FrameNet Model of the Suspension of Norms

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1. INTRODUCTION

Legal documents and legal systems are by nature dynamic (they change over time). Modifications affect legal texts, their temporal properties, and even the meanings of the norms expressed in those texts. One of the main goals in the research conducted over the last ten years on digitalization in the legal domain1 has been to provide techniques for producing updated collections of legal documents on the Web in such a way as to manage change through a consolidation process: this would help citizens, businesses and social actors generally in understanding their rights and duties in any specific time and in a given context.

It is in order to make it possible to annotate this information as metadata that several XML standards have been developed (Akoma Ntoso, NiR, Cen/Metalex), along with ontologies2 and a document metadata framework.

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Fig. 1 – From the text to semantic

(LegalRDF\textsuperscript{3}) inclusive of events, actors and outcomes expected by a modificatory action. These standards were designed to describe the semantic meaning of some relevant legal phenomena (like dynamicity, or change over time), to enrich the expressive power of XML representation, and to endow XML legal documents with a richer semantic annotation.

These arguments and properties are often marked up manually with the support of specialized parser-enhanced editors\textsuperscript{4} or of Bayesian NLP tools\textsuperscript{5},


but if we are to automatically detect a text’s meaning of the legal text without a previous machine learning training on a significant number of documents, we must fill the gap between the text and its linguistic interpretation. In other words, we need to add a layer of meaning, linking the legal lexicon to patterns of language regularity which can be exploited by an NLP tool based on a shallow semantic parser, so as to identify the meaning of each of the detected parameters. This method, in some way contraposed to the machine learning techniques, permits to detect, in long term, the meaning into the text more independently from the historical period (pre-republic document), from the linguistic usage (old or modern vocabulary) and from the different legal drafting techniques.

In some earlier work in this area, we detected some regularity in the structure of the language through which legal modifications are made, and we showed how this regularity, coupled with a prestructured XML markup, could help NLP tools correctly qualify a modificatory provision. We now hope to develop a more formalised tool capable of filling the gap between the text’s legal lexicon and its semantic pattern. Several studies in the state of the art are looking to FrameNet, and the Italian FrameNet Project is promising; so we present here a customization of the FrameNet templates designed to model the modification of a norm’s suspended efficacy.

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In an earlier work\textsuperscript{11} we modelled textual modifications without using any particular formalism, but for more complexly qualified text (as in the suspension of efficacy) a more adequate and formal instrument is necessary to detect arguments in accurate way. To this end we present a formalization with FrameNet templates customized to model cases, among the others, where the suspension of efficacy is modified.

The challenge here is to detect and interpret such actions (when a suspension starts and ends, when it is interrupted or extended, etc.), since everything turns on how the language is used, for example, on whether verbs are used in the passive or in the active form. Suspension is often confused with other modifications (such as derogation and disapplication), and textual substitutions sometimes modify a suspension action’s arguments (such as duration). On the other hand, suspending a norm’s efficacy makes norms significantly more dynamic over time, thus also affecting the judge’s application of such norms. This makes it especially difficult to apply FrameNet to this use-case for the purpose of automatically detecting the real meaning of a legal text fragment. We thus take into account the temporal dimension of the legislative environment (Section 2) and the anatomy of temporal modifications (Section 3), so as to more accurately define the suspension of efficacy (Section 4). We took a range of relevant documents to analyze the language of suspension (looking at the verbs and complements used, as well as the arguments modified); this enabled us to identify different classes of suspension (Section 5). And these classes we then modelled using FrameNet (Section 6 and Section 7).

2. Temporal Dimension in the Legislation

The temporal dimension, as well as the geospatial parameters, plays a fundamental role in legislative interpretation and application. Jurisdiction is usually closely linked to geospatial information (e.g., Danish law states whether or not a Danish statute applies in Greenland; a regional law applies only in its territory): in these cases the temporal dimension determines a norm’s efficacy, and consequently also the purview of its application. Legal theory identifies at least three axes in a norm’s temporal domain:

1. an \textit{interval of force}, which acts on the legal text or on a text fragment (article, title, paragraph, etc.);

\textsuperscript{11} M. Palmirani, R. Brighi, \textit{Model Regularity of Legal Language in Active Modifications}, cit.
2. an interval of efficacy, acting on the legal text or on a text fragment;
3. an interval of applicability, acting on the norms expressed in the legal document rather than on its text.

The interval of force is defined as the period during which a normative document or provision forms part of the normative system. This period may change over time as the document is modified. Thus, the document’s interval of force may be: (a) extended by *prorogation*; (b) brought forward by *anticipation*; (c) struck out by *annulment*, as when the document is found to be unconstitutional; (d) reinstated or *revived*, following abrogation (the interim period between abrogation and renewal being a “gap” in the legal system).

The document is said to be efficacious, or into operation, when it “expresses its normative efficacy” or, better yet, when it may or must be applied. A document’s period of efficacy will coincide most of the time with its period of force, except when the period of efficacy is: (a) brought forward, thus beginning before its entry into force (*retroactivity*); (b) extended, thus making it last longer than its period of force (*ultra-activity*); (c) suspended, by way of a *suspension*; (d) moved back, so that it begins after the time of its entry into force (*postponement*); (e) stretched by *prorogation*.

A norm’s interval of applicability is the period during which the norm is applied in the concrete, thus producing the effects set out in its provisions. Application normally coincides with efficacy of the document expressing the norms, but the two sometimes differ. The date on which a norm has to be applied guides the judge in applying the norm as part of the case law.

3. **Anatomy of Temporal Modificatory Provision**

On the basis of this temporal model, which equally applies to the text or the norms, we have modelled as follows an anatomy of temporal modificatory provisions.

*ActiveNorm* (URN). This is a known provision stating a modification. When an *ActiveNorm* and a *PassiveNorm* collapse in a single document, we have a reflexive modificatory provision, acting on the same text with a self-referring modification.

*PassiveNorm* (URN, internal/external, complete/incomplete, negative/positive, single/multiple). This is the provision to which a modification applies. The *PassiveNorm* is usually expressed in the text as a normative reference.
Action (Type of action, duration of the action, date_application of the action, implicit/explicit). This is the type of action the active (or modifying) provision entails for the passive (or modified) one. Actions are organised into a taxonomy, and each action can have a date of application different from the date when the law containing the provision is set to come into force. It is therefore possible to find that a modificatory application has been advanced (brought forward, preponed) or postponed. The action’s duration is a relevant argument for applying the modifications (e.g., a six-month suspension starting on 31 July 2010).

TemporalArguments (describing the start or end of a norm’s period of force, efficacy, or application). A modificatory provision is described by three dates: that of the provision’s entry into force, that on which it becomes efficacious, and that starting from which it is applied. Our goal is to model these temporal arguments so as to help NLP tools detect them automatically.

Conditions (event, space, domain). A temporal modification is sometimes limited to an event, a geographic area, a class (or domain) of application. When a modificatory provision is conditional on an uncertain event, the action is “frozen” until the conditional is resolved. This part of the language is very complex to detect, but the idea is to use a logic formalism to transform these cases into rules with which to logically validate time when the conditions are met. This will determine the time starting from which a modificatory provision will take effect.

Once we discovered that textual modifications contain several hidden temporal modificatory provisions (e.g., substitution of a date), we also proceeded to extract meaningful elements from each modificatory class and to analyze both the legal language expressing each class and the compositional rules or forms used in this language. In so doing, we noticed a degree of regularity in the language and in the expressions used in active modificatory provisions: this holds not only for textual modifications but also for exceptions, extensions, and temporal modifications.

4. Suspension of Efficacy

In light of the foregoing considerations, we aim to model the suspension of efficacy with FrameNet so as to facilitate automatic detection of arguments in the text using NLP tools based on a shallow semantic parser. We chose this kind of modification (suspension) because it is more complex and rich with arguments than other temporal modifications. In meantime sus-
pension is often used as a legislative drafting technique for introducing a temporary law\textsuperscript{12}. This need arises for two main reasons: when the topic is so complex but urgent that it is necessary to have a temporary solution (e.g. Genetic Law); when the society need to have time for fully apply the new dispositions (e.g. Euro Law in 1999). Suspension may be defined as the action by which a textual provision interrupts the efficacy of a legal text (or fragment thereof) for a given period\textsuperscript{13}. In our model, the text and the actor are one and the same thing: while other authors (Metalex/CEN) view modifications as documents expressing an authority’s action and role, we use a simpler model based on a document ontology rather than on the legal system’s actors and institutions. Therefore, in this model, all the norms (or rules) contained in a text affected by a suspension are deemed inefficacious.

Suspension is based on the rationale that some norms so strongly affect their addressees (citizens, businesses, social actors) that an adequate period is needed for them to tune into the process. Our goal is to track this rationale over time even if suspension may come by a variety of different modifications. In other words, we want to trace out the entire suspension process even if it is fragmented across several intervals of efficacy, because we believe that each macro-suspension is driven by a normative principle (such as the principle that all norms on the use of human embryonic material will remain suspended until a coordinated regulatory framework is in place\textsuperscript{14}). Therefore, we want to capture not only a suspension’s arguments but also its process, so as to bring the suspension into relation with its underlying normative rationale.

4.1. Suspension Provision

The suspension can be either explicit or implicit, depending on the language of the provision in question. And, temporally, it can be either defined or undefined.

A suspension is defined when its period – the period during which a norm’s efficacy is interrupted – is explicitly stated in the text, with the suspending provision clearly indicating a beginning and an end (or an initiating


\textsuperscript{13} R. Guastini, Teoria e dogmatica delle fonti, Milano, Giuffrè, 1998.

\textsuperscript{14} Ordinanza 30 maggio 2003 (G.U. n. 158 del 10/07/2003).
and an ending event). And because the interval is unambiguously defined, it need not be interpreted.

By contrast, a suspension is undefined when the interval during which a norm’s efficacy is interrupted is not explicitly set out in any part of the suspending provision. This class of suspensions includes at least three subclasses: *sine die* suspension (without an ending date); suspension conditional on an external event (e.g., “Article 5 is suspended for a six-month period starting from entry into force of the Treaty”); and suspension intervals described with a set of other parameters such as the duration (e.g., “Article 5 is suspended for four months starting from 31 December 2010”). The text often needs to be interpreted to detect the correct value.

### 4.2. Disapplication Provision

One mode of suspension is by *disapplication*, which is brought about by a secondary or local law acting through the subsidiarity principle. Disapplication takes also place when resolving conflicts of laws between regional and national law or between national law and European regulations. When a document “disapplies” another document, the latter is “frozen,” its efficacy being suspended. If the disapplying document is repealed, however, the suspended document is restored to its former efficacy so as to avoid creating a gap in the legal system. This particular mode of suspension is difficult to detect without contextual information, such as the issuing authority, the level on which the law was issued, and the rules framing the legal system.

### 4.3. Modification of Suspending Provision

Another important case we consider is that where a suspension provision is modified. A suspension is usually reflexive, with the law introducing the suspension being the same as that affected by it (this is a role usually devoted in Italy to a law’s closing articles). However, it is not unusual to see a later provision modifying the suspension for the same reasons that led to its introduction.

For example, Decision 2000/185/EC says under Article 3 that the decision itself “shall apply from 1 January 2000 to 31 December 2002,” thus limiting the document’s efficacy. Later, Decision 2002/954/EC modified the second subparagraph of Article 3 by replacing “31 December 2002” with “31 December 2003.” Then, finally, a third Directive again changed the term,
from 2003 to 2005. The rationale guiding this suspension remains the same, and it is important to capture this by first detecting the arguments characterizing the suspension’s modification – so as to identify and adjust the main suspension of efficacy – and then describing the phenomena in their atomicity. Note in this specific case that the language of the provision describes efficacy under an inclusion principle and creates two intervals of suspension (one running from the date of entry into force to 1 January 2000, and the other lasting indefinitely, sine die, from the second event).

5. LANGUAGE REGULARITY OF SUSPENSION PROVISION

In order to model, and consequently extract, semantics from laws introducing or modifying a suspension of efficacy, we have surveyed a large body of norms that legal practitioners have semantically annotated with NormaEditor on the basis of the NormeInRete XML schema definition DTDv2.0. The collection includes about 29,000 documents dating from 2005 to 2009, all of them published in Italy’s Official National Gazette (issued by the country’s High Court of Cassation) and selected on the basis of a project that over the last five years CIRSPID worked on turning these documents into an XML format. On this body of documents we did a linguistic analysis to isolate patterns for each type of suspension provision. The articles processed are 46,483, and the total modifications are 95, representing 0.2% of the articles. The suspending documents are 90, representing 0.3% of all the documents processed.

The language of suspension exhibits a certain regularity making it possible to fill the gap between the legal lexicon and the rules of suspension: the provisions always express their temporal arguments and coordinates by way of some time expression (an adverb, conjunction, or preposition indicating a continuing, definite, or indefinite time), and they always include a (direct or indirect) reference to the norm whose efficacy is being suspended (PassiveNorm).

The logical structure of the suspension norm is “PassiveNorm is Suspended in TemporalArguments.” Ten terms directly point to a suspension of efficacy in our document sample. There are:

- three verbs, i.e., suspend (sospendere), disapply (disapplicare), and apply (applicarsi);
- five nouns, i.e., validity (validità), efficacy (efficacia), application (applicazione), effect (effetto), and force (vigore); and
two adjectives, i.e., valid (valido) and efficacious (efficace).

Most of them create no ambiguity in identifying a suspension of efficacy: only the terms vigore (force), validità (validity), and valido (valid) need an explicit disambiguation, as they usually refer to a norm’s coming into force and to its validity, but they are seldom improperly used by the Italian legislator, who actually uses them to mean “efficacy.” The terms occur in the following grammatical functions:

Efficacia (efficacy) occurs 14 times as subject (with the PassiveNorm occurring as the object of a preposition, as in “the Efficacy of law X”) and 17 times as a direct object (“Law X has efficacy”).

The other four nouns (validità, applicazione, effetto, and vigore) always occur as direct objects and behave like efficacia (“Law X has validity”).

Adjectives always occur as predicate adjectives (“Rule x is valid”).

Sospendere (suspend) and applicare (apply) always occur in the past participle form as participial adjectives, never as the main verb (“Rule X is suspended”).

Applicarsi (apply, intransitive) may occur as the main verb (“Rule X applies in 2009”) or as an infinitive following the verb continuare (“The law continues to apply”).

When these terms (suspend, disapply, apply, validity, efficacy, application, effect, force, valid, and efficacious) follow a verb, this verb is very likely to be one expressing a “process event” (an event marking a point in a process), as in cease, continue, acquire, and remain.

In addition, the noun durata (duration) introduces a suspension when related to a law’s coming into force.

An exception is the verb concernere (concern, regard), which always occurs as the main verb, with the term periodo introducing a time period (e.g., “regard the fiscal 2004 year period”) without any clear indication as to which temporal axis is being referred to.

All these terms suspend efficacy, but not all in the same way. More to the point:

Ten terms (efficacia, efficace, applicarsi, valido, validità, effetto, applicazione, vigore, concernere, and durata) introduce an “inclusion of efficacy”, which means that the PassiveNorm will be applied inside the TemporalArguments (“Law X is applied from 1 January 2004 until 31 December 2005”).

Two terms (sospendere and disapplicare) introduce an “exclusion of efficacy”, which means that the PassiveNorm will not be applied inside the Temp-
poralArguments. In other words, it will be applied outside these arguments (“Law X is suspended from 1 January 2004 until 31 December 2005”).

The negation of an inclusive form makes the form exclusive, and the same happens with the verb cessare (cease) (“Law X ceases to be efficacious on 1 January 2004”).

Two elements accompany a suspension-evoking element. They are as follows:

1) **PassiveNorm.** This element represents a norm whose efficacy will be suspended for a certain period.
   
   Such a norm typically occurs as the subject of a sentence or clause containing a relevant term, except when the subject of the clause is efficacia.
   
   The PassiveNorm may directly indicate a norm (as in “Article 13 of Law No. 6 of 10 January 2007”), may refer to itself (as in “Article 20 of the present law”), or may indicate the norm by a pronoun if the norm occurs as the subject of the previous sentence (“Law X comes into force on May 2003. It shall apply until [...]

2) **TemporalArguments.** These time expressions (or time markers) define the time at which a modification of efficacy is to take effect: they do so by specifying a beginning or an end or a period.
   
   The lexical forms are quite regular: beginnings are typically signalled by use of function words and phrases such as *da* and *dal* (from) and *a partire da* (starting from, as from); endings are typically signalled by *a* or *fino a* (until); and periods by *per* (for), *durante* (during), *nell’anno* (in the year), and suchlike.
   
   No definite connections could be found between specific suspension-related terms and time expressions, even though verbs expressing “process events” can give us some clue about how to interpret or classify a TemporalArgument; thus, cessare (cease) can only introduce a suspension’s starting time, and concernere (concern, regard) only a period.
   
   TemporalArguments can be implicitly derived from the time of a suspension’s coming into force, or they can be explicitly bound to the entry into force of a law other than the PassiveNorm: this other norm will occur as the object of a preposition following the term *vigore* (force), which forms part of a time expression (“PassiveNorm is suspended starting from the entry into force of law Y”).
6. Modelling Suspensions Using FrameNet

FrameNet – a lexicon-building project developed at Berkeley University – examines words by their meaning and describes the conceptual structures of sentences.

This makes it possible to map the main parts of speech (verbs, nouns, etc.) and to couple them with the legal concepts expressed by the words in question (concepts such as suspension, modified suspension, and disapplication).

If we are to turn the previously presented elements into Frame Elements within the FrameNet project, we have to model two layers of semantics.

Two frames will be created on the first layer, namely, the “Efficacy_Inclusion” and “Efficacy_Exclusion” frames, which on the second layer will be merged into the “Main_Suspension” frame expressing its meaning in terms of lack of efficacy.

Also, a “Suspension_Modification” frame will be created to capture provisions modifying a suspension previously introduced by another norm. It is fairly easy to distinguish between the two kinds of provisions, since they are textual modifications lacking a term that evokes an Efficacy frame and contains some Change_event_time frame.

In order to properly interpret the modification, there needs to be a comparison between the Suspension_Modification and the Main_Suspension (contained elsewhere). For this reason, the Suspension_Modification element will be presented in FrameNet without any semantic specification of its content, since the exact interpretation of the provision will be entrusted to other tools.
On the first layer, the relevant terms evoke either the **Efficacy_Inclusion** or the **Efficacy_Exclusion** frame.

The **TemporalArguments** of the shift in efficacy is captured by the **Period_Start** and **Period_end** Frame Elements (FEs), and the target norm is marked as **Passive_Norm**. Frame Element Groups (FEGs) represent the occurrence of FEs in the examined provisions ($P$=**Passive_Norm**, $S$=**Period_Start**, $E$=**Period_End**).

<table>
<thead>
<tr>
<th>FEG</th>
<th>Annotated Example</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P$, $S$, $E$</td>
<td>[P L'obbligo di cui all’articolo 51, comma 1, della legge 27 dicembre 2002, n. 289, è sospeso [S dalla data di entrata in vigore del presente decreto] [E fino al 31 dicembre 2006].]</td>
<td>8</td>
</tr>
<tr>
<td>$P$, $E$</td>
<td>[P Le disposizioni del presente provvedimento] hanno efficacia [E sino a tutto il 7 maggio 2007].]</td>
<td>32</td>
</tr>
<tr>
<td>$P$, $S$</td>
<td>[P Le disposizioni del presente provvedimento] cessano di avere efficacia [S il giorno successivo alle votazioni di ballottaggio di cui al comma 1].]</td>
<td>30</td>
</tr>
<tr>
<td>$S$+$E$, $P$</td>
<td>[S+$E$ Per l’anno 2008] non si applicano [P le disposizioni di cui all’articolo 1, commi 648 e 651, della legge 27 dicembre 2006 n. 206]</td>
<td>3</td>
</tr>
</tbody>
</table>

On the second layer, the **Main_Suspension** frame will be modelled by inheriting the **Process** frame. Suspension is therefore treated as a process, with a “target” represented by the **Passive_Norm** (carried over unchanged
from the first layer) and whose state is affected by one or more events: it starts with the event Suspension_Start event and/or ends with the Suspension_End event.

<table>
<thead>
<tr>
<th>FEG</th>
<th>Annotated Example</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>S, P</td>
<td>[S A partire dal quindicesimo giorno dalla data della pubblicazione della presente legge cesserà l'efficacia [P del decreto ministeriale 22 agosto 1994, n. 582]</td>
<td>4</td>
</tr>
<tr>
<td>P, S, E</td>
<td>[P L'obbligo di cui all'articolo 51 della legge 27 dicembre 2002, n. 289], è sospeso [S dalla data di entrata in vigore del presente decreto] [E fino al 31 dicembre 2006].</td>
<td>2</td>
</tr>
<tr>
<td>P, E, S</td>
<td>[P Il presente provvedimento acquista efficacia [E dalla data di indizione dei comizi elettorali per i referendum regionali] [S sino a tutto il 5 ottobre 2008]</td>
<td>10</td>
</tr>
<tr>
<td>S+E, P</td>
<td>[S+E Per l'anno 2008] non si applicano [P le disposizioni di cui all'articolo 1, commi 648 e 651, della legge 27 dicembre 2006 n. 206]</td>
<td>3</td>
</tr>
</tbody>
</table>

The following table explains how the Period_Start and Period_End elements are transformed into Suspension_start and Suspension_end, marking the start and endpoint, respectively, of a period where a norm lacks efficacy.

<table>
<thead>
<tr>
<th>FE to be transformed</th>
<th>Efficacy_Inclusion</th>
<th>Efficacy_Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period_start</td>
<td>Suspension_End</td>
<td>Suspension_Start</td>
</tr>
<tr>
<td>Period_stop</td>
<td>Suspension_Start</td>
<td>Suspension_End</td>
</tr>
</tbody>
</table>

Moreover, the start of the process can be advanced or postponed by another norm, and the same can happen to its end. These events will be represented in four specific frames, subclasses of the “Suspension_Modification” frame whose modelling will be presented in the end of the next section.
7. FROM THE TEXT STRUCTURE TO THE LEGAL SEMANTICS

The FrameNet model described above is designed to read legislative texts (by legal expert) in which the suspending provisions were previously semi-automatically detect (and relative arguments). On the structural level, a parser automatically detects references, dates, and other metadata in a legislative text. It is Norma-Editor that detects such data, converting this information into XML tags and metadata using Legal XML standards (such as Akoma Ntoso and NiR). The future steps is that the XML file is then processed by a deep syntactical parser based on a NLP tool provided by the University of Turin. Detecting the treebank and the main linguistic structural elements can help us understand the semantics acquired from a FrameNet analysis of the suspension. Efficacy-evoking terms help us understand the type of provision in question: (i) if the evoking word occurs as the subject, then the prepositional phrase is marked as Passive_Norm (as in “Efficacy of law X”); (ii) if the evoking word occurs as the predicate, the Passive_Norm element will be represented by the subject (“Law X is suspended”). Words expressing time are marked as Period_Start or Period_End.

FrameNet distinguishes between Efficacy_Inclusion and Efficacy_Exclusion frames, and the frame’s Period_Start and Period_Stop are converted into Suspension_Start and Suspension_End accordingly. FrameNet also recognises the presence of a nearby Change_Event_Time frame and introduces a Suspension_Modification frame in place of a Main_Suspension (which should already be effective in Passive_Norm). In this case, the frame’s Suspension_Start and Suspension_End are replaced with Start_Modification and End_Modification and a reasoner processes the Suspension_Modification frame in light of the Main_Suspension contained in the Passive_Norm, distinguishing advancement and postponement of start/end events (Start_Advancement, Start_Postponement, End_Advancement, End_Postponement).

8. CLEARANCE OF THE SUSPENSION MODEL

A problem in the detection of the suspending provisions is to distinguish the suspension action from the exception. The exception is a modification of the norm where the rules are restricted respect the original scope. The matter limitation can involve three main possible aspects:

a) the agents addressed (e.g. touristic services);
b) the geospatial parameters (e.g. Abruzzo region);
c) the temporal time when the fact should be considered (e.g. the earthquake of the 2009).

The main problem, also considering the intellectual activity of the law interpretation, is to decide if the modification affects only the scope or definitely the temporal effectiveness of the norms. We find the same linguistic elements (verbs, arguments) of the suspension, but the result is completely different, more oriented to limit the range of the law application rather than delimitate the temporal suspension of the norms. In the matter of fact we find structural and linguistic common elements that could create misleading in the human, as well as in the machine, approach. Both modifications often include the description of an event (e.g. date). The linguistic expression “non si applicano” (it shall not be applied) occurs in the suspension as well as in the exception.

The exception could also be integrated by conditionals that make more complex the text analysis (e.g. the article 2 shall not be applied in case of accession of the European Union). The conditionals (logical constraints) are possible in both changes: suspension and exception.

Finally the exception often delegates to a normative citation the specification of the derogation matter (e.g. the article 4 shall not be applied in the countries defined in the article 45, Act 4/2010). In this case the derogation matter is really complex to identify without access the referred document.

For the abovementioned reasons it is difficult, especially using regular pattern, to clearly discriminate the two change models, especially in the borderlines examples.

Using the same set of documents (about 29,000 acts, for 46,483 articles) we found 371 documents containing exceptions, for a total of 711 exception modifications. Considering this set of document, 410 exceptions – out of 711 – use the linguistic verbal formulation “non si applicano (the provision shall not be applied in...)”, and 10 of them combine an event parameter. Considering the following example: “The present title shall not be applied to the goods introduced in the market before the July 30th, 1988”, the date (July 30th, 1988) is referred to an external event (connected to the facts) and not to an internal temporal argument of the normative text. The internal event, at the end, leads the in forcibility or the efficacy of the provisions (legislative document) and not declare nothing about the range of the addresses. For focusing in accuracy way the suspension provision, we need to clear away any possible ambiguities during the text analysis.
For these reasons our future work will be oriented to model in FrameNet the exception modification in order to define in more precise way the pattern for this specific change. The goal is to delineate the intersection between suspension and exception models and to isolate the indisputable suspension changes. Finally we believe that the intersection set needs a particular analysis for identifying more characteristics able to disambiguate the two typologies.

9. Conclusions

The regularity of the modificatory provisions and the frequency of the textual ones encourage research in the direction we have indicated. Moreover, the results obtained from applying NLP tools (by University of Turin) bear out our methodology: a more detailed vocabulary of verbs can be extracted from this large database (29,000 normative documents), and that would make it possible to reinforce the linguistic classifications in conjunction with a taxonomy of modificatory provisions\(^{15}\). On the other hand, in dealing with temporal modifications we need to have more contextual information, as well as the linguistic pattern used for expressing the action, a more powerful instrument for describing regularity, and a connection with the lexicon. It is for this reason that we have started using FrameNet. A first outcome of this methodology is presented in this paper. The goal of this paper is not to present applicative outcomes (for now), but to provide a robust legal and linguistic methodology for approaching the legal text analysis with particular regard to the temporal modifications. We believe this approach to be an advancement when it comes to modelling legal language, while taking also into account the theory of law.