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The Peronist´s constitutional reform: Measuring the 1949 constitutional reform on Argentine economic performance using synthetic control method

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Abstract

This article aims to test the impact of the Peronist constitutional reform of 1949 on Argentina's short-term economic growth. We are the first article to assess the short-term effect of this institutional reform. We applied the Synthetic Control Method to data from The Maddion Project. The results show that the constitutional changes in 1949 had an average negative effect of US$ 1,330.05 on per capita income. The results remain robust to several strategies: Leave-One-Out, Alternative Synthetic Control Method, and the Synthetic Difference-in-Differences method.

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1. Introduction

Political movements with populist ideals have spread throughout South America during the XX century (Cammack, 2000; Campos & Casas, 2020, 2021; Campos-Herrera & de Reguero, 2019). In Argentina, Peronism had a significant influence on economic policies in the 1940s and 1950s. Peronism was a political movement to assist the working classes and promote social equality. The Peronist philosophy is based on "*justicialismo*" (justicialism), which seeks social justice through state intervention in the economy and society to assist the most vulnerable (Benente, 2019; García, 2018). In terms of economic policy, Peronism advocates for the nationalization of strategic companies, such as mines, hydroelectric plants, and railways, as well as the implementation of social programs to aid the poorest classes. The movement was founded by Juan Domingo Perón in 1945 and peaked between 1946 and 1955. Perón was elected twice and served as the President of Argentina from 1945 to 1951 and from 1952 to 1955. During this period, Perón implemented income distribution policies, nationalized companies, and increased wages, among other measures that benefited the popular sectors (Hamilton, 2005).

Under Perón's government, Argentina initiated a characteristic political phenomenon of post-war Latin America: a populist government with nationalist speeches and practices. Perón's government brought about changes in the management of the economy, addressing social and economic issues. Perón focused on three main pillars of growth: (i) strong development of the domestic market, (ii) consistent investments in industrialization, and (iii) increased state participation in sectors of the economy. During the early years of the Peronist government, the money supply increased by 250%, and public spending rose from 16% to 29% of the Gross Domestic Product. Salaries and social benefits were considerably increased (Ferrer, 2021).

In 1949, Argentina underwent a Constitutional Reform based on what is known as "social constitutionalism" (Ilsley, 1952; Lorenzo, 1999). The reform proposed a significant role for the state in the Argentine economic environment, contrasting with the liberal nature of the previous constitution. For example, it included restrictions on the actions of economic agents. Article 38 provided for (i) state intervention and distribution of land, (ii) the possibility of expropriation and appropriation of land of the farmer or lessee by the state. It also explicitly allowed for the state to implement agrarian reform. Such policies contributed to reducing cultivated areas as the areas of exploitation decreased (Rubinzal, 2010). Article 39 established that capital should serve the national economy and have the primary objective of social well-being. Article 40 stipulated that (i) the state reserved the administration of foreign trade, (ii) it allowed for the possibility of monopolies in certain areas to the detriment of the general welfare, (iii) it recognized the possibility of limiting the private sector to prevent anti-competitive practices, (iv) it mandated the state's appropriation of public services without the possibility of private sector exploitation, (v) any public services under the private initiative would be transferred to the state through purchase or expropriation with prior compensation, and (vi) it prohibited private sector exploration of oil resources (Ferrer, 2021; Lorenzo, 1999; Marzetti & Spruk, 2022; Scott, 1951).

Marzetti and Spruk (2022) analyzed the long-term effects of the 1943 labor regulation changes proposed by Perón on Argentina's GDP per capita from 1943 to 2016. The authors

identified a significant negative impact, with an approximate magnitude of $4,583.00. A valid critique of this study is the potential influence of other institutional changes in Argentina during the analyzed period, which could have contaminated the results. Additionally, these specific economic changes were institutionalized with the implementation of the 1949 Constitution. To more precisely isolate the impact of the Peronist Constitution, we adopted a treatment period from 1949 to 1956, as a significant structural change occurred in 1956 with the repeal of the constitutional reform by Pedro Eugenio Aramburu. Nevertheless, our short-term results are consistent with the authors' findings.

2. Method and Data

The Synthetic Control Method (SCM) is a suitable statistical approach for estimating the causal effect of an intervention in a case study (Uhr et al., 2017; 2023; 2024). The empirical challenge is that no natural control group is identical to the case under study. SCM addresses this problem by creating a synthetic control group that combines various observed control units to replicate the characteristics of the case study in the pre-intervention period (Abadie et al., 2010; Abadie et al., 2015). The selection of control units and determination of weights are made to minimize the observed differences in characteristics between the synthetic control group and the case study before the intervention. Thus, the causal effect of the intervention is estimated by comparing the observed post-intervention trajectories of the case study with the trajectories predicted by the synthetic control group. If there is a statistical difference between the observed and predicted trajectories, it indicates the causal effect of the treatment.

Recent works have raised concerns about the lack of criteria in selecting predictor variables to serve as a reference for adjustments in the pre-intervention period of the method (Ferman et al., 2020). Ferman et al. (2020) suggest using only predictor variables as criteria because they are not subject to arbitrary choices and minimize the root mean squared error (RMSE). To identify the effect of the 1949 constitutional reform (the intervention year) on Argentina's per capita GDP (treated unit), we utilized data from The Maddison Project. The analysis period covers the years 1930 to 1956. The response variable is the GDP per capita of countries in constant 2010 dollars.

The SCM optimization process indicated the weights, as shown in Figure 1.

Figure 1 – Optimal Weights

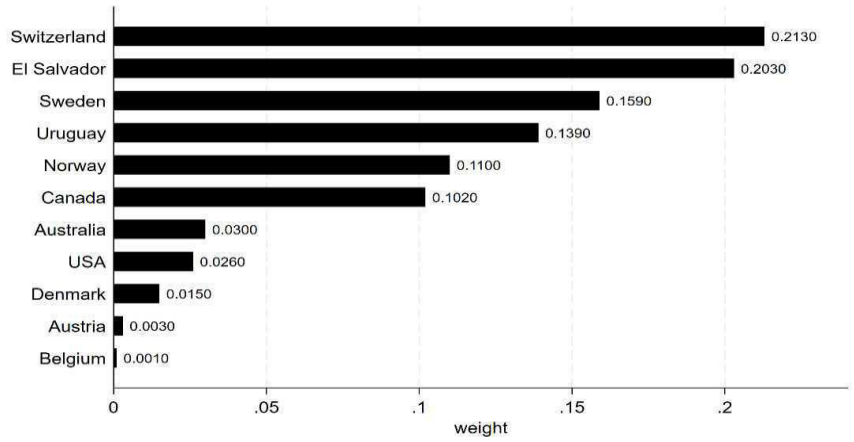


Table I presents the balance of covariates in the pre-intervention period. It is possible to notice that the values of Synthetic Argentina are very close to the data of Real Argentina.

Table I - Predictor Balance

	Treated (Real)	Synthetic
GDP_{pc} (1930)	6503.00	6437.07
GDP_{pc} (1931)	5917.00	6011.69
GDP_{pc} (1932)	5614.00	5753.92
GDP_{pc} (1933)	5772.00	5780.21
GDP_{pc} (1934)	6129.00	6029.67
GDP_{pc} (1935)	6296.00	6121.32
GDP_{pc} (1936)	6236.00	6214.22
GDP_{pc} (1937)	6575.00	6563.76
GDP_{pc} (1938)	6491.00	6542.22
GDP_{pc} (1939)	6612.00	6795.82
GDP_{pc} (1940)	6633.00	6707.34
GDP_{pc} (1941)	6861.00	6749.95
GDP_{pc} (1942)	6829.00	6820.43
GDP_{pc} (1943)	6666.00	6913.46
GDP_{pc} (1944)	7299.00	7068.30
GDP_{pc} (1945)	6943.00	7046.31
GDP_{pc} (1946)	7436.00	7663.14
GDP_{pc} (1947)	8112.00	7990.83
GDP_{pc} (1948)	8372.00	8245.98

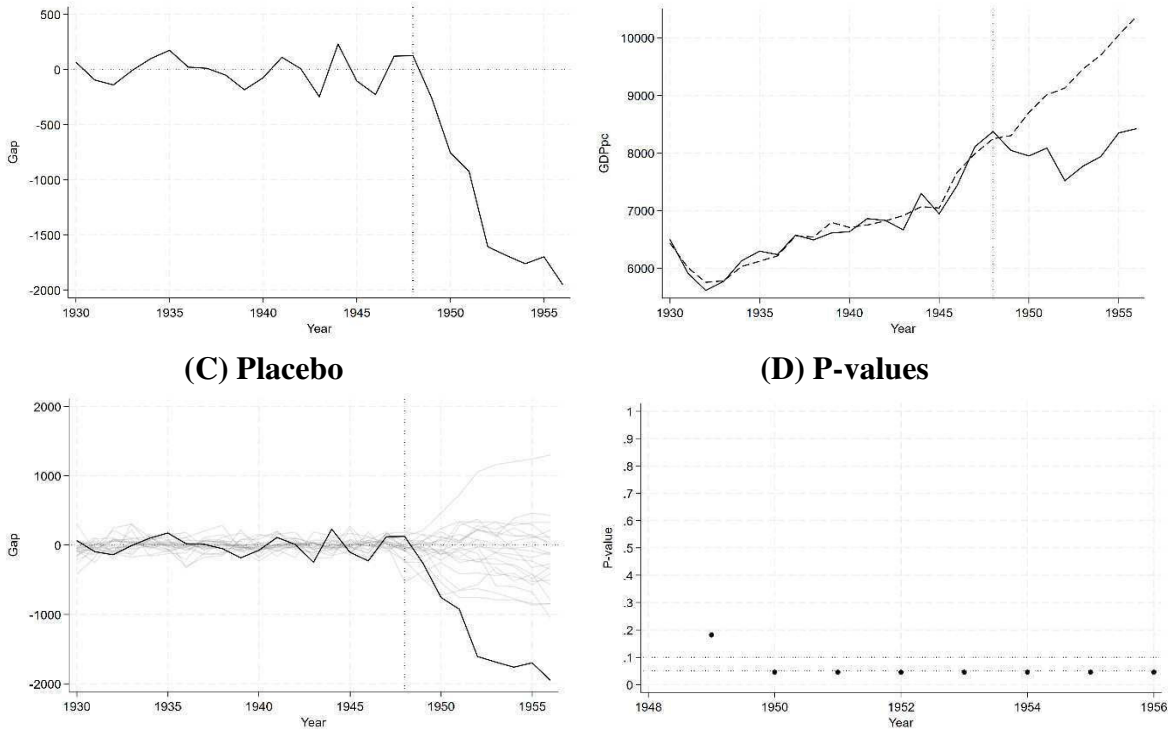
Notes: GDP per capita values are constant to 2011 in US$.

3. Results

Figure 2 (A and B) depicts the gap between Real Argentina and Synthetic Argentina in terms of per capita GDP (A) and their temporal trajectories (B). The pre-intervention period shows a good fit between the curves as the gap hovers around zero. The dashed vertical line represents the year of the 1949 Constitutional Reform. After 1949, the curves diverged, indicating a decline in the per capita GDP values of Real Argentina compared to its synthetic counterpart. The average difference between Real Argentina and Synthetic Argentina in per capita GDP was a reduction of US$1,330.05 between 1949 and 1956.

Figure 2: GDP per capita for Argentina and Synthetic Argentina

(A) Gap **(B) Trajectories**



(C) Placebo **(D) P-values**

Note: GDP per capita values are constant to 2011 in US$.

In Figure 2 (C), we present the Placebo Test graph. To rule out the possibility that the negative effect of the Constitutional Reform was obtained by chance, we would expect this difference to be close to zero for the other countries. Only Argentina exhibits a negative difference between Real and Synthetic per capita GDP in this case. Figure 2 (D) demonstrates that the difference between Real and Synthetic Argentine per capita GDP is statistically significant (below 0.10) for the post-intervention years.

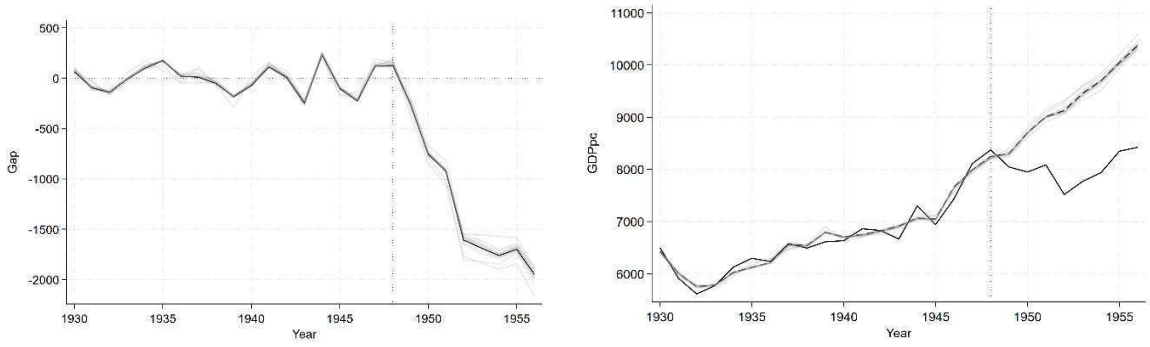
4. Robustness Analysis

4.1. Leave-one-out robustness test

The SCM proposed in Section 3 constructed Synthetic Argentina using eleven countries. The Leave-one-out (LOO) interaction method re-estimates the SCM by omitting one of these countries that contributed to Synthetic Argentina at a time. Although this sensitivity check compromises the quality of the fit, it enables us to assess if any of the control units influenced the results from Section 3. Figure 2 demonstrates that even when excluding one counterfactual country (light gray), the results remain robust as they closely align with the synthetic trajectory (black dashed line).

Figure 3: LOO Actual e Synthetic Argentina

(A) Gap **(B) Trajectories**



Note: GDP per capita values are constant to 2011 in US$.

4.2. SCM with covariates

We conducted the analysis again, disregarding the recommendation of Ferman et al. (2020). We used only the following predictor variables and covariates: GDPpc in the year 1930 as it represents the first year in the sample, the average GDPpc between 1930 and 1945 to capture the effects of World War II, the average GDPpc between 1946 and 1948 to capture the emergence of the Peronist movement, and finally, the country's population to account for the workforce size. Figure 4 displays the optimal weights.

Figure 4 – Optimal Weights

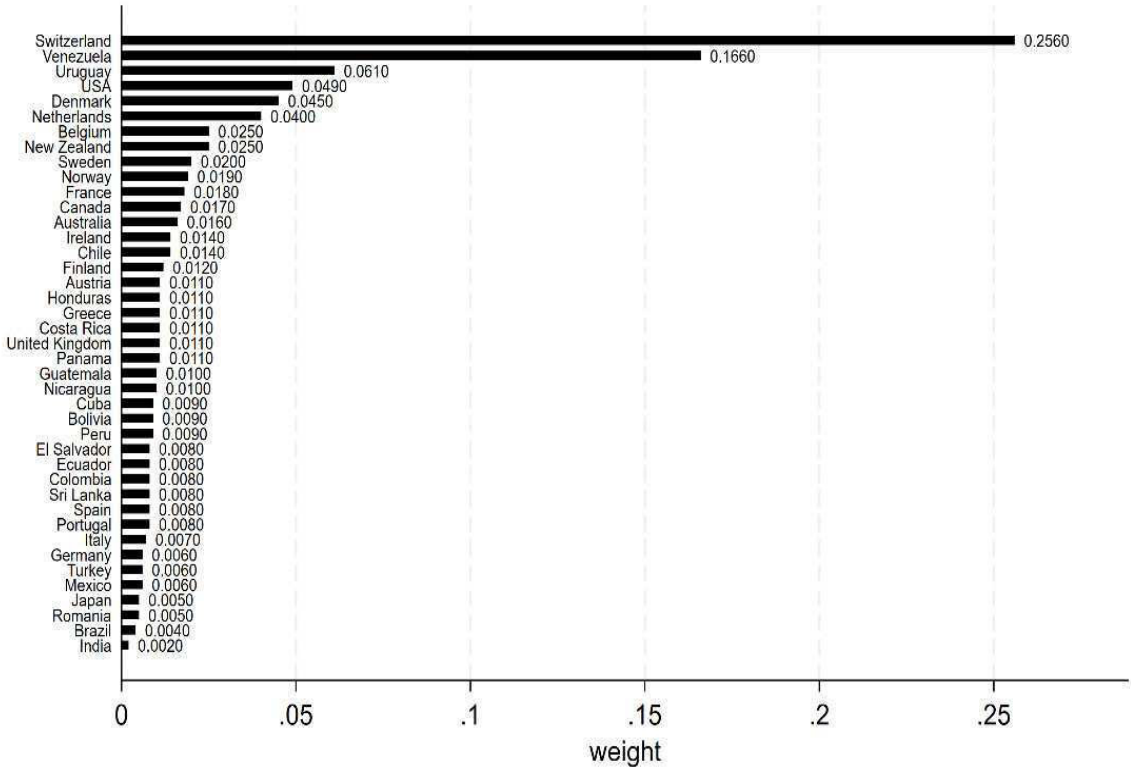


Table II presents the balance of covariates between Real and Synthetic Argentina in the pre-intervention period.

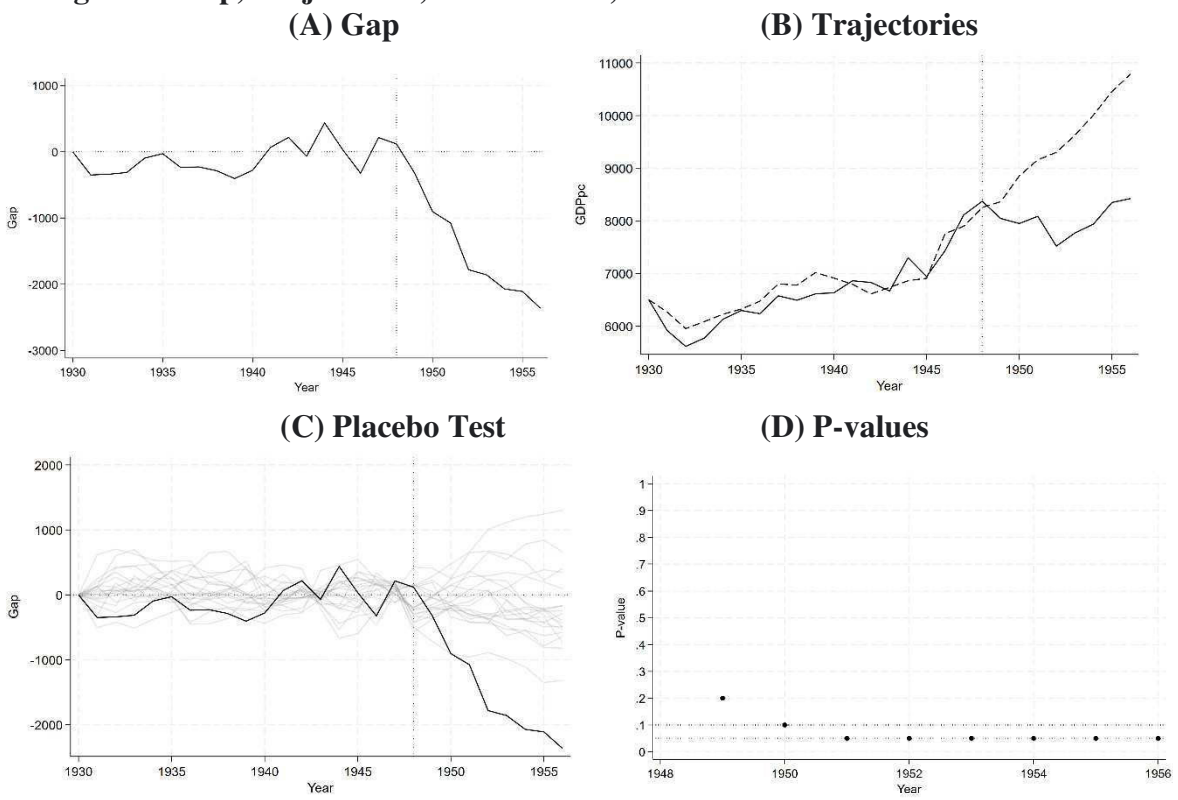
Table II - Predictor Balance

	Treated (Actual)	Synthetic
GDP_{pc} (1930)	6503	6503.15
$AvergGDP_{pc}$ (1930-1945)	6834.71	6833.80
$AvergGDP_{pc}$ (1946-1948)	7973.33	7969.96
Population	13996.4737	14079.8438

Notes: GDP per capita values are constant to 2011 in US$—population in millions.

Figure 4 presents results similar to those previously found. The estimated impact was a reduction of US$1,559.80. We corroborate the findings proposed in the results section.

Figure 4: Gap, Trajectories, Placebo Test, and P-values for SCM with covariates

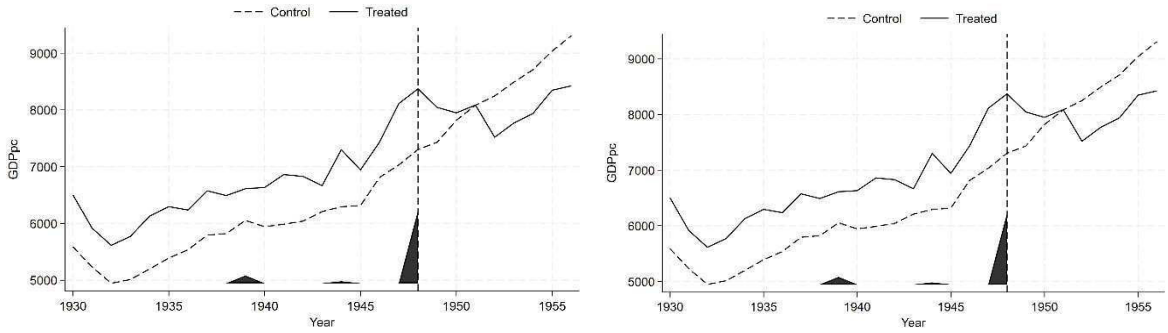


Note: GDP per capita values are constant to 2011 in US$.

4.3. Synthetic Differences in Differences (SDD)

The SDD constructs a control group with the same trends as the treatment group in the pre-intervention period (Arkhangelsky et al., 2021). The SDD model obtains the causal effect from the double difference between the treated unit and the synthetic control group. We propose two SDD models: (i) without covariates and (ii) with covariates.

Figure 5: SDD Graphical Analysis
(A) Trajectories without covariates (B) Trajectories with covariates



Note: GDP per capita values are constant to 2011 in US$.

The impacts found by the SDD method are US$1,401.37 (standard deviation, US$560.71) for the model without covariates and US$1,400.76 (standard deviation, US$559.10) for the model with the population covariate. We support the hypothesis that the Constitutional Reform of 1949 negatively affected Argentina's income.

5. Final Remarks

The objective was to identify the effect of the Argentine Constitutional Reform of 1949 on its GDP per capita. The Constitutional Reform proposed a populist growth model with strong state intervention in the economy. We apply the synthetic control method and, as robustness, the leave-one-out, alternative synthetic control, and the synthetic differences-in-differences method. All results corroborate the hypothesis that the Constitutional Reform generated a significant short-term negative impact on Argentine GDP per capita.

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