Assessing the Quality of AI and MT in Legal Translation[1]

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ABSTRACT: Artificial Intelligence (AI) has made huge strides forward in the last few years and many AI-driven solutions have been developed to cater for the needs of legal professionals. Amongst its various applications, AI can be used to draft and translate documents. This paper wishes to assess the accuracy and reliability of the translation (from Italian into English) of an informative article on mortgage contracts. To do so, an MT-based platform (DeepL) and two generic AI-driven chatbots (i.e., ChatGPT and Copilot) are considered. In addition, the AI-powered Notebook LM is also addressed as it can provide more targeted and field-related feedback. The paper findings highlight that, although the MT- and AI-based interfaces do not produce inconsistencies, grammatical errors, word order issues or oddities of any kind, their outputs are not satisfactory. All the automated translations, in fact, lack references to system-bound terminology and system-specific legal principles. The MT and AI systems, in fact, are not capable of disambiguating terms (especially polysemous words) in context. Therefore, at the time being, MT and AI platforms still have considerable progress to make before being fully reliable and accurate in the legal translation domain.

KEY WORDS: AI; chatbots; legal translation; machine translation; AI and law

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[1] The author used the following platforms: DeepL, ChatGPT, Copilot, and Notebook LM on 22/02/2024 and on 19/11/2024. With regard to ChatGPT and Copilot, the author wrote the following prompt: "Translate the following text into English". As far as Notebook LM is concerned, the author inputted the following prompt: "On the basis of the language, terminology and legal definitions provided in the uploaded files, translate the following text into English". The AI-generated outputs were then modified and post-edited as reported in this paper. The author is fully responsible for the content of this article.

INTRODUCTION

LEGAL TRANSLATION

Legal language is complex due to its intricate nature (Williams; Tiersma). Amongst others, it is characterised by very long sentences, embeddings (whereby phrases or sentences are written within other sentences), syntactical discontinuities (due to the frequent insertion of subordinate or relative clauses in a sentence), use of passive constructions, and near synonyms often repeated sequentially (e.g., "last will and testament", Bhatia, 28, or "give, devise and bequeath", Williams, 32).

Legal texts can also feature archaic words (e.g., "chattel" or "deed", Bhatia, 28 and 77); deictic elements (such as "hereinafter", "hereunto", Bhatia, 28, or "aforementioned" and "aforesaid", Williams 32 and 103), polysemous words (Alcaraz Varó and Hughes) (which are terms whose meaning is field-dependant, such as "instrument", Bhatia, 28), fixed formulae (e.g., "now therefore this agreement witnesseth", Bhatia, 28, or "know all men by these presents", Tiersma, 93), and words or expressions of Latin and French origin (i.e., ab initio, mens rea, "covenant", etc., Bhatia, 28-29).

In light of such peculiarities, legal translators are confronted with an array of lexical and syntactic hurdles. Additionally, they meet challenges that go beyond the rendering of words or terms from a source into a target language, as they must also account for the source and target legal systems (Šarčević, 13). For this reason, scholars posit that legal translators create bridges (Engberg) as they connect source terminology and legal principles to target ones.

DEFINITION OF AI

There are currently many definitions of AI. According to the European Commission's Communication (COM/2018/237), "Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals" (article 1). Other categorisations also rely on the "intelligent" aspect of machines, which features human behaviour. Amongst their characteristics, such machines show capabilities of reasoning, learning, seeking goals, solving problems and adapting to different circumstances (Monostori 47).

Above all, however, it is posited that artificial intelligence must be "human-centric" (Ethics Guidelines for Trustworthy AI, 4), which means that it ought to be used for the common good and with the purpose of "improving human welfare and freedom" (Ethics Guidelines for Trustworthy AI, 4).

AI IN THE LEGAL FIELD

The deployment of AI in the legal field is wide and widespread. Brownsword and Somsen question whether technology can play a crucial role in solving global issues without affecting human autonomous capacities of discernment and creativity. According to the authors, AI governance may well create an excellent form of order, which could "outperform the human enterprise of Law" (Brownsword and Somsen 15). The authors claim that in the aftermath of Covid-19, we have been in an ongoing state of change. In such circumstances, the legacies from the past must be relinquished to leave space to new forms of legal certainties (Brownsword and Somsen 26). In this scenario, technology should not be blamed for the demise of the law; quite to the contrary, academics and jurists should work jointly to envisage and create new legal contexts (Brownsword and Somsen 26-27). Therefore, the authors mostly rely on the power of courts to be the drivers of new changes, which can only take place thanks to the new technologies (Brownsword and Somsen 27). Still related to the (new) roles of courts and judges, Susskind addresses the potentialities of delivering justice online. In doing so, the author adopts both a moral perspective (that is rooted in the principles of justice) and a critical approach by pondering the jurisprudential feasibility of such an ideal. In doing so, the author verifies the compatibility of a new legal setting with the established legal processes and constitutional principles.

Other applications of AI revolve around contracts. AI-driven solutions can review and draft contracts (Schwarcz and Choi; Thomson Reuter; Yamane). These tasks are generally quite time-consuming and prone to human mistakes. Automating compliance review and due diligence, for example, can save time and errors. If AI can handle routine tasks such as reviewing and standardizing contract language and content, it is possible for legal professionals to focus more on the complex aspects of negotiations. Lawyers, in fact, are the ones who always and ultimately negotiate contracts (Yamane). These are nuances that AI cannot address, and are based on the indispensable human element of empathy (Yamane). Nonetheless, AI systems can be trained to analyse and interpret contractual language, identifying key clauses, obligations, and potential risks (Schwarcz and Choi).

As can be seen, there are both advantages and drawbacks associated with the rise of AI. Amongst the risks posed by intelligent machines, for example, scholars argue that the advent of new data-driven technologies is leading to significant disruptions to long-established practices (Brooks *et al.*). In addition, the use of AI in the legal field can mostly lead to the loss of jobs (Sheeba). In this respect, however, there are academics who posit that AI will be a spur to augment lawyers' work and expertise, rather than to replace them (Brooks *et al.*). For example, intelligent machines may automate repetitive tasks that do not require professional judgement. In this way, accuracy would increase and errors may diminish (Brooks *et al.*). Other scholars, by contrast, claim that AI produces "hallucinations" (Thomson Reuter), i.e., grave errors. In the legal field, for example, AI-powered interfaces quote and refer to cases that never existed, or produce plausible-sounding legal inaccuracies (Thomson Reuter). For these reasons, Emsley warns against the use of chatbots in academic works and research, as the information provided is

either fake or misrepresented. This means that AI output should always be checked and supervised. Therefore, human intervention and expert judgement remain necessary.

MT AND AI IN TRANSLATION

In the field of translation, many scholars have discussed the advantages of using MT (machine translation) platforms, especially if associated with post-editing activities (Escribe and Mitkov; Giampieri).

Sycz-Opoń explores the quality of MT applied to contracts. In particular, the author evaluates the Polish-English translations of MT platforms such as Google Translate and Microsoft MT. The findings highlight that MT tends to produce errors such as wrong word order or forms, missing words or articles, nonsensical clauses, and grammatical mistakes. Therefore, post-editing activities are to be envisaged. This sentiment is echoed by other scholars, which propose integrating post-editing classes in academic curricula (Mileto; Kenny).

Other academics, by contrast, do not linger on the drawbacks of MT. Smith and Bernard, for example, argue that the use of some MT interfaces such as Google Translate and DeepL in patent applications has increased because they allow lawyers to easily and quickly grasp the contents of documents.

Vigier Moreno and Pérez-Macías acknowledge the growing demand for translations in court proceedings due to the ongoing commitment of non-native professional translators. The authors delve into the potentials of Neural Machine Translation (NMT) and focus on Spanish remand orders translated into English by DeepL, Google Translate, and eTranslation. Their research investigates the quality of such machine-generated outputs; in particular, they focus on fluency and stylistic appropriateness.

Given the many advantages and challenges of AI and MT, this paper aims at assessing AI and MT platforms translating (from Italian into English) an informative article describing the legal aspects of mortgage contracts.

METHODOLOGY

For the purpose of this paper, an extract of an informative article addressing mortgage contracts has been translated automatically by relying on different MT and AI-driven platforms. More precisely, two analyses have been carried out: a first one employing DeepL, ChatGPT 3.5, and Copilot, and a second one accessing Notebook LM.

The first set of tools are generic MT or AI-driven platforms, i.e., they are not field-related. DeepL is a machine translation interface developed by DeepL SE; ChatGPT 3.5 is a chatbot solution created by OpenAI, and Copilot is the chatbot system operated by Microsoft (formerly named Bing Chat). The AI tools (namely,

ChatGPT 3.5 and Copilot) can be industry-centred provided that a particular domain or sector is specified or explained in the prompt. Hence, such AI solutions do not focus on legal language by default.

In order to translate the informative article via the DeepL MT platform, the text has been pasted in the field and the target language (UK English) has been selected. As concerns the ChatGPT 3.5 and Copilot chatbots, the following prompt has been written in each chat box:

Prompt: Translate the following legal text into English "[Italian text]".

The second analysis has concerned Notebook LM, an AI-based resource developed by Google and powered by Gemini 1.5 that can be customised and become a field-specific language model. Differently from other freely available chatbots, Notebook LM allows the upload of documents in various formats (e.g., pdf, txt, doc, etc.). On the basis of the files available, the system provides content-related answers. For the purposes of this paper, 36 texts dealing with mortgage contracts and agreements have been retrieved from British and North American legal domains, as well as from websites addressing Italian mortgage contracts in the English language. To find such documents from the web, key words such as "mortgage contract(s)" and/or "mortgage agreement(s)" have been written in Google search field. Additionally, to obtain texts related to the British and North American legal systems, web domain restriction commands have been added to web search queries. The websites that have been accessed are databases containing legal definitions, online legal dictionaries, law articles repositories, news platforms related to the legal field, and portals discussing legal cases, statutes and terminology. To find data on Italian mortgage contracts in the English language, Italian professionals' websites have been taken into account.

The retrieved documents have been uploaded to Notebook LM and the following prompt has been inputted in the system:

Prompt: On the basis of the language, terminology and legal definitions provided in the uploaded files, translate the following text into English: "[Italian text]".

In order to assess the quality of the translated outputs in both the first and second analysis, legal dictionaries, the case law, statutory documents such as laws and codes, and contract databases have been accounted for.

ANALYSIS

This section firstly delves into some considerations on the terminology characterising the source text; then, it describes the first and second analysis carried out.

CONSIDERATIONS ON THE SOURCE TEXT

As indicated, the analyses focus on an assessment of the translations performed by DeepL, ChatGPT 3.5, Copilot (first analysis) and Notebook LM (second analysis). Table 1

below reports the article extract addressed in this paper (see also Giampieri 164-177). The words and phrases underlined are focused on.

Il mutuo si caratterizza per essere un <u>contratto a termine, reale e ad effetti reali</u>. L'efficacia di tali <u>contratti atipici</u> <u>incontra</u> il principale limite imposto dall'art. 1322 c.c., che <u>vincola l'accordo alla</u> <u>realizzazione</u> di <u>interessi meritevoli di tutela</u> secondo l'<u>ordinamento giuridico</u>. (...) Sarà pertanto nullo e quindi <u>inefficace</u> quel contratto di finanziamento che, ad esempio, sia privo di <u>causa</u> o che sia contrario a <u>norme imperative</u> o all'ordine pubblico. Secondo la <u>Corte di Cassazione</u>, il finanziamento altro non è che un <u>contratto di mutuo di scopo</u>, preordinato al perseguimento di determinate finalità che si diversificano dallo schema tipico dei <u>negozi</u> di mutuo sia per quanto attiene le modalità di <u>perfezionamento</u> del negozio, sia per quanto attiene la <u>struttura</u> dell'accordo.

Table 1. Extract of an informative article addressing mortgage contracts

The text of Table 1 above is characterised by words and expressions which are imbued with legal principles and features that might be challenging to translate. For example, *contratto a termine, reale e ad effetti reali* refers to a specific typology of contracts which envisages the transfer of the ownership of property. The Simone Italian law dictionary explains that contracts named *reali* require both the parties' consent and the delivery of the property to be lawfully formed and executed. At the same time, contracts referred to as *ad effetti reali* are defined as consensual, given that the parties' manifested consent is necessary (and sufficient) to transfer property2. Conversely, at common law, the transfer of property occurs only by virtue of law (Jacometti and Pozzo, 208), as contracts can only provide for the parties' reciprocal obligations (Giampieri, 166-167; Jacometti and Pozzo, 208). Therefore, the translation of this type of contracts may not be easily addressed by intelligent machines unless they have access to comparative law definitions. The same can be said of expressions such as *contratti atipici, contratto di mutuo di scopo, causa,* and *norme imperative.*

Other words, by contrast, are only field-related and feature peculiar collocational patterns. Hence, they do not entail particular system-specific legal principles. Therefore, they should be handled more easily. Examples in this regard are *vincolare l'accordo* (back-translation: "to bind an agreement"), *realizzazione* referring to *interessi* (back-translation: "realization of interests"), *interessi meritevoli di tutela,* (back-translation: "interests worthy of protection"); *inefficace* referring to an *accordo* (back-translation: "ineffective agreement"), *Corte di Cassazione* (i.e., the Italian Supreme Court); *negozio* (back-translation: "shop", but actually meaning a contract or an agreement); *perfezionamento* related to a *negozio* (back-translation: "perfection of a contract"), and *struttura* referring to *accordo* (back-translation: "structure of an agreement"). Some of the above words are polysemous, which means that they assume a particular meaning

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[2] See Simone Legal Dictionary defining *contratti reali*: "tale categoria di contratti richiede, per il suo perfezionarsi, oltre al consenso delle parti, anche la consegna della cosa, che, pertanto, non è un effetto obbligatorio del contratto, ma un elemento costitutivo dello stesso (es. comodato, mutuo)" and referring to contratti ad effetti reali: "i contratti ad effetti reali sono, dal punto di vista del perfezionamento della volontà, consensuali: per il trasferimento o per la costituzione del diritto, è, infatti, sufficiente il consenso delle parti legittimamente manifestato; non è quindi necessaria la consegna, che vale solo ad effetti possessori (cd. principio del passaggio consensuale del diritto)".

in legal contexts and others in day-to-day usages (emslz Varó and Hughes). Therefore, automatic translation software may not disambiguate terms or detect the contextual meanings of such words. For example, *realizzazione* (back-translation: "realization") refers to *interessi* and, hence, it is imbued with the meaning of "satisfying" or "safeguarding"; *negozio* (back-translation: "shop") is a "contract" or an "agreement" in legal jargon; finally, *perfezionamento* (back-translation: "perfecting" or "perfection") is the legal "formation" of a *negozio*.

FIRST ANALYSIS

The tables which follow report the translations of the Italian informative article divided into smaller units. In particular, the first column shows the source text (ST), the second column the translation generated by DeepL, the third one the translation by ChatGPT, the fourth one the translation by Copilot, and the last column suggests the final output after post-editing. Post-editing and the assessment of the automated translations are carried out by the author of this paper by consulting statutory documents, the case-law, contract databases, and legal dictionaries. Table 2 below shows the translations of the first line of the text. Alternative post-edited renderings are written in squared brackets.

ST	DeepL	ChatGPT	Copilot	Post-editing
Il mutuo si caratterizza per essere un <u>contratto a termine, reale e ad effetti reali</u>.	The mortgage is characterized by being a term, <u>real and real-effects</u> contract.	The loan is characterized as a fixed-term contract, <u>real, and with real effects</u>.	The mortgage is characterized by being a fixed-term, <u>real, and with real effects</u> contract.	Mortgage is a fixed-term [short-term] contract <u>formed upon the delivery of property entailing the transfer of the title of ownership</u>.

Table 2. Translations of the first line of the article

At a first glance, it can be noticed that the translation of *mutuo* takes two forms. DeepL and Copilot propose "mortgage", whereas ChatGPT suggests "loan". As a *mutuo* is a particular loan applied for to buy a house, and is referred to as a "mortgage"[3]. It would
also be convenient to simplify the phrase "the mortgage is characterized by being" (proposed by the three AI platforms) as "mortgage is" in post-editing.
As might be expected, the translation of *contratto a termine, reale e ad effetti reali* is performed literally by the three AI solutions, which suggest "real and (with) real

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[3] See the definition by Investopedia: "A mortgage is a loan used to purchase or maintain a home, plot of land, or other real estate," https://www.investopedia.com/terms/m/mortgage.asp. Accessed 02 May 2025.

effects". In addition, DeepL partly mistranslates *(contratto) a termine* by proposing "term (contract)". The Black's Law Dictionary does not list such an expression. Additionally, by searching for "term contract" in the Onecle contract database (search query: *"term contract" site: onecle.com*), results show instances of "fixed-term contract", "short-term contract", or "the term 'contract'", but none of "term contract". Therefore, the correct translation of *contratto a termine* is "fixed-term contract" or "short-term contract". As a matter of fact, the Simone Italian law dictionary defines a *contratto a termine* as a *contratto a tempo determinato* (back-translation: "determined-term contract").

With regard to *contratto reale e ad effetti reali*, rule 1376 of the Italian Civil Code establishes that a *contratto reale* is a contract whose formation coincides with the delivery of property. A *contratto ad effetti reali*, by contrast, is characterised by the transfer of ownership from one party to another party. At common law, no such distinction is contemplated. According to article 2 of the Sale of Goods Act (1979), in fact, this principle would only concern contracts for the sale of goods, given that "a contract of sale of goods is a contract by which the seller transfers or agrees to transfer the property in goods to the buyer for a money consideration, called price". Therefore, *contratto reale e ad effetti reali* should be paraphrased in the target text (Ralli) and rendered as follows: "a contract formed upon the delivery of property entailing the transfer of the title of ownership". Table 3 reports the next line of the article.

ST	DeepL	ChatGPT	Copilot	Post-editing
L'efficacia di tali contratti atipici incontra il principale limite imposto dall'art. 1322 c.c., che vincola l'accordo alla realizzazione di interessi meritevoli di tutela secondo l'ordinamento giuridico.	The effectiveness of such atypical contracts encounters the main limitation imposed by Article 1322 of the Civil Code, which binds the agreement to the realization of interests worthy of protection according to the legal system.	The effectiveness of such atypical contracts encounters the main limitation imposed by Article 1322 of the Civil Code, which ties the agreement to the realization of interests deserving legal protection.	The effectiveness of such atypical contracts encounters the main limit imposed by art. 1322 of the Civil Code, which binds the agreement to the realization of interests worthy of protection according to the legal system.	The effectiveness of such innominate contracts is limited by Rule 1322 of the Italian Civil Code, establishing that the parties are bound to safeguard interests requiring protection [interests worthy of protection] according to the Italian legal system [Italian law].

Table 3. Translations of the second line of the article

In this line, the expression *contratti atipici* is apt to be mistranslated as it is a typical institution of the Italian civil law system. Conversely, words such as *incontra* (referring

to *limite*), *vincola* (related to *accordo*), *accordo, interessi meritevoli di tutela* and *ordinamento giuridico* may not pose challenges, although the verb *incontra* should be disambiguated and not rendered literally.

The three automated translations of *contratti atipici* (i.e., "atypical contracts") are erroneous. If this nomenclature is searched for in the Casemine case-law database, in fact, only very few hits are obtained where the word "atypical" means "unusual". The essence of *contratti atipici*, by contrast, lies in the fact that they are not directly regulated by law, but are tailored on the basis of the parties' needs (rule 1322 of the Italian Civil Code). They are also referred to as *contratti innominati* (Piraino Leto) (back-translation: "innominate contracts") because the law does not provide a name to them. As a matter of fact, the Black's Law Dictionary refers to an "innominate contract" as originating from Roman civil law and defines it as "not classifiable under any particular name; a contract for which the law supplies nothing in addition to the express agreement of the parties". Therefore, a correct translation of *contratti atipici* can be "innominate contracts".

With regard to the other terms and phrases, the verb *incontra* should not be rendered literally because it collocates with *limite* (back-translation: "limit"). Hence, the finite "encounters" is erroneous, and it would be sensible to translate the verb phrase *incontra il principale limite* as "is limited by".

The expression *vincola l'accordo alla realizzazione di interessi meritevoli di tutela* appears as "binds/ties the agreement to the realization of interests worthy of/deserving (legal) protection" in the three automated target texts. It can be argued that an agreement is never "bound" to something, as only the parties to an agreement are. Also, "interests" are not "realized" but, in the context of the source phrase, they are "safeguarded" or "protected". Consulting the Casemine case-law database may be useful to address the automated translations of *interessi meritevoli di tutela* (i.e., "interests worthy of/deserving (legal) protection") (search queries: "interests protection"/2 and/or "interests worthy"). By doing so, expressions such as "interests requiring protection" and "interests worthy of protection" are obtained. Therefore, to some extent, the machine-generated outputs are correct.

One last remark concerns *ordinamento giuridico*. The expression "legal system" is correct, although the modifier "Italian" should be added. Therefore, the post-edited second line of the article might be as follows: "The effectiveness of such innominate contracts is limited by rule 1322 of the Italian Civil Code, establishing that the parties are bound to safeguard interests requiring protection according to the Italian legal system". Table 4 shows the third line of the article.

ST	DeepL	ChatGPT	Copilot	Post-editing
Sarà pertanto nullo e quindi inefficace quel contratto di finanziamento che, ad esempio, sia privo di causa o che sia contrario a	Therefore, a financing agreement that, for example, lacks a cause or is contrary to mandatory rules	Therefore, a financing contract that, for example, lacks a cause or violates mandatory rules or public order, will	Therefore, that financing contract which, for example, is devoid of cause or is contrary imperative norms or public order,	Therefore, a financing agreement lacking a cause [raison d'etre] or against mandatory rules or public order

ST	DeepL	ChatGPT	Copilot	Post-editing
norme imperative o all'ordine pubblico.	or public order will be null <u>and void</u>.	be null and hence <u>ineffective</u>.	will be null and therefore ineffective	is null and, hence, <u>of no effect</u>.

Table 4. Translations of the third line of the article

In Table 4 above, words such as *causa* and *norme imperative* are probably difficult to render as they pertain to the civil law tradition. A *causa* is the contract's basic *raison d'etre* which has a specific social and economic function (Rolli). Without it, a contract would be void and of no effect (rule 1325 of the Italian Civil Code). In the English case-law, it is possible to find some similar definitions referred to as "cause"[4], although this concept generally lies outside common law principles. Nonetheless, the term "cause" appears as an acceptable translation of *causa*.

In the same way, the concept of *norme imperative* does not historically pertain to common law principles. According to the Italian legal system, *norme imperative* are rules that must be abided by without exceptions. The European *Lex Mercatoria* provides a similar definition of "mandatory rules", which are major rules which must not be derogated from (Law Infringing Mandatory Rules, Art. 15, 102). The Black's Law Dictionary also defines "mandatory rule" as "a legal rule that is not subject to contrary agreement". Therefore, the calque "imperative norm" proposed by Copilot is erroneous, whereas the other automated translations (i.e., "mandatory rules") are correct.

The translations of the modifier *inefficace* (i.e., "and void" and "ineffective") are now addressed. First of all, the expression "and void" (proposed by DeepL) means "null"; therefore, it is not an accurate translation of *inefficace*. Also, although "ineffective" is the literal translation of *inefficace*, it is not particularly common in legal discourse. By querying "null and ineffective" in the Casemine, for instance, only a few hits are retrieved, whereas by searching for "null and of no effect", many results are obtained. The same occurs if "null and ineffective" is queried in the Onecle contract database, as no results are found. Contrarily, by looking for "null and of no effect", a few hits are noticed. In light of these considerations, the target phrase is post-edited as follows: "Therefore, a financing agreement lacking a cause or against mandatory rules or public order is null and, hence, of no effect". Table 5 below reports the fourth and last line of the article.

ST	DeepL	ChatGPT	Copilot	Post-editing
Secondo la <u>Corte di Cassazione</u>, il finanziamento altro non è che un <u>contratto di mutuo di scopo</u>, preordinato al	According to the <u>Court of Cassation</u>, financing is nothing more than a <u>loan contract of</u>	According to the <u>Court of Cassation</u>, financing is nothing more than a <u>purpose loan agreement</u>, designed to	According to the <u>Court of Cassation</u>, financing is nothing more than a <u>purpose mortgage</u>	According to the <u>Italian Court of Cassation</u>, financing is a <u>specific purpose mortgage agreement</u>,

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[4] See, for example, *CGI Group (Europe) Ltd v Revenue & Customs* (2010) whose judgement mentioned that "the economic purpose of a contract (what the Advocate General in Mirror Group called the 'cause' of a contract: see para 27 of his opinion: at [41] above) is not to be confused with the subjective reasons which may have led the parties to enter into it."

perseguimento di determinate finalità che si diversificano dallo <u>*schema tipico*</u> *dei* <u>*negozi*</u> *di mutuo sia per quanto attiene le modalità di* <u>*perfezionamento*</u> *del negozio, sia per quanto attiene la* <u>*struttura*</u> *dell'accordo*	<u>purpose</u>, aimed at the pursuit of certain purposes that differ from the <u>typical</u> <u>scheme</u> of loan <u>negotiations</u> both in terms of the way in which the transaction is <u>finalized</u> and the <u>structure</u> of the agreement.	pursue specific objectives that differ from the <u>typical</u> loan <u>transactions</u> both in terms of how the transaction is <u>finalized</u> and the <u>structure</u> of the agreement.	<u>contract</u>, preordained to pursue certain purposes that differ from the <u>typical scheme</u> of mortgage <u>transactions</u> both as regards the methods of <u>perfecting</u> the transaction and as regards the <u>structure</u> of the agreement.	aimed at the pursuit of specific purposes that differ from those of <u>standard</u> loan <u>agreements</u> both as regards the contract <u>formation</u> and the contract <u>structure</u>.

Table 5. Translations of the fourth line of the article

In Table 5 above, challenging terminology is *contratto di mutuo di scopo* as it pertains to a category of contracts that are typical of the Italian legal system. Other terms which are likely to be problematic, although to a lesser extent, are *Corte di Cassazione, schema tipico* (referred to a *negozio*), *perfezionamento del negozio* and *struttura* (related to *accordo*).

A *contratto di mutuo di scopo* is an agreement whereby the borrower borrows a sum of money for a specific purpose. For this reason, it is also called a *finanziamento finalizzato* (Floris et al. 136) (back-translation: "finalised/aimed financing"), or a *credito finalizzato* (Antonazzi 16) (back-translation: "finalised/aimed credit"). Given the fact that a *contratto di mutuo di scopo* characterises the Italian legal system, it should be paraphrased (Ralli) and rendered as "specific purpose mortgage contract/agreement". The automated translations "loan contract of purpose" and "purpose loan agreement" (suggested by DeepL and ChatGPT, respectively) are partly erroneous, since they propose the word "loan" instead of "mortgage". Conversely, the target phrase produced by Copilot (i.e., "purpose mortgage contract") is acceptable.

With regard to *Corte di Cassazione*, the EU Country Compendium suggests translating it as "Court of Cassation" (ibid.: 84-85). Therefore, the automatic target texts are correct, although translators may consider adding the modifier "Italian".

The expression *schema tipico dei negozi* refers to civil law contracts that are drafted according to a specific form and content. The contracts which do not fall within a given category are referred to as *contratti atipici* or *contratti innominati*, as mentioned above. At common law, the parties are given much more freedom with regard to the contents and forms of contracts (Jacometti and Pozzo 243-244). For this reason, there is no such a distinction in legal English, as well as no "typical scheme" (which is the terminology proposed by DeepL and Copilot). More than using the modifier "typical", words such as "standard" should be opted for.

As concerns the word *negozio*, according to the Simone Italian law dictionary, a *negozio* is *un atto giuridico consistente in una manifestazione di volontà diretta alla*

produzione di effetti giuridici riconosciuti e garantiti dall'ordinamento (back-translation: "a juristic act consisting in the expression of one's will to produce legal effects acknowledged and guaranteed by a legal system"). In practice, a *negozio giuridico* is a legal act whereby persons give rise to or exercise rights. Amongst the various types of *negozi giuridici*, there are contracts and agreements. Rule 1324 of the Italian Civil Code establishes that *il contratto è un negozio giuridico* (back-translation: "a contract is a juristic act"). Hence, a *negozio* is not a "negotiation" (as proposed by DeepL), or a "transaction" (as suggested by ChatGPT and Copilot). In the informative article, *negozio* is synonymous of "contract" or "agreement".

The word *perfezionamento* refers to *negozio* and takes place when an offeree accepts the offer of an offeror (rule 1327 and following of the Italian Civil Code). More in detail, a *perfezionamento* relates to the "formation", not the "finalizing" of a contract (as suggested by DeepL and ChatGPT). The word "finalizing", in fact, may refer to the "fulfilment", "completion" or "signing" of a contract[5]. The "formation", by contrast, can take place before the contract actual "completion". In addition, the word "perfecting" (as proposed by Copilot) implies different consequences from a mere "acceptance" of an offer. Part of the case-law, in fact, asserts that the perfection of a contract occurs when three elements co-exist: the sale of property, the setting of a price, and the consent between the parties[6]. Therefore, "perfecting" is incorrect as it targets a wider scope.

Finally, as far as *struttura (dell'accordo)* is concerned, the calque "structure of the agreement" is acceptable. The expression *struttura dell'accordo* refers to the content and layout of an agreement.   If "structure of the agreement" or "structure of the contract" are searched for in the Casemine database, several results are obtained with the same meaning of the source expression. In light of the above, the post-edited target phrase can be the following one: "according to the Italian Court of Cassation, financing is a specific purpose mortgage agreement, aimed at the pursuit of specific purposes that differ from those of standard loan agreements both as regards the contract formation and the contract structure".

SECOND ANALYSIS

The second analysis delves into an evaluation of the translation performed by Notebook LM. Table 6 below compares the post-edited text exhibited in the previous tables with the target text offered by Notebook LM. Shortcomings are underlined.

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[5] See the UK case *Gordon's Executors v. Gordon* (1918), where it was established that "the parties intended to finalize the agreement through the completion and signing of the formal document".

[6] See for example *Dieball v Bill Hanna Ford Company* (1974).

Post-edited text	Notebook LM Translation
Mortgage is a fixed-term [short-term] contract formed upon the delivery of property entailing the transfer of the title of ownership.	The <u>loan</u> is characterized by being a fixed-term, <u>real contract with real effects</u>.
The effectiveness of such innominate contracts is limited by Rule 1322 of the Italian Civil Code, establishing that the parties are bound to safeguard interests requiring protection [interests worthy of protection] according to the Italian legal system [Italian law].	The effectiveness of such <u>atypical</u> contracts meets the main limit imposed by art. 1322 of the Italian Civil Code, which <u>binds the agreement</u> to the <u>realization</u> of interests worthy of protection according to the <u>legal system</u>.
Therefore, a financing agreement lacking a cause [raison d'etre] or against mandatory rules or public order is null and, hence, of no effect.	Therefore, a financing contract will be null and void, and therefore <u>ineffective</u>, if, for example, it lacks a cause or is contrary to mandatory rules or public order.
According to the Italian Court of Cassation, financing is a specific purpose mortgage agreement, aimed at the pursuit of specific purposes that differ from those of standard loan agreements both as regards the contract formation and the contract structure.	According to the Court of Cassation, financing is nothing more than a purpose loan contract, preordained to the pursuit of specific purposes that differ from the <u>typical</u> scheme of loan agreements both in terms of the methods of <u>perfecting</u> the transaction and the structure of the agreement.

Table 6. Post-edited text and translation performed by Notebook LM

It is quite evident that the target text produced by Notebook LM does not differ from the ones generated by the other AI-powered tools. This is rather surprising, given that Notebook LM is supposed to perform tasks by accounting for the provided field-related documents. More precisely, the AI system features the following terms which have already been discussed and considered as erroneous (see the underlined words in Table 6): "loan", "real contract with real effects", "atypical", "binds the agreement", "realization (of interests)", "ineffective", "typical" and "perfecting".

As such inexact terminology has been addressed in the previous sections, it is not dealt with any further.

DISCUSSION

As could be grasped from the language investigations undertaken, automated translation is not always satisfactory in the legal domain. There are, namely, major shortcomings that need to be catered for. This is mainly due to the fact that source words must be rendered according to the target legal system. Such terms may not feature the same principles in the target legal system. Examples in this regard are expressions such as *contratto reale e ad effetti reali, contratti tipici*, and *contratto di mutuo di scopo*. AI- and MT-based solutions have mostly proposed literal renderings, which cannot always be accepted in the target language. The analyses carried out reveal the many peculiarities and system-specificity of legal terminology, whose translation is the result of careful considerations of legal principles and legal language conventions. Sector-based dictionaries, statutory documents and the case-law must necessarily be

accounted for when translating legal discourse. This is something that AI and MT cannot currently provide for.

In addition, certain words ought to be disambiguated (especially polysemous terminology). This is the case, for instance, of words such as *realizzazione di interessi, incontra (il limite), negozi,* and *perfezionamento del negozio.* The automated translation of *inefficace* (i.e., "ineffective"), by contrast, is not unacceptable, but it is less frequent in the legal field.

Other times, automatically generated target words can be accurate, as in the case of the (literal) rendering of *causa,* and *struttura dell'accordo.* In these circumstances, however, calques are acceptable due to consolidated language norms or, alternatively, in view of the fact that the meaning of certain terms have gradually been imbued with explanations or content from other legal traditions (e.g., *causa* or *mandatory rules*).

The considerations above concern the terminological, collocational, and lexical aspects of the automated target texts. As concerns grammar, word order and forms, the AI and MT outputs have proven to be faultless. In this sense, no incorrect or nonsensical terms or phrases have been produced.

CONCLUSIONS

This paper aimed at assessing the quality of the translation outputs of MT- and AI-driven solutions. The results obtained from the analyses carried out point to the fact that MT and AI are still far from producing acceptable renderings, at least in the legal field. Although the automated translations did not contain grammatical errors, word order issues, nonsensical output or oddities, the rendering of field-specific and system-bound terms was often wrong.

The consultation of the case-law, statutory documents and legal dictionaries was necessary in order to provide explanations, retrieve acceptable equivalents, and post-edit the target texts.

The limits of this paper revolve around the AI solutions considered. Perhaps LawChatGPT could have provided satisfactory results. On the one hand, however, it was the intent of the author to investigate the effectiveness of AI and MT platforms broadly available on the Internet and easily accessible by any end-user, such as students in Translation Studies, legal translators, legal practitioners, and lawyers. In addition, field-unrelated AI solutions were targeted because of recent claims concerning the intensive use of chatbots by law firms and legal practitioners (Schwarcz and Choi; Thomson Reuter). On the other hand, the *ad hoc* AI resource accessed (namely, Notebook LM) confirmed that, at the time being, AI-powered tools are still to be perfected before being applied in the legal translation field.

Nonetheless, further research may assess the quality of the translations proposed by LawChatGPT as well as other legal-centred AI solutions, and confirm or challenge the results obtained in this initial study.

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AI OR MT SOLUTIONS

ChatGPT: https://openai.com/chatgpt
Casemine: https://www.casemine.com
Copilot: https://www.bing.com/chat
DeepL: https://www.deepl.com
Notebook LM: https://notebooklm.google/

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