Religion and Respect for Norms: Evidence from Haiti

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Outline of talk

- The punchline: we use evidence from Haiti to show that more religious people are more trustworthy than others
- The difference comes from having greater concern for a "no cheating" norm, NOT in being more altruistic in general
- Why this is interesting: morality is a complex mix of behaviors and messages designed
  - to enforce social norms (often though not always norms against free-riding)
  - to encourage pro-social tendencies without explicit norms
- Distinction is NOT sharp, but
  - Norms tend to be discrete, and enforced by discontinuous punishments
  - Pro-social tendencies tend to be continuous, encouraged by rewards and esteem and approval/disapproval
- Religion can be and often is involved in both - but evidence in this context is that it has greater weight through norms

Context: growing literature on the possible economic benefits of religious belief and behavior

- Religion might be a credible commitment technology to solve moral hazard problems
- It might be a credible signal of already pre-formed moral character
- In either case the credibility depends on the costliness of the visible behavior associated with the commitment technology or the moral character
- This costly behavior may bring indirect benefits, but cannot bring direct benefits to all types of agent otherwise would just be cheap talk
- We therefore use an elicitation method for willingness to pay for religious images that is free of direct benefits
- But we show presence of indirect benefits

Possible consequences of an association between religiosity and norm-observance

- Religious people may be more predictable, in ways that make them more attractive as economic partners
- They may also be more easily satisfied with behavior that respects norms, and therefore less willing to explore new options
- They may be less willing to do things that upset established practice
- Benabou, Ticchi Vindigni (2013) find a robust negative relationship between religiosity and innovation. Is this driven by the kinds of innovation that disrupt established norms?

Our experimental study

- Field study in Haiti December 2012-February 2013
- 774 participants, 33 sessions, 6 regions; all experiments conducted in kreyol
- Two experiments: lotteries and trust games; lotteries are subject of separate paper
- Classic baseline versions, treatment with (costly) images, then choice of game to replay (to elicit WTP for images)
- In the trust game:
  - Each subject has 5 tokens, sends an amount that is tripled
  - Trustees can keep sum or send part or all back to the sender
  - Neutral game as sender then receiver, plus one game with choice of image as sender
  - Two games with random images as receiver, 6/12 tokens
- Questions on social-economical-religious behavior

Structure of the trust game(s)
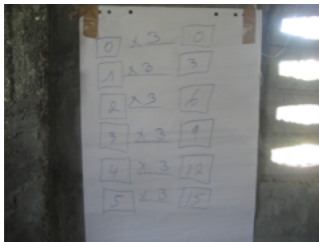
Game	Role	Number of tokens
Neutral game		
	Sender	5 tokens
	Recipient 1	6 tokens
	Recipient 2	12 tokens
Image game		
	Sender	5 tokens - Choose image
	Recipient 1	6 tokens + random image
	Recipient 2	12 tokens + random image

Map of Haiti: the red dots mark the locations where the experiment took place

Notes: The red dots defines the areas visited

Trust game

Choice of religious images

Choose the game you want to play again
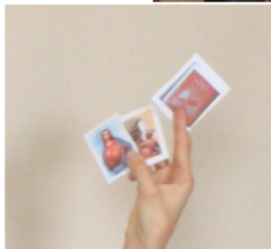
Questionnaire completion

Findings

- **Image buyers are more trustworthy**: have shown higher reciprocity in no-image treatment - not due to priming
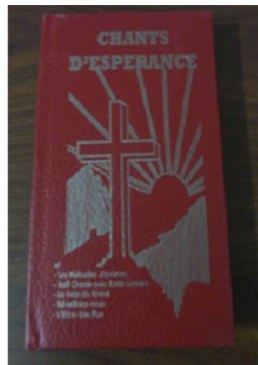- Those who also bought the same images in the lottery game ("consistent buyers") showed even greater reciprocity
- **Image buyers are more norm-driven, not more generally altruistic**: difference due to lower frequency of returning zero - a "no cheating" norm
- **Image buyers feel guilt - measured by reverting to the norm after cheating once**:
  - non-buyers who cheat have 75% probability of cheating again
  - buyers who cheat are only 50% likely to cheat again
  - *consistent* buyers who cheat are only 33% likely to cheat again
- Image buying predicts religious behavior outside the lab
- Religiosity and reciprocity predict borrowing and lending outside the lab

Mean amounts returned in neutral trust game by buyer type ($p < 0.01$ in both cases)
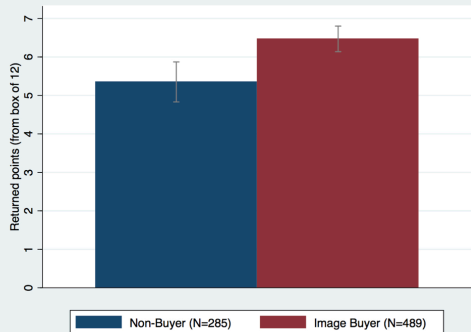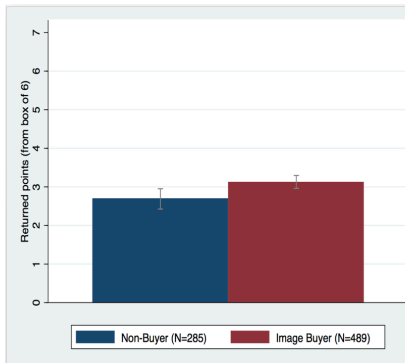
Trust Game with images: buyer decisions

Total players	774
Player A does not buy image	285
Player A buys some image	489
Player A buys Catholic image	175
Player A buys Protestant image	261
Player A buys Voodoo image	53

Characteristics of Image Buyers and Non-Buyers Compared

	Image Buyers	Non-Buyers	Wilcoxson significance
	(N=489)	(N=285)	
Rural	56.2%	39.3%	0.00
Female	31.5%	30.2%	0.70
Age	32.1	30.9	0.34
Unemployed	15.5%	16.5%	0.73
Illiterate	5.5%	4.5%	0.56
High school	53.6%	57.5%	0.29
Higher education	26.0%	21.3%	0.14
Access to electricity	56.4%	57.9%	0.69
Use Internet	40.5%	47.9%	0.05
Own mobile phone	86.9%	89.1%	0.37

It's not about the other characteristics: coefficients on dummy for image buyers in OLS reciprocity regressions

	Coefficient	t-ratio	p-value
Dependent variable: amount returned out of 6:			
Mean amount returned: 2.97			
(1) Simple correlation, no clustering	0.44	2.92	0.004
(2) As (1) with clustering by region	0.44	1.70	0.140
(3) As (1) with clustering by session	0.44	2.17	0.038
(4) As (2) with individual socio-economic controls	0.43	1.90	0.103
(5) As (4) with region and session fixed effects	0.31	2.42	0.016
(6) As (5) with individual risk aversion and trustingness measures	0.199	2.11	0.035
Dependent variable: amount returned out of 12			
Mean amount returned: 6.06			
(1) Simple correlation, no clustering	1.12	3.73	0.000
(2) As (1) with clustering by region	1.12	2.28	0.030
(3) As (1) with clustering by session	1.12	2.27	0.030
(4) As (2) with individual socio-economic controls	1.22	2.90	0.027
(5) As (4) with region and session fixed effects	0.89	3.32	0.000
(6) As (5) with individual risk aversion and trustingness measures	0.65	3.32	0.000

Reciprocity of image buyers versus others - box of 6
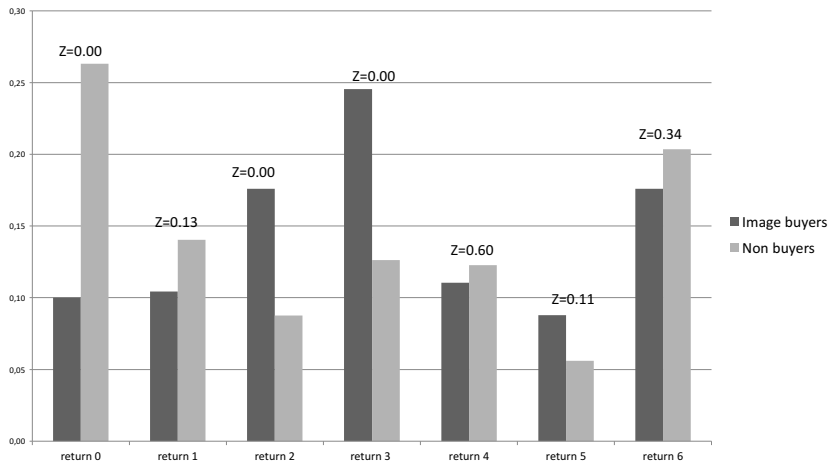
Reciprocity of image buyers versus others - box of 12
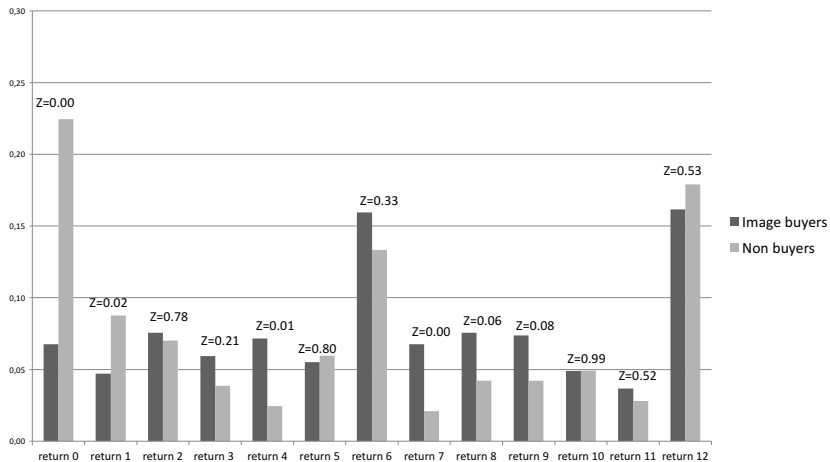
No club good effect: amount returned by buyers to senders of own versus other images
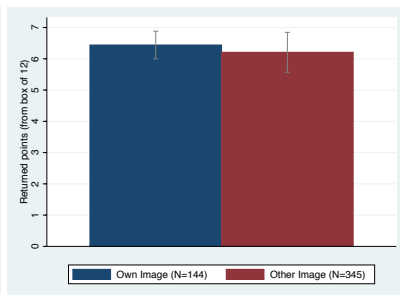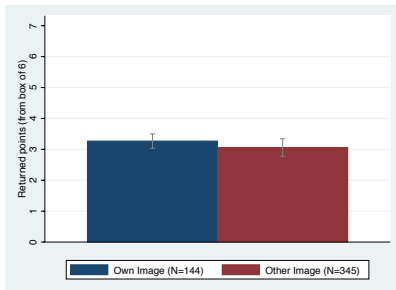
A utility function with both continuous and discontinuous elements

$$U_i = u(x_i) + \alpha_i c_i + \sum_j \beta_{ij} t_{ij} - \sum_k \gamma_{ik} n_{ik} \qquad (1)$$

where:

$u(x_i)$ is a weakly concave von-Neumann-Morgenstern utility function of x_i,

x_i is the income of individual i,

c_i takes value 1 if the individual buys a religious image

α_i represents utility from buying a religious image

t_{ij} is the amount transferred from individual i to individual j,

β_{ij} is how much individual i cares about well-being of individual j,

n_{ik} takes value 1 if the individual breaches norm k,

γ_{ik} is degree to which individual i cares about breaching the norm k.

Determinants of reciprocity and trustingness: Heckman estimation, individual controls included

	(1) Reciprocity out of 6	(2) Reciprocity out of 12	(3) Trustingness
Trustingness	0.122** (2.37)	0.523*** (5.51)	
Lottery stake	0.105*** (3.75)	0.164*** (3.19)	0.0946*** (5.29)
Selection Equation			
Image Buyer	0.504*** (3.30)	0.507*** (3.32)	0.453*** (2.72)
Consistent Buyer	0.408** (2.31)	0.405** (2.29)	0.166 (0.91)
Observations	774	774	774

Which Norms Predict Image Buying Choice?

	(1)	(2)	(3)
No Cheating Norm	0.742***	0.717***	0.576***
	(4.82)	(4.01)	(3.98)
No Cheating (Trust Game first)	0.254*	0.254*	0.255*
	(1.79)	(1.79)	(1.81)
Average Reciprocity out of 6		0.00526	
		(0.16)	
Average Reciprocity out of 12		0.00168	
		(0.08)	
Exact Return Norm			0.288
			(1.35)
Equal Shares Norm			-0.000101
			(-0.00)
Total Generosity Norm			-0.296*
			(-1.93)
Observations	774	774	774

Guilt effects: Proportion of subjects who respected "No cheating norm" on their second choice

	Buyers	Non-buyers	Consistent	Others	Number
First choice:					
Cheated	50%	23%	67%	24%	103
Did not cheat	94%	89%	94%	92%	671
Number of subjects	489	285	315	459	774

Testing for guilt effects among consistent image buyers

	(1) Other Subject	(2) Consistent Buyer	(3) Cheated	(4) Did Not Cheat	(5) All Subjects
No Cheating in first choice	2.084*** (9.65)	1.114*** (4.55)			2.084*** (9.65)
Consistent			1.125*** (3.65)	0.154 (1.21)	1.125*** (3.66)
No Cheating * Consistent					-0.970*** (-2.83)
Constant	-0.694*** (-4.41)	0.431* (1.91)	-0.694*** (-4.40)	1.390*** (8.71)	-0.694*** (-4.41)
Observations	459	315	103	671	774

External validity: does behavior in experiment correspond to religiosity in the world?

1. First check: self declared affiliation (high corroboration of image buying behavior)
2. Second check: 24 detailed questions on religious behavior
3. We took first three principal components, which appear to correlated intuitively with self-declared affiliation
4. These explain well the image choices of subjects
5. They are also explained by intuitive socio-economic variables
6. They are also positively associated with borrowing and lending behavior
7. But norm-observance also explains borrowing and lending independently of religious measures

Correlation of principal components of religiosity with self-reported religious affiliation

	Protestant	Catholic	Voodoo
PC1	-0.6196	0.4439	0.3758
PC2	-.02807	0.3842	-0.1966
PC3	0.668	-0.0055	-0.1147

Determinants of three principal components of general religiosity

	(1) First PC	(2) Second PC	(3) Third PC	(4) First PC	(5) Second PC	(6) Third PC
Internet User	-2.309**	-2.714***	-1.579**	-1.614*	-1.840**	-1.055
	(-2.00)	(-2.63)	(-2.34)	(-1.76)	(-2.35)	(-1.57)
No Cheating Norm	-0.124	0.238	-0.0373	-0.211	0.142	-0.0985
	(-0.44)	(0.99)	(-0.32)	(-0.96)	(0.76)	(-0.61)
Female	-0.962***	-0.558*	-0.406*	-0.798***	-0.335	-0.276
	(-2.76)	(-1.78)	(-1.78)	(-2.95)	(-1.44)	(-1.39)
High School	-0.225	0.543**	0.344***	-0.337	0.388**	0.261
	(-0.87)	(2.45)	(2.65)	(-1.50)	(2.02)	(1.59)
Higher/Prof Education	0.158	1.429**	0.496	-0.148	1.018**	0.259
	(0.24)	(2.37)	(1.41)	(-0.30)	(2.42)	(0.72)
Age	-0.0435	-0.0473	-0.0267	-0.0275	-0.0308	-0.0162
	(-1.08)	(-1.29)	(-1.01)	(-0.77)	(-1.00)	(-0.62)
p-value for Hansen J-test	0.61	0.97	0.56	0.39	0.55	0.34
Region fixed effects	No	No	No	Yes	Yes	Yes
SEs clustered by session	Yes	Yes	Yes	No	No	No
IV estimation: instruments for Internet user are electricity, television and rural						

Determinants of image choice (nested logit)

	(1) Lottery	(2) Trust game	(3) Both (consistent choosers only)
Choice of some image			
Amount gambled with image	0.0656*	0.0267	0.0819*
	(1.87)	(0.84)	(1.91)
Protestant			
No Cheating Norm	1.218***	1.352***	1.853***
	(5.16)	(4.20)	(5.53)
Non Protestant			
No Cheating Norm	1.120***	1.301***	1.879***
	(3.66)	(3.79)	(4.76)
Protestant image			
First PC of Composite Religiosity	-0.160**	-0.232***	-0.280***
	(-2.26)	(-3.15)	(-3.17)
Second PC of Composite Religiosity	-0.231***	-0.153***	-0.232***
	(-3.60)	(-2.88)	(-2.88)
Third PC of Composite Religiosity	0.0955	0.167*	0.144
	(1.48)	(1.82)	(1.42)
Catholic image			
First PC of Composite Religiosity	0.243***	0.222***	0.290***
	(3.48)	(3.89)	(3.61)
Second PC of Composite Religiosity	0.136	0.240***	0.257**
	(1.35)	(3.23)	(2.40)
Third PC of Composite Religiosity	-0.0243	0.00372	0.0263
	(-0.32)	(0.07)	(0.35)

The influence of religiosity and reciprocity on borrowing and lending

	(1) Borrowing	(2) Borrowing	(3) Lending	(4) Lending
First PC	0.0336	0.0989***	0.0309	0.0791**
	(1.37)	(2.82)	(1.32)	(2.22)
Second PC	0.110***	0.133***	0.123***	0.137***
	(3.86)	(3.77)	(3.86)	(3.84)
Third PC	0.0799***	0.0829***	0.0880***	0.0929***
	(2.83)	(3.17)	(2.88)	(3.16)
No Cheating Norm	0.214**	0.199**	0.323***	0.291***
	(2.10)	(2.38)	(2.81)	(3.01)
joint *p*-value for PCs	0.0003	0.0002	0.0001	0.0005
Observations	774	774	774	774
Individual/Regional Controls	No	Yes	No	Yes