

## **Variation in Boilerplate: Rational Design or Random Mutation?**

Stephen J. Choi, Mitu Gulati & Robert E. Scott\*

### **Abstract**

Standard contract doctrine presumes that sophisticated contracting parties choose their terminology carefully because they want courts or counterparts to understand the precise meaning they intend to convey. The implication of this “rational design” model of commercial contracting behavior is that courts should (and do) pay close attention to the plain or ordinary meaning of the language in a standardized term and interpret observed changes in terminology as embodying new meaning that varies from the original formulation. Using a study of the sovereign bond market, we examine the rational design model as applied to standard-form contracting. In *NML v. Argentina*, federal courts in New York attached great weight to the precise phrasing of the boilerplate contract terms at issue. The industry promptly condemned the decision for endorsing a supposedly erroneous interpretation of a variant of a hoary boilerplate clause. Utilizing data on how contracting practices responded to the courts’ decisions, we ask whether the market response indicates that parties in fact intended the variations in their standard contract language to embody different meanings. We find the data supports a model of the evolution of boilerplate language that is much closer to random mutation rather than rational design.

---

\* Faculty at NYU, Duke, and Columbia University law schools, respectively. For comments, thanks to workshop participants at the law schools at the University of Chicago, the University of Glasgow, NYU, BYU, Columbia, and the University of Pennsylvania.

## I. Introduction

*NML Capital v. Republic of Argentina* is perhaps the most important case in the history of the sovereign debt markets. The core of the case was a dispute over the meaning of the *pari passu* clause in the Republic of Argentina's bond covenants—a contract term that almost no one in the markets seemed to understand (Gelpern 2016). Despite the lack of market understanding, a court in the Southern District of New York (SDNY) ruled that the particular variant of the *pari passu* clause in Argentina's bonds had a precise meaning, one that required the sovereign to make “ratable payments” to all bondholders, including those holdouts who had refused to participate in Argentina's debt restructuring.<sup>1</sup>

Despite the widespread market sentiment that the *pari passu* term *did not mean* what the SDNY said that it meant, the seemingly aberrant interpretation was affirmed by the Second Circuit Court of Appeals, the leading commercial court in the United States.<sup>2</sup> Both courts, faced with what was essentially an evidentiary vacuum about the affirmative meaning of the clause, took the standard contract interpretation approach of assuming that variations in the formulation of the clause suggested variations in the contractual intentions of the parties. Using data on how market actors reacted to the courts' interpretive strategy, we examine how well this strategy-- that presumed the variations were the product of intentional contract design-- worked to replicate the bargain that parties had intended to make.

Our goal in this article is to shed light on a specific question regarding the appropriate presumptions for courts to use when interpreting boilerplate language: Do distinct variations in the wording of boilerplate clauses necessarily imply differences in meaning, particularly when the standard meaning of the clause seems to be largely lost? Contract doctrine, particularly in New York, attaches great importance to the precise language of contract terms based on the strong presumption that the use of different words suggest differences in meaning and intent.<sup>3</sup>

---

<sup>1</sup> See *NML Capital, Ltd. v. Republic of Argentina*, No. 08 Civ. 6978 (S.D.N.Y. Dec. 7, 2011); *NML Capital, Ltd. v. Argentina*, No. 08 Civ 6978 (TPG) (S.D.N.Y. Feb. 23, 2012).

<sup>2</sup> See *NML Capital, Ltd. v. Republic of Argentina*, 2011 WL 9522565, at \*2; *NML Capital, Ltd. v. Republic of Argentina*, 699 F.3d 246 (2d Cir. 2012).

<sup>3</sup> See e.g., *Ashwood Capital, Inc. v OTG Mgt., Inc.* 99 A.D.3d 1, 948 N.Y.S.2d 292, N.Y.A.D. 1 Dept.,2012,

Our study suggests, at least in the case of one subset of boilerplate contracts, that the presumption of intentional design may be unwarranted.

Important to our analysis is the premise that there are contract provisions and mutations to those provisions in some boilerplate contracts that neither party understands nor intends to convey current meaning. Contract doctrine does not contemplate the possibility of such “black hole” terms (Choi, Gulati & Scott 2017). We begin, therefore, with an explanation of how the erosion of meaning over time can produce black holes in certain boilerplate contracts. Erosion of meaning can occur in at least two ways (Goetz & Scott 1985). First, some terms are so consistently repeated that they become a ritualized incantation and lose their original meaning (“rote usage”). The rote usage problem arises when the meaning of a term is never validated through litigation or updated by an industry group. And the problem becomes worse if the clause becomes part of the standard “check list” of essential terms that are included without bargaining; a phenomenon that accelerates rote usage. “Encrustation” is a second result of too much repetition: the intelligibility of language deteriorates significantly as legal jargon is overlaid on standard linguistic formulations. Once a term becomes part of the standard check list, contracting parties are less motivated to focus on and correct random variations that subsequently appear.

How should a court handle variation in the language of standard form contract terms that have largely lost an apparent meaning? As a matter of ordinary contract interpretation, courts are instructed to give effect to the ex ante intentions of the parties. Since the contracting parties are in the best position to articulate their purposes, presumably their explicit words at the outset of the contractual relationship are the best evidence of what they intended. For example, if a contract stipulates that a party must use “best efforts” rather than an alternative, say, of “reasonable efforts,” a court may assume that they purposely specified “best” rather than “reasonable” efforts, and, to the extent possible, give content to that purpose. The utility of

---

July 10, 2012 (“According to well-established rules of contract interpretation, ‘when parties set down their agreement in a clear, complete document, their writing should as a rule be enforced according to its terms’. We apply this rule with even greater force in commercial contracts negotiated at arm’s length by sophisticated, counseled businesspeople ... We ... concern ourselves ‘with what the parties intended, but only to the extent that they evidenced what they intended by what they wrote’.” [citations omitted]).

courts using this “Rational Design” model of contract interpretation when interpreting certain boilerplate language is our starting point.

Against the Rational Design model, we test an alternate “Random Mutation” model that assumes linguistic variations in a standard boilerplate term are more often a product of uncoordinated efforts to tinker with the standard language as opposed to intentional efforts to tailor the language to achieve a particular meaning. In this model, boilerplate contracts produced for individual deals are not created out of whole cloth. Instead, drafters copy new deals largely from prior deals or industry standard forms (Richman 2011). Even so, marginal modifications to the standard form are required to meet the needs of the transaction. Thus, agents charged with the drafting responsibility but ignorant of the function of the boilerplate terms tinker with the boilerplate language at the margins. But if parties include these boilerplate terms simply to satisfy standard practice and not because they attach independent substantive meaning to the terms, then principals are not motivated to monitor the agents’ actions. In this way, the revised language evolves as the “new” standard, leading to encrustation. The modified standard is then reused in future deals and incorporated into the next generation of boilerplate terms. Under a Random Mutation model, it would not be surprising to find terms that become part of the standard template and are then repeated over time through rote usage as part of the standard package of terms without any attention paid to the original meaning of the terms. This lost meaning becomes even more difficult to recover when, through the tinkering process, the terms also become encrusted with meaningless legal jargon (Goetz & Scott 1985).

It matters which model a court adopts when interpreting boilerplate terms in commercial markets. The Rational Design model might advise a court to give different effect to “reasonable efforts,” “best efforts” and even “reasonable best efforts” variations. By contrast, the Random Mutation model advises the court to entertain the possibility that “reasonable efforts,” “best efforts” and “reasonable best efforts” variations might all mean the same thing. Moreover, if the boilerplate term at issue has lost meaning, a court charged with resolving an interpretive dispute faces an evidentiary vacuum. Here, the likelihood that a court following the Rational Design approach will adopt an aberrant interpretation is increased as compared with a boilerplate term with known meaning.

The *pari passu* litigation that is the centerpiece of our inquiry raises this issue. The clause, a staple of sovereign bond instruments for over a century, exists today in at least four distinct formulations. The sovereign bonds at issue will alternately *rank*, with the sovereign's other debt, *equally* ("Rank Equally"), *equally in right of payment* ("Rank Equally in Payment"), or *equally and ratably and be payable as such* ("Pay Equally"). In a fourth formulation, the sovereign bond instrument includes one of the prior three versions with an addendum "*except as subject to mandatory law*" (termed "Mandatory Law"). Of these, the Rank Equally version of the clause has the oldest vintage (Weidemaier, Scott & Gulati 2013).

In *NML v. Argentina* the courts suggested that the Rank Equally in Payment clause meant something different than the Rank Equally formulation. In the terms of our project, the question for the courts was whether this variation (in particular, the addition of the word "Payment") reflected a random mutation or was the tailored product of rational design. In addition to suggesting that the Rank Equally and the Rank Equally in Payment clauses had different meanings, the *NML* courts did something else that aids our analysis: they suggested that the Rank Equally in Payment might be the same as (or something close to) the Pay Equally version of the clause. So, while the courts rejected the Random Mutation model by giving meaning to the difference in wording between Rank Equally and Rank Equally in Payment, they also (perhaps inadvertently) suggested implicitly that Rank Equally in Payment had the same meaning as Pay Equally (despite the difference in wording). Thus, the ruling, while pushing in the direction of the Rational Design model by giving meaning to some differences in language among the clauses, was not fully consistent with the model since the court ignored certain other differences in language.

To summarize, the *NML* courts appeared to have adopted a position close to the Rational Design model by following the traditional doctrinal view that contracts written by sophisticated parties are precisely and intentionally tailored.<sup>4</sup> This particular interpretation permits us to

---

<sup>4</sup> For examples of applause from New York lawyers for the *NML* courts having followed strict New York contract principles of enforcing contracts "as written", see Steel, Zarrini & Goldin (2014); Keenan (2012). For purposes of our study what is relevant is that the *NML* courts appeared to be suggesting in 2011 and 2012 that a key element of their decision was the precise wording of the clauses. That understanding of the courts' ruling gave parties an

examine how the markets reacted to the courts' decisions and to ask whether the variations in the formulations of *pari passu* that existed prior to the courts' interpretation of the clause were the product of tailoring or tinkering. If the Random Mutation model is correct, we expect that contracting parties ultimately will respond to the courts' interpretation by eliminating the variation in the contracts and returning to the original Rank Equally version of the clause. If the Rational Design model is correct, we expect either no changes in the language of the clause (assuming the courts correctly identified the market's preferred variations) or efforts to reintroduce desired variation in the terms.

The evidence from this case study supports the Random Mutation model. We find that market-wide revisions to the *pari passu* term take significantly longer to be implemented than would be expected for boilerplate terms in general under the Rational Design model. Moreover, consistent with the Random Mutation model, when the market ultimately revises the *pari passu* term, the previous variations of the clause are abandoned in favor of returning the standard language to a single coherent version. This data supports the inference that random mutation rather than rational design may better explain the variations in boilerplate terms that have lost much if not all contemporary meaning. Our study thus contributes to the broader, and as yet unresolved, debate over how best to interpret boilerplate terms in standardized commercial contracts (Davis 2010; Baird 2013; Radin 2014).<sup>5</sup>

The Article proceeds as follows. In Part II, we describe the dataset and outline our strategy for coding the several revisions to *pari passu* that followed the NML decisions. Part III develops the competing theories and generates hypotheses for each. Part IV describes the empirical tests and lays out our findings. We conclude in Part V.

---

incentive to clarify the language of their contracts (if they disagreed with the court) (IMF 2014; Galvis 2017). However, on December 22, 2016 in a follow-up case to *NML*, the trial court explained that its decision to grant the 2011 injunction had not been purely the product of the contract language, but was based as well on Argentina's misbehavior vis-à-vis its creditors and the court. *White Hawthorne, LLC, et al. v. Republic of Argentina*, No. 16-cv-1042, (S.D.N.Y. December 22, 2016). Arguably, in the post-December 2016 era the incentives for parties to alter their contractual language have diminished. In any event, our analysis covers only the period up to December 31, 2016.

<sup>5</sup> Courts in multiple jurisdictions have suggested that boilerplate contracts should be interpreted differently, and in a fashion that takes into account that these are mass market products. See, e.g., *Ledcor Construction Ltd. v. Northbridge Indemnity Insurance Co.*, 2016 Sup. Ct. of Canada 37 (CanLII); *Marblegate Asset Mgt. v. Education Mgt. Corp.* 846 F.3d 1 (2d Cir. 2017).

## **II. Data**

To test the question whether rational design or random mutation better explains variations in boilerplate language, we assembled a dataset of sovereign bonds issued from June 1, 2011, roughly six months prior to the SDNY decision on December 7, 2011, when the court issued its controversial interpretation of the *pari passu* clause and suggested that its reasoning was primarily a matter of strict contract interpretation. Briefs in the SDNY case were circulating several months before December 2011 and some market actors might have predicted the outcome. We start our examination six months prior to the SDNY decision to allow for market reactions in anticipation of the SDNY decision. The dataset runs to December 22, 2016, when the same judge in the earlier SDNY decision said that contract language was only one of the factors leading to his decision.

For data, we used the Perfect Information database, the most extensive source of sovereign debt documents. Our dataset contains 829 sovereign bond offerings from 92 sovereign issuers. These were all issuers who at some stage had used a *pari passu* clause in their sovereign bonds. For our analysis, we focused only on sovereign bond offerings under foreign law, such as New York or English law: those are the bond offerings that pose the greatest risk of holdout creditors utilizing the *pari passu* clause to block a restructuring.<sup>6</sup> Limiting the dataset to foreign law offerings left us with 691 sovereign bond offerings from 90 different sovereign issuers.

Using the SDNY interpretation and the Rational Design model as a baseline, we coded all changes in the *pari passu* term for every issuance in terms of the presumed impact of the revisions in *pari passu* language. Since the *NML* case involved litigation by creditors who had refused to participate in Argentina's attempt to restructure its debt and who obtained a powerful judicial remedy instead ("holdout" creditors), we code the changes to the contract language in terms of whether it increased or decreased the risk of holdouts. We divided the changes into two

---

<sup>6</sup> Bonds under local laws have little vulnerability to holdouts, since the sovereign can alter the law ex post.

categories: a) those that entailed a direct change to the core language of the *pari passu* clause and thus resulted in a major change in the risk of holdouts (“Major” change); and b) those that attempted to augment the evidentiary record on the meaning of the term without directly changing its language, which we posit had only a minor impact on the risk of holdouts (“Evidentiary” change).

### ***1. Major Changes in Pari Passu Risk***

The Major changes in holdout risk derive from variations in the core language of the *pari passu* clause. Our baseline for each bond was the version of the clause that the issuer was using before June 1, 2011. From that baseline, we examined the changes in the language of the clause.

The traditional version of the *pari passu* clause states something along the following lines:

*The notes rank and will rank without any preference among themselves and pari passu with all other unsubordinated public external indebtedness of the Republic.*

We term this traditional version the “Rank Equally” *pari passu* clause (for the history, see Weidemaier, Scott & Gulati 2013). Importantly, the Rank Equally clause does not refer to “payment” in its “rank without any preference” language. Because this “payment” language appeared to be key to the *NML* courts granting the initial injunctions against Argentina in 2011-12, we coded the Rank Equally clause, which lacked that “payment” language, as posing a low risk of holdouts.

As noted earlier, prior research has documented that the Rank Equally version of the clause was the original formulation. The other versions of the clause were mutations from this original form and we describe them below.

The first variation provides explicitly that each creditor will be entitled to ratable payments. For example, Italy, in 2010, employed a *pari passu* clause in its New York law bonds stating that:

*The Securities ... will rank equally with all other . . . unsecured . . . obligations of Italy  
.... Amounts payable [on]. . . the Securities will be charged upon and **be payable** out of*



*the [Treasury of Italy], **equally and ratably** so charged and amounts payable in respect of all other general loan obligations of Italy.*

We term this version of the clause that provides for *explicit* ratable payments, the “Pay Equally” clause. The Pay Equally clause poses a high risk of holdouts: this was the meaning of *pari passu* the holdouts were arguing for in the Argentine litigation.

A second variation of the clause promised investors:

*The bonds rank and will rank **pari passu in right of payment** with all other unsecured . . . External Indebtedness of the debtor.*<sup>7</sup>

We term this the “Rank Equally in Payment” clause. Prior to 2011, the Rank Equally in Payment clause posed an uncertain risk of holdouts. On the one hand, the Rank Equally in Payment clause used the word “payment” which, read literally, seemed to imply that holdouts would have a greater ability to obtain equal payments as compared with the Rank Equally version of the clause. On the other hand, the Rank Equally in Payment version did not explicitly specify “ratable” payments unlike the Pay Equally formulation. In terms of holdout risk, therefore, Rank Equally in Payment sits somewhere between the Rank Equally and Pay Equally versions.

The Rank Equally in Payment clause was the version of *pari passu* seized on by NML Capital in the case against Argentina. NML Capital argued that a sovereign debtor in arrears to creditors had to pay the creditors who ranked “*pari passu in right of payment*” on a pro rata basis (Blackmun & Mukhi 2010). Further—and this was important given that a court’s order to pay is largely meaningless against a sovereign debtor—the clause allegedly entitled a creditor who was not paid its pro rata share to an *injunction* against other creditors who were paid that share (Weidemaier & Gelper 2013).

The final variation that we coded incorporates a term that subjects the *pari passu* clause to the application of mandatory local law (the “Mandatory Law” clause). In these bonds, words such as “except as subject to provisions of mandatory law” supplement the *pari passu* language.

---

<sup>7</sup> On the evolution of these clauses and their risk levels, *see* Buchheit & Martos (2014), Weidemaier, Scott & Gulati (2013).

The sovereign with this clause in its bonds can change its local law to forbid the payment to holdout creditors. The Mandatory Law clause accordingly creates the lowest risk of holdouts.

Table 1 depicts the four different variations and, assuming a court takes the Rational Design perspective in interpretation, the risk of holdouts each variant represented both prior to and after the SDNY decision.

**Table 1**

<b>Type of Pari Passu Clause</b>	<b>Pre-SDNY Holdout Risk Level</b>	<b>Post-SDNY Holdout Risk Level</b>
Pay Equally	High	High
Rank Equally in Payment	Medium	High
Rank Equally	Low	Low
Mandatory Law	Lowest	Lowest

## **2. Evidentiary Changes**

We focus our analysis here on whether, in response to the SDNY decision attaching importance to the variations in *pari passu*, market actors revised their clauses to eliminate those variations or chose instead an alternate approach. Because of the inertia costs affecting parties who face the challenge of revising (in an evidentiary vacuum) terms that lack an apparent meaning, we conjecture that parties may choose to add to the evidentiary record on the meaning of the term (termed an Evidentiary change). Parties may be concerned that courts will use any new formulations of a term as evidence that the clauses in prior deals mean something different from the new clause. An Evidentiary change minimizes the risk of the change adversely affecting the meaning of clauses in prior deals. Given the evidentiary vacuum, any additional evidence may potentially have a disproportionate effect on how a court will interpret the term. To get at this question, we coded not just for Major changes (revisions to the core language of the clause), but also Evidentiary changes (attempts to add evidence about what the clause meant that was in addition to (or instead of) any changes to the contract term itself).

We term Evidentiary changes as minor because they have a lower likelihood of affecting a court's interpretation than would a direct change in the core language of the clause. As we discuss more fully below, the impact of an Evidentiary change on risk depends on the existing stock of evidence on the meaning of the term. Where the meaning of a boilerplate term is well known, there is likely little value in parties trying to add to the background evidence on meaning. Put differently, we would expect Evidentiary changes to appear where the meaning of a term is unknown or at least uncertain.

The first category of Evidentiary changes was a disavowal of a particular meaning of the clause: sovereigns inserted language in the bond documentation that purported to explain that the clause *did not mean* that a creditor was ever entitled to ratable payments with other creditors of equal rank. A second, and more passive, Evidentiary change involves reporting to investors that the *pari passu* clause in the contract posed a risk of a particular, disfavored interpretation for investors.

### **III. Theory and Predictions**

#### ***1. NML v. Argentina as a Test of Competing Theories***

In theory, one could test the Rational Design and Random Mutation models by observing the impact on contracting behavior of a court ruling that, say, “best efforts” and “reasonable efforts” terms in commercial contracts have the same meaning. If the parties intended the terms to capture different degrees of effort, consistent with Rational Design we should observe modified contracts that clarify the meaning the parties intended. If, on the other hand, variation in the boilerplate was Random Mutation, parties instead should eliminate the mutations and return to core version of the term.

In reality, for several reasons the conditions to employ such a test rarely appear. First, courts are not always clear about the precise interpretation they adopt and often give multiple reasons for their decisions. Second, market actors might not acquire sufficient information from a given court decision to motivate contract revisions, especially if the courts in question are

obscure. As a result, we might not observe evidence of a response to court decisions on contracts even if the market disagrees with a court's interpretation.

*NML v. Argentina* presents the exception that allows us to test the Random Mutation or Rational Design question for the following reasons:

- The courts made clear the importance of the precise formulation of the contract language (specifically the use of the word “payment”) to their decision. Consider the language of the Second Circuit:

The particular language of the *pari passu* clause dictated a certain result in this case, but going forward, sovereigns and lenders are free to . . . draft different *pari passu* clauses that support the goal of avoiding holdout creditors.<sup>8</sup>

- The courts made their decision in a fashion that predicts changes in contract language (in reaction to the decision) under *both* models, *albeit in different directions and to different degrees*;
- The courts that tackled the question were prominent in the business world so there was reason to expect a reaction;
- The market actors (sovereign states and their advisers) were all sophisticated and informed about the case (the Financial Times alone reported the details of the *NML v. Argentina* case in more than a hundred articles and blog posts).

Given the turmoil caused by *NML v. Argentina*, a literature has developed on the Rational Design versus Random Mutation question in the precise context of the *pari passu* clause, with both academics and practitioners on either side (Kahan & Leshem 2017; Steel, Zarrini & Goldinstitute 2014; Keenan 2012; Wright 2011; Burn 2014; Goss 2014). In the following sections we describe the competing theories and the predictions they generate.

## **2. Rational Design**

As noted above, the *pari passu* clause comes in four versions: Rank Equally, Rank Equally in Payment, Pay Equally and one of the three mentioned versions plus Mandatory Law. At issue in the Argentine litigation was the Rank Equally in Payment version. The plaintiffs

---

<sup>8</sup> *NML Capital, Ltd. v. Republic of Argentina*, 727 F.3d 230, 248 (2d Cir. 2013).

argued that Rank Equally in Payment meant the *same as Pay Equally*, giving them a right to an injunction barring payments to other creditors unless they were paid ratably on their claims. Argentina countered that the Rank Equally in Payment language was the *same as Rank Equally*, which they argued was no more than a promise that the country would not pass a law changing the legal rank of the bond. The trial court did not make the precise rationale for its ruling clear, but allowed a significant possibility that the Rank Equally in Payment variation now meant the same thing legally as Pay Equally. That uncertainty was enough to motivate both the IMF and the International Capital Markets Association (ICMA) to recommend that market participants revise their clauses (IMF 2014; ICMA 2014).

In a world of rational design, the variation in the phrasing of the clauses is conscious and intentional, and the different clauses are promising different rights to creditors. In particular, as Kahan and Leshem (2017) do, one could tell a story that the *pari passu* clause mediates between the ability of investors to hold out against a restructuring which may impede value-increasing resolutions to sovereign distress, and the moral hazard problem of sovereigns being financially undisciplined if the restructuring option is too readily available. Some sovereigns may rationally prefer a different balance between these competing concerns, leading them to choose *pari passu* clauses with varying levels of exposure to holdouts in a restructuring.<sup>9</sup>

In the world of rational design, there are several possible responses to the SDNY decision. First, the market might agree with the court's decision treating Rank Equally in Payment as the same, or similar to, the Pay Equally version of the clause. In this case, no change should occur to contracts after the SDNY opinion. We can readily dispose of this version of the rational design story. As we report below, after an initial period with no changes, we observe rapidly increasing changes to the *pari passu* clause in our dataset. Second, the market may prefer a variation in the *pari passu* term that differs from the SDNY's interpretation. In particular, equating Rank Equally in Payment as the same as or similar to Pay Equally disturbs

---

<sup>9</sup> Recall from Part II (1) *supra*, that the Rank Equally version of *pari passu* at best gives creditors protection only against legal (de jure) subordination, creating only a low risk of holdouts. In contrast, Pay Equally gives creditors protection against payment (de facto) subordination, imposing a high risk of holdouts on sovereigns. Rank Equally in Payment lies somewhere between Rank Equally and Pay Equally in a probabilistic sense: a court might rule either way thus creating a medium risk of holdouts from an ex ante perspective (Kahan & Leshem 2017). Finally, a sovereign that incorporates the Mandatory Law version of the *pari passu* clause renders the protections of the clause subject to the whims of the sovereign debtor's local legislature.

the parties' allocation of risks if the intent of those sovereigns was to select a holdout risk somewhere *between* Rank Equally and Pay Equally. In this case, when sovereigns and other market participants draft new terms to better reflect their intent, contract drafters should revise the Rank Equally in Payment clauses to reduce the risk of holdouts below that of the Pay Equally version. For example, parties could add ancillary language indicating that holdouts are only paid ratably if the sovereign behaves opportunistically. We would not expect any changes with the other variations in *pari passu* clauses since the court's decision did not reinterpret them.

A body of literature, specifically focused on standard-form contracts, suggests that boilerplate terms may be "sticky." Because of network externalities, organizational routines and other costs of revision, contracting parties might find themselves using suboptimal terms. (Kahan & Klausner 1997; Smith & King 2009). In contrast, a variant of the Rational Design model posits that where sophisticated market participants disagree with a court's interpretation and prefer to return to their original understanding prior to the decision, the parties will *promptly* do so. The extended period without changes that we observe in the data discussed below allows us to dispose of this 'no inertia' variant of the Rational Design model in the *pari passu* context.

To summarize, the predictions from the Rational Design model are that the market will respond, possibly after delay, as follows: (1) the clauses stating Rank Equally in Payment will have additional language inserted to make clear that this clause is neither Rank Equally or Pay Equally, but incorporates a place in between (thus returning to the pre-SDNY bargain) and (2) the other three types of clauses will not change.

### **3. *Random Mutation***

The Random Mutation model is based on earlier theoretical literature (Goetz & Scott 1985) and on the reports from interviews conducted with market actors after the *pari passu* cases (Gulati & Scott 2013; Choi, Gulati & Scott 2017). A common view the market actors conveyed in the interviews was that the variation in the language of the clauses is largely meaningless and that all *pari passu* clauses embody the same intent. In aggregate, there were two principal components to the respondents' random mutation story. First, there was only one core *pari passu* clause and market participants understood the small variations in language as part of a single

standard form. Second, these variations in the formulation of the clause were not being harmonized because of the lack of focal points: the absence of any simple means of coordination was a category of inertia costs unique to boilerplate terms such as *pari passu* that lacked any apparent meaning. The lack of meaning of a term repeated by rote over many years implies that there is an evidentiary vacuum for courts seeking to interpret the term.

Market actors particularly stressed the importance of the unique inertia costs associated with a term that lacks an understood meaning: They offered four primary explanations for why change occurred slowly, even if there was widespread belief that the courts had erred:

- *First Mover Costs*: Markets value standardization. Correcting language without being confident that others in the market were similarly modifying their contracts is risky because no one knows how the market will react to individual deviations from the standard form.
- *Court Correction*: Future courts, and particularly more sophisticated appellate courts, might correct the errors made by the lower courts. Modifying contract language prior to observing the actions of these other courts runs the risk of making premature drafting decisions.
- *Debt Overhang*: Many issuers have large portions of their debt outstanding with the old, now problematic, version of the clause. Changing current clauses would cast doubt on the meaning of the old clauses, perhaps causing the markets to discount the older bonds. Traders do not like to differentiate among the bonds of the same sovereign and having to do so might cause them to abandon that sovereign's bonds altogether.
- *Agency Problems*: Neither the issuer's representatives or the bankers involved in routine sovereign issuances are likely to be employed when the sovereign goes into crisis. Their incentives tend to be short term; they want to raise funds and earn fees. If and when things go wrong, a different set of people will be involved.

The evidentiary vacuum described above motivates the practitioners' explanations for inertia. Where inertia derives primarily from the evidentiary vacuum surrounding the interpretation of a term that has lost much if not all meaning, inertia costs should have a much stronger negative effect on experimentation with the actual language of a meaningless term: the

very act of experimentation may negatively affect the evidence in court. Thus, parties choose instead to wait until higher courts have every opportunity to correct the errors below. Under the Random Mutation model, we also predict higher costs associated with being a first mover, particularly where the first mover runs a greater risk of destabilizing the meaning of its existing stock of contracts. The market may also impose a pricing penalty on a first mover who acts unilaterally to change the market standard. We therefore predict little experimentation with the direct language of an essentially meaningless term until key market actors move together to a new standard. Because market-wide collectivizing actions take time, we predict that inertia will for last a significant period when evidentiary costs drive the inertia. We predict that subsets of market participants may instead experiment with lower risk efforts to shape the evidentiary burden of proof (Evidentiary changes). In addition, we predict that under the Random Mutation model we should see more such evidence-related experimentation when:

- (1) the costs of an erroneous court interpretation are more salient to a particular issuer, such as issuers that have recently *defaulted* (and thus face an heightened risk of holdouts);
- (2) *agency costs are reduced* because the parties involved (including particular law firms) are more likely to be engaged in any eventual restructuring and thus bear the costs of bad drafting and are also able to collectivize the costs of experimentation across multiple issuers.
- (3) the sovereign is a newer issuer and has *minimal debt overhang* and therefore worries less about the effects of an erroneous court interpretation.

#### **4. *Inertia Cost Predictions***

We identify circumstances where the various inertia costs that affect the Random Mutation model are reduced and test whether we see movement toward a single standard. If first mover costs matter, one might predict that changes are more likely to occur after meetings at which parties *agree to change* to a particular standard clause or when the lawyers in question are high volume issuers who can assure individual clients that others will also be revising their clauses.

To test this prediction, we focus on three meetings on reforming the *pari passu* clause that occurred in October 2014 among the key players in the market: (1) a meeting at Columbia



Law School that included the leading sovereign lawyers from New York and London firms where the question discussed was why the *pari passu* clauses still had not been revised; (2) the World Bank/IMF annual meeting in Washington DC where there were multiple educational sessions for government debt managers on the need for reform of the clauses; and (3) a small meeting of elite New York lawyers at the New York Fed, to obtain agreement on a common plan to reform the clauses.<sup>10</sup>

Based on the foregoing, we divide the time line into two periods for our initial analysis. The first period runs from June 1, 2011 to September 30, 2014 (termed the “Early Period”). The second period runs from October 1, 2014 to December 22, 2016 (termed the “Late Period”). To test the importance of the actions that took place in October 2014, we examine whether the frequency as well as type of *pari passu* changes, including Major and Evidentiary changes, differ between these two periods.

### ***5. Relative Differences in Inertia Costs between the two Models***

Inertia costs could affect boilerplate terms generally including those that have well-known meaning. Under the Rational Design model, market participants may wish to redraft terms misinterpreted by a court so as to return to their preferred contractual risk allocation but may initially be constrained by learning or network externalities. We nonetheless posit that the magnitude of inertia costs for boilerplate terms that have lost meaning through rote usage and encrustation are larger than for ordinary boilerplate terms.

Consider a boilerplate term where courts have access to a substantial body of evidence on the parties’ understanding of the meaning of the term. Parties seeking to revise such a term will consider the impact of any revision on the stock of evidence on the meaning of the term. But in this case, a single change to the existing stock of evidence will have only a marginal effect on a subsequent interpretation of the term’s meaning in other contracts. Rather, the evidentiary uncertainty affecting boilerplate terms with well understood meanings is a product of how courts and the market will react to any changes in the term’s language that purport to impose a new

---

<sup>10</sup> Two of us organized the Columbia Law School meeting with the goal of studying the question of why the clauses had *not changed* in response to the *NML* cases (Choi, Gulati & Scott 2017). The fact that that meeting may have served as a coordinating device was inadvertent and contrary to what we were trying to study (the lack of change).

meaning. Parties may also consider whether the change will affect the allocation of risks under the agreement and whether the resulting uncertainty may lead to a demand for a price adjustment. Finally, parties will consider network effects -- how the revision may affect the meaning of complementary terms.

By contrast, pricing and network related inertia costs should be small for a term that rote usage has rendered meaningless. If investors do not attach legal weight to minor variations in language, there will not be any pricing impact. Similarly, to the extent such a term has only symbolic meaning, there will not be complementary terms that link to the meaningless term. Instead, the source of inertia for a meaningless term will be the evidentiary vacuum. For boilerplate terms that have lost their meaning, there is likely little or no evidence for courts to consider when discerning this lost meaning. These terms are acontextual: there is a contractual black hole not only with respect to the meaning but also as to any evidence of that meaning.

In sum, rote usage robs terms of any apparent meaning and encrustation with legal jargon makes things worse by suggesting alternate new meanings when in fact no such varying meanings exist. Parties are reluctant to change because they cannot offer a plausible alternative to the aberrant interpretation: an evidentiary vacuum exists on the meaning of the term. Coordination is more difficult because parties lack focal points -- commonly understood meanings around which to coordinate their reform proposals. As a result, parties, especially those with debt overhang, have greater uncertainty about how courts will respond to the changes they do make. Given the underlying absence of meaning, the resulting uncertainty over a judicial interpretation will increase the costs of crafting a solution even for those parties with heightened interest in addressing the risk of a future restructuring. We predict, therefore, that changes in boilerplate terms affected by rote usage and encrustation in the Random Mutation model will take significantly longer to be revised than boilerplate terms in general under the Rational Design model. Instead, we predict that contracting parties dealing with a meaningless boilerplate term will initially focus on evidentiary changes to fill the vacuum on the meaning of the terms.

## ***6. Comparing Differential Inertia Costs: The Example of CACS***

We do not formally test whether the time until Major changes occur in boilerplate terms is greater if boilerplate terms lack meaning and are encrusted with meaningless variations; the data to do that test is not available here. That said, an indication of this differential cost of dislodging boilerplate is available.

Fifteen years ago, litigation in Brussels involving the *pari passu* clause raised many of the same arguments about the term's meaning. The court in *Elliott v. Peru* also granted an injunction to the holdout creditors; a ruling that caused considerable consternation in the international financial community (Blackmun & Mukhi 2010). Two contractual solutions to the aberrant interpretation were proposed: (a) revise the *pari passu* clause directly to disavow the court's interpretation; and (b) overhaul the modification clauses in the standard contract. The modification clauses (collective action clauses or CACs) were, in contrast to the *pari passu* clauses, well understood, familiar and more frequently used relative to *pari passu* (Gelpern & Gulati 2006). At the time of the Brussels litigation, sovereign bonds governed by New York law required unanimous approval by all the creditors for a modification of the key contract terms. Unanimity, in turn, created a serious holdout problem; a problem made worse to the extent the holdouts had a powerful weapon such as the injunction issued by the judge in Brussels. There were, therefore, two ways to solve the problem. Market participants could either make it difficult to be a holdout by reforming the vote required to modify contract terms to some percentage less than unanimity (say, to 75%) or reform the *pari passu* clauses to remove the weapon that the holdouts would need to implement their strategy.

Both possibilities were considered (Gelpern & Gulati 2006). And it was obvious to those involved in the reform process that revising the CAC or modification terms was going to be an incomplete solution since a powerful creditor or group of creditors could still obtain a holdout position (instead of a single bond, they would now require 25% of the bonds). The optimal solution would probably have been to modify both sets of clauses. Yet, coordination among the market actors could only be obtained on reforming the CACs--an action that took roughly two and a half years (from late 2001 to mid 2003) (Choi & Gulati 2004).

As it turned out, the CAC reforms were not enough to eliminate the holdout problem. Countries like Greece and Ukraine that had CACs still had to deal with the threat of holdouts who had obtained blocking positions in some of their 75% bonds (Gelpern, Heller & Setser 2016). And, importantly, the *pari passu* threat did not disappear. So, after the SDNY decision in 2011, calls to solve the the problem began again. This time, though, the Official Sector not only attempted to improve the CACs but also to coordinate changes in the *pari passu* clauses.<sup>11</sup> As of mid-2016, nearly five years after the SDNY decision and fifteen years after the Brussels decision, widespread change is occurring (Figures 2 & 3).

If one compares the two clauses, changes to the CAC are more complex to implement than revisions to *pari passu*. The former involves modifying the mechanics of creditor voting and consideration of complex issues about eligible voters, the mechanics of voting, conflicts of interest and so on. The *pari passu* revisions, by contrast, should have been simple—just a deletion (or, in the alternative an explanation) of the clause that no one understood. Yet, the CAC revisions have occurred relatively quickly and seamlessly as compared to *pari passu*.

The comparison is imperfect: we are comparing clauses that perform different functions. There are other stories one can tell about why CACs were changed relatively quickly and *pari passu* reform has taken over a decade and half. Yet, the motivation for changing both clauses was the same. And the clause that was *not* changed was the simpler one to repair (just a few lines to be deleted as compared to multiple pages of complex voting mechanics) *and* would have more directly addressed the problem at hand. Our hypothesis is that no one really understood the *pari passu* clause: it was in an evidentiary vacuum in contrast to the market’s clear understanding of the modification clauses.

## ***7. The Dynamics of Changes to the Pari Passu Clause***

Our tests distinguish between the Rational Design and Random Mutation hypotheses by focusing on the dynamics of the changes to a boilerplate contract term. For pricing and network related inertia that affect ordinary boilerplate terms, we predict under the Rational Design

---

<sup>11</sup> The Official Sector also attempted to enhance the CACs that previously applied only on single bonds into an Aggregated CAC across multiple bond issues—a highly complex venture involving changing a clause that was originally a few lines long to something many pages in length (Gelpern, Heller & Setser 2016).

hypothesis that contracting parties may overcome this inertia by experimenting directly with the terms' language—testing the price response of contracting parties in the market as well as the effect of the terms on complementary terms. Moreover, larger market participants such as frequent underwriter's counsel will help collectivize market action and correspond with this experimentation. We predict, therefore, that even if inertia costs affect the Rational Design model, those market participants that overcome the inertia costs are more likely to make Major changes—changes directly to the language of the term. In this model, there is no room for Evidentiary changes.

The Random Mutation story posits an evidentiary vacuum or contractual black hole. Here, because no one understands the clause, the first step in reforming the clause is likely to be an effort to develop a meaning. And a particular subset of actors—those who are at greater risk that this evidentiary vacuum could impose costs in the fashion of the NML case—will have the greatest incentives to give the clause meaning via Evidentiary changes. Specifically, we predict that issuers associated with collectivizing agents who are able to reduce coordination costs, such as large law firms, issuers for whom the risk of default is more salient, and issuers without any prior debt overhang from earlier bond deals will be more likely to engage in evidentiary experimentation. These parties will first attempt to discern how the market responds to their partial assertions of meaning before actually changing the language of the clause itself. When the market eventually collectivizes to directly change the language of a meaningless term, the change will occur rapidly and not correlate with factors that normally would be associated with reducing inertia costs.

In addition to relative differences in inertia costs, one other empirical prediction can distinguish the models. The Rational Design model predicts that once direct changes to the language of a boilerplate term begin in the market, sovereigns will seek to return to the risk allocation they intended to create prior to the SDNY opinion. In particular, the Mandatory Law and Pay Equally versions of the *pari passu* clause were not affected by the SDNY opinion and thus should remain unchanged. In contrast, as discussed above, the Random Mutation model predicts that parties will revise all the versions of the clause to bring them back to a single coherent version.

#### **IV. Empirical Tests**

##### ***1. Overall Major Changes in Holdout Risk***

We first examine Major changes in holdout risk in the *pari passu* clause. Under the Rational Design model, sovereigns prior to the SDNY opinion in 2011 are at their preferred *pari passu* risk allocation. The question is when and how these sovereigns will thereafter elect to revise their clauses. Our prediction under the Rational Design model is that increasingly from the Late Period of October 2014 onward sovereigns with the Rank Equally in Payment clause will change to language that re-creates the sovereigns' preferred intermediate risk of holdouts. However, the sovereigns using the high risk Pay Equally or lowest risk Mandatory Law terms will not be motivated to change their clause as these terms were not affected by the SDNY opinion. Sovereigns using the Rank Equally term may or may not change depending on whether the sovereigns view the SDNY opinion as having a possible spillover effect on the Rank Equally term.

Under the Random Mutation model, in contrast, we predict that after collectivizing actions in October 2014 reduce inertia costs in the market, all sovereigns will have little or no attachment to their existing terms. To the extent the market favors a particular version of the *pari passu* clause as the new standard, sovereigns with all the different types of *pari passu* clauses will begin to move toward this standard. We know from other research that the IMF and other collectivizing agents such as ICMA and the US Treasury Department were attempting in October 2014 to achieve coordination around Rank Equally, the original (and oldest) version of the clause (Goss 2014; Sobel 2016; Choi, Gulati & Scott 2017). The push to return to the original version of the clause implicitly supports the view that later versions were mere encrustation. Under the Random Mutation model, therefore, we predict that sovereigns with the other three versions of the clause— Mandatory Law, Rank Equally in Payment, and Pay Equally—will all move toward the Rank Equally clause as the single market standard.

Table 4 reports by year the frequency of sovereign offerings by type of *pari passu* clause and Figure 1 provides a graphical depiction of the frequency of different sovereign offerings by type of *pari passu* clause.

**[Insert Table 4 Here]**

As reported in Table 4 and depicted in Figure 1, we observe a significant *decrease* in the dispersion of *pari passu* clause types from 2011 to early 2016. Sovereign offerings with the Pay Equally version of *pari passu* are infrequent across the 2011 to 2016 period (accounting for only 1.0% of all offerings). Those sovereign offerings with the Mandatory Law term constitute 47.2% of the sovereign offerings in 2011 and only 21.5% of the offerings in 2016. Those sovereign offerings with the Rank Equally in Payment clause represent 30.2% of the sovereign offerings in 2011 and only 8.3% of the sovereign offerings in 2016. In contrast, sovereign offerings with the Rank Equally clause go from 22.6% of the offerings in 2011 to 69.4% in 2016. While sovereign offerings are roughly equally distributed between Mandatory, Rank Equally, and Rank Equally in Payment versions of the clause in 2011, by 2016 the Rank Equally version of the clause is the majority. This change is statistically significant at the 1% confidence level. This movement to Rank Equally in both directions, from high risk Pay Equally and Rank Equally in Payment and from the lowest risk Mandatory Law, supports the Random Mutation model and is inconsistent with the Rational Design model.

## **2. *Early Period Analysis***

Under the Rational Design model, each sovereigns' version of *pari passu* represents their optimal risk allocation. Therefore, if a court misinterprets a sovereign's version of the clause, those parties will seek to adjust their clauses thereafter to return to their previously optimal risk allocation. Thus, after the SDNY opinion interpreting Rank Equally in Payment as creating a high risk of holdouts, countries that initially understood that same clause as creating only an intermediate or medium risk should revise their clauses in an effort to return to the preferred risk level.

In contrast, under the Random Mutation model the variations in *pari passu* are meaningless encrustations. We posit that October 2014 was an important pivot point when key market participants and the IMF worked to coordinate on the Rank Equally version as the new

market standard. That said, even in the Early Period prior to October 2014 there ought to have been some sovereigns who found the benefits of making small documentation changes (Evidentiary changes) outweighed the costs associated with inertia. Specifically, since we have an evidentiary vacuum, these ancillary changes can help to fill in the information gap. In addition, these early evidentiary moves can help gauge the market reaction to a proposed Major change. We predict that countries will deploy Evidentiary changes in the Early Period under the Random Mutation model. In contrast, under the Rational Design model there is no need to engage in such Evidentiary changes, since the meanings of the variations are well understood and intended. Sovereigns in the Rational Design model will engage directly in Major changes to return to their preferred variations in the *pari passu* clause.

Table 5 categorizes sovereign issuers in our data sample based on their *pari passu* clause in the last offering prior to the start of our dataset in 2011. For each category of *pari passu* clause, we report whether there were Major and Evidentiary changes. The Major changes are divided into two, changes to the language of the core clause (Language change) or changes to the Mandatory law addendum (Mandatory change). For Evidentiary changes, we report whether language was added either telling investors about the new risks of clause misinterpretation (Risk Factor change) or explaining the issuer's understanding of the clause (Understanding change).

**[Insert Table 5 Here]**

Table 5 shows that only a handful of Major changes occur in the Early Period. All we see is that three sovereigns that had the Rank Equally in Payment clause moved to the Rank Equally version. The action that takes place is in terms of Evidentiary changes. We observe from Table 5 that all types of sovereigns (regardless of their original versions of the clause) make Evidentiary changes in the Early Period.

For those sovereigns starting initially with the Rank Equally in Payment clause, 23.8% employ a Risk Factor change; 19.1% also employ an Understanding change. A smaller but still positive fraction of the sovereigns with the Mandatory Law and Rank Equally clauses also adopt Evidentiary changes. This is consistent with inertia affecting the ability of sovereigns to make Major changes and with the effort to reduce the evidentiary vacuum. Figure 3 depicts the fraction of sovereign issuances governed by foreign law by quarter that contained a *pari passu*



term with evidentiary related language that differed from the initial *pari passu* term the sovereign used. Note that prior to October 2014 a far greater percentage of sovereign issuances reflected an Evidentiary change compared with Major changes.

As a multivariate test of the factors that correlate with the changes, we estimated Cox proportional hazard models for the first adoption of any Evidentiary changes in the *pari passu* clause during the Early Period. The Cox proportional hazards model is a type of statistical survival model that relates the time to a specified event to various independent variables that may affect the amount of time to the event (such as whether the sovereign issuer is investment grade). For the dependent variable we look at when a sovereign adopts any Evidentiary change in the Early Period.

We include as an independent variable the log of the offering amount in U.S. dollars (ln (Offer Amount)), whether the sovereign issuer is investment grade (Investment Grade), whether the issuer's counsel was one of the top 3 issuer's counsel in terms of the number of sovereign offerings in the 2000 to 2010 time period (Top Issuer Counsel), and whether the underwriter's counsel was one of the top 3 underwriter's counsel in terms of number of sovereign offerings in the 2000 to 2010 time period (Top Underwriter Counsel). We also include an indicator variable for whether the sovereign was initially a country with the Rank Equally in Payment clause. Under Rational Design, countries with the Rank Equally in Payment clause will want to return to their medium risk level after the *NML v. Argentina* court opinions. The Random Mutation model predicts, in contrast, that countries with the Rank Equally in Payment clause, together with countries adopting the Mandatory Law and Pay Equally versions, will all change to one version (likely the original one).

Model 1 of Table 6 reports that the coefficient on Top Issuer Counsel is positive and significant at the 5% level. The presence of a Top Issuer Counsel correlates with a 531% increase in the probability of an Evidentiary change in the *pari passu* clause in the Early Period. The importance of Top Issuer Counsel as a facilitator of change is consistent with inertia costs. Note also that the coefficients on Rank Equally in Payment are not significantly different from zero: this is inconsistent with change being focused on those sovereigns with the Rank Equally in

Payment clause. The more widespread distribution of the Evidentiary changes is consistent with the Random Mutation model.

**[Insert Table 6 Here]**

As a further test, we add an indicator variable to Model 1 of Table 6 (“Recent Default”) for whether the sovereign defaulted sometime in the 10 years prior to the start of our study. Countries that recently defaulted may find the risk of holdouts more salient and have a greater incentive to engage in an Evidentiary change in the Early Period.<sup>12</sup> Model 2 of Table 6 reports results.

The presence of a Top Issuer Counsel in a sovereign offering is, again, strongly correlated with an increased probability of a Risk Factor and Understanding change. The coefficient on Rank Equally in Payment is, again, not significantly different from zero. This lack of focus for change on the Rank Equally in Payment sovereigns, the sovereigns most affected by the *NML Capital* decision, is inconsistent with the Rational Design model. The coefficient on Recent Default is also positive and significant at the 5% level. Consistent with the Random Mutation model, countries that recently defaulted—like Greece, Ecuador and Ukraine, for whom the shock of the SDNY opinion is greater than the general population of issuers—are significantly more likely to implement an Evidentiary change. Note that none of these Recent Default sovereigns started with the Rank Equally in Payment clause: they have either the Mandatory Law or Rank Equally versions. Despite not being directly affected by the *NML v. Argentina* court opinions, these recently defaulting sovereigns engage in an Evidentiary change related to their *pari passu* clause in the Early Period—a change that is consistent with the Random Mutation model and inconsistent with Rational Design. Recall that sovereigns that have recently restructured have three characteristics that predict lower inertia costs than the general population of issuers. First, lower agency costs; since the agents on the deal are likely to be restructuring specialists and thus will be involved on any subsequent restructuring deal. Second, if the sovereign had to restructure recently, it is likely weak and at a high risk of a new restructuring. Third, there is very little debt overhang with those sovereigns since their prior debt was just restructured.

---

<sup>12</sup> Evidence tells us that sovereigns that do distressed restructurings have a high likelihood of doing them again in the near future (Mariscal et al. 2015).

We next test the importance of coordination among groups of countries to modify the *pari passu* clause collectively. There are two such groups—the Eurozone countries and Latin American countries. Historically, issuers and their lawyers for the Euro area and for Latin American sovereigns have acted in a more coordinated fashion. In the Eurozone, the debt managers of the various sovereigns have regular meetings because of the single currency, and, we know from a different context, they explicitly discuss matters such as contract reform (Gelpern & Gulati 2013). As for Latin America, the issuers there have historically used a handful of large New York law firms and, like the Euro area sovereigns, they effectively coordinated around a prior contract change some years before (Gelpern & Gulati 2006). Moreover, due to Peru and Argentina’s experiences of with the *pari passu* clause, the risk of holdouts may be more salient for the Latin America countries.

We do not include the Eurozone countries in the model because almost no Eurozone country engaged in a change relating to the *pari passu* clause in the Early Period (adding an indicator variable for a Eurozone sovereign issuer in the model resulted in a failure in the model to return standard errors due to collinearity). Instead, we added to Model 1 an indicator variable for Latin America. Model 3 of Table 6 reports the results. In Model 3, note that the coefficient on Latin America is positive and significant at the 1% level. Latin American sovereigns are much more likely to make evidentiary changes in the Early Period. In Model 3 also note that the coefficient on Top Issuer Counsel is no longer significant, but the coefficient on Top Underwriter’s Counsel is positive and significant at the 10% level. The presence of Evidentiary changes in the Early Period and the importance of factors associated with reducing inertia (such as Top Issuer Counsel, Recent Default and coordination and holdout risk salience in the case of Latin America) are consistent with the Random Mutation model.

### **3. *Late Period Analysis***

The collectivizing actions taken in October 2014 correlate with an increase in Major changes in holdout risk in the Late Period as reported in Table 7. And these changes are toward the low risk Rank Equally clause. In essence what we believe the data to show is that once inertia costs were reduced (via the meetings in October 2014), sovereigns began to abandon the

variations in the *pari passu* clause and move to a single core version of the clause. These movements toward a single clause, as discussed above, are inconsistent with the Rational Design model.

#### **4. Testing the IMF Pressure Hypothesis**

There is an alternative hypothesis consistent with some degree of Rational Design that is specific to the context of the SDNY decision. Under this story, countries have varying preferences on what level of *pari passu* holdout risk to adopt, but owing to pressure from the IMF they are impelled to move toward the Rank Equally term that was favored by the IMF. The *NML* decision, after all, put at risk the IMF's de facto preferred creditor status (Allen & Overy 2012), without which its ability to lend would be constrained. Further, we also know from the IMF's reports that it published "scorecards" in 2014 and 2016 evaluating whether countries had switched to the version of the clauses—Rank Equally—that it had approved of (IMF 2014, 2017). We test this "IMF Pressure" model below.

To refute the IMF Pressure hypothesis we focus first on the pattern of changes in the Late Period. The premise in the IMF Pressure model is that the IMF, because it fears that its lending will be put in jeopardy by the actions of holdout creditors, wants countries to switch to clauses that lower the risk of holdouts (i.e., toward the Mandatory Law end of the *pari passu* risk spectrum). Under the IMF Pressure model, therefore, we should see those countries with riskier clauses in terms of allowing holdouts (i.e., toward the Pay Equally end of the *pari passu* risk spectrum) change their clause to the IMF's recommended clause to reduce their holdout risk level. What we should not see here, under the IMF Pressure model, is any country shifting risk levels up. That would, after all, be contrary to the IMF's interests.

Table 7 reports the frequency of Major changes for each sovereign based on the initial type of *pari passu* clause.

#### **[Insert Table 7 Here]**

Ten of the Major changes involve sovereigns that initially used the Rank Equally in Payment clause and 17 were sovereigns that had the Mandatory Law clause. In 12 instances, the sovereigns with a Mandatory Law clause removed the clause, increasing their exposure to *pari*

*passu* risk. Unless we tell a different story about IMF preferences, one that suggests they want everyone in the market to have the same provision, this change is inconsistent with the IMF pressure hypothesis.

An alternate test of the IMF pressure hypothesis is to look at changes that were made to the *pari passu* clause that were *not* the focus of IMF exhortation. Our proxy for IMF focus is the aspect of the clauses that the IMF emphasized in their two progress reports on the adoption of the new formulations of *pari passu* (IMF 2015; 2016). That focus was on changing the core language of the clause that put the sovereign at a greater risk of holdout creditor litigation. The IMF Pressure hypothesis adherents would thus view the fact that sovereigns have moved *en masse* to the low risk “rank equally” formulation as the product of IMF’s desire to protect its funds against holdouts and not because the sovereigns themselves want to reduce their risk of facing holdout litigation. If so, we should see these countries who were forced to reduce their risk vis-à-vis holdouts to take other actions—for example, in parts of the contract that the IMF is not monitoring—to simultaneously increase the risk of holdout litigation. One such area is in the breadth of a clause.

To illustrate, take a basic formulation of the *pari passu* clause, which might say “the Notes rank equally with all unsecured and unsubordinated External Debt of the Republic” (where External Debt is defined as foreign currency obligations of the Republic that are listed on a foreign exchange). This formulation presents a small (albeit not zero) risk of holdout creditor litigation. Let us say now that in order to signal credibility to investors the sovereign wants to subject itself to a higher risk of holdouts. The obvious way to do that is to change “rank equally” to “rank equally in right of payment.” But that route has been blocked: the IMF disfavors it and is shaming those who use that route by reporting them in its annual reports. A different means of increasing risk that is available for the sovereign, however, is to expand the *scope* of the “rank equally” clause by changing its application from “unsecured and unsubordinated External Debt” to the broader “all indebtedness” or even broader “all obligations.” That is, if the sovereign wanted to increase its vulnerability to holdouts, while keeping the “rank equally” version of the clause, the phrase “Notes rank equally with all other *unsecured and unsubordinated External Indebtedness*” might change to “Notes rank equally with all other *indebtedness*” or to “Notes

rank equally with all other *obligations*.”

Therefore, if countries really want to subject themselves to higher risks of holdout litigation, and the IMF is forcing them to use the low risk “rank equally” formulation, they can use the back door technique of increasing their risk by expanding the applicability of their clause to more debtors. By contrast, if they are doing this voluntarily, and the IMF is merely enabling coordination around a preferred focal point, then we should see sovereigns using the resulting coordination not only to move to the IMF’s suggested “rank equally” formulation, but also to move to the narrowest formulation of potential debtors (“External Indebtedness” as opposed to “obligations” or “indebtedness”).

To measure the foregoing effect, we constructed a variable, “Limit to External Indebtedness,” which is an indicator for the narrowest version of the clause. To supplement this test, we also look at whether the sovereign used language emphasizing in the risk factors section of the offering document that it disfavored the ruling of the *NML* courts (Risk Factor). This is relevant here because these risk factor disclosures were not advocated or monitored by the IMF in its reports; they were steps taken by the sovereigns themselves.

Table 8 reports all the sovereigns in the Late Period that implemented a Major change in the *pari passu* clause in an issuance that did not initially begin with the low risk “rank equally” version of clause. Importantly, the Table also reports whether the sovereign took additional steps—beyond those supported by the IMF, to mitigate the impact of the *NML* decisions. These additional steps, as noted above, include an understanding patch (Understanding), risk factor disclosures indicating disapproval of the New York court’s decision (Risk Factor), and inserting a Limit to External Indebtedness clause.

**[Insert Table 8 Here]**

We see in Table 8 that of the 24 sovereigns that effected a Major change away from the risky version of the clause, 22 (or 92%) also took additional steps to further narrow the scope of the clause (Limit on Understanding), report their disapproval of the *NML* decisions via a risk factor disclosure, or insert a Limit to External Indebtedness. These additional revisions, over and above the Major change pushed by the IMF, all point in the same anti-holdout risk direction and

suggest that IMF pressure was not driving the anti-holdout changes to the core of the clause.

### **5. *Analysis of Sovereigns Without a Prior History***

As a supplementary test of the importance of inertia costs and the Random Mutation model, we focus on those countries without a sovereign bond offering in the period from January 1, 2006 to June 1, 2011 (No History Sovereigns). We posit that the No History Sovereigns face lower inertia costs compared with sovereigns with a history of prior *pari passu* usage. The rationale here, drawn from interviews with practitioners, is that sovereigns with large outstanding debt stocks might be concerned that revisions could lead a court to draw a negative inference about the meaning of the clauses in the old bonds (Gulati & Scott 2013). We compare the distribution of types of *pari passu* clauses for both groups of sovereigns in the Early Period when inertia costs were relatively high. We also compare the two groups in the Late Period when inertia costs are lower. If the inertia costs of this debt overhang are important, we should observe differences in the distribution of clauses for the two groups in the Early Period but fewer differences in the Late Period. The results of our comparisons are reported in Table 9 in Panel A (Early Period) and Panel B (Late Period).

#### **[Insert Table 9 Here]**

Panel A of Table 9 reports that No History Sovereigns are more likely to draft *pari passu* terms with a lower risk of holdouts as compared to History Sovereigns. In particular No History Sovereigns never employ the high risk Pay Equally version of *pari passu*. Only 13.5% of the No History Sovereigns use the Rank Equally in Payment clause; in comparison, 32.9% of the History Sovereigns have the Rank Equally in Payment clause. The difference in the distribution of *pari passu* clauses for the No History and History sovereigns in the Early Period is significant at the 5% level. This is consistent with inertia costs affecting those sovereigns with an existing stock of bonds more than those without it.

It is possible, however, that the sovereigns in the No History category differ from the sovereigns in the History category in the type of *pari passu* clause that the sovereigns prefer. To the extent No History sovereigns pose less risk of sovereign opportunism, there is less need to increase the cost of restructuring to deter such opportunism. If this is the case, No History sovereigns may prefer a *pari passu* clause that offers only a low risk of holdouts. The pattern we

observe in Panel A of Table 9 for the Early Period, therefore, may reflect Rational Design rather than reduced inertia costs affecting the No History Sovereigns. As a threshold matter, this story is implausible on its face, given that the No History sovereigns are almost all new entrants to the markets (countries like Mongolia, Ethiopia and Rwanda). Thus, creditors should expect more opportunism with these countries (and higher risk *pari passu* clauses), not less opportunism and lower risk clauses (and we see lower risk clauses). Regardless, there is a way to test this question further.

If Rational Design explains the pattern in Panel A then we expect that this pattern will persist in the Late Period. However, Panel B of Table 9 reports that the Rank Equally in Payment version of the *pari passu* clause becomes dominant for both No History and History Sovereigns in the Late Period. Moreover, the difference in the distributions for the No History and History sovereigns that was significant in the Early Period is no longer statistically significant in the Late Period. This is consistent with lower inertia costs for all sovereigns in the Late Period and the movement to one market standard—the Rank Equally term—is consistent with the Random Mutation model.

## **V. Conclusion**

Traditional contract doctrine treats commercial contract terms as embodying a bargain among sophisticated parties. Parties are assumed to use precise language in their contracts because they want courts and counterparts to understand fully the combinations of underlying substantive rights that form the basis for mutually beneficial trade. The implication of this model is that, other things equal, courts are instructed to give meaning to differences in the language of contracts that reflects the parties *ex ante* intentions. Reality, in the portion of the world of boilerplate contracts we have examined, appears to be different. Even sophisticated contracting parties do not tailor standardized contracts to articulate precisely their particular needs, expectations and understandings. Instead, agents with imperfect knowledge of the purposes that support the boilerplate terms, copy the standard forms, making minor modifications at the margins to meet their clients' objectives as they understand them. The result is that contract



clauses that no one understands can become part of the standard template, and variations among these clauses that are largely meaningless can arise and even grow in usage.

A fair question to ask though is whether our one example of the *pari passu* clause is idiosyncratic? We have been asked, for example, whether the different versions of *pari passu* would have been recognized by most judges as the equivalent of saying “we will treat you all fairly” and that the judges in New York in the *NML* case just got this case wrong by attaching importance to the word “payment”. We cannot reject this possibility, but a different aspect of these same clauses in this very context may shed some light on the matter. And that is the variation in the scope of these clauses. As noted earlier, every *pari passu* clause comes with a defined scope. That is, it might apply narrowly, to just the sovereign issuer’s “external debt” (defined as its exchange-listed foreign currency obligations), or broadly to all the issuer’s “indebtedness” (which would include loans and domestic debt, in addition to the foreign debt) or still more broadly to all the issuer’s “obligations” (which might include, in addition to all the debt, things like pension obligations of the state, salary payments, etc.). Few would argue, we suspect, that there are not well recognized differences between say “external indebtedness” and “indebtedness”. Yet, what we saw with the revisions to the *pari passu* clause that occurred after October 2014 was that not only did all the different versions of the main clause get revised to the original “rank equally” version, but that these variations in scope also got revised to a single version (the original and narrowest formulation, which was “external indebtedness”).

More broadly, in the context of the multi-trillion sovereign debt market itself (in part because of the interest generated by the *NML* decisions), scholars have suggested that considerable variation in phrasing exists in a number of other key terms as well, such as the waivers of immunity from enforcement and cross-default clauses (Weidemaier 2013; Olivares-Caminal 2017). It remains to be seen, however, whether those variations are the product of rational design or random mutation. Our theoretical premise is that the ways in which boilerplate evolves over time—with terms become rote and encrusted—suggests that *pari passu* is not an isolated case. But good empirical evidence on the nature and evolution of boilerplate contracts is only beginning to be produced. This paper, we hope, paves the way for further explorations of

*Draft: March 21, 2017*

contractual black holes –their existence and their effects—in other markets where standardized boilerplate is ubiquitous.

## **References**

Allen & Overy (Global Intelligence Unit), *The Pari Passu Clause and the Argentine Case*, Allen & Overy Publications (December 27, 2012).

Baird, Douglas, *Reconstructing Contracts* (Harvard University Press 2013).

Blackmun, Jonathan & Rahul Mukhi, *The Evolution of Modern Sovereign Debt Litigation*, *73 Law and Contemporary Problems* 47 (2010).

Buchheit, Lee C. & Sofia Martos, *What to do About Pari Passu?*, *Butterworths Journal of International Banking and Financial Law* (September 2015).

Burn, Lachlan, *Pari Passu Clauses: English Law After NML v. Argentina*, *9 Capital Markets Law Journal* 2 (2013)

Olivares-Caminal, Rodrigo, *The Definition of Indebtedness and Subsequent Imperiling of Pari Passu, Negative Pledge and Cross-Default Clauses in Sovereign Debt Instruments*, *Capital Markets Law Journal* (forthcoming 2017).

Choi, Stephen J. & Mitu Gulati, *Innovation in Boilerplate Contracts: An Empirical Examination of Sovereign Bonds*, *53 Emory Law Journal* 930 (2004).

Choi, Stephen J. & Mitu Gulati, *Contract as Statute*, *104 Michigan Law Review* 1129 (2006).

Choi, Stephen J, Mitu Gulati & Robert E. Scott, *Contractual Arbitrage*, *Oxford Handbook of Global Governance* (2016) (forthcoming).

Choi, Stephen J., Mitu Gulati & Robert E. Scott, *Contractual Black Holes in Commercial Boilerplate*, *Duke Law Journal* (forthcoming 2017).

Davis, Kevin, *Interpreting Boilerplate*, NYU Law School Working Paper (2010).

Galvis, Sergio, *Solving the Pari Passu Puzzle: The Market Still Knows Best*, *Capital Markets Law Journal* (forthcoming 2017).

Gelpern, Anna, *The Importance of Being Standard*, in *ESCB Legal Conference Volume 2016* (Frankfurt: European Central Bank Publications 2016)

Gelpern, Anna, Ben Heller & Brad Setser, *Count the Limbs: Designing Robust Aggregation Clauses*, in *Too Little, Too Late: The Quest to Resolve Sovereign Debt Crises* 109-143 (Martin Guzman et al. eds., 2016) (New York: Columbia University Press 2016).

Gelpern, Anna & Mitu Gulati, Public Symbol in Private Contract: A Case Study, 84 *Washington University Law Quarterly* 1627 (2006).

Goetz, Charles J. & Robert E. Scott, The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms, 73 *California Law Review* 261 (1985).

Goss, Leland, *NML v. Argentina: The Borrower, the Banker and the Lawyer*, 9 *Capital Markets Law Journal* 287 (2014).

Gulati, Mitu & Robert E. Scott, *The 3½ Minute Transaction: Boilerplate and the Limits of Contract Design* (University of Chicago Press 2013).

ICMA (International Capital Markets Association), Standard *Pari Passu* Provision For the Terms and Conditions of Sovereign Notes (August 2014).

IMF, Strengthening the Contractual Framework to Address Collective Action Problems in Sovereign Debt Restructuring (October 2014).

IMF, Second Progress Report on Inclusion of Enhanced Contractual Provisions in International Sovereign Bond Contracts (January 2017).

Kahan, Marcel & Michael Klausner, Standardization and Innovation in Corporate Contracting, 83 *Virginia Law Review* 713 (1997).

Kahan, Marcel & Shmuel Leshem Moral Hazard and Sovereign Debt: The Role of Contractual Ambiguity and Asymmetric Information (2017 mimeo).

Keenan, Paul J., Second Circuit Adheres Strictly to the Rules of Contract in Sovereign Debt Restructurings, Greenberg Traurig Publications (December 2012).

Mariscal, Rodrigo, et al., Sovereign Defaults: Has the Current System Resulted in Lasting (Re)Solutions, CIF Working Paper 3/2015.

Olivares-Caminal, Rodrigo, The Definition of Indebtedness and Consequent Imperilling of the *Pari Passu*, Negative Pledge and Cross-Default Clauses in Sovereign Debt Instruments, *Capital Markets Law Journal* (forthcoming 2017).

Radin, Margaret, Boilerplate: The Fine Print, Vanishing Rights, and the Rule of Law (Princeton University Press 2014).

Steel, Howard, Elnaz Zarrini & Arkady Goldin, *NML v. Argentina: A Lesson in Indenture Interpretation*, 8 *Insolvency & Restructuring International* 31 (September 2014).

Schwartz, Alan & Robert E. Scott, Contract Theory and the Limits of Contract law, 113 *Yale Law Journal* 541 (2003).

Richman, Barak, Contracts Meet Henry Ford, 40 *Hofstra Law Review* 77 (2011).

Smith, Gordon & Brayden King, Contracts as Organizations, 51 *Arizona Law Review* 1 (2011).

Sobel, Mark, *Strengthening Collective Action Clauses: Catalyzing Change – The Back Story*, *Capital Markets Law Journal* (2016) (forthcoming).

Weidemaier, W. Mark C., Robert E. Scott & Mitu Gulati, Origin Myths, Contracts, and the Hunt for *Pari Passu*, 38 *Law & Social Inquiry* 72 (2013).

Weidemaier, W. Mark C. & Anna Gelpern, Injunctions in Sovereign Debt Litigation, 31 *Yale Journal on Regulation* 189 (2014).

Weidemaier, W. Mark C., Disputing Boilerplate, 82 *Temple Law Review* 1 (2009).

Wright, Mark L.J., *The Pari Passu Clause in Sovereign Bond Contracts: Evolution or Intelligent Design?* 40 *Hofstra Law Review* 103 (2011).

**Table 4: Incidence of *Pari Passu* Clauses by Sovereigns**

	<b>Mandatory Law</b>	<b>Rank Equally</b>	<b>Rank Equally in Payment</b>	<b>Pay Equally</b>	<b>All</b>
2011	25 47.2%	12 22.6%	16 30.2%	0 0.0%	53 100.0%
2012	63 47.4%	34 25.6%	33 24.8%	3 2.3%	133 100.0%
2013	62 47.3%	23 17.6%	45 34.4%	1 0.8%	131 100.0%
2014	54 41.2%	34 26.0%	41 31.3%	2 1.5%	131 100.0%
2015	39 32.0%	58 47.5%	25 20.5%	0 0.0%	122 100.0%
2016	26 21.5%	84 69.4%	10 8.3%	1 0.8%	121 100.0%
Total	269 38.9%	245 35.5%	170 24.6%	7 1.0%	691 100.0%

**Table 5: Early Period Shifts by Sovereign Issuers**

<b>Major Shifts</b>				
	<b>Mandatory Law</b>	<b>Rank Equally</b>	<b>Rank Equally in Payment</b>	<b>Pay Equally</b>
Language Shift	0 0.0%	0 0.0%	3 14.3%	1 50.0%
Mandatory Law Shift	0 0.0%	0 0.0%	0 0.0%	0 0.0%
<b>Evidentiary Shifts</b>				
	<b>Mandatory Law</b>	<b>Rank Equally</b>	<b>Rank Equally in Payment</b>	<b>Pay Equally</b>
Risk Factor Shift	1 5.6%	1 5.9%	5 23.8%	0 0.0%
Understanding Shift	2 11.1%	3 17.7%	4 19.1%	0 0.0%
<b>Total (Either Major or Evidentiary Shift)</b>	2 11.1%	3 17.7%	8 38.1%	1 50.0%

Percentages are computed as a percentage of the total number of sovereign bond issuances in each particular category (Mandatory Law, Rank Equally, Rank Equally in Payment, and Pay Equally categories).

**Table 6: Early Period Hazard Model for Evidentiary Shifts**

	(1) Evidentiary Shift	(2) Evidentiary Shift	(3) Evidentiary Shift
Ln(Offer Amount)	1.030 (0.20)	1.140 (0.80)	0.913 (-0.57)
Investment Grade	0.262 <sup>+</sup> (-1.65)	0.334 (-1.30)	0.205 (-1.58)
Top Issuer Counsel	6.311* (2.16)	6.320* (2.09)	1.715 (0.44)
Top UW Counsel	0.706 (-0.55)	0.641 (-0.69)	5.086 <sup>+</sup> (1.66)
Rank Equally in Payment	1.606 (0.75)	3.069 (1.45)	1.738 (0.81)
Recent Default		11.54* (2.08)	
Latin America			35.50** (3.14)
<i>N</i>	248	248	248
pseudo <i>R</i> <sup>2</sup>	0.186	0.240	0.377
ll	-30.28	-28.28	-23.18

Exponentiated coefficients; *z* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ .



**Table 7: Late Period *Pari Passu* Clause Changes**

<b>Major Shift</b>				
	<b>Mandatory Law</b>	<b>Rank Equally</b>	<b>Rank Equally in Payment</b>	<b>Pay Equally</b>
Language Shift	5 23.8%	0 0.0%	10 45.5%	0 0.0%
Mandatory Shift	12 57.1%	2 10.0%	0 0.0%	0 0.0%
<b>Evidentiary Shift</b>				
	<b>Mandatory Law</b>	<b>Rank Equally</b>	<b>Rank Equally in Payment</b>	<b>Pay Equally</b>
Risk Factor Shift	3 14.3%	4 20.0%	3 13.6%	0 0.0%
Understanding Shift	12 57.1%	12 60.0%	10 45.5%	0 0.0%
<b>Other Shift</b>				
	<b>Mandatory Law</b>	<b>Rank Equally</b>	<b>Rank Equally in Payment</b>	<b>Pay Equally</b>
Limit Change	9 42.9%	2 10.0%	0 0.0%	0 0.0%
<b>Total (Any Shift)</b>	15 71.4%	11 55.0%	8 36.4%	0 0.0%

Percentages are computed as a percentage of the total number of sovereign bond issuances in each particular category (Mandatory Law, Rank Equally, Rank Equally in Payment, and Pay Equally categories).

**Table 8: Late Period Mitigating Clauses in the Same Contract with a Major Shift for Sovereign Issuers for Sovereigns that Did Not Initially Start with the Low Risk Version of the *Pari Passu* Clause**

Sovereign	Issue Date	Risk Factor	Understanding	Limit on External Indebtedness	Any of the Mitigating Clauses
Lithuania	10/21/14	0	1	1	1
Mexico	11/26/14	0	1	1	1
Chile	12/12/14	0	1	1	1
Turkey	1/13/15	1	1	1	1
Colombia	1/28/15	0	0	1	1
Dominican Republic	2/5/15	0	1	1	1
Costa Rica	3/5/15	0	1	1	1
Croatia	3/9/15	0	1	0	1
Montenegro	3/13/15	1	1	0	1
Armenia	3/24/15	1	1	0	1
Gabon	6/12/15	0	1	1	1
Mongolia	6/19/15	0	1	1	1
Zambia	7/28/15	0	1	1	1
Israel	9/10/15	0	1	1	1
Brazil	9/26/15	1	1	1	1
Ukraine	9/26/15	0	1	1	1
Namibia	10/27/15	0	1	1	1
Jordan	11/4/15	1	1	1	1
Albania	11/20/15	0	1	1	1
Hungary	4/14/16	0	0	0	0
Abu Dhabi	5/3/16	0	1	0	1
China	5/27/16	0	1	1	1
Romania	10/3/16	0	1	1	1
Poland	12/16/16	0	0	0	0

\* Includes only sovereigns that were not Low Risk issuers prior to the beginning of the dataset

**Table 9**

**Panel A: Early Period**

	<b>No History Sovereigns</b>	<b>History Sovereigns</b>
Mandatory Law	28 53.90%	171 45.70%
Rank Equally	17 32.70%	74 19.80%
Rank Equally in Payment	7 13.50%	123 32.90%
Pay Equally	0 0.00%	6 1.60%
Total	52 100.00%	374 100.00%

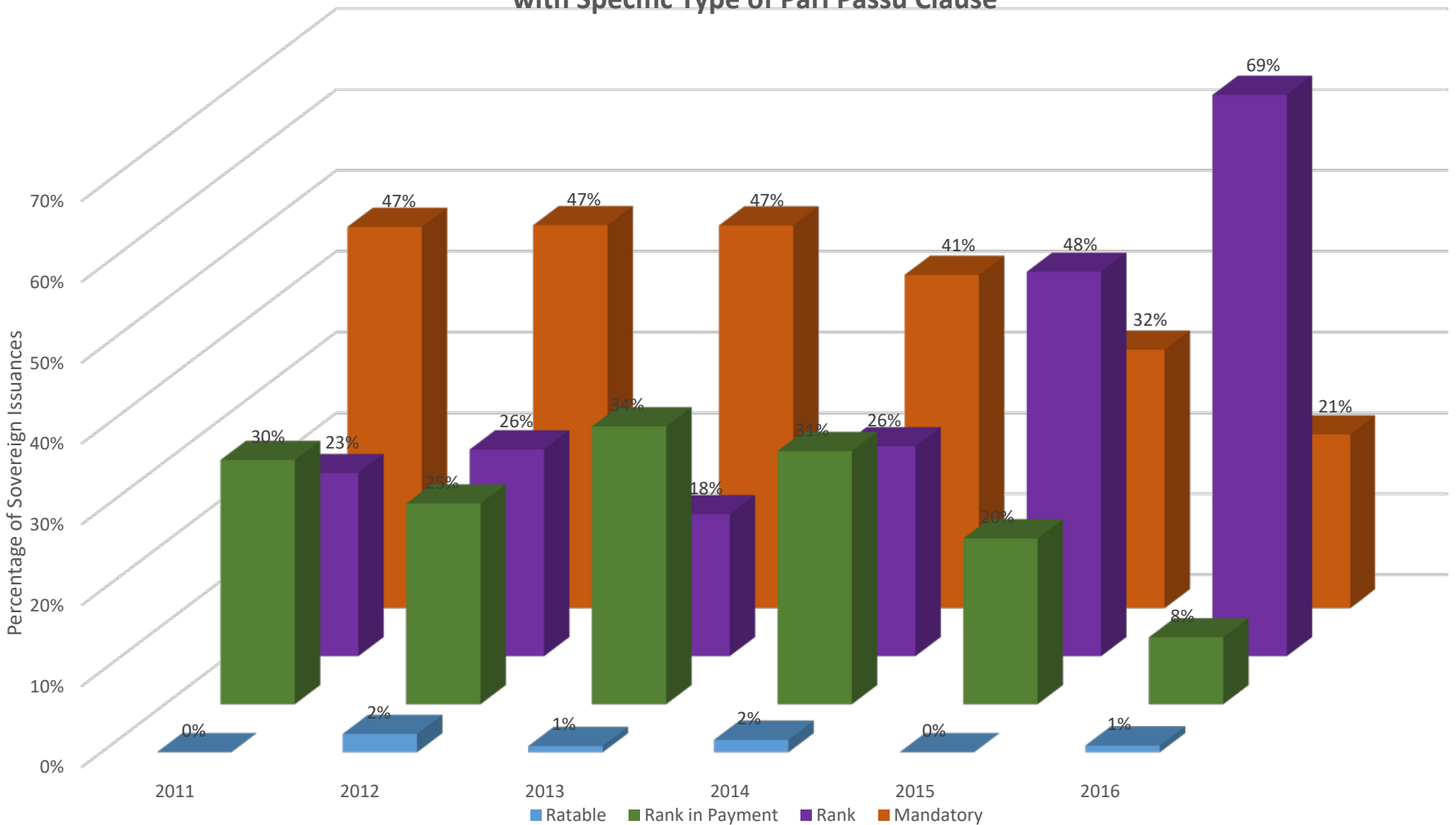
Pearson chi2(3) = 10.6847 Prob. = 0.014

**Panel B: Late Period**

	<b>No History Sovereigns</b>	<b>History Sovereigns</b>
Mandatory Law	12 24.0%	58 27.0%
Rank Equally	29 58.0%	125 58.1%
Rank Equally in Payment	9 18.0%	31 14.4%
Pay Equally	0 0.0%	1 0.5%
Total	50 100.0%	215 100.0%

Pearson chi2(3) = 0.7135 Prob. = 0.870

**Figure 1: Percentage of Sovereign Issuances Under Foreign Law by Year with Specific Type of Pari Passu Clause**



**Figure 2: Percent of Sovereign Issuances under Foreign Law with Major Change**

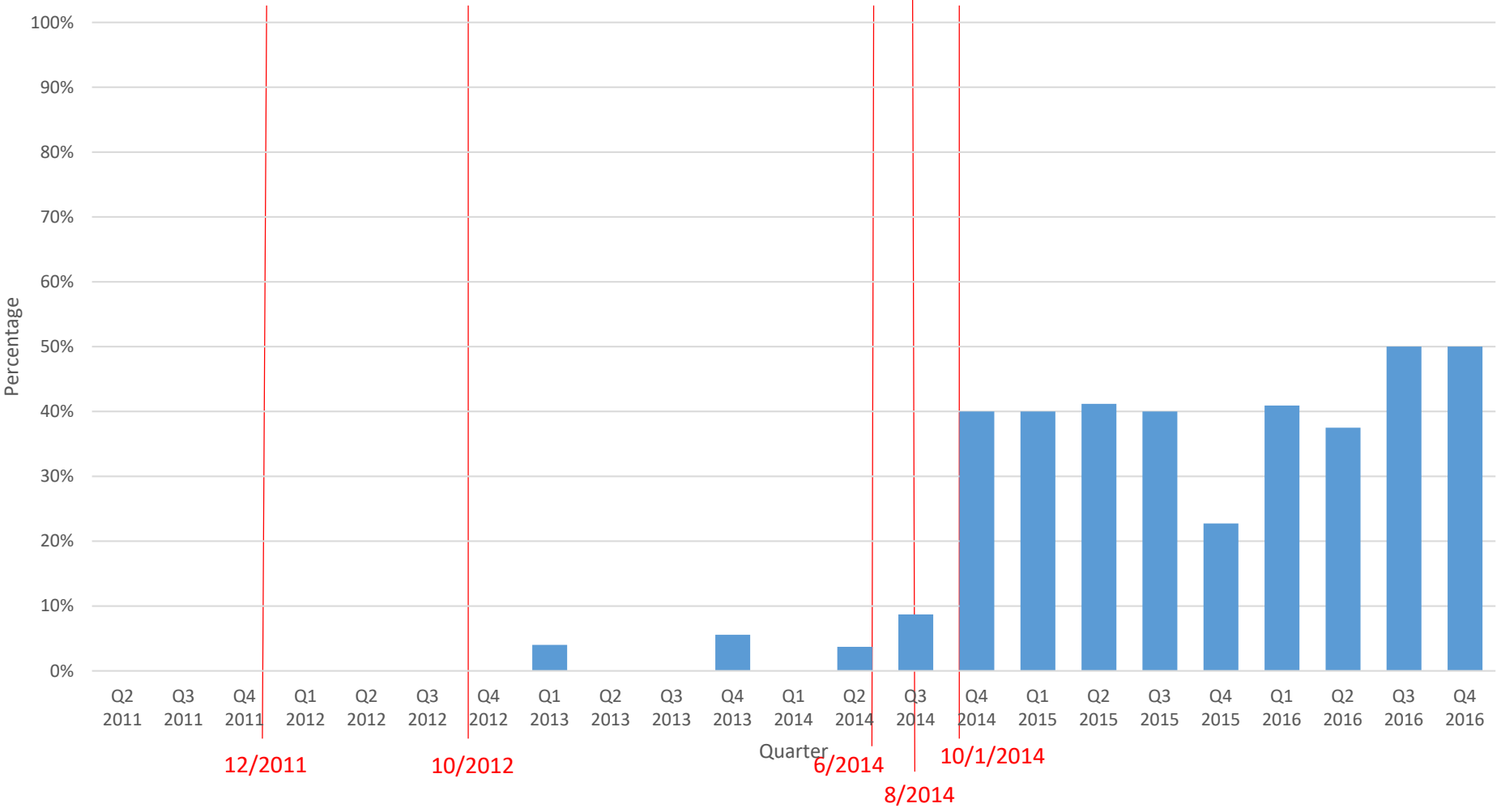


Figure 3: Percent of Sovereign Issuances under Foreign Law with Evidentiary Change

