electoral rules	Bipartite and majority poll	Multipartite and proportional poll
The role of judicial power	Not in economic regulation	Presence in economic regulation

It's now possible to think that these two institutional endowments have an impact on the feasibility of the reform process, and make clearer our first assuming **that more the institutional endowment is centralised less is the potential need of negotiations between all the stakeholders and the public authority**.

The electricity side of feasibility

As we do in the previous section, we define three characteristics that can take two values for understanding the range of feasibility possibilities in electricity sector. It is important to note that these electricity sector characteristics permit or constraint option in electricity market reforms.

The first characteristic is the distribution of property rights of electricity assets (Characteristic 5); the second is the nature of path dependency of national energy plans (Characteristic 6) and the last characteristic is the quality of transportation and distribution electricity system (Characteristic 7).

The fifth Characteristic deals with **the problem of property rights**. Huge verticals restructuring or horizontals electric sectors appear difficult if the central power does not hold the

whole electric assets ownership. To this purpose, the centralised allocation of public property right becomes a decisive criterion of feasibility of electric reforms [17, 21]. We assume first that public ownership is a condition favourable to reform. We argue that if central authority possesses the whole properties' rights of electricity assets, going from coalmines to production assets, transport and distribution to the commercialisation, the range of reforming options is widely open.

The opposite case is a huge dispersion of property rights from private hands to regional state or province or municipalities. This situation of dispersion of property rights introduce some limitations in the range of feasibility market reforms because in all the European countries exists important protection of this private property rights. The public powers of re-allocation of private property right is very limited and only some adjustments more limited like legal unbundling, or separation, can be fixed by public authorities, because they are redefinition of property rights and no re-allocations.

The sixth characteristic deals with the nature of the Institutional Arrangements prior to reform of the electricity sector in each nation. One central question about organisational options in electricity sector is the existence of *path dependency* constraint induced by previous public policies. If we supposed that government had a long tradition of public intervention in electricity regulation or in energy national plans, it would be more difficult to Public authority to transform this complex industrial relation embedded in long term contracts or past regulation schemes. This path dependency can influence the content of the reform and can oblige Public Authority to paid huge Stranded Costs to introduce new reforms. These Stranded Costs can be interpreted as a clearing method to allow the transformation of old institutional arrangement and can be seen as a limitation of ability to reform in some extreme case [20, 22, 23, 24, 25].

The last characteristic is the **quality of electricity network transport and distribution** (Characteristic 7). If electricity transport is not well design in term of access to networks, measuring and metering the competition will not take place for technical reasons. This situation is unknown in European case studies, but appears in some developing countries.

The two polar cases of electricity feasibility		
Characteristics	**Easiest industrial structure**	**Worst industrial structure**
The property rights distribution	All assets belong to a unique public authority	Dispersion of assets in local public authority and private sector
The institutional arrangement prior to reform	Absence of long term contract or national energy plans schemes	Presence of long term contract and national energy plan schemes
The network accessibility	Good enough for market mechanisms	Weak metering and access to networks

We can now combine the two feasibility frameworks, i.e. institutional endowment and electricity industrial feasibility, and conclude that, if a nation got both aspects of feasibility, the public authority can make all kind of reforms without the constraints of negotiations with stakeholders. In the contrary, a nation with weak institutional and electricity feasibility frameworks cannot lead reform without huge negotiations between stakeholders. However, we have to

notice that these two extreme cases are use as benchmark cases for the next section in witch we test in logical terms our construction.

Enforcement of the complete framework to electricity European reforms and Californian case

We come to apply and illustrate our analytical framework by national European experiences and Californian cases study. In order to do this, we come to use a certain number of academic works and empirical case studies in European market reforms and the Californian experiment. We do not postulate that each experience here classified is identical, but that their institutional endowments and basic electricity characteristics are close enough to been classified together. In order to deal this some difficulties in classification of institutional endowments we have to build an in between institutional endowment call "mixed". In most of the European countries, there is few radical institutional endowment (centralised or decentralised) but rather some forms of mid size position. This mixed position could be interpreted as a more limited negotiation constraint by Public authority to introduce reforms.

The first extreme group of countries is one with allies a centralised institutional endowment and an easy electricity industrial structure. It is for examples the case of France, Portugal, Greece, and England & Wales reform experiences. In these cases, Public authorities are able to do any kind of reform in term of total feasibility[4] Gilbert and Kahn [24], Levy and Spiller [7], Newberry [20], Midttun [26], Glachant and Finon [17], Perez [27, 28], Bogles Edwards Ewans Plasket [29].

The second extreme group of countries is characterised by a decentralised institutional endowment, and weak electricity feasibility. It is the case in Germany[5] and Californian electricity reform who are flawed by a huge constraint of negotiation in order to achieve this process Eberlein [30], Perez [27, 8] Glachant [18], Joskow [31]. This constraint does not mind that a negotiated reform is *per se* weaker than an imposed reform, but rather than a negotiated reform is a more constrained process of reform. Our goal is to say that more the constraints are stronger; more the range of choices is limited and could limited the choice of an effective and productive reform.

Once both polar cases definite, **the mixed case appears by benchmarking process.** National experiences of Norway Sweden and Spain are for instance located in what we name a *"mixed institutional endowment"* neither perfectly decentralised nor centralised. In those mixed endowments the negotiating process with stakeholders and the government authority is combined to produce the reformative electric process. In these cases, the product of the reform must be analysed not only as an "economic process" but also as an "institutionally influenced process" in the way we show it.

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[4] In these cases, the strange think is that some countries like France still have some problems to achieve a reform. In our point of vu, this fact could be explained in term of lack of attraction for reform from major stakeholders like Electricité de France.

[5] And in a minor mode of Austria and Belgium who are not so strictly separated like Germany.

To illustrate of concrete cases our framework, we come to confront different national experiences in European Union and Californian experiment.

	Centralised Institutional endowment	**Mixed Institutional endowment**	**Decentralised Institutional endowment**
Easy industrial structure	Great Britain France Greece Portugal	Norway Sweden Spain	Austria Belgium
Weak industrial structure	No experience in Europe		Germany California
Form of the reforms feasibility	Imposed vertically	Mixed reform between negotiation and government authority	Negotiated with huge agreement
Midttun [26], Glachant et Finon [17], Newberry [20], Bogles Edwards Ewans Plasket [29], Eberlein [30] Cohen & Tatcher [32]			

It seems us important to quote that the dimension of feasibility does not induce any logical determinism. It could be logically conceivable that different institutional endowments and different levels of electricity feasibility do produce a same reformative output. Our point is to stress out the intuition that the efforts and needs to make this convergence really true are dramatically different. Our framework permit to understand the kind of efforts needed to achieve the same goal and show that some reform options are really not achievable at all in these circumstances.

Our construction is also an answer to the critics of Williamson criterion of economic remediablesness. The traditional critics to this concept of "best organisational solution possible for a nation" is to be to favourable to *status quo* and comfort nations in their current situation. Our framework show how and were this nations have to work to produce clever reform and permit to select and reject national objections with a logical apparatus.

Conclusion

We think to contribute to clarify a central problem of the economic analysis process of reformative electrical systems insisting on the dimension of feasibility that permitted by institutional endowments. The feasibility of reforms constitutes for us a necessary stopping place to characterised credibility's electric reforms who are often questioned from the beginning of this year.

Equally, We think to permit to place an institutional environment analysis of industries features that draw to be transposable to others industries in the institutional environments studied.

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Abstract

At the present time, electricity sectors reforms are commonly questioned as their capacities to have an effect on price and on incitements to invest. Our purpose is to begin to determine a framework to analyse the institutional feasibility of electric reforms, which would permit to study the public powers capacity to plant a regulation structure of governance in institutional endowment. Once identified main characteristics of those structures of governance, we will discuss their reach and notification in terms of credibility.

Yannick PEREZ

Realność europejskich reform w zakresie energii elektrycznej — nowa instytucjonalna ocena ekonomiczna

SŁOWA KLUCZOWE: rynek, instytucja, sektor energetyczny, transakcja, ekonomika kosztów

Streszczenie

Reformy sektorów energetycznych są obecnie powszechnie kwestionowane ze względu na możliwości wpływu na cenę energii oraz na skłonność do inwestowania w te sektory. Postawionym w artykule celem jest określenie schematu pozwalającego zanalizować instytucjonalną efektywność reform energetyczych. Według tego schematu przeprowadzono implementację struktur zarządzania w instytucjonalnej formie w sektor publiczny. Po zidetyfikowaniu głównych cech tych struktur przeprowadzono dyskuję na temat ich wiarygodności.