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On the optimal complexity of law and legal rules harmonization

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Abstract This paper analyses the determination of the complexity of legal rules in a context of harmonization between different countries. We first assume that there are no harmonization gains. We show that if the optimal complexity levels of legal rules are equal across countries, their common level will stick when legal rules are harmonized. When these levels are different, one nation-state may lose to the determination of a uniform level of complexity. However, when there are harmonization gains we show that if these harmonization gains are large enough, complex legal rules are optimal. Moreover, we show that each nation-state could gain from the determination of a uniform level of complexity, even if this level is not its preferred one.

Keywords Law-and-economics · Legal convergence · Uniformization · Optimal complexity of law

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1 Introduction

1.1 Motivations

This paper analyses the design of the law in a context of harmonization between different countries. Here, we propose to study an important aspect of legal environment that seems to have been little analyzed from an international perspective: the complexity of legal rules.

It is indeed quite surprising to observe that the main characteristic of legal systems that has been addressed to describe the convergence of legal rules concerns the content of the law. Some authors speak about the way laws are enforced, specially the role of formalism in legal procedure (Djankov et al. 2003) or the difference between accusatory and inquisitorial systems (Shin 1998). However, investigations are generally limited to the effects of enforcement conditions by the courts on behavior of economic agents like investors. They do not examine the consequences of such procedures from the point of view of the producers of the law, even less in the context of international harmonization.

To consider the importance of the problem, imagine different countries that take the decision to adopt the same principles to build their legal environment (i.e. the same content for the law). It seems relatively evident that they could present *in fine* very different outcome according to the conditions of application they select.

This paper contributes to the analysis of legal harmonization by focusing on the relationships between harmonization and complexity: when two countries are characterized by two different preferred levels of complexity (high and low for instance), how the harmonization process modifies them (a uniform high or low level?)?

Our approach is of special interest in the European context where most of discussions ignore the problem of complexity.

1.2 Related literature

1.2.1 The problem of the convergence of legal rules

There is a well-known argument that explains the convergence of national legal rules. It is especially found in the law-and-economics literature where it is argued that national legal rules will converge spontaneously in order to implement an efficient allocation of scarce resources (see, e.g. the papers in Marciano and Josselin (2002) and notably Smits (2002), Mattei (1997), Ogus (2003), Garoupa and Ogus (2003)). To put it in a nutshell, convergence will be achieved through the works of legislators, judges and arbitrators, who will choose efficient legal rules. In this perspective, harmonization is the outcome of a more or less decentralized process. However, convergence is not inevitable. First, preferences toward legal rules may differ across nation-states. Second, even if preferences are not too different, substituting a legal system for another one is costly; the cost may well be larger than the benefits (typically due to increases in international transactions).

Harmonization could also be the result of more centralized efforts. Indeed, as shown in the literature on legal competition models, decentralized decisions are not always efficient.[1] The negative effects of these non-cooperative behaviors have been studied in several contexts (e.g. tax competition (Mintz and Tulkens 1986; Wildasin 1988), legal competition in corporate charters (Romano 2005), crime deterrence (Marceau and Mongrain 2004), environmental protection (Revez 1992)).

Moreover, as was remarked by Carbonara and Parisi (2007) there are different ways of harmonizing legal rules. These authors define *legal harmonization*, i.e the process through which nations agree on a set of objectives and targets but let each nation amend their internal law to fulfill the chosen objectives. This is in contrast with *legal unification* where nations agree to replace national rules and adopt a unified set of rules chosen at the interstate level. Although legal harmonization and legal unification are often pursued with different legal instruments, they both result from cooperative efforts of the countries involved. The results of legal harmonization and legal unification differ however in the degree to which systems are effectively homogenized.

1.2.2 Why are legal rules complex?

According to one line of attack, the determination of the complexity of legal rules refers to the rules versus standard tradeoff (see Kaplow 1992), where one opposes the clarity of rules versus the flexibility or fairness of standards. According to Bowers (2002), standards have the advantage of scope while rules have the advantage of precision. In this perspective, the distinction explains which source institution determines which types of rules is produced, legislative bodies produce standards whereas judges produce rules. Kaplow (2000) observes that "Rules tend to be preferable when particular activities are frequent, and standards do best when behavior varies so greatly that any particular scenario is particularly rare". In the same line, Epstein (2004) analyze the optimal complexity of legal rules.

Complementary but distinct from the preceding argument is that of Fon and Parisi (2007) who argue that the optimal specificity of legal rules depends on the process of legal obsolescence and the volume of litigation.

Along another line, according to Kaplow (1995), the complexity of legal rules refers to the number and difficulty of distinctions the rules make. On the one hand, to distinguish different types of behaviors (each yielding various consequences) one needs detailed rules. But on the other hand, more complex rules are more costly to understand (ex ante) and more complex to apply ex post (you know the legality of an act necessitates an effort). Some people will choose not to learn complex rules.

Here we would like to emphasize another point made by other scholars (Bowers 2002; Pistor and Xu 2003). When legal rules are not complex (in fact complete or

[1] Notice that legal competition is related but is different from the harmonization issue. Indeed, the crucial point in the literature on legal competition is whether coordination is desirable or not. But coordination does not imply harmonization. Coordination means more or less choosing a (Pareto) efficient set of institutions (this concerns crime deterrence, fiscal competition etc.). Hence, one could end up with more coordination without having harmonization. For a model of convergence that does not rely per se on legal competition, see Crettez and Deloche (2006).

precise), they are more easy to understand, but since they may be incomplete or ambiguous, so that there is a risk of judicial mistake, or opportunistic behavior by other agents, this yields insecurity.

1.2.3 Legal harmonization and complexity in the European union

The issue of legal harmonization is not new in Europe (see, e.g. Backhaus 1998). Of particular concerns are the ongoing process of codification and the attempts at creating a Community patent.

As concerns the ongoing process of codification in the European Union, there is the Draft Common Frame of Reference (DCFR)[2] prepared by the Study Group on a European Civil Code and the Research Group on EC Private Law (Acquis Group).

From a historical point of view, the current process of codification relies on three different experiences of codification, each of which played an important role in influencing subsequent codifications throughout the world: the French Code Civil enacted in 1804 by emperor Napoleon Bonaparte, the German Bürgerliches Gesetzbuch that took effect in 1900, and the Italian Codice Civile that came into force in 1865. The French code as well as the German Code has maintained much of its content to the present time. The Italian code of 1865 was replaced by the code of 1942 that departed to a large extent from its predecessor.

By taking a larger number of provisions to regulate the same area of law as a proxy for a greater level of specificity, it is possible, from the study of these four codes, to discern two polar patterns of specificity: simple rules versus complex rules. In contract and sales law, for example, it appears that the 1804 French code has a higher number of provisions (387 Articles), compared to its Italian (275 Articles), German (273 Articles) and European (267 Articles) (see Parisi 2007).

What is going on beneath such differences? Parisi (2007) describes and explains these differences by highlighting the two following points. First, in the France of 1804, there was already a unitary and established commercial tradition. Second, nineteenth-century Germany and Italy utilized codifications as an instrument to put an end to the splintering of their respective legal systems. The Italian code of 1865 was enacted after the unification of Italy. The German Code of 1900 was enacted at the end of a process that actually began after the unification of the German states as a confederation of principalities in 1871.

What insight can be gained for the design for a potential European code?

Through these non-cooperative and cooperative adaptation processes of legal systems legal distance is shortened: new legal rules are adopted, and preexisting rules need to be abrogated or modified. It is not without costs for the legal community and the parties involved. Is it possible to shed a new light on this point? Parisi (2007) argues that in twenty-first century Europe both the linguistic and legal diversity play in favor of reduced specificity, or a law level of complexity. But is it possible to dig a little more deeply into these ideas?

Another area of concern is the harmonization of patent laws in the European Union. Indeed, the single markets for patents is still incomplete in Europe. There is

[2] Available on-line at http://www.law-net.eu/en_index.htm.

no affordable Community-wide patent, nor integrated patent jurisdiction. Yet, the later is important since, when dealing with patent litigation, national courts are often required to consider issues with a cross-border dimension. Any infringement in relation to patents may thus be subject to diverse national laws and procedures, which spurs legal uncertainty as well as the costs to proceedings. Moreover, the absence of a consistent patent right across Europe contradicts the key principles of the Internal Market (i.e. the same market conditions should exist wherever in Europe trade is carried out). A key feature with regard to complexity is the translation cost faced by a patent applicant. Should the patent be translated in all languages of the European Union, should all the patents be translated, or just the claims? Should these issues be dealt with at national levels of a more integrated one?

1.3 Outline of the paper

The remainder of the paper is organized as follows. First, we present a simple model of the choice of a complexity level (Sect. 2) and we study the optimal level of legal complexity. We then consider the consequences of harmonization between two nation-states on the choice of the complexity level at the union level (with and without harmonization gains). We shall show that the existence of harmonization gains may sustain a uniform level of complexity, even if this level is not the preferred one by a nation-state. We next discuss our results in Sect. 4 and provide some conclusion in Sect. 5.

2 A simple model of law complexity

We want to set up a model of the tradeoff that underlies the choice of complexity level along the next line. When legal rules are not complex (or not enough complete, or precise, or specific), they are easy to understand. However, since they may be incomplete or ambiguous, there is a risk of judicial mistake, or opportunistic behavior by other agents: this yields legal insecurity.

2.1 Assumptions

We consider first a closed economy inhabited by a representative agent characterized by the benefit b he gets if he chooses to realize a certain action. If he does not act, he simply gets nothing.

2.1.1 Simple rules

We suppose nevertheless that the benefit accruing to this agent may be less than b when the legal system is not complex. That is there a probability e (e is in [0,1]) that an agent is not well legally protected and incurs a cost θb for this reason (θ is in [0,1]). Here, e can result from judicial mistakes (or a mistake made by the agent itself, because the law is either imprecise or incomplete).

If he chooses to act, the expected gain of this agent is thus:

$$(1-e)b + e(b-\theta b) = (1-e+e(1-\theta))b \tag{1}$$

We denote $\alpha \equiv (1-e+e(1-\theta))$.

We also assume that to act, an agent must bear a cost $\underline{c}$. This cost may be subjective or not (for instance, it may represent the opportunity cost of learning the rules). Thus an agents acts if and only if:

$$b \geq \frac{\underline{c}}{\alpha} \tag{2}$$

Thus, acting is profitable only if the benefit is high enough (with respect to the cost $\underline{c}$).

2.1.2 *Complex rules*

We suppose that more complex legal rules bring about more security, in the sense that $e = 0$; but they are more costly, in the sense that: $\overline{c} > \underline{c}$ (more complex rules are harder to learn than simple ones). Therefore, the agent acts if and only if:

$$b \geq \overline{c} \tag{3}$$

The expected gains when legal rules are simple and complex (i.e $\alpha b - \underline{c}$ and $b - \overline{c}$) are displayed in Fig. 1. The curve depicting the gain when rules are complex is steeper than that depicting the expected gain when rules are simple. This is of course due to the fact that when rules are simple, the expected gain takes into account the fact that legal rules are non secure.

On the graph, we have assumed that $\frac{\underline{c}}{\alpha} < \overline{c}$. In this case, when b is lower than $\underline{c}/\alpha$, the agent never acts, whether rules are simple or complex. Acting is either too costly or too risky. When b is higher than $\underline{c}/\alpha$, the agent acts when rules are simple. When b is higher than $\overline{c}$ the agent acts when rule are complex (but an agent with lower b does not act: the fixed cost is too much important). When $b = \hat{c}$ the agent is indifferent between both levels of complexity. Before $\hat{c}$, the agent prefers simple rules over complex ones. The reverse conclusion applies when b is higher than $\hat{c}$.

2.2 Optimal complexity of legal rules

The optimal level of complexity of legal rules is determined by comparing the values of the expected gains obtained with different complexity levels

From the discussion of the preceding subsection, it is easy to show the next result.

Proposition 1

(a) *If $\overline{c} < \underline{c}/\alpha$, then complex rules are always preferred to simple ones.*
(b) *If not, complex rules are strictly preferred to simple ones if and only if $b > \hat{c}$.*
(c) *When $b = \hat{c}$, the agent is indifferent between the two kinds of rules.*

In the first case, the cost of complexity is always lower than the expected cost of simple rules (that is, taking α into account). In the second case, as we have seen above, there is a tradeoff between having a low fixed cost (and an insecure gain) and

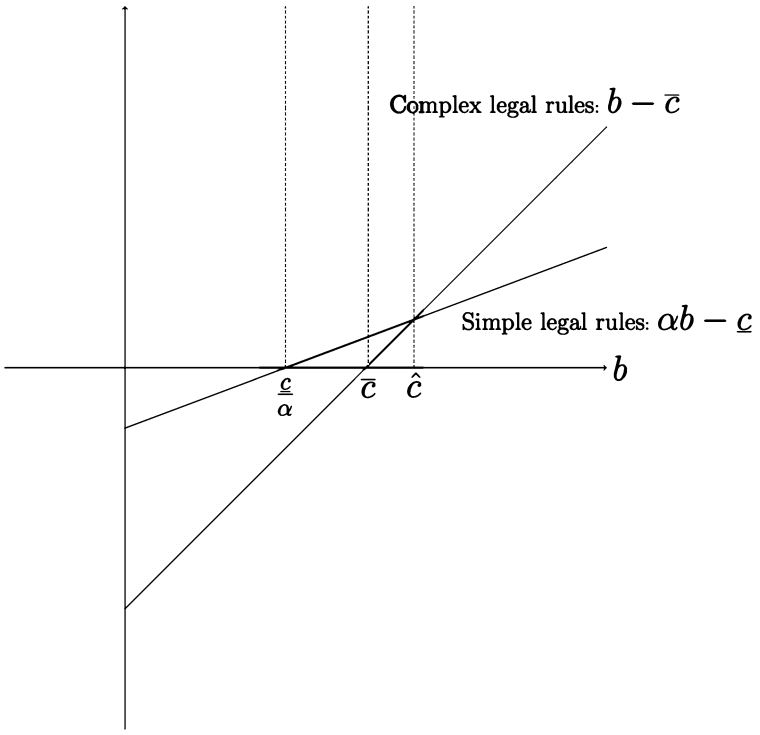

Fig. 1 Expected gains with simple and complex legal rules

a high fixed cost (with a sure gain). We shall now analyze this tradeoff when there is legal harmonization.

3 Complexity of legal rules and legal harmonization

We consider a two-country world. In each nation-state, there is a well-defined representative agent, whose benefit (in case of action) is b_i ($i = 1,2$). We assume that legal rules are harmonized (or unified). What level of complexity will be chosen?

3.1 Non-coordinated choices

Consider first the case where the choice of the complexity level is non-coordinated. Thus the application of the law is left to nation-states. This will take place especially in a context where laws are only harmonized (and not unified). In this setting, the choice of a complexity level is done in a way similar to that presented in the preceding section. A possible difference is that the legal environment, i.e. the parameters α_i, $\underline{c}_i$ and $\bar{c}_i$ may be different from their pre-harmonization levels. Legal harmonization may bring about savings (or not) in the costs of actions. There may be less uncertainty (reflected in a higher value of α_i). The change in the values of the

legal parameters could therefore lead to a change in the level of complexity. For instance, a simpler system could be chosen on the ground that harmonization decreases in part legal uncertainty and allows for some savings on the costs of learning. On the other hand, if in the new setting $\overline{c}_i < \underline{c}_i/\alpha_i$, complex level of legal rules is preferable.

3.2 Coordinated choices

Since laws are now harmonized, and even unified, it makes sense to think that the level of complexity of legal rules be chosen along a more cooperative way. In that setting, one would try to maximize a benthamite social welfare function based on the distribution of population across the two-nations states.

This distribution being given, the choice of the complexity level is again done in the same way as before. The actual choice depends on the weights put on the two representative agents benefits. A more numerous nation-state would then influence the actual choice of the complexity level (so that a high(resp. low) complexity level would be chosen if the agent in this more numerous nation prefers a high (resp. low) level of complexity).

To put it more formally, let λ be the weight of nation-state 1 in the union (λ is in [0, 1]). Then, adapting Proposition 1 to our new setting, we get:

- If $\overline{c} < \underline{c}/\alpha$, complex rules are always preferred to simple ones.
- If not, complex rules are strictly preferred to simple ones if and only if $\lambda b_1 + (1-\lambda)b_2 > \hat{c}$.
- Complex legal rules are equivalent to simple rules when $\lambda b_1 + (1-\lambda)b_2 = \hat{c}$.

Clearly, if both nation-states prefer the same level of complexity, then this level of complexity will be chosen when their choices are coordinated. However, if this is not the case, one nation state bears a welfare loss compared to what it would have chosen alone (of course, the higher λ, the closer to the preferred choice of nation-state 1 will be the level chosen in the union).

Formally we get:

Proposition 2

(a) *If* $\min\{b_1, b_2\} > \hat{c}$ *, complex legal rules are chosen at the union level.*
(b) *If* $\max\{b_1, b_2\} < \hat{c}$ *, simple legal rules are chosen at the union level.*
(c) *If, for instance,* $b_2 < \hat{c} < b_1$ *, then a complex level of legal rules will be chosen iff*

$$\lambda \geq \frac{\hat{c} - b_2}{b_1 - b_2}$$

(d) *In cases (a) and (b) the centralized choice is similar to the individual rational choice to both nation-states. This is in contrast with case (c) where one nation-state would have preferred another level for the centralized choice.*

Point (d) raises the issue of the rationality of engaging in the centralization of the choice of the complexity level. We return to this issue at the end of the section.

3.3 Harmonization gains

We now assume that legal harmonization together with coordinated choices of a complexity level has a positive effect on individual benefits (for instance through trade gains etc.). This may not happen all the times, but this is a likely outcome when harmonization is a rational choice made by nation-states, and especially in the cases where there is legal uniformization.

One way to model these harmonization gains, is to assume that the new values of benefits write βb_i, $i = 1, 2$, where $\beta > 1$.

As a consequence, the higher β, the more likely the choice of a high level of complexity of legal rules. Interestingly, if absent of harmonization gains, both nations would prefer simple rules, then, with harmonization gains, they may end up choosing more complex, and then more secure, legal rules. As another consequence, the existence of harmonization (or unification) gains, which would appear precisely if the complexity of level rules is chosen at the union level, can support a centralized choice. We address this issue next.

3.4 Rationality and the choice of the optimal level of legal complexity

As we have just seen, when the choice of the optimal level of complexity is centralized, this choice depends of the distribution of individual benefits across the union, as well as potential harmonization gains. Thus, in principle, it may happen that a nation-state incurs a welfare loss with the centralization process (because it would prefer another level of legal complexity). However, this loss can be compensated when there are harmonization gains. Suppose indeed that nation-state 1 would prefer simple rules to complex rules, absent harmonization gains. This happens whenever:

$$b_1 < \hat{c} \tag{4}$$

Suppose also that the same ranking prevails with harmonization gains. This implies that:

$$\beta b_1 < \hat{c} \tag{5}$$

It could however be the case that nation state 1 welfare increases if complex rules are chosen at the union level, in comparison to the case without harmonization gains. This conditions writes:

$$\alpha b_1 - \underline{c} < \beta b_1 - \overline{c} \tag{6}$$

A necessary condition for these inequalities to hold is that:

$$b_1 < \hat{c} \tag{7}$$

Summarizing the above discussion we have:

Proposition 3 *Suppose that $b_1 < \hat{c}$. Then, nation-state 1 always prefers simple rules to complex ones whether or not there are unification gains. However, nation-state 1's welfare with complex rules and unification gains may be higher than its welfare with simple rules without these gains. This happens iff:*

$$\alpha + \frac{\hat{c}(1-\alpha)}{b_1} < \beta < \frac{\hat{c}}{b_1} \tag{8}$$

Therefore, moderate harmonization gains (i.e. relatively small values of β) may ensure the rationality of the complexity of legal rules at the union level.

4 Discussions

The previous analysis helps to understand some current issues with regard to legal harmonization in Europe.

Because it is considered to be the easiest way to reach an agreement among members states on patent issues, there has been a proposal to create a European patent court (with a court of first instance and a court of appeal), see e.g. Draft Agreement on the European Union Patent Judiciary, Working Document, Council of the European Union, PI 24, COUR 19[3].

There have also been efforts at creating a Community Patent. A major issue dealing with such a patent is that of translation costs. On the one hand, it is important that patents be translated or well understood, otherwise, legal uncertainty arises. On the other hand, being very precise, i.e. translating a patent in every languages, is a costly affair. Under the so called Common political approach of March 2003, the claims would be available in all official Community official languages (23 languages). But some Members states would also like to have patent descriptions translated. Under the proposal made by the European Commission,[4] claims would be translated in one of the three official languages of the European Patent Office (namely, English, German and French). This proposal is close in spirit to the European patent system under the London Agreement. It is of course more affordable than the Common political approach. There has been a third recent proposal, made by the European Council (Towards a Community patent—Translation arrangement PI 22.[5]) Under this proposal, the filing of the patent application would be done in the applicant's language and, if necessary, translated into one of the three official languages of the European Patent Office. The cost of the translation would be financed by national office, and would be reimbursed (by the Community patent system, through a system of costs mutualisation). Translation of granted patent would be available for interested parties via a central service in all Community languages (through automated translations). Thus this third proposal is kind of a compromise between the first two proposals.

The difficulty to reach an agreement among members states on patent issues stems in part from the fact that they do not face the same uncertain legal outcomes

[3] http://register.consilium.europa.eu/pdf/en/08/st05/st05954.en08.pdf.

[4] See Enhancing the patent system in Europe, COM (2007), 165 Final, http://ec.europa.eu/internal_market/indprop/patent/index_en.htm.

[5] http://register.consilium.europa.eu/pdf/en/08/st08/st08928.en08.pdf.

in case of simple rules.[6] Nordic countries or France would prefer a simple system because national agents would be allowed to use English (or French) at a low cost (and would be able to read in English or French at no cost—thus these agents would not suffer from legal uncertainty). This would not be the case for other country (e.g. Italy and Spain[7]) who would like to enhance legal certainty, and promote the uniform application and interpretation of European patent law. These nations also oppose the agreement because they believe that dropping their language from patents will harm their economic clout in the world, and make English the de-facto commercial tongue of the continent.

The unequal cost of legal uncertainty across the union may also exists with each nation-state. While our representative agent approach does not allow us to address directly this issue, it is not difficult to extend the analysis to account for heterogeneity in individual benefits.

Indeed, assume that the set of possible values for these individual benefits is $[\underline{b}, +\infty)$, $\underline{b} \geq 0$. The distribution of these values across the population is denoted F (and we let f be its continuous density which takes positive values for $b \geq \underline{b}$). The individual preference with regard to the choice of legal rules complexity is done as in Sect. 2. The choice at the nation level may be one either by a vote or by the comparison of the values of benthamite social welfare functions (as in Kaplow 1995). Denoting W^s and W^c these values when legal rules are respectively simple and complex, we have:

$$W^s = \alpha \int_{\frac{c}{\alpha}}^{+\infty} \left(b - \frac{c}{\alpha}\right) f(b)db \tag{9}$$

$$W^c = \int_{\overline{c}}^{\infty} (b - \overline{c}) f(b)db \tag{10}$$

Thus simple legal rules are preferred over complex ones if $W^s > W^c$ or after a little algebra:

$$W^s - W^c = \alpha \int_{\frac{c}{\alpha}}^{\overline{c}} \left(b - \frac{c}{\alpha}\right) f(b)db - (1-\alpha) \int_{\overline{c}}^{+\infty} (b - \hat{c}) f(b)db > 0 \tag{11}$$

Versions of Proposition 2 and 3 can be shown to be true in this new setting.

5 Conclusion

The basic question in this paper is a simple one, yet one that is all too often overlooked: What happens in the various national legal systems within a union after

[6] Formally, the parameters e, θ and thus α would be nation-specific, despite law harmonization.

[7] Spain is the biggest opponent. It argues that Spanish is more widely spoken than French around the world, and should therefore be recognized as an official language too.

the implementation of a decision purporting to harmonize the law? As an illustration, most of the debate on legislation for a (future) more harmonized European law focuses on the issue of how best to write that legislation; much less attention is paid to its enforcement conditions. Many lawyers appear to think that where a decision (for instance a directive) has been adopted the work is all done, and that we can confidently tick the box "harmonization achieved".

In this paper, we have attempted to propose a simple analysis of the optimal complexity level of legal rules. After having presented this analysis in a closed-economy setting we have considered the consequence of harmonization of legal rules on their degree of complexity. When there are no harmonization gains, we have found that if the preferred complexity levels of legal rules are equal in all nation-states, their common level will stick at the union level. If these levels are different, it is optimal to choose the complexity level of the more populated nation-state. This is a situation when the other nation-state would lose to centralization of the choice of the complexity level (because it would favor a different level of legal rules complexity).

When there are harmonization gains, the results are somewhat different. If these gains are large enough, complex legal rules are always optimal. This is because agents always choose to act and this brings about a positive sure net gain. Moreover, every nation-state could gain from the centralization of the choice of the complexity level of legal rules, even if the optimal level of legal rules is not its preferred one.

Let us now discuss the relevance of our results for the analysis of the convergence of legal rules in the European Union (which is one of the most important examples of legal rules harmonization).

Considering the situation in Europe, what we have is an ever growing number of Community measures, mainly in the form of directives, which deal with limited issues in an isolated manner. The bulk of these measures can be found in most of legal areas like individual rights, corporate law, consumer protection, intellectual property,… However, under the legal system set up by the European treaties, a directive does not immediately create a new law in the member states, but needs to be implemented through national legislation. So, even if countries accept to engage in the harmonization process, they have to decide the way they will take to realize it. Hence, in principle, it is always possible for national laws to design simple or complex legal mechanisms. This is the reason why, in reality, the legal concepts applied in different states may produce important divergences. Our understanding of these divergences between legal systems is prompted to being increasingly informed by a richer modelization of the evolution towards harmonization. This evolution is multi-dimensional and the complexity of legal rule is certainly one of the main dimension to take into consideration.

The relevance of our analysis for the European case seems to hinge on whether or not the complexity level of harmonized legal rules is decided at the state or at the union level.[8]

[8] We can observe that the problem of complexity seems to be inherent to the *legal harmonization* process because states have not only to agree on a set of legal contents but also to define the characteristics of rules and/or standards to reach this objective.

Despite the fact that a large component of harmonized legal rules are implemented at the state level, it is not evident that their complexity level is decided at the nation-state level. As an example, we have considered the case of project of the Community patent. We have analyzed the different proposals for a Community patent with an emphasis on translation costs. These costs are an important component of the overall cost of a patent in Europe. We have seen that the number of languages in which claims or descriptions are to be translated determines in part the legal complexity of the Community patent. The choice of the optimal number of languages depends on the tradeoff between the costs of translations and the legal security that they provide.

Let us close on three topics which are on our agenda for further research. First, from a theoretical point of view, we have concentrated on a single explanation for the complexity of legal rules. But it would be interesting to consider the interplay between two explanations so as to enrich the analysis of the choice between complex and legal rules. Second, it would be interesting to have a dynamic perspective on the choice of the complexity level. Indeed, there are no reasons why, for instance, the cost of legal uncertainty would remain constant forever. Third, from an empirical point of view, we have only considered the case of the project of the community patent. However our model is relevant for the analysis of many other cases. For example, we might consider the legislation of workers' mobility from the new states members of the European Union to the old members. There is a general right to mobility in Europe, but one can observe that there are significant differences in terms of enforcement: some countries impose conditions for mobility and others not (like Sweden with transitional regulation). In addition, it is to note that after a transitional period, European countries have decided that mobility constraints will be quite simple and the same in each countries (on this topic, see Boeri and Brücker 2005). One can find the same mechanism in other topics like tax law, family law, corporate law, etc. Hence, there is room and need for many impact studies.

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