

DECISION MEMO

To: Axel McCallum, Ministry of Education of Argentina

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Date: July 9, 2017

Subject: Analysis Conclusions: Jornada Extendida and Jornada Completa Programs

Summary

On a national level, there are statistically significant positive effects for the *Jornada Extendida* program throughout 2011–2014, and mostly statistically insignificant effects for the *Jornada Completa* program.

While most provinces have insufficient sample sizes to reach statistically significant results, several provinces have meaningfully positive or negative effects that can guide further inquiries and data collection.

Positively affected provinces include Buenos Aires, Neuquén, San Juan, and Río Negro.

Negatively affected provinces include Formosa, Tucumán, and Santa Cruz.

Should the Ministry of Education decide to further evaluate the programs, we would recommend prioritize looking into these provinces considering the cost of data collection on a national level.

For replication and review, R code, raw results, and the dataset used can be found here:

https://drive.google.com/open?id=0B429zufSN_ARQVpCbDZsdnZlRGs

Background: Ministry of Education of Argentina rolled out *Jornada Extendida* (JE) and *Jornada Completa* (JC) programs to keep primary school dropout rate in check by extending school days and providing after-school activities. This report summarizes our analysis findings for both programs.

Map Visualization: While most of the regions yield statistically insignificant results because of insufficient sample sizes, we believe that it is nonetheless useful for future inquiries to visualize the treatment effect estimates and the corresponding statistical significance levels on the map of Argentina.

(Continued on the next page.)



Figure 1. Treatment effect visualization. Green/red colors represent positive/negative effects. Lighter/darker colors represent less/more statistical significance.

Treatment Effect Charts: All treatment effect estimates, with error bars, are plotted here on two charts (one for provincial effects, and one for all other stratified effects.)

The provincial treatment effects are listed below. These are the data visualized on the map above. Raw data are available in the appendix.

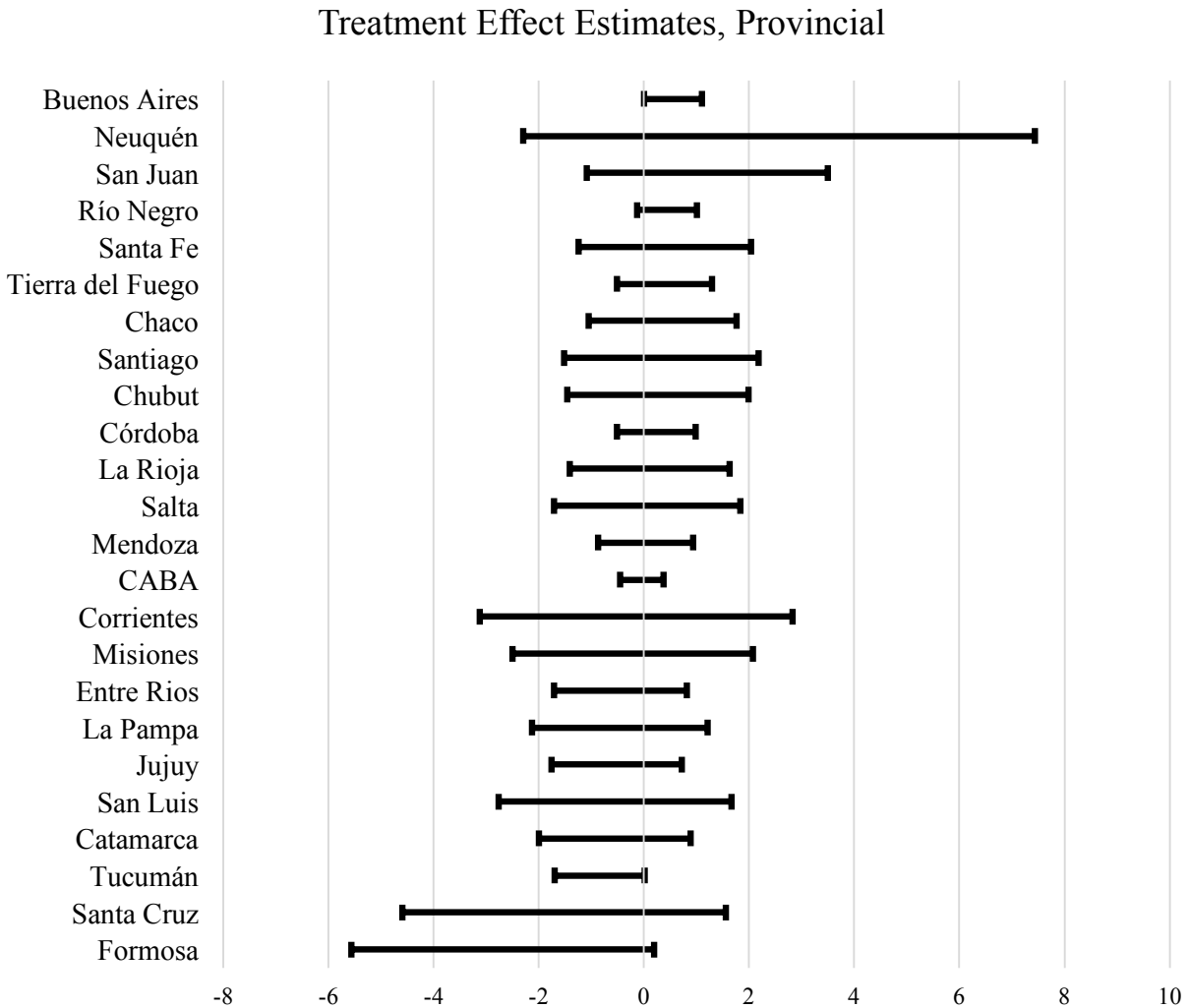


Figure 2. Treatment effect estimates for all provincial effects.

All other stratified/general treatment effects are listed below.
The name format is [Policy Year Cohort]:

Policy

JC – *Jornada Completa*.

JE – *Jornada Extendida*.

JCJE – either of both.

Year:

'11: schools that started JC/JE experiments in 2011. For these schools, *Tasa Promovido* in year 2012 was compared to their control units. Et cetera for '12 and '13.

Cohort

Stratified cohorts (rural/urbano/estatal/privado). Please note that these are only computed for year 2011–2012.

Treatment Effect Estimates, All

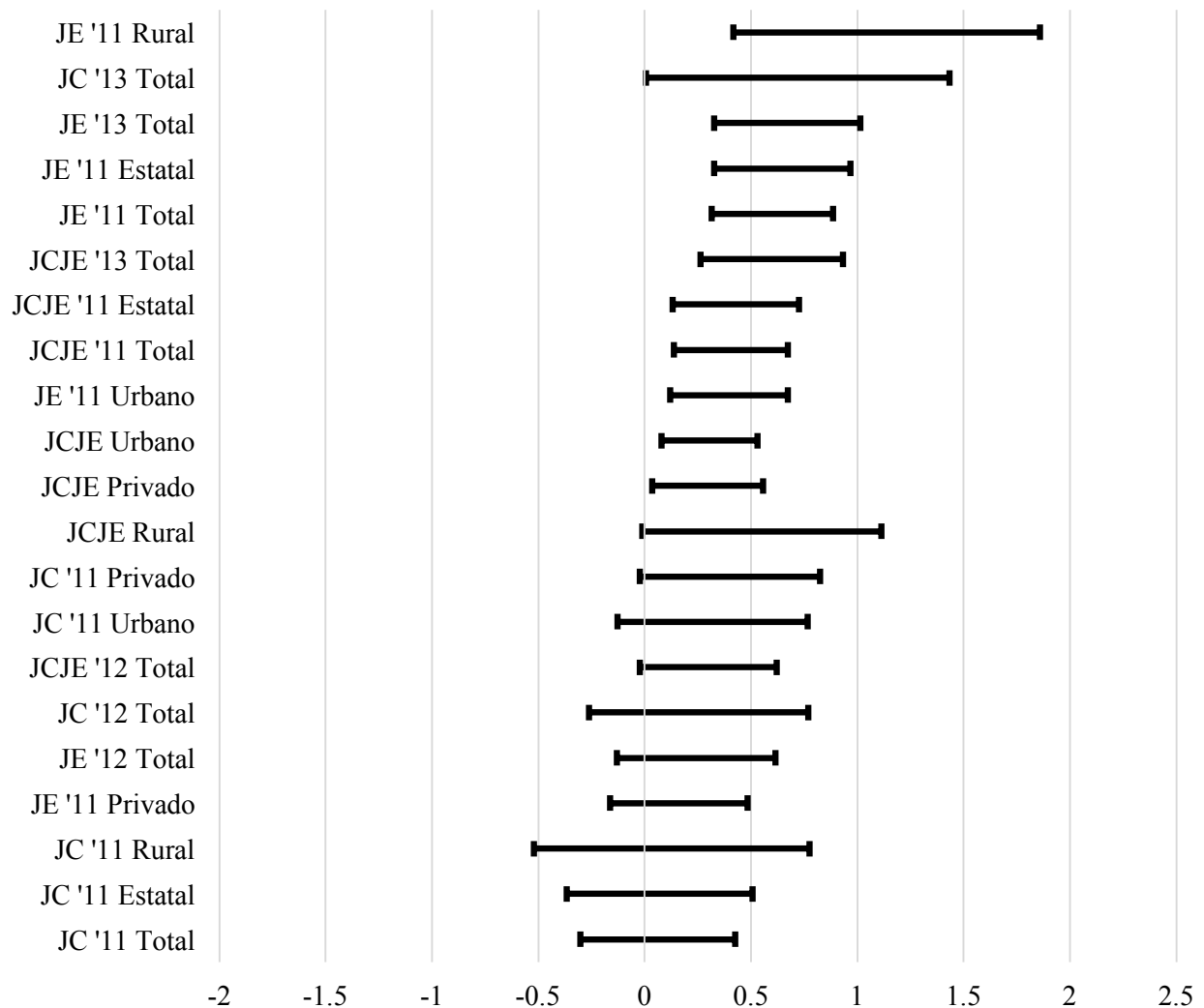


Figure 3. Treatment effect estimates for all other stratified effects.

Dataset: The original dataset consists of 23,043 observations of 41 variables. The relevant subset used in the analysis consists of 22,402 observations of 14 variables. (641 incomplete observations were dropped.) The subset is then stratified into 2011–2012/2012–2013/2013–2014 cohorts. The 2011–2012 cohort is further stratified into rural/urbano/estatal/privado cohorts. (2012/2013 cohorts were too small to be stratified further.)

Methodology: We were informed that the observational dataset contained sample bias because each region tries to select its best schools for experimental treatment. To address this confounded treatment assignment, we used genetic matching (Diamond, 2013) to match up treatment and control units.

The promotion rate each year (*TasaPromov*) was used as a proxy for dropout rate.

To achieve a balanced and interpretable match, we coarsened the 24 provinces (including CABA) into 6 commonly defined regions: Noroeste, Gran Chaco, Mesopotamia, Cuyo, Pampas, and Patagonia.

Because the duration of the JC/JE treatments could be a confound, we restricted ourselves to looking at only first-year treatment effects. For example, if a school started experimenting with JC/JE in 2011/2012/2013, we would only look at its promotion rate in 2012/2013/2014.

Stratified treatment effects for the year 2011–2012 were analyzed for each province, ambito (urbano/rural), and sector (privado/estatal).