

ARTICLE

The Concept of Future Fact-Finding in Law

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Abstract

This Article explores future fact-finding as a distinct subject of legal research. Usually, legal decision makers, such as judges, decide cases based on past or present facts. However, sometimes, legal norms oblige them to engage in future assessments. The Article argues that future fact-finding is fundamentally different from past or present fact-finding and should be treated as a separate legal phenomenon. It conceptualizes this practice in a legal context and sketches an initial theoretical framework for thinking about and engaging in future fact-finding. To do this, the Article draws on philosophical (epistemological) insights and applies a classical doctrinal method by examining positive law, case law, and doctrine.

Keywords: Future fact-finding; evidence law; legal decision-making; epistemic uncertainty; prediction in law

A. Introduction

Every legal process, such as a court trial or administrative procedure, consists of two key elements: facts and law. This Article focuses on the first—more specifically, on “facts” about the future. Typically, legal fact-finders examine past or present facts. For example, in a criminal homicide trial, the judge must determine *past* facts—who, when, where, how, and why the victim was killed. In a civil trial regarding construction defects, the judge must determine *present* facts—whether the building meets the contractual requirements.

But sometimes, legal decision-makers must base their decisions on predictions about what might happen in the future. Probably the most common example is interim relief in court proceedings. The court’s decision on whether to grant interim relief usually depends on conditions such as the likelihood of success in the main action and the risk of irreparable harm. In deciding whether these conditions exist, the court is obliged to predict the future, for example, how likely it is that the claimant will win the case, and how likely it is that irreparable harm will occur if interim relief is denied. Future fact-finding is not limited to procedural law or specific areas of law; it appears across various legal fields. For instance, in criminal law, the future dangerousness of a suspect or convict may justify pre-trial detention or a harsher punishment. In civil law, courts may award future damages. In administrative law, a foreigner may be expelled from a country if their presence is deemed a threat to national security.

This Article does not focus on a single area of law. Instead, it aims to provide a universal theoretical framework for thinking about and engaging in future fact-finding in various legal contexts. It argues that future fact-finding is a distinct legal concept—one with features that differentiate it from past or present fact-finding. Recognizing this helps to better understand, apply, and improve future fact-finding in legal practice. The Article also contributes to the

growing body of research on factual uncertainty in law.¹

Although future fact-finding and its distinction from past or present fact-finding are acknowledged in both case law² and scholarship,³ the concept itself is largely unexplored as an independent legal subject.⁴ For example, Judge Zupančič of the European Court of Human Rights (ECtHR), in his concurring opinions, noted that “the legal paradigm is retrospective” and that “[l]egal theory has [...] not offered any ready-made solutions” to the issue of future fact-finding.⁵ He observed that a classical legal dispute typically has procedural features that make it retrospective, concerned with only past events—facts. As a result, according to Zupančič, “[e]pistemologically, the law of evidence is predicated on the historical method, not on the assessment of future probabilities.”⁶ This Article seeks to address that gap—highlighted, among others, by Judge Zupančič.

The Article is based on two main methodological pillars. First, it relies on the classical doctrinal method, focusing on positive law, case law, and legal doctrine, particularly related to evidence law. Although most of the positive law examples used are from legal systems most familiar to the author—Lithuania, the European Union (EU), and the Council of Europe—the approach taken here is jurisdictionally universal and relevant to any legal system. Second, the Article employs an interdisciplinary method, combining doctrinal analysis with insights from philosophy, especially epistemology.

The Article is structured into five sections: Identification of future fact-finding in positive law (Section B); defining the purpose of future fact-finding (Section C); describing its epistemic limits (Section D); providing justification and legitimization (Section E); and discussing its procedural characteristics (Section F).

B. Identifying Future Fact-Finding in Positive Law

To define the subject matter of this Article, this section identifies legal rules that enshrine future fact-finding. These rules appear across different branches of law—both procedural and substantive—and span civil, private, criminal, administrative, and constitutional law.

As mentioned, in procedural law, future fact-finding is present in cases involving interim relief. Beyond civil or administrative court proceedings, precautionary measures are also widely used in criminal proceedings. For example, alternative grounds for a suspect’s arrest may include a reasonable belief that the suspect: (i) will flee or hide from authorities; (ii) will obstruct the proceedings; or (iii) will commit further crimes.⁷ In such cases, the judge must decide on the suspect’s liberty based on predictions about the suspect’s future behavior.

Future fact-finding is also present in substantive criminal law, particularly in sentencing and penal decisions. For instance, a judge may select a sentence based, in part, on the convict’s

¹See generally *Uncertainty in Comparative Law and Legal History: Known Unknowns* (Andrew James Bell & Joanna Heather McCunn eds., 2024); *EU Environmental Principles and Scientific Uncertainty Before National Courts: the Case of the Habitats Directive* (Mariolina Eliantonio, Emma Lees & Tiina Paloniitty eds., 2023).

²See *infra* Sections C, D.II, E, F.

³See, e.g., KEVIN M. CLERMONT, *A GENERAL THEORY OF EVIDENCE AND PROOF: FORMING BELIEFS IN TRUTH* 5 (2024); NICHOLAS LENNINGS, *STATISTICS IN THE LAW OF EVIDENCE* 102–03 (2024). See generally HENDRIK KAPTEIN, HENRY PRAKKEN & BART VERHEIJ, *LEGAL EVIDENCE AND PROOF: STATISTICS, STORIES, LOGIC* (2009).

⁴See generally Fernando Castillo de la Torre, *Predicting the Future: Evidential Basis for Prospective Assessments in EU Merger Control*, in JUDGING & (RE) THINKING EUROPEAN UNION LAW—LIBER AMICORUM IN HONOUR OF NILS WAHL (Luca Prete & Leila Rezki, eds.) (2026) 31 (providing an uncommon exception exploring future fact-finding).

⁵*Scozzari and Giunta v. Italy*, App. Nos. 39221 and 41963/98, Concurring Opinion of Judge Zupančič, 54 (Jul. 13, 2000), <https://hudoc.echr.coe.int/eng?i=001-58752>; *Saadi v. Italy*, App. No. 37201/06, Concurring Opinion of Judge Zupančič, para. 1 (Feb. 23, 2008), <https://hudoc.echr.coe.int/eng?i=001-85276>.

⁶*Scozzari and Giunta*, App. Nos. 39221 and 41963/98, Concurring Opinion of Judge Zupančič, at 55 of the judgment.

⁷Lietuvos Respublikos baudžiamojo proceso kodeksas [Code of Criminal Procedure of the Republic of Lithuania] 2002, No. IX-785 art. 122(1).

potential future dangerousness.⁸ The risk of future criminal behavior can also affect imprisonment conditions.⁹

In substantive civil and private law, future fact-finding is also present. A court may award damages not only for harm that has already occurred but also for future damages, provided there is a realistic likelihood of their occurrence.¹⁰ A plaintiff may also bring a preventive action—a request to prohibit future conduct that poses a real risk of harm.¹¹ In insolvency proceedings, a court may reject a restructuring plan if it is obvious that the proposed measures will not help the legal entity overcome financial difficulties, preserve viability, or avoid bankruptcy.¹²

Future fact-finding is very common in administrative law, especially when public authorities must make so-called “prospective decisions.” For example, a regulator may oppose the proposed acquisition of a credit institution if, after the acquisition: (i) the institution would not be able to meet prudential requirements; or (ii) there are reasonable grounds to suspect that the acquisition could increase the risk of money laundering or terrorist financing.¹³ A foreign national may be deported if their presence threatens national security or public order.¹⁴

Future fact-finding is also increasingly relevant in environmental law. For instance, a regulator may refuse to issue a license for an economic activity if the environmental impact assessment predicts that the activity would pose a risk of undesirable consequences for the environment.¹⁵

Even constitutional law includes cases of future fact-finding. For example, the Lithuanian Constitutional Court has the authority to assess whether the President’s health condition allows them to continue holding office.¹⁶ In such a case, the Court must assess the current health status of the President and predict whether they will remain capable of serving in the role.

In conclusion, future fact-finding is a legal phenomenon in which a decision-maker, such as a judge, must predict future facts in order to apply a legal provision, as the outcome of the case depends on that prediction.

C. The Purpose of Future Fact-Finding

The discussion on future fact-finding should begin with defining its purpose. In traditional evidence law scholarship, which concentrates on past and present fact-finding,¹⁷ many agree that the main purpose of fact-finding is to determine the truth. Various philosophical theories have been used to define truth in the legal context.¹⁸ Probably the most common is the correspondence theory. The simplest explanation of this theory is that a proposition or sentence is true when it

⁸TEX. CODE CRIM. PROC. ANN. art. 37.071, § 2(b)(1) (West 2023).

⁹Lietuvos Respublikos bausmių vykdymo kodeksas [Code of Execution of Sentences of the Republic of Lithuania] 2022, No. IX-994 art. 36.

¹⁰Lietuvos Respublikos civilinis kodeksas [Civil Code of the Republic of Lithuania] 2000, No. VIII-1864, art. 6.249(3).

¹¹*Id.* art. 6.255(1).

¹²Lietuvos Respublikos juridinių asmenų nemokumo įstatymas [Law on the Insolvency of Legal Persons of the Republic of Lithuania] 2019, No. XIII-2221, art. 111(3)–(4).

¹³Lietuvos Respublikos bankų įstatymas [Law on Banks of the Republic of Lithuania] 2004, No. IX-2085, art. 25(8).

¹⁴Lietuvos Respublikos įstatymas dėl užsieniečių teisinės padėties [Law on the Legal Status of Foreigners of the Republic of Lithuania] 2004, No. IX-2206, art. 126(1)(3).

¹⁵Lietuvos Respublikos aplinkos apsaugos įstatymas [Law on Environmental Protection of the Republic of Lithuania] 1992, No. I-2223, art. 15.

¹⁶Lietuvos Respublikos Konstitucija [Constitution of the Republic of Lithuania] 1992, art. 105(3).

¹⁷See e.g., *Scozzari and Giunta*, App. No. 39221 and 41963/98, Concurring Opinion of Judge Zupančič, at 55 of the judgment (“Epistemologically, the law of evidence is predicated on the historical method not on the assessment of future probabilities.”); *Saadi*, App. No. 37201/06, Concurring Opinion of Judge Zupančič, para. 1 (“[L]egal paradigm is retrospective. Legal process as a conflict-resolution context, together with all its evidentiary apparatus, is always retrospective.”).

¹⁸See, e.g., Hock Lai Ho, *Evidence and Truth*, in *PHILOSOPHICAL FOUNDATIONS OF EVIDENCE LAW* 11, 11–12 (Christian Dahlman, Alex Stein & Giovanni Tuzet eds., 2021); see generally Viktor Gazda, *Theories of Truth in Legal Fact-Finding*, in *THEORY OF LEGAL EVIDENCE – EVIDENCE IN LEGAL THEORY* 149 (Verena Klappstein & Maciej Dybowski eds., 2021); SUSAN HAACK, *EVIDENCE MATTERS: SCIENCE, PROOF, AND TRUTH IN THE LAW* 298–305 (2014).

corresponds to an appropriate fact—something that exists in the world and makes the proposition or sentence true.¹⁹ However, this theory does not work in the case of future fact-finding. The object of future fact-finding is future circumstances, not concrete facts that already exist at the time of the “finding.” Therefore, there is nothing in the real world that could, in theory, correspond to a statement about potential future circumstances.

What can serve as a reference point for defining the purpose of future fact-finding are the legal provisions that deal with it. The provisions discussed in Section B are dominated by wording such as “threat,” “danger,” “probability,” “plausibility,” “fear,” “may,” et cetera. Sometimes, the structure of the legal norm involves phrases such as “reasonable belief that X will happen.” This language suggests two possible interpretations of the purpose of future fact-finding. First, the purpose is to determine the *likelihood (probability, risk) of the asserted future fact*. Second, the purpose is to *predict the future event*—that is, to make a bivalent decision: Yes or no, with nothing in between. Thus, future fact-finding is not about determining the truth but rather about assessing probabilities or making definitive predictions about future occurrences.

While linguistic analysis suggests these two potential goals, a closer examination reveals that the first—determining the risk, or the likelihood or probability, of the asserted future event—offers a more accurate explanation. There are several reasons for this. First, most legal norms concerning future fact-finding include multivalent terms as “threat,” “danger,” “probability,” “plausibility,” “fear,” and “may,” rather than the bivalent—categorical—“will.” Second, this approach better reflects the epistemic limitations of future fact-finding—namely, the inability to predict the future with high certainty because it is yet to occur during the “finding”—discussed further in the next section. It would be unreasonable and unjust to require the parties to argue, and the court to make categorical predictions about future events that have not yet occurred. Third, even in legal norms that use the word “will,” research shows that people tend to interpret such statements with a modal meaning.²⁰ In other words, when someone says, “she will win,” what they actually mean is “she might win.”²¹

The idea that future fact-finding is about determining risk, rather than making categorical predictions, is also supported by case law and doctrine. For instance, in one of its judgments regarding arrest, the Court of Appeal of Lithuania essentially stated that the concept of reasonable belief does not require evidence, and explained that the grounds for arrest are “prospective grounds, i.e., on the basis of a reasonable presumption—an assumption that the detainee is likely to take action in the future that is prejudicial to the proceedings.”²² According to the settled case-law of the Court of Justice of the European Union (ECJ) in cases concerning interim relief, the applicant must “show that damage is foreseeable with a sufficient degree of probability” to establish the existence of serious and irreparable harm²³ but does not have to “prove” future harm with high certainty. The ECtHR has stated that “requesting an applicant to produce ‘indisputable’ evidence of a risk of ill-treatment in the requesting country would be tantamount to asking him to prove the existence of a future event, which is impossible, and would place a clearly disproportionate burden on him.”²⁴ In the competition law context, Fernando Castillo de la Torre,

¹⁹ANDREW NEWMAN, THE CORRESPONDENCE THEORY OF TRUTH: AN ESSAY ON THE METAPHYSICS OF PREDICATION 1 (2002).

²⁰See generally FABRIZIO CARIANI, THE MODAL FUTURE: A THEORY OF FUTURE-DIRECTED THOUGHT AND TALK (2021); Malte Willer, *Review of The Modal Future: A Theory of Future-Directed Thought and Talk* (Fabrizio Cariani), NOTRE DAME PHIL. REV. (Nov. 4, 2022), <https://ndpr.nd.edu/reviews/the-modal-future-a-theory-of-future-directed-thought-and-talk/>.

²¹CARIANI, *supra* note 20, at xxiii–xxiv.

²²The Court of Appeal of Lithuania, Order in Criminal Case No. 1S-328-487/2023 (Dec. 4, 2023), para. 12, <https://liteko.teismai.lt/viesasprendimupaiska/tekstas.aspx?id=2a8e1973-ac8e-4102-b830-789bf98ad919>.

²³See ECJ, Case C-878/24 P(R), *Alhares for Security Services and Occupational Safety v. EUBAM Libya*, ECLI:EU:C:2025:256 (Apr. 9, 2025), para. 23, <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62024CO0878>. See also KOEN LENAERTS, KATHLEEN GUTMAN & JANEK TOMASZ NOWAK, EU PROCEDURAL LAW 559 (2d ed. 2023); K. P. E. LASOK, EUROPEAN COURT PRACTICE AND PROCEDURE 748 (4th ed. 2022).

²⁴*Rustamov v. Russia*, App. No. 11209/10, para. 117 (Jul. 3, 2012), <https://hudoc.echr.coe.int/?i=001-111841>.

the principal legal advisor of the European Commission's Legal Service Competition and Mergers team, has similarly observed that merger review cases, in which a regulator evaluates whether the merger will cause "significant impediment of effective competition," are *not* about ascertaining the truth about something that happened but concern estimation of probability about whether something will happen in the future; therefore, the assessment involved is "proving a probability."²⁵ The ECJ has also said that in the exercise of *ex ante* review of concentrations, the Commission "carries out prospective economic analyses seeking to determine the *likelihood* of certain developments in the relevant market."²⁶ According to the ECJ:

A prospective analysis [. . .] does not entail the examination of past events—for which often many items of evidence are available which make it possible to understand the causes—or of current events, but rather a prediction of events which are *more or less likely to occur in future* if a decision prohibiting the planned concentration or laying down the conditions for it is not adopted.²⁷

These examples show that courts do not require parties to "prove" asserted future circumstances in the same way they must prove past or present facts to the extent that the court could make a categorical, bivalent judgment.

However, although this position appears logical, it is not consistently followed in case law. Courts occasionally treat future fact-finding as a binary exercise—aimed at proving whether a future event will or will not occur. For example, in one of its orders regarding arrest, a Lithuanian court said that the "fact that the defendant was previously wanted by the police *does not* in itself *prove* that, if released from custody, the defendant will hide in this case."²⁸ In another case concerning interim measures, another Lithuanian court concluded that "the applicant has not proven the fact of irreparable or difficult-to-repair damage."²⁹ As discussed, legal decision-makers should avoid such reasoning, as it overlooks the epistemic limitations inherent in predicting future events and imposes an excessively high standard of proof.

Therefore, the purpose of future fact-finding in law is to *determine the likelihood—probability—of a legally significant future event*. This purpose should not be framed in terms of "truth," as with past or present fact-finding, nor as a categorical prediction, which would amount to an impossible prophetic exercise.

D. Epistemic Limits of Future Fact-Finding

This section explores the purpose of future fact-finding in greater depth by focusing on its epistemic limits. These limits arise from a simple fact: At the moment of the "finding," the future does not yet exist. This significantly restricts the fact-finder's ability to acquire knowledge about the future. Understanding these limits is important for a deeper analysis of future fact-finding in the subsequent sections of this Article.

²⁵Castillo de la Torre, *supra* note 4, at 32.

²⁶ECJ, Case C-376/20 P, Commission v. CK Telecoms UK Investments, ECLI:EU:C:2023:561 (Jul. 13, 2023), para. 82, https://infocuria.curia.europa.eu/tabs/affair?sort=AFF_NUM-DESC&searchTerm=%22C-376%2F20%22&publishedId=C-376%2F20 [hereinafter CK Telecoms Case].

²⁷ECJ, Case C-12/03 P, Commission v. Tetra Laval, ECLI:EU:C:2005:87 (Feb. 15, 2005), para. 42, https://infocuria.curia.europa.eu/tabs/affair?lang=en&sort=AFF_NUM-DESC&searchTerm=%22C-12%2F03+P%22&publishedId=C-12%2F03+P&jurisdiction=C.

²⁸Kaunas Regional Court, Order in Criminal Case No. 1S-42-737/2024 (Jan. 9, 2024), para. 11, <https://liteko.teismai.lt/viesasprendimupaieska/tekstas.aspx?id=2a8e1973-ac8e-4102-b830-789bf98ad919>.

²⁹Supreme Administrative Court of Lithuania, Order in Administrative Case No. eAS-1100-1047/2025 (Sep. 17, 2025), pt. IV, <https://liteko.teismai.lt/viesasprendimupaieska/tekstas.aspx?id=3d77daeb-a32a-4587-9311-da7abdc0dcd>.

I. Epistemology on the Differences Between Knowledge About the Future and the Past/Present

To explore the peculiarities of future cognition, this subsection draws mainly on insights from the branch of philosophy known as epistemology. Epistemology is the philosophical study of the nature, origin, and limits of human knowledge.³⁰ Epistemological insights are widely used in legal scholarship, particularly in evidence law, which is also concerned with the acquisition of knowledge about the facts of legal cases. As a result, a distinct research field—*legal epistemology*—has emerged to examine the epistemological questions raised by legal practice.³¹

As discussed, according to general evidence law, one of the main aims of a legal process—the trial—is to seek the truth. However, truth is the immediate and general aim. To the extent that truth serves as the standard of correctness for a verdict or finding, the ultimate aim may be said to be *knowledge*.³² The same applies to future fact-finding: Its ultimate aim is *knowledge* about the future.

Philosophers have long discussed how knowledge of the past differs from knowledge of the future. They generally agree that we know more about the past than the future—a phenomenon often referred to as the *temporal asymmetry of knowledge*. In simplified terms, the laws of physics are time-symmetric: They allow us, in principle, to infer both past and future states from present data with equal certainty. For example, we might know that the sun rose yesterday and will rise tomorrow by applying the same physical laws. However, when it comes to the past, we have an additional source of knowledge: records, also referred to as signs, traces, memories, evidence, and so forth. While our belief that the sun will rise tomorrow is based only on inference from physical laws, our belief that it rose yesterday can also be based on direct experience or stored evidence—for instance, seeing the sunrise with our own eyes and remembering it.³³

Accordingly, people usually acquire knowledge about the past and present and future in different ways. Philosophers have proposed various classifications of these methods. For instance, Stephan Torre distinguishes between *downstream* and *non-downstream* processes of acquiring knowledge. Downstream processes involve perception, memory, and testimony. Downstream processes are different from non-downstream processes because they all involve a causal chain from the event that one has knowledge about to one's knowledge-constituting belief. Downstream processes are generally considered reliable, but they cannot be used to obtain knowledge about the future, as the subject is not causally downstream of those events. For example, if one sees footprints in the sand, it means that someone has left them there after walking on the sand in the past, but never in the future. Non-downstream processes include *induction*, *mental simulation*, and *practical foreknowledge*. These non-downstream processes can be further explained. *Induction* involves reasoning from a finite number of observed instances of an event-type A having property F, to unobserved instances of A also having F. For example, because we have records showing it has snowed in Lithuania for the past 100 winters, we can reasonably infer that it will likely snow again this winter. *Mental simulation* refers to our use of an “intuitive physics engine,” a cognitive model of how physical objects behave. This allows us to predict future states with substantial accuracy. For example, seeing a glass roll toward the edge of a bar, we form the belief that it will fall and shatter. Similarly, people also have “intuitive psychology engine,” which allows us to simulate the mental states of others and thereby their future mental states and actions. *Practical foreknowledge* is when a person knows what will happen because they intend to make it happen—for example, knowing one will go for a run later that day.³⁴

³⁰Aloysius Martinich & Avrum Stroll, *Epistemology*, ENCYCLOPEDIA BRITANNICA (2024), <https://www.britannica.com/topic/epistemology>.

³¹Georgi Gardiner, *Legal Epistemology*, OXFORD BIBLIOGRAPHIES (2019), <https://www.oxfordbibliographies.com/display/document/obo-9780195396577/obo-9780195396577-0390.xml>.

³²HOCK LAI HO, A PHILOSOPHY OF EVIDENCE LAW: JUSTICE IN THE SEARCH FOR TRUTH 171 (2008).

³³See DAVID Z. ALBERT, TIME AND CHANCE 113–30 (2003); Thomas Blanchard, *Causation and the Time-Asymmetry of Knowledge*, 102 AUSTRAL. J. PHIL. 959, 959–65 (2024); RICHARD SWINBURNE, SPACE AND TIME 144–64 (2d ed. 1981).

³⁴Stephan Torre, *Knowledge of the Future and Reliable Belief-Forming Processes*, 103 AUSTRAL. J. PHIL. 39, 40–43 (2024).

Richard Swinburne, similarly to Torre, distinguishes between *inferential* and *non-inferential* knowledge. Non-inferential knowledge includes direct experience and traces, which cannot be obtained about the future, like downstream processes mentioned above. Inferential knowledge, like non-downstream processes, however, can be applied to future fact-finding.³⁵ According to English dictionaries, inference is “a conclusion reached on the basis of evidence and reasoning”³⁶; its antonyms include “fact,” “surety,” and “certainty.”³⁷ Nicholas Rescher likewise notes that prediction is a matter of thought rather than perception. Where direct perception of any sort fails us, rational reflection based on available information can nevertheless penetrate.³⁸ However, prediction has inherent limits—an idea that connects to David Hume’s classical critique of inductive reasoning. According to Hume, we have no actual warrant for an assumption that the future will resemble the past.³⁹

That human knowledge about the future is more limited than about the past or present illustrates Torre’s assertion that in assessing whether a subject knows a proposition concerning the future, or whether assertions about the future are appropriate, people typically apply different considerations from those involved in assessing knowledge and assertions about the past. Consider a person who prepares a dish he has made a hundred times before, always to his partner’s liking. At the moment of serving, it is reasonable to say, “she will like this,” based on inductive reasoning and past experience. However, if asked the next day—without receiving any feedback—whether the partner liked the meal, it would seem less appropriate to reply, “she did.” Even though the underlying evidence is unchanged, past-directed assertions tend to require confirmation through downstream methods. For future knowledge, people accept non-downstream processes, while for past knowledge, they usually expect downstream confirmation. This contrast illustrates Torre’s point: Our standards for attributing knowledge differ depending on whether a proposition concerns the future or the past, and on the kind of belief-forming process involved.⁴⁰

II. Recognition of Epistemological Limitations in Legal Practice

Legal practice recognizes the epistemic limits and specific features of future fact-finding—such as the fact that participants in legal proceedings cannot “prove” future events to the same extent as past or present facts, or that knowledge of the future and the past/present is acquired through different methods.

The European Court of Human Rights (ECtHR) case law in the so-called *non-refoulement* cases is an illustrative example. These concern whether a state’s decision to deport an applicant breaches Article 3 of the European Convention on Human Rights (Convention), which prohibits torture, due to the risk of the applicant facing ill-treatment—for example, torture—in the receiving country. Such cases are classic examples of future fact-finding in law, as they involve an assessment of a potential future event—whether the applicant would be at risk of ill-treatment if deported.

A particularly notable contribution is found in the concurring opinion of Judge Zupančič in the case of *Saadi v. Italy*. There, he conceptually explained the epistemic limits and evidentiary

³⁵Richard Swinburne, *Knowledge of Past and Future*, 26 ANALYSIS 166, 166–72 (1966); see generally SWINBURNE, *supra* note 33.

³⁶*Inference*, OXFORD DICTIONARY, <https://premium.oxforddictionaries.com/definition/english/inference> (last visited June 11, 2025).

³⁷*Inference*, CAMBRIDGE DICTIONARY, <https://dictionary.cambridge.org/thesaurus/inference> (last visited June 11, 2025).

³⁸NICHOLAS RESCHER, PREDICTING THE FUTURE: AN INTRODUCTION TO THE THEORY OF FORECASTING 54 (1998) (quoting DAVID HUME, AN ENQUIRY CONCERNING HUMAN UNDERSTANDING, § 4, ch. 2 (Peter Millan ed., 2007)).

³⁹*Id.* at 64.

⁴⁰Torre, *supra* note 34, at 46–48.

particularities of future fact-finding in a legal context. He observed that in such cases “judicial assessment does not have to do with a past historical event,” which is exceptional in legal practice because “the legal paradigm is retrospective,” along with “all its evidentiary apparatus.”⁴¹ According to him, the “cognitive approach to future events may be only a rational probabilistic assessment in the spectrum of experiment which moves from abstract probability to concrete probability.”⁴² While he acknowledged that fact-finding concerning past events also raises serious epistemic challenges, he stressed that “‘the evidentiary’ problem concerning future events is far more radical.”⁴³ Zupančič emphasized that the correctness of probabilistic assessment—prognosis—“critically depends on the nature of information—not evidence!—adduced in a particular situation.”⁴⁴ His distinction between information and evidence aligns with the epistemological distinctions previously discussed—such as downstream versus non-downstream knowledge, or non-inferential versus inferential knowledge, and between records—traces, signs, memories, and so forth—and natural laws. The majority judgment in *Saadi v. Italy* also acknowledged the epistemic limits of future fact-finding, noting that “assessment of that risk is to some degree speculative.”⁴⁵

In other cases, the ECtHR has recognized these epistemic limits even more explicitly. In *Rustamov v. Russia*, the Court stated that: “[R]equesting an applicant to produce “indisputable” evidence of a risk of ill-treatment in the requesting country would be tantamount to asking him to prove the existence of a future event, which is impossible, and would place a clearly disproportionate burden on him.”⁴⁶

In *Azimov v. Russia*, the Court similarly held that such an allegation:

[A]lways concerns an eventuality, something which may or may not occur in the future. Consequently, such allegations cannot be proven in the same way as past events. The applicant must only be required to show, concerning specific facts relevant to him and to the class of people he belonged to, that there was a high likelihood that he would be ill-treated.⁴⁷

In these non-refoulement cases, which are forward-looking, the ECtHR applies a different standard of proof than in “regular” backward-looking cases.⁴⁸ The standard applied is whether there are “substantial grounds for believing that, if the measure complained of were to be implemented, he [the applicant] would be exposed to a real risk of being subjected to treatment contrary to Article 3.”⁴⁹ In contrast, in backward-looking cases, the ECtHR requires that a breach of the Convention be proven “beyond a reasonable doubt.”⁵⁰ Scholars have argued that the “substantial grounds for believing” standard is lower than the regular standard of “beyond a

⁴¹*Saadi*, App. No. 37201/06, Concurring Opinion of Judge Zupančič, at para. 1.

⁴²*Id.*

⁴³*Id.*

⁴⁴*Id.*

⁴⁵*Id.* at para. 142.

⁴⁶*Rustamov*, App. No. 11209/10, at para. 117.

⁴⁷*Azimov v. Russia*, App. No. 67474/11, at para. 128 (Apr. 18, 2013), <https://hudoc.echr.coe.int/fre?i=001-118605>.

⁴⁸Christine Bicknell, *Uncertain Certainty?: Making Sense of the European Court of Human Rights’ Standard of Proof*, 8 INT’L HUM. RTS. L. REV. 155, 166 (2019); Hemme Battjes, *In Search of a Fair Balance: The Absolute Character of the Prohibition of Refoulement Under Article 3 ECHR Reassessed*, 22 LEIDEN J. INT’L L. 583, 609 (2009); FANNY DE WECK, NON-REFOULEMENT UNDER THE EUROPEAN CONVENTION ON HUMAN RIGHTS AND THE UN CONVENTION AGAINST TORTURE: THE ASSESSMENT OF INDIVIDUAL COMPLAINTS BY THE EUROPEAN COURT OF HUMAN RIGHTS UNDER ARTICLE 3 ECHR AND THE UNITED NATIONS COMMITTEE AGAINST TORTURE UNDER ARTICLE 3 CAT 233–36 (2016); Tobias Thienel, *The Burden and Standard of Proof in the European Court of Human Rights*, 50 GER. Y.B. INT’L L. 543, 561–63 (2007); Matthew Smith, *The Adjudicatory Fact-Finding Tools of the European Court of Human Rights*, 2 EUR. HUM. RTS. L. REV. 206, 211 (2009).

⁴⁹Corina Heri, *Evidence: European Court of Human Rights (ECtHR)*, OXFORD PUB. INT’L L., July 2018, at para. 83.

⁵⁰*Id.* at para. 79.

reasonable doubt.”⁵¹ This difference is probably dictated by a common-sense understanding of the inherent limitations people face when trying to acquire knowledge about the future.

In merger review case law, the ECJ also similarly said that the prospective analysis of the effects of concentration on the market carried out by the Commission “are necessarily more uncertain than *ex post* analyses” under Articles 101–102 TFEU.⁵² Based on this, the ECJ rejected the party’s argument that the Commission must “meet a particularly high standard of proof” in concentration cases.⁵³ Put differently, the ECJ resisted raising the standard of proof too high, given the uncertainty which characterizes future assessments.

In conclusion, it is generally agreed, both in epistemological theory and legal practice, that human knowledge of the future, while possible to some extent, is more limited than knowledge of the past or present. There are more available sources of knowledge for the past and present, such as evidence and natural laws, than for the future, that is, natural laws alone, and people typically acquire knowledge about future events using different methods than those used for past or present ones.

E. Justification and Legitimacy of Future Fact-Finding

Future fact-finding is characterized by increased uncertainty. Uncertainty in law, whether legal or factual, automatically raises questions of legitimacy.⁵⁴ If the future is very uncertain and unknowable, how can future fact-finding be justifiable and legitimate? How can a legal system place the burden on a participant in court proceedings to “prove” future events that have not yet occurred? Should the law adapt to this uncertainty, and if so, how? Two types of explanation are required: one from the perspective of substantive law—why such rules exist—and the other from the perspective of procedural (evidence) law—how procedural and evidence law rules should be adapted in case of future fact-finding, if adapted at all.

Before addressing these, a brief philosophical insight is helpful. Rescher argues that despite the epistemological limitations of predicting the future, what drives the predictive process is not so much knowledge as *need*. He explains that people’s reliance on prediction is legitimized by the consideration that it is “this or nothing”—or at least nothing better. In order to act, to plan, and to survive, we must anticipate the future, and the past is the only guide available.⁵⁵ Although predictions are, in principle, always fallible, humans have no choice but to accept this balance of risks: On one side, the risk of error, and on the other, the risk of ignorance. In other words, for practical reasons, people are sometimes compelled to rely on plausible predictions, because the alternative—ignorance—is even less desirable.⁵⁶

This explanation supports the existence of substantive legal rules that involve future fact-finding, despite epistemic shortcomings. In short, the need for such rules lies in the preservation of important societal values. For example, in cases of interim relief, the law aims to ensure that courts can protect a claimant’s right to effective judicial protection and avoid proceedings becoming merely declaratory. Arrest rules in criminal procedure are designed to maintain the effectiveness of the criminal justice system. Preventive action is meant to avoid damage in cases where it is evidently going to occur, making it unreasonable to wait until it does. A credit institution’s compliance with prudential requirements is crucial for ensuring a reliable, credible, and trustworthy financial system, which underpins the modern economy. The office of the president is so important to a state that it may be justifiable to remove a president from office if it is clear they

⁵¹See, e.g., Bicknell, *supra* note 48, at 166.

⁵²CK Telecoms Case at paras. 81–83.

⁵³*Id.* at para. 86.

⁵⁴See generally Katalin Sulyok, *Science, Epistemology and Legitimacy in Environmental Disputes – The Epistemically Legitimate Judicial Argumentative Space*, 37 LEID. J. INT’L L. 139 (2024).

⁵⁵RESCHER, *supra* note 38, at 65.

⁵⁶*Id.* at 66–67.

will not be able to fulfill their duties due to health reasons. Thus, despite epistemic shortcomings, the legal system recognizes a compelling need to preserve these values, which in turn justifies the use of future fact-finding.

Future fact-finding is not the only area in law that involves naturally increased factual uncertainty. In some cases, uncertainty concerning the past or present can also be exceptionally high. This issue has been addressed in recent private law legal scholarship. One study has explored how legal systems respond to specific instances of increased factual uncertainty, such as paternity at the start of life, the *commorientes* problem, where a sequence of deaths must be established for inheritance purposes but is unclear, causation in tort law, contractual interpretation, or the unmixing of intangible assets.⁵⁷ These examples show that legal systems accept the need to make decisions in the face of elevated uncertainty when there are compelling reasons to do so.

Just because there is a “need” for future fact-finding in law despite its epistemic uncertainties does not mean that the issue of its legitimacy is fully solved. To evidence this, courts often feel compelled to engage in future assessments cautiously and even “explain themselves” in order to maintain the legitimacy of their decisions. For example, the ECtHR has said that although assessment of risk of ill-treatment in extradition or expulsion cases is to some degree speculative—that is, uncertain—“the Court has always been very cautious, examining carefully the material placed before it in the light of the requisite standard of proof” before indicating interim measures or finding that the enforcement or removal from the territory would be contrary to Article 3 of the Convention.⁵⁸ The United Kingdom’s Supreme Court also similarly observed that, despite uncertainty surrounding future fact-finding, it “is not by any means to say that an assessment of risk need have no basis in objective evidence.”⁵⁹ In comparison, it is rare to see such “excuses” of courts about uncertainty in the process of past or present fact-finding. This contrast suggests that future evaluations raise unique concerns.

To ensure the legitimacy of future fact-finding, the legal system must account for its natural epistemic limitations and tailor its regular procedural evidence rules accordingly because these regular rules are designed primarily for past and present fact-finding, and they may not be entirely suitable for future-based assessments, as also pointed out by the ECtHR Judge Zupančič.⁶⁰ Jurisprudential methodology can be helpful to discern requirements for legitimate future fact-finding. Traditionally, jurisprudential theories of procedural justice focus on the general question of what procedures officials should use when applying or enforcing the law or exercising legal discretion. These theories often assess legal procedures holistically, without distinguishing between questions of fact and law.⁶¹ However, legal scholar Nayha Acharya has recently offered an interesting attempt to apply jurisprudential insights from Jürgen Habermas⁶² and other legal theorists in order to establish theoretical support for legitimate fact-finding under conditions of factual uncertainty.⁶³ Although Acharya does not distinguish between past, present, and future fact-finding, her ideas are useful to find theoretical grounding for legitimate future fact-finding as well. By adapting her criteria to the epistemic realities of future fact-finding, it is possible to construct a principled approach to procedural legitimacy under uncertainty about the future.

⁵⁷See generally UNCERTAINTY IN COMPARATIVE LAW AND LEGAL HISTORY: KNOWN UNKNOWNNS, *supra* note 1.

⁵⁸Saadi, App. No. 37201/06, at para. 142.

⁵⁹U3 v. Secretary of State for the Home Department [2025] UKSC 19, para. 62 (appeal taken from The Special Immigration Appeals Commission) [hereinafter *U3 Case*].

⁶⁰Saadi, App. No. 37201/06, Concurring Opinion of Judge Zupančič; Scozzari and Giunta, App. Nos. 39221 and 41963/98, Concurring Opinion of Judge Zupančič.

⁶¹See generally Denise Meyerson, Catriona Mackenzie & Therese MacDermott, *Introduction to PROCEDURAL JUSTICE AND RELATIONAL THEORY: EMPIRICAL, PHILOSOPHICAL, AND LEGAL PERSPECTIVES* 1 (2021).

⁶²See generally JÜRGEN HABERMAS, *BETWEEN FACTS AND NORMS* (1996) (providing jurisprudential insights in his prominent book).

⁶³See generally Nayha Acharya, *Deciding, ‘What Happened?’ When We Don’t Really Know: Finding Theoretical Grounding for Legitimate Judicial Fact-Finding*, 33 CAN. J.L. & JURISP. 1 (2020).

For Habermas, law plays an integrative and stabilizing role in society and, in order to play this role, law must have two elements: certainty (facticity), and legitimacy (rightness). First, the law must be certain in the sense that subjects should know, or be able to know, what the enforceable rules in society are, and to know that those rules will indeed be enforced. Second, laws must also have a normative quality that grounds the legal subject's rational acceptance of them. Without that normative quality, law may be coercive, but would not function as a socially integrative agent. Habermas' theory of adjudication aims to harmonize the two elements of certainty and legitimacy. The tension between these two elements, he calls a problem of legal indeterminacy. Legislated law is necessarily general in character, so its application in specific situations is not always clearly ascertainable. In addition, rights guaranteed by laws are not empirical facts and are not discernible through some type of determinative empirical test. Accordingly, a single right answer does not necessarily exist. The correct expression of a particular right is subject to argument and competing reasons in favour of one interpretation over another. This gives rise to what Habermas calls "the rationality problem": "how can the application of a contingently emergent law be carried out with both internal consistency and rational external justification, so as to guarantee simultaneously the certainty of law and its rightness?"⁶⁴ In other words, if law is inherently uncertain and often lacks a definite answer, how should one legitimate, or accept, the choice between two different interpretations?

Acharya says that this question that Habermas poses in light of legal indeterminacy parallels her purpose of resolving the analogous tension that arises in adjudication due to factual indeterminacy. Just as judges are tasked with making authoritative conclusions with respect to the sometimes uncertain question, "what is the law," they are also—and more often—tasked with authoritatively resolving the often uncertain question, "what happened?"⁶⁵ To connect these ideas with this article, judges are also sometimes tasked with an even more uncertain question, "what will happen?"

According to Acharya, Habermas reconciles the certainty and legitimacy issue by transferring both elements *from outcome to process*. Rather than insisting on the existence of a particular substantively right answer, Habermas's theory makes the rightness of the outcome depend on the process of arriving at that outcome. The procedural principles governing this process require justification, which comes from discourse theory. Just as the approximation of the discourse principles within the democratic process gives rise to the rational acceptability of law in general, adjudicative procedures that approximate discourse principles give rise to the rational acceptability of judicial outcomes.⁶⁶

Building on Habermas's ideas, Acharya distinguishes between two independent yet related features of a legitimate adjudicative process of fact-finding. First, the adjudicative process should assure *meaningful participation rights* that enable affected parties to present relevant evidence in support of their positions. Second, while fact-finding procedures cannot guarantee accuracy, the process must assure *factual reliability*. The main idea is that although adjudication cannot guarantee outcome-accuracy, adjudicative procedures of fact-finding must enable and manifest a genuine inquiry into the truth, that is, be oriented towards achieving factually accurate outcomes.⁶⁷ This Article is particularly concerned with the second feature—factual reliability, because the main issue of future fact-finding is epistemological. Thus, the first feature—meaningful participation rights—will be left aside. According to Acharya, the process of fact-finding can be presumed factually reliable if these conditions, among others, are satisfied: (i) all relevant evidence is admissible, except justified exclusions; (ii) internally coherent and consistent error-risk management, achieved mainly through adjusting the standard of proof; and (iii)

⁶⁴*Id.* at 2–4; HABERMAS, *supra* note 62, at 197–203, 226–27.

⁶⁵ACHARYA, *supra* note 63, at 5–6; HABERMAS, *supra* note 62, at 197–203, 226–27.

⁶⁶ACHARYA, *supra* note 63, at 5–6; HABERMAS, *supra* note 62, at 220, 226.

⁶⁷ACHARYA, *supra* note 63, at 7–8.

evidence presented is weighed rationally against the standard of proof.⁶⁸ Although Acharya also distinguishes other conditions for factual reliability, these three help to express unique features of future fact-finding and are the most relevant for explaining and ensuring its legitimacy. These conditions are particularly important in future fact-finding because the absence of direct evidence and the reliance on probabilistic reasoning make procedural safeguards essential. Because outcome accuracy cannot be guaranteed in such cases, legitimacy must instead be grounded in the integrity of the fact-finding process itself. Therefore, these conditions will serve as guiding principles in the subsequent section.

F. Procedural Specifics of Future Fact-Finding

This section discusses three key procedural and evidentiary aspects of future fact-finding in a legal context, which parallel the three conditions distinguished by Acharya and discussed above regarding factually reliable fact-finding: standard of proof (error-risk management) (Section F.I), decision-making and reasoning (rationality) (Section F.II), and *ex post* review (admissibility of evidence) (Section F.III).

I. Standard of Proof

Defining the standard of proof in a case is crucial because it determines the required level of certainty. In common law systems, civil cases generally apply the “balance of probabilities” or “preponderance of the evidence” standard, whereas criminal cases require proof “beyond a reasonable doubt” standard.⁶⁹ In numerical terms, civil cases are often said to require a likelihood greater than 50%, while criminal cases require 90%.⁷⁰

By contrast, the distinction between civil and criminal standards is less explicit in continental or civil law systems. Nevertheless, empirical research suggests that, in practice, their approach is similar to that of common law systems.⁷¹

The difference in standards reflects the varying tolerance for error that society accepts in each legal context. This is often framed as “error-risk management.” The standard in criminal cases, on the one hand, is higher because wrongly convicting an innocent person is widely considered to be a graver mistake than erroneously acquitting a guilty person. A high standard of proof (for example, ninety percent) ensures that convictions of innocent people are relatively rare. On the other hand, in civil cases, the disutility of erroneously finding for or against the plaintiff is similar, which means the error-cost minimizing decision threshold is fifty percent. Therefore, in criminal law, the higher standard aims to avoid the more serious mistake of convicting an innocent person, while in civil law, the consequences of errors are generally seen as more balanced, justifying a lower threshold.⁷²

The ECtHR illustrates this logic in its case law as well: To arrest a suspect, only “reasonable suspicion” is required, a level of evidence far below that needed for conviction or even the bringing of a charge.⁷³ In error-risk terms, arresting an innocent person is considered less serious than convicting or indicting one. Accordingly, the definition of the standard of proof is also critical in future fact-finding. For example, in one of its judgments, the ECJ has considered which of the two alternative standards should be applied in merger review cases: whether a merger has “a strong probability” of significantly impeding effective competition or is “more likely than not” to do so.

⁶⁸*Id.* at 8–23.

⁶⁹Ho, *supra* note 33, at 174–75.

⁷⁰CLERMONT, *supra* note 3, at 198.

⁷¹See generally Mark Schweizer, *The Civil Standard of Proof—What Is It, Actually?*, 20 INT’L J. EVIDENCE & PROOF 217 (2016).

⁷²*Id.* at 219.

⁷³*Merabishvili v. Georgia*, App. No. 72508/13, para. 184 (Nov. 28, 2017), <https://hudoc.echr.coe.int/fre?i=001-178753>.

The ECJ chose the “more likely than not” standard because, in principle, the “strong probability” standard would be too high given the uncertainty of surrounding future evaluations.⁷⁴ In light of this, this subsection explains the specificities of determining the applicable standard of proof in future fact-finding cases.

The first issue is whether the same standard of proof used in past or present fact-finding, such as “balance of probabilities” or “beyond a reasonable doubt,” applies to future fact-finding. These may be called “regular” standards of proof: the general evidentiary standards applied when courts assess whether a past or present fact has been established, respectively in civil and criminal cases. Two positions are possible. First, one could argue that it does. As in traditional fact-finding, where the aim is to establish truth, in future fact-finding the aim is to determine the likelihood of a future event. Therefore, the standard of proof remains the same; only the object of the inquiry changes—from truth to likelihood. For example, a similar position was taken by the UK Special Immigration Appeals Commission, which indicated in its decision that “we have asked ourselves whether the Secretary of State has satisfied us to a high civil balance of probabilities”—regular standard of proof—that the appellant is *likely* to continue to engage “in conduct that endangers the national security of the United Kingdom” if not deported.⁷⁵ While the regular standard, whether “balance of probabilities” or “beyond a reasonable doubt,” helps the judge evaluate the evidence, the object of inquiry determines the level of risk—likelihood—necessary to apply a legal norm. For example, in Lithuanian insolvency proceedings, this separate standard for the court to reject the restructuring plan is a judge’s internal—subjective—conviction that “the proposed measures will *obviously* not help the legal entity overcome financial difficulties, preserve viability, or avoid bankruptcy.”⁷⁶ Here, “obviously” is a central word because it indicates that the judge must be highly certain that the plan will fail to reject it. To paraphrase, in such a case, the court can reject the restructuring plan “if the judge is satisfied, on the balance of probabilities, that the plan will obviously fail.”

A second position is that the regular standard does not apply in future fact-finding. Instead, a unique standard is used, which coincides with the object of the future fact-finding, that is, the likelihood. To paraphrase the standard applicable in Lithuanian insolvency proceedings regarding a confirmation of the restructuring plan in this way, the court can reject the restructuring plan “if the judge is satisfied that the plan will obviously fail.” In other words, “balance of probabilities” no longer plays a role.

This Article supports the second position that in future fact-finding, a single special standard of proof is sufficient, and the regular standard does not have any role. This view is also more common in case law. For instance, ECtHR Judge Zupančič has argued that applying any traditional standard of proof to future events is incoherent because “one cannot prove a future event to any degree of probability because the law of evidence is a logical rather than a prophetic exercise.”⁷⁷ Zupančič said that the “cognitive approach to future events may be only a rational probabilistic assessment in the spectrum of experiment which moves from abstract probability to concrete probability” and that the “correctness of this probabilistic assessment depends on the nature of information—not evidence—adduced in a particular situation.”⁷⁸ The ECtHR applies a different standard in future-oriented cases, such as non-refoulement, using the formulation “substantial grounds for believing” that a person would face a real risk of treatment contrary to Article 3—significantly lower than the standard of “beyond a reasonable doubt” typically required

⁷⁴CK Telecoms Case at paras. 51–89.

⁷⁵Secretary of State for the Home Department v. Rehman [2001] UKHL 47, [2003] 1 AC 153, para. 3 (appeal taken from The Special Immigration Appeals Commission) [hereinafter *Rehman Case*].

⁷⁶Lietuvos Respublikos juridinių asmenų nemokumo įstatymas [Law on Insolvency of Legal Persons of the Republic of Lithuania] 2019, No. XIII-2221, art. 111(3)(4).

⁷⁷Saadi, App. No. 37201/06, Concurring Opinion of Judge Zupančič, at para. 1.

⁷⁸Saadi, App. No. 37201/06, Concurring Opinion of Judge Zupančič, at para. 1.

in backward-looking cases involving past events⁷⁹ and even lower than “balance of probabilities” (more likely than not).⁸⁰

The UK Supreme Court also rejects the application of a regular civil standard of proof—“balance of probabilities”—in future assessments. The Court said that in such cases “the whole concept of a standard of proof is not particularly helpful” because, in principle, it “is a question of evaluation and judgment”⁸¹ and that the “existence of a risk can therefore arise from evidence which is sufficient to establish a possibility but falls short of proof on a balance of probabilities.”⁸² Like Judge Zupančič, the Court observed that the “reasoning process which is appropriate to evaluating a risk is different from the reasoning process which is appropriate to deciding the facts in issue in civil litigation.”⁸³ The UK Court has also importantly noted that even past or present facts used for future assessments—for instance, previous contacts with terrorists to prove a threat to national security—“do not have to be proved to have occurred on a balance of probabilities.”⁸⁴

In interim relief cases, courts such as the ECJ⁸⁵ and the Court of Appeal of Lithuania⁸⁶ also expressly apply lower standards than in main actions, reflecting the summary character of such proceedings, the provisional nature of such decisions and the limits of future knowledge. In a recent opinion, ECJ Advocate General Medina similarly repeated the ECJ’s consistent position that in merger cases, the Commission conducts forward-looking economic analyses, which “cannot be as certain as its *ex post* analyses—under Articles 101 and 102 TFEU.”⁸⁷ These examples support the view that, usually, the epistemic limits of future cognition naturally push toward a lower and unique standard of proof.

Beyond the general principle that future fact-finding typically requires less certainty than regular standards like “balance of probabilities,” there are several additional reasons the second position—omitting a regular standard of proof—should prevail. First, using the regular standard of proof might be confusing and result in the application of an incorrect standard. For example, according to the UK Special Immigration Appeals Commission’s position that “the Secretary of State has to satisfy the Commission to a balance of probabilities that the appellant is likely to engage in conduct that endangers the national security,” it might appear that the standard is “more likely than not” that the appellant will threaten to the national security. But the UK Supreme Court rejects this position because the “existence of a risk can therefore arise from evidence which is sufficient to establish a possibility but falls short of proof on a balance of probabilities.”⁸⁸ In other words, the “balance of probabilities” is not the standard in such cases. According to the Court, in principle, the applicable standard in such cases is flexible because the “evaluation of the risk then depends on such factors as the degree of risk, the possible methods of addressing the risk, and the gravity of the consequences if the risk eventuates.”⁸⁹ Therefore, it would be erroneous to apply the “balance of probabilities” standard in such cases.

Second, using the regular standard of proof might not only be confusing but also “epistemically awkward” thus also confusing, and impractical. For instance, the Texas death-penalty statute requires prosecutors to prove *beyond a reasonable doubt* that there is a *probability* that the defendant will be dangerous in future—“definitely maybe” situation. Legal epistemologist Susan

⁷⁹See *supra* Section D.II.

⁸⁰*Saadi*, App. No. 37201/06, at para. 140.

⁸¹*Rehman Case* at para. 3.

⁸²*U3 Case* at para. 58.

⁸³*Id.* at para. 56.

⁸⁴*Id.* at para. 61.

⁸⁵*LASOK*, *supra* note 23, at 823.

⁸⁶The Court of Appeal of Lithuania, Order in Civil Case No. e2-15-516/2025 (Feb. 6, 2025), para. 22.

⁸⁷Opinion of Advocate General Medina at para. 21, Case C-541/23 P, *Polwax S.A. v European Commission* (May 15, 2025).

⁸⁸*U3 Case* at para. 58.

⁸⁹*Id.*

Haack describes this as “iterated epistemological operators.”⁹⁰ However, demanding certainty about uncertainty seems epistemically awkward. United States legal scholar Kevin M. Clermont proposes collapsing such iterations into a single measure when trying to determine how an event is likely because the cumulative likelihoods contribute to predicting one proposition’s existence.⁹¹ Essentially, distinguishing these two “epistemological operators” is not necessary in a practical sense because both perform the same function—they reflect the judge’s internal conviction about past, present, or potential future facts. For example, in Lithuanian civil procedure, the regular standard of proof is defined as a certain degree of sufficiency of the evidence and of the judge’s conviction, at which the fact-finder concludes that a disputed fact has been established or disproved.⁹² The Supreme Court of Lithuania calls this the “reasonable belief standard,” which, in principle, requires the judge to be reasonably and personally—internally—convinced of the facts of the case.⁹³ Similarly, the special standard in future fact-finding also reflects the judge’s subjective—personal, internal—belief about the likelihood of a future event, not an objective probability. For instance, when a restructuring plan is said to “obviously” fail to prevent bankruptcy,⁹⁴ the word “obvious” implies a high degree of subjective certainty regarding the occurrence of the asserted future event but not an objective probability. Therefore, having two separate standards—regular and special—is unnecessary because, in any case, ultimately, the special “future-oriented” standard determines the judge’s decision, making the regular standard of proof, such as “balance of probabilities,” redundant. To conclude, this argument of “epistemic awkwardness” also supports the view that one substantive standard is sufficient for future fact-finding.

Once a special standard for future fact-finding is accepted, the next step is to determine what that standard is in a given case. This quest may involve one or two layers of interpretation: identifying the *legal standard* by classic methods of legal interpretation and, where relevant, adjusting it in light of the factual context.

First, the *legal standard* may be stated directly in the text of a legal norm—linguistic interpretation—or derived through other interpretative methods. To recall, this standard helps to manage the risk of error. How this risk is allocated is a matter of legislative lawmaking. According to Alex Stein, “[m]oral considerations that inform risk-allocating decisions belong to the domain of politics,”⁹⁵ and there can be different reasons that lead to different levels of risk tolerance.⁹⁶ For example, the law may allow a court to reject a restructuring plan if it is “obvious” that the proposed measures will not prevent bankruptcy.⁹⁷ This term, “obvious,” clearly indicates a high standard.

In other cases, the standard is not explicit and must be interpreted using other methods. This must be done carefully, with attention to managing the risk of error, and meet certain requirements. First, relying on Ronald Dworkin, substantively, adjudicative procedures must tolerate a similar risk of error for similar types of error. For example, if both consumption of tobacco and drugs are prohibited, and non-compliance with this prohibition incurs liability of \$1,000, the standard of proof for proving both violations must be the same. Second, risk-allocating procedures must be applied consistently so that no party is arbitrarily assigned a different risk level. For instance, prosecuting violations of the tobacco prohibition should occur using the same standard of proof, irrespective of whether the accused party is male or female.⁹⁸

⁹⁰Susan Haack, *The Embedded Epistemologist: Dispatches from the Legal Front*, 25 *RATIO JURIS* 206, 212 (2012).

⁹¹CLERMONT, *supra* note 3, at 5. See Hagerty v. L & L Marine Servs., Inc., 788 F.2d 315, 319 (“[W]e conclude that a plaintiff can recover only where he can show that the toxic exposure more probably than not will lead to cancer.”).

⁹²Vytautas Nekrošius & Jurgis Bartkus, *Search for a Standard of Proof in the Lithuanian Civil Procedure*, 132 *TEISE* 8, 9 (2024).

⁹³Supreme Court of Lithuania, Ruling in Civil Case No. e3K-3-9-1075/2024 (Feb. 8, 2024), para. 28.

⁹⁴Law on the Insolvency of Legal Persons of the Republic of Lithuania, art. 111(3)–(4).

⁹⁵ALEX STEIN, *FOUNDATIONS OF EVIDENCE LAW* 13 (2005).

⁹⁶ACHARYA, *supra* note 63, at 17.

⁹⁷Law on the Insolvency of Legal Persons of the Republic of Lithuania, art. 111(3)–(4).

⁹⁸ACHARYA, *supra* note 63, at 16–18; Ronald Dworkin, *Principle, Policy and Procedure*, in *A MATTER OF PRINCIPLE* 72, 73, 92 (1985).

These considerations help clarify how interpretation guides the identification of standards for future fact-finding.

For instance, the text of the rule on the substantive requirements for granting interim relief before the ECJ is not informative. In principle, it states that the measures are granted if there are (i) circumstances giving rise to urgency and (ii) the pleas of fact and law establish a *prima facie* case for the interim measure applied for.⁹⁹ However, the case law and the doctrine have clarified that the first standard, urgency, is high, while the second one, *prima facie*, is low.¹⁰⁰ It is also widely accepted that the standard of proof in interim relief cases is lower than the standard applied in the main proceedings. For example, the ECJ requires sufficient persuasive evidence and assertions, which, however, need not be “convincing” in the sense that, at the interim relief stage, the judge hearing the application is required to come to a provisional and not a definitive view of the position.¹⁰¹ A similar position is taken by the Court of Appeal of Lithuania.¹⁰² The ECtHR judge Zupančič likewise observes that when the Court decides on the application for interim relief in the *non-refoulement* cases, all the evidentiary apparatus works differently because this decision does not serve an ultimate decision over the subject matter; it only freezes the situation so that the court may have the time and the opportunity to make justice prevail. Accordingly, in such situations, the aim of the decision-maker is not truth-finding—for example, whether the applicant would be ill-treated if expelled—but simply creating conditions for truth-finding by preventing irremediable consequences in case of irretrievable expulsion. Therefore, in these instances, the applicant must only produce “a shadow of doubt,” whereupon the burden of proof shifts to the country concerned. This is known in evidentiary doctrine as “bursting the bubble.”¹⁰³

In another example from migration law, the Supreme Administrative Court of Lithuania ruled that the required likelihood of a national security threat for revoking a foreigner’s residence permit is higher for long-term residents than for short-term ones. Although the national law explicitly did not differentiate between long-term and short-term residents, the Court relied on EU law, namely, the Long-Term Residents Directive,¹⁰⁴ which grants stronger protection against expulsion to long-term residents.¹⁰⁵ This case is another example of the error-risk management function played by the standard of proof. Notably, it implies that erroneously revoking permits for foreigners with long-term resident status is socially more condemnable than revoking permits from short-term residents. The rationale is that deportation harms long-term residents more, given their deeper ties to the country.

Another example is the EU mergers control system, which uses a standard of “more likely than not.”¹⁰⁶ This “symmetrical system” is explained by the fact that this regulatory environment, unlike some others that weigh certain interests, health, for instance, more than others, such as economic benefits, for instance, is not based on a “precautionary principle,” and the benefits of mergers are explicitly recognized by the EU legislature. Therefore, the symmetric system of EU merger review tries to evenly distribute error costs.¹⁰⁷ This position also implies that other regulatory fields, which are based on the precautionary principle, such as health,¹⁰⁸

⁹⁹Rules of Procedure of the Court of Justice, art. 160(3), O.J. (L 265) 1, 35 (Sep. 29, 2012).

¹⁰⁰Silvère Lefèvre & Iko Nömm, *The Availability of Interim Measures Before the General Court: Striking the Right Balance Between the Presumption of Legality and the Right to Provisional Protection*, 60 COMMON MKT. L. REV. 999, 1005–06 (2023).

¹⁰¹LASOK, *supra* note 23, at 825.

¹⁰²The Court of Appeal of Lithuania, Order in Civil Case No. e2-756-330/2023 (Sep. 7, 2023), para. 21.

¹⁰³Saadi, App. No. 37201/06, Concurring Opinion of Judge Zupančič, at para. 1.

¹⁰⁴Council Directive 2003/109 of Nov. 25, 2003, Concerning the Status of Third-Country Nationals Who Are Long-Term Residents, O.J. (L 16) 44 (EC).

¹⁰⁵Supreme Administrative Court of Lithuania, Judgment in Administrative Case No. eA-1304-968/2024 (June 5, 2024).

¹⁰⁶See CK Telecoms Case at para. 87. See generally Castillo de la Torre, *supra* note 4.

¹⁰⁷Castillo de la Torre, *supra* note 4, at 41–42.

¹⁰⁸ECJ, Case C-128/22, Nordic Info BV v. Belgische Staat, ECLI:EU:C:2023:951 (Dec. 5, 2023), para. 79, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:62022CJ0128>.

environment,¹⁰⁹ or national security,¹¹⁰ can distribute the risk of error unevenly, prioritizing the reduction of respective risks instead of, for instance, economic benefits or other rights—interests—of an individual.

Second, as mentioned, the applicable legal standard may also be shaped by another layer of case-specific factual considerations—*factual standard*. In certain scenarios, the party carrying the burden of proving future circumstances may face procedural or natural—epistemic—difficulties in producing information necessary for the future assessment. Such a party is disadvantaged because it carries a risk of non-persuasion, which means that if it does not adduce sufficient evidence, it loses the case.¹¹¹ According to Judge Zupančič, such distribution of the burden of proof works very well with past events, but it does not work very well in a specific category of future fact-finding cases, such as in pre-trial arrest cases or interim relief cases at the ECtHR. In these instances, which Zupančič calls “emergency situations,” for example, when the applicant is arrested at an airport in order to be expelled, it would be “clearly absurd” to put the regular burden of proof on the applicant. This stems from both epistemic limitations of future fact-finding and procedural disadvantage of the applicant, who has limited access to evidence due to his arrest. Thus, in such a case, the burden and the risk of non-persuasion should be redistributed by placing a large portion of it on the expelling State.¹¹²

The ECJ also acknowledges these challenges in its interim relief jurisprudence, that is, recognizes these procedural limitations to some extent and relaxes the evidentiary standard in specific cases. For instance, where, due to the urgency of the situation, the judge grants relief before hearing the other party, the evidential requirements are much less than when the judge is considering the matter in the light of the other party’s observations; at a later stage in the interim relief proceedings, the judge must inevitably be more skeptical.¹¹³ In another case, the Court has acknowledged the lack of “convincing evidence” in support of the applicants’ contention but, noting the scale of urgency and the asserted harm, liquidation, suspended the demand of the payment so that the applicants would have additional time to make a further interlocutory application with additional evidence.¹¹⁴

Sometimes, it is epistemic limitations—rather than procedural barriers—that prevent the party bearing the burden of proof from obtaining reliable evidence for future assessments. This issue is not unique to future fact-finding; similar difficulties can arise in past or present fact-finding as well. For example, in certain types of cases, such as bid rigging in public procurement¹¹⁵ or unfair competition,¹¹⁶ the Supreme Court of Lithuania explicitly lowers the standard of proof due to the structural epistemic challenges these cases present—namely, that in such cases, only circumstantial—indirect—evidence is typically available. These considerations are highly relevant to future fact-finding, which is also characterized by inherent epistemic uncertainty. When deciding such cases, the decision-maker must take into account the specific nature of the case and, even before engaging with the evidentiary material, must ask *in abstracto*: To what degree of certainty can the party carrying the burden of proof establish the likelihood of the asserted future

¹⁰⁹Consolidated Version of the Treaty on the Functioning of the European Union art. 191(2), June 7, 2016, 2016 O.J. (C 202) [hereinafter TFEU].

¹¹⁰*U3 Case* at paras. 61, 71.

¹¹¹*See generally Saadi*, App. No. 37201/06, Concurring Opinion of Judge Zupančič.

¹¹²*Id.*

¹¹³*LASOK*, *supra* note 23, at 825.

¹¹⁴*See ECJ*, Case 160/84 R, *Oryzomyli Kavallas OEE and Oryzomyli Agiou Konstantinou G. Raptis — L. Triandafyllidis Kai Sia OE v. Commission of the European Communities – Suspension of Operation of a Measure*, ECLI:EU:C:1984:281 (July 16, 1984), para. 23, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:61984CO0160%2801%29>. *See also LASOK*, *supra* note 23, at 824.

¹¹⁵Supreme Court of Lithuania, Ruling in Civil Case No. e3K-3-56-969/2023 (Feb. 9, 2023), para. 53.

¹¹⁶Supreme Court of Lithuania, Ruling in Civil Case No. e3K-3-116-916/2024 (May 23, 2024), para. 57.

event? What kind of evidentiary material is, in theory, accessible to that party? If the nature of the case suggests that the future assessment is highly speculative, the decision-maker must factor this into their approach and avoid imposing an unrealistic evidentiary burden on the party. As the legal maxim states, the law does not compel the impossible (*lex non cogit ad impossibilia*).

Another factual consideration which might affect the standard of future evaluation is the circumstances of a particular case, especially the risks involved. Here, error-risk allocation plays an important role, and the final standard depends not only on the applicable legal norm but also on particular circumstances of the case. For example, as already discussed, in a case regarding a deprivation of citizenship due to national security risk, the UK Supreme Court has described that the evaluation of such a risk depends not on a fixed standard, such as a balance of probabilities or other, but on such factors as “the degree of risk, the possible methods of addressing the risk, and the gravity of the consequences if the risk eventuates.”¹¹⁷ As an illustration, the Court referred to terrorist attacks in Europe in recent years, such as the Bataclan attack in Paris and the Manchester Arena bombing, and observed that “a precautionary approach is necessary in the interests of public safety” because an “error in judgement could have catastrophic consequences.”¹¹⁸ In other words, the Court has implicitly lowered the standard of the future assessment for depriving of citizenship in this case because an erroneous judgment not to revoke citizenship poses a more serious threat to society—terrorism—in comparison to an erroneous deprivation of a single person’s citizenship. It is another example of how error-risk management plays a role in future assessments by affecting the applicable standard. In another case, the House of Lords had explained that when deciding such cases, “it is necessary to take into account not only the degree of probability of prejudice to national security” and “the importance of the security interest at stake” but also “the serious consequences of deportation for the deportee.”¹¹⁹ That is, when adjusting the standard, not only public interests—national security—must be considered, but also the impact of the decision on the person involved.

In conclusion, accurately defining the standard of proof in future fact-finding cases is essential, as it directly influences the outcome by serving as a tool for managing the risk of error. Owing to the inherent epistemic limitations of predicting future events, the applicable standard in such cases is distinct and more variable than in past or present fact-finding, but usually lower. It may be derived directly from the text of legal norms or established indirectly through interpretative methods. Additionally, this standard may need to be adjusted based on the specific circumstances of the case, particularly where procedural or epistemic constraints limit the party’s ability to present reliable evidence or other important factual considerations involved, such as the nature of risks at issue.

II. Reasoning and Decision-Making

After determining the purpose of future fact-finding and the level of risk necessary to support a finding, that is, the standard of proof, the next step is to consider *how* the fact-finder should arrive at that conviction. Even legal norms that explicitly require future fact-finding emphasize “reasoning” as a central element of the assessment. For example, grounds for arrest must be based on a *reasonable belief* that the suspect will flee from the authorities, obstruct the proceedings, or commit further crimes.¹²⁰ Similarly, a regulator may refuse to authorize the acquisition of a credit institution if there are *reasonable grounds* to suspect that the transaction may increase the risk of money laundering or terrorist financing.¹²¹ In non-refoulement cases before the ECtHR, the

¹¹⁷*U3 Case* at para. 58.

¹¹⁸*Id.* at para. 61.

¹¹⁹*Rehman Case* at para. 3.

¹²⁰Lietuvos Respublikos baudžiamojo proceso kodeksas [Code of Criminal Procedure of the Republic of Lithuania] 2002, No. IX-785, art. 122(1).

¹²¹Lietuvos Respublikos bankų įstatymas [Law on Banks of the Republic of Lithuania] 2004, No. IX-2085, art. 25(8).

standard is phrased as “*substantial grounds* for believing” that the applicant would face a real risk of ill-treatment.¹²² The UK Supreme Court has also observed that, despite inherent uncertainty, an assessment of future risk must have a basis in “objective evidence.”¹²³ These formulations indicate that reasoning is essential in future assessments.

This aspect of reasoning and decision-making aligns with Acharya’s “rationality” requirement for a factually reliable fact-finding process. According to this principle, justice in truth-seeking depends not only on the accuracy of the outcome but also on the rationality of the deliberation that led to it. If the process is irrational, then—even if the final verdict is correct—an unjustifiable error has occurred. For instance, it would be wrong to convict a defendant based on a coin toss, even if the verdict happens to be correct and even if the evidence admitted in court supports the verdict.¹²⁴ Therefore, for future fact-finding to be considered “factually reliable,” it must also satisfy the requirement of rationality. This subsection further explores these rationality requirements by drawing on previously discussed philosophical insights.

As discussed earlier, in past or present fact-finding, the evidentiary material available to the fact-finder includes both evidence, that is, traces or records of past events, and laws of nature. For instance, in a murder trial, the fact-finder may rely on both evidence—such as witness testimony—and laws of nature—such as the time of day and expected daylight hours—to conclude that it was likely bright at the time of the event. In future fact-finding, however, the fact-finder does not have access to traces of future events and must rely solely on laws of nature or similarly stable regularities. As ECtHR Judge Zupančič noted, the “correctness of that probabilistic assessment [. . .] critically depends on the nature of information—not evidence—adduced in a particular situation.”¹²⁵ This means that the accuracy of future-oriented findings depends entirely on the reliability of the reasoning methods used, as evidence about future circumstances does not exist.

From a general theoretical standpoint, philosopher Rescher argues that rational prediction is only possible when the future is foreshadowed in the stable and observable patterns of the past and present. He distinguishes between mere speculation and rational prediction, asserting that only a “rational prediction that has a basis whose merits are discernible prior to the event is of serious cognitive interest.”¹²⁶ This distinction is essential in law to differentiate “reasonable” from “unreasonable” future assessments. According to Rescher, any sort of rational prediction requires informative input material satisfying three conditions: (i) *data availability*—the ability to obtain timely, accurate, and reliable information about past and present conditions; (ii) *pattern discernibility*—the existence of observable patterns in this data; and (3) *pattern stability*—the expectation that these patterns will persist into the future. Rescher says that rational prediction pivots on the existence of some sort of appropriate *linkage* that connects our predictive claims with the input data that provides justification. This linkage can be based either on explicitly articulated principles, such as explanatory regularities or presumed laws of nature—so-called formalized/inferential/discursive prediction—or on personal judgments that exploit a knowledgeable expert’s tacit, unarticulated, and sometimes inarticulable background knowledge about this matter—unformalized/judgmental/intuitive prediction. Thus, according to Rescher, we can have justified confidence in a prediction if (i) we are confident in the accuracy of the data and either (ii.a) the validity of the inferential principles being applied or (ii.b) the competence of the expert making the judgment. In either case, what matters is whether the predictive method has a reliable track record. Yet, Rescher also notes that these general principles do not resolve all challenges of prediction,

¹²²See *supra* Section D.II.

¹²³U3 Case at para. 62.

¹²⁴ACHARYA, *supra* note 63, at 18-19; HO, *supra* note 32, at 73.

¹²⁵Saadi, App. No. 37201/06, Concurring Opinion of Judge Zupančič, at para. 1.

¹²⁶RESCHER, *supra* note 38, at 55.

because different domains, for instance, meteorology, economics, and astronomy follow different methodologies.¹²⁷ The same is true in legal reasoning, which must be context sensitive.

A practical illustration of these theoretical insights is found in the ECtHR's case law on non-refoulement. These cases involve a relatively consistent forward-looking methodology for assessing whether the applicant would face a risk of ill-treatment if deported. Various concepts already discussed—such as Torre's non-downstream processes of acquiring knowledge¹²⁸ and Rescher's emphasis on data and linkage—are evident in this jurisprudence. To determine the existence of a risk, the ECtHR examines the foreseeable consequences of deportation by analyzing both the general situation in the receiving country—objective test—and the applicant's personal circumstances—subjective test.¹²⁹ For the general situation, the Court relies on reports from international organizations, domestic authorities, and NGOs.¹³⁰ In Rescher's terms, such sources provide the “input data” necessary to identify and confirm patterns—such as systemic ill-treatment of specific groups in a given country. However, ECtHR judges do not always agree on how to interpret such data. For example, in *Chahal v. the United Kingdom*, the judges disagreed on whether the applicant's “high profile” in the Sikh separatist movement in India lowers or raises this risk.¹³¹ In such situations, the disagreement must be resolved by referring to past examples—for instance, whether the receiving country, India, has a track record of mistreating individuals in similar positions. The ECtHR also considers diplomatic assurances from the receiving state, that is, obtained assurances or guarantees from states to which a person is to be extradited or expelled, to the effect that that person will be treated in accordance with fundamental human rights.¹³² From Torre's perspective, such assurances resemble “practical foreknowledge,” as they reflect the intentions of the state providing them. Lastly, in the non-refoulement cases, the Court evaluates the totality of the evidence using a kind of “mental simulation”—imagining potential scenarios that might unfold if the applicant were deported. This form of reasoning involves projecting likely outcomes based on all available data. This short overview of the ECtHR case law indicates that the Court recognizes the methodological specifics of future fact-finding, at least to some extent.

Merger review also offers a clear example of how said principles contribute to future-oriented legal fact-finding. According to the EU Horizontal Merger Guidelines, very large market shares—typically around 50% or more—may themselves indicate a dominant market position.¹³³ This reflects inductive reasoning, as past experience shows that such levels of concentration often lead to significant impediments to effective competition. Authorities may also rely on evidence that “the merging parties intend or expect the merger to lessen competition,”¹³⁴ which exemplifies practical foreknowledge. “Merger simulation”—a technique that combines explicit theoretical and empirical approaches to predict the price effects of a merger¹³⁵—can be seen as, in Rescher's term, a formalized prediction, as opposed to an unformalized prediction, which rests upon an expert's tacit and unarticulated knowledge. An example of such an unformalized prediction in law could be a situation when a financial markets regulator assesses a business plan of a company for licensing purposes in order to check the

¹²⁷*Id.* at 85–88.

¹²⁸See *supra* Section D.I.

¹²⁹DE WECK, *supra* note 48, at 280.

¹³⁰*Id.* at 317–22.

¹³¹*Chahal v. the United Kingdom*, App. No. 22414/93, para. 106, Joint Partly Dissenting Opinion of Judges Gölçüklü, Matscher, Sir John Freeland, Baka, Mifsud Bonnici, Gotchev and Levits therein, para. 8 (Nov. 15, 1996), <https://hudoc.echr.coe.int/eng?i=001-58004>.

¹³²DE WECK, *supra* note 48, at 416.

¹³³Guidelines on the Assessment of Horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings, 2004 O.J. (C 31) 5, para. 17.

¹³⁴U.S. DEPARTMENT OF JUSTICE AND THE FEDERAL TRADE COMMISSION, MERGER GUIDELINES § 4.1 (2023), https://www.ftc.gov/system/files/ftc_gov/pdf/2023_merger_guidelines_final_12.18.2023.pdf.

¹³⁵Edoardo Peruzzi, *The Application of Economic Models into the Courtroom: A Failed Promise?* (Dec. 2024) (on file with PhilSci-Archive).

viability and sustainability of the business model.¹³⁶ This assessment is mostly based on the unarticulated expertise of the regulator, rather than explicit principles.

In conclusion, future fact-finding requires a fundamentally different reasoning process than that used for assessing past or present facts. Because there is no direct evidence of future events, the fact-finder must rely entirely on inferential—non-downstream—methods. Legal formulations such as “reasonable belief” or “substantial grounds for believing” reflect the importance of well-reasoned, structured assessment rather than speculative guesses. The fact-finder must base conclusions on reliable present or past data, observable and stable patterns, and a credible link between known facts and projected outcomes. The fact-finder should be methodologically aware and combine structured input with necessary judgmental principles to make rational, justified predictions. Ultimately, future-oriented reasoning is not about proving certainty, but about constructing a justified, rational pathway from what is known to what is likely.

III. Ex-Post Review

How should past assessments about the future be evaluated when, by the time of review, the future is already known? For example, how should a court assess the legality of government-imposed COVID-19 measures that severely restricted individual rights but later proved ineffective in controlling the virus? To illustrate, the ECJ has examined the legality of Belgian travel bans during the COVID-19 pandemic,¹³⁷ although the effectiveness of similar measures in combating the pandemic later was questioned.¹³⁸ Should the court simply conclude that the measures were unlawful because they ultimately failed, or should the assessment be more nuanced?

This issue aligns with one of the Acharya’s requirements of a factually reliable fact-finding process—the admissibility of evidence. Can information about the actual accuracy of a future assessment be admissible for ex post legal evaluation of the assessment? For example, now, there is a pending case before a Lithuanian court, where the applicants—airlines—contest airport charges because, among other things, they were based on inaccurate traffic forecasts.¹³⁹ However, the accuracy of these forecasts is already known, even though the case is not finished yet. Should the court evaluate this accuracy, or only stick to the information available to the forecaster at the moment the forecast was made?

Political psychologist Philip E. Tetlock, whose work includes one of the most comprehensive empirical studies on forecasting, and journalist Dan Gardner, who helped present this research in a book, argue that the right question in such a review is not whether the forecast was correct, but whether it was *reasonable*. Answering this question, they say, requires a form of “mental time travel”—placing ourselves in the decision-maker’s position at the time of the decision, with access only to the information that was available then. According to them, it is not oxymoronic to say that a prediction can be both wrong and reasonable. However, in their opinion, such a “mental time travel” is psychologically difficult because a situation as that tempts people with bait and switch: Replace the tough question—whether it was reasonable—with the easy one—whether it

¹³⁶EUR. CENT. BANK, GUIDE TO ASSESSMENTS OF LICENCE APPLICATIONS – LICENCE APPLICATIONS IN GENERAL, sec. 5.2 (2019), https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.201901_guide_assessment_credit_inst_licensing_appl_n.pdf.

¹³⁷Nordic Info BV, Case C-128/22 at para. 82.

¹³⁸*Travel Bans Ineffective, WHO Says*, DEUTSCHE WELLE (Jan. 19, 2022), <https://www.dw.com/en/coronavirus-digest-travel-bans-ineffective-who-says/a-60485256>; *Statement on the Tenth Meeting of the International Health Regulations (2005) Emergency Committee Regarding the Coronavirus Disease (COVID-19) Pandemic*, WORLD HEALTH ORGANIZATION (Jan. 19, 2022), [https://www.who.int/en/news/item/19-01-2022-statement-on-the-tenth-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-coronavirus-disease-\(covid-19\)-pandemic](https://www.who.int/en/news/item/19-01-2022-statement-on-the-tenth-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-coronavirus-disease-(covid-19)-pandemic).

¹³⁹Roma Pakėnienė, *Ryanair and Wizz Air Continue Legal Fight Over Vilnius Airport Fees*, LIETUVOS NACIONALINIS RADIJAS IR TELEVIZIJA (June 5, 2025), <https://www.lrt.lt/en/news-in-english/19/2582611/ryanair-and-wizz-air-continue-legal-fight-over-vilnius-airport-fees>.

was wrong—answer it, and then sincerely believe to have answered the tough question.¹⁴⁰ The same reasoning applies to assessing forecasts of risk: If a meteorologist predicts a seventy percent chance of rain and it does not rain, that forecast is not necessarily wrong—it still reflected a thirty percent chance that it would remain dry. A single outcome does not invalidate a probabilistic judgment. The only way to know for sure would be to rerun the day hundreds of times—if it rained 70% of those times and did not in thirty percent, the forecaster was correct.¹⁴¹

It seems that this approach of an *ex-post* review of future assessments based on the criterion of reasonableness prevails in a legal context as well. For instance, in the non-refoulement case *Vilvarajah and Others v. UK*, the ECtHR concluded that the UK government did not breach Article 3 of the Convention by expelling the applicants to Sri Lanka, even though they were ill-treated after the expulsion. The Court relied, *inter alia*, on the principle established in its case law that the existence of the risk must be assessed primarily concerning those facts which were known or ought to have been known to the Contracting State at the time of the expulsion. For this case, the Court said that even though the applicants were ill-treated, there existed no special distinguished features in their cases that could or ought to have enabled the UK to foresee that they would be treated in this way.¹⁴²

In merger review cases, the ECJ has a consistent view that the legality of the contested decision of the Commission regarding the merger must be assessed based on the facts and law existing at the date on which the decision was adopted and the information available to the Commission at that time; an applicant cannot therefore rely before the ECJ on facts subsequent to the decision.¹⁴³

A similar reasoning framework appears in Lithuanian case law concerning directors' liability under the business judgment rule. The courts apply this rule when deciding whether a company's director is liable for a business decision which was financially harmful to the company, for example, a failed investment. This rule protects *bona fide* directors from damage claims in order to ensure that directors can take reasonable risks, which is essential for business development. According to the rule, the mere fact that the director's business decision had negative economic consequences for the company is not sufficient to hold the director liable. He would be liable only if he acted in bad faith, breached legal imperatives, was disloyal to the company, or acted recklessly—for example, took an unreasonable risk. The former, recklessness, is important in the context of future fact-finding. When courts investigate whether the director had acted recklessly, they check, for instance, whether he got acquainted with all the necessary information before deciding, whether he evaluated whether the risk was reasonable considering the economic benefit pursued, took into account the company's financial standing and creditors' interests, and so forth.¹⁴⁴ In other words, courts do not impose a legal obligation on the directors to foresee the future when making business decisions. Directors may fail and are not liable for that as long as their decisions remain reasonable in light of available information at the time of the decision.

In conclusion, returning to the example raised at the start of this subsection: No, a court should not find that COVID-19 control measures were illegal solely because they later proved ineffective. The government does not have a divine power of foreknowledge. The appropriate legal test is *reasonableness*—whether, based on the information reasonably available at the time, it was reasonable to believe the measures could be effective. If the answer is yes, then the measures should be considered lawful. Information that was unknown or unknowable at the time should not be admissible as evidence in an *ex post* legal evaluation. Anything else would conflict with the principle *lex non cogit ad impossibilia*. In principle, the ECJ followed this approach in its review of

¹⁴⁰PHILIP E. TETLOCK & DAN GARDNER, SUPERFORECASTING: THE ART AND SCIENCE OF PREDICTION 83–84 (2015).

¹⁴¹*Id.* at 57.

¹⁴²*Vilvarajah and Others v. The United Kingdom*, App. Nos. 13163, 13164, 13165, 13447, and 13448/87, paras. 107(2), 112 (Oct. 30, 1991), <https://hudoc.echr.coe.int/fre?i=001-57713>.

¹⁴³ECJ, Case T-58/20, *NetCologne v. Commission*, ECLI:EU:T:2024:813 (Nov. 13, 2024), para. 157, https://infocuria.curia.europa.eu/tabs/affair?lang=en&sort=AFF_NUM-DESC&searchTerm=%22T-58%2F20%22&publishedId=T-58%2F20&jurisdiction=T.

¹⁴⁴Supreme Court of Lithuania, *Overview of the Application of Legal Norms Governing the Civil Liability of Management Bodies of a Company in the Case Law of the Supreme Court of Lithuania*, 45 CASE L. 37–44 (2016).

the Belgian travel bans. The Court emphasized the precautionary principle, according to which a Member State should take protective measures without having to wait until the reality of those health risks becomes fully apparent. It also stated that national courts must assess the appropriateness of such measures “in the light of the scientific data commonly accepted” at the time of adoption and “in view of the degree of uncertainty that might prevail.”¹⁴⁵

G. Conclusion

Future fact-finding in law is a distinct phenomenon where legal decision-makers, as judges, are required to base their decisions on predictions about future events. Although it appears regularly in legal practice, it remains underexplored in legal scholarship. Traditional evidence rules offer little guidance for this type of assessment, making further research necessary. This Article is a preliminary step toward developing a theoretical framework for understanding and engaging in future fact-finding.

Unlike classic fact-finding focused on the past or present, the purpose of future fact-finding is not to establish the truth, but to assess the likelihood—risk, probability—of a future event. Aiming for truth or categorical—bivalent—prediction that would amount to prophecy, therefore, would be unrealistic, given the limited access humans have to reliable knowledge about the future. While decision-makers can rely on direct evidence, for instance, witness testimony, to understand the past, future knowledge must be inferred through less reliable cognitive—indirect—processes. Still, despite these limitations, future fact-finding is essential—in some cases, doing nothing would be more harmful than making a reasoned, albeit uncertain, judgment.

These epistemic limits should inform how legal rules are created, interpreted, and applied in future-oriented assessments. Traditional evidentiary concepts, for example, the regular standard of proof, such as the “balance of probabilities,” become less relevant, if relevant at all. More important is the special “future-oriented” standard of proof: The level of likelihood—probability, risk—of the asserted future event justifying the application of a legal norm. This standard varies and may be set by the legal norm itself or shaped by the specific context, for example, procedural, epistemic, or factual considerations.

Furthermore, in future fact-finding, the finder loses one of the main sources of knowledge about the object of the finding—evidence—on which he primarily relies in past or present fact-finding. Despite that, future determinations cannot be mere speculations. The decider must master methodological tools used to look into the future in order to make reasonable assessments, which center around linking information about the past and present with potential future scenarios.

In general, during future assessments, courts and other legal decision-makers must never forget the inherent uncertainty of future fact-finding and, accordingly, refrain from imposing an unrealistic burden on the party which carries the risk of non-persuasion by demanding a level of certainty that is impossible to meet. Doing so would violate the foundational principle *lex non cogit ad impossibilia*.

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¹⁴⁵Nordic Info BV, Case C-128/22 at paras. 79, 82.