

# Experimental and Computational Economics Laboratory at USFQ

**Experimental Protocol followed by researcher Kevin Rojas in order to conduct the necessary sessions for the research project “Matching Protocols”**

Kevin Rojas

## Introduction

“Matching Protocols” is a research project developed as a requisite to obtain the degree of Master of Science in Economics in University San Francisco de Quito by Kevin Rojas. The idea was originally designed and supported by professors Jean Paul Rabanal and Pedro Romero in order to prove the following main hypothesis:

*In an incomplete information scenario, contrasting both the Randomize Matching Protocol and the Mean Matching Protocol for the revenue of the participants, it is expected that the equilibrium condition is reached faster by the Mean Matching Protocol.*

After a year of literature review, an application has been released to prove the hypothesis and tested during June 2020 following the experimental protocol that we will describe

## Main features of the experiment

**Research title:** Matching Protocols based on payoffs: Experimental Evidence of their performance in games with incomplete information

**Researcher:** Kevin Rojas

**Institution:** Universidad San Francisco de Quito

**Founding:** School of Economics USFQ

## Experimental Procedures

### General Description

The experiment was conducted by the ECEL team in an online basis. Using the student database for participants in Universidad San Francisco de Quito provided by Orsee, we invite almost 160 students using an invitation and a confirmation mail in the following way: students receives invitations, then they selected the preferred time responding the email and the they receive a confirmation email with the instructions for the connections ant the correspondent data.

Participants receive information about a Zoom meeting that was previously scheduled in the proposed times and once they enter the meeting, they receive a link to connect with the server providing the application. They also receive a participation code using the private chat option and finally they take their decisions proposed for the experiment, answer the surveys and finally proceed to the payment.

Incentive-compatibility is reached by paying each of the participants American dollars, the official currency in Ecuador, using an application called BIMO that is provided by the internal banking network of Ecuador. They were asked in the invitation e-mail to download the app and to register using a basic account provided by the same app. This process is private and every payment process is registered individually.

## **Application and Programming**

The application for this research was developed using oTree software. There is one base treatment where participants receive their payoffs based on the mean-matching protocol and one alternative treatment based on the randomized matching protocol. The app is hosted by the oTree recommended server provider Heroku and displayed in every participant computer meanwhile one of the members of the Lab team handles the monitoring screen.

## **Sessions and payments**

We expect to conduct 8 sessions with a total of 160 students divided between both treatments. We expect to have 2 small sessions with 10 participants more or less, 4 medium sessions with 20 participants more or less and finally 2 large sessions with 30 more or less participants. In each case, we split sessions between both matching protocols.