

# Is Game Theory useful to Christian persons?

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## Abstract

A decision-makers interaction (or *game*) is a situation, involving a set of persons, in which: each person (or *player*) chooses a behaviour (or *strategy*), in order to maximize his gain (or *payoff*), where his gain depends on the behaviours chosen by all such persons. Game Theory studies decision-makers interactions. A Christian person can be defined as a person whose main gain [in any choice] consists of fulfilling the commandments of the Lord in the Christian Bible. This note reports, from Jewish-Christian sources, that the main gain [in any choice] of a Christian person does not depend on the behaviours chosen by other persons. Then a natural question arises: is Game Theory useful to Christian persons?

## 1 The note

A decision-makers interaction (or *game*) is a situation, involving a set of persons, in which: each person (or *player*) chooses a behaviour (or *strategy*), in order to maximize his gain (or *payoff*), where his gain depends on the behaviours chosen by all such persons.

Game Theory studies decision-makers interactions according to the following definition.

**Definition 1** (see [1]) *“Game theory is a bag of analytical tools designed to help us understand the phenomena that we observe when decision-makers interact. The basic assumptions that underlie the theory are that decision-makers pursue well-defined exogenous objectives (they are rational) and take into account their knowledge or expectations of other decision-makers’ behaviour (they reason strategically).”*

Then let us introduce the following definitions and the following proposition regarding Christian decision-makers, i.e., Christian persons; in particular, the proof of the following proposition is affected by our bounded ability/knowledge and would likely need more details, however the statement should finally hold.

**Definition 2** *Let us say that a commandment to a person: is external if its fulfillment depends on the behaviours of other persons, and is internal if its fulfillment does not depend on the behaviours of other persons.*

For example: commandment “be rich” seems to be external, while commandment “be poor” seems to be internal.

**Definition 3** *Let us say that a Christian person is a person whose main gain [in any choice] consists of fulfilling the commandments of the Lord in the Christian Bible.*

**Proposition 1** *The commandments of the Lord in the Christian Bible are internal.*

**Proof.** Let us report, from Christian Bible [5], the following five (likely) basic passages.

- a) Exodus 20, 1-17 or Deuteronomy 5, 6-21: the “ten commandments”.
- b) Proverbs 3, 6: In all your ways be mindful of Him, and He will make straight your paths.
- c) Micah 6, 8: You have been told, o man, what is good, and what the Lord requires of you: only to do right and to love goodness, and to walk humbly with your God.
- d) Matthew 7, 12: Do to others whatever you would have them do to you. This is the law and the prophets.
- e) Matthew 22, 36-40: “Teacher, which commandment in the law is the greatest?” He said to him, “You shall love the Lord, your God, with all your heart, with all your soul, and with all your mind (cf. Deuteronomy 6, 4-5). This is the greatest and the first commandment. The second is like it: You shall love your neighbour as yourself (cf. Deuteronomy 19, 18). The whole law and the prophets depend on these two commandments.”

Then the commandments of the Lord, in the above five passages, seem to be internal.

Furthermore all commandments of the Lord in the Christian Bible seem to be internal, except maybe for the following two groups of commandments, which are actually commandments to a community and not to a person.

The first group concerns those commandments about multiplication:

- f) Genesis 9, 1 (see also Genesis 1, 28): God blessed Noah and his sons and said to them: “Be fertile and multiply and fill the earth”.

However such commandments may be bypassed according to the following passage:

- f’) Matthew 19, 10-12: [His] disciples said to him, “If that is the case of a man with his wife, it is better not to marry.” He answered, “Not all can accept [this] word, but only those to whom that is granted. Some are incapable of marriage because they were born so; some, because they were made so by others; some, because they have renounced marriage for the sake of the kingdom of heaven. Whoever can accept this ought to accept it.”

The second group concerns those commandments about punishment of other persons because of transgressions; let us just report the following example for this second group:

g) Deuteronomy 22, 22: If a man is discovered having relations with a woman who is married to another, both the man and the woman with whom he has had relations shall die. Thus shall you purge the evil from your midst.

However such commandments may be bypassed according to the following passage:

g') John 8, 7: But when they continued asking him, he straightened up and said to them, "Let the one among you who is without sin be the first to throw a stone at her."

Then the commandments of the Lord in the Christian Bible seem to be internal. □

Then a natural question arises: is Game Theory useful to Christian persons?

### **Acknowledgment 1.**

This is to acknowledge for completeness that, in my nothingness, it seems to me to have realized Proposition 1 thanks to the following two references.

:: The first reference is given by Padre Fabrizio Di Fazio's comments (see [4] for the website) on the following passages:

Luc 10, 25-28 [cf. Matthew 22, 36-40]: There was a scholar of the law who stood up to test him and said, "Teacher, what must I do to inherit eternal life?" Jesus said to him, "What is written in the law? How do you read it?" He said in reply, "You shall love the Lord, your God, with all your heart, with all your being, with all your strength, and with all your mind, and your neighbor as yourself." He replied to him, "You have answered correctly; do this and you will live."

Marc 7, 14-15: He summoned the crowd again and said to them, "Hear me, all of you, and understand. Nothing that enters one from outside can defile that person; but the things that come out from within are what defile."

:: The second reference is given by "Momenti di Torah" comments (see [3] at page 47) on the following passage:

Pirke Avot IV, 1 (see [2]):

Ben Zoma would say: Who is wise? One who learns from every man. As is stated (Psalms 119:99): "From all my teachers I have grown wise, for Your testimonials are my meditation." Who is strong? One who overpowers his inclinations. As is stated (Proverbs 16:32), "Better one who is slow to anger than one with might, one who rules his spirit than the captor of a city." Who is rich? One who is satisfied with his lot. As is stated (Psalms 128:2): "If you eat of toil of your hands, fortunate are you, and good is to you"; "fortunate are you" in this world, "and good is to you" in the World to Come. Who is honorable? One who honors his fellows. As is stated (I Samuel 2:30): "For to those who honor me, I accord honor; those who scorn me shall be demeaned."

### **Acknowledgement 2.**

Please I would like to witness that just try to pray a lot and am not able to do anything without that - ad laudem Domini.

## References

- [1] <http://icds.gzu.edu.cn/studyFiles/2014010721511410737.pdf>
- [2] [http://www.chabad.org/library/article\\_cdo/aid/2032/jewish/Chapter-Four.htm](http://www.chabad.org/library/article_cdo/aid/2032/jewish/Chapter-Four.htm)
- [3] <http://www.e-brei.net/uploads/vitaebraica/momenti/anno4numero9.pdf>
- [4] <http://www.tuseiprezioso.it/>
- [5] [http://www.vatican.va/archive/ENG0839/\\_INDEX.HTM](http://www.vatican.va/archive/ENG0839/_INDEX.HTM)