

L12. Revisiting, replicating

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Sciences Po – Campus Reims

Inquiries 4 Sociology

Revisiting - Replicating

- Replicability at the heart of scientific knowledge
 - Ex. Galileo's experiment.
- Replication in science shows that results do not depend on:
 - moments, experimenter, specific material design
 - As long as research protocol followed
- Scientific falsification often comes from replication failure
 - Durkheim / Halbwachs

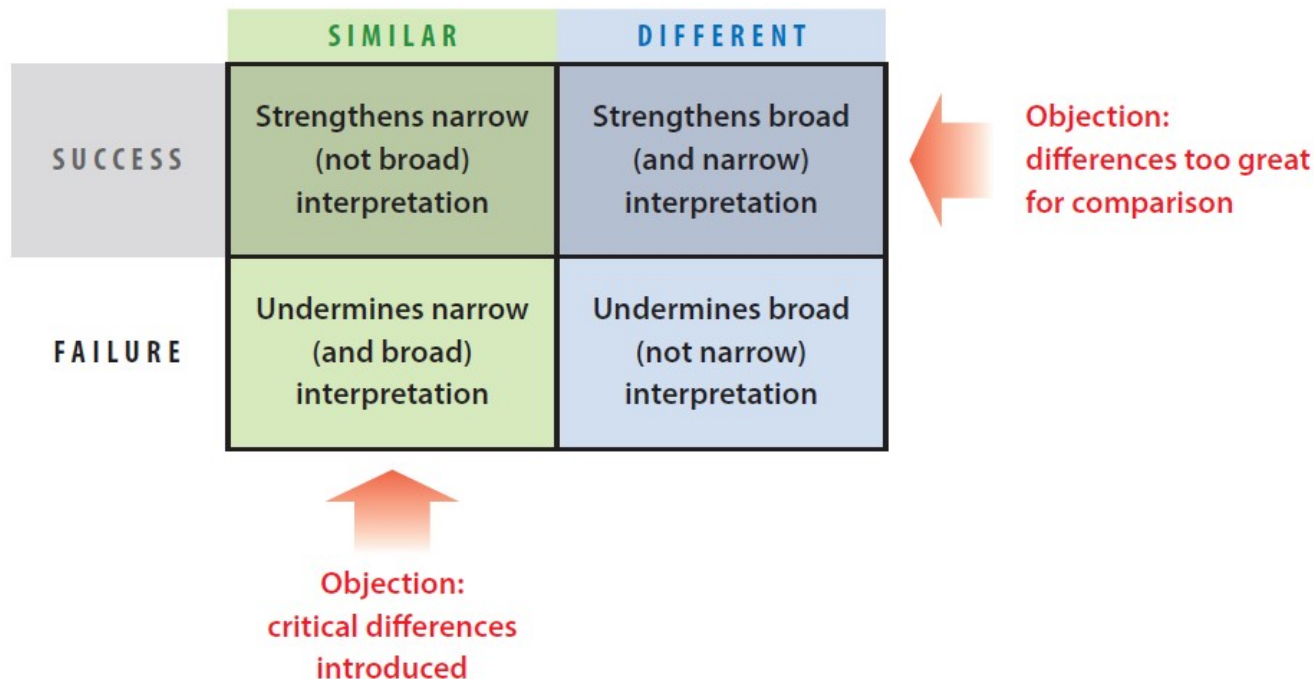
Replication in social sciences

- Varieties (Data, Model)
 - Same data, same manipulation/model
 - Verifiability
 - Reprocessing the data with the same program (quantitative approach mostly)
 - Same data, different manipulation/model
 - Robustness
 - Different data, same model
 - Repeatability
 - Different data, different model
 - Generalization

Freese, Jeremy, and David Peterson. 2017. “Replication in social science.” *Annual Review of Sociology* 43: 147-165.

| | SIMILAR | DIFFERENT |
|----------|---------------|----------------|
| OLD DATA | Verifiability | Robustness |
| NEW DATA | Repeatability | Generalization |

Impact of differences (models/data) in protocol



The replication crisis in science

- Failure to replicate a significant proportion of results
 - Poll : 70% scientists failed to replicate a least one experiments of another scientist, 50% their own (n=1,500 *Nature*, 2016)
 - Social psychology
 - Medicine
 - 49 medical studies from 1990–2003, with more than 1000 citations, 45 claimed that studied therapy was effective.
 - 16% contradicted by subsequent studies, 16% had found stronger effects than did subsequent studies, 44% were replicated, and 24% remained largely unchallenged

Replication in economics

Research Policy 48 (2019) 62–83



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Research Policy

journal homepage: www.elsevier.com/locate/respol

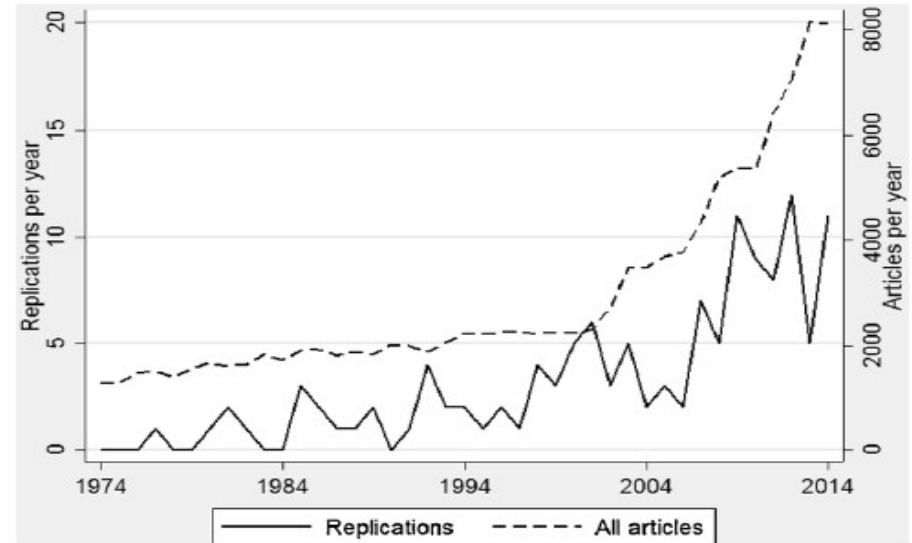


Replication studies in economics—How many and which papers are chosen for replication, and why?★

Frank Mueller-Langer^{a,b,*}, Benedikt Fecher^{c,d}, Dietmar Harhoff^b, Gert G. Wagner^{c,d,e}

Table 1
Descriptive statistics.

| | mean |
|---|-------|
| Dependent variable | |
| Replicated article | 0.105 |
| Negated replicated article | 0.049 |
| (Partially) reinforced replicated article | 0.056 |



Failure of verifiability.

- Narrow verification: same data, same model
 - Condition: disclosure of data and scripts
- Causes of failure to verify
 - Micro coding decisions
 - Errors
 - Spreadsheet error in Reinhart & Rogoff (2010)
 - Questionable research practices
 - P-value rounding
 - Manipulation of field, outliers, in order to “confirm” results
 - Fraud
 - Brian Wansink (Cornell Psychologist- Size of bowls matter)

Failure of repeatability

- New data, same model
- False positive and publication bias
 - 100 manipulations → 2 or 3 significant for random reason
 - The significant are published (first)
 - The non-significant are not published
 - Replications lead to infirm results

Failure of robustness

- Same data, different model
- Cause:
 - Inadequacy of the modeling
 - Key independent variable overlooked
 - Halbwachs versus Durkheim (Urbanity rather than religion as key variable in Suicide)
 - Model not powerful enough
 - Cherry picking in the results
 - Confirmation bias

Going Meta: Meta-Analysis

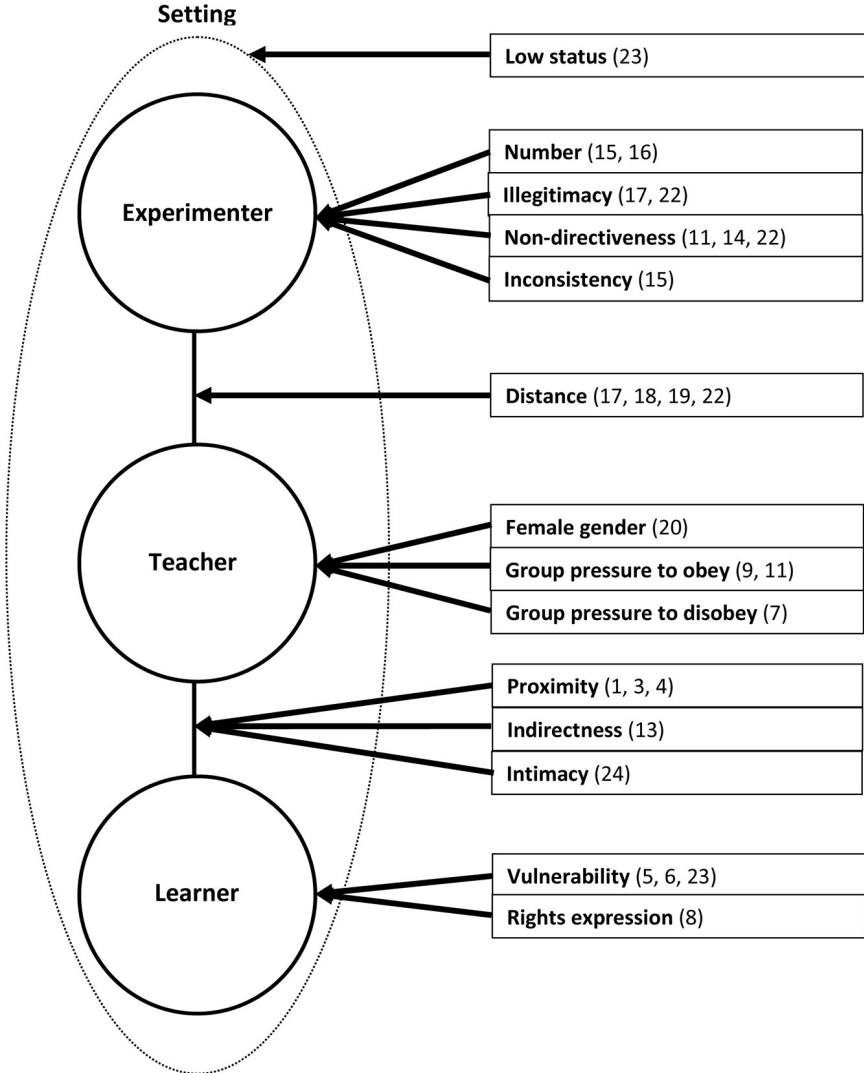
- Meta-analysis:
 - As a way to generalize findings to “multiple contexts”
 - To protect against data errors, fraud and publishing bias
 - Based on published papers or sometimes existing manipulation
 - Top of the hierarchy of proof?
- Examples
 - Betthäuser, Bastian A., Anders Bach-Mortensen, and Per Engzell. "A systematic review and meta-analysis of the impact of the COVID-19 pandemic on learning." (2022).
 - We conduct a pre-registered systematic review, quality appraisal and meta-analysis of 42 studies across 15 countries to assess the magnitude of the effect of the pandemic on learning. We find a substantial overall learning deficit (Cohen's $d = -0.14$, 95% c.i. $-0.17, -0.10$), which arose early in the pandemic and persists over time.
 - Haslam, Nick, Steve Loughnan, and Gina Perry. “Meta-Milgram: An empirical synthesis of the obedience experiments.” *PloS one*, 9.4 (2014): e93927.

23 conditions

Coded in 14
variables

780 participants

| No. | Name | Brief description |
|-----|------------------------------|---|
| 1 | No feedback | Like baseline condition (2) but L does not cry out |
| 2 | Voice feedback | Baseline condition with 1 T in separate room from L, with 1 E present |
| 3 | Proximity | Like baseline condition but with T in same room as L, seated behind him |
| 4 | Touch | Like baseline condition but with T holding L's hand to the shock plate |
| 5 | Coronary trouble | Like baseline but L mentions heart trouble at beginning of the experiment and protests about it later |
| 6 | Different actors | Identical to condition 5 but with a different actors playing Learner and Experimenter |
| 7 | Group pressure to disobey | Like baseline condition but with 3 Ts: two (confederates) defy the E, who urges the participant T to continue shocks |
| 8 | Learner's proviso | Like baseline condition but at study outset L insists that he will only agree to take part if he can leave when he wants |
| 9 | Group pressure to obey | Like condition 7 but the 2 confederate Ts pressure the participant T to obey the E's directions |
| 10 | Conflicting instructions | Like baseline condition but E urges T to stop the shocks and L urges him to continue (<i>obedience means not going to 450V</i>) |
| 11 | Group choice | Like condition 7 but Ts can determine shock level (lowest of their 3 bids): confederate Ts go first and always increase |
| 12 | Role reversal | Like baseline condition but E and L swap roles (<i>obedience means not going to 450V</i>) |
| 13 | Non-trigger position | Like condition 7 but participant T reads word pairs while one of the confederate Ts administers shocks |
| 14 | Carte blanche | Like baseline condition but T decides the level of shocks on his own, without E's directions |
| 15 | Good/bad experimenter | Like baseline condition but there are 2 Es who give conflicting directions: one to stop, one to continue |
| 16 | Experimenter becomes learner | Like baseline condition but with 2 Es, one of whom volunteers to serve as L when original L is said to be unavailable |
| 17 | Teacher in charge | Like baseline condition but with 2 Ts, one of whom (a confederate) is given authority to choose shock levels when E is called away |
| 18 | No experimenter | Like baseline condition but E is called away and tells T to continue the experiment on his own, leaving E's phone number |
| 19 | Authority from afar | Like condition 18 but E leaves pre-recorded instructions for T to follow |
| 20 | Women | Like baseline condition but all Ts are female |
| 21 | Expert judgment | Psychiatrists and laypeople read the baseline study protocol and estimate level of obedience (<i>not a true empirical condition</i>) |
| 22 | Peer authority | Like condition 17 but confederate T suggests shock levels without being given authority to chose them and E leaves them to T's discretion |
| 23 | Bridgeport | Like condition 5 but study conducted in dingy Bridgeport office rather than at Yale |
| 24 | Intimate relationships | Like baseline condition but the L is a friend or relative of the T |



8 Factors:

experimenter's
directiveness *

legitimacy,
and consistency*;

group pressure on
the teacher to
disobey;

the indirectness*,

proximity,

and intimacy of the
relation between
teacher and
learner*;

and the distance
between the teacher
and the
experimenter

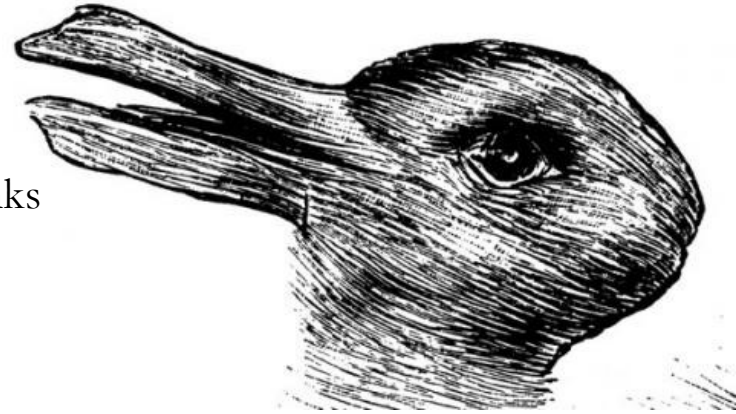
* New findings

Table 5. Summary of logistic regression analysis.

| Code | <i>B</i> (SE) | Wald | d.f. | <i>p</i> |
|--|---------------|-------|------|----------|
| Experimenter (E) | | | | |
| Number | 0.32 (0.55) | 0.34 | 1 | .560 |
| Illegitimacy | 1.37 (0.47) | 8.50 | 1 | .004 |
| Non-directiveness | −2.79 (0.39) | 50.45 | 1 | <.001 |
| Inconsistency | −2.01 (0.73) | 7.56 | 1 | .006 |
| Teacher (T) | | | | |
| Female gender | 0.32 (0.44) | 0.53 | 1 | .467 |
| Group pressure to obey | 0.78 (0.40) | 3.77 | 1 | .052 |
| Group pressure to disobey | −2.49 (0.60) | 17.04 | 1 | <.001 |
| Learner (L) | | | | |
| Vulnerability | 0.06 (0.37) | 0.00 | 1 | .987 |
| Rights expression | −0.70 (0.44) | 2.57 | 1 | .109 |
| Experimenter-Teacher relation (E-T) | | | | |
| Distance | −1.14 (0.38) | 8.92 | 1 | .003 |
| Teacher-Learner relation (T-L) | | | | |
| Intimacy | −2.03 (0.69) | 8.61 | 1 | .003 |
| Indirectness | 2.22 (0.67) | 10.98 | 1 | .001 |
| Proximity | | 12.00 | 3 | .007 |
| (linear) | −1.14 (0.34) | 11.55 | 1 | .001 |
| (quadratic) | −0.59 (0.32) | 0.03 | 1 | .855 |
| (cubic) | 0.14 (0.31) | 0.21 | 1 | .648 |
| Setting | | | | |
| Low status | −0.40 (0.39) | 1.07 | 1 | .614 |

Replication of qualitative investigation

- Replication of qualitative research less formalized
 - Less competition?
- Difficulty for replicating
 - Data sharing. Confidentiality / Data *intuiti personae*
 - Interpretative issue. Different ways of establishing links between singular facts
 - Cases against cases
- Nevertheless exist.
 - Fact checking in journalism
 - Controversies in History
- Often revisits more than replication
 - Offering new views and reflexivity rather contradiction



Revisit: different approaches on the same milieu

Roy, Donald. 1952 “Quota restriction and goldbricking in a machine shop.” *American journal of sociology* 57 (5): 427-442.

- Study of piecework wage
- Braking as working-class strategy in order to avoid the redefinition of the quota

Burawoy, Michael. 1982 *Manufacturing consent: Changes in the labor process under monopoly capitalism*. University of Chicago Press.

- Same plant as Roy 30 years later
- Incentives and threats not sufficient enough to make workers work
- Consent is the main issue

The Mead-Freeman controversy

Mead-Freeman Controversy

- 7 Books on the controversy

Mead, Margaret. *Coming of age in Samoa*. Penguin, 1928.

Freeman, Derek. *Margaret Mead and Samoa: The making and unmaking of an anthropological myth*. Canberra: Australian National University Press, 1983.

Orans, Martin 1996 *Not Even Wrong: Margaret Mead, Derek Freeman, and the Samoans*

Freeman, Derek. *The fateful hoaxing of Margaret Mead: A historical analysis of her Samoan research*. Boulder, CO: Westview Press, 1999.

Côté, James E. *Adolescent storm and stress: An evaluation of the Mead-Freeman controversy*. Routledge, 2013.

Shankman, Paul. 2009. *The Trashing of Margaret Mead. The University of Wisconsin Press*

Tcherkézoff, Serge. *Le mythe occidental de la sexualité polynésienne: Margaret Mead, Derek Freeman et Samoa, 1928-1999*. Presses universitaires de France, 2015.

- A documentary : Frank Heimans 1988, Margaret and the Samoa :
<https://www.youtube.com/watch?v=GOCYhmnx6o840>'19
- A play : Williamson, 1996, *Heretic* played at the Sydney Opera House
- A police drama with a witness and a date
 - The witness: Fa'apua'a, Margaret Mead's Friend
 - in 1987 told Freeman that she hoaxed Mead
 - Remained virgin before her marriage
 - Met Mead on March 13th, 1926
 - Mead writes Boas on March 14th, 1926, saying that she can now confirm the theory
 - Freeman ➔ Mead was hoaxed
 - Orans ➔ No other ethnographic manuscripts dating before the encounter show other traces

Main element of the controversy

- Culture vs Nature
 - Mead
 - Attitudes towards sex during adolescence are cultural
 - More permissive society could show the way to American society
 - Freeman
 - Attitudes towards sex during adolescence are biological
 - Fathers and brothers protect daughters and sisters against male aggressiveness through valuation of virginity
- Samoan adolescent sexuality
 - Smooth, little regulated, with multiple prenuptial experiences, not aggressive and leading to no major adolescent crisis (Mead)
 - Highly regulated, obsessed with virginity (Freeman)

Main element of the controversy

- Bones of contention
 - Ideal of Chastity *Taupou*
 - High rank female => public defloration ceremony at the marriage
 - Ideal of chastity :
 - All society (Freeman) or elite (Mead)
 - Rape culture: *moetotolo* (sleep crawler)
 - Or man, “having crept into a house under cover of darkness, sexually assaults a sleeping woman” (Freeman)
 - Mead ➔ exists but 1) could be a cover, 2) due to anger and unsuccessfulness in love rendezvous in a permissive culture

Recent appraisal (Tcherkézoff 2015)

- Mead cultural approach correct
- But she perpetuates the occidental myth of Polynesian sexuality and overlooks the role of virginity
- Freeman's sociobiology view of sexuality is wrong
- Freeman's method is wrong: Popperian and police approach where one counterexample is sufficient to ruin the theory

Replicating Hawthorne Experiments

Hawthorne Experiments

- An experiment showing experimental conditions matter
- Change in working conditions, light manipulation
==> Hawthorne Effect
- But little empirical proofs.
- Qualitative assessment
- Many debates and refutations...

Levitt, Steven D., and John A. List. 2011. “Was there really a Hawthorne effect at the Hawthorne plant? An analysis of the original illumination experiments.” *American Economic Journal: Applied Economics* 3(1): 224-38.

- Found the data in the archives
- Recoding
- New statistical analysis on lightening experiments

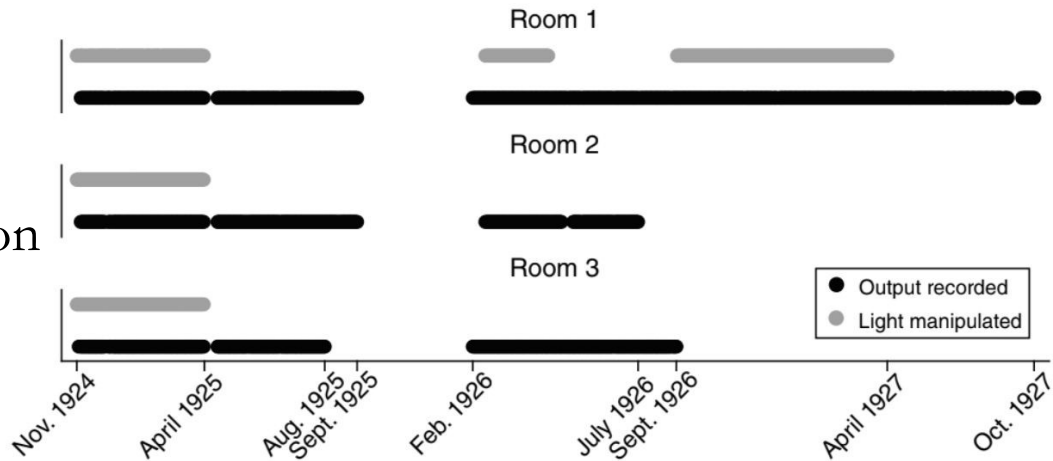


FIGURE 1. TIMELINE OF THE ILLUMINATION EXPERIMENTS

Notes: The illumination experiments took place sporadically between November 1924 and October 1927. Three separate rooms of employees participated. The lighter lines in the figure denote, by room, the time periods when active experimentation was taking place. The darker lines report time periods when output was recorded.

Short term: Mostly a weekend effect

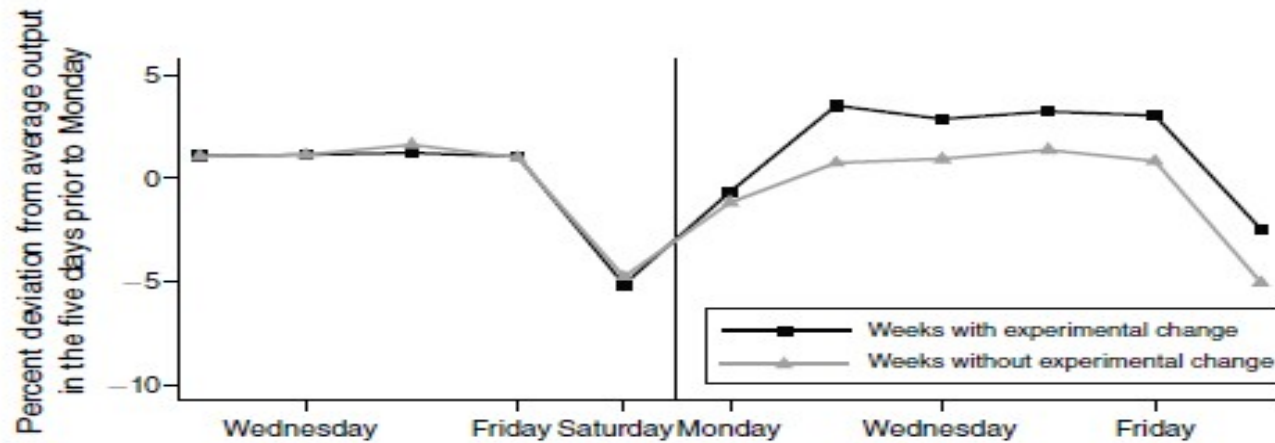


FIGURE 3. COMPARISON OF PRODUCTIVITY BETWEEN WEEKS WITH AND WITHOUT EXPERIMENTAL LIGHT CHANGES

TABLE 1—IMMEDIATE RESPONSE OF OUTPUT TO EXPERIMENTAL VARIATION
REGRESSION ANALYSIS OF EXPERIMENTATION WITH LIGHTING ON OUTPUT
(Dependent Variable: Daily Output per Worker (Baseline = 100))

| | (1) | (2) | (3) |
|---|------------------|------------------|------------------|
| Day of experimental change | -1.021 (0.81) | -1.350 (0.80) | -1.282 (0.75) |
| One day after experimental change | 1.076 (0.80) | 0.818 (0.79) | 0.849 (0.74) |
| Two days after experimental change | 0.383 (0.80) | 0.232 (0.79) | 0.208 (0.74) |
| Three days after experimental change | 0.707 (0.83) | 0.462 (0.82) | 0.307 (0.77) |
| Four days after experimental change | 0.888 (0.81) | 0.556 (0.80) | 0.344 (0.76) |
| Five days after experimental change | 0.439 (0.81) | 0.129 (0.80) | -0.051 (0.76) |
| Linear time trend | 0.025 (0.00) | 0.065 (0.03) | 0.052 (0.03) |
| Quadratic time trend divided by 10,000 | -0.034 (0.03) | -0.079 (0.29) | -0.020 (0.28) |
| R^2 | 0.69 | 0.71 | 0.75 |
| Includes controls? | Yes | Yes | Yes |
| Includes month-year interactions? | No | Yes | Yes |
| Includes room-month-year interactions? | No | No | Yes |
| p -value: Test of joint significance of experimental change dummies | 0.252 | 0.702 | 0.858 |

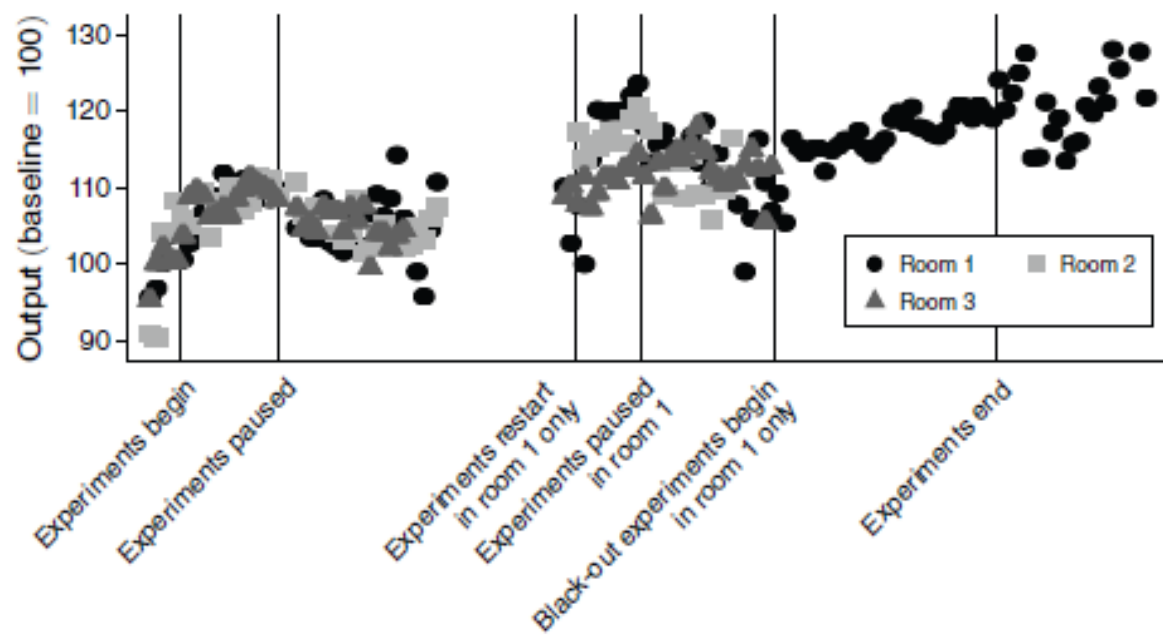


FIGURE 4. OUTPUT DURING THE ILLUMINATION EXPERIMENTS OVER TIME, BY ROOM

Long term: some evidence of a Hawthorne effect

TABLE 2—LONG-TERM RESPONSE OF OUTPUT TO EXPERIMENTAL VARIATION

| | (1) | (2) | (3) |
|--|------------------|------------------|-----------------|
| Pre-experimentation (baseline) | — | — | — |
| Experimentation ongoing | 3.154 (0.86) | 0.787 (1.53) | 1.201 (1.46) |
| Experimentation paused or completed | −1.187 (1.60) | −4.992 (2.13) | 2.743 (2.41) |
| Linear time trend | 0.023 (0.00) | 0.059 (0.03) | 0.045 (0.03) |
| Quadratic time trend divided by 10,000 | −0.019 (0.03) | −0.078 (0.30) | 0.040 (0.29) |
| R^2 | 0.70 | 0.71 | 0.75 |
| Includes controls? | Yes | Yes | Yes |
| Includes month-year interactions? | No | Yes | Yes |
| Includes room-month-year interactions? | No | No | Yes |

Personal experience with quantitative
replication

Alsace-Moselle judge of 35-Hour?



Cahuc, Pierre, and André Zylberberg. *Le négationnisme économique. Et comment s'en débarrasser*. Flammarion, 2017.

- Chapter on reduction in working time policy based on

Chemin, Matthieu, and Etienne Wasmer. 2009, “Using Alsace-Moselle local laws to build a difference-in-differences estimation strategy of the employment effects of the 35-hour workweek regulation in France.” *Journal of Labor Economics* 27(4): 487-524.

- 2 local public holidays (Easter Friday & 12/26) (could) have been included in working time reduction in Alsace Moselle
- Less reduction in working time
- Natural experiment on the impact of working time

Less working time reduction, same employment

| Number of hours worked | Occupations Affected (DD) (1) | Occupations Unaffected (DD) (2) | Full (DDD: 1-2) (3) | Affected Individuals (DD) (4) | Unaffected Individuals (DD) (5) | Full (DDD: 4-5) (6) | +20 Employees (1) | < 20 Employees (2) | DDD (3) | Affected Sectors (4) | Unaffected Sectors (5) | DDD (6) |
|---|-------------------------------|---------------------------------|---------------------|-------------------------------|---------------------------------|---------------------|-------------------|--------------------|------------------|----------------------|------------------------|------------------|
| (Alsace-Moselle) × (2003) | -.2566 (.23) | -1.0317 (.45)** | -1.0204 (.48)** | -.7025 (.68) | -.4026 (.20)** | -.4055 (.20)** | -.4040 (.35) | -.2199 (.29) | -.2376 (.27) | -.2880 (.47) | -.5503 (.30)* | -.5571 (.30)* |
| (Alsace-Moselle) × (2001-2) | -.3805 (.19)** | -.4308 (.24)** | -.3675 (.28) | -.9194 (.45)** | .1523 (.18) | .1513 (.18) | -.3795 (.23) | .0930 (.21) | .0704 (.22) | -.5534 (.24)* | .0951 (.22) | .0956 (.22) |
| (Alsace-Moselle) × (1999-2000) | -.1427 (.17) | -.1941 (.65) | -.1593 (.66) | -.2142 (.11)* | .0735 (.29) | .0726 (.29) | -.0412 (.24) | .0487 (.11) | .0425 (.08) | .2434 (.25) | .0338 (.24) | .0341 (.24) |
| (Alsace-Moselle) × (2003) × (affected individuals) | | | .7717 (.52) | | | -.2707 (.66) | | | -.1637 (.52) | | | -.2568 (.68) |
| (Alsace-Moselle) × (2001-2) × (affected individuals) | | | -.7538 (.22)** | | | .7512 (.27)** | | | -.3092 (.12)* | | | -.4605 (.26)* |
| (Alsace-Moselle) × (1999-2000) × (affected individuals) | | | .3084 (.51) | | | .1638 (.23) | | | .0423 (.24) | | | .2155 (.09)** |

Unemployment

| | Dependent Variable: Individual Employment Dummy (1 If Employed, 0 If Unemployed or Inactive) | | | | | | Employment Log(Employed Individuals in the Department) | | |
|---|---|---------------------------------|---------------------|------------------------|--------------------------|-------------------------------|--|---------------------------------|---------------------|
| | Occupations Affected (DD) (1) | Occupations Unaffected (DD) (2) | Full (DDD: 1-2) (3) | Skilled (DDD: 1-2) (4) | Unskilled (DDD: 1-2) (5) | Occupations Affected (DD) (6) | Affected Individuals (DD) (7) | Unaffected Individuals (DD) (8) | Full (DDD: 7-8) (9) |
| (Alsace-Moselle) × (2001-2) | -.0028 (.007) | -.0036 (.008) | -.0032 (.013) | -.0086 (.021) | .0116 (.015) | -.0028 (.007) | .1617 (.124) | .1038 (.081) | .1038 (.081) |
| (Alsace-Moselle) × (1999-2000) | -.0032 (.003) | -.0008 (.012) | .0009 (.016) | -.0057 (.022) | .0217 (.015) | -.0032 (.003) | -.0185 (.049) | .0524 (.021)** | .0524 (.021)** |
| (Alsace-Moselle) × (2001-2) × (affected individuals) | | | .0007 (.016) | -.0003 (.024) | .0062 (.014) | | | | .0579 (.092) |
| (Alsace-Moselle) × (1999-2000) × (affected individuals) | | | -.0039 (.015) | -.0023 (.018) | -.0111 (.026) | | | | -.0709 (.034) |

Replication and controversy

Godechot. 2016. *L'Alsace-Moselle peut-elle décider des 35 heures ?* Notes et documents de l'OSC, n°2016-04

Chemin & Wasmer, 2016, “Réponse à ‘L'Alsace-Moselle peut-elle décider des 35 heures?’”, *Mimeo*.

Godechot, O. 2016. “Can We Use Alsace-Moselle for Estimating the Employment Effects of the 35-Hour Workweek Regulation in France?”, *Mimeo*

Chemin & Wasmer, 2017. “Detailed response (2017)”. Unpublished manuscript sent to JOLE

Chemin & Wasmer, 2017. Erratum

- Verification: Stata coding error
 - Firms missing for 4 years
 - Inclusion of missing in large firms
- Robustness: Accounting for cross-border workers not affected by working time reduction
- Generalization: Measure of new model (excluding cross border workers) on other data sources
- Discussion: LFS not suited to measure subtle differences in 35 h workweek reduction

Correction for error in firm size coding

Initial Table A2 and 1

| | +20 Employees (1) | < 20 Employees (2) | DDD (3) | Affected Individuals (DD) (4) | Unaffected Individuals (DD) (5) | Full (DDD: 4-5) (6) |
|---|-------------------------|--------------------------|-----------------|--|--|------------------------------|
| (Alsace-Moselle) × (2003) | -.4040 (.35) | -.2199 (.29) | -.2376 (.27) | -.7025 (.68) | -.4026 (.20)** | -.4055 (.20)** |
| (Alsace-Moselle) × (2001-2) | .3795 (.23) | .0930 (.21) | .0704 (.22) | .9194 (.40)** | .1523 (.18) | .1513 (.18) |
| (Alsace-Moselle) × (1999-2000) | .0412 (.24) | .0487 (.11) | .0425 (.08) | .2142 (.11)* | .0735 (.29) | .0726 (.29) |
| (Alsace-Moselle) × (2003) × (affected individuals) | | | -.1637 (.52) | | | -.2707 (.66) |
| (Alsace-Moselle) × (2001-2) × (affected individuals) | | | .3092 (.12)* | | | |
| (Alsace-Moselle) × (1999-2000) × (affected individuals) | | | .0423 (.24) | | | .7512 (.27)*** |
| Department fixed effects (95) | Yes | Yes | Yes | | | |
| Year fixed effects (7) | Yes | Yes | Yes | | | .1638 (.23) |
| Control variables (14) | Yes | Yes | Yes | | | |
| Occupation fixed effects (30) | Yes | Yes | Yes | | | |
| Year × (affected individuals dummy) fixed effects | No | No | Yes | | | |

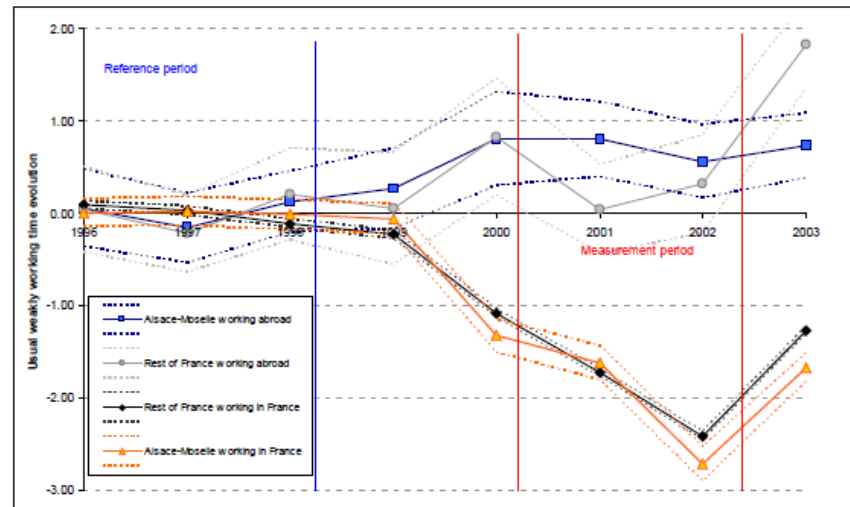
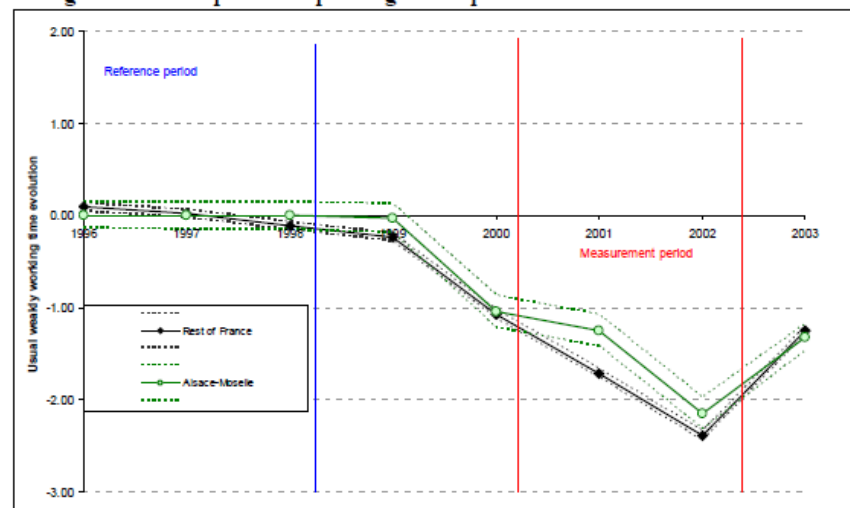
Replication Table A2 and 1

| | Dependent variable : number of weekly hours usually worked | | | | | |
|---|--|----------------------------------|---------------------|--|--|---------------------------|
| | DD Affected firms (1) | DD Unaffected firms (2) | DDD Firms (3) | DD Affect- ed individ- uals (4) | DD Unaf- fected individuals (5) | DDD individuals (6) |
| Alsace-Moselle × (2003) | -0.1928 [0.340] | -0.2905 [0.406] | -0.2087 [0.434] | -0.1473 [0.651] | -0.2195 [0.361] | -0.2189 [0.361] |
| Alsace-Moselle × (2001,2002) | 0.2407* [0.139] | 0.1889 [0.269] | 0.2024 [0.276] | 0.0727 [0.284] | -0.1436 [0.097] | -0.1435 [0.098] |
| Alsace-Moselle × (1999,2000) | -0.2310 [0.141] | 0.2789 [0.357] | 0.2862 [0.381] | -0.1498 [0.357] | -0.0651 [0.226] | -0.0656 [0.227] |
| Affected group × Alsace-Moselle × (2003) | | | 0.0263 [0.226] | | | 0.1016 [0.597] |
| Affected group × Alsace-Moselle × (2001,2002) | | | -0.4336 [0.354] | | | 0.2284 [0.245] |
| Affected group × Alsace-Moselle × (1999,2000) | | | -0.5038* [0.261] | | | -0.0191 [0.173] |

Taking into account cross border workers

Tableau G4. Proportion d'actifs vivant en France et déclarant travailler à l'étranger en fonction du département

| Département de résidence frontalier | Pays limitrophes | Fréquence | Observations |
|-------------------------------------|-------------------------|-----------|--------------|
| 59. Nord | Belgique | 1,83% | 18 016 |
| 02. Aisne | | 0,31% | 4 806 |
| 08. Ardennes | | 0,58% | 2 936 |
| 55. Meuse | Belgique et Luxembourg | 1,96% | 1 532 |
| 54. Meurthe-et-Moselle | | 3,10% | 5 039 |
| 57. Moselle | Luxembourg et Allemagne | 20,15% | 7 592 |
| 67. Bas-Rhin | Allemagne | 5,64% | 10 689 |
| 68. Haut-Rhin | Allemagne et Suisse | 14,08% | 7 409 |
| 90. Territoire de Belfort | Suisse | 4,33% | 2 611 |
| 25. Doubs | | 5,11% | 7 773 |
| 39. Jura | | 1,75% | 3 704 |
| 01. Ain | Suisse et Italie | 10,69% | 3 378 |
| 74. Haute-Savoie | | 16,54% | 5 005 |
| 73. Savoie | Italie | 0,04% | 2 504 |
| 05. Hautes-Alpes | | 0,00% | 871 |
| 04. Alpes-de-Haute-Provence | | 0,17% | 577 |
| 06. Alpes-Maritimes | Espagne et Andorre | 8,92% | 6 119 |
| 66. Pyrénées-Orientales | | 0,05% | 2 218 |
| 09. Ariège | | 0,00% | 713 |
| 31. Haute-Garonne | Espagne | 0,21% | 7 041 |
| 65. Hautes-Pyrénées | | 0,00% | 734 |
| 64. Pyrénées-Atlantiques | | 0,83% | 3 723 |
| Alsace-Moselle | | 12,36% | 25 690 |
| Autres départements frontaliers | | 3,67% | 79 300 |
| Départements non-frontaliers | | 0,08% | 361 937 |
| France entière | | 1,37% | 466 927 |



Correction for error and trans-border workers

Initial

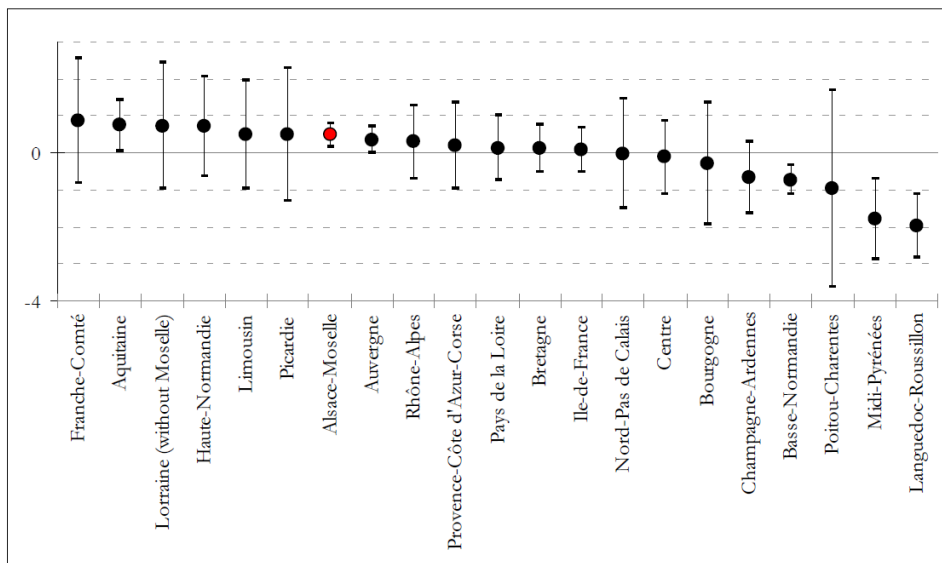
| | Occupations Affected (DD) (1) | Occupations Unaffected (DD) (2) | Full (DDD: 1-2) (3) | Affected Individuals (DD) (4) | Unaffected Individuals (DD) (5) | Full (DDD: 4-5) (6) | +20 Employees (1) | < 20 Employees (2) | DDD (3) | Affected Sectors (4) | Unaffected Sectors (5) | DDD (6) |
|--|--|--|------------------------------|--|--|------------------------------|-------------------------|--------------------------|-----------------|----------------------------|------------------------------|------------------|
| (Alsace-Moselle) × (2003) | -.2566 (.237) | -1.0317 (.45)** | -1.0204 (.48)** | -.7075 (.68) | -.4026 (.20)** | -.4055 (.20)** | -.4040 (.35) | -.2199 (.29) | -.2376 (.27) | -.2880 (.47) | -.5503 (.30)* | -.5571 (.30)* |
| (Alsace-Moselle) × (2001-2) | .3805 (.19)** | -.4308 (.24)* | -.3675 (.28) | .9194 (.40)** | .1523 (.18) | .1513 (.18) | .3795 (.23) | .0930 (.21) | .0704 (.22) | .5534 (.24)* | .0951 (.22) | .0956 (.22) |
| (Alsace-Moselle) × (1999-2000) | .1427 (.17) | -.1941 (.65) | -.1593 (.66) | .2142 (.11)* | .0755 (.29) | .0726 (.29) | .0412 (.24) | .0487 (.11) | .0425 (.08) | .2424 (.25) | .0338 (.24) | .0341 (.24) |
| (Alsace-Moselle) × (2003) × (affected individuals) | | | .7717 (.52) | | | -.2707 (.66) | | | -.1637 (.62) | | | .2568 (.69) |
| (Alsace-Moselle) × (2001-2) × (affected individuals) | | | .7538 (.22)** | | | .7512 (.27)** | | | .3092 (.12)* | | | .4605 (.26)* |
| (Alsace-Moselle) × (1999-2000) × (affected individuals) | | | .3084 (.51) | | | .1638 (.23) | | | .0425 (.24) | | | .2155 (.09)** |

Replication

| Panel B Replication of Table 1 | DD Affected occupations (1) | DD Unaffected occupations (2) | DDD Occupation (3) | DD Affected Individuals (4) | DD Unaffected individuals (5) | DDD individuals (6) | DD Affected firms (7) | DD Unaffected firms (8) | DDD Firms (9) | DD Affect- ed sectors (10) | DD Unaf- fected sectors (11) | DDD sectors (12) |
|---|--------------------------------------|--|--------------------------|--------------------------------------|--|---------------------------|--------------------------------|----------------------------------|---------------------|----------------------------------|---------------------------------------|------------------------|
| Alsace-Moselle × (2003) | -0.3927 [0.384] | -1.0643* [0.616] | -1.0430 [0.658] | -0.6343 [0.760] | -0.4877* [0.260] | -0.4882* [0.260] | -0.4855* [0.251] | -0.5373* [0.294] | -0.4979 [0.334] | -0.4368 [0.294] | -0.6190 [0.374] | -0.6215 [0.374] |
| Alsace-Moselle × (2001,2002) | -0.0607 [0.082] | -0.5835*** [0.202] | -0.5232** [0.235] | 0.0866 [0.363] | -0.1686 [0.105] | -0.1685 [0.106] | -0.2755** [0.125] | 0.1580 [0.277] | 0.1719 [0.288] | 0.0806 [0.214] | -0.2560* [0.140] | -0.2581* [0.141] |
| Alsace-Moselle × (1999,2000) | 0.0075 [0.164] | -0.2422 [0.624] | -0.2231 [0.632] | -0.0687 [0.413] | -0.0172 [0.256] | -0.0177 [0.256] | -0.1994 [0.165] | 0.3258 [0.403] | 0.3404 [0.431] | 0.2038 [0.302] | -0.0965 [0.231] | -0.0968 [0.232] |
| Affected group × Alsace-Moselle × (2003) | | | 0.6604 [0.954] | | | -0.0986 [0.746] | | | 0.0305 [0.231] | | | 0.1854 [0.462] |
| Affected group × Alsace-Moselle × (2001,2002) | | | 1.4736** [0.200] | | | 0.2728 [0.309] | | | -0.4358 [0.316] | | | 0.3354 [0.280] |
| Affected group × Alsace-Moselle × (1999,2000) | | | 0.2402 [0.490] | | | 0.0187 [0.207] | | | -0.2256 [0.278] | | | 0.3116** [0.121] |

Different interpretations

- My interpretation:
 - Little evidence of inclusion of public holidays in 35 h.
 - Remaining significance regional heterogeneity



- Versus Erratum Chemin & Wasmer
 - Theory still confirmed...
 - Don't discuss
 - Other regressions, now insignificant
 - Results, on other data insignificant



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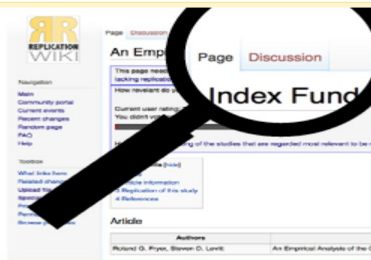
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For scientific progress, it is pivotal to review research findings by independently replicating results, thus making the findings more reliable. However, in econometric research, it is not yet common practice to publish replication findings. This wiki serves as a database of empirical studies, the availability of replication material for them and of replication studies. It can help teaching replication



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