

Are Muslim immigrants really different? Experimental Evidence from Lebanon and Australia

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Abstract

This paper aims to identify the effect of religion on individual cooperative behaviour towards women and the poor by focusing on Muslim immigrants. In particular, it attempts to shed light on whether religion or the social environment of immigration influences the distinct behaviour exhibited by Muslim immigrants in Western destination countries. We test this by conducting a prisoner's dilemma game with the Lebanese population in Australia (destination country) and the Lebanese population in Lebanon (native country). This unique sample allows us to remove the effects of confounds such as economic institutions of country of ancestry, ethnolinguistic groupings and culture. In both countries, we compare Lebanese Muslims to Lebanese Christians to isolate the effect of religion. We find that in Lebanon, Muslims and Christians behave similarly, while in Australia, when compared to Christians, Muslims are more cooperative (i.e., send a higher share of their endowment) towards the poor and especially towards poor females. These results hold even after controlling for altruistic behaviour. We conclude that distinct behaviours displayed by Muslims are not driven by religion but rather migration status. Differing levels of social capital between these two religious groups in Australia seem to explain these findings.

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1. Introduction

In recent decades, the issue of Muslim immigration has been at the forefront of countless political and intellectual debates in the Western World¹. Muslim immigrants have been shown to display different attitudes to non-Muslim immigrants in Western destination countries. In the United Kingdom, they integrate less and at a slower rate than their non-Muslim counterparts (Bisin et al., 2008, 2016). Similarly, in France, Adida et al. (2016) find that compared to their non-Muslim counterparts, Muslim immigrants and their descendants exhibit greater attachment to the homeland of their ancestors, lower identification with French society and lower adoption of the host country's secular norms. These findings suggest that a deeper understanding of why Muslim immigrants behave differently is warranted.

Based on the existing literature that compares Muslims to non-Muslims, two areas where these groups differ significantly are their attitudes towards the status of: (i) the poor, and (ii) women in society. First, Islam was the first religion to introduce a tax system: “zakat” that mandates believers to give alms to the poor (Kochuyt, 2009; Kaleem and Ahmed, 2009; Ahmed, 2009). In the United Kingdom, Muslims donate significantly more than any other religious group (namely Jews, Protestants, Roman Catholics and Atheists).² Second, both across and within countries, data from the World Values Survey suggest that Muslims hold significantly more patriarchal attitudes towards women with respect to education, employment and leadership than non-Muslims (Inglehart and Norris, 2003; Fish, 2011).

Using a sample of Muslim immigrants, we aim to investigate the motivation behind these distinct behaviours and attitudes by firstly identifying the effect of religion on cooperative behaviour towards women and the poor. We then replicate our analysis in these immigrants' country of origin to ascertain whether our findings are driven by religious affiliation or migration status. Religion

¹The Pew Research Center (Global attitudes Survey, 2016) reveals that “attitudes toward Muslims and refugees loom large in the European political debate, and this is reflected in current public opinion.” The Telegraph, July 2016: <http://www.telegraph.co.uk/news/2016/07/12/europe-rejects-multi-cultural-society-says-survey/>. This is also a pressing issue in Australia, where a national survey conducted by the Australian Population Research Institute revealed that nearly half of all Australians support a partial ban on Muslim immigration (<https://www.sbs.com.au/news/australians-support-partial-ban-on-muslim-immigration-survey>).

²The ICM research centre conducted a survey of 4,036 residents in the United Kingdom and finds that Muslims donate more than any other religious group. Muslims gave an average of \$567, Jews gave \$412, Protestants \$308, Roman Catholics \$272, Atheists \$177: <http://www.nbcnews.com/news/other/muslims-give-more-charity-others-uk-poll-says-f6C10703224>

can have a direct effect on one's motivation and behaviour by the moral values it prescribes (i.e., Islam itself, or being Muslim). However, one's social environment or the societal perception of their religion can also influence their behaviour through effects on their level of social capital. For instance, being a Muslim in a non-Muslim country may restrict the formation of certain networks of relationships and could even subject such immigrants to various forms of discrimination. This paper's main contribution is that it identifies the effect of religion and more importantly, isolates the effect of religion per se from the effect of one's social environment.

We design and conduct a survey with an embedded lab-in-the-field experiment (i.e., a Prisoner's dilemma game and a Dictator game) with 100 Lebanese Australians in the Western suburbs of Sydney (50 Muslims and 50 Christians). We then replicate the fieldwork in Beirut, Lebanon using a sample of 201 Lebanese citizens (105 Muslims and 96 Christians). We find that in the native Lebanese sample, there is no significant difference in the cooperative behaviour of Muslims and Christians in general and towards poor and female recipients specifically. Results remain unchanged if the sample is restricted to participants who have the intention to leave Lebanon. The results differ to those found in the Australian sample. In the prisoner's dilemma game, we find that Muslims send a significantly higher proportion of their endowment to poor and female recipients. When considering these two sets of results in conjunction, it appears that Muslims become more cooperative when they leave their country of origin and migrate. Hence, in addressing our main question, we find evidence that the social environment of Muslim immigration rather than religion per se affects distinct behaviours displayed by Muslims. We find evidence that Muslims have less access to formal social networks in Australia and this social isolation may also contribute to the higher levels of cooperation they exhibit.

The Lebanese population offers an ideal setting to identify the effect of religion. First, the homogenous Lebanese population enables us to eliminate the effect of potential confounds such as race and ethnolinguistic groups. As discussed in section 2.1, the Lebanese population is ethnically homogenous.³ Arabic is the official language⁴ and religious affiliations among the Lebanese population are evenly distributed with about 40.5% of the population identifying as Christian and 54% as

³95% of Lebanese people in Lebanon are Arab, Armenian 4%, other 1%: <http://www.nationsencyclopedia.com/Asia-and-Oceania/Lebanon-ETHNIC-GROUPS.html>.

⁴Arabic is the official language in Lebanon. French, English, Armenian are the other language most commonly spoken in Lebanon: <http://www.studycountry.com/guide/LB-language.htm>

Muslim.⁵ Lebanese Christians therefore serve as the best counterfactual to Lebanese Muslims.

Second, the bulk of the Lebanese immigrant population in Australia originated from the same wave of immigration which occurred as a result of the outbreak of the Lebanese civil war in 1975. Upon arrival in Australia, Lebanese Muslims and Christians faced the same economic and institutional framework in their new environment (i.e. destination country). Section 2.2 outlines Lebanese immigration to Australia. As such, we are able to account for omitted variables by removing the effect of the economic, political and institutional structures of the country of origin which may have confounded the effect of religion. This is of particular significance as it has been found that rather than Islam, other factors embedded in the economic, political and institutional structure of a country of origin may explain distinctive attitudes observed in Muslim communities. For example, in a cross-national analysis, Ross (2008) finds that oil dominating industries in oil-abundant Muslim countries, and not Islam, explain female under-representation in public life. In addition, Alesina et al. (2011) find that traditional and historical agricultural practices influence current working opportunities for women and gender norms. These papers suggest that factors such as a country's comparative advantage and historical traditions significantly shape current opportunities and norms and hence, in attempting to estimate the effect of a societal trait such as religion, all other confounds must be held constant.

In addition, replicating the study with the native population in Lebanon allows us to disentangle the effect of religion from that of the social environment of Muslim immigrants in a Western destination country. To the best of our knowledge, this paper is the first to compare natives in a country of origin to immigrants in a destination country. It extends on previous work in the literature where the effect of religion is estimated by focusing on immigrants only (see Adida et al. (2014b)). We argue that Lebanese immigrants and natives are comparable to support our analysis of these two groups. This is further supported by qualitative evidence and more specifically, Australian immigration policies that shed light on the profile of immigrants vis-a-vis the native Lebanese population. Policies neither discriminated with respect to religious affiliations, nor with respect to socio-economic dimensions. Any individual merely impacted (not persecuted) by the war was granted a visa. In our survey, we also control for observable characteristics that are

⁵These figures are found in the Bureau of Democracy, Human Rights and Labor, 2013 and consider for the countries of origin, Senegal and Lebanon. (for all the above figures, refer to: <https://www.cia.gov/library/publications/the-world-factbook/geos/le.html>)

unbalanced across native and migrant participants. We further compare our sample of immigrants to the sample of natives who have the intention to migrate overseas allowing closer comparability and a more refined estimate of the effect of being Muslim. We discuss the comparability across immigrants and natives further in section 2.2.

Finally, relying on a survey with an embedded lab-in-the-field experiment enables us to neatly identify the effect of religion while relying on standard economic models (Fernandez, 2007). Hoffmann (2013), in his survey of the experimental literature of religion, highlights three advantages of relying on experiments; it enables researchers to account for confounding factors, to provide standardised ways of measuring behaviours, and implement incentives that improve response accuracy. We conduct a prisoner's dilemma game, a dictator game and a follow-up survey questionnaire. The prisoner's dilemma game measures an individual's level of cooperative behaviour. In our version of the game, two participants receive an endowment and simultaneously decide how much of it to transfer to another participant. The amount transferred is doubled before it reaches the other participant. Each participant is only informed of the gender and socioeconomic status of the recipient. Socioeconomic status is split into two categories: Poor and Rich. Therefore, each participant plays the prisoner's dilemma game four separate times, against a Poor Woman, Poor Man, Rich Woman and Rich Man. Each participant's payoff depends on their own decision and the decision of the respective recipient. The dictator game identifies an individual's level of pure altruistic behaviour. In this game, each participant is also allocated a fixed sum of money and asked to decide how much of this money they would like to send to the same recipients they faced in the prisoner's dilemma game. However, in this game each participant's payoff depends only on their own decision. Consistent with the literature that investigates social attitudes, we incorporate the dictator game to account for altruistic motives from cooperative ones that may be motivating decisions made in the prisoner's dilemma game (Fershtman and Gneezy, 2001; Henrich et al., 2001). Finally, each participant answers a follow-up survey questionnaire which asks socio-demographic questions and attitudinal questions, namely on trust.

We then turn our analysis to the possible mechanisms driving these behaviours. In Lebanon, Muslims and Christians tend to possess similar levels of social capital, measured in terms of their likelihood to urgently borrow or lend a given amount of money from and to different societal groups such as family and people from non-Lebanese backgrounds. Conversely, in Australia, Christians

are more reliant on formal social networks (i.e., those that exist outside their circle of family and friends) when compared to Muslims. For instance, they are more likely to use formal institutions such as banks than Muslims are. Muslims rely on family and friends more than Christians do which may be a result of them being part of a minority religious group. The differing behaviour we observe between Muslims and Christians may also be due to differing levels of religiosity. An individual's social environment may shape their level of religiosity. To test this possibility we interact religion with being highly religious (i.e., participants who report to practice their religion very often). We find that religiosity does not explain why Muslims behave differently to Christians in Australia.

Related literature Our paper builds on two strands of the literature. The first is the literature that investigates the links between religion and economic outcomes (Shariff and Norenzayan, 2007), such as economic and social trust building (Norenzayan, 2014). The second is the literature that studies the different attitudes and behaviours displayed by immigrants with different religious affiliations.

Hoffmann (2013) puts forwards two channels through which religion can affect economic outcomes. First, the direct effect which we described above and operates through the religious values and corresponding social behaviours a given religion prescribes. Second, religion affects social behaviour through interactions with other religious groups (i.e., indirect effect). Our study contributes to this literature by testing the direct effect of religion while controlling for the indirect effect. The comparability between Lebanese Muslims and Christians enables us to capture the effect of religion, and it is the comparability between Lebanese natives and migrants to Australia that enables us to disentangle the direct from the indirect effect of religion. Religious group interactions can be further extended to the literature on economic networks (see Jackson (2008)). Benjamin et al. (2016) rely on priming methods to make religion salient and conduct several experimental games with different religious groups. They find that contrary to Catholics, Protestants tend to increase their contributions to public goods when primed, and Catholics become less risk averse. They focus on the first channel (i.e., direct effect) through the organizational structure, beliefs about the afterlife and the moral teachings of a given religion. In our experimental setting, we attempt to disentangle the direct effect of religion from the effect of religious group interactions. We do so by comparing Muslim immigrants to Christian immigrants and then Lebanese immigrants to Lebanese natives. It is worth mentioning that we do not seek to account for the club good effect of a given

religious group but rather we account for the effect of the environment based on the extent of social networks of the religious groups.

Much of the empirical literature that aims to investigate the different attitudes and behaviour displayed by Muslim immigrants compares religious populations of different ethnic backgrounds (Bisin et al., 2008, 2016) and in some cases even uses cross-national surveys (Mustafa and Richards, 2018). These studies' measurement of the effect of being Muslim is most likely confounded by the effects of nationality and ethnicity. Our study alleviates this issue by focusing on a group of immigrants who are ethnically homogenous. Furthermore, our study extends on this empirical literature by delving deeper into the cause of the distinct behaviours displayed by Muslim immigrants and more specifically whether it is caused by religion (i.e., Islam) or the social environment of Muslim immigration. Abdelgadir and Fouka (2019) use quantitative and qualitative data to evaluate the effects of the 2004 French headscarf ban on the socioeconomic integration of French Muslim women and find that it in fact reduces secondary educational attainment and hinders their trajectory in the labor market. Moreover, in a study that examines why Muslim integration fails in Christian-Heritage societies, Adida et al. (2016) find that compared to their non-Muslim counterparts, Muslim immigrants and their descendants exhibit greater attachment to the homeland of their ancestors, lower identification with French society, and lower adoption of the host country's secular norms as a result of the discrimination they face particularly in the labour market. This discrimination is further exemplified by Valfort (2018), where the author conducts a field experiment in France comparing the callback rates of Muslim and Christian immigrants who originate from Lebanon. The results revealed that while Muslims received less callbacks than Christians, this difference was statistically insignificant. However, Muslims were significantly disadvantaged when they signalled to be more religious while the opposite was true for Christians. These more recent studies suggest that social environment and perceptions of Muslim immigrants may be playing a pivotal role in the distinct attitudes and behaviours displayed by Muslims. Our study aims to investigate this more thoroughly by analysing Muslims both in their country of origin and country of destination.

The closest study to ours is by Adida et al. (2014b). It looks at the effect of religion on social attitudes using a sample of Senegalese Muslim and Christian immigrants in Paris. They find that Senegalese Muslims donate less to women than their Christian counterparts. Our study

extends on theirs with respect to three dimensions. First, we investigate cooperative behaviour while controlling for altruistic behaviour that may be at work in the prisoner’s dilemma game while they investigate altruistic behaviour only. Second, we rely on a more ethnically homogenous sample. In their paper, they control for ethnic affiliation in most specifications, however it is worth noting that Senegalese people are different with respect to both their religious and their ethnic affiliations.⁶ Also, a substantial majority of Senegalese people are Muslim. They represent about 95% of the Senegalese population compared with 4% Christians, and tend to mix these monotheist religions with animistic beliefs. Thirdly, we extend on their paper by replicating our study in the immigrants’ country of origin. Senegalese Muslims in France are a minority religious group as are Lebanese Muslims in Australia; this potentially confounds the effect of religion with that of being a religious minority. This is particularly likely as it has been shown that Muslims in Christian heritage societies face higher discrimination than non-Muslim immigrants, especially in the labour market (Adida et al., 2014a, 2010; Valfort, 2017). Conditional on Lebanese native and immigrant populations being comparable, our study alleviates this issue and thereby captures the effect of being Muslim by isolating the effect of religion from that of social environment of immigration.

The paper is organized as follows. Section 2 presents the institutional setting, Section 3 presents the procedure, Section 4 outlines the empirical methodology of the sample pool, Section 5 shows the results. Section 6 discusses possible interpretations of the results and Section 7 concludes.

2. Background of Lebanese people

The first underlying assumption that enables us to capture the effect of religion is that Lebanese Muslims and Christians are comparable. The second underlying assumption that enables us to disentangle the direct from the indirect effect of religion is that Lebanese natives and migrants are comparable. We address both assumptions in turn.

⁶There are over 10 ethnic groups who speak different languages in Senegal with 5 predominant ethno-linguistic groups: Wolof represents 43% of the Senegalese population and is mostly Muslim, Fula 24% including Toucouleur, Serer 15% and Jola 5% (<https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html>)

2.1. Lebanese Muslims and Christians

Lebanon has always had an almost even population distribution of both Muslims and Christians (Faour, 2007). As such the effect of religion can be neatly isolated from the effect of being part of a majority or minority religious group in the country of origin. To the best of our knowledge, the Lebanese setting provides a unique case study that allows religious groups with similar population sizes to be compared.

An additional advantage of the Lebanese community is the fact that Muslims and Christians are comparable in terms of their ethnicity and cultural ancestry. While the main cultural backgrounds and ancestry of the Lebanese people are varied, consisting of Aramean, Canaanite and Greek, Muslims and Christians are not distinguished in terms of their cultural background. A recent genetic study tracing Lebanon's heritage highlights the fact that genetic variation preceded religious variation and divisions in Lebanon. The findings of this study show that Lebanon already had well-differentiated communities before religious groupings were formed and there is no systematic association between different ethnicities and religious affiliations (Zalloua et al., 2008). This also makes the Lebanese community an ideal case study through which we can plausibly identify differences between these two religious communities without potential confounds such as race and ethnicity.⁷

2.2. Lebanese natives and immigrants

In Lebanon, no official census has been taken since 1932, partly reflecting the political sensitivity in Lebanon over confessional (i.e., religious) balance and so the exact religious breakdown of the Lebanese population is uncertain. Given this data limitation, it is difficult to obtain a sense of a representative Lebanese citizen.

Lebanese immigration to Australia occurred in three waves: the first from around 1880 to 1947, the second from 1947 to 1975, and the third from 1975 to 1990 (McKay, 1989). The group of pioneer immigrants were from various parts of Lebanon, mainly Christian and their population did not exceed 2,000 individuals. The second wave of immigration started after World War 2 and escalated in the years following the Arab Israeli war in 1967. These immigrants were also

⁷Under Article 9 of the Lebanese Constitution, citizens are able to freely convert between religions (i.e., Freedom of Religion exists). There are no records of forced conversions in Lebanon and very few religious conversions take place.

predominately Christian and small in numbers. The third and largest wave of immigration was motivated by the outbreak of civil war in Lebanon in late 1975. This wave included substantially more Muslims than the previous two waves but also a significant share of Christians (Betts et al., 2006). While the first two waves of immigration mainly comprised of Lebanese Christians, the bulk of Australia’s Lebanese population arrived in the third wave. In 1975, Australian Prime minister Malcom Fraser, adopted the Lebanese concession policy which considered special circumstances for Lebanese. Australia would accept Lebanese simply fleeing the civil war, and not only those being persecuted. Under the Lebanese concession policy, almost all applicants were thus accepted, namely without “any regard to their economic viability, personal qualities or capacity for successful settlement” (Immigration minister, Michael MacKellar, 1976). According to the 1976 census, the Lebanese-born population in Australia had reached 33,000 (0.24% of the Australian population). By the end of 1976, the Lebanese concession policy was interrupted, and then standard socio-economic criteria for Lebanese immigration was applied.⁸ To circumvent the different timing of a portion of Lebanese Christians and Lebanese Muslims, we ensure that our Australian sample is drawn almost entirely from the third wave. As shown in Table 1, 98% of our sample (100% of the Muslim sample and 96% of the Christian sample) report their father’s birth place as being Lebanon with 97% (96% of the Muslim sample and 98% of the Christian sample) reporting the same for their mother’s birth place. This indicates that almost all of our Australian Lebanese subjects are from the final wave of Lebanese migration to Australia.

It is worth noting that, contrary to Lebanese Christians, Lebanese Muslims represent a religious minority group in Australia which is predominantly a Christian country. The 2016 Census of the Australian Bureau of Statistics reports that 57.7% of Australian report themselves as Christians, 29.6% as having no religion and 2.6% as being Muslims. The 2007 Census of the Australian Bureau of Statistics reports that among the Lebanese Australians, Muslims made up about 40% and Christians about 53%, figures that are similar to the share of religious divisions in Lebanon.

2.3. Descriptive Statistics

Balance across religions for the Immigrant sample In Table 1, we provide descriptive statistics on the Muslim and Christian samples separately and then the balance of covariate analysis

⁸More information on the Australian (2016): <https://www.theaustralian.com.au/news/inquirer/malcolm-frasers-lebanese-concession-became-a-disaster/news-story/fcd9ac233271fa9614210ca68a8a2bd4>

using the non-parametric Chi Square test. The average respondent is approximately 38 years old, 53% of the sample is female and the average annual personal income is \$48,250 AUD. The separate religious samples are well balanced with respect to most variables. For instance, the average age for Muslims is 37.22 years old and for Christians it is 39.62 years old (p-value=0.31). 54% of the Muslim sample is female compared to 52% of the Christian sample (p-value = 0.84). The average annual personal income is \$42,400 for Muslims and \$55,250 for Christians (p-value=0.26). However, Muslims are more likely to be highly religious (70% of the sample) when compared to Christians (30% of the sample) and this difference is statistically significant (p-value = 0.00). We conduct a robustness check in section 5.4 which addresses these differing levels of religiosity.

Balance across religions for the Native sample Table 2 presents the summary statistics of the native sample and the balance of covariate analysis comparing Muslims to Christians. The average respondent is 42.7 years old, 51% of the sample is female and the average annual personal income is \$12,545.89 USD. Like in Australia, both religious samples are well balanced with respect to most variables. 54% of the Muslim sample is female compared to 47% for the Christian sample (p-value = 0.29). The average annual personal income is \$9,507USD for Muslims and \$15,869USD for Christians (p-value = 0.35). They differ in regards to language spoken at home, religiosity and age. Muslims in Lebanon are more likely to only speak Arabic at home than Christians are (90% vs. 77%, p value = 0.05), claim to be highly religious (73% vs. 47%, p value = 0.00) and are slightly younger (Muslim average age is 41.18 years old and Christian average age is 44.35 years old, p value = 0.079).

Balance across Lebanese Natives and Immigrant samples Table 3 then presents the balance of covariate analysis using the non-parametric Chi Square to compare immigrants to natives, together and then by religious affiliation. Immigrants and natives are balanced with respect to some dimensions (e.g., gender, type of employment and age) but are also unbalanced with respect to others (e.g., marital status, level of education and language spoken at home). In the main specifications, we account for the socio-demographic variables that turn out to be statistically different across immigrants and natives. We also compare our sample in the destination country to the sample of those in the origin country who have the intention to migrate overseas allowing closer comparability and a more refined estimate of the effect of being Muslim.

Table 1: Summary Statistics of the Lebanese immigrants

Panel A: Categorical Variables							
	Total Sample		Muslims		Christians		Muslim = Christian
	N = 100		N = 50		N= 50		(p-value)
	%		%		%		
<i>Female</i>	53		46		52		0.84
<i>Type of Employment</i>							0.58
Part time	11		10		12		
Full time	38		36		40		
Self-employment	25		22		28		
<i>Married</i>	70		74		66		0.38
<i>Education</i>							0.15
Incomplete Primary	1		2		0		
Incomplete Secondary	28		32		24		
Complete Secondary	19		16		22		
Complete Tertiary	49		48		50		
<i>Language Spoken at home</i>							0.03
Arabic	31		38		24		
Both English and Arabic	26		32		20		
<i>Time spent living in Australia</i>							0.16
For more than 20 yrs	42		36		48		
Between 10 & 20 yrs	10		6		14		
Less than 10 yrs	3		6		0		
<i>Father's birth place</i>							0.15
Lebanon	98		100		96		
Elsewhere	0		0		0		
<i>Mother's birth place</i>							0.15
Lebanon	97		96		98		
Elsewhere	2		2		2		
<i>Highly religious</i>	50		70		30		0.00
<i>Intent to live in Lebanon</i>	43		42		43		0.91
<i>Wage gender parity</i>							0.43
Equal pay	88		84		92		
Men favoured	4		6		2		
Panel B: Continuous Variables							
	Mean	Std.	Mean	Std.	Mean	Std.	(p-value)
<i>Age</i>	38.42	13.00	37.22	12.45	39.62	13.54	0.31
<i>Personal Income (000s)</i>	48.83	36.28	42.40	34.79	55.25	36.94	0.26
<i>No. of living children</i>	2.15	1.83	2.48	1.79	1.82	1.84	0.32
<i>Trust Index</i>	3.01	0.35	2.98	0.34	3.05	0.36	0.59

Notes: All figures are reported to 2 decimal places. The mean, standard deviation, minimum value of the categorical variables are not reported as they provide little information. The omitted categories for each categorical variable are: No Employment for type of employment, No education for education, Entire life for time spent living in Australia, Australia for father and mother's birth place, and Female favoured for wage gender parity. The last column presents the p-values of Chi Square non-parametric tests to test whether Muslims and Christians significantly in terms of the respective variable. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Table 2: Summary Statistics of the Lebanese natives

Panel A: Categorical Variables							
	Total Sample		Muslims		Christians		Muslim = Christian
	N = 201		N = 105		N= 96		(p-value)
	%		%		%		
<i>Female</i>	51		54		47		0.29
<i>Type of Employment</i>							0.34
Part time	12		14		9		
Full time	39		34		44		
Self-employment	27		26		28		
<i>Married</i>	50		53		47		0.36
<i>Education</i>							0.23
Incomplete Primary	6		7		5		
Incomplete Secondary	3		5%		1		
Complete Secondary	18		19		18		
Incomplete University Degree	9		9		10		
Complete University Degree	51		46		56		
<i>Language Spoken at home</i>							0.05
English	1		0		1		
Both English and Arabic	26		32		20		
Arabic	84		90		77		
Other	3		1		5		
<i>Intention to leave Lebanon</i>	42		42		43		0.91
<i>Highly religious</i>	60		73		47		0.00
<i>Wage gender parity</i>							0.82
Equal pay	80		79		81		
Men favoured	8		8		8		
Panel B: Continuous Variables							
	Mean	Std.	Mean	Std.	Mean	Std.	(p-value)
<i>Age</i>	42.70	16.74	41.18	16.46	44.35	16.98	0.079
<i>Personal Income (000s)</i>	12.55	15.69	9.51	10.71	15.86	19.27	0.335
<i>No. of living children</i>	1.42	1.42	1.59	1.79	1.24	1.51	0.326
<i>Trust Index</i>	32.79	2.79	22.83	0.56	2.74	0.57	0.158
<i>Exposure to conflicts</i>	1.78	1.93	1.88	1.98	1.66	1.86	0.30

Notes: All figures are reported to 2 decimal places. The mean, standard deviation, minimum value of the categorical variables are not reported as they provide little information. The omitted categories for each categorical variable are: No Employment for type of employment, No education for education, Entire life for time spent living in Australia, Australia for father and mother's birth place, and Female favoured for wage gender parity. The last column presents the p-values of Chi Square non-parametric tests to test whether Muslims and Christians significantly in terms of the respective variable. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Table 3: Balance test for immigrants and natives

Panel A: Categorical variables			
	Immigrants = Natives	Muslim immigrants = Muslim natives	Christian immigrants = Christian natives
	(P-values)		
Female	0.71	0.97	0.56
Type of employment	0.91	0.76	0.95
Married	0.00	0.01	0.03
Education	0.00	0.00	0.00
Language spoken at home	0.00	0.00	0.00
Highly religious	0.08	0.69	0.05
Wage gender parity	0.21	0.77	0.18
Panel B: Continuous variables			
Age	0.77	0.42	0.64
Living children	0.00	0.01	0.07
Trust index	0.01	0.15	0.06

2.4. External validity of Lebanese Muslims

Lebanese Muslims are frequently perceived to be more secular than other middle eastern Muslims⁹ and so there is potential concern regarding the external validity of the findings presented by this study. In a study by the Pew Research Centre in 2013 on the acceptance of sharia law as the revealed word of God, Lebanese Muslims were found to be less accepting when compared to Muslims from other middle eastern and north African countries. However their views were more aligned with Muslims from countries such as Bosnia-Herzegovia, Azerbaijan and Indonesia. Furthermore, despite Lebanon's religious demography, its regional conditions (i.e., its weak state, acute socioeconomic and political inequities and experience of external intervention) have managed to create a permissive environment for Islamic revivalism (Gambill, 2009). Hajj and Panizza (2009) address the concern that Lebanese Muslims may adhere to a more liberal form of Islam in their study on the role religion plays in the education gender gap. Using a Lebanese sample, they compare

⁹<http://www.pewresearch.org/2006/07/26/lebanons-muslims-relatively-secular-and-prochristian/>

polygynous households (i.e., more traditional Muslim households) to monogamous households (i.e., more liberal Muslim households) and find that there is no difference in these households' investment in female human capital suggesting Lebanese Muslims are comparable to Muslims elsewhere. These findings indicate that Lebanese Muslims serve as an appropriate cultural group in estimating the effect of religion on social preferences.

3. Experimental settings

In this section, we introduce the design of the Australian and Lebanese samples. We then explain in detail the experimental procedures.

3.1. Design

In Australia, the study took place in the western suburbs of Sydney and was conducted in two waves: the first was in October 2014 and the second was in March 2016. In total we collected data on 100 participants, with an equal share of Muslims and Christians. Budget considerations prevented us from having a larger sample size. Based on the Australian sample, we were able to calculate the minimum detectable effect based on average proportion sent in the prisoner's dilemma game, for a power level of 0.80, which was of 50 participants for each religious group, and so 100 in total. In Lebanon, the study took place in various suburbs of Beirut and was conducted between the months of April and June in 2018. In total, we collected data on 201 participants, 105 Muslims and 96 Christians, a total sample size above that required for a minimum detectable effect.

Recruitment In Australia, subjects were recruited through word of mouth. The enumerators and the subjects had no direct connections (i.e., did not know each other). Despite the lack of existing data on the sociodemographic characteristics of Lebanese immigrants in Australia, we aimed to recruit religious samples that were evenly and sufficiently distributed across gender, age and type of employment. We check whether our Christian and Muslim samples were well balanced in regards to these variables and we found that they were. Two enumerators, one female (Danielle Hayek) and one male, conducted sessions with groups ranging of 2 to 5 subjects.

In Lebanon, four enumerators, two females and two males recruited 50 subjects each through word of mouth. These subjects were recruited individually and hence the experimental games

and survey questionnaires were conducted one-on-one with the survey enumerator. In order to circumvent any issues regarding the different settings in which the games were conducted in Australia and Lebanon, we include enumerator fixed effects for the native Lebanese sample. Also, we conduct a robustness check by including household fixed effects in our Australian Lebanese analysis and find that our results remain unchanged.¹⁰ Due to our limited sample size, our preferred specifications do not include household fixed effects.

Protocol In Australia and Lebanon, the experimental games were explained thoroughly and in great detail. Examples were presented using visual aids (see Appendix C) to ensure that all subjects were aware of the consequences and outcomes of their decisions. In Australia, the experimental games were explained in a group setting (with 2 to 5 subjects) however answers were recorded privately with each subject, away from the other members of the group. The group explanations took approximately 30 minutes while the recording of the individual responses took approximately 10 minutes with each subject. In Lebanon, the surveys were administered on a one-on-one basis and hence all responses were recorded confidentially. The enumerators spent an average of 40 minutes with each subject. The manner in which the experiment embedded surveys were administered ensured subjects were thoroughly explained the details of the game and given the opportunity to raise any queries they may have had.

Payments Each participant was provided a voucher set at a fixed amount of AUD\$5 (US\$10) in Australia (in Lebanon) for participating in the study.¹¹ In addition, participants were told that at the end of each wave, more than two participants would be randomly selected for additional earnings based on their own decision and that of the other participant selected in either the prisoner’s dilemma or dictator game.

3.2. Experimental procedures

Prisoner’s dilemma game In our version of the prisoner’s dilemma game, two participants each receive an endowment of \$40 and simultaneously decide how much of it to transfer to another

¹⁰Results are available upon requests.

¹¹The payment difference was subject to budget constraints at different times of the study, which explain why endowments are larger in Lebanon. However, this difference is not of a concern as the analysis hinges on within-country cross-religious variation, and payment was constant for this level of analysis.

participant in the study, whose identity is withheld. The amount transferred is doubled before it reaches the other participant. In the standard version of this game, each participant decides whether to cooperate or not cooperate by sending or keeping his/her total endowment respectively. While the efficient outcome of the game is to cooperate (i.e., send the total endowment), defection (i.e., keep the total endowment) is the unique dominant-strategy Nash equilibrium. In our version, we allow each participant to decide whether to cooperate by sending either \$0, \$10, \$20, \$30 or \$40. This is essentially a 5*5 prisoner's dilemma game that differs from the standard 2*2 design implemented by most studies. Allowing for more than two options (i.e. to co-operate or not) allows us to measure cooperation at a much finer grid: we obtain a level of cooperation. This significantly increases our statistical power in detecting differences between groups and enables us to capture the *extent* of participants' willingness to cooperate rather than simply their willingness to cooperate or not. Just as in the standard version, cooperative behaviour is evident whenever participants maximize the joint payoff instead of their own payoff. Thus, the efficient outcome of our version of the prisoner's dilemma game is for both participants to cooperate completely by transferring their total amounts to one another. This results in each participant receiving \$80 and a joint payoff of \$160. However, the only Nash equilibrium implies no transfer and thus no cooperation. This results in each participant keeping their \$40 and a joint payoff of \$80. It was made clear to participants that each person's payoff depends on their own decision and that of the other participant¹².

Dictator game In this game, each participant is endowed \$20 and decides how much of this \$20 (any amount) to send to another participant. The recipients are the same as those in the Prisoner's dilemma game. There is no reciprocal decision to be made by the other participant in this game. Therefore, each participant's payoff depends only on their own decision. In Australia, in the October 2014 wave, the dictator game was hypothetical and in the March 2016 wave, it was subject to effective payments. Engel (2011) conducts a meta-analysis of dictator games and finds no statistical significant difference between the hypothetical dictator game and the actual dictator game. In our study, we conducted both versions of the dictator game to confirm whether participants behave differently when incentivised and we find that they do not. In Lebanon, the game was incentivised.

¹²Refer to Section C in the appendix more details about the experiment protocol. We also provide a payoff matrix table with 3 (ot of 5) possible choices: \$0, \$20 and \$40 sent.

Recipients When playing, each participant was only informed of the gender and socioeconomic status of the recipient. The participant made four independent decisions on how much to send to each recipient: a poor woman, a rich woman, a poor man and a rich man. We define being poor (rich) in this game as someone whose personal income is lower (higher) than the average income of their gender group. In Australia, participants were informed that only Lebanese Australians would participate in the study which took place in western suburbs of Sydney where there is a high concentration of Lebanese immigrants of both religious groups. In Lebanon, participants were informed that only Lebanese people would participate in the study which took place in various suburbs of Beirut where there is also a high concentration of both religious groups. There was no mention of the religious affiliation of recipients. It also serves to be noted that being poor was perceived similarly across the different religious groups both in Australia and Lebanon. First of all, we check whether incomes were balanced across religions and find that they were. Hence, being of a low income is similar for Muslims and Christians. Secondly, in Australia, the number of members in each group setting did not differ significantly across religious samples (i.e., we had similar amounts of small Muslim groups as we did Christian groups. The same is true for larger groups). We are therefore not concerned that the religious groups would have perceived being poor differently based on the number of other subjects in their group.

Survey questionnaire After playing both games, each participant answers a short questionnaire addressing sociodemographic characteristics and preferences, as well as questions on trust. We include specific questions on trust in order to capture potential trust effects that may be at play in the prisoner's dilemma game. Details on the data variables are presented in section A of the appendix.

4. Data and Empirical Methodology

In this section, we describe our econometric specifications. We then present the average proportion of the endowment sent to different recipients in the prisoner's dilemma game and in the dictator game across Muslims and Christians among the Lebanese immigrants and natives.

4.1. Econometric specification

We estimate following expression by considering Lebanese immigrant and native samples separately:

$$W_{i,t} = \gamma_0 + \gamma_1 Muslim_i + \gamma_2 Dictatorgame_i + \gamma_3 X_i + \epsilon_i \quad (1)$$

We then estimate following expression by considering Lebanese immigrant and native samples together:

$$\begin{aligned} W_{i,t} = & \gamma_0 + \gamma_1 Muslim_i + \gamma_2 Lebanon_i \\ & + \gamma_3 Muslim_i * Lebanon_i + \gamma_4 Dictatorgame_i + \gamma_5 X_i + \epsilon_i \end{aligned} \quad (2)$$

Dependent variables $W_{i,t}$ represents the portion of endowment sent in the prisoner's dilemma game to the following: (1) any recipient, (2) a poor woman, (3) a rich woman, (4) a poor man, (5) a rich man, (6) a woman and (7) a poor person. The subscript i refers to a participant and t to a recipient.

Independent variables $Muslim_i$ equals one if the participant is Muslim and zero otherwise. $Dictatorgame_i$ is the proportion of the endowment sent in the dictator game to the corresponding recipient, which captures the altruistic behaviour that may be at work in the Prisoner's dilemma game.

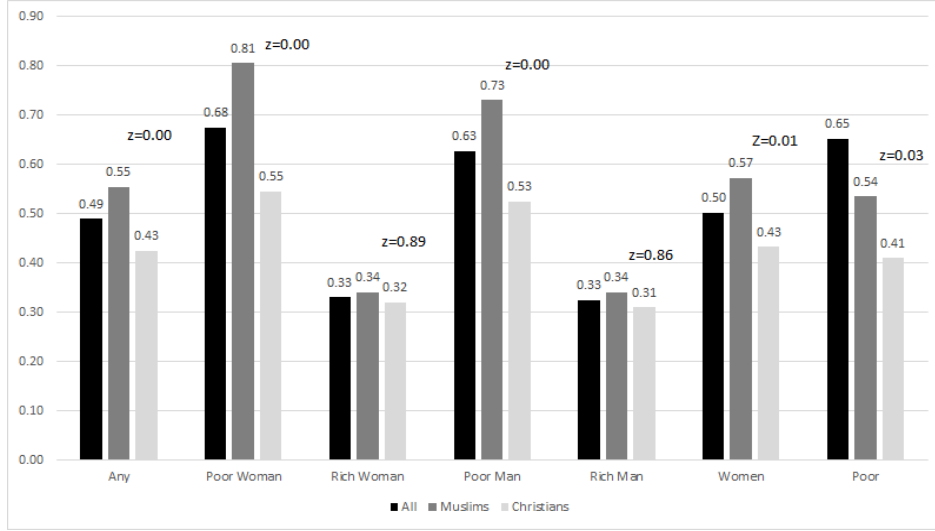
Control variables We use some of the individual demographic characteristics gathered in the follow-up survey as control variables in the analysis, including those for which Muslim and Christian samples are not well-balanced both in Australia and in Lebanon. Trust index expresses a participant's level of trust, which is derived from their responses to the trust questions (refer to the appendix A for more details about the survey data variables). The vector X_i represents individual-level variables which comprises of a female dummy, income, age, a married dummy, and language spoken at home in both samples. In addition, in the Australian Lebanese sample, we control for the time spent living in Australia, and in the dictator game whether the game was hypothetical or not. As for the Lebanese natives, we control for participants' exposure to conflict and whether the participant has the intention to leave Lebanon. As explained in section 2, Lebanon experienced a civil war from 1975 to 1990, and as a result different individuals would have been

exposed differently to violence and war. This may be correlated with religion and also affect their behaviour, hence its inclusion as a covariate in our analysis is important. Also, including the intention to leave Lebanon is another important dimension, as it makes the Lebanese natives more comparable to the Lebanese immigrants, which is made of individuals who have left Lebanon. In order to make the Lebanese natives even more comparable to the Lebanese immigrants, we further restrict the former to only participants who have the intention to leave Lebanon.

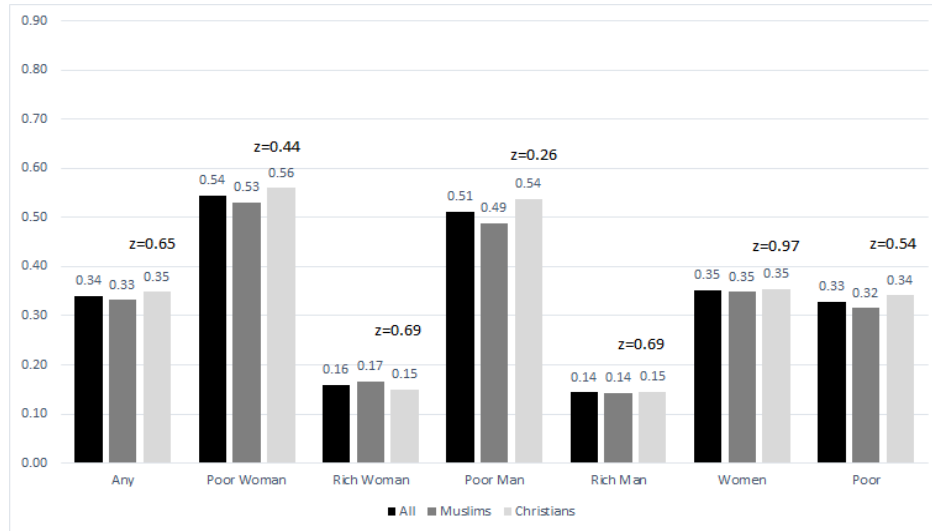
Standards errors are corrected for potential heteroskedasticity in all regressions. We cluster standard errors at the individual level when considering the four (recipient 1) or two (recipient 6 or 7) decisions made by each individual. Otherwise, we cluster standard errors at the household level when considering one decision at a time by each individual in the Lebanese immigrants. For the Lebanese sample, we include enumerator fixed effects.

4.2. Descriptive results

Before presenting regression results, we report the descriptive statistics in Figure 1. We also report Wilcoxon non-parametric test (z-test) comparing the distribution of the portion sent to each recipient across Muslims and Christians. Among the Lebanese immigrant sample, based on the raw data, Muslims on average send a larger proportion of their endowment to the poor female and the poor male recipients in the Prisoner's dilemma game (p-values=0.0 for both recipients). Among the Lebanese native sample, based on the raw data, there is no difference in terms of the proportion of endowment sent to any recipients across Muslims and Christians in the prisoner's dilemma game.



(a) Immigrant sample



(b) Native sample

Figure 1: Wilcoxon non-parametric test (z-test) comparing portion sent to each recipient for the Immigrant sample (a) and the Native sample (b).

5. Main Results

In this section, we present regression results for the Prisoner's dilemma game for each of the Lebanese immigrants, natives, and finally both samples pooled together.

5.1. Results for the Lebanese immigrants

Table 4 presents the regression results for the prisoner’s dilemma game for the Lebanese immigrant sample. When considering the amounts sent in general (column 1), without controlling for the dictator game, the proportion of the endowment sent is 10 percentage points higher for Muslims than it is for Christians. This effect is statistically significant at the 5% level. However, once the dictator game control is added, the effect diminishes both in terms of magnitude and statistical significance, and only the dictator game variable is statistically significant. This suggests that altruistic motives are at play in the prisoner’s dilemma game. We find similar results when the recipient is poor (columns 13-14). Muslims tend to send 9 percentage points more of their endowment than Christians (column 13) but this effect loses its significance when the dictator game is controlled for.

Furthermore, we find that Muslims send more to the poor woman and the poor man. The proportion given to a poor woman is particularly pronounced. It is 22 percentage points higher for a Muslim participant than for a Christian participant without controlling for the dictator game (column 11) and 17 points higher with the dictator game control added (column 12). The effects are statistically significant at the 1% and 5% levels respectively.

When considering control variables, we find that the dictator game and the trust index are both positive but only the dictator game is consistently significant. We find that women are less cooperative than men in general as the coefficient on the female dummy is always negative, however the effect is never precisely estimated. Income levels have a negligible effect on one’s cooperative behaviour.

5.2. Results for the Lebanese natives

Table 5 presents the regression results for the prisoner’s dilemma game for the Lebanese native sample. We find that Muslims and Christians tend to send about the same proportion of their endowment to any recipient, as in all instances, the Muslim dummy is insignificant. As expected, we find that the dictator game variable is always positive and significant, and the trust index is almost always positive and significant suggesting that both altruistic and trust motives play a role in this cooperation game.

When considering the control variables, none of the variables seems to be associated with the

Table 4: Proportion of the endowment sent to different recipients (immigrants)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor woman	Rich woman	Poor man	Rich man	Woman	Man	Woman	Man	Woman	Man	Woman	Man	Poor
Muslim	0.10** (0.05)	0.05 (0.04)	0.22*** (0.07)	0.17** (0.07)	0.00 (0.07)	-0.06 (0.06)	0.15** (0.08)	0.13* (0.08)	0.03 (0.08)	-0.03 (0.07)	0.11** (0.05)	0.06 (0.04)	0.09* (0.05)	0.05 (0.04)
Dictator game		0.51*** (0.06)		0.50*** (0.12)		0.58*** (0.10)		0.36*** (0.13)		0.60*** (0.10)		0.54*** (0.06)		0.49*** (0.07)
Female	-0.07 (0.04)	-0.04 (0.04)	-0.06 (0.05)	0.00 (0.05)	-0.09 (0.07)	-0.11* (0.06)	-0.07 (0.06)	-0.03 (0.06)	-0.05 (0.06)	-0.05 (0.05)	-0.07 (0.05)	-0.05 (0.04)	-0.06 (0.05)	-0.03 (0.04)
Income (000s)	-0.00 (0.00)	-0.00 (0.00)	-0.00* (0.00)	-0.00** (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00** (0.00)	-0.00** (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Age	-0.01** (0.00)	-0.00** (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.01* (0.00)	-0.01** (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.01** (0.00)	-0.00* (0.00)	-0.00* (0.00)	-0.01** (0.00)	-0.01** (0.00)
Married	0.11* (0.06)	0.13** (0.05)	0.09 (0.09)	0.10 (0.10)	0.06 (0.09)	0.10 (0.08)	0.16 (0.10)	0.14 (0.10)	0.13 (0.11)	0.19* (0.11)	0.08 (0.06)	0.10* (0.05)	0.14** (0.06)	0.16*** (0.05)
Language spoken at home	-0.00 (0.03)	-0.01 (0.02)	0.01 (0.03)	0.03 (0.03)	0.00 (0.04)	-0.02 (0.03)	-0.00 (0.03)	0.00 (0.03)	-0.03 (0.04)	-0.05 (0.04)	0.01 (0.03)	0.01 (0.02)	-0.01 (0.03)	-0.02 (0.03)
Trust index	0.02 (0.07)	0.01 (0.06)	0.09 (0.07)	0.04 (0.07)	-0.10 (0.10)	-0.05 (0.09)	0.16** (0.08)	0.12 (0.08)	-0.08 (0.10)	-0.04 (0.09)	-0.00 (0.07)	-0.01 (0.06)	0.04 (0.08)	0.03 (0.06)
Time living in Australia	0.03 (0.03)	0.01 (0.03)	-0.00 (0.03)	-0.01 (0.04)	0.07 (0.05)	0.06 (0.05)	-0.02 (0.03)	-0.03 (0.03)	0.06 (0.05)	0.05 (0.05)	0.03 (0.03)	0.02 (0.03)	0.02 (0.03)	0.01 (0.03)
Constant	0.56** (0.23)	0.31* (0.18)	0.49* (0.29)	0.13 (0.24)	0.69* (0.35)	0.51 (0.33)	0.46 (0.29)	0.21 (0.25)	0.60 (0.36)	0.47 (0.33)	0.59** (0.23)	0.32* (0.18)	0.53** (0.25)	0.30 (0.20)
Observations	400	400	100	100	100	100	100	100	100	100	200	200	200	200
R-squared	0.0605	0.3911	0.2223	0.4131	0.0723	0.2999	0.2180	0.3036	0.0712	0.3147	0.0622	0.4298	0.0650	0.3604

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14, and at the household level in columns 3-10.

amounts sent in the prisoner’s dilemma game as none are precisely estimated.

Table B.1 in the appendix replicates the exact specifications as Table 5 but restricts the sample to participants who have the intention to leave Lebanon. The findings remain unchanged.

5.3. Results for all

Table 6 presents the regression results for the prisoner’s dilemma game for both samples pooled together. We find that the Muslim dummy is positive and significant when considering portions sent to any recipient type, but it loses its significance once we account for the dictator game. However, the Muslim dummy remains positive and significant when the recipients are a poor woman and a poor man, with and without the inclusion of the dictator game. Furthermore, when we consider the interaction between religion (i.e., Muslim dummy) and Lebanon (i.e., living in Lebanon dummy), we find a negative effect, implying that Muslims in Lebanon display distinctively less cooperative behaviours towards these two recipients than Christians in Australia. Also, participants living in Lebanon tend to send about the same proportion of their endowment as in all instances, the Lebanon dummy is insignificant.

When considering the control variables, being married seems to be associated with larger proportions of endowments sent in the prisoner’s dilemma game.

Table B.2 in the appendix replicates the exact specifications as Table 6 but restricts the sample to participants who have the intention to leave Lebanon. The findings remain unchanged.

Overall the findings in the Prisoner’s dilemma game across both samples reveal that Muslims and Christians tend to cooperate in a similar manner in their country of origin, whether or not altruistic behaviour is accounted for (i.e., dictator game variable). However, once they migrate, Muslims tend to be more cooperative in general, and in particular towards the poor and especially the poor female recipient.

6. Possible mechanisms

The results suggest that the social environment of Muslim immigrants rather than their religion is likely to affect the higher levels of cooperative behaviour we observe in this religious community. Our findings have shown that being part of a religious minority group is associated with higher levels of cooperation with the poor and poor females in particular, even after controlling for altruism. In

Table 5: Proportion of the endowment sent to different recipients (natives)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor Woman	Poor Man	Rich Woman	Rich Man	Poor Man	Poor Man	Rich Man	Rich Man	Rich Man	Women	Women	Poor	Poor
Muslim	-0.02 (0.03)	0.03 (0.02)	-0.02 (0.04)	0.02 (0.03)	0.01 (0.03)	0.03 (0.03)	-0.05 (0.04)	0.01 (0.03)	-0.02 (0.03)	0.00 (0.03)	-0.01 (0.03)	0.03 (0.02)	-0.04 (0.03)	0.02 (0.02)
Dictator game	0.67*** (0.03)	0.67*** (0.03)	0.62*** (0.05)	0.40*** (0.12)	0.59*** (0.06)	0.40*** (0.12)	0.59*** (0.06)	0.50*** (0.11)	0.50*** (0.11)	0.50*** (0.11)	0.67*** (0.04)	0.67*** (0.04)	0.67*** (0.03)	0.67*** (0.03)
Female	0.03 (0.03)	0.03 (0.02)	0.04 (0.04)	0.01 (0.03)	0.01 (0.03)	0.02 (0.03)	0.03 (0.05)	0.02 (0.04)	0.03 (0.03)	0.04 (0.03)	0.03 (0.03)	0.03 (0.02)	0.03 (0.03)	0.03 (0.03)
Income (000s)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
Age	-0.00** (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00 (0.00)
Married	0.05 (0.03)	0.03 (0.02)	0.08* (0.05)	0.06 (0.04)	0.02 (0.04)	0.02 (0.03)	0.06 (0.05)	0.04 (0.04)	0.04 (0.04)	0.03 (0.03)	0.05 (0.03)	0.03 (0.02)	0.05 (0.03)	0.03 (0.03)
Language spoken at home	-0.01 (0.02)	0.00 (0.01)	-0.01 (0.04)	0.02 (0.03)	0.01 (0.02)	0.01 (0.02)	-0.04 (0.03)	-0.01 (0.03)	0.02 (0.02)	-0.00 (0.02)	0.00 (0.02)	0.01 (0.01)	-0.01 (0.02)	-0.01 (0.01)
Trust index	0.06*** (0.02)	0.02 (0.02)	0.02 (0.03)	-0.00 (0.03)	0.09*** (0.03)	0.06** (0.03)	0.03 (0.03)	0.00 (0.03)	0.10*** (0.03)	0.07** (0.03)	0.05** (0.02)	0.02 (0.02)	0.07*** (0.02)	0.03 (0.02)
Exposure to conflicts	-0.01 (0.01)	-0.00 (0.01)	-0.02 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)
Intention to leave Lebanon	-0.00 (0.03)	-0.01 (0.02)	0.00 (0.05)	-0.01 (0.03)	0.01 (0.03)	0.01 (0.03)	-0.02 (0.05)	-0.00 (0.03)	-0.01 (0.03)	-0.01 (0.03)	0.01 (0.03)	-0.00 (0.03)	-0.01 (0.03)	-0.01 (0.03)
Constant	0.19* (0.10)	0.02 (0.08)	0.52*** (0.17)	0.12 (0.14)	-0.15 (0.11)	-0.10 (0.10)	0.57*** (0.18)	0.19 (0.14)	-0.18 (0.12)	-0.11 (0.11)	0.18* (0.11)	0.01 (0.08)	0.20* (0.11)	0.02 (0.08)
Observations	804	804	201	201	201	201	201	201	201	201	402	402	402	402
R-squared	0.0755	0.5684	0.0772	0.4179	0.3601	0.4264	0.0915	0.4219	0.2849	0.4141	0.0839	0.5755	0.0728	0.5658
Enumerator Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14.

Table 6: Proportion of the endowment sent to different recipients (all)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor Woman	Rich Woman	Poor Man	Rich Man	Rich Woman	Poor Man	Rich Man	Rich Man	Rich Man	Women	Women	Women	Poor
Muslim	0.12** (0.05)	0.06 (0.04)	0.24*** (0.06)	0.17*** (0.05)	0.02 (0.07)	-0.05 (0.06)	0.19*** (0.06)	0.14** (0.06)	0.03 (0.07)	-0.02 (0.06)	0.13*** (0.05)	0.06 (0.04)	0.11** (0.05)	0.06 (0.04)
Lebanon	-0.02 (0.05)	-0.02 (0.03)	0.05 (0.06)	0.01 (0.05)	-0.11 (0.07)	-0.07 (0.06)	0.06 (0.06)	0.03 (0.05)	-0.07 (0.07)	-0.04 (0.05)	-0.03 (0.05)	-0.03 (0.04)	-0.01 (0.05)	-0.01 (0.03)
Muslim*Lebanon	-0.16*** (0.05)	-0.05 (0.04)	-0.30*** (0.07)	-0.17*** (0.06)	-0.02 (0.08)	0.06 (0.07)	-0.27*** (0.07)	-0.15** (0.07)	-0.06 (0.08)	0.02 (0.07)	-0.16*** (0.06)	-0.04 (0.04)	-0.16*** (0.06)	-0.05 (0.05)
Dictator game		0.61*** (0.03)		0.59*** (0.05)		0.58*** (0.08)		0.54*** (0.05)		0.59*** (0.07)		0.62*** (0.03)		0.60*** (0.03)
Female	0.00 (0.03)	0.01 (0.02)	0.02 (0.04)	0.03 (0.03)	-0.02 (0.03)	-0.02 (0.03)	0.01 (0.04)	0.02 (0.03)	0.01 (0.03)	0.02 (0.03)	-0.00 (0.03)	0.01 (0.02)	0.01 (0.03)	0.02 (0.02)
Income (000s)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00* (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Age	-0.00*** (0.00)	-0.00*** (0.00)	-0.00* (0.00)	-0.00 (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00** (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Language spoken at home	-0.01 (0.02)	-0.01 (0.01)	0.00 (0.02)	0.03 (0.02)	0.00 (0.03)	-0.01 (0.02)	-0.02 (0.02)	-0.00 (0.02)	-0.01 (0.03)	-0.04* (0.02)	0.00 (0.02)	0.01 (0.01)	-0.02 (0.02)	-0.02 (0.01)
Trust index	0.06*** (0.02)	0.03* (0.02)	0.04 (0.03)	0.01 (0.03)	0.07** (0.03)	0.05* (0.03)	0.06* (0.03)	0.02 (0.03)	0.08*** (0.03)	0.06** (0.03)	0.06** (0.02)	0.03 (0.02)	0.07*** (0.02)	0.04** (0.02)
Married	0.08*** (0.03)	0.07*** (0.02)	0.10** (0.04)	0.08** (0.03)	0.05 (0.04)	0.05 (0.04)	0.10** (0.04)	0.07** (0.03)	0.06 (0.04)	0.07* (0.04)	0.07*** (0.03)	0.06*** (0.02)	0.08*** (0.03)	0.07*** (0.02)
Education	-0.01 (0.01)	-0.01* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.01)	-0.02* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02* (0.01)	-0.02** (0.01)	-0.01 (0.01)	-0.01 (0.01)
Constant	0.38*** (0.10)	0.20** (0.08)	0.53*** (0.14)	0.14 (0.13)	0.27* (0.14)	0.28** (0.13)	0.56*** (0.15)	0.22* (0.13)	0.18 (0.14)	0.21* (0.12)	0.40*** (0.11)	0.20** (0.09)	0.37*** (0.11)	0.20** (0.08)
Observations	1,204	1,204	301	301	301	301	301	301	301	301	602	602	602	602
R-squared	0.0735	0.4949	0.1296	0.4269	0.1166	0.2900	0.1095	0.3681	0.1254	0.3262	0.0730	0.5098	0.0762	0.4819

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14.

addition, Muslim immigrants exhibit higher levels of cooperative behaviour than Muslims residing in the country of ancestry suggesting that migration to a Western country may have an influence. In this section, we explore two mechanisms that may be driving these behaviours which we will consider in turn.

6.1. Religiosity

The differing behaviour we observe between Muslims and Christians may be due to differing levels of religiosity. An individual's social environment may shape their level of religiosity. For instance, Bisin et al. (2016) find that conditional on individual intrinsic preferences regarding cultural conformity, cultural identity may be reduced or increased by neighbourhood integration. In our case, we find that Muslims exhibit higher levels of religiosity than their Christian counterparts. In the Lebanese immigrant (native) sample, 70% (73%) of Muslims report practicing their religion at least once a day while 30% (46%) of Christians at least once a week. In Islam, religious people are expected to pray at least on Friday, and ideally five times a day. In Catholicism, religious people are expected to attend church services at least once a week. According to these precepts on religious practices, we consider these participants as equivalently highly religious (refer to Appendix A for more details on the survey data variables). These definitions of religiosity have revealed that while Muslims have remained fairly as religious after migrating, Christians have become less religious.

We re-conduct our regression analysis by interacting a highly religious dummy with the Muslim dummy when considering both samples separately and with the Muslim dummy and the Lebanon dummy when considering the samples pooled together. Tables B.3, B.4, and B.5 in the appendix present the results for the samples: Lebanese immigrants, natives and pooled respectively. The Muslim dummy remains significant for the the Lebanese immigrants and pooled sample when considering endowments sent to the poor female recipient, and not significant for the Lebanese natives. By contrast, the interaction term between being Muslim and highly religious is never significant. However, given sample size restrictions we interpret these results with caution.

6.2. Social ties

The differing behaviour we find between Muslims and Christians towards poor recipients may be motivated by differing patterns of social ties and networks across these two religious affiliations.

In Lebanon, we do not expect to observe any differences with respect to the extent of social ties between the two religious communities, as the size of both religious communities is fairly similar (albeit with a slight majority of Muslims) and both groups have been living in the country for centuries. In contrast, in Australia, Muslims are a minority religious community in a Christian-majority country. Lebanese Christians may have better access to more extended and formal social networks and hence are not as reliant on members of their smaller religious community. Also, although we do not find that Muslims and Christians in our sample arrived at different periods of time in Australia, the first two waves of Lebanese migration to Australia were mainly Christian and hence Christians' social ties may be older and better established than Muslims' social ties. Being Christian in a predominantly Christian country may have also made it easier for such social ties to be formed. We cannot ascertain whether it is the length of time spent in Australia or the fact that Muslims are a minority religious group that explain why their social ties are less formal.

To account for this possible difference, in the March 2016 wave in Australia and in the study conducted in Lebanon, we questioned participants on the probability of borrowing (lending) \$5,000 from (to) each of these societal groups: family, friendship circles, neighbourhood, people of other religious affiliations, people of a non-Lebanese background and banks (for borrowing only) (refer to Appendix A for more details on the survey data variables).

Figure 2 in the appendix displays the histograms by religious affiliation for each societal group as well as the p-values of the Wilcoxon signed-rank tests for the Lebanese immigrants, and Figure 3 for the Lebanese natives. Among the Lebanese immigrants, we find that Muslims borrow significantly more from and lend significantly more to their family members than Christians, while Christians borrow significantly more from banks and formal institutions than Muslims. Note that we only conducted this section of the questionnaire in the March 2016 wave with 40 subjects in total. While we interpret these findings with caution, they indicate that religion has an indirect effect, in the sense that it influences integration which in turn may affect social behaviours. Among the Lebanese sample, as expected, we find that there is no significant difference across both samples, with the exception that among the participants that have the intention to leave Lebanon, Christians tend to borrow more from the bank than Muslims.

7. Conclusion

This study investigates whether the religion or social environment of Muslim immigrants shapes cooperative behaviour in general, and particularly towards the poor and women. To answer this question, we look at how Muslims behave in their country of origin as natives, and in their destination country as immigrants when compared to their non-Muslim counterparts. The Lebanese population offers the ideal setting to investigate this question, as to the best of our knowledge, Lebanese Christians serve as the best counterfactual to Lebanese Muslims. Both religious groups are comparable in all dimensions but religious affiliation. They are also fairly evenly distributed in terms of population size in their country of origin, hence there is not one religious group that is substantially more powerful than the other. As immigrants in Australia, while few Christians arrived earlier, the bulk of Lebanese immigrants arrived at the same time, with this wave of immigration being almost even distributed in terms of religious affiliation. Hence, as immigrants, both religious groups would have been exposed to the same economic and political institutions in their destination country. However, in Australia, Lebanese Muslims represent a religious minority in a predominantly Christian country. We find that in their country of origin (Lebanon), both religious groups behave in a similar manner. To the extent that immigrants are comparable, it appears that once they have migrated to a Western destination country (Australia), Muslims are significantly more cooperative than Christians towards the poor and poor women in particular, even after controlling for altruism. This indicates that the social environment or migration status, rather than religion per se, affects distinct behaviours observed in religious minority immigrant groups.

We further attempt to explore the mechanisms that may govern these behaviours. Our findings suggest that the differing extents of social ties among both religious groups in Australia may explain them. Christians seem to have broader networks outside the family than Muslims do in Australia, while there is no difference in Lebanon. Future research could involve testing these mechanisms more carefully as to better understand what dictates these behaviours and thus, offer relevant policy implications.

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Appendices

A. Survey data variables

Religiosity In the survey questionnaire, participants were asked the following question: How often do you think you are practicing your religion? In Islam, religious people are expected to pray at least on Friday, and ideally five times a day. In Catholicism, religious people are expected to attend church services at least once a week. Muslims are classified as highly religious if they practice their religion at least once a day. Christians are considered to be highly religious if they practice their religion at least once a week. Highly religious people represent 70% of the Muslim sample and 30% of the Christian sample.

Trust index In the survey questionnaire, participants were asked the following question: Could you tell how much you trust people from each of these groups: family, neighbourhood, circle of friends, people of another religion and people of non-Lebanese background? For each these groups, participants could choose from “do not trust at all” to “trust completely” (4 possible choices). We coded this variable by taking the average level of trust for a given participant.

Borrowing In the survey questionnaire, participants were asked the following question: could you tell us on a scale of 1-10 (1 being least likely and 10 being most likely), how likely is it that you could rely on the following groups of people in the following situations? You urgently needed to borrow \$5,000. You could borrow this amount from: family member, friend, someone of another religious affiliation, someone from a non-Lebanese background, neighbour and bank. The borrowing variable is constructed as a continuous variable ranging from 1 to 10 for each societal group.

Lending In the survey questionnaire, participants were asked the following question: could you tell us on a scale of 1-10 (1 being least likely and 10 being most likely), how likely is it that you could rely on the following groups of people in the following situations? A person needs to urgently borrow \$5,000. You would lend them this amount if they were: family member, friend, someone of another religious affiliation, someone from a non-Lebanese background and neighbour. The lending variable is constructed as a continuous variable ranging from 1 to 10 for each societal group.

Hypothetical Game [Australian sample] Given that in the first phase of the study the dictator game was hypothetical while it was effective in the second phase, we include this dummy which equals 1 if the game was hypothetical and 0 otherwise.

Dictator Game [Australian sample] This variable measures a participant's pure altruistic behaviour. This variable is generated by taking the average amount given by a participant to each of the four recipients in the dictator game.

Intention to leave Lebanon [Lebanese sample] In the survey questionnaire, participants were asked the following question: Do you have the intention to live anywhere other than Lebanon? From this, we generated a dummy that equals 1 if a respondent answered yes, whether temporarily or permanently, and zero otherwise

Exposure to conflicts [Lebanese sample] In the survey questionnaire, participants were asked the following question: Lebanon has a long history of civil conflict. Listed below (Physical injury, Death, Having to move, and Property loss as a result of combat or war exposure) are a number of difficult or stressful things that happen to people as a result of conflict. For each event, please inform us whether it happened to (a) you personally; (b) a direct family member; (c) an extended family member; (d) a friend and/or (e) a work colleague. Please also tell us your approximate age when the event took place (indicate 'not born' if it occurred before your birth). From these answers, we created an index for which higher value indicates higher exposure to conflicts, and reversely for lower values.

Table B.1: Proportion of the endowment sent to different recipients - native leavers only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor Woman	Rich Woman	Poor Man	Rich Man	Women	Poor Man	Rich Man	Rich Man	Man	Women	Women	Man	Poor
Muslim	-0.03 (0.04)	0.02 (0.03)	0.01 (0.06)	0.05 (0.06)	-0.04 (0.05)	-0.03 (0.04)	-0.03 (0.07)	0.05 (0.06)	-0.06 (0.05)	-0.04 (0.04)	-0.02 (0.04)	0.03 (0.04)	-0.05 (0.05)	0.02 (0.04)
Dictator game	0.65*** (0.05)	0.57*** (0.09)	0.03 (0.07)	0.01 (0.05)	0.03 (0.04)	0.25 (0.18)	0.03 (0.08)	0.00 (0.06)	0.05 (0.04)	0.16 (0.16)	0.03 (0.04)	0.63*** (0.06)	0.04 (0.05)	0.67*** (0.06)
Female	0.04 (0.04)	0.01 (0.03)	0.03 (0.07)	0.01 (0.05)	0.03 (0.04)	0.02 (0.04)	0.03 (0.08)	0.00 (0.06)	0.05 (0.04)	0.04 (0.04)	0.03 (0.04)	0.01 (0.04)	0.04 (0.05)	0.02 (0.04)
Income (000s)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00* (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Age	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Married	-0.06 (0.06)	-0.07 (0.05)	-0.08 (0.10)	-0.07 (0.07)	-0.04 (0.07)	-0.04 (0.07)	-0.06 (0.11)	-0.11 (0.08)	-0.06 (0.07)	-0.05 (0.07)	-0.06 (0.06)	-0.05 (0.05)	-0.06 (0.07)	-0.08 (0.06)
Language spoken at home	-0.00 (0.04)	0.01 (0.03)	0.03 (0.07)	0.05 (0.07)	-0.01 (0.04)	-0.00 (0.04)	-0.01 (0.06)	0.01 (0.06)	-0.02 (0.05)	-0.02 (0.05)	0.01 (0.04)	0.03 (0.03)	-0.02 (0.04)	-0.01 (0.03)
Trust index	0.06* (0.03)	0.02 (0.03)	0.06 (0.06)	0.02 (0.05)	0.04 (0.03)	0.03 (0.04)	0.08 (0.06)	0.03 (0.05)	0.07* (0.03)	0.05 (0.03)	0.05 (0.03)	0.01 (0.03)	0.07** (0.04)	0.03 (0.03)
Exposure to conflicts	0.00 (0.01)	0.01 (0.01)	-0.01 (0.02)	0.01 (0.01)	0.02 (0.01)	0.02 (0.01)	-0.01 (0.02)	0.01 (0.02)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	0.01 (0.01)
Constant	0.07 (0.14)	-0.06 (0.12)	0.15 (0.24)	-0.15 (0.23)	0.00 (0.13)	0.02 (0.12)	0.24 (0.24)	-0.03 (0.22)	-0.10 (0.15)	-0.05 (0.13)	0.08 (0.14)	-0.07 (0.12)	0.07 (0.16)	-0.04 (0.13)
Observations	340	340	85	85	85	85	85	85	85	85	170	170	170	170
R-squared	0.0880	0.5379	0.1079	0.3788	0.4335	0.4543	0.1221	0.4148	0.3052	0.3801	0.1234	0.5516	0.0759	0.5463
Enumerator Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

OLS regressions. All regressions include a constant term. All regressions includes controls: female, income (000s), age, married, language spoken at home, trust index, and exposure to conflicts. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14, and at the household level in columns 3-10.

Table B.2: Proportion of the endowment sent to different recipients - native leavers only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor Woman	Rich Woman	Poor Man	Rich Man	Poor Man	Rich Man	Women	Men	Women	Men	Women	Men	Poor
Muslim	0.11** (0.05)	0.06 (0.04)	0.24*** (0.06)	0.18*** (0.05)	0.01 (0.07)	-0.05 (0.06)	0.17*** (0.07)	0.14** (0.06)	0.04 (0.07)	-0.03 (0.06)	0.12** (0.05)	0.06 (0.04)	0.11** (0.05)	0.06 (0.04)
Lebanon	-0.05 (0.06)	-0.04 (0.04)	-0.01 (0.08)	-0.03 (0.06)	-0.12 (0.08)	-0.09 (0.07)	0.00 (0.08)	0.02 (0.06)	-0.08 (0.08)	-0.06 (0.07)	-0.07 (0.06)	-0.06 (0.05)	-0.04 (0.06)	-0.02 (0.05)
Muslim*Lebanon	-0.17*** (0.07)	-0.07 (0.05)	-0.28*** (0.09)	-0.16** (0.08)	-0.06 (0.09)	0.03 (0.08)	-0.26*** (0.09)	-0.16* (0.08)	-0.10 (0.09)	-0.01 (0.08)	-0.17** (0.07)	-0.06 (0.06)	-0.18** (0.07)	-0.08 (0.06)
Dictator game		0.57*** (0.04)		0.55*** (0.07)		0.58*** (0.08)		0.49*** (0.07)		0.59*** (0.08)		0.58*** (0.04)		0.56*** (0.05)
Female	-0.02 (0.03)	-0.01 (0.03)	-0.01 (0.05)	0.01 (0.04)	-0.05 (0.05)	-0.06 (0.05)	-0.00 (0.05)	0.01 (0.05)	-0.01 (0.05)	-0.02 (0.04)	-0.03 (0.04)	-0.03 (0.03)	-0.01 (0.04)	-0.00 (0.03)
Income (000s)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00* (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
Age	-0.00** (0.00)	-0.00** (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00** (0.00)	-0.01* (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00* (0.00)	-0.00* (0.00)	-0.00** (0.00)	-0.00** (0.00)
Language spoken at home	-0.00 (0.03)	-0.00 (0.02)	0.02 (0.03)	0.03 (0.03)	0.00 (0.03)	-0.01 (0.03)	-0.00 (0.03)	0.00 (0.03)	-0.02 (0.04)	-0.04 (0.03)	0.01 (0.03)	0.01 (0.02)	-0.01 (0.03)	-0.02 (0.02)
Trust index	0.04 (0.03)	0.01 (0.03)	0.07 (0.05)	0.03 (0.04)	-0.03 (0.04)	-0.03 (0.04)	0.12** (0.05)	0.07* (0.04)	-0.00 (0.04)	-0.00 (0.04)	0.02 (0.03)	-0.00 (0.03)	0.06* (0.03)	0.03 (0.03)
Married	0.06 (0.04)	0.05 (0.04)	0.04 (0.06)	0.03 (0.06)	0.04 (0.07)	0.05 (0.06)	0.09 (0.07)	0.04 (0.06)	0.05 (0.07)	0.09 (0.06)	0.04 (0.06)	0.04 (0.04)	0.07 (0.05)	0.06 (0.04)
Education	-0.02 (0.01)	-0.02* (0.01)	-0.02 (0.02)	-0.02 (0.01)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.03 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.02 (0.01)	-0.02* (0.01)	-0.02 (0.02)	-0.02 (0.01)
Constant	0.51*** (0.13)	0.34*** (0.11)	0.48*** (0.19)	0.16 (0.17)	0.62*** (0.20)	0.58*** (0.18)	0.48** (0.19)	0.23 (0.17)	0.46** (0.19)	0.43** (0.17)	0.55*** (0.14)	0.36*** (0.12)	0.47*** (0.14)	0.31*** (0.11)
Observations	740	740	185	185	185	185	185	185	185	185	370	370	370	370
R-squared	0.0794	0.4515	0.1675	0.4082	0.1020	0.2847	0.1575	0.3482	0.1196	0.3253	0.0773	0.4687	0.0864	0.4381

OLS regressions. All regressions include a constant terms. All regressions includes controls: female, income (000s), age, married, education, language spoken at home, trust index. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14, and at the household level in columns 3-10.

Table B.3: Proportion of the endowment sent to different recipients

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor Woman	Rich Woman	Poor Man	Rich Man	Poor Man	Rich Man	Women	Men	Women	Men	Women	Men	Poor
Muslim	0.12* (0.06)	0.05 (0.06)	0.23** (0.11)	0.18* (0.09)	0.00 (0.08)	-0.10 (0.08)	0.19 (0.14)	0.17 (0.13)	0.06 (0.10)	-0.07 (0.10)	0.12* (0.06)	0.04 (0.06)	0.12* (0.07)	0.06 (0.07)
Highly religious	0.08 (0.07)	0.01 (0.05)	0.04 (0.10)	-0.00 (0.10)	0.13 (0.12)	0.03 (0.09)	0.04 (0.10)	-0.00 (0.10)	0.10 (0.13)	-0.01 (0.09)	0.09 (0.07)	0.02 (0.05)	0.07 (0.07)	-0.00 (0.05)
Muslim*Highly religious	-0.07 (0.11)	0.00 (0.08)	-0.04 (0.13)	-0.01 (0.12)	-0.07 (0.16)	0.06 (0.13)	-0.07 (0.16)	-0.06 (0.15)	-0.11 (0.16)	0.06 (0.12)	-0.06 (0.11)	0.02 (0.08)	-0.09 (0.12)	-0.01 (0.09)
Dictator game		0.51*** (0.06)	0.50*** (0.12)	0.50*** (0.12)	0.36*** (0.13)	0.58*** (0.10)	0.36*** (0.13)	0.36*** (0.13)	0.61*** (0.10)	0.61*** (0.10)	0.54*** (0.06)	0.54*** (0.06)	0.49*** (0.07)	0.49*** (0.07)
N.	400	400	100	100	100	100	100	100	100	100	200	200	200	200
R-squared	0.0650	0.3912	0.2242	0.4133	0.0913	0.3074	0.2203	0.3067	0.0800	0.3172	0.0686	0.4309	0.0688	0.3605

OLS regressions include a constant terms. All regressions includes controls: female, income (000s), age, married, language spoken at home, trust index, hypothetical Dictator Game, and time living in Australia. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14, and at the household level in columns 3-10.

Table B.4: Proportion of the endowment sent to different recipients

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor Woman	Poor Woman	Poor Woman	Rich Woman	Rich Woman	Poor Man	Poor Man	Rich Man	Rich Man	Women	Women	Women	Poor
Muslim	-0.04 (0.04)	0.04 (0.04)	-0.08 (0.07)	-0.01 (0.05)	0.03 (0.05)	0.06 (0.05)	-0.08 (0.06)	0.00 (0.05)	-0.02 (0.05)	0.03 (0.05)	-0.03 (0.05)	0.04 (0.04)	-0.05 (0.05)	0.03 (0.04)
Highly religious	-0.06 (0.04)	-0.05 (0.03)	-0.06 (0.07)	-0.06 (0.05)	-0.06 (0.04)	-0.05 (0.04)	-0.07 (0.07)	-0.06 (0.06)	-0.05 (0.04)	-0.03 (0.04)	-0.06 (0.04)	-0.05 (0.04)	-0.06 (0.04)	-0.05 (0.04)
Muslim*Highly religious	0.04 (0.06)	-0.00 (0.04)	0.11 (0.09)	0.06 (0.07)	-0.00 (0.07)	-0.03 (0.06)	0.06 (0.09)	0.04 (0.07)	0.01 (0.07)	-0.03 (0.06)	0.05 (0.06)	0.00 (0.05)	0.04 (0.06)	-0.01 (0.05)
Dictator game	0.67***	0.61***	0.40***	0.59***	0.51***	0.67***	0.67***	0.67***	0.67***	0.67***	0.67***	0.67***	0.67***	0.67***
N.	800	800	200	200	200	200	200	200	200	200	400	400	400	400
R-squared	0.0768	0.5709	0.0814	0.4189	0.3715	0.4389	0.0924	0.4199	0.2896	0.4220	0.0858	0.5781	0.0734	0.5682
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

OLS regressions. All regressions include a constant terms. All regressions includes controls: female, income (000s), age, married, language spoken at home, and trust index. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14.

Table B.5: Proportion of the endowment sent to different recipients

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Any recipient	Poor Woman	Rich Woman	Poor Man	Rich Man	Women	Women	Rich Man	Rich Man	Women	Women	Women	Poor	Poor
Muslim	0.1310** (0.061)	0.0456 (0.055)	0.2424*** (0.092)	0.1739** (0.075)	0.0006 (0.098)	-0.1005 (0.091)	0.2128** (0.096)	0.1805* (0.095)	0.0682 (0.106)	-0.0574 (0.107)	0.1215* (0.063)	0.0312 (0.055)	0.1405** (0.069)	0.0601 (0.066)
Lebanon	0.0388 (0.053)	0.0073 (0.041)	0.1054 (0.077)	0.0459 (0.063)	-0.0308 (0.072)	-0.0360 (0.070)	0.1092 (0.078)	0.0609 (0.067)	-0.0283 (0.068)	-0.0326 (0.064)	0.0373 (0.055)	0.0030 (0.045)	0.0404 (0.054)	0.0116 (0.043)
Muslim*Lebanon	-0.1980** (0.079)	-0.0364 (0.069)	-0.3620*** (0.112)	-0.2087** (0.091)	0.0019 (0.120)	0.1533 (0.112)	-0.3339*** (0.116)	-0.2075* (0.108)	-0.0981 (0.125)	0.0846 (0.125)	-0.1801** (0.081)	-0.0179 (0.070)	-0.2160** (0.086)	-0.0552 (0.079)
Highly religious	0.0510 (0.070)	-0.0284 (0.041)	0.0506 (0.092)	-0.0024 (0.091)	0.0757 (0.117)	-0.0195 (0.083)	0.0417 (0.094)	-0.0105 (0.093)	0.0361 (0.114)	-0.0658 (0.072)	0.0632 (0.073)	-0.0159 (0.046)	0.0389 (0.070)	-0.0407 (0.040)
Muslim*Highly religious	-0.0417 (0.104)	0.0333 (0.075)	-0.0227 (0.131)	-0.0023 (0.112)	-0.0177 (0.161)	0.0932 (0.127)	-0.0569 (0.136)	-0.0521 (0.129)	-0.0695 (0.165)	0.0850 (0.133)	-0.0202 (0.106)	0.0499 (0.077)	-0.0632 (0.110)	0.0163 (0.084)
Lebanon*Highly religious	-0.1223 (0.084)	-0.0333 (0.054)	-0.1143 (0.113)	-0.0618 (0.105)	-0.1577 (0.129)	-0.0410 (0.096)	-0.1179 (0.115)	-0.0639 (0.107)	-0.0991 (0.126)	0.0168 (0.085)	-0.1360 (0.086)	-0.0458 (0.059)	-0.1085 (0.084)	-0.0210 (0.054)
Muslim*Lebanon*Highly religious	0.1052 (0.122)	-0.0124 (0.090)	0.1393 (0.158)	0.0772 (0.130)	0.0378 (0.181)	-0.1167 (0.149)	0.1449 (0.162)	0.1099 (0.144)	0.0989 (0.185)	-0.1023 (0.154)	0.0886 (0.124)	-0.0269 (0.092)	0.1219 (0.129)	0.0025 (0.099)
Dictator game		0.6140*** (0.032)		0.5899*** (0.048)		0.5440*** (0.080)		0.5436*** (0.049)		0.6057*** (0.078)		0.6247*** (0.033)		0.6023*** (0.034)
N.	1,200	1,200	300	300	300	300	300	300	300	300	600	600	600	600
R-squared	0.076	0.497	0.134	0.428	0.127	0.300	0.111	0.368	0.129	0.332	0.076	0.512	0.078	0.484

OLS regressions. All regressions include a constant terms. All regressions includes controls: female, income (000s), age, married, education, language spoken at home, and trust index Lebanon. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, clustered at the individual level in columns 1-2, 11-12, and 13-14.

B. Tables and Figures

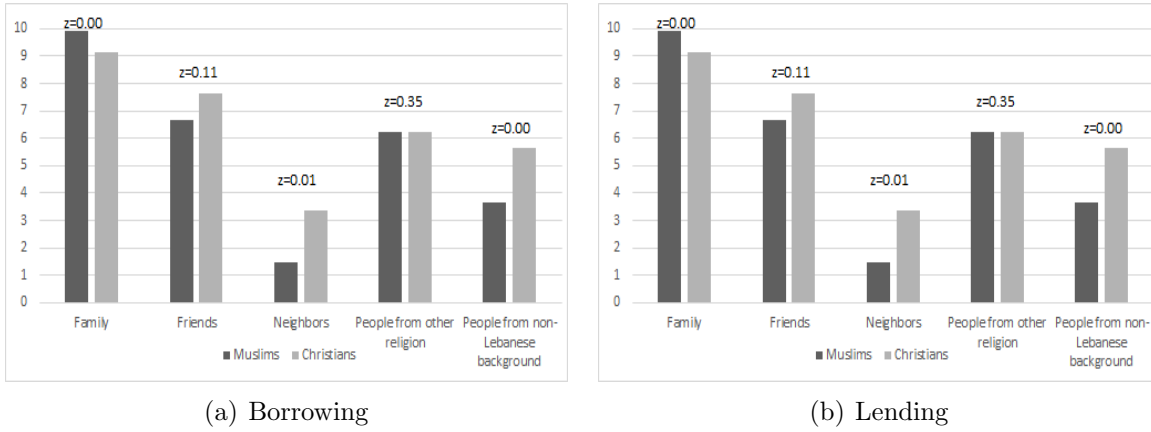


Figure 2: Wilcoxon non-parametric test comparing donations across samples for each recipients for (a) borrowing and (b) lending behaviours - Lebanese immigrants.

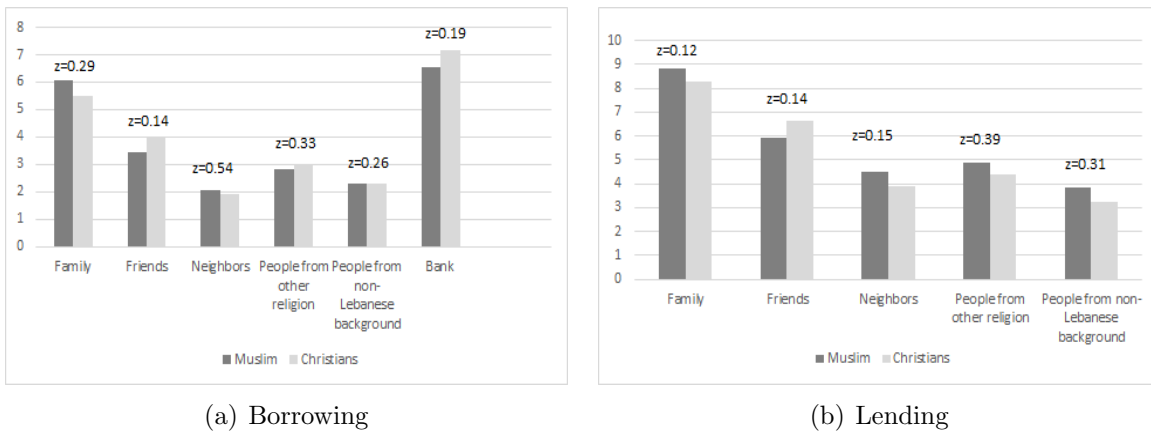


Figure 3: Wilcoxon non-parametric test comparing donations across samples for each recipients for (a) borrowing and (b) lending behaviours - Lebanese natives.

C. Experimental Protocol

Part 1: In this part of the study, you will make some decisions. Your decisions are anonymous, and your identity will not be revealed to any other person who is also participating in this study.

After we have completed the study with all participants, two persons who participated will be randomly chosen. If you are randomly chosen, then your additional earnings will depend on your decision as well as the decision of the other person that has been chosen as is described below. (If you are not randomly chosen, you will receive only your \$5.)

You are each initially given \$40. You need to decide how to share this \$40 between yourself and another person participating in this study. You don't know the identity of this person. You can choose to send nothing, part of or all of this money to this person. The amount of money you send to the other person will be doubled and then given to the other person. So, if you decide to send \$0, then the other person will receive \$0. If you send \$10, the other person will receive \$20. If you choose to send \$20, then the other person will receive \$40. If you choose to send \$30, the other person will receive \$60 and if you choose to send \$40, the other person will receive \$80. You will keep any money which you don't send.

The other person will also be given \$40 and they will be asked how much of this \$40 he/she sends to you. The amount the other person chooses to send to you will also be doubled before it is given to you, and the other person will keep any money he/she does not send.

Thus, your earnings will depend on how much you choose to send, and how much the other person decides to send back to you.

Please refer to the table at the end of this booklet

As you can see, your final earnings will depend on your choice and the other person's choice. Please note that we have just provided examples on three different choices. You can actually decide to send any of the following amounts to the person: \$0, \$10, \$20, \$30 or \$40. The other person will be given the exact same rules.

When you make your decision, we will ask you for your decision for the cases that the person in the other session is a man or a woman, and for the cases that the person in the other session has

an income below or above the average of his/her gender. When the person was randomly chosen we will determine his/her gender and average income, and will then implement the choice you have made for this case.

Decision form 1 *Please decide how much to send to the other person by filling out the following table:*

The other person's gender	The other person's income	How much you will send
Woman	Below average income for women	\$
Woman	Above average income for women	\$
Man	Below average income for men	\$
Man	Above average income for men	\$

Part 2: In this section, we will again ask you for your decisions. You are given \$20. You need to allocate this money between yourself and another person. This other person is not a real person and this money will not be doubled when it is sent to the other person. In turn, this person will not be sending any money back to you.¹³

You can choose to keep \$20 for yourself and give \$0 or you can give the \$20 to the recipient meaning you will have \$0. Alternatively, you can decide to split the money between yourself and the recipient. You can chose to send any amount between \$0 and \$20.

Decision form 2 *Please decide how you will distribute this \$20 between yourself and this fake person if they have the following characteristics:*¹⁴

The other person's gender	The other person's income	How much you will send
Woman	Below average income for women	\$
Woman	Above average income for women	\$
Man	Below average income for men	\$
Man	Above average income for men	\$

¹³In the March 2016 wave, the other person is a real person - the same person as the participants is facing the Prisoner's dilemma game.

¹⁴Again, in the March 2016 wave, the other person is a real person and not a hypothetical one.



Figure 4: Matrix - Lebanese immigrants

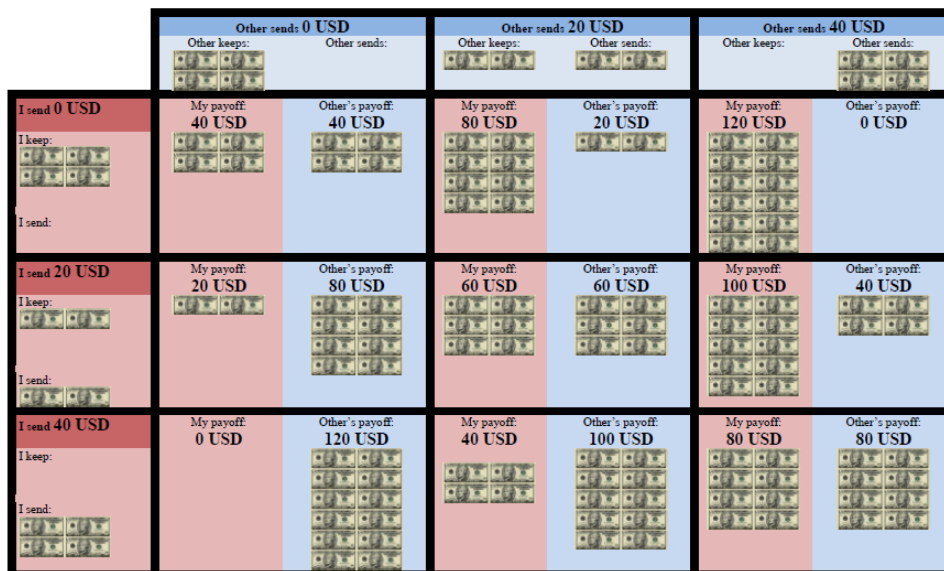


Figure 5: Matrix - Lebanese natives

The Script used to describe the Payoff Matrix Please start off by looking at the table. Let's focus on the first row. You choose to send \$0, meaning you keep \$40 for yourself. In the first column, the other person decides to send \$0 and keeps \$40 for themselves. Your earnings will be

\$40 and their earnings will also be \$40. In the second column, you still choose to send \$0 and they choose to send \$20 to you. Your earnings will be \$80 which is made up of your initial \$40 and the doubled \$20 that you received. The other person's earnings will be \$20. In the last column, you still send \$0. But the other person sends you \$40. Your earnings will be \$120, which is made up of your initial \$40 and the doubled \$40 that was sent to you. The other person's earnings will be \$0 because they sent you their entire \$40 and you didn't send any money to them. If we move on to the second row, you will choose to send \$20 instead of \$0. As you can see in the table, even though your earnings will now be smaller, the other person's earnings will be larger as you decide to share more of your \$40 with them. In the final row, you will choose to send your entire \$40 to the other person. Once again, the more you send, and the more the other person sends you, the more you will both receive. If you focus on the diagonal cells where you both send the exact amount to each other, you can see that your earnings will be exactly the same. Also, the more you send to each other, the higher your total earnings will be.