

# Deciphering Assumptions in Lawmaking: Towards a More Human-Centric Approach

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## ABSTRACT

This study investigates the assumptions legislators make about the recipients of laws, drawing parallels with the homo oeconomicus model. We question whether laws are crafted under the belief that recipients are instrumental rational individuals who strive to maximize profit and minimize or evade penalties. Key objectives include evaluating the influence of these assumptions on lawmaking and determining how a shift in these beliefs may impact the law itself. The research methodology combines an analysis of Polish and American court rulings and judicial models. The study argues for the necessity of a paradigm shift, recognizing that legal subjects do not always act logically or rationally. Our research concludes that recognizing the behavioral nuances in law recipients could lead to more effective lawmaking, introducing behavioral laws and regulatory tools better suited to average, not always rational, recipients.

## 1. Introduction

The primary goal of this study is to demonstrate that the assumptions legislators make about the nature of legal subjects significantly influence both the content of laws and their enforcement. In this context, the term 'lawmaker' encompasses both legislative and judicial authorities. This analysis examines Polish jurisprudence alongside Polish and American models of legal subjects within two distinct legal systems: common law and the continental legal system. In the common law system, although legislation exists, much of the law is developed by courts through precedential decisions made in case law, which are subsequently applied to similar cases. Thus, in the common law system, both legislative and judicial branches are considered sources of law. Conversely, the continental system emphasizes the separation of powers, where the judiciary is not recognized as a direct source of law. However, the judicial process of applying the law entails issuing specific provisions; while the legislature enacts general and abstract regulations, the judiciary applies these laws by issuing concrete and individual regulations through the interpretation of the law. Consequently, the judiciary may also be considered an indirect source of law in the continental system.

This study examines the assumptions legislators make about legal subjects through a comparative analysis of judicial models, including the 'bad man' model, the Reasonable Person

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Standard, and the due diligence model, alongside economic agent models such as Econs and Humans (Niederjohn & Holder, 2019). This analysis is framed within the context of rationality theories, specifically rational choice theory and the theory of bounded rationality. The similarities and differences between judiciary and economic models are summarized and illustrated with a case study from a Polish court ruling. This examination provides an instance of how judges' considerations of legal responsibility are influenced by their assessments of the required degree of rationality and/or reasonableness. The study does not aim to quantify the frequency of judges basing their reasoning on assumptions about the rationality of legal subjects.

The perspective on legal subjects closely resembles the neoclassical homo oeconomicus model, which originates within the field of economics. Transitioning from the Econ model to the Human model alters the content of the law, as it is exemplified by provisions known as nudges.

The human model (homo oeconomicus) has faced significant criticism, particularly based on research from the field of behavioral economics, for its failure to align with actual human behavior (Doucouliagos, 1994). Consequently, this study advocates adopting a new model, termed the 'Human' model by Richard Thaler to contrast with the traditional 'Econ' model (Thaler, 2015). This study proposes naming the new model the 'Folk Standard'.

## **2. Case study**

Depending on the judge's benchmark—either the reasonableness or rationality model—the level of responsibility required from legal subjects is determined (Sunstein et al., 1998). This distinction is evident in the court decision No. IV CSK 581/13 issued on June 5, 2014 by the Polish Supreme Court. The case involves a farmer with an extensive field to mow, but without adequate equipment or labor. In a display of neighborly goodwill, a kind neighbor assists by mowing the grain with his own combine harvester. During the operation, the combine harvester breaks down. Although the farmer, lacking mechanical skills, does not assist in the repairs, he provides three wooden piles at the neighbor's request to support the machine while repairs are attempted. The farmer then resumes other farm duties. Tragically, during the repair process, the combine falls over on the neighbor's son, causing permanent injuries.

The plaintiff, the injured neighbor's son, sought compensation from the defendant, the Insurance Guarantee Fund, requesting damages of PLN 300,000 and compensation for medical expenses totaling PLN 540.60. In this scenario, the Fund may provide compensation to the injured party if the responsible party, in this case the farmer, lacks civil liability insurance. In the current case, this condition is satisfied as the farmer was uninsured; therefore, the Fund is liable to cover the compensation amount in lieu of the farmer. Furthermore, the Fund's obligation to provide compensation is contingent upon the fulfillment of the following criteria: (1) the damage must result from a tort attributable to the farmer's fault; (2) there must be a direct causal link between the tort and the damage; (3) the damage must be associated with the operations of the farm.

The courts of first and second instance concluded that the prerequisites were not met. Upon reviewing the facts and interpreting the relevant legal provisions, the judges found neither evidence of a tort nor any negligence on the part of the farmer. Both courts determined that supervising the repair of a harvester that did not belong to him was not required of the farmer, as it was not in his interest to repair another's equipment. The farmer merely facilitated the repair by allowing his neighbor to use his land and providing wooden pegs to support the elevated combine. It is challenging to attribute any fault to him given his non-involvement in the actual repair process; he neither offered advice nor suggested any repair methods. The court opined that responsibility, if any, should lie with the neighbor, who oversaw the repairs and

endangered his son by not adhering to safety standards. Regarding the second prerequisite, the courts found no causal link between the farmer's actions and the resulting injury. Addressing the third prerequisite, the courts established that the repair of a harvester not owned by the farmer does not relate to the maintenance activities of his farm. Consequently, all three prerequisites were decisively refuted.

The case reached the Supreme Court following a cassation appeal. Invoking the principle of reasonableness, the Supreme Court ruled that all three prerequisites had indeed been met. The court's reasoning was based on precedent from previous Supreme Court decisions (refer to court decision, 26.02.1985, IV CR 49/85; court decision, 14.12.1998, III CKN 71/98; and court decision, 12.02.2002, I CKN 1483/99), asserting that neighborly assistance should be treated analogously to an employer-employee relationship as regulated by the Polish Labour Code. Consequently, the neighbor is considered the farmer's informal employee, and the farmer is thus obliged to ensure safe working conditions during the assistance. The court determined that the farmer's failure to participate in the repair constituted culpable negligence, establishing a direct causal link between his inaction and the resultant harm (satisfying prerequisites 1 and 2).

The Supreme Court determined that repairing the combine harvester constituted part of farming activities, as the harvester was employed in mowing the farmer's field. This decision established the connection between the accident and the farming operations on his land.

Additionally, the level of diligence expected from the farmer by the Supreme Court differed from that required by the courts of first and second instance. While the lower courts, after reviewing the factual and legal circumstances, found no basis for applying labor law analogously to neighborly assistance, the Supreme Court opted to apply the employer model as a reference point. This model treats the employer as a professional entity obliged to exercise the highest degree of diligence, including anticipating risks, making optimal decisions, and bearing the costs necessary to prevent accidents (court decision no. XVII *AmE* 296/20 issued on 10.05.2021).

Could the farmer have anticipated such a decision from the Supreme Court? The divergent views on the farmer's responsibility among the courts stem from their differing applications of expected reasonableness and/or rationality. This discrepancy is evident in the distinct measures of diligence used. The Supreme Court adopted a more restrictive measure, basing its expectations on the human model, which demands a higher standard of reasonableness or, in fact, rationality compared to the measures used in previous court rulings in this case. Such a shift raises questions about the uniformity of legal standards and the predictability of judicial outcomes based on the established criteria.

A distinction exists between reasonableness and rationality. Rooted in jurisprudence and common law, reasonable behavior embodies a collective institutional standard, reflecting the norms, values, and rules that society deems fair, just, and legitimate for a person's conduct in a specific role and context (Van De Ven & Lifschitz, 2013). Nehushtan (2020) proposes the most precise interpretation of rationality review in public law as an 'instrumental rationality' or as a 'suitability test' that examines the logical and causal relationship between means and ends.

These two notions (reasonableness and rationality) should not be understood as synonyms, nor used interchangeably; however, courts often invoke the model of reasonableness when, in reality, they require legal subjects to adhere to the demands of rationality. The premise of reasonableness, by definition, is inherently weaker, meaning it attempts to capture the exemplary behavior of an average citizen, whose actions and thought processes do not exceed the average capabilities of an ordinary person (Nehushtan, 2020).

### **3. Homo oeconomicus**

The measure of required rationality employed by the Supreme Court can be illustrated through the model of homo oeconomicus, also known as Econ, a concept derived from the studies of neoclassical economists. This model portrays economic agents as entities that consistently employ rationality, logic, calculation, and comparative analysis in their daily actions. According to standard economic theory, the operational principles of economic agents include: (1) a motivation to maximize expected utility; (2) purely self-interested motives, without considering the utility maximized by others (Ng & Tseng, 2008); (3) efforts to earn value that combines utility with the probability of its realization; (4) preferences that remain stable over time, and are complete, transitive, and monotonic (Urbina & Ruiz-Villaverde, 2019); (5) the complete convertibility of all income and assets; (6) rational behavior; and (7) decision-making based on accurate and comprehensive information, with unlimited cognitive capabilities to process this information (Mele & González-Cantón, 2014). This framework is commonly referred to as orthodox, neoclassical, or 'mainstream' economics, encapsulating the prevailing views within economic research (Waterman, 2019).

According to the model of rationality adopted by the Supreme Court's panel of judges, the farmer in the referenced court decision was expected to behave as follows: (1) conduct his business in a manner aimed at avoiding sanctions or negative legal repercussions, thus aligning his actions with legal expectations; (2) act based on calculated assessments of potential consequences of his decisions, ensuring that each decision is justifiable from a risk-benefit perspective; (3) strive to obtain value, defined as the product of material gain and the likelihood of its realization, which implies rational actions geared towards maximizing profitable agricultural outputs and minimizing impediments such as accidents; (4) engage in thorough cost-benefit analyses of each decision to ensure optimal economic and legal outcomes; (5) apply logical thinking to all aspects of farm management; (6) evaluate the risks and probabilities of hazardous situations and adjust his behavior accordingly to mitigate risks; (7) base his actions on accurate and complete information, with the capacity to process such information, indicating that he should have been cognizant of the potential for labor laws to apply analogously in situations involving accidents on his property; (8) conduct all these activities with an overarching goal of minimizing costs and maximizing benefits. This model therefore translates into a judicial expectation that the individual will approach decisions with a high level of foresight and rationality, similar to that expected of an employer.

The demands placed on the farmer far exceed his capabilities, knowledge, and routine practices. One must question whether these expectations are reasonable for an average individual.

The concept of homo oeconomicus aligns with rational choice theory, which posits decision-making as a mental process grounded in logic and data analysis (Beaudry-Cyr, 2015). As defined by Levis and Milgrom (2004), rational choice involves 'determining what options are available and then choosing the most preferred one according to some consistent criterion. In a certain sense, this rational choice model represents an optimization-based approach' (p. 1). According to this theory, every decision is considered in light of the costs, risks, and potential benefits involved. Used predominantly within microeconomics, rational choice theory aids economists in understanding societal behavior through the lens of individual actions (Van de Ven & Lifschitz, 2013). This theory asserts that individuals make decisions consistently, reflecting their personal preferences. It proposes that all factors relevant to decision-making—including attitudes toward risk, aversion, sympathy, jealousy, loyalty, love, and justice—can be integrated into a preference hierarchy that influences all potential decision outcomes (Amadae, 2016). Since social scientists have only indirect access to these preferences through observable choices, they must rely on observed behaviors to infer a preference hierarchy that presumably

governs a rational agent's decisions. This theory, when applied to human behavior under conditions of uncertainty, depicts individuals as behaving similarly to the homo oeconomicus model (Mathis & David Steffen, 2015).

Some authors propose a different view on homo oeconomicus, especially when characterizing the rationality of his decisions (Kirchgässner, 2008; Watkins, 1970). Contrary to the simplistic portrayal of the homo oeconomicus as a perfectly rational being always making optimal choices, modern interpretations recognize that rationality entails individuals being capable of assessing and evaluating their range of actions and acting accordingly. However, this process is constrained by limitations such as incomplete information, the cost of acquiring additional information, and time pressures. Rational decision-making involves individuals systematically responding to changes in their action leeway, neither randomly nor strictly adhering to predefined rules (Kirchgässner, 2008).

In the subsequent paragraph, the judicial models are analyzed and compared to the conception of human nature as envisioned in rational choice theory.

#### **4. Judicial models of rationality and/or reasonableness**

The objective of this section is to analyze judicial models that serve as benchmarks for lawful behavior.

The first example of a human model significantly influencing the formulation of laws by judges and legislatures is the 'bad man' theory.

##### **4.1. Bad and good man theory**

According to the legal perspective defined by U.S. Judge O.W. Holmes and described 'from the point of view of a bad man,' the subject of law is portrayed as an amoral and calculating agent who assesses situations where state-imposed sanctions might be activated against him (Holmes, 1897). Holmes, occasionally referred to as a social Darwinist (Kang, 2016), argued that individuals adapt to changing laws in a manner similar to how they adapt to changing environments through evolution (Oniszczyk, 2012). This 'bad man' model is analogous to homo oeconomicus in that both engage in cost-benefit analysis, weighing potential gains against possible legal consequences. The 'bad man' operates with clear preferences and strategically makes decisions to achieve his materialistic goals, devoid of any ethical considerations (Grey, 1989). Alschuler characterizes the bad man as follows:

To a Holmesian bad man, law is a system of prices, and only material prices matter. The law's price may include damages, an injunction, a contempt citation, a fine, a prison term, or even death by hanging. Nevertheless, a man tough enough to pay the price always has the option of noncompliance with the law's directives. (1997, p. 412)

To better illustrate the model of behavior of the bad man, Alschuler compares it with the 'good man' model:

when deciding whether to obey a particular law, for example, the good man will not look at the penalty that may be imposed in the case of violation. Rather, the good man will look to the rightness or wrongness of the action at issue and will undertake just actions even where it is unprofitable to do so (e.g., performing a losing contract) while violating unjust laws without regard to the penalty imposed (e.g., Jim Crow laws). (1997, p. 412)

The motivation for undertaking lawful behavior differs between bad and good men. The former obeys the law to avoid sanctions, the latter because of moral values such as a sense of rightness,

goodness, and justice (Cohen, 1933). In the case of tort law, a good person will not commit a violation of the law because he is not interested in harming anyone at all. In contrast, a person behaving in accordance with a bad man model will make a calculation about the consequences of committing an offense taking into account the broader context (Luban, 1997). A bad man's course of action and calculation can be discerned most explicitly in the case of the law of contracts (obligations) and the tort law (Jimenez, 2011). Such an agent, if he honors contracts (i.e., obeys the law) does so out of consideration for the profits he can make and the losses he can avoid (Kennedy, 1976). A bad person follows the motto that sometimes it is profitable to fail to honor a contract, especially if economic considerations lead to such a conclusion (Stone, 2016). A good person, on the other hand, does not take these factors into account, and keeps contracts due to the internalization of the moral principle of keeping one's word (Fried, 2015).

This kind of distinction can also influence legislators when formulating normative acts (Jimenez, 2011). Depending on the model of the legal subject envisioned by the regulator, the resulting regulation may vary significantly in content. Jimenez describes this phenomenon as follows:

for instance, a lawmaker with the good man before his mind would likely attempt to “establish wholesome laws in a state” in order to make “his citizens virtuous,” whereas a legislator with the bad man before his mind would not worry much about appealing to his constituent’s hearts by enacting laws to make his citizens more virtuous, but would likely appeal to their minds by attaching sufficiently large penalties to laws deemed important enough to enforce. (p. 2079)

Jimenez points out that the bad man theory has had a profound impact on the design of contract law in the US:

today, the most ardent supporters of Holmes’s theory are those working within the law and economics paradigm, who have applied Holmes’s bad man view of contracts with particular force to the modern theory of efficient breach, which acts as the bad man’s shibboleth in distinguishing those who would invoke morality when determining one’s contractual obligations from those who would not. For instance, the strongest proponents of efficient breach theory not only acknowledge, as a descriptive point, the promisor’s right to breach a contract where doing so is efficient, but even go so far as to claim that the law should encourage, as a normative matter, such breaches. (p. 2079)

This awareness of one’s own preferences, alongside a well-considered strategy for satisfying these preferences and evaluating various options to achieve goals by optimizing profit paths, renders the described concept of the norm's addressee akin to homo oeconomicus (Gordon, 1997).

#### **4.2. Reasonable person standard**

The 'reasonable person' is a judicial standard established by Baron Edward Hall Alderson in the 1856 case of *Blyth v. Birmingham Waterworks Co.* and has since become prevalent in the American judiciary. This concept is frequently applied in civil negligence cases (Bajtelsmit & Thistle, 2008). It is characterized as a legal standard for lawful behavior (Seymour & Moran, 2004). In legal assessments, the conduct of each individual involved is evaluated against the actions that a hypothetical, reasonable person would undertake under identical circumstances (De Vinne, 2010). In legal practice, this model serves as a benchmark for judges to determine whether the defendant exercised the level of care and caution that an average person would in the same circumstances (Terry, 1915). A precise definition of the Reasonable Person Standard is provided in the context of negligence, which is described as 'the omission to do something

which a reasonable man, guided upon those considerations which ordinarily regulate the conduct of human affairs, would do, or doing something which a prudent and reasonable man would not do' (Blyth v. Birmingham Waterworks Co., p. 784).

A variety of conceptualizations concerning what negligent liability should encompass has been developed within legal scholarship. The most prevalent among these are: (1) the Reasonable Person Standard as a test of foreseeability; (2) cost-benefit assessments such as the Hand Formula; and (3) the Reasonable Person Standard as a basis for evaluating community norms (Votruba, 2013). The third conceptualization will not be discussed in this study due to the limited scope of the paper. In the first conceptualization, it is suggested that juries assess whether the injury would have been foreseeable to others based on a combination of the defendant's actions and the prevailing circumstances.

Regarding the second conceptualization, jurisprudential practice has seen the frequent application of the formula  $B = PL$ , known as the Learned Hand Formula. It has been described by Grossman et al., (2006) as follows:

The formula instructs potential tort parties to base their levels of precaution on three variables: (1) the probability,  $P$ , that an accident will occur; (2) the magnitude,  $L$ , of resulting harm, if any accident occurs, and (3) the cost of precautions,  $B$ , that would reduce the expected harm. Parties are supposed to factor these variables into a comparative benefit-cost analysis, prior to engaging in activities that might result in costly accidents, to determine efficient levels of care. (p. 2)

In summary, according to the Learned Hand Formula, if the cost of an accident (the monetary value of the damage,  $L$ ), when multiplied by the probability of its occurrence ( $P$ ), exceeds the cost of prevention ( $B$ ), then the accident should be prevented. Conversely, if  $B$  exceeds  $PL$ , the accident should not be prevented. This model is utilized by courts for *ex post* analysis of indicators of misconduct, and it presupposes that the parties involved have considered these factors prior to engaging in the misconduct (Hylton, 2015).

Legal theorists highlight a significant issue: it is challenging to define the behavior of a 'reasonable person' under specific circumstances (Gardner, 2001). Consequently, the jury's decision often becomes a substantive law applicable to the case (Green, 1968). Another concern is the rigid, legalistic definitions of terms such as 'reasonable man,' 'risk,' and 'burden of liability,' which are central to judicial decision-making in negligence cases. However, the way jurors comprehend these concepts or the psychological validity of the ethical-logical model articulating them has received scant attention (Battesini, 2020).

Legal practitioners and researchers have raised critical concerns in the literature (White, 1990; Stern, 2023; Moran, 2010; Seymour & Moran, 2004) regarding the difficulties of accurately estimating, both *ex post* and *ex ante*, the probability of an accident and subsequent damage (Hylton, 2015). The legal standard requires parties involved to conduct an analysis before an accident occurs, leading to a conclusion that they had anticipated the possibility of an accident and had implemented all necessary safeguards to prevent it and minimize harm. This analysis is structured as a cost-benefit analysis and necessitates the consideration of a broad array of variables that could influence the elements of the formula (Weil, 2023; Seymour & Moran, 2004). Consequently, it demands that legal subjects possess a substantial degree of knowledge to accurately estimate risks, evaluate potential impacts, and make informed predictions. However, courts often face challenges in assessing all these factors, due to limited access to necessary knowledge or because the parties involved may not possess or be able to provide such detailed information (Tejani, 2016). In such instances, the formula in question is seen as having limited practical value in determining the obligation to pay compensation.

As indicated by research and jurisprudential practice, the formula presumes a capacity to gather and assess data that legal subjects typically lack. Grossman et al. (2006) highlight that adhering to this requirement is often challenging:

Before the fact of an accident, individuals often do not know, even within a rough approximation, the probability that they will have an accident. Nor do they know the likely harm should an accident occur. That is to say, they do not possess the information the Learned Hand formula requires them to possess in order to perform the requisite *ex ante* calculations. (p. 2)

Criticism of the Learned Hand formula primarily centers on the requirement for legal subjects to perform complex calculations without clear guidance on how to execute them (Gilles, 1994). Furthermore, after an accident occurs, individuals are held accountable based on these expected calculations. Grossman et al. illustrate this issue with the following example:

An automobile driver has a lot of decisions to make: what brand and model of car to drive, what performance and safety equipment to purchase, what routes to take, what time of day to drive (or not to drive), how quickly or slowly to drive under various weather conditions and how to drive given the perceived behaviour of other drivers and non-drivers (e.g. pedestrians). Each of these decisions can bear on the probability of accidents, *P*, and the magnitude of harm, *L*, resulting from an accident. It is doubtful that the tort system, by itself, provides individual drivers with the information they would need to make such choices efficiently. (p. 18)

Such a task can only be managed by omniscient entities. From the perspective of research into individual decision-making processes and bounded rationality, it is clear that the formula in question projects an idealized image of the legal subject. This judicial model attributes traits to legal subjects that are nearly identical to those of the *homo oeconomicus* model.

#### **4.3. Due diligence model in Polish civil law**

An example of the legislator's assumption about the rationality of the law's recipients is illustrated by the due diligence model. This model has evolved within the doctrine of Polish civil law, particularly in judicial interpretations. Turczyn (2018) defines the due diligence model as follows:

the diligence generally required in dealings of a given kind. The standard of it is objective in nature, and in turn, its application in practice consists first in the selection of a model that establishes the optimal course of conduct under the given circumstances, appropriately concretized and socially approved, and then in comparing the behavior of the legal subject with such a pattern of conduct.

An individual operating under the due diligence model is expected to optimize decisions, anticipate developments, and weigh all potential outcomes and their consequences (KIO 2095/20). Motivated by self-interest, such individuals must also consider how their actions affect others. They are presumed capable of assessing and mitigating risks (II FZ 37/23). When assessing whether a legal agent's behavior deviates from the due diligence model, one must evaluate the extent of this inconsistency and the agent's ability to foresee the consequences based on their life experience. The standard for judging a legal subject's behavior, specifically the failure to exercise due diligence, should not be based on unattainable standards that are detached from practical experience, professional norms, specific circumstances, or the type of interaction involved (IV CK 151/03).



Legislators presume that every legal entity can and should adhere to the standard of due diligence. Ignoring basic, elementary precautions that are evident to most reasonable individuals constitutes gross negligence (I ACa 102/19). The level of these precautions' elementariness and their obviousness are judged according to the specifics of the situation, which relate not only to the legal subject itself but predominantly to the objective events leading to the damage (Balwicka-Szczyrba & Sylwestrzak, 2023).

To clarify and objectify the standard of the due diligence model, judicial authorities often refer to the principles of art, skill, or technique (II CSKP 585/22). The assessment of the degree of diligence must not be arbitrary; it requires verifiable standards. The due diligence model is typically more stringent when applied to entities considered professional, such as entrepreneurs (X GC 861/20). In tax law jurisprudence, due diligence is defined by considering the professional nature of the business activity. This definition underpins the heightened expectations placed on entrepreneurs regarding their skill, knowledge, meticulousness, reliability, preventative measures, and foresight (I SA/OI 539/22). It also encompasses an understanding of applicable laws and their implications for business operations. Furthermore, the boundaries of due diligence are defined by the principles of prudence and reasonableness (Kanka, 2021).

A comparative analysis between the idealistic *homo oeconomicus* and judicial models of the legal subject—grounded in theories such as the 'bad man', the Learned Hand formula, and the due diligence model—reveals notable similarities.

Table 1.

<i>homo oeconomicus</i> (=Econ)	bad man model & Learned Hand formula	due diligence model
the economic agents are motivated to maximize the expected utility	legal subject is motivated to maximize the expected profit and minimize or avoid sanction	legal subject aims to avoid losses and acts in its own interest
the agent has only selfish motives in a narrow sense, that is, no consideration of the utility that others maximize	legal subject is amoral and selfish	legal subject acts in its own interest, which does not exclude that it may also act in the interests of others
agent tries to earn a value that is the result of the utility and the probability of achieving it	legal subject tries to earn a value that is the result of the material profit and the probability of achieving it	-
agent acts on the basis of accurate and complete information and has unlimited possibilities to process it	legal subject acts on the basis of accurate and complete information and have unlimited possibilities to process it	legal subject makes decisions on the basis of a range of collected and considered information
agent has preferences that are consistent over time	legal subject knows his preferences and acts accordingly	legal subject knows his preferences and what is in his interest
he calculates using cost-benefits analysis	he calculates using cost-benefits analysis	he estimates the outcomes of multitude of options
he operates within the framework of logical thinking	he operates within the framework of logical thinking	he bases its reasoning on logic
he assess the risk	he assess the risk by comparing the probability of accident occurring, the cost of prevention and the monetary value of damages	he is capable of estimating risks and preventing them
he predicts	he predicts in order to maximize the profit and avoid losses	he considers all possible options of how the situation may develop, and considers the possible consequences of his actions
agent acts in a rational way	legal subject acts in a rational way	he is rational

## **5. Revision of homo oeconomicus concept and of the theory of rational choice**

As previously noted, neoclassical economics, particularly the notion of homo oeconomicus, has encountered significant criticism due to its premises failing to align with real human behavior.

Firstly, the assumption of perfect information seldom holds true in practical situations. Agents frequently operate within contexts characterized by limited, asymmetric, or uncertain information (Riordan, 1984; Glen, 2010; Sullivan, 2016). This imperfect information environment influences decision-making processes and complicates the presumed direct correlation between awareness of legal provisions and adherence to them (Levin & Milgrom, 2004).

Secondly, the homo oeconomicus model assumes rational decision-making, positing that agents consistently make logical, calculated choices to maximize their utility. Deterrence theory posits that prior to engaging in unlawful behavior and committing a criminal act, the legal subject conducts a cost-benefit analysis. (Beaudry-Cyr, 2015). However, decades of research in cognitive psychology and behavioral economics have shown that human decision-making is often far from rational (Şimşek, 2022; Fox, 2015). Nobel Prize winner Herbert Alexander Simon, an American social scientist, criticized economists' reliance on the rationality of economic agents and advocated for a more realistic perspective on human decision-making called bounded rationality. Simon proposed replacing the homo oeconomicus model with 'homo satisfaciendus,' a concept representing individuals who make choices based on limited rationality and fulfill their needs satisfactorily rather than optimally (Simon, 1997). Simon argued that individuals lack the capacity to gather all necessary information for optimal decision-making, leading them to adopt suboptimal strategies. Leibenstein (1976) advanced the concept of selective rationality, which diverges from the conventional optimization paradigm. He argued that individuals do not strive to maximize utility across all available options. Instead, their responses to opportunities and constraints are modulated by their personalities and external pressures. This perspective challenges the traditional rational choice theory by highlighting the heterogeneity in individual behavior and the significant impact of contextual factors on decision-making processes. The human mind's limited ability to process information means decisions are often made under conditions of uncertainty (Korobkin, 2003). Individuals seek to minimize cognitive effort during mental tasks, leading decisions to be influenced by factors like strong emotions or time pressure (Tversky & Kahneman, 1974). Cognitive biases, emotional influences, social pressures, cognitive load, and availability heuristics significantly affect decision-making, often resulting in outcomes deviating from rational or optimal choices (Henrich et al., 2005; Kahneman & Tversky, 1982). Studies suggest that decisions made in uncertain situations often rely on heuristics, cognitive shortcuts, and rules of thumb (Thaler, 1986). Heuristics are rapid opinions that facilitate decision-making under time constraints or limitations in processing accurate information (Orlik, 2017).

Criticism of rational choice theory has surfaced within scholarly discourse across the disciplines of psychology, economics, and sociology. As Boudon (2003) asserts, referring to Becker's words (Becker, 1996), the credibility of a theory of rational choice diminishes when it invokes certain factors, such as psychological forces like cognitive bias that cause incorrectness of responses to statistical problems. Secondly, biological forces such as biological evolution being portrayed as a source of moral sentiments. And third, cultural forces, since sociologists argue that certain collective beliefs result from socialization. In the case of these three factors, rational choice theory fails to offer adequate explanations and consequently prompts further inquiries. The author references several phenomena of human behavior, such as voter behavior, the plagiarism paradox, and corruption, which cannot be adequately explained by traditional rational choice theory.

Further criticism of the *homo oeconomicus* model in the context of characterizing agents revolves around its assumption that individuals are driven solely by self-interest and will always act to maximize their personal benefit (Hodgson, 2000; Mansbridge, 1990; Miller, 1999). This perspective is limiting because it disregards the influence of empathy, altruism (Korsgaard, & Meglino, 2008), social norms, and other prosocial behaviors on human actions (Fehr & Gächter 2000; Henrich et al., 2005; Fehr et al., 2002). Legal subjects are not isolated entities; they exist within a societal framework where communal interests and mutual cooperation often shape behavior (see *homo politicus*, Faber et al., 2002; and *homo corporativus*, Bastien & Cardoso, 2007).

Moreover, another challenge lies in the assumption within the *homo oeconomicus* model that individuals have static preferences, maintaining consistent objectives unaffected by contextual or framing effects. This assumption has faced criticism for its lack of alignment with observed human behavior, which is often better explained by social preferences rooted in reciprocity, aversion to inequality, envy (or spite), and altruism (Bowles, 1998). Nadler (2017) argues that individuals act as rule-following adaptive agents, whose actions are governed by internalized social norms, belonging to specific social in-groups, and reinforced by social sanctions. Furthermore, behaviors are context-dependent, influenced by social situations, with individual preferences being situation-specific and endogenous, evolving over time. Behavioral research indicates that how choices are presented, or 'framed,' can significantly impact decision-making (Rothman et al., 2006; Levin, 1987; Levin et al., 1988). This highlights the fluidity of preferences and the significant role of situational factors in shaping decisions (Knoll, 2010).

Finally, the *homo oeconomicus* model fails to consider disparities in cognitive abilities, resources, and access to legal support among legal subjects. These inequalities can impact individuals' capacity to comprehend and respond to legal regulations, rendering the assumption of a universally rational and well-informed legal subject unrealistic.

In summary, the most common criticisms of the *homo oeconomicus* model are as follows: (1) human rationality is constrained by cognitive limitations that hinder the ability to make fully rational choices; (2) economic agents' behavior tends to be adaptive rather than purely optimizing; and (3) economic agents are not always 'maximizers,' but rather seek to achieve satisfactory outcomes in their actions (Doucouliagos, 1994).

## 6. The philosophy of nudge

The human cognitive process is prone to deviations from probabilistic assessments (Evans et al., 1993; Manktelow, 1999). Upon examining the actual process of thinking, decision-making, and responses to external stimuli, it becomes evident that the rationality-based model no longer accurately describes reality (Stein, 1996; Stich, 1985). Consequently, the notion that *homo oeconomicus* serves more as a normative model than a descriptive one has gained traction (Giza, 2014).

Behavioral economics offers an alternative approach to understanding economic decision-making, integrating insights from psychology and cognitive science to enhance predictions of individual behavior. One of the most influential concepts from behavioral economics in legal theory is the notion of "nudging." Marchiori et al. define nudging as follows:

Nudging elaborates [...] on previously existing knowledge about automatic psychological processes and related phenomena. As such, nudging is not a new research field, but a clever application of knowledge on behavior change and decision-making, that is now finding its way into policy making and consumer welfare. (2017, p. 3)

A definition of nudge formulated by Reijula et al. (2018) is as follows:

[...] nudges are soft interventions that improve people's welfare by manipulating the choice architecture of a situation in a way that helps to eliminate or mitigate a decisional inadequacy or a psychological bias. By using easily reversible means, a nudge should influence the nudger's behavior towards a choice that he/she would ultimately be happy with. (p. 2)

Regulation based on the nudge philosophy involves crafting laws with the average citizen in mind (meaning, a person making repetitive and predictable cognitive errors), rather than the idealized homo oeconomicus (Kahneman et al., 1982; Kahneman & Tversky, 2000; Goyens et al., 2018). In order for lawmakers to devise regulations that address cognitive limitations, they must recognize human nature, which often diverges from the perspective of neoclassical economists (Sunstein et al., 1998). Laws formulated in this manner differ from those tailored to accommodate Econs. This fundamental distinction between non-behavioral and behavioral regulations lies at the heart of the matter.

I define behavioral regulations as the legal provisions formulated on the basis of knowledge about cognitive biases and heuristics that underpin the decision-making processes of legal subjects. These regulations influence the decisions of legal subjects by leveraging mechanisms associated with social norms, cognitive errors, heuristics, rules of thumb, or automatic responses to a stimulus. Non-behavioral regulations, on the other hand, are those that generally operate on the assumption that legal entities comply with laws due to fear of punishment or are motivated by a sense of compulsion to act in accordance with legal provisions due to the authority of the legislator. A more detailed examination of the distinctions between behavioral and non-behavioral regulations will be discussed in the 'case study' section below, which will explore regulations aimed at enhancing street safety.

The essential features of nudging are typically delineated within the framework of libertarian paternalism. As emphasized by Thaler and Sunstein (2009), nudging is a method of influencing people's behavior toward certain outcomes without impinging on their freedom of choice.

In this study, the paramount aspect of regulation informed by insights from behavioral economics lies in the evolving perception of human nature and the ramifications of policymakers adopting a more realistic portrayal of individuals, rather than an idealized one. This approach entails shaping choices in a manner that targets individuals' cognitive biases to gently steer them towards specific decisions. Behavioral regulations are crafted with Humans in mind.

The difference between Econ and Human has been succinctly presented in the table below.

Table 2.

<b>Econ - <i>homo oeconomicus</i></b>	<b>Human - <i>homo behavioralis</i></b>
the economic agent is motivated to maximize the expected utility	agent is influenced by intrinsic motivations and considerations such as fairness, altruism, and reciprocity (Bassi et al., 2013)
the agent has only selfish motives in a narrow sense, that is, no consideration of the utility that others maximize	his decisions are not solely based on self-interest but also on moral judgments and social norms (Goldstein et al., 2008); agent often makes decisions that result in outcomes misaligned with his long-term interests (Thaler, 2015)
agent tries to earn a value that is the result of the utility and the probability of achieving it	agent often aims for satisfactory outcomes that are "good enough," reflecting the concept of satisficing, where decisions are made based on acceptable thresholds rather than optimal returns (Simon, 1997)
agent acts on the basis of accurate and complete information and have unlimited possibilities to process it	agent acts on the basis of limited, often inaccurate information and possess restricted cognitive processing capabilities (Sullivan, 2016)
agent has preferences that are consistent over time	agent's preferences are not always clear or consistent; they can change based on context, emotional states, temporal aspects, and

<b>Econ - <i>homo oeconomicus</i></b>	<b>Human - <i>homo behavioralis</i></b>
	hyperbolic accounting (Huffman & Barenstein, 2005; Knoll, 2010)
he calculates using cost-benefits analysis	instead of relying solely on cost-benefit analyses, agent uses heuristics and rules of thumbs that are prone to errors (Thaler & Sunstein, 2009)
he operates within the framework of logical thinking	agent is influenced by his cognitive and emotional states, which can override logical thinking; decisions are frequently affected by immediate emotional responses, situational factors, habits, and cognitive biases such as for example confirmation bias, omission bias, default bias, or framing effect
he assess the risk	perception of risk is influenced by factors such as fear, anxiety, and past experiences, rather than a detached calculation of probabilities and outcomes (Yin & Lui, 2024)
he predicts	agent often focuses on immediate, short-term gains rather than long-term consequences (Hepburn et al., 2010)
agents act in a rational way	the actions of an agent can sometimes be irrational (Yamane et al., 2012), influenced by cognitive biases, social pressures, and limitations in information processing abilities (Hanoch et al., 2017)

The practical workings of nudging are most effectively elucidated through examples of public interventions. The subsequent section conducts a comparative analysis of behavioral and non-behavioral strategies aimed at addressing a chosen regulatory issue. Such a comparison serves to illuminate the assumptions made by lawmakers regarding the subjects of the law.

## 7. Case study - road safety

A multitude of non-behavioral regulatory measures are in place to enhance road safety. These include penalties such as hefty fines and imprisonment for exceeding speed limits or driving under the influence, as well as repercussions for disregarding seat belt laws, affecting both drivers and passengers. These regulations are tailored with a specific legal audience in mind and are crafted to engage cognitive System 2, as described by Kahneman—an analytical, conscious process requiring significant effort (2012). They operate on a straightforward principle: if you engage in a certain behavior (x), you will face consequences. The law is typically constructed on an implicit premise that legal subjects have a vested interest in avoiding sanctions, as no one desires the inconvenience of financial loss, loss of driving privileges, or imprisonment (Jackson et al., 2014; Tyler, 2007; Kahan, 1999; Nagin, 1998). Furthermore, the construction of the law is based on the assumption that legal subjects are cognizant of their own preferences, particularly their desire to preserve life and health, and that these preferences will manifest in their actions—thus, they are inclined to avoid risky behaviors such as speeding or drinking alcohol (Cann & Yates, 2020). The construction of the binding law is based on the assumption that citizens obey the law because of their adherence to the authority of the lawmaker (Tyler, 1990). Notably, the design of these regulations lacks elements that would activate cognitive System 1, characterized by Kahneman as a swift, habitual, and instinctive mode of thinking (2012).

In contrast, behavioral interventions are designed to engage cognitive System 1, as they aim to guide individuals in a desired direction with minimal effort on their part. These interventions draw upon insights from behavioral economics and psychology, recognizing that human behavior can be irrational and influenced by cognitive biases, social context, and emotions. Nudges, a prominent example of behavioral interventions, are implemented through various design features that prompt automatic and intuitive responses from individuals (Mont et al., 2014). For instance, road designs such as narrowed lanes or the addition of bicycle lanes

capitalize on the natural tendency of drivers to slow down in response to these physical cues (Texas A&M Transportation Institute, 2015). Similarly, seat belt reminders—such as warning sounds or light signals—in cars are designed to address instances where individuals may forget to buckle up despite their intention to do so (Fildes et al., 2003). By offering a timely reminder, these nudges encourage individuals to adopt the desired behavior before driving. Additionally, anti-drunk driving campaigns often utilize social norms to deter drunk driving behaviors. By highlighting that drunk driving is socially unacceptable or emphasizing that the majority of people choose to designate a sober driver, these campaigns aim to shape individuals' behavior based on prevailing social attitudes (Perkins et al., 2010).

When lawmakers opt to employ nudges, it reflects their acknowledgment of human imperfections such as inattentiveness, limited risk assessment abilities, fatigue, and the finite cognitive resources individuals have available for conscious decision-making (Balawi & Ayoub, 2023). Unlike traditional regulatory approaches that rely on the logical equation of "behavior  $x$  = sanction  $y$ ," nudges are designed to elicit responses based on automatic and nearly effortless reactions (Van Gestel et al., 2020). For example, when individuals encounter signs with specific colors or shapes, these stimuli trigger automatic responses that bypass the need for conscious reflection or analysis (Rubaltelli et al., 2021). Similarly, media coverage highlighting social condemnation of drunk driving prompts a natural inclination among individuals to conform to societal expectations (Negi et al., 2020). Generally, people tend to align their behavior with prevailing social norms and avoid actions perceived as socially unacceptable (Gross & Vostroknutov, 2022). Hence, social campaigns function as nudges by leveraging social norms to influence behavior.

## **8. Conclusions**

Non-behavioral regulatory tools rely on the assumption of rational decision-making and typically employ penalties to ensure compliance, while nudges take into account the cognitive and social influences that shape individuals' behavior, using these insights to subtly guide them towards safer choices.

The transition from a non-behavioral to a behavioral approach to legal regulations signals a shift towards accepting a more realistic view of human nature, as advocated by Thaler's concept of the Human model. This shift has prompted many governments to establish nudge units and implement behavioral interventions aimed at improving societal outcomes (Benartzi et al., 2017).

As a result of this research, we propose the introduction of a Folk Standard for legal subjects. This model can serve as a guideline for lawmakers, such as government or parliament when drafting and issuing laws.

In the context of judicial work, we propose that judges should not confuse the requirement of rationality with the clause of reasonableness, as such conflation of these two concepts often leads judges to hold legal subjects accountable based on a standard of rationality that parallels the unrealistic model of *homo oeconomicus*. This confusion is aptly demonstrated through a comparative analysis between judicial models and the model of instrumental rationality that characterizes Econs. It is crucial for the judicial process to distinguish clearly between reasonableness and rationality standards to ensure that legal assessments are grounded in a more accurate and realistic understanding of the human thinking process and actions.

The intention is not to lower the level of responsibility so that people can behave recklessly. Instead, it is to educate judges and lawmakers about human nature, enabling them to approach

the task of lawmaking or law enforcement in a more human-centric manner, rather than solely relying on the homo oeconomicus model.

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### **Court rulings:**

- IV CR 49/85, OSNC 1985/12/200 (Polish Supreme Court 1985).
- III CKN 71/98, OSNC 1999/5/99 (Polish Supreme Court 1998).
- I CKN 1483/99, OSNC 2003/1/9 (Polish Supreme Court 2002).
- IV CSK 581/13, LEX no 1498823 (Polish Supreme Court 2014).
- XVII AmE 296/20, LEX nr 3244978 (Court of Competition and Consumer Protection 2021).
- IV CK 151/03, LEX nr 151642 (Polish Supreme Court 2004).
- KIO 2095/20, LEX nr 3082204 (The National Appeals Chamber 2020).
- II FZ 37/23, LEX nr 3563607 (Supreme Administrative Court 2023).
- II CSKP 585/22, OSNC-ZD 2023/2/24 (Polish Supreme Court 2022).
- X GC 861/20, LEX nr 3561736 (district Court in Łódź 2022).
- I SA/Ol 539/22, LEX nr 3490151 (Provincial administrative courts in Olsztyn 2023).
- I ACa 102/19, LEX nr 2729400 (Appeal Court in Szczecin 2019).
- Blyth v Birmingham Waterworks Co, 11 Ex 781 (1856).

### **Provisions:**

- Ordinance of the Minister of Agriculture and Food Economy dated January 12, 1998 on occupational safety and health when operating tractors, machinery, tools and technical equipment used in agriculture (Journal of Laws No. 12, item 51).
- Bill on compulsory insurance, the Insurance Guarantee Fund and the Polish Motor Insurance Bureau from May 22, 2003.
- Labour Code of 26 June 1974 (Journal of Laws No. 24 item 141).