

Social Distancing and Risk Taking: Evidence from a Team Game Show

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Motivation

- ▶ COVID caused a massive shift toward remote activities, such as working from home.
- ▶ As this trend persists, it is critical to understand how remoteness impacts performance and earnings.
- ▶ We investigate one channel: the **willingness to take risks**.
- ▶ Do teams take more risks in person or remotely?

Highly Controlled Environment

- ▶ We explore risk-taking in a controlled environment: “The 1000 Euro Game.”
 - ▶ A French radio show since 1958 with 1.5 million daily listeners.
 - ▶ During COVID, the show switched temporarily from an **in person** to an **all-remote** format.
- ⇒ Analyze the **same risky task** in **two different social contexts**.
- ▶ Key result: Remoteness makes a difference!
 - ▶ Two main empirical challenges:
 1. Risk attitude during COVID.
 2. Candidate self-selection.

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Outline

1. **Context of the Game**
2. Theoretical Framework
3. Empirical Results

Context of the Game

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- ▶ **Teams of two randomly matched candidates** [▶ Characteristics](#)
- ▶ Play together to win a cash prize by answering trivia questions.
- ▶ Three rounds of increasing difficulty:

Round 1 : 6 questions [▶ Details](#)

- ▶ win up to €150.

Round 2 : 1 question: Banco [▶ Details](#)

- ▶ €500 prize but forfeit up to €150.

Round 3 : 1 question: **Super Banco**

- ▶ €1000 prize but forfeit €500.

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Round 3 : 1 question: **Super Banco**

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The Super Banco: 1 Question for 1000 Euros

- ▶ One difficult trivia question [▶ Example](#)
- ▶ Only one attempt and a minute to respond
- ▶ Candidates can consult each other
- ▶ If the response is **incorrect** → leave with nothing
- ▶ If the response is **correct** → leave with 1000 euros

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Data

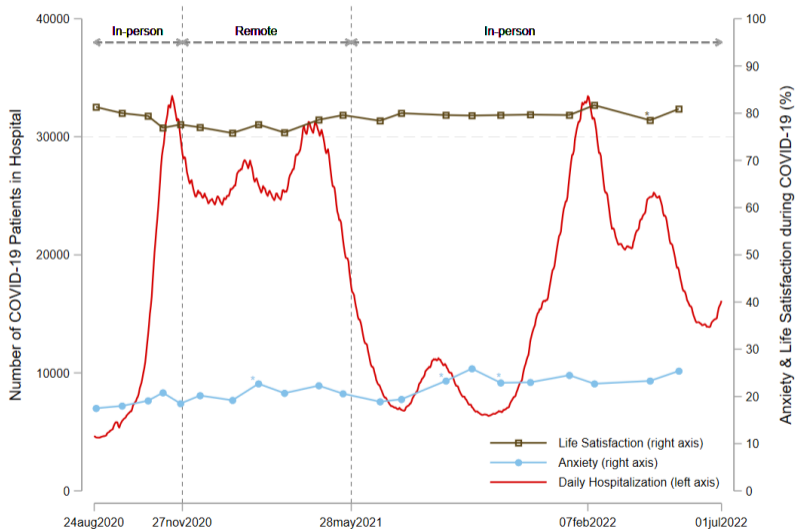
- ▶ Data come from the French NPR website (France Inter).
- ▶ 1,742 shows/teams and 3,484 unique subjects.
- ▶ **Pre-COVID**: June 20, 2011, to March 12, 2020.
- ▶ **During COVID**: Until July 2, 2021.

Challenge #1: Different Risk Attitudes during COVID?

- ▶ Change in risk attitudes due to COVID?
- ▶ Advantage: Not all shows were remote during the pandemic.
- ▶ **During COVID:**
 - ▶ **In-person** from August 24, 2020, to November 27, 2020;
 - ▶ **Remotely** from Nov. 30, 2020 to May 28, 2021;
 - ▶ **In-person** from May 31, 2021 to July 2, 2021.
- ▶ Key: In-person shows continued during the peak uncertainty of the COVID.

Type of Shows, COVID Hospitalizations, and Well-Being

France: August 24, 2020 to July 1, 2022



The Structure of the Game

- ▶ No changes with COVID:
 - ▶ Same production team, show host, prizes, qualifying rounds and final round.
- ▶ Except a change in the **social context** of the game.
- ▶ Usually, the game is recorded **in person**, and
- ▶ the audience (100 to 300 people) encourages the candidates during the game.

In-person Format



Source: Location: Belfort, Friday, June 12, 2015.

Photo caption: "A hundred spectators gathered in front of Nicolas Stoufflet, host of the 1000 euros game." ("*Une centaine de spectateurs réunis devant Nicolas Stoufflet animateur du jeu des 1000 euros*".)

The Structure of the Game: Remotely

When **lockdowns** were imposed:

- ▶ In-person audience was not allowed, and
- ▶ Candidates had to perform remotely (from home).

⇒ **Audio** participation only.

⇒ The public was **virtual**.

Remote Format



Location: Radio France recording studio.

Challenge #2: Different Candidate Selection?

- ▶ Selection in games always raises an empirical challenge.
- ▶ Candidates are screened on their ability to correctly answer trivia questions.
- ▶ **In person**, selection occurs on site before recording.

Candidate Selection: In Person



Source: Newspaper article in *Le Parisien*. Location: Bonnelles (40 Km from Paris), Saturday, December 21, 2019. Photo caption: "Nicolas Stoufflet (the host of the game) had no trouble recruiting candidates for his game as the audience was as excited as ever to get on stage." ("*Nicolas Stoufflet n'a eu aucun mal à recruter des candidats pour son jeu parmi des spectateurs emballés comme jamais à l'idée de monter sur la scène*".)

Candidate Selection: Remotely

- ▶ In **remote** shows, candidates had to answer questions online.
 - ▶ Since candidate selection may vary by context, we focus on teams who **survived to the final round**: Super Banco.
 - ▶ Key: These 'survivors' provide better measures of ability as they answered more questions than those eliminated earlier.
- Control for past performance.

In-person vs Remote in Super Banco: 1 Question for 1000 Euros

| Means | In Person (1) | Remote (2) | Diff. (2)-(1) |
|-------------------|------------------|---------------|------------------|
| # Teams | 447 | 52 | |
| Entry Decision | 0.826 | 0.596 | -0.229*** |
| Success | 0.528 | 0.516 | -0.017 |
| Gain in € | 528.4 | 516.1 | -12.3 |
| Overall Gain in € | 299.9 | 288.6 | -11.3 |

► Other rounds

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2. **Theoretical Framework**
3. From the Model to the Data
4. Empirical Results

Theoretical Framework

Theoretical Framework

- ▶ Following Bénabou and Tirole (2006), teams care about their **social image**.
- ▶ The risky decision to participate involves:
 1. **Confidence** in success
 2. **Social pressure**
- ▶ Both depend on the game context and past performance.

Social Pressure and Participation

- ▶ The social pressure of the in-person audience can **encourage participation**.
- ▶ Teams may respond to the public with a “gift of suspense and excitement.”
- ▶ But, social pressure can also **deter participation** if teams fear failure in front of the audience.

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Key Predictions

- ▶ As past performance declines, the gap in SB participation between in-person and remote teams grows.
- ▶ Low performing **remote teams** decrease their participation, while **social pressure** encourages low performing in-person teams to take on the SB risk.

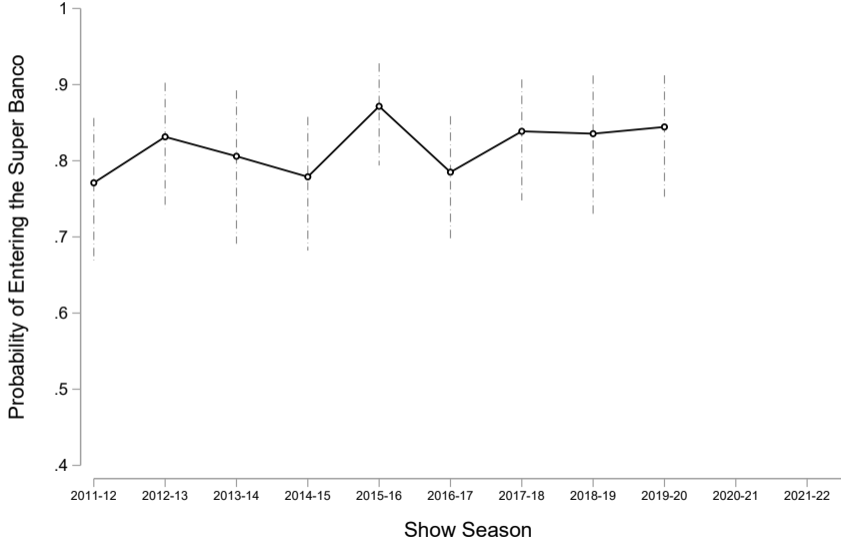
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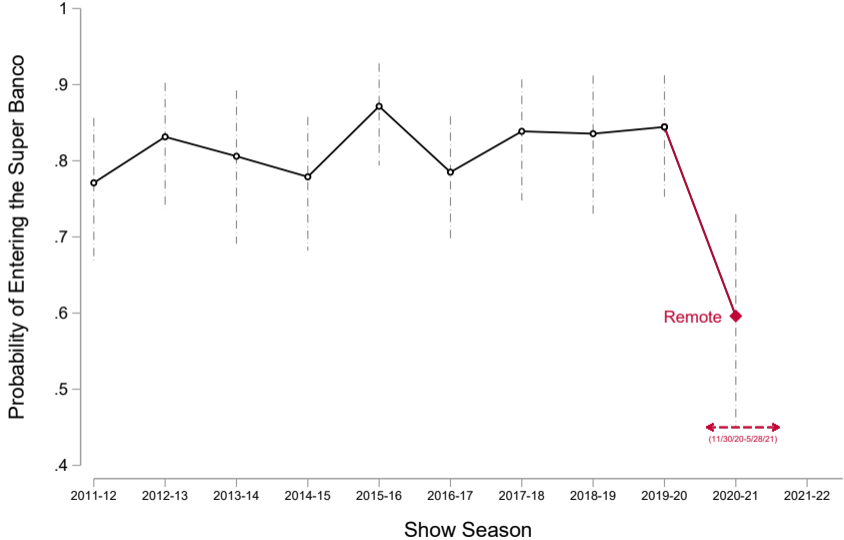
Empirical Results

Participation in the Super Banco (SB)

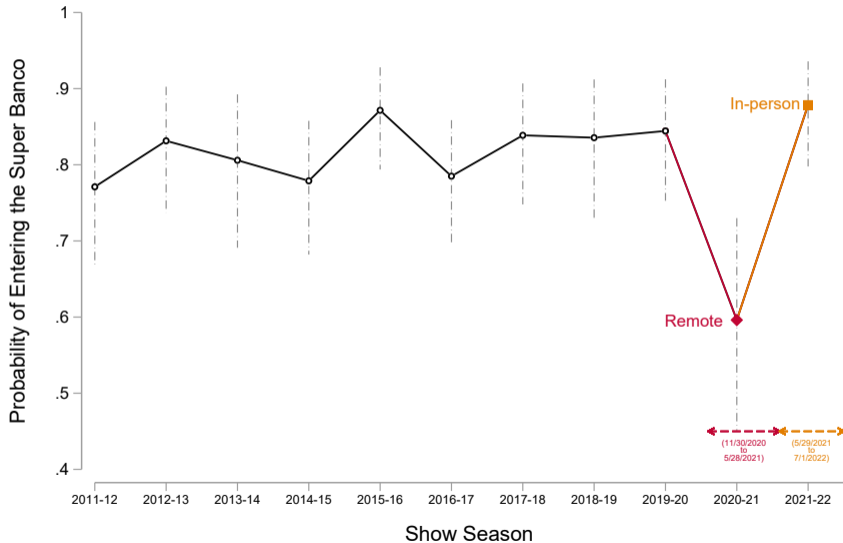
Participation in the Super Banco Per Season



Participation in the Super Banco Per Season



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Participation in the Super Banco

| <i>Marginal Effects</i> | Probability of Participating in the SB | | | |
|---------------------------|--|---------------------|---------------------|---------------------|
| | | | Benchmark | |
| In-person | | | | |
| Remote | -0.229 ^a | | -0.238 ^a | |
| | (0.00) | | (0.02) | |
| Remote during COVID | | -0.222 ^a | | -0.229 ^a |
| | | (0.00) | | (0.03) |
| In-Person during COVID | | 0.050 ^a | | 0.049 ^a |
| | | (0.01) | | (0.01) |
| <i>Team Demographics:</i> | | | Yes | Yes |
| Question Types FE | – | – | Yes | Yes |
| Observations | 957 | 957 | 957 | 957 |

Notes: ^a : $p < 0.01$, ^b : $p < 0.05$, ^c : $p < 0.1$.

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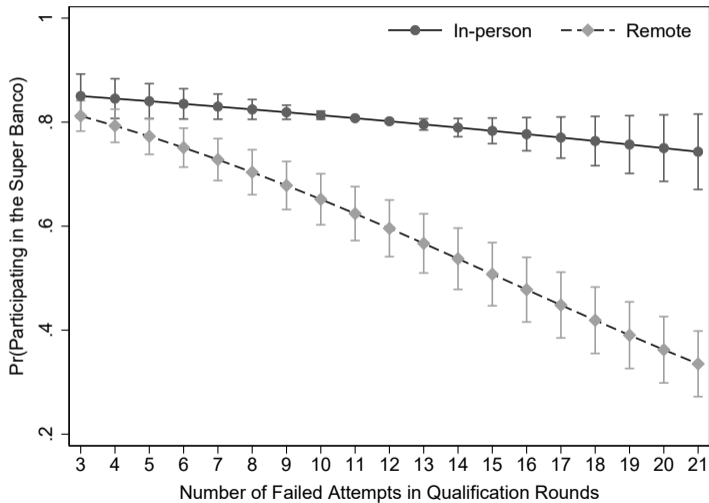
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Participation in the Super Banco

- ▶ We find a 23 p.p. difference in risk-taking behavior:
 - ▶ In person, 83% of the qualifying teams choose to participate in the SB,
 - ▶ remotely only 60%!
- ▶ The 23 p.p. difference is not simply due to the COVID emergency itself.
- ▶ In-person teams have a significantly higher likelihood of entering the SB, both **before** and **during** the COVID period.
- ▶ Controlling for past performance: 17 p.p. difference.

Participation and Past Performance

Number of Attempts in the First Round



Conclusion

- ▶ We use the COVID pandemic as a natural experiment and ask: *Do teams take more risk in the in-person or in the remote context?*
- ▶ We find strong evidence that **remote** teammates **take far less risk** than in-person mates.
 - ▶ Remote teams miss out opportunities because, in expectation, the decision to enter the final round is risky but beneficial.
- ▶ This difference in risk-taking is especially pronounced for teams with poorer past performance, highlighting the impact of social pressure on decision-making.

Appendix

Candidate's Characteristics

Time period: 2011-2022

| | Mean | S.D. | Min. | Max. |
|--------------------|-------|------|------|------|
| Male | 0.702 | 0.46 | 0.00 | 1.00 |
| <i>Occupation:</i> | | | | |
| Employed | 0.515 | 0.50 | 0.00 | 1.00 |
| Unemployed | 0.458 | 0.50 | 0.00 | 1.00 |
| Undefined | 0.027 | 0.15 | 0.00 | 1.00 |
| Observations | 3,484 | | | |

◀ Back

Mixed-Gender Teams: In-person vs Remote

| Means | In Person (1) | Remote (2) | Diff. (2)-(1) |
|--|------------------|---------------|------------------|
| Pre-Banco (PB): 6 Questions for 150 € | | | |
| # Teams | 794 | 95 | |
| Number of Correct Answers: | | | |
| 4 or less | 0.191 | 0.242 | 0.051 |
| 5 | 0.389 | 0.379 | -0.010 |
| 6 | 0.419 | 0.379 | -0.040 |
| Gain in € | 123.9 | 118.6 | -5.3 |
| Banco (B): 1 Question for 500 Euros | | | |
| # Teams | 623 | 70 | |
| Entry Decision | 1.000 | 1.000 | 0.000 |
| Success | 0.717 | 0.743 | 0.025 |
| Gain in € | 358.8 | 371.4 | 12.6 |

◀ Super Banco

▶ All Teams

Descriptive Statistics for All Teams

| | Mean | S.D. | Min. | Max. |
|---|--------|--------|-------|---------|
| Pre-Banco (PB): 6 Questions for €150 – 1,571 Teams | | | | |
| Number of Correct Answers: | | | | |
| 4 or less | 0.201 | 0.40 | | |
| 5 | 0.394 | 0.49 | | |
| 6 | 0.405 | 0.49 | | |
| # Attempts | 9.996 | 4.11 | 3.00 | 46.00 |
| # Retake Questions | 1.598 | 1.15 | 0.00 | 5.00 |
| Gains in € | 123.02 | 27.97 | 30.00 | 150.00 |
| Banco (B): 1 Question for €500 – 1,213 Teams | | | | |
| Entry Decision | 1.000 | | | |
| Response Time (sec) | 28.45 | 17.37 | 0.00 | 60.00 |
| Success | 0.719 | 0.45 | 0.00 | 1.00 |
| Sup-Banco (SB): 1 Question for €1000 – 701 Teams | | | | |
| Entry Decision | 0.804 | 0.40 | 0.00 | 1.00 |
| Success | 0.549 | 0.50 | 0.00 | 1.00 |
| Overall Gain in € | 308.78 | 411.80 | 0.00 | 1000.00 |

Performance in the Super Banco

| <i>Marginal Effects</i> | Probability of Winning €1000 | | | |
|--|-------------------------------|------------------------------|------------------------------|------------------------------|
| Remote | -0.034 ^a (0.00) | -0.010 (0.01) | 0.011 (0.04) | 0.112 ^a (0.04) |
| <i>Team Demographics (both women, both unemployed included):</i> | | | | |
| Both Men | | 0.045 (0.03) | 0.048 ^b (0.02) | 0.048 ^b (0.02) |
| Both Employed | | 0.059 ^a (0.01) | 0.056 ^a (0.01) | 0.056 ^a (0.01) |
| <i>Past Performance:</i> | | | | |
| # Retake Questions (PB) | | | -0.051 (0.03) | -0.049 (0.03) |
| # Attempts (PB) | | | 0.001 (0.00) | 0.001 (0.00) |
| Response Time (B) | | | -0.000 (0.00) | -0.000 (0.00) |
| <i>Past Performance × Remote</i> | | | | Yes |
| Observations | 778 | 778 | 778 | 778 |
| Question Types FE | – | Yes | Yes | Yes |

^a : $p < 0.01$, ^b : $p < 0.05$, ^c : $p < 0.1$.

The Pre-Banco Round: 6 Questions for 150 Euros

- ▶ 6 trivia questions of increasing difficulty:
 - ▶ 15€ (x3), 30€ (x2), and 45€.
- ▶ Multiple **attempts** per question for up to **30 seconds**.
- ▶ A **second chance** is allowed for each question.
- ▶ At the end of the Pre-Banco:
 - ▶ If < 5 answers \rightarrow leave with their earnings.
 - ▶ If 5 answers (+ “draft” question) or 6 answers \rightarrow leave with their earnings **or** try the Banco.
- ▶ When they are making the Banco decision, the **audience** yells “Ban-co, Ban-co!”.

The Banco: 1 Question for 500 Euros

- ▶ One trivia question (more difficult in theory) [▶ Example](#)
- ▶ Only one attempt but with a minute to respond
- ▶ Candidates can consult each other.
- ▶ If the response is **incorrect** → leave with nothing.
- ▶ If the response is **correct** → leave with 500 **or** try the Super-Banco.
- ▶ When they are making the Super-Banco decision, the **audience** yells “Su-per, Su-per!”.

◀ Back

Transcript

- ▶ Remote Show: May 13, 2021.
- ▶ The team correctly answered the 6 questions in the Pre-Banco.

Transcript: Banco Decision

- ▶ *Host*: You, Fabienne Bosquet and Marius Millot, have answered all the questions, which authorizes you directly to try to win the 500 euros of the...
- ▶ *Virtual Audience*: Banco, Banco, Banco!
- ▶ *Host*: Banco?
- ▶ *Fabienne*: Yes, Banco, I agree ... Marius...?
- ▶ *Marius*: Absolutely!

Transcripts: Banco Question

- ▶ *Host*: We now need the name of a character, a personality, an **American economist**...
- ▶ *Fabienne*: Oops!
- ▶ *Host*: ... an American economist who played a major role internationally in the field of investment and financial markets, in budgetary and monetary policies.
- ▶ *Host*: He received the **Nobel** Prize in Economics or rather the Bank of Sweden Prize in Economics in the **early eighties**, and his name is well known around financial markets.
- ▶ *Host*: One answer, discussion between you.

Transcript: Banco Discussion

- ▶ *Marius*: Economics is not my forte. The only one that comes to me like that would be **Keynes** because we talk a lot about Keynesian policies ...
- ▶ *Fabienne*: I have never heard of Keynes, so I can't ... 1980s...
- ▶ Host: Who is this economic specialist, this personality who has played a great role on the international scene?

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Transcript: Banco Answer

- ▶ *Host*: 10 seconds and we come to the end of the minute.
- ▶ *Fabienne*: I don't have any idea; we'll say what you propose, Marius.
- ▶ *Marius*: Yes, without enthusiasm: Keynes.

Transcript: Banco Answer

- ▶ *Host*: 10 seconds and we come to the end of the minute.
- ▶ *Fabienne*: I don't have any idea; we'll say what you propose, Marius.
- ▶ *Marius*: Yes, without enthusiasm: Keynes.
- ▶ *Host*: And he was a Keynesian, this economic specialist, but it was James Tobin.
- ▶ *Marius*: Ah, the Tobin tax.