

ONCE UPON A TIME IN AMERICA:
BARRIERS TO THE DIFFUSION OF LAW & ECONOMICS

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Abstract

In 1990, the European Law and Economics Association held a symposium about the *state of* as well as the *impediments to* the diffusion of Law & Economics (L&E) in civil law countries. The contributions concluded that the civil law system, legal tradition, legal culture as well as language barriers posed the main difficulties to the diffusion of L&E in the countries considered [COOTER and GORDLEY 1991: 261ff.]. By focusing only on civil law countries, however, the contributions neglected that the initial diffusion of L&E within the United States had also been impeded. Using economic theory, it is shown in this paper how incentives for economists and law scholars may have contributed to impeding the initial diffusion of L&E. The presented barriers are based on rational behavior by actors in economics and jurisprudence which results in a human capital investment problem and a game theoretic coordination problem for lawyers as well as a tendency for economists not to publish in law journals. Using qualitative evidence it is shown that these barriers are likely to have been at work (even) in the US. Focusing on the US also makes it possible to identify remedies to these diffusion barriers. The barriers, it is argued, were reduced by subsidizing the human capital investment in L&E for lawyers as well as by founding specialized L&E journals to reduce the coordination problem. It is argued that these measures could also be used in civil law countries in order to facilitate the diffusion of L&E.

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1 Introduction

Any scholar working in the field of Law & Economics (L&E) today is well aware that there is a remarkable divergence in its diffusion degree between the United States and – with few exceptions² – in Europe³. Up to today, several scholars have tried to explain this divergence – some with more, some with less persuading arguments⁴. By primarily

2 GAZAL-AYAL [2006] showed empirically that L&E is even more prevalent in the law community of Israel than in the United States.

3 A large number of economists are teaching at US law schools today and it is not unusual that US courts use economic arguments in order to decide cases [STIGLER 1992: 466; GALANTER and EDWARDS 1997: 378; EIDENMUELLER 2005: 19, 405ff.]. Conversely, in much of Europe, L&E has neither found its way into standard law textbooks nor into the university Curricula [KIRCHNER 1991: 277, 279; FABEL 1996: 2]. European courts rarely if ever use explicit economic arguments in order to decide a case or to back up their decisions [BENZ 2005: 16]. For example, STOLZ [2004: 368ff.] found that 10 of 12 interviewed Swiss judges had never even heard of L&E. The 11th issue of the International Review of Law and Economics contains even more information on the spread of L&E in civil law countries.

4 Often, this divergence is explained with the different legal systems in the US and in Europe. It is argued that L&E has no place in the European court rooms because judges only *apply* the codified law. This argument, however, does not take into account that because of limits and gaps of codified law as well as a satiated case law, the two systems have begun to converge [SCHANZE 2006: 108]. Also, it does not explain why the diffusion of L&E is even less advanced in England – which has a case law system – than in many other civil law countries [see GAZAL-AYAL 2006: 18ff.]. Another frequently presented argument is that the tradition of legal realism in the US had led to the successful diffusion of L&E [GRECHENIG and GELTER 2007]. This argument, however, seems tautological and merely raises the question why legal realism has

focusing on the *differences* between the US and European countries, however, their works seem to neglect at least one important *commonality*, namely that the initial diffusion of L&E had also been fairly cumbersome and difficult in the US [see MANNE 2005]. When looking at today's advanced diffusion level of L&E in the US, one tends to forget that this was not always the case, especially not when the new approach had just emerged. Someone who has experienced US resistance against L&E first-hand is HENRY G. MANNE, one of the pioneers and promoters of the then new field⁵. In his autobiographic article "How Law and Economics was Marketed in A Hostile World" [p. 309] he reminds us that „law schools at that time were very different institutions than we know today“ and that „law and economics has always encountered strong resistance“. MANNE's contributions⁶ to corporate law went largely unrecognized by law scholarship for nearly two decades [see KITCH 1983; ROMANO 2005].

This paper therefore aims at explaining the barriers to the initial diffusion of L&E by looking at the US experience from an economic point of view. In a further step, the remedies that seem to have helped boost the diffusion of L&E in the US law community are analyzed. The paper is organized as follows. In *section 2*, the nature of L&E as an interdisciplinary scientific innovation is analyzed in order to identify the effects on the actors in the disciplines of economics as well as law. Based on these findings, *section 3* discusses the barriers that the initial diffusion of L&E must have faced from an economic point of view and illustrates these theoretical considerations with qualitative empirical evidence from the US experience. *Section 4* then presents remedies that seem to have helped the US in overcoming or at least in reducing these barriers. *Section 5* then draws the final conclusions.

prevailed in the US and not in Europe. For a critical discussion of more arguments see GAROUPA and ULEN [2006], GRECHENIG and GELTER [2007] and REBER [2008: 237ff.].

5 See WEINSTEIN [1999] for more information about HENRY G. MANNE's pioneering role in L&E. MANNE was honored by the American Law and Economics Association along with GUIDO CALABRESI, RONALD COASE, and RICHARD POSNER with a lifetime membership as being one of the founders of the interdisciplinary field [see ROMANO 2005: 3].

6 For more information on the nature of these contributions see WEINSTEIN [1999] and ROMANO [2005].

2 L&E as Interdisciplinary Scientific Innovation

New Law & Economics, as it is frequently referred to, was started by the works and efforts of BECKER, CALABRESI, COASE, DEMSETZ, DIRECTOR, LANDES, MANNE, POSNER, and STIGLER and can – in the words of POSNER [cited in COOTER and ULEN 2004: 1] – be characterized as “[placing] the study of law on a scientific basis, with coherent theory, precise hypotheses deduced from the theory, and empirical tests of the hypotheses”⁷. In this article we focus on the new L&E⁸ since it can be defined as the explicit⁹ and conscious use of the economic methodology in order to analyze and answer legal questions in all areas of law¹⁰. “Economic methodology” may simply mean thinking in a straightforward economic way which does not necessarily require the use of formal models, statistics or mathematics.

In the early days of L&E, the approach could – from a philosophy of science point of view – be regarded as incremental scientific innovation¹¹ for the field of economics: it fit quite well into the tradition of transferring the economic methodology to other fields of social research, like the economic analysis of politics, crime or even arts¹². Conversely, at that time, L&E could be regarded as a radical scientific innovation¹³ or a new (potential) paradigm for the study of law since it asked new questions, namely about the efficiency of legal norms, used a new methodology to answer these questions and interpreted the results in a new and different way. The only component in this interdisciplinary scientific innovation that fit well into traditional jurisprudence was the legal knowledge required for carrying out research in this field. This view is echoed by

7 Old L&E, on the other hand, was mainly confined to the areas of corporate and antitrust law and did not use a straightforward economic methodology [MACKAY 2000: 92].

8 Hereafter referred to as L&E,

9 SCHAEFER [1996] suggested for Germany, that the use of economic arguments among judges often happens implicitly, without actually stating the efficiency goal. In this paper, however, L&E is defined as the conscious application of economics to law.

10 This definition is in line with GAZAL-AYAL [2006: 7].

11 The term is borrowed from the economic literature on technological innovations. There, incremental technological innovations are innovations that are based on existing technologies and only slightly modify them [see GREEN et al. 1995].

12 FREY [1999] explains in more detail how economics can be transferred to these areas.

13 The term is, again, borrowed from the economic literature on technological innovations. Radical technological innovations stand for innovations that are not based on existing technologies but constitute entirely or largely new creations [see GREEN et al. 1995].

COASE [1993: 254] when saying that „Much, and perhaps most, legal scholarship has been stamp collecting ... law and economics, however, is likely to change all that“ and ACKERMAN [cit. in COOTER and ULEN 2004: 2] who refers to L&E as the “most important development in legal scholarship of the twentieth century”. It has to be noted, however, that L&E did of course not *replace* legal theory as a paradigm change in the Kuhnian sense would replace the existing paradigm [see KUHN 1970]. Rather, L&E complemented existing legal theory by providing new tools and insights. Table 1 summarizes these characteristics of L&E as the back then emerging interdisciplinary scientific innovation for the fields of economics and law.

Table 1: L&E as emerging innovation for the fields of economics and law

<i>Aspect</i>	For economics	For law
Research object	new	well-established
Research questions	well-established	new
Methodology	well-established	new

These characteristics of L&E as interdisciplinary scientific innovation imply that the approach would initially tend to integrate better into the discipline of economics¹⁴ whereas its integration into the study of law would tend to be less smooth. Based on these characteristics, the next section analyzes in detail from an economic point of view the barriers that an interdisciplinary paradigmatic scientific innovation, such as L&E, faces during its initial diffusion stage.

3 Economic Barriers to the Initial Diffusion of L&E

STIGLER [1992: 463] once said that “the economist and the lawyer live in different worlds.” Taking this statement literally, the diffusion of L&E can be divided into two stages. Being inspired methodologically mainly by economics, L&E first had to find its way *into* the law world. Only at a later stage, the diffusion of L&E *within* the law world, in other words, *among* law scholars, could take place. The initial diffusion of L&E in the

¹⁴ The finding in GAZAL-AYAL [2006] that the relative adoption rate of L&E among economists is in all of Europe as well as in the US still much higher than the adoption rate among law scholars seems to confirm this view.

US may have been impeded by a cumbersome transmission of the new approach *into* jurisprudence as well as a sluggish diffusion *among* law scholars. In the following, it will be shown that from an economic point of view, both barriers are likely to have been at work during the initial diffusion stage of L&E in the US. The presented approaches are based on economic theory from other fields of application as well as on empirical findings from philosophy of science.

First of all, consider the underlying assumptions of the approaches we are about to develop. Scientists are frequently portrayed as unselfish and idealistic individuals who are merely motivated by contributing to advancing knowledge¹⁵ [KNORR-CETINA and MULKAY 1983]. It must not be forgotten, however, that scientists are also human and react to incentives. In academia, self-interest and strategic behavior are usually necessary prerequisites in order to survive in such a competitive environment. FREY and MEIER [2005] could show that rational behavior is generally visible in all fields of science. This does not mean, for example, that scientists work on topics “just for the money” and not for their interests. It does mean, however, that scientists choose their research topics very carefully, keeping their careers in mind. This paper therefore assumes that actors in academia behave rationally and strategically. After all, this approach helps to identify *tendencies* in behavior even if not all actors behave entirely in this way. For didactic reasons, it is in a first step assumed that the initial transfer of the economic methodology into law was unproblematic and it is asked why the early diffusion of L&E *within* the US jurisprudence may have been impeded. In a second step, this assumption is loosened in order to show why also the initial transmission of L&E *into* jurisprudence may have been difficult as well. The first approach to be presented is based on strategic behavior by academic actors in jurisprudence, the second approach is based on strategic behavior by academic actors in economics.

3.1 Barriers to the Diffusion *Within* Jurisprudence

A scientific paradigm can be regarded as a set of tools that enables a scientist to perform research in a specific field. Learning how to use a scientific paradigm costs a researcher

¹⁵ CRONIN [1984: 1] calls this view of science a “storybook image“ which (erroneously) depicts science exclusively as “selfless and dispassionate search after truth.“

time, effort, and money but it also endows him with specific skills that enable him to get an attractive job in research. From an economic point of view, this situation can be regarded as human capital investment. A rational actor will invest in a scientific paradigm in $t=0$ if the following condition is satisfied:

$$-I_0 + \sum_{t=1}^n \frac{R_t}{(1+i)^t} > 0$$

where I_0 stands for the non-divisible cost of the human capital investment that is required to study a scientific paradigm in period $t=0$. R_t designates the respective expected net return from the investment in period t , i the discount rate which is (for reasons of simplicity) assumed to be constant and n the expected number of years the researcher plans to work in this discipline. A rational actor will invest in a scientific paradigm if the discounted value of the sum of the expected returns from using the paradigm minus the investment cost is positive¹⁶.

The first – and usually single largest – investment in a scientific paradigm occurs for a prospective researcher when studying for a university degree. During this time he invests in the currently accepted dominating scientific paradigm in his discipline. Judging from a historical perspective, scientific paradigms are long-lasting and an academic actor who invests in learning one can generally use this basis throughout his whole working life in academia. During its evolution, every paradigm undergoes adjustments and extensions. In daily science, these changes are not exceptional since science evolves continually and academic actors have to keep up with the daily changes occurring in their discipline. Incremental changes do not alter the nature of a scientific paradigm, they merely adjust or extend it. This is opposed to radical changes which usually fundamentally alter the nature of a scientific paradigm. These radical changes may occur when a scientific paradigm cannot answer emerging new questions any more or as findings begin to contradict each other [see KUHN 1970].

From an economic point of view, changes to scientific paradigms are depreciating a researcher's human capital. It is therefore clear that when an emerging innovation induces a paradigm change in an academic discipline, researchers' human capital based

¹⁶ Assuming that the expected rate of return is larger than the risk-free interest rate plus the risk premium related to the investment [see BECKER 1975: 77].

on the old paradigm will be heavily depreciated. The wider the gap between the old and the new paradigm is, the larger the depreciation of human capital will be. Investing in the new paradigm is especially for older scientists problematic: the older an academic researcher is, the harder he will be hit by a paradigm change because he has a shorter time frame to reap the benefits of his investment. This effect is aggravated by the fact that human capital based on a scientific paradigm grows with the experience accumulated over the years in academia¹⁷ [see DIAMOND 1980: 839]. It is therefore especially older actors who have an incentive to hinder the diffusion of a newly emerging scientific paradigm – at least as long as they are active within their field. This may result in ignoring, criticizing and rejecting articles based on a newly emerging paradigm¹⁸.

Several studies statistically analyze the relationship between the adoption of a newly emerging scientific paradigm by academic actors and their age [see for example HULL, TESSNER and DIAMOND 1978 for the adoption of evolutionary theory and DIAMOND 1980 for the adoption of Cliometrics]. Both cited papers found a statistically significant negative relationship between the two parameters, although it has to be said that the correlation found was not overly strong. A recent article by WEINBERG [2006] suggests that scientists who were the first to contribute to the human capital approach in economics tended to be younger than scientists who did not. A reason for the not overly strong results may be that some older researchers who built up a reputation for themselves and may already be retired have nothing to lose and pick up new paradigms simply because they are interested in them. However, BARBER [1961] as well as GANS and SHEPHERD [2000] present a surprising abundance of historical cases where especially older researchers rejected, ignored and criticized new emerging scientific paradigms which only much later could prove successful.

The approach can easily be adapted to L&E as radical scientific innovation, inducing a (potential) paradigm change for the study of law. It has to be noted, however, that L&E did not replace but simply complement the study of law. Its prevalence

¹⁷ This occurs through learning by doing.

¹⁸ It need, however, not only be strategic behavior that leads to such an outcome. MOKYR [2002] suggested that the longer a researcher has been internalizing a scientific paradigm, the harder it is for him to accept a new paradigm which may contradict his knowledge to-date. STEPHAN [1996] believes that the internalization of a paradigm makes the researcher blind to new questions and methods outside its boundaries. In the end, this effect leads to the same outcome as strategic behavior because of the human capital investment problem.

therefore only *partly* depreciated human capital based on the conventional study of law. MANNE'S [2005: 312] records regarding his own early attempts at publishing L&E articles in US law journals seem to confirm this view when he says: "It was very frustrating ... to have my [work] either ignored or ridiculed by the leading law professors". He [ibid. 2005: 312] notes that "law and economics has always encountered strong resistance from the older generations of lawyers" which seems to support the human capital investment problem hypothesis. For the case of Switzerland, ZWEIFEL [2006] recently noted that "law is still a very protected field and you have a nice return on your efforts for studying [traditional methods]."

PLANCK [cited in BARBER 1961: 597], in line with the human capital investment hypothesis, assumed that the diffusion of a new scientific paradigm was mainly driven by the emergence of a new generation of researchers that grows up with the paradigm¹⁹ [see also STEPHAN 1996: 1220]. However, even if we consider only young researchers for whom the human capital investment problem in L&E is less problematic, initial diffusion may be difficult. Consider the utility a researcher receives from using a scientific paradigm. The utility he receives from employing a scientific paradigm for research purposes can be divided into two components: intrinsic and extrinsic utility. Whereas intrinsic utility captures the satisfaction a researcher enjoys from being able to answer scientific questions and to solve puzzles [see KUHN 1970], extrinsic utility means the benefit a researcher receives when his research is commented on, extended, and ultimately cited by other researchers in the field. Therefore, citations are often regarded as a sort of academic currency²⁰. To be sure, certainly both components are important for a researcher. After all, scientists generally seem to be more intrinsically motivated than other people. In a globally competitive environment of research, however, the extrinsic component is probably just as important, especially for younger researchers trying to build up a reputation.

19 After his insights on the second law of thermodynamics were rejected as false by his teachers as well as other leading researchers in the field, MAX PLANCK [in BARBER 1961: 596] was convinced that "A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because ... a new generation grows up."

20 Several empirical papers show that the income as well as the academic awards a researcher receives are closely linked to the number of citations his or her works have been able to earn [for an overview of these findings see CRONIN 1984].

Formally, the use of two scientific paradigms p_1 and p_2 in one research field for a representative researcher i can be described as:

$$U_{p_1}^i = a_1 + bn_1 \quad U_{p_2}^i = a_2 + bn_2$$

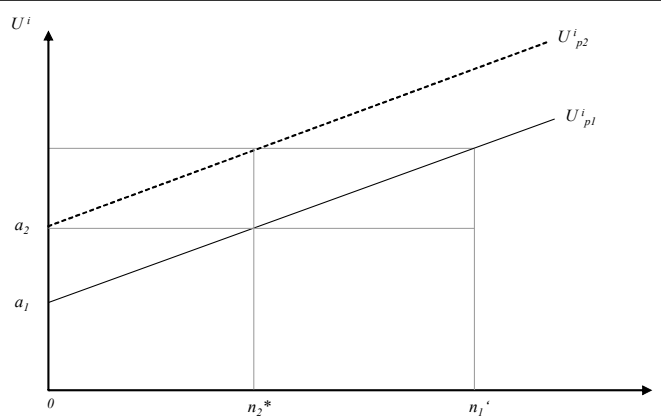
where $U_{p_1}^i$ designates the utility of using the hitherto existing paradigm p_1 and $U_{p_2}^i$ designates the utility of using the new scientific paradigm p_2 for a representative researcher i . Parameters a_1 and a_2 represent the intrinsic utility a researcher receives from using a scientific paradigm p_1 or p_2 . Because the new paradigm makes it possible to look at more questions and to solve more puzzles, it is assumed that $a_2 > a_1$. The parameter b captures the network effect which gives the added extrinsic utility when a number of other researchers n_1 or n_2 also use paradigm p_1 or p_2 . In this sense, using a specific scientific paradigm that asks certain questions and uses a certain methodology is similar to speaking a specific language. If a researcher is the only one in his discipline using a specific scientific paradigm, in the ivory tower, so to speak, he will merely receive a utility of a_1 or a_2 respectively from this. Other researchers in the field will not (be able to) understand his work. His work will be neglected, or worse, criticized and rejected by the leading scholars in his field. In such a situation, NADIS [cited in STERMAN and WITTENBERG 1999: 1361] therefore advises young researchers trying to make a reputation “to avoid this line of work”. Only when at least a *group* of researchers uses a scientific paradigm, they can understand, comment on and cite each others' work. It is at this stage that utility rises by bn_1 or bn_2 respectively and it becomes 'safe' for a young researcher to join the field. It can be said that the utility in adopting a scientific paradigm rises sharply with the number of other researchers applying this specific scientific paradigm. It can – in the words of MOKYR [1998: 132] – therefore be concluded that “scientists do not pick topics at random, they work on problems they feel that other scientists or some patron may be interested in.”

It is easy to see now that when paradigm p_1 – in this case the traditional study of law – has been in existence for some time and has many users n_1 while paradigm p_2 – in this case L&E – emerges as a scientific innovation with no or very few users, there will be a start-up problem²¹. No young researcher would like to be the first one to use

21 FABEL [1996] proposes a similar argument for explaining the impeded diffusion of L&E within German court rooms. Because German judges are elected, they have an incentive to minimize

paradigm p_2 if he has no certainty or at least some indication that a number of other researchers will switch as well²². The wider the gap between the old and the new paradigm is, the more difficult it will be to solve this start-up problem. In order for the diffusion to take off, a critical mass of n_2^* researchers using the new paradigm is needed when, for example, n_1' researchers are already using paradigm p_1 as illustrated in figure 1. A researcher switching to paradigm p_2 would be faced with a reduction in his utility of $a_2 - (a_1 + bn_1')$ if he were the only one to switch.

Figure 1: Required critical mass in order for paradigm p_2 to take off



An insightful anecdote reported by LANDES [2005] that goes back to the early days of L&E seems to confirm this start-up problem. It is impressive because it shows that even in the discipline of economics, there seems to have been a start-up problem with L&E to some extent. LANDES [2005: 297] says that ZVI GRILICHES advised him during the early days of L&E not to continue working in this field: “He said I was making a career mistake by doing research on problems ... that were only of marginal interest to other economists. Professional success, he emphasized, required working on problems of current interest to other economists. I asked him how one knew what problems were of

the number of court decisions that are revised by higher courts in order to maximize their chances of moving up the career ladder. Therefore, FABEL argues, German judges will tend to use arguments that are in line with traditional judicial argumentation so that the higher courts are unlikely to revise their decisions.

22 At least some signal that other researchers will soon adopt the new paradigm is needed. The same problem frequently arises during the initial diffusion of new standards [see Blind 2004: 32ff.].

'current interest'. He replied that one could gauge interest by seeing what problems other economists were currently working on.” Regarding the fact that LANDES' quote is referring to the diffusion of L&E within the discipline of economics, it can only be imagined how difficult its initial diffusion must have been among law scholars. MANNE [2005: 317] echoes this view of a start-up problem when he says that “one of the major problems ... of trying to develop a new academic 'field' [of L&E] was communication among the would-be participants” who apparently had little way of knowing how many other researchers would be willing to join the new field. This, of course, made them more careful (if not reluctant) about researching on L&E questions.

3.2 Barriers to the Diffusion *Into* Jurisprudence

Up to now it was explicitly assumed that the diffusion of L&E from the discipline of economics into jurisprudence was unproblematic. Now, this assumption is loosened and it is shown that even this diffusion channel for L&E may have been constrained in the early days of L&E. Like lawyers, economists have an incentive to publish their works in scientific journals. Also for economists, of course, citations are “the coin of recognition” [see MERTON 1968]. Several empirical studies²³ show for researchers in economics that “citations are a positive and significant determinant of earnings over almost all of the observed range of citation levels” [DIAMOND 1986: 200]. At the risk of sounding pleonastic, it can be said that a rational economist will try to maximize the number of citations on his articles.

Regarding the initial diffusion stage of L&E from a normative point of view, it would have been desirable that economists published their works on L&E frequently in law journals so that the new approach could be disseminated into the law world. Now consider an economist working in the interdisciplinary field of L&E in its early days. He could submit his works either to economics or to law journals²⁴. In order to maximize his expected utility of submitting a paper to one of these kinds of journals he was faced with the following optimization problem:

²³ They are, for example, HANSEN, WEISBROD and STRAUSS [1978] and LONG [1978].

²⁴ Because at the time considered there were no interdisciplinary journals of L&E, we only consider journals in the fields of economics and law.

$$\max U_i = f(A_i C_i) \quad \text{where} \quad 0 \leq A_i \leq 1 \quad \text{and} \quad C_i = 0, 1, 2, \dots, \infty$$

where U_i designates the expected utility for the economist from submitting an interdisciplinary work in L&E to a journal of the academic discipline i =economics (E), law (L). A_i stands for the expected acceptance rate of an article submitted to the field i and C_i stands for the expected citation rate that an article published in field i can acquire within 2 years²⁵. If, for example, the expected acceptance rate is zero, the expected utility of submitting a certain article to that field becomes zero²⁶. Conversely, if, for example, the expected acceptance rate is close to 1 but the expected citation rate is very low, the expected utility from submitting the article in that academic discipline is very low as well²⁷. Certainly, the two parameters vary greatly within different journals of a discipline and whereas articles in journals with a higher impact factor tend to attract more citations, acceptance rates are likely to be lower. This, however, is not of importance here. Because we are only interested in differences in the two parameters *between* and not *within* the disciplines of economics and law, we consider the theoretical construct of a representative average-journal in both academic disciplines. Hereby differences *within* a discipline become irrelevant. Now the two parameters shall be analyzed in some more detail with regard to the disciplines of economics and law.

First, consider the expected acceptance rate A_i . After an article has been submitted to a journal, the journal editors decide – most often based on anonymous referees' recommendations – whether the article should be accepted for publication or not²⁸. The editors or referees can be regarded as gatekeepers who decide whether a scientific innovation may pass the gates of their academic discipline or not. As members of an academic discipline, however, they face similar incentives as their fellow researchers. Referees for law journals will therefore tend to reject articles that are not in line with the traditional legal paradigm, defending their human capital. This is easy for them since they

25 Several indices rely on citation rates that an article could acquire within 2 years.

26 This situation can be regarded as what COLE and COLE [1976: 378] coined „publish or perish“.

27 A more refined version of this simple model might take into account that the expected utility of an article that is published but not cited is likely to be positive but probably not very large. Therefore incorporating this aspect into the simple model is not central here.

28 Frequently, articles are accepted under the condition that changes are made. FREY [2002] elaborates on this question in his article „Publishing as Prostitution“.

may reject an article without even being accountable for the journal²⁹ [FREY 2002: 8]. Law journal editors face these incentives indirectly because they own the property rights of a journal [see FREY 2002: 20ff.]: trying to build up and maintain a good reputation for their journal in their discipline, they are forced to publish what scholars in the field consider as valuable works. Additionally, editors are themselves scholars and therefore also face the human capital investment problem as well as the coordination problem. Conversely, economists who act as referees or editors for economics journals are less likely to face these incentive conflicts since L&E uses the economic methodology and fits quite well into the traditional paradigm of transferring the economic methodology to other fields of application. Several empirical papers suggest that articles containing ideas and results which are in line with the existing paradigms of a research field are more likely to be accepted for publication than those that are not congruent with traditional paradigms³⁰ [see, for example, ARMSTRONG 1997: 71; CAMPANARIO 1996; GANS and SHEPHERD 1996; 2000³¹]. All this leads us to conclude that the expected acceptance rate of submitting a L&E article during the early days of the approach to a law journal was (and probably still is) likely to be less than for an economics journal³²: $A_L < A_E$.

Now consider the expected citation rate C_i . Basically, the same considerations apply here as well. Law scholars must initially have been less likely to extend and thereby cite L&E articles because of the human capital investment problem as well as the coordination problem that arose during the initial diffusion of the approach. While economists, on the other hand, must have been more likely to extend and cite L&E articles, they were themselves less likely to read those articles if published in law

29 Additionally, it is likely that a referee rejects an article if it contradicts his own work. This situation is not unlikely since HAMERMESH [2000: 57] could show that roughly one third of researches had recently published in journals where they were used as referees.

30 REDNER [cited in CAMPANARIO 1996: 302] criticizes: "one of the roles of journals almost appears to be to shift out and reject really original contributions" and CRONIN [1984: 12ff.] confirms this view when he says regarding the referee-system: "its primary purpose is to ... screen out ... ideas which are antithetical to dominant paradigms."

31 They show that articles which later became "classics" have frequently been rejected when submitted.

32 It has to be noted, however, that quite a few US law journals use students as referees. They face less of a human capital investment problem. However, they may still be subject to the coordination problem. Nevertheless, this may have increased the acceptance rate of a L&E paper submitted to a law journal in contrast to those law journals that did not use students as referees.

journals. It can therefore be stated that the expected citation rate of a L&E article published in a law journal was and probably still is likely to be less than for an economics journal: $C_L < C_E$. It's easy to see now that the expected utility for an economist of submitting a L&E article during the initial diffusion stage to a law journal tended to be lower than for an economics journal: $U_L < U_E$.

It is therefore very likely that the initial transmission of L&E from economics into the field of law was impeded because economists must have faced strong incentives to publish in economics journals rather than in law journals. MANNE'S [2005: 312] own experience seems to confirm this view. Being one of the pioneers in writing about L&E he writes: "It was very frustrating ... to have my [work] either ignored or ridiculed by the leading law professors ... It is no wonder then that I began to publish important new works in economics journals ... and I began to receive from economists the kind of recognition that I certainly was not receiving in the law school world." Data in STIGLER [1992: 463] regarding the authorship of L&E articles in different US law journals suggests that economists still rarely publish in conventional law journals.

4 Enhancing the Initial Diffusion of L&E in the US

The previous sections showed that the initial diffusion of L&E *into* jurisprudence as well as *within* jurisprudence seems to have been impeded even in the US. Now the US experience in promoting the diffusion of L&E shall be analyzed in order to identify factors that may have helped in reducing these barriers.

One especially important factor in reducing the barriers to the initial diffusion of L&E within the US law community seems to have been the creation of specialized scientific L&E journals. First of all, these journals that specifically target the combination of law and economics can be regarded as a signal to potential authors that works in this field are explicitly welcome. The expected acceptance rate of an article submitted to a L&E journal must therefore be higher than that of a law journal: $A_{L\&E} > A_L$. Secondly, these journals are directed towards an audience of lawyers *as well as* economists and are therefore much more likely to acquire a higher amount of potential citations than law journals. The expected citation rate of an article submitted to a L&E journal must therefore be higher than that of a law journal: $C_{L\&E} > C_L$. Ultimately, this means that the

utility for an economist of publishing his articles in specialized L&E journals is higher than for simple law journals: $U_{L\&E} > U_L$. In this way, specialized journals must have been an important factor in lowering the barriers to the diffusion of L&E into the discipline of law in the US. Additionally, the creation of L&E journals can be regarded as a credible signal to all potential adopters of the interdisciplinary scientific innovation L&E that the new approach has a future which must have helped to achieve a critical mass of users. In this way, interdisciplinary L&E journals could also reduce the coordination problem that potential adopters of the new approach in the discipline of law must have faced during the initial diffusion stage. POSNER [2005: 328] says that “before the launching of the *Journal of law and economics*, the law and economics movement could not have been said to exist” and MANNE [2005: 313] acknowledges that “the *Journal of law and economics* was important” in spreading the new approach³³.

Regarding the human capital investment problem, another factor which seems to have boosted the diffusion of L&E among lawyers were the subsidized L&E courses for law professors that were organized by MANNE. Because these courses were subsidized, they lowered the required human capital investment cost for law professors who wanted to learn how to use the new approach³⁴. Formally this can be written as:

$$-I_0 + S_0 + \sum_{t=1}^n \frac{R_t}{(1+i)^t} > 0 \quad \text{where} \quad S_0 > 0$$

S_0 designates the subsidy in form of the payment that the law professors received for attending the courses. MANNE [2005: 313] points out that he only accepted elite law

33 History of science also suggests that the creation of specialized scientific journals may help to spread a new paradigm. A good example is the journal *Biometrika* which was originally designed to combine statistics and biology – an approach that was heavily resisted initially. BARBER [1961: 599] writes: “In his biography of Galton, Karl Pearson reports that he sent a paper to the Royal Society in October 1900, eventually published in November 1901, containing statistics in application to a biological problem. Before the paper was published, he says «a resolution of the Council [of the Royal Society] was conveyed to me, requesting that in future papers mathematics should be kept apart from biological applications.» As a result of this, Pearson wrote to Galton «I want to ask your opinion about resigning my fellowship of the Royal Society.» Galton advised against resigning, but he did help Pearson to found the journal *Biometrika*, so that there would be a place in which biology in mathematics would be explicitly encouraged.”

34 It could be argued that the human capital investment in L&E was probably lower for lawyers in the US in the first place in comparison to other countries because of the mixed general studies that exist in the US [see GAROUPA and ULEN 2006: 36ff.].

school professors and usually exclusively *groups* of participants from one university at a time. This, so MANNE [ibid.: 314], was done in order to prevent “the ganging up on a lonely scholar.” Additionally, this again helped lowering the coordination problem and served as a credible signal that L&E is “in the coming”. As the courses got more successful the subsidy payments to law professors for attending sunk and by the end of courses, they had to pay in order to be able to attend the courses.

Surely, these are not the only factors that helped to boost the diffusion of L&E in the US jurisprudence. However, the identified factors complement existing literature and show how the barriers that even the US had experienced during the initial diffusion of L&E could be lowered in other countries.

5 Conclusions

This paper aimed at explaining from an *economic point of view* why the initial diffusion of L&E was difficult and cumbersome *even* in US jurisprudence where the approach is nowadays widely accepted. Economic theory as well as qualitative evidence suggests that incentives for economists to publish their interdisciplinary L&E works in economics journals rather than in law journals made the transmission of the new approach quite cumbersome while the threat of human capital depreciation as well as a game-theoretic start-up problem made the initial adoption of L&E among lawyers rather difficult. Using the US experience, remedies that may have lowered the barriers to the initial diffusion of L&E were then identified. Economic theory along with qualitative evidence suggests that the creation of specific L&E journals as well as subsidies for law professors in attending L&E courses were crucial in reducing the barriers to the initial diffusion of L&E in US jurisprudence. These measures might also be employed in other countries in order to boost the diffusion of L&E. It has to be noted, however, that other factors in the US like a greater openness to free markets and competition, legal culture as well as a bigger competition among law schools may have further helped to make the creation of L&E journals as well as the subsidizing of L&E courses easier in the first place [see GAROUPA and ULEN 2006]. This, however, is beyond the scope of this paper.

Linking this paper with the existing literature, there is an interesting point to be made regarding GAZAL-AYAL's contribution [2006]. He argues that L&E is highly popular

in Israel because its law faculties set incentives that make it beneficial for law scholars to adopt the new approach. Israeli law faculties value publications in English-speaking journals, preferably in American journals, highly, thereby creating strong incentives for Israeli law scholars to follow their American colleagues in investing in L&E. He further notes that most other countries than Israel do not use such incentives and makes this factor mainly responsible for their low diffusion level of L&E. Regarding the results in this paper, using incentives that make it beneficial for Israeli lawyers to publish in US journals can therefore, in a sense, be regarded as free-riding on, or, in other words, benefiting from the institutional-economic measures that were used in the US to boost L&E there. These low-cost but probably highly effective incentives aimed at influencing the publishing and researching behavior of lawyers could also be used in other countries more often.

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