

## ***Supporting Information for How The Prospect of Non-Compliance Affects Elite Preferences for International Cooperation: Evidence From a "Lab in the Field" Experiment***

In Section A of the supporting information we present the instructions given to subjects for the Time Discounting Task, used to measure patience, as well as the instructions for the Risk-Aversion games used to measure subject's risk aversion.

In Section B we present the two survey questions used to measure subjects willingness to negotiate under greater levels of complexity, as well as their willingness to join a cooperative trade agreement.

In Section C we present the voluntary comments subjects made with regards to whether or not they wanted to join the agreement, after they were treated with uncertainty.

In Section D we present basic demographics and descriptive statistics for our elite population.

### **Section A: Game Instructions**

#### ***All Time Discounting Task***

For this next section of the study, we will draw a monetary prize. If you are chosen to win the prize your choices below will determine the amount of the prize and the date of payment.

You will be asked to choose the payment option that you would prefer in each of 20 different payoff alternatives.

Note that for each of the 20 payoff alternatives Option A will pay \$100 in 30 days and Option B will pay \$100 + \$x in 60 days.

For each payoff alternative you will select the payment option (A or B) that you would prefer if you are chosen to receive the prize.

When the study is completed a random drawing will be held to choose which one of the 20 payoff alternatives will determine the prize, and another random drawing will be held to determine the one person who will receive the prize.

When and how much the winner will be paid will be based on the payment option he or she chooses under the payoff alternative selected.

Please make a choice for each payoff alternative below.

	A (1)	B (2)
Option A (\$100.00 in 30 days) or Option B (\$100.17 in 60 days)? (1)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$100.25 in 60 days)?" (2)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$100.33 in 60 days)? (3)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$100.42 in 60 days)? (4)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$100.63 in 60 days)? (5)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$100.84 in 60 days)? (6)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$101.05 in 60 days)? (7)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$101.26 in 60 days)? (8)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$101.47 in 60 days)? (9)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$101.68 in 60 days)? (10)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$102.10 in 60 days)? (11)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$102.96 in 60 days)? (12)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days)	<input type="radio"/>	<input type="radio"/>

or Option B (\$104.25 in 60 days)? (13)		
Option A (\$100.00 in 30 days) or Option B (\$106.44 in 60 days)? (14)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$108.68 in 60 days)? (15)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$110.96 in 60 days)? (16)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$113.29 in 60 days)? (17)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$115.66 in 60 days)? (18)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$118.08 in 60 days)? (19)	<input type="radio"/>	<input type="radio"/>
Option A (\$100.00 in 30 days) or Option B (\$123.07 in 60 days)? (20)	<input type="radio"/>	<input type="radio"/>

### ***A 1.1 Measuring Patience***

As noted in the main text, for each subject, a measure of patience is the number of 60-day choices. The point at which subjects switched from taking the 30-day prize to the 60-day prize could also be used as measure of the subject's discount rate. If subjects made no mistakes, and discounted future payments at a constant rate, then this implied an equality  $p > df$  over the time period in question, where  $p$  is the value of a prize in the present time period,  $f$  is the value of the prize in the future time period and  $d$  is the factor by which a subject discounts future payments. In practice it has proved difficult to interpret discount rates measured this way.<sup>1</sup> Thus we adopt a simpler approach of measuring a subject's patience as the total number of 60-day choices subjects made.

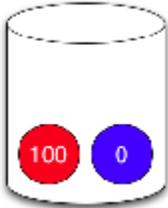
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<sup>1</sup> Many studies have found evidence for hyperbolic discounting, meaning that subjects value the near future much more than the distant future (Frederick, Loewenstein, and O'Donoghue 2002; Laibson 1997). However, assuming exponential discounting has no effect on the direction or significance of our results.

### *A2 Risk Aversion Task*

The following task will be based on \$100 dollar prize that we will draw at the end of the study. The amount of the prize that you are eligible to win will depend on your choices below.

In the following task you will make a number of decisions, each of which could earn up to \$100 dollars.



Below is a list of choices. In each choice, you may choose option A, and you are choosing the fixed dollar amount listed on the left. If you choose option B, the computer will randomly pick a ball from the container shown in the picture above. The computer is equally likely to pick any of the balls. One ball is red. One ball is blue. If the computer picks the red ball, your decision earns \$100. If it picks a blue ball then your decision earns \$0.

For each row in the table below, please choose how you would like to be paid if you win the prize.

At the end of this study we will randomly draw a participant. We will then randomly draw one of their decisions from the table and pay them accordingly. Since we are equally likely choose any of your decisions, you should act as if each choice will determine how you get paid, should you win the prize.

In each row the fixed prize goes up while the gamble that the computer chooses \$100 or \$0 remains the same. Most people begin by preferring Option B and then switch to Option A. So one way to view this task is to determine the best row to switch from Option B to Option A. We have pre-chosen the first and last rows for you, as these have an obvious choice.

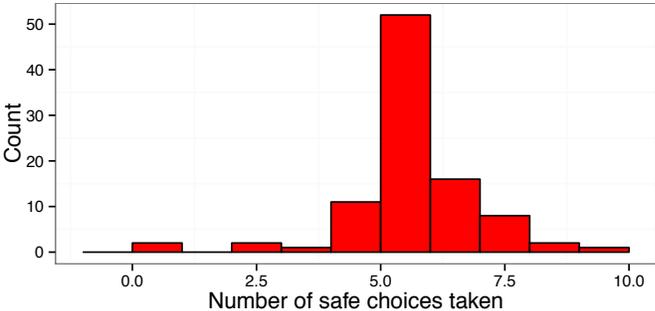
	A: Fixed Amount (1)	B: Computer Randomly Chooses \$0 or \$100 (2)
Fixed Amount = \$0 (1)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$10 (2)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$20 (3)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$30 (4)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$40 (5)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$50 (6)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$60 (7)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$70 (8)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$80 (9)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$90 (10)	<input type="radio"/>	<input type="radio"/>
Fixed Amount = \$100 (11)	<input type="radio"/>	<input type="radio"/>

**A 2.1 Measuring Risk Aversion.**

Our measure of risk aversion was simply the number of times that a subject chose a fixed sum of money in this task (as opposed to taking a gamble where the computer randomly chooses between 0 and 100). As risk aversion is always (weakly) increasing in the number of choices where a person prefers a certain amount to a 50/50 bet between 0 and 100, we measured a subject’s risk aversion as the number of choices where the subject preferred the safe option. However, none of our results change if we use the task to estimate a subject’s constant relative risk aversion as in Holt and Laury (2002).

Figure 4 shows the distribution of safe choices made by subjects in our study. Just less than half can be best described as risk neutral, with most other subject’s showing some degree of risk aversion. A small subset of our subjects make risk-loving choices.

**Figure 4: Distribution of Elite Risk Aversion**



## Section B

Subjects were randomly assigned to a description of a trade agreement that either had enforcement (Enforcement condition), or no enforcement (No Enforcement condition). They were subsequently treated with new information that there was a 50% chance their country could not comply. This was the only new information they were given, and nothing else was changed about the nature of the trade agreement, including the presence (or absence) of an enforcement mechanism.

### *B1.Question on Joining: No Enforcement condition*

You are deciding on behalf of the government whether to join a major new treaty on international trade. The treaty contains obligations that require signatories to lower tariffs and other barriers against trade with other countries that also join the treaty. If you join the treaty, your country's economic output could increase by a few percent in a decade, creating new jobs. Furthermore, in the future, the larger international markets created by the treaty may also create opportunities for local companies to sell profitable new products and services around the world. However, in the immediate term not everyone in your country will benefit if you join the treaty; some existing jobs could be lost, leaving some people unemployed. You will benefit more if many other countries join the treaty than if only a few join the treaty, as long as most countries comply with the agreement. **The treaty does not provide any formal mechanism to punish countries that fail to comply.**

What is the percent chance that you will join this treaty?

- 0-20% Highly unlikely (1)
- 21-40% Fairly unlikely (2)
- 41- 60% Could go either way (3)
- 61-80% Fairly likely (4)
- 81-100% Almost certain (5)

### *B2.Question on Joining: Enforcement condition*

You are deciding on behalf of the government whether to join a major new treaty on international trade. The treaty contains obligations that require signatories to lower tariffs and other barriers against trade with other countries that also join the treaty. If you join the treaty, your country's economic output could increase by a few percent in a decade, creating new jobs. Furthermore, in the future, the larger international markets created by the treaty may also create opportunities for local companies to sell profitable new products and services around the world. However, in the immediate term not everyone in your country will benefit if you join the treaty; some existing jobs could be lost, leaving some people unemployed. You will benefit more if many other countries join the treaty than if only a few join the treaty, as long as most countries comply with the agreement. **An independent enforcement mechanism promptly and credibly punishes any country that does not comply by taking away some of the benefits of the treaty from the country that breaks the rules.**

What is the percent chance that you will join this treaty?

- 0-20% Highly unlikely (1)
- 21-40% Fairly unlikely (2)
- 41- 60% Could go either way (3)
- 61-80% Fairly likely (4)
- 81-100% Almost certain (5)

***B3.Non-compliance Risk Treatment: Enforcement condition***

Suppose that you have reason to believe that in the future there is a 50% chance your country may be unable to comply with one or more of the treaty's significant commitments. For example, an economic crisis may create political pressure to restrict imports that compete with your local companies. If so, many of the treaty benefits for your country will be at risk when the treaty enforcement mechanism imposes punishment. Moreover, failure to comply may also lower your country's credibility.

Now what is the percent chance that you will join this treaty?

- 0-20% Highly unlikely (1)
- 21-40% Fairly unlikely (2)
- 41- 60% Could go either way (3)
- 61-80% Fairly likely (4)
- 81-100% Almost certain (5)

***B4.Non-compliance Risk Treatment: No Enforcement condition***

Suppose that you have reason to believe that in the future there is a 50% chance your country may be unable to comply with one or more of the treaty's significant commitments. For example, an economic crisis may create political pressure to restrict imports that compete with your local companies. Failure to comply may lower your country's credibility.

Now what is the percent chance that you will join this treaty?

- 0-20% Highly unlikely (1)
- 21-40% Fairly unlikely (2)
- 41- 60% Could go either way (3)
- 61-80% Fairly likely (4)
- 81-100% Almost certain (5)

## Section C

### Subject Comments on the Question of Joining a Trade Treaty After Non-compliance Risk Is Introduced.

As noted in the main text of our article, we also invited subjects to comment on their decisions and reasoning processes regarding their decision about whether or not to join a trade agreement. Below is a list of all the comments we received from 41 of our subjects.

A 50% chance of inability to comply is too high to warrant joining
Would seek to reduce local economic impacts and political pressure, but probably would sign the treaty.
same as previous answer
If I thought we couldn't comply it would be fairly unlikely that I would risk more loss of income
If the only punishment is loss of benefits (which is the only realistic punishment anyway) not sure how / why this changes anything. Credibility?
Signing the treaty would create some resistance to backtracking on the policy.
Depends on the nature of the enforcement mechanism, the types of benefits that might be at risk, and the credibility concerns - particularly given level of risk.
Countries usually comply with treaties whenever they can. Once crisis subsides, it is likely we will return to compliance.
if there's only a chance we would not be able to comply and we still believe in the premise of the treaty, we join
Failing to comply is a major concern, at least for the State Department, but it's rare that we approve something that is not in compliance. Mexican trucks would be an obvious exception.
If my country in the future chooses to turn its back on free trade agreements, there should be a cost.
Just signing the treaty helps to mobilize domestic interest groups to sustain compliance, and thus the question has a rather self-fulfilling quality to it.
I just don't see how isolationist approaches are viable or best for a country. Leadership involves making the tough decisions, including signing up to be a part of the global community, even if doing so may cause hardship at home.
I don't believe that fear should drive decisions. A can-do attitude is necessary for society to make progress.
The treaty commitment has a negative penalty the failure to comply would impose
Would want to have a sense of significance of penalty versus gains still to be obtained; if penalty matches infraction and thus there are gains for US, would probably support
Again, I would have to conduct a thorough analysis of the pros and cons. If it is very likely that my country would not be able to abide by the treaty in the near future then I would not join. If the issues are more speculative, then I might be more likely to join the treaty.

would need to know more details on how, when and why my country would benefit from the treaty, when in the future my country might risk noncompliance and what the penalties for noncompliance might be.
Must lead despite uncertainty -- what's the point of having power?
Global economy will have universal affects on all participants thus revisions or temporary relief from the treaty is likely until economic crisis is alleviated. Should not hold participation in treaty hostage to what if events.
I'm confused: previously the options suggested temporary relief in exceptional situations--I'm assuming that didn't make it into the treaty. I was also under the impression that I was to push for strong enforcement. BUT, if the fact is my country will suffer from the treaty and not get any benefit, I assume it won't sign (of course, ratification is out of my hands, isn't it?).
probably 20% - depends on factors
Still believe that there has to be some form of enforcement and review process; but the 50% probability of non-compliance would be factored into the strength of the enforcement and review process; i.e. possibly somewhat less stringent.
Would prefer to negotiate structured "escape hatches" in the original treaty than anticipating non-compliance with damaging consequences for international relations, compliance with other treaties or future negotiations between the affected countries.
I imagine an economic crisis would have the same impact on other signatories, so they may make similar decisions to me. Therefore, doesn't impact my decision.
That factor would not impact my decision tremendously
A 50% chance of non-compliance is awfully high, and suggests that we would not be at all certain we could comply. I would not propose to join a treaty under these circumstances, instead first working to obtain laws/regulations that assure a higher level of compliance certainty.
United States is already bound by tariff and related trade obligations in the WTO, and we've gone through a major economic crisis, but we have upheld those obligations.
not enough information to respond; what are provisions of the treaty to withdraw, etc.
The risk of damaging one's credibility is a manageable risk. Much will depend on the effort made to come back into compliance. International agreements are all political agreements and while they have the form of legal agreements one should not confuse the two. there is far more leeway available within political agreements to reserve the mutuality of the benefits. This is a particular problem for the US however, since treaties are converted on ratification into national law. Few, if any, other countries do this. The vulnerability is not the political vulnerability of being held to account in the court of international opinion, but the risk that failure to comply with the provisions of a treaty may result in domestic court action to which other countries may or may not become a party. My advice is to change your constitution.
If the agreement set unrealistic expectations on one country, then it would probably do the same for others.
Compliance could be fixed based on an intensity level that is proportional to the GDP. Again, this is NOT an issue in my mind. Concerns are similar to the previous response.
Treaty obligations could be a lever to encourage compliance

I will cross that bridge when I come to it. If I have to back down at some point because of economic crisis, I will have a good reason to do so. In the meantime, I am optimistic.
Credibility can be remedied over time. A 50% chance is still manageable.
This is not the scenario generally faced by the US, but is commonly faced by other countries. It would be better for the international system generally if countries did not enter treaties they will not be able to observe.
I would not join a treaty that I felt presented an even chance my country could not comply with.
It seems important to pursue the treaty even if future events may challenge participation. Non-compliance pressure may be lessened by the provisions allowing countries to not comply with a % of the obligations for a limited period of time.
While failure to comply could lower the country's credibility the fact that there is no enforcement mechanism weighs in favor of the Treaty. At the same time, other countries may not be so enthusiastic to somehow punish a country experiencing difficulty since they don't know what may happen to them in the future.
With a 50% probability of non-compliance, it seems like a bad idea to enter into an agreement that you feel you cannot comply with, unless the payoff was huge (growth or access to otherwise closed markets, etc..)
At the end of the day, treaty ratification is a decision taken at the political level. Politicians are more than likely to kick today's problems into tomorrow. Further, the overall benefits of the treaty may far outweigh whatever one area of noncompliance / the resulting punishment for said noncompliance.

## Section D

### Elite Demographics and Balance Check.

Characteristic	Mean	SD
Years Experience	21.45	11.21
Age	51.29	12.71
Gender	76% male	--

Sector	%
Government	66
Industry	26
Policy Think Tank or NGO	8

Variable	No Enforcement Mean	Enforcement Mean	KS Test p-value	2 tailed t-test p-value
Experience	20.17	22.64	0.35	0.24
Age	51.61	50.98	0.99	0.78
Gender (1 Female, 0 Male)	0.18	0.22	1.00	0.59
Patience	9.89	10.68	0.92	0.51
Risk Aversion	5.22	5.06	1.00	0.55