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# Rule Based Legal Systems as a Substitute for Human Capital. Should Poor Countries Have a More Rule Based Legal System?

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Judges are able and experienced men who know too much to sacrifice good sense to a syllogism (Oliver Wendell Holmes) [1]

# Rule Based Legal Systems as a Substitute for Human Capital. Should Poor Countries Have a More Rule Based Legal System?

## A. Introduction

A judicial system can be based more on standards or more on rules. A standard based system delegates decision making power from the central authorities to the judiciary and in case of regulatory law to the lower levels of the bureaucracy. A rule based system concentrates more power at the level of government and parliament or other central decision making authorities. It is argued in this paper that in poor countries there are various arguments for having a more rule based legal system than in rich countries. The argument for this result stressed in this article derives from the capital labor ratio in developing countries which is lower than in rich countries. This argument also pertains to the ration of human capital and labor. It is a well established theorem in development economics that the efficient choice of technique in poor countries is less capital intensive than in rich countries. If this insight is related to the choice of judicial technique it leads to the preference of more centralized judicial systems in developing countries as compared to industrialized countries. The reason is that a centralized legal system (as any centralized system in which resources are allocated) can do with less human capital than a decentralized system. It is also contended, that with the transformation from a poor to a rich country the efficient degree of decentralization decreases.

## B. Rules versus Standards

Rules are those legal commands which differentiate legal from illegal behavior in a simple and clear way. Standards however are general legal criteria which are unclear and fuzzy and require complicated judiciary decision making. A speed limit whose violation leads to a fine of 100 $ is a rule, whereas a norm for car drivers to „drive carefully“ whose violation leads to damage

[1] O.W. Holmes, The Common Law, quoted in B. Schwartz, 1993, Main Currents in American Legal Thought, p.392.

compensation is a standard. In the latter case the legal norm leaves open what exactly the level of due care is and how the damage compensation is to be calculated[2].

The principal choice between rules and standards has to do with the relative size of the various costs associated with the formulation and enforcement of legal norms. There are systematic factors which affect the relative cost of rules and standards. One of the first and most important contributions to the matter of rules versus standards is the work by Judge Posner, who has identified the central efficiency implications.[3] His main contention is that standards may have lower initial specification costs, but they have higher enforcement and compliance costs than rules. For instance, promulgating the standard „to take reasonable care in all matters" is extremely easy and does not generate any cost at all. However, applying this standard in practice would generate significant costs for both judges, who have to determine whether the defendants have complied with the standard or not, and for the defendants, who have to determine what level of precaution is necessary to escape liability. In the case of precise rules, the relative size of costs is exactly vice versa. Judge Posner concludes that the desire to minimize total costs should be the dominant consideration in the choice between precision and generality, that is between rules and standards.

While the central efficiency consideration is analytically straightforward and intuitively appealing at an abstract level, the choice of legal form between rules and standards is difficult to resolve in most real cases at a rather specific level. Many scholars thus argue that decisions between rules and standards should be made on a case-by-case basis. The choice between rules and standards becomes even harder when we take into account that a whole set of clear rules that individuals have to comply with under optimal circumstances - for instance, what needs to be done to make a product safe - can be more complex and more expensive to draft and interpret than a broad standard which simply requires those affected to take due care.

An important insight brought up by Kaplow may substantially help decide when to use rules and when to use standards and has to do with the extent to which the law should be given content before individuals act (rules) rather than waiting until afterwards (standards).[4] Since the cost of specifying a

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[2] Thomas S. Ulen, Standards und Direktiven im Lichte begrenzter Rationalität, in Ott/Schäfer (Eds.): Die Präventivwirkung zivil- und strafrechtlicher Sanktionen. Tübingen, 1999, p.346-380.

[3] R.A. Posner, 1998, Economic Analysis of Law (5th edition), New York.

[4] L. Kaplow, 1992, Rules versus Standards, An Economic Analysis, Duke Law Journal, pp. 557-629. A number of points can also be found in the prior analyses by I. Ehrlich/R.A. Posner, 1974, An Economic Analysis of Legal

rule is initially greater than for a standard, but results in savings later on when individuals must determine how the law applies to their contemplated behavior and when judges must apply the law to past behavior, it follows that the relative advantage of rules lies in situations in which there will be frequent application of the rule and the incidence of adjudication may also be frequent. As a result, the central factor influencing the desirability of rules and standards is, to a great extent, the frequency with which a law will govern conduct. If a specific mode of conduct will be frequent, the additional cost of designing rules - which have to be borne only once - are likely to be exceeded by the savings realized each time the rule is applied. Examples are fact-based situations that occur frequently in the lives of many people such as traffic laws, the computation of compensatory damages, safety regulations, the interpretation of tax related matters etc. In contrast, standards are more efficient when the behavior subject to the law is more heterogeneous and uncommon. Of particular relevance in this respect are laws for which behavior varies greatly so that most relevant scenarios are unlikely ever to occur. Determining the appropriate content of the law for all such contingencies would be very expensive and, in many cases, simply a waste.

Another important aspect is that the degree of preciseness in legal statutes defines to a large extent the division of labor between parliaments on the one hand and the judiciary as well as the bureaucracy on the other. A law consisting of rules leaves little or no discretionary power to those who administer it. And a law consisting of imprecise standards delegates the refinement of the standard to the judiciary and the bureaucracy. If parliaments have little knowledge about what a reasonable standard of care is, they are well advised to delegate these decisions to courts. Courts, or better the system of courts, can then learn in a decentralized way. Gradually, by way of many different court decisions which become unified by supreme court rulings, the imprecise standard is gradually transformed into more precise rules. If this division of labor works, one would expect more standards in the written laws and more rules in judge made law. This mechanism however requires a civil service and a judiciary which is well trained to cope with unstructured decision situations and has the skill and the information to arrive at precise and efficient decisions on the basis of unclear rules. It is argued in this article that this requirement is often missing in many developing countries and that moreover it would be too costly and a waste of resources to create those conditions under which this requirement could be obtained.

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Rulemaking, 3, Journal of Legal Studies, pp. 257-286, and C. S. Diver, 1983, The Optimal Precision of Administrative Rules, 93 Yale Law Journal, 65-109.

## C. Reasons for the superiority of rules over standards in developing countries

The legal system and in particular the adjudication in developing countries is often criticised for several shortcomings, which can be at least partly reduced by using more rules rather than standards.[5]

### 1. Rules can reduce court delays due to complex decisions

Court delays are often substantial in developing countries. These have been analysed by Buscaglia for Latin American Countries[6]. In India it takes not seldom 15 years from the first filing of the case to the final decision of the supreme court. Such delays increase the costs of using courts for conflict resolution. They reduce the parties´ demand for court services and can in extreme cases lead to a court crisis as the demand for court services might grossly diminish (Buscaglia). Parties must then resort to private adjudication and alternative conflict resolution and self help. Or they are left with uncompensated damages, have to restrict themselves to self enforcing contracts or circumvent market solutions which are too costly to enforce. The complexity of substantive law is one important reason for court delays. If it can be reduced by rules which are easy to administer this would have a positive impact on the number of court decisions per period and per judge or legal decision maker.

In India court delays, which resulted almost to an exclusion of many tort victims, were a main motivation behind introducing the so-called consumer redressal courts. These courts were introduced in 1987 to give consumers an easy and quick protection in cases of damages from faulty or hazardous products. The first court decision in these courts has to be taken within 120 days and legal procedure is based on some simple rules. Most noteworthy in this respect is the introduction of strict liability for all cases which are eligible for these special courts. As the economic effects of strict

[5] In a recent paper Judge Posner, too, suggests that the adoption of a system of relatively precise legal rules may help create the infrastructure required to enhance a modernizing nation's economic prosperity. See R. A. Posner, 1998, Creating a Legal Framework for Economic Development, World Bank Research Observer, vol. 13, 1. Similar results are presented in a paper by C. W. Gray, 1997, Reforming Legal Systems in Developing and Transition Countries, Finance and Development, vol. 34, 3, pp. 14-16.

liability are often equivalent or even superior to those of negligence (if a damage is unilateral and could not be influenced by the victim), there is a strong reason for developing countries to base large parts of tort liability and consumer protection law on strict liability rather than on negligence.

**2. Rules can reduce corruption**

The use of imprecise standards which give ample space for discretionary decisions creates additional possibilities for corrupt behavior in countries where corruption of government officials and the judiciary is a problem. If for instance the use of all toxic substances is forbidden there is more ample space for corruption of officials without a complete list containing all theses substances, thus leaving the decision to sort out what is toxic to the official[7]. If an official turns a blind eye to the use of a substance which is on a list, his corrupt behavior can be much easier monitored than a standard which leaves the definition of toxicity to the official himself. This holds for many other administrative legal norms, such as import and export restrictions, safety regulation, food and drug control, regulation of banks and capital markets. The same holds for the rules of property, contract and tort law. A corrupt judge who adjudicates a tort law based on strict liability has less space for corruption, as his behavior can be easily observed by outside observers. He is therefore subject to easier monitoring and critique than in a system which requires subtle arguments to arrive at the legal decision. For the same reason per re rules which apply without the possibility of a defense by the defendant might be preferable, as any defense, as for instance an efficiency defense in antitrust cases, might lead to decisions which are obscured for an outside observer and therefore might widen the scope for willful decisions of administrators and courts.

**3. Rules allow for the concentration of human capital**

The use of imprecise standards in legal texts and their superiority over rules is often defended on the grounds that the central authority lacks the information to set a good rule and that the administration of the rule should be left to the decentralized system of court decisions. Take again the negligence

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[6] Buscaglia ***

[7] For the example see L. Kaplow, 1997, General Characteristics of Rules, International Encyclopedia of Law and Economics, G. de Geest and B. Bouckaert, (Internet homepage)

standard. A rule would precisely describe the conditions under which a tortfeasor has exercised a reasonable level of care. This cannot be done by parliaments drafting a legal text. It has to be left to the courts who collect and process information in many categories of damages. Many courts in different places collect and process information in a decentralized process of learning. On the basis of this information the highest courts eventually arrive at unified rules. Thus the legal norms, which might be very fuzzy in the beginning, become more and more precise by way of precedents set by the higher courts. And the fuzzy legal command to act carefully is then transformed into a long list of precise prescriptions related to various categories of damages. This decentralized learning and with it the gradual transformation of imprecise standards into precise rules is regarded as one of the major advantages of the court system in which judges have ample space for decisions. Very much like the decentralized market the decentralized court system can then collect and process much more information than any individual. And even though a law starts with a set of imprecise rules and with legal uncertainty, the standards are gradually transformed into rules by way of adjudication, and legal certainty prevails.

But this system might not work very well, if the decision makers have little information or little expertise or if they are not well trained for taking complex decisions. This might very well be the case in developing countries, where information is more difficult to obtain and human capital is much lower than in developed countries. The learning process of a judiciary might then be too slow, legal uncertainty prevails over too long periods and the result is not a gradual shift from standards to rules but a long-lasting uncertainty for those who are obliged to obey legal norms.

This adverse effect is further enhanced, if the optimal rule changes over time as a consequence of technical and social changes. If new technical developments make a rule inefficient, the court system again has to start learning. This increases the degree of legal uncertainty until the results of the learning process again reduce it. In such a system of changing technique and changing social modes a decentralized court system which learns only at a very low speed must in the average produce a higher degree of legal uncertainty with all its adverse effects than a system with a well trained judiciary used to take complex decisions and arrives at a high speed of learning. For this reason the idea of decentralized learning by the court system has much less appeal for developing countries which cannot spend the same amount of resources for the training of judges. A legal system, which allows judges to take routine decisions which require little information processing might be a more

appealing system for developing countries.

### C. The Limits of Rule Centralization

#### 1. Inflexibility of Parliamentary Decisions

If it is true that in developing countries court decisions should be based on relatively simple routines, i.e. on rules, and that the scarce and highly powered human capital should be concentrated in making rather than administering these rules, the question arises whether parliaments can do it.
Parliamentary decisions are not very flexible. Consequently precise rules which get outdated due to economic, technical and social changes must either lead to hectic parliamentary activity or they become inefficient, and petrified over time. In the latter case legal simplicity and legal certainty prevails over time, but other adverse effects of outdated legal rules aggravate over time.

It is therefore advisable to include more rules into statutory laws as long as they can be expected to serve their purpose over a long period. Take for instance the rule of the German Civil Code that a minor below seven years of age is incompetent to conclude contracts, or the rule in the German Civil Code according to which the heir acquires possession with the death of the person who leaves an inheritance. These are examples of rules for which it is very unlikely that they become obsolete after a short while.

But other rules are subject to frequent changes, for instance health and safety standards, auditing rules or rules regulating industries and professions. It is unlikely that parliamentary activism can lead to a set of rules which are both easy to administer and can be frequently changed over time. For these areas of the law parliamentary centralism is not a viable alternative to the shortcomings of the decentralized system of adjudication in developing countries.

#### 2. The Role of Standard Setting Agencies and Organizations

The choice of the legal system is however not necessarily between parliamentary inflexibility and legal uncertainty if optimal rules are subject to rapid changes. Very often precise rules are set by

government agencies and public or private organizations. They define health and safety standards, quality standards or auditing rules. These rules are often very precise. Such organizations are often much better equipped to set standards than the judiciary as they work beyond legal procedure, use experts, form task groups who can process much more information than a judge or jury can do in the courtroom. Such rules might bridge the gap between the necessary vagueness of many parliamentary standards and the necessity to arrive at a sufficiently high level of legal certainty at the court level. If it takes too long for courts to transform standards into rules courts might use such rules instead of judge made rules.

The legal significance of such rules are however often ambiguous and they differ from country to country. In a civil liability case such a behavioral norm, defined by a government or a private organization can have different status:

-It can simply serve as a legal opinion in the court proceedings. If the defendant has violated the rule set by a private or government agency, the judge is free to deny damage compensation, and if the defendant has not violated the rule he is free to grant damage compensation. This is the case for most quality and safety standards which are often set by private non-profit organizations in Germany, such as the TÜV (Technischer Überwachungsverein) or the DIN Committee (Deutsche Industrienorm). The agency standard has no legal status even though its practical importance might be very high.

-It can serve as a starting point in a legal dispute. In the United States the violation of auditing rules of the ASS is used as a prima facie proof .

-It can bind the court in the sense that the rule is regarded as a specification of a more vague standard set by the parliament.

One would expect that in developing countries with their scarcity of human capital the role of such rule setting organizations are more important and the legal significance of their rules should be higher than in high income countries. In such central agencies the work and knowledge of highly trained experts can be used to guide court decisions if the legal standard of parliamentary law is – and has to be - too imprecise to serve as a good guideline for the judiciary. This concentration of human capital can serve as an intermediate technology before the knowledge and quality of judges across the

whole country is increased to such a level as to entrust the transformation of rules into standards fully to the decentralized system of learning by the judiciary.

Moreover such an approach could be easily supported by projects of development assistance. Whereas it would be a too costly enterprise to improve general legal training and training of justices and civil servants in countries like India or China, it would be possible to greatly improve the quality of private, half private and official standard setting institutions in such countries. And this activity would greatly improve the quality of the legal system, if such standards became binding or had at least a prominent place in adjudication and administrative practice. It would even be possible to concentrate such activities in international organizations such as the WHO or the FAO. Such rules could be used in more than one country.

### 3. Obligatory Presentation of cases to the court of highest instance and binding commentaries

Another method of increasing the degree of legal centralization without overburdening parliaments are obligatory presentations of open legal questions by a court of first instance to a court of high instance. Again human capital could be concentrated. The Prussian "Allgemeines Landrecht" of 1794 for instance was aimed at being so precise as to allow a clear deductive and syllogistic decision of every case on the basis of the legal norms laid down in the statute. For those – supposedly - few cases which were in the eyes of a lower court judge not clearly enough laid down in the statutes of the law, the lower court was obliged to present the question to a Royal committee of highly trained legal experts (königliche Gesetzeskommission).[8]

Such a provision, as compared to the procedure which leaves the decision to address a higher court to the parties, leads to a quicker transformation of statutory standards into judge made rules.

A related method of legal centralization are commentaries to the interpretation of statutory norms which are binding to the judges who use them. Such commentaries could be compiled by a small group of highly trained lawyers and have a binding character without overburdening the process of parliamentary lawmaking.

### 4. Parliament law and judge made law from an interest group perspective

[8] I owe this knowledge to my colleague Götz Landwehr from the University of Hamburg

Advocating more precise rules by parliaments and standard setting agencies and rejecting the decentralized learning process by the judiciary as too complicated for many developing countries disregards the findings of the positive theory of regulation. Regulatory laws are often not in the public interest because influential interest groups can induce parliaments to enact statutes in their favor. The same is true for standard setting organizations, whose standards are often biased with respect to industrial interests. Legislation might be influenced by corruption and by the interests of the state bureaucracy. The judiciary, however, cannot easily be influenced by interest groups. Even if parts of the judiciary are corrupt, the eventual outcome of the decentralized learning process of the judiciary is more difficult to push into a certain direction than decisions of parliament.

The development of judge made law might therefore lead to superior solutions as compared with parliamentary law independent of all considerations regarding the division of labor between parliament and the judiciary and the different knowledge and expertise of judges and members of parliament. This can be shown for Germany by two examples. The supreme civil court (Bundesgerichtshof) has developed a set of very subtle and efficient rules regulating privacy and intimacy vis-à-vis the yellow press. The house of parliament would not have arrived at similar solutions especially due to interest group pressure of the large publishing houses. They blocked any parliamentary initiative in the 1950s. It was only then that the courts took an active part in shaping privacy rules. The second example relates to the rules of labor disputes and strikes. No government would have liked to initiate such a law and taking the risk of antagonizing either labor unions or employers associations or both. Consequently labor disputes are regulated by way of judge made rules, rules which contribute substantially to the relatively low number of labor disputes in Germany.

Shifting rule making more to parliaments might aggravate these problems of interest group influence - an adverse effect which has to be traded off against the gains of more precise parliamentary rules.

## D. A Model of Standards versus Rules dependent on the Endowment of Human Capital

### 1. General Features of the Model

The arguments about rules versus standards related to a countries' endowment with human capital

are now presented in a more consistent and formal but also more stylized way. The following assumptions are made.

1. We analyze a section of an economy, in which resources are allocated by actors who follow a legal command which describes exactly what to do. This can for example be a level of due care or a safety standard or a rule of disclosure or an accounting rule combined with the legal consequences of violating the rule. This command is absolutely precise and the actors always follow the command.
2. The legal system consists of two levels, the higher and the lower level. At the higher level legal norms are formulated and at the lower level precise commands are given on the basis of these norms. In the model it is therefore assumed that the citizen who follows the legal norm can always precisely know ex ante whether he violates it. This is at odds with the normal interpretation of a standard, which is regarded as imprecise for the citizen and not only for the judge or administrator. But to assume that the standard is imprecise at the level of the legal norm and is then made precise by the court system or the administration is enough complexity for this model. Otherwise – if the legal rule remains imprecise for the person to which it is addressed - the model would have to take a third decision maker into account, the citizen, who maximizes his wealth given the fact that it is unclear whether his actions are illegal and sanctioned. That would add complexity to the model, but contribute nothing to the central idea behind it.
3. The legal norm formulated at the central level can have any degree of preciseness from a vague standard to act "reasonable" to a medium or higher level of precision. In the first case the lower level has to transform the legal norm into a precise command, in the latter case it only has to compare the legal command with the facts of the case and take a syllogistic decision. In all other cases the lower level has to add some preciseness to the legal norm formulated by the higher level. The preciseness of the legal norm (p) formulated at the center can vary from zero to one ($p \in [0,1]$). The preciseness of the legal norm formulated at the lower level of the legal system is always 1.
4. There exists an optimally precise legal command, which if followed leads to an efficient resource allocation. The judicial staff on both levels of the judicial system tries to come to an efficient decision, it is neither corrupt nor captured nor does it work carelessly. All strategic problems which arise due to asymmetric information between actors are therefore ruled out.
5. The quality of the decisions on both levels of the legal system depends exclusively on the

competence of its staff and not on its effort. The formulation of rules and commands is therefore "effortless" and also costless. This assumption is not crucial as it might seem at first glance. It does not change results but reduces mathematical complexity.

6. The competence of the actors at the central level and the lower level of the legal system depends exclusively on the endowment of these actors with human capital (h).
7. The legal system is endowed with a certain amount of human capital (h). The organizers of this system cannot influence this endowment. They can only decide which quota of the human capital is used to improve the competence of the staff at the center and at the lower level.
8. Total human capital is distributed between the central and the decentral legal authorities. A quota of a is allocated at the higher level and a quota of (1-a) at the lower level. $a \in (0,1)$.
9. The efficiency loss of a non optimal legal command is expressed as a cost which is a distance from an optimal point on the real number line. The expected (ex ante) efficiency loss (L) is a function of the competence of the decision makers which again is set equal with the human capital (h) invested in them. Thus we get $L=L(h)$, $L'<0$, $L''>0$. If no human capital at all is invested in the legal system the expected loss reaches a maximum. In this case it is assumed that arbitrary rules and standards are defined, which only by mere accident can lead to an efficient outcome. The expected loss at this level of incompetence is a constant real number C.
10. n denotes the number of times the legal norm is used. And for simplicity's sake it is also assumed that one decision maker at the lower level decides only 1 case. (It would be somewhat more realistic but is not necessary to assume that the decision maker at the lower level decides m cases during his career such that n is equal to m times the number of decision makers on the lower level).

11. If human capital is used at the center of the legal system and consequently increases the competence of the rule makers it has a loss-reducing capacity for all cases. It has the capacities of a public good. However, human capital, which is used at the lower level is dependent in its effect on the number of cases in which (or decision makers by which) it is used. It is crucial for the model that the loss reducing capacity of human capital is subject to decreasing marginal returns.

12. As the total amount of human capital (h) is allocated to the legal sector exogeneously it can be regarded a sunk cost and is therefore not regarded as a cost or a loss. In other words, the value

of h does not in any way influence the allocative problem under consideration.

The total expected social loss - which is to be minimized - can then be regarded as a function of the distribution of resources between the higher and the lower level of the legal system.

## 2. The Model

The further analysis proceeds in three steps. In the first step it is asked, what the optimal preciseness of a legal rule is, given a particular fixed endowment with human capital of the higher and the lower level of the legal system. In the second step it is asked what the optimal degree of preciseness of a legal norm is, if the legal system is free to choose the distribution of human capital between the central and the lower level for any given level of human capital (h). In a third step it is asked, how the efficient distribution of human capital between the two levels of decision making changes, if the value of human capital (h) changes.

1. Given any endowment of the legal system with human capital (h) the human capital in the center is ah and at the lower level it is (1-a)h. It is obvious that the competence of decision making at each level increases with the level of human capital ah and (1-a)h respectively. But it is also obvious that the optimal degree of preciseness of the central legal norm depends not on the **absolute competence** of the central level or the lower level but on the **relative competence** of the central level vis-à-vis the lower level. As a measure of this relative competence of the central level compared with the lower level we take the ratio of the human capital at the central level over the human capital at the lower level.

   Relative competence=ah/(1-a)h=a/(1-a).

   The relative competence of the central level is therefore strictly increasing with a and independent of h.
2. At any level of a there exists an optimal (cost minimizing) level of preciseness of the legal norm. The following consideration leads to this proposition. Assume it would be possible to allocate resources efficiently without the help of institutions such as the legal system. Allocative efficiency would then be reached without any informational or other institutional costs in a so called

Nirvana state. Any deviation from this state can be regarded as a loss. The rationale for an institution is to minimize this loss. Take now any fixed a between zero and one. This a reflects the relative competence of the central decision making level. If at this level the degree of preciseness of the norm is equal to one there is a certain loss (L) compared with the Nirvana state. It can be assumed that this loss decreases if the degree of preciseness decreases marginally, thus giving more decision making power to the lower level. Depending on the relative competences of the two decision levels, there exists a cost minimizing degree of preciseness (p*) . If the degree of preciseness is further reduced thus giving even more decision power to the lower level, the loss increases again. Thus there exists an u-shaped loss function (L=L(p)) for every level of a with one optimal p* which minimizes losses. The loss is the difference in wealth between the Nirvana state and the actual state.

3. The next observation is that p* must strictly increase with a. As a reflects the relative competence of the central decision making level, any increase in a must necessarily lead to a concentration of decision power at the central level if the system is to remain efficient and consequently it must lead to a higher degree of preciseness of legal norms.

$$dp^*/da>0$$

4. In the further analysis it is assumed that the legal system is always optimized for every level of a. This is based on the somewhat odd assumption, which is, however, quite common in institutional economics, that institutions evolve to reduce costs. Therefore the term a is equivalent to a certain (cost minimizing) degree of preciseness of the legal norms. In the further considerations therefore p* not only denotes the efficient but also the actually reached degree of legal preciseness.

5. We now proceed with the second step of the analysis. So far we have assumed a constant a, that is a constant level of relative competence of the central decision making level. Now we regard this level to be an independent variable. That means the legal system has the choice of allocating human capital more at either the central or the lower level. And we ask how this choice influences the total loss (L) of the system. But we assume that the system is optimized for any given level of relative competence, such that for any chosen a the degree of precision of the legal norm is given, p*=f(a).

6. The allocative problem is then to minimize the total loss (L) and to evaluate how the optimal quota of human capital devoted to the central level (a) and the lower level (1-a) changes with the total endowment of human capital (h). Let the loss function be

$$(2) \qquad L = n\left[bc + (1-b)ce^{-ah} - (bc + (1-b)ce^{-(ah)})\left[1 - e^{-\frac{(1-a)h}{n}}\right]\right]$$

Here **L** is again the expected social loss generated by the use of the legal norm compared to a Nirwana situation in which efficient allocation is reached without any information costs or other institutional costs.

**n** is the number of different decisions made by the lower level of the judicial system on the basis of the norm formulated at the central level. It is thus assumed that the rule formulated on the higher level of the legal system relates to all cases under consideration whereas interpretations and precisions on the lower level are related only to one or more than one case but to less than all cases. Thus n can normally be supposed to be a large integer.

**h** in formula (2) is the stock of human capital in the legal system. It is here implicitly assumed that its value depends on the overall level of economic development of a country. h is therefore exogeneous. As we deal with differences in the legal system between rich and poor countries it can rightfully be assumed that h is small in poor countries and large in rich countries. In other words h is simply understood as increasing with the national income.

As the system is endowed with h regardless of any decisions h must be regarded as a sunk cost. Therefore it does not appear in formula (2) as an additional cost increasing the value of L.

**a** is the fraction of human capital, which is allocated at the central level of the legal system. Consequently ah is the human capital allocated at the top level and (1-a)h is the human capital allocated at the lower level of the legal system. As has already been pointed out, the optimal degree of legal preciseness p* increases with a. p* is thus fully determined by a.

**c** is the social loss per case of the legal system when no human capital is invested and in which neither lawmakers nor judges or civil servants have any competence related to the problems addressed by the legal norm. We can see that if h=0 the whole expression within the bracket of formula (1) becomes c and the total costs for all cases is then cn. In other words cn is the difference between the wealth of the society in which the legal system is efficient and works costlessly and its wealth if the system is run by completely incompetent but good willing people.

If ah and (1-a)h are positive the mechanics of formula (2) can best be understood by looking separately at the first and second expression of the formula. It is easy to see that the first bracketed expression.

$bc+(1-b)ce^{-(ah)}$

approaches bc if the endowment of human capital ah increases beyond limits.
Here the term $b \in [0,1]$ reflects the observation made by Hayek and his school that a central agency is always limited in its capacity to take correct decisions. Thus even if all the human capital in the world would be invested at the central level ($ah->\infty$), the center would still produce a rule with a possible cost of bc. This reflects a limitation of the capacity to process information at the center, which is not assumed to be present at the lower level of the legal system. This assumption is crucial.

The possible costs the central norm can cause is then further reduced by the decisions of the lower level, which again are assumed to be solely dependent on its endowment with human capital and the resulting (absolute) competence of the decision makers. The lower level receives the cost $bc+(1-b)ce^{-(ah)}$ as an input and reduces it further as is expressed by the term

$$(bc + (1-b)ce^{-(ah)})\left[1 - e^{-\frac{(1-a)h}{n}}\right]$$

If a is zero the center formulates a muddy standard and leaves its concretion fully to the lower level. With increasing a the standard becomes more precise leaving less decision making to the lower level and if a=1, the legal norm formulated at the central level is a precise rule and the lower level derives

decisions from it by syllogistic deductions.

Given these assumption the optimal allocation of human capital between the central and the decentral level of the legal system is then calculated by differentiating the loss (L) with respect to a.

$$(3) \qquad \frac{\partial L}{\partial a} = ce^{\frac{a(1-n)-1}{n}} h(1-n+b(n-1+e^{ah}))$$

This leads to an optimal a=a*

$$(4) \quad a^* = \frac{\ln[(n-1)(1-b)}{h^2}$$

As the preciseness of the rule is determined by a we get an optimum optimorum for the degree of preciseness of the legal rule.

(5) p**=f(a*)

The last step of the analysis is to ask, how a* (and with it p**) changes with h, that is with the human capital or, respectively, with the overall level of economic development. This is yielded by differentiation of a* in formula (4) with respect to h.

$$(6) \quad \frac{da^*}{dh} = \frac{-\ln[(n-1)(1-b)}{h^2}$$

It is easy to see that this value is always negative as long as n>1 and b<1. This means that also the optimal level of precision of the legal norm (p**) always decreases with the endowment of the legal system with human capital under the given assumptions.

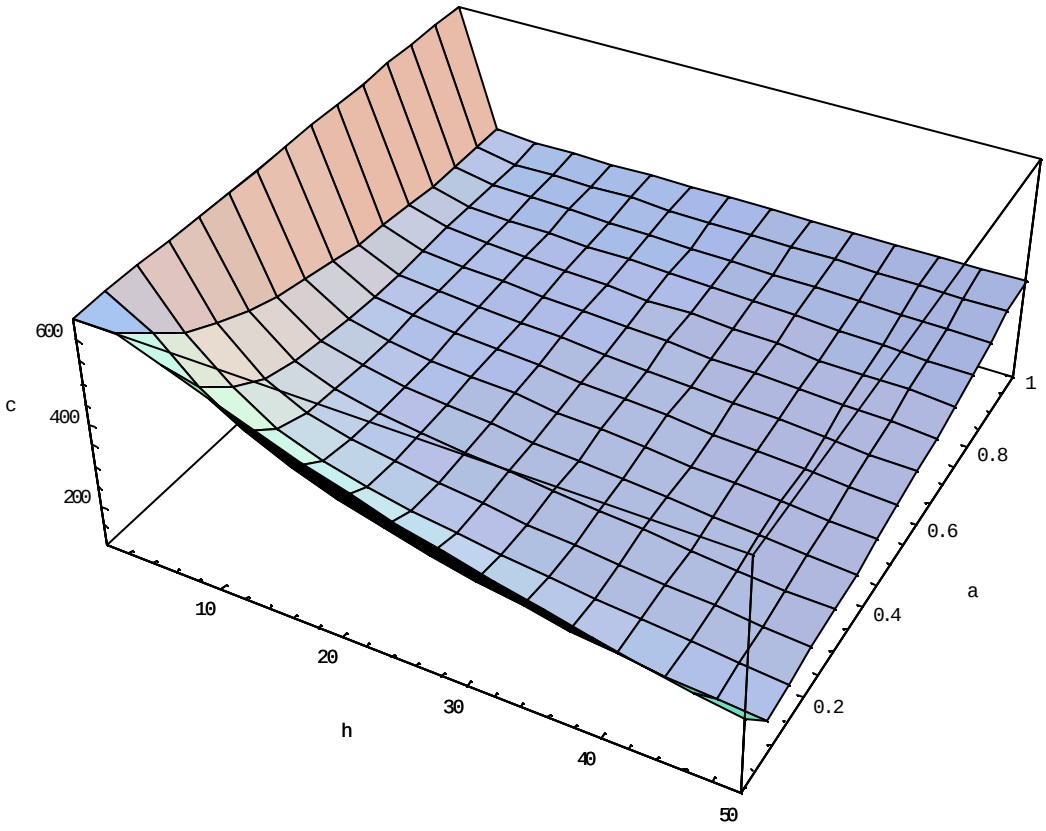
*Proposition 1:*The efficient degree of legal centralization as expressed by the precision of legal norms decreases with the endowment of the legal system with human capital and in a broader sense with the overall economic development.

*Proposition2:* If institutions such as the legal system reduce losses for society poor countries should be expected to have a more centralistic and consequently a more rule based system than rich countries.

### 3. An illustrative example

The following graph shows the costs (c) as a function of the degree of centralization of the legal

system measured by the quota of human capital allocated at the central level(a) and its endowment with human capital (h) for certain parameters, (b=0.5,c=10,n=70) .The lowest point on the plane increases with h, in line with our conjecture indicating that norms become less precise with increasing endowment of human capital. This general picture does not change with the chosen parameters.




**E. Some evidence from legal history**

If an efficient legal system is more centralized in poor than in rich countries because it is endowed

with less human capital and for that reason concentrates human capital at the top of decision making, and if there is some drive toward efficiency of the legal system there should be empirical underpinnings for such a proposition. This is however not an easy task. Empirical data are almost completely missing on this subject. Many developing countries have adopted legal systems from their former colonies. The raw data for such a comparison would have to be collected from the scratch.
It seems to be easier to look at findings of legal history research. Rich countries were poor at some time in their history and consequently their endowment with human capital was low. One would therefore expect that those countries had a legal system which was cheaper in absolute terms and which was also more rule based and could be easier handled by untrained and even illiterate people.

**1. Inconclusive evidence in pre -modern societies**

However, if one looks at the laws in primitive societies or in early civilizations the finding is ambiguous. On one hand one finds case based law which seems to be predictable. On the other hand legal decisions are often extremely flexible and related to the particular circumstances of the case. Anthropologists and historians have stressed the flexibility of law in primitive societies[9] and its orientation to the individual case. This has been observed in the law of African and Oceanic tribes[10] as well as in the early legal history of Germany. It seems that between the 9th and the 12th century written law in Germany lost authority. It was forgotten and not used. The judges seem to have decided case by case and treated every case as a special case without resorting to any statutes or written law[11]. It has been argued that this flexible case orientation mirrors the social and economic conditions in small village societies or face-to-face societies, where everybody is in a long term relationship with everybody else, pointing to the necessity of compromise rather than to the adoption of rules. Legal disputes and decisions in such societies should take into account the particularities of the specific ongoing relationship between the plaintiff and the defendant. If so judges acted more as intermediaries to keep a relationship mutually beneficial rather than follow or even setting a rule.

[9] U. Wesel, 1985, Frühformen des Rechts, Frankfurt p. 349, Wesel emphasizes the necessity to find compromises as the main reason given for a flexible law in primitive societies. But he questions whether this flexibility is a general feature of primitive law.
[10] P. Bohanan, 1965, The Differing Realms of the Law, in: American Anthropologist, Special Publication, The Ethnography of the Law, Vol. 67, pp. 33-44 and S. Roberts, 1981, Order and Dispute -An Introduction to Legal Anthropology
[11] W. Ebel, Geschichte der Gesetzgebung in Deutschland, Hannover 1956. "Das Deutsche Reich der Sachsen- und Salierkaiser fiel in den Urzustand des ungeschriebenen, nur zum Einzelfall im Gericht gefundenen Rechts zurück.", p.41

On the other hand there is also evidence that the law in early civilizations was more rule based and syllogistic than modern law. The codex Hammurabi or the codex Mani as well as ancient Jewish law define legal norms and their consequences in an extremely precise and case based way. The same holds for rules of proof of evidence. It seems that early Common Law was more rule based than today and that decisions on the basis of vague standards - if possible at all - could be made only at the highest level of the legal system, i.e. by the king himself, who delegated it later to the court of equity. For instance a written credit contract was normally signed and sealed. When the debtor repaid the debt the seal on the document was broken. This served as an irrefutable evidence that the loan was repaid. In case the seal was not broken any evidence, however conclusive, that the debt was repaid was disregarded leading to a double repayment by the debtor. Only by way of addressing to the king in person or later to the centralized court of equity could the debtor overcome this formalistic rule by resorting to vaguer standards of justice and fairness. This hierarchical division of competencies can also be found in Roman law, where the praetor but not the judex had the authority to use vague concepts of equity and fairness.

All in all, however, the evidence seems to be inconclusive. Very rigid rules, which economize on the costs of the administration of a case, are found, as well as flexibility for the individual judge or decision maker, which eases a mutually beneficial outcome in small communities. These findings contradict proposition 2 of the last section, which seems not generally to be valid in societies in which the law aims more to solve individual conflicts rather than to provide a legal framework for anonymous markets and interactions.

**2. Development from rules to standards in modern European law**

The picture changes, however, if one looks at European states during their period of transition from village societies to modern market economies, in which cities grew, an increasing part of the national product was produced for a market and national economies evolved. This covers the period from the late 16$^{th}$ to the late 19$^{th}$ century and the age of mercantilism. It is marked by two outstanding legal developments, the rise of regulatory law (Polizeyrecht) and a state bureaucracy on the one hand, and the codification of other legal materials especially civil law on the other.

"Polizeyrecht" or politeia law evolved in Europe since the early 16th century. It regulated many areas of live hitherto either unregulated or regulated by local custom or law. In the 16th and 17th century many countries such as Sweden, Denmark, German states, the Netherlands, Spain, Italian states issued statutes regulating personal and economic behavior[12]. Also in England comparable statutes were introduced[13]. These rules were related to commerce and to the conservation of decent behavior and traditional but eroding customs and differences in social ranking. Economic regulation was related to price and interest rate caps, zoning and building regulation, pharmacy, dikes and schooling regulation, forest and firefighting regulation. These laws can be regarded as predecessors of modern regulatory law. Social regulation pertained to avoidance of luxury, including smoking and imitating lifestyles of noblemen (f.i. limits on the number of guests, alcoholic drinks, plates and musicians at funeral ceremonies or wedding parties or prohibition of wearing golden jewellery for non-noble people). These police statutes were not always[14] but typically precise to the ridicule, if seen from today´s perspective. In a South German "Polizeyordnung" fish was forbidden to be sold on the fishmarket if it was below a certain size. The policemen controlling this ban were given posterpictures of fishes with the original minimum size of the species[15]. They compared the size of the fishes on sale with these posterpictures.

The explanation for such regulatory furor is often that in the emerging absolutist state the princes did not want to share power with their civil servants and administrative officers. But an alternative explanation is that this degree of preciseness could substitute for the low endowment of human capital on the working level of the public administration.

This substitution effect can be illustrated by way of an example. In contemporary societies parents alone decide on the first names of their children. The child's name should reveal the sex of the child and the name should not violate the wellbeing of the child, the latter being a vague standard. The registration officer has thus to take the decision whether fancy names like Yahoo, Souvenir or

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[12] M. Stolleis, 1996, (Hrsg.) Polizey im Europa der frühen Neuzeit, Frankfurt/Main, and W. Ebel, a.a.O. p.59

[13] R. von Friedeburg, 1996, Die Ordnungsgesetzgebung im England der Frühen Neuzeit, in M. Stolleis, 1996, op. cit. S. 575-603

[14] In Sweden in 1665 the parliament enacted a Polizeyordnung regulating work restrictions on Sundays which was vague in some of its norms. See: P. Frohnert, 1996, Polizeybegriff und Polizeygesetzgebung im früh en Schweden, in M. Stolleis, 1996, op. cit., p.547.

[15] I owe this example to my legal historian colleague Götz Landwehr from the university of Hamburg

Mickeymouse are acceptable from this point of view. To take a good decision the officer has to develop an expertise on what factors influence the wellbeing of a child and how these factors are related to a particular name. More than 200 years ago many European countries had a different rule. The parents could pick a name from a closed list. The registration officer had only to check whether the given name was on the list. His level of expertise could consequently be much lower[16]. The costs of administering this rule are obviously cheaper in terms of human capital.

The codifications of the 18th and 19th century provide another example of rule based law, which was aimed at leaving no discretionary power to judges in general and to judges of lower instances in particular. It was even at times forbidden to write commentaries to the law, because every decision should be deducted from the legal text by way of pure syllogistic deduction. The "Preussisches Allgemeines Landrecht" (ALR), enacted 1794 after decades of drafting, had more than 19.000 articles, four times more than the modern civil code and the criminal code of Germany taken together. In the early codes any standards were regarded with the utmost distrust by the lawmakers. If a judge had doubts about the interpretation of the ALR, he had to ask a royal commission for an authoritative interpretation. The authors of these codifications were aware that not all cases could be solved by way of deduction from the legal text, but they tried to make the law as crystal clear as possible and to have the solution of all future cases contained in it as far as possible

Again the predominant view among legal historians is that the high level of preciseness in the codes was driven by the strive for power of the absolute Monarchs, who made and enacted the laws by decree and did not wish to share power with the administration and judiciary. It was also contended that to transform a judge into a lawmaker would endanger political and economic freedom, as judges who received their salary from the state were never fully independent[17]. But again an alternative explanation might be that this concentration of decision power at the central le vel of the legal system was a substitute for human capital at lower levels.

Legal centralization in Germany faded away during the 20th century. It seems to be little disputed that in the 20th Century legislators in Germany more often than before resorted to standards, and that the

[16] I owe this example to professor Gerrit de Geest from the university of Gent
[17] Carl Gottlieb Suarez, the father of the "PreussischesAllgemeine Landrecht" of 1794 maintained that „unclearness and impreciseness of the law are an evil for the citizen“. Cited in: R. Weber, Entwicklung und

supreme courts increasingly used vague standards for the interpretation of the law. It is a well established fact that between 1890 and 1930 the German civil courts changed substantially their jurisdiction and based it on standards and not –as before- on rules. In a famous and often quoted book by Hedemann (1933) on "die Flucht in die Generalklausel, Eine Gefahr für Recht und Staat "(The escape into general clauses, a danger for the law and the state), this development was first described and criticized[18]. Hedemann refers to the vague standard of the "Exceptio Doli Generalis" in contract law. This exception from the rule based formality of the civil law was according to Hedemann seldom used in practice until the end of the19th century. It was never used by the Reichsgericht (Supreme court) during the first 17 years of its existence after 1879, and only ten times during the first 30 years. But after the year 1900 jurisdiction became "overflooded" with its use[19]. This development can be shown for other standards in the German civil code as well, whose importance was originally very limited but later became predominant in many fields of Civil Law [20]. Large fields of the law, in which the legislator remained inactive, were newly developed by judges, such as labor law, antitrust law, housing law, copyright law and corporation law by resorting to the interpretation of vague standards. Section 242 BGB (bona fides), originally a norm to deal with some exceptional cases, became an important legal principle of German contract law. This development was deeply regretted by some prominent scholars who criticised the "firesword in the judges' hand[21]" and exclaimed "The law has ceased to be the norm for judicial decisions" and "The law is dead, long live justice"[22]. It is noteworthy in the context of this article that this development took place in Germany during and after its rapid transformation to an economically advanced country.

The negative attitude towards standards in Germany which was prevailing in the 1920ies has changed. Today the flight into general clauses and vague standards by the legislator himself is praised by practical men like the former president of the supreme administrative court, Horst Sendler, who sees in it a necessary element of flexibility of the law in a modern society[23], in which often the legislator should not do more than to define the direction of the law and give some concrete

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Ausdehnung des § 242 BGB zum „koeniglichen Paragraphen", Jus 1992, Heft 8, pp.631-636.

[18] J.W. Hedemann, 1933, Die Flucht in die Generalklauseln, Eine Gefahr für Recht und Staat Verlag Mohr, Tübingen, S.1ff..

[19] J.W. Hedemann, op.Cit. Fn.XX p. 6

[20] Hedemann, op.cit. p.10

[21] a formulation by Sohm in 1895, qouted by R.Weber, 1992, op.cit. p.633

[22] Hedemann, op. cit. p. 68, "Das Gesetz hört auf, die Norm für die Entscheidung der Gerichte zu sein"

[23] H. Sendler, Mehr Gesetze, weniger Rechtsgewährung, DVBL. 15 Sept. 1995, pp. 978-85.

examples. A good example of such a "modern" law is the AGB-Gesetz, the law regulating the use of standard term contracts. Basically this law consists of a number different case groups which are precisely described on the one hand and a vague concept of fairness which is used to decide the bulk of cases.

There is therefore some conclusive evidence that at least in some European states the law of modern times was rule based at the beginning and later on developed to a more standard based system, in which far reaching decisions are made by the administration and the courts. These findings support proposition 2 of the last section.

These findings have some remarkable parallels with research results on economic development in historical perspective. Esp. Alexander Gerschenkron argued that in the early phases of their industrialization the lack of human capital and especially of entrepreneurial skill was substituted by centralist institutions which concentrated power at a center stage of the economic system and directed the economy from above. The more backward a country was, the greater was the part played by central institutions to provide new industrial firms with entrepreneurial guidance. Gerschenkron argues for instance that the centralist mercantilistic system on the European continent, often denounced as a system of „fools by fools" by classical political economy, cannot be understood without interpreting it as a substitution for a more decentralized economic system whose agents have better skills. In this system economic decision making was based more on power of the central state rather than on the wealth of individuals[24].

Substitute institutions for entrepreneurial skill, however, must - according to Gerschenkron - not necessarily be central governments. They can also be large and powerful banks, as was the case in 19th century Germany after the unification. Human and entrepreneurial capital was accumulated in banks which provided individual firms with sometimes coercive guidance from above[25]. According to Gerschenkron it is only in more advanced phases of the economic development that centralist institutions become an impediment rather than a promoter of economic development. It could be argued that this is the case with law too.

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[24] „I believe it is correct to say that as you move eastwards across Europe, that is to say, along a line of increasing economic backwardness, you find a steadily increasing importance of power and a diminishing importance of wealth as motives and aims of government policies". A. Gerschenkron, History of Economic doctrines and Economic History, (1969), The American Economic Review, 59, Papers and Proceedings, pp. 1-17, here p.3

[25] A. Gerschenkron, Economic Backwardness in Historical Perspective, (1965), New York, Praeger, pp. 345

**F. Final Remarks**

It is argued that a rule based legal system which concentrates decisions at the center of the state might be an economic answer to the lack of human capital. It is also shown that legal centralism and the use of precise rules was an ideal of lawmaking in many European countries in the era of their early capitalist development. One possible interpretation is that in early market systems the preciseness of legal rules which leads to concentration of human capital might be a substitute of legal and administrative skills at lower levels of the administration and judiciary.

This paper therefore advocates the use of precise rules whenever they can replace vague legal standards without too much loss of efficiency in poor countries. In high income countries the vagueness of legal norms is often an advantage for the legal system, as the information needed to transform vague standards into precise rules is collected and processed in a decentralized decision making process by courts which learn at many places and optimize the system by judge made rules. This process of transforming vague standards of parliamentary law into precise rules, however, is a (human)capital intensive technology, as it needs a highly qualified judiciary across society, which can deal with complex decision situations. The same argument holds for the administration enforcing regulatory law.

The scarcity of human capital should lead developing countries to concentrate their highly trained legal experts in a more centralized way than in high-income countries and to have a larger proportion of judges and bureaucrats, who can take decisions on the basis of simple routines and clear rules. Developing countries should draft more precise laws and when this is not possible or counterproductive, standard setting agencies should fill in the gaps whenever possible. This is the analogue of concentrating the physical capital stock on labor intensive products and technologies in developing countries.

**Literature**

R. Bowles, 1999, Compliance Costs of Business Regulation in Developing Countries, Paper presented at the Annual Workshop of the Erasmus Programme in Law and Economics, Hamburg, February 1999.

Buscaglia ****

C. S. Diver, 1983, The Optimal Precision of Administrative Rules, 93 Yale Law Journal, 65-109.

I. Ehrlich/R.A. Posner, 1974, An Economic Analysis of Legal Rulemaking, 3, Journal of Legal Studies, pp. 257-286.

W. Ebel, Geschichte der Gesetzgebung in Deutschland, Hannover 1956

R. von Friedeburg, 1996, Die Ordnungsgesetzgebung im England der Frühen Neuzeit, in M. Stolleis, 1996, op. cit. pp. 575-603

P. Frohnert, 1996, Polizeybegriff und Polizeygesetzgebung im frühen Schweden, in M. Stolleis, 1996, op. cit. pp. 531-574

C. W. Gray, 1997, Reforming Legal Systems in Developing and Transition Countries, Finance and Development, vol. 34, 3, pp. 14-16.

J.W. Hedemann, 1933, Die Flucht in die Generalklauseln, Eine Gefahr für Recht und Staat, Verlag Mohr, Tübingen.

L. Kaplow, 1992, Rules versus Standards, An Economic Analysis, Duke Law Journal, pp. 557-629.

L. Kaplow, 1997, General Characteristics of Rules, International Encyclopedia of Law and Economics, G. de Geest and B. Bouckaert, (Internet homepage)

R.A. Posner, 1998, Economic Analysis of Law (5th edition), New York.

R. A. Posner, 1998, Creating a Legal Framework for Economic Development, World Bank Research Observer, vol. 13, 1.

M. Stolleis, 1996, (Hrsg.) Polizey im Europa der frühen Neuzeit, Frankfurt/Main,

D. Tamm 1996, Gute Sitte und Ordnung, zur Entwicklung und Funktion der Polizeygesetzgebung in Dänemark, in M.Stolleis, op. cit., pp.509-530

Thomas S. Ulen, 1999, Standards und Direktiven im Lichte begrenzter Rationalität, in Ott/Schäfer (Eds.): Die Präventivwirkung zivil- und strafrechtlicher Sanktionen. Tübingen, pp.346-380.