The Effect of the US Presidential Election and Political Uncertainty on the Mexican CDS

Diego Cid†, Fabrizio López-Gallo‡, Stefano Lord§ and Alberto Romero¶

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Abstract

The 2016 US presidential election campaign generated sovereign risks due to potential policy changes in commercial relationships among North American countries, uncertainty about remittances, and other aspects related to bilateral relations. In this paper, we apply the synthetic control method developed by Abadie and Gardeazabal (2003) to estimate a so-called synthetic counterfactual for the 5-year Mexican credit default swap in order to quantify the effect of the US presidential election and, in particular, the electoral rhetoric of the Republican candidate over the Mexican country risk perception. A number of robustness checks are conducted and the results suggest that this premium is positive, statistically significant, and sensitive to the election outcome, Donald Trump’s tweets, and rounds of North American Free Trade Agreement renegotiation.

JEL Classification Code: C32, C58, G12, G14, G15.

Keywords: Synthetic methods, risk premium, political risk, uncertainty, placebo test, event study analysis, Bayesian estimation.

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1 Introduction

The 2016 US presidential election triggered electoral rhetoric that generated pressures for the Mexican economy due to potential policy changes related to migration, political agreements, and the commercial relationships among North American countries. In this paper, we quantify the effect of the 2016 US election process, in particular the nomination of Donald Trump as the Republican candidate, on the Mexican country risk perception of foreign lenders, measured with the 5-year Mexican credit default swap (CDS). To do so, we follow the Abadie and Gardeazabal (2003) methodology and construct a synthetic counterfactual of the Mexican CDS resembling the value of such a CDS without electoral rhetoric. We find that the difference between the Mexican CDS and the synthetic counterfactual is positive and statistically significant. This difference can be thought of as a risk premium that captures the additional compensation required by foreign lenders in order to invest in Mexico given the increase in the sovereign risk perception due to the electoral rhetoric of the Republican candidate, which translated into potential commercial, political, and economic changes. Placebo tests suggest that the treatment (the nomination of Trump as the official Republican candidate) has had an important economic impact on the country risk perception. Our results are robust to a number of tests, including measuring the effect on a different sovereign risk indicator (Emerging Market Bond Index), estimating the synthetic control changing the treatment dates, estimating linear and constrained linear regressions, and Bayesian estimation.

The first strand of literature related to our paper is that which assesses the economic impact of economic policy uncertainty as a result of exogenous factors such as elections, wars, commercial relationship changes, and regime changes among advanced and emerging market economies. Baker et al. (2016) develop an index of economic policy uncertainty (EPU) based on newspaper coverage frequency. Empirical evidence indicates that their index proxies for movements in policy-related economic uncertainty. Using firm-level data, they find that policy uncertainty is associated with greater stock-price volatility and reduced investment and employment in policy-sensitive sectors like defense, health care, finance, and infrastructure construction. At the macro level, innovations in policy uncertainty foreshadow declines in investment, output, and employment in the United States and, in a panel vector autoregressive setting, in 12 other major economies. Liu and Zhang (2015) investigate the predictability of stock market volatility based on the EPU index. In-sample evidence suggests that higher EPU leads to significant increases in market volatility, while out-of-sample findings show that incorporating EPU as an additional predictive variable into the existing volatility prediction models significantly improves their forecasting ability. Brogaard and Detzel (2015) find that the Baker et al. (2016) EPU index is positively correlated with future log excess market returns. An increase of one standard deviation in EPU is associated with a 1.5% increase in forecasted 3-month abnormal returns (6.1% annualized). These findings suggest that EPU is an economically important risk factor for equities. Ko and Lee (2015) examine the relationship between EPU and stock prices based on the wavelet analysis. The empirical results indicate that stock prices decrease after EPU increases. Further, in the early 2000s, this phenomenon is more observable in 4-to-8-year frequency cycles. In the late 2000s, however, this negative relationship becomes noticeable in 2-to-4-year frequency cycles.

In terms of the consequences of uncertainty on commercial trade among countries, Graziano et al. (2018) find that increases in the probability of Britain’s exit from the European Union (Brexit) reduce bilateral export values and trade participation. These effects increase trade policy risk across products and are asymmetric for UK and EU exporters. Pierce and Schott (2016) find a link between the sharp drop in US manufacturing employment beginning in 2001
and trade policy uncertainty or unexpected changes in trade policy that eliminated potential tariff increases on Chinese imports. Industries where the threat of tariff hikes declines the most experience more severe employment losses along with larger increases in the value of imports from China and in the number of firms engaged in China-US trade. Finally, Caldara and Iacoviello (2018) develop a monthly indicator of geopolitical risk based on a tally of newspaper articles covering geopolitical tensions, and examine its evolution and effects since 1985. They find that high geopolitical risk leads to a decline in real activity, lower stock returns, and movements in capital flows away from emerging economies and toward advanced economies. When Caldara and Iacoviello decompose the index into threats and acts components, they find that the adverse effects of geopolitical risk are mostly driven by the threat of adverse geopolitical events. Our paper contributes to this strand of literature since it provides empirical evidence on how economic policy uncertainty due to electoral processes in advanced market economies such as the US economy impact emerging market economies such as the Mexican economy.

The synthetic control method was developed by Abadie and Gardeazabal (2003) to measure the effect that terrorism has had on the Basque Country’s per capita GDP. A number of studies have arisen from the synthetic control method. Billmeier and Nannicini (2013) evaluate the impact of economic liberalization on real GDP per capita in a worldwide sample of countries and find that liberalizing the economy has had a positive effect in most regions, but more recent liberalizations, in the 1990s and mainly in Africa, had no significant impact. Cavallo et al. (2013) examine the average causal impact of catastrophic natural disasters on economic growth and find that only extremely large disasters have a negative effect on output in both the short and the long runs. However, controlling for political changes, even extremely large disasters do not display any significant effect on economic growth. Campos et al. (2014) present estimates of the economic impact from economic and political integration. They find large positive effects from EU membership, but these differ across countries and over time. Acemoglu et al. (2016) find that personal connections to top executive branch officials can matter greatly even in a country with strong overall institutions, at least during a time of acute financial crisis and heightened policy discretion. Born et al. (2017) study the aggregate consequences of a sudden change in expectations regarding future economic prospects due to the unexpected outcome of the Brexit vote in June 2016 and find that forward-looking households and businesses lowered spending in response to the vote, causing an output loss of more than 1 percent. Abadie et al. (2015) estimate the impact of the 1990 German reunification and their results suggest a pronounced negative effect on West German income. Abadie et al. (2010) study the effects of Proposition 99, a large-scale tobacco-control program that California implemented in 1988, and find that following the implementation of Proposition 99 tobacco consumption fell markedly in California relative to a comparable synthetic control region. Grier and Maynard (2016) analyze the impact of Hugo Chávez’s leadership on the Venezuelan economy and find that, relative to the control group, per capita income fell dramatically.

The strand of literature that specifically studies the effect of electoral processes on country risk perception is relatively scarce. In fact, most studies are related to the effect of domestic elections rather than foreign elections on sovereign country risk perception. Among those studies, Block and Vaaler (2004) find that both agencies and bondholders appear to view elections in developing countries negatively and impose additional credit costs. Chang (2010) develops an small open economy model where a pro-labor and a pro-business candidate compete in an election. He finds that elections are associated with increased volatility and higher EMBI spreads (e.g., higher risk premiums). Also, Martinez and Santiso (2003) find that major Latin American political events are associated with greater long-term interest rate spreads, and thus higher sovereign risk perception.
This paper’s contribution is three-fold. First, this is the first paper, to the best of our knowledge, to use the synthetic control approach on the sovereign CDS market, and it does so using daily data. Second, this is the first paper to quantify the effect of foreign elections in an advanced economy (the United States) on the country risk perception of an emerging market economy (Mexico). Third, we quantify the impact on sovereign risk of particular events by assessing the sensitivity of this risk premium to the US 2016 presidential election outcome, Trump’s tweets regarding Mexico, and rounds of North American Free Trade Agreement (NAFTA) renegotiation.

The paper is organized as follows. Section two presents the synthetic control methodology. The third section presents a review of the data we use for our model. Section four presents our main results, while the fifth section presents the placebo tests. The sixth section details the robustness tests. In the seventh section, using information about polls favorable for the Republican candidate, we present evidence that the premium reflects the effect of the electoral rhetoric manifested during the 2016 US presidential election. In the eight section, sensitivity analysis of the premium is made in order to verify the responsiveness of the premium to political and economic news regarding the 2016 election outcome, President Trump’s tweets, and NAFTA renegotiation process. Finally, section nine summarizes our findings and presents our conclusion.

2 Methodology

We apply the synthetic control method developed by Abadie and Gardeazabal (2003) to quantify the impact the 2016 US presidential election had on the Mexican sovereign risk perception. This method provides estimates of causal effects for comparative studies in which there is only one treatment unit, such as a country, a state, or a school. This method produces a so-called synthetic counterfactual, which is a weighted average of the control unit’s relevant variables aiming to resemble, as much as possible, the treatment unit before the treatment. The weights are obtained through standard GMM methods with linear constraints.

Based on Bouttell et al. (2018) and Adhikari et al. (2018), a synthetic control has several advantages: i) its suitability when there is a small number of treated units and control units; ii) the credibility of the result relying on achieving a good pre-implementation fit for the outcome of interest between treated unit and synthetic control; iii) the ease with which it allows us to explore the heterogeneity of the effects of the treatment (e.g., long run effects) in a very flexible way, as opposed to the Difference-in-Differences estimation, where, for the most part, only average effects are reported; iv) the substantial reduction of potential endogeneity problems caused by omitted variables; and v) the use of placebo tests to draw valid inferences in the presence of correlated errors.

2.1 Motivation

As in Abadie et al. (2010), we provide a rationale for the use of synthetic control methods in comparative case study research. Let us suppose that $J + 1$ regions are observed, of which only the first region has been subjected to treatment without interruption after a certain period, $T_0$. Then we have a treatment region and a set of possible $J$ controls.
Following the notation of Abadie et al. (2010), let \( Y_{i,t}^N \) be the variable of interest for region \( i \) at time \( t \) in the absence of intervention. \( Y_{i,t}^N \) will be observed for \( i = 1, \ldots, (J + 1) \) and \( t = 1, \ldots, T \). Let \( T_0 \) be the number of pre-intervention periods, with \( 1 \leq T_0 \leq T \). Let \( Y_{i,t}^I \) be the value of the variable of interest in the case that it has been the object of treatment for region \( i \) at time \( t \), for \( t = (T_0 + 1), \ldots, T \). A fundamental assumption of the model is that the treatment has no effect on the pre-treatment periods. So for \( t = 1, \ldots, (T_0 - 1) \) and \( \forall i \), we have that \( Y_{i,t}^N = Y_{i,t}^I \). In case there is any effect, Abadie et al. (2010) propose to denote \( T_0 \) as the period from which the treatment begins to take effect. This, for example, would be the case if announcing a treatment could have consequences on the expectations and decisions of the individuals.

Let \( \alpha_{i,t} = Y_{i,t}^I - Y_{i,t}^N \) be the treatment effect for unit \( i \) at time \( t \), and let \( D_{i,t} \) be an indicator variable that takes the value of one if unit \( i \) is exposed to treatment at time \( t \) and zero otherwise. The observation of the variable of interest from region \( i \) at time \( t \) would then be

\[
Y_{i,t} = Y_{i,t}^N + \alpha_{i,t} D_{i,t}. 
\]  
(1)

As only the first region is affected by the treatment and only after the time \( T_0 \), we have that

\[
D_{i,t} = \begin{cases} 1 & i = 1, \ t > T_0 \\ 0 & \text{in other case} \end{cases}.
\]  
(2)

The parameters of interest are \( \alpha_{1,T_0+1}, \ldots, \alpha_{1,T} \), which represent the effect of the treatment on the affected group. For \( t > T_0 \),

\[
\alpha_{1,t} = Y_{1,t}^I - Y_{1,t}^N = Y_{1,t} - Y_{1,t}^N. 
\]  
(3)

From this effect, the only variable observed is \( Y_{1,t}^I \). Therefore, the estimation of the treatment effect consists of estimating \( Y_{1,t}^N \). Abadie et al. (2010) suppose that \( Y_{i,t}^N \) is given by the following model:

\[
Y_{i,t}^N = \delta_t + \theta_t Z_i + \lambda_t \mu_i + \varepsilon_{i,t}, 
\]  
(4)

where \( \delta_t \) is an unknown factor for all regions, \( Z_i \) is a vector of dimension \((r \times 1)\) of observed covariables that are not affected by the intervention, \( \theta_t \) is a vector of dimension \((1 \times r)\) of unknown parameters, \( \lambda_t \) is a vector of dimension \((1 \times F)\) of common factors between regions that are unobservable, \( \mu_i \) is a vector of dimension \((F \times 1)\) of unknown weights, and \( \varepsilon_{i,t} \) is the error term with mean zero.

Following Abadie et al. (2010), a synthetic control is defined as follows: Let \( W \) be a vector of dimension \( J \times 1 \) such that \( W = (w_2, \ldots, w_{J+1}) \), \( w_j \geq 0 \), and \( w_2 + \cdots + w_{J+1} = 1 \). Then, each value of \( W \) represents a possible synthetic control:

\[
\sum_{j=2}^{J+1} w_j Y_{j,t} = \delta_t + \theta_t \sum_{j=2}^{J+1} w_j Z_j + \lambda_t \sum_{j=2}^{J+1} w_j \mu_j + \sum_{j=2}^{J+1} w_j \varepsilon_{j,t}.
\]  
(5)

If we suppose that there exists a vector \( W^* \) such that

\[
\sum_{j=2}^{J+1} w_{j,1}^* Y_{j,1} = Y_{1,1}, 
\]  
(6)
\[
\sum_{j=2}^{J+1} w_j^* Y_{j,T_0} = Y_{1,T_0},
\]
and
\[
\sum_{j=2}^{J+1} w_j^* Z_j = Z_1,
\]
then, if \( \sum_{t=1}^{T_0} \lambda_t \) is nonsingular, we have that
\[
Y_{1,t} - \sum_{j=2}^{J+1} w_j^* Y_{j,t} = \sum_{j=2}^{J+1} w_j^* \sum_{\tau=1}^{T_0} \left( \sum_{r=1}^{T_0} \lambda_r \lambda_r^T \right)^{-1} \lambda_r (\varepsilon_{j,\tau} - \varepsilon_{1,\tau}) - \sum_{j=2}^{J+1} w_j^* (\varepsilon_{j,t} - \varepsilon_{1,t}).
\] (7)

In this case, Abadie et al. (2010) suggest using:
\[
\hat{\alpha}_{1,t} = Y_{1,t} - \sum_{j=2}^{J+1} w_j^* Y_{j,t}
\] (8)
as an estimator of \( \alpha_{1,t} \), which is asymptotically unbiased when the pre-treatment periods tend to infinity. The system of equations presented in (6) is satisfied with equality only if the vector \( (Y_{1,1}, \cdots, Y_{1,T_0}; Z_1') \) is in the convex set generated by the set \{ \( (Y_{j,t}; Z_j') \mid j = 2, \cdots, J+1; \ t = 1, \cdots, T_0 \) \}. In practice, it is unusual for a vector of weights with these characteristics to exist, in which case the weights that best approximate the equations described in the system of equations (6) are estimated.

The method proposed by Abadie and Gardeazabal (2003) can then be seen as the construction of a linear predictor of \( Y_{1,t} \). This technique can be generalized by forming a predictor of \( Y_{1,t} \) as follows:
\[
\hat{Y}_{1,t} = f (Y_{2,t}, \cdots, Y_{J+1,t}; \theta)
\] (9)
By estimating \( Y_{1,t} \) with a function \( f \), we can decrease the bias of the estimator by not limiting it to linear functions. In addition, the condition that weights add up to one is not necessary to make a good prediction (see Abadie and Gardeazabal (2003)). Furthermore, penalty techniques could allow not extrapolating and, at the same time, not constraining that the weights add up to one. In this way, the estimator of \( \alpha_{1,t} \) can be constructed as
\[
\hat{\alpha}_{1,t} = Y_{1,t} - f \left( Y_{2,t}, \cdots, Y_{J+1,t}; \hat{\theta} \right).
\] (10)

### 2.2 Implementation

As for the implementation, since it is not possible to guarantee that the region of interest is part of the convex space generated by the set of possible control regions, we seek to approximate that solution as much as possible. Thus, let \( X_1 \) denote the vector that contains pre-treatment values for the relevant variables for the treatment unit and \( X_0 \) be the matrix of pre-treatment values for the control units, each in a different column. Let \( V \) denote a matrix that reflects the relative importance of the predictors; that is, the matrix will give more importance to better fit for a certain period of time or for certain relevant variables. Let \( W \) denote the \( N \)-dimensional vector that represents the weights assigned to each of the control units; that is, \( w_j \) denotes the weight that is given to the set of variables of control unit \( j \). In this case, \( W \) leads to a weighted average of the control units’ time series that closely resembles the pre-treatment values of the
treatment unit. The synthetic counterfactual $X^*_1$ results from obtaining the optimal $W^*$ and is defined as $X^*_1 = \tilde{X}_0 W^*$, where $X^*_1$ and $\tilde{X}_0$ already include the post-treatment values of the relevant variables.

The purpose is to find the vector of weights, $W$, that minimizes the distance between the pre-treatment value of the treatment unit and the weighted average of the variables of the control units. That is:

$$\min_{W \in \mathcal{W}} ||X_1 - X_0 W||_2^2 = (X_1 - X_0 W)' V (X_1 - X_0 W),$$

where $\mathcal{W} = \left\{ (w_1, ..., w_J)' : \sum_{j=1}^{J} w_j = 1 \text{ and } w_j \geq 0 \forall j \in \{1, ..., J\} \right\}$. (11)

Abadie and Gardeazabal (2003) suggest that $V$ should reflect the previous knowledge on the importance of a time period or a relevant variable of the treatment unit. Therefore, the matrix $V$ is chosen so the synthetic control replicates a specific variable in a better way:

$$V^* = \arg\min_{V \in \mathcal{V}} (Z_1 - Z_0 W^*(V))' (Z_1 - Z_0 W^*(V)),$$

where $Z_1$ is a vector that contains information about the pre-treatment variable that we are interested in replicating, while $Z_0$ is a matrix with the same variable for other regions or countries that we are using to construct the synthetic control. Since we are using only CDS data, matrix $V^*$ will be given by the identity matrix (i.e., there are no other exogenous predictors), which simplifies the optimization problem. Another alternative regarding the weighting matrix that could be explored is that it could be used to weigh mostly the countries that are somehow more strongly correlated with Mexico, that belong to a specific commercial region, or that have commercial ties, among other characteristics.

### 3 Data

We use daily data on sovereign CDS from Markit for Mexico and 19 other emerging market economies with comparable sovereign credit ratings. The 19 other economies are Brazil, Bulgaria, Chile, China, Colombia, Indonesia, Kazakhstan, Malaysia, Panama, Peru, Philippines, Poland, Russia, South Africa, South Korea, Thailand, Trinidad and Tobago, Turkey, and Uruguay. These are economies with the same Standard & Poor’s sovereign credit rating as Mexico – that is, emerging countries with an S&P credit rating between BB and AA- – and the most available data. The data set covers the period from January 2, 2013, to January 31, 2018, and contains data on the sovereign 5-year CDS. We divide the sample into two periods, representing the pre-treatment period and the post-treatment period. The pre-treatment period begins on January 2, 2013, and ends on July 18, 2016. The post-treatment period began on July 19, 2016, and end on January 31, 2018. The intervention date is July 19, 2016, and corresponds to the date on which the Republican candidate for the 2016 US presidential election was officially nominated. Table 1 presents some descriptive statistics of the economies incorporated in the analysis for the pre-treatment and post-treatment periods.
<table>
<thead>
<tr>
<th>Country</th>
<th>Rating</th>
<th>Mean Pre</th>
<th>Mean Post</th>
<th>Std. Dev. Pre</th>
<th>Std. Dev. Post</th>
<th>Min Pre</th>
<th>Min Post</th>
<th>Max Pre</th>
<th>Max Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>BB</td>
<td>239.97</td>
<td>227.56</td>
<td>111.40</td>
<td>43.96</td>
<td>102.07</td>
<td>142.63</td>
<td>534.56</td>
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<td>91.47</td>
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<td>70.26</td>
<td>20.73</td>
<td>13.73</td>
<td>60.29</td>
<td>42.24</td>
<td>153.35</td>
<td>107.45</td>
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<td>82.67</td>
<td>20.62</td>
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<td>58.32</td>
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<td>89.49</td>
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<td>123.97</td>
<td>76.92</td>
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<td>155.33</td>
<td>58.26</td>
<td>31.02</td>
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<td>91.4</td>
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<td>100.60</td>
<td>38.39</td>
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<td>50.84</td>
<td>242.36</td>
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<td>89.76</td>
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<td>204.92</td>
<td>53.81</td>
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<td>391.65</td>
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<td>52.83</td>
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<td>39.33</td>
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<td>Thailand</td>
<td>BBB+</td>
<td>116.30</td>
<td>65.47</td>
<td>21.41</td>
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<td>80.84</td>
<td>40.36</td>
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<td>14.36</td>
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<td>323.12</td>
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<td>221.60</td>
<td>47.25</td>
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<td>326.92</td>
<td>306.33</td>
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<td>164.20</td>
<td>86.14</td>
<td>17.77</td>
<td>117.59</td>
<td>93.4</td>
<td>543.46</td>
<td>199.35</td>
</tr>
</tbody>
</table>

**Note:** Daily data on sovereign CDS from Markit. The data set covers the period from January 2, 2013, to January 31, 2018, and contains data on the sovereign 5-year CDS. We divide the sample into two periods, representing the pre-treatment period (January 2, 2013, to July 18, 2016) and the post-treatment period (July 19, 2016, to January 31, 2018). Ratings correspond to the last one observed in each sub-sample.

Table 1: Descriptive statistics of sovereign 5-year CDS

### 4 Results

We use the synthetic control method to obtain the weights for the foreign CDS in order to construct the synthetic Mexican CDS up to the nomination of Donald Trump as the official candidate of the Republican Party. The optimization results lead to positive weights for four countries: Panama, Colombia, Poland, and South Korea, with values $\omega_1 = 0.3807$, $\omega_2 = 0.3316$, $\omega_3 = 0.2422$, and $\omega_4 = 0.0455$, respectively. The high and positive weight for Panama is not surprising, as the time series behavior of its 5-year sovereign CDS is comparable to the Mexican CDS values before July 19, 2016. A possible explanation of the weights assigned to the aforementioned countries is that they have comparable macroeconomic fundamentals (see Table 2). Using the annual average, with data prior to Trump’s nomination as the official candidate of the Republican Party, inflation, debt as a percentage of GDP, per-capita GDP, and depreciation of the exchange rate we find the following: i) in terms of inflation, debt as a percentage of GDP, and depreciation of the exchange rate, Panama is the economy most comparable to the Mexican economy; ii) using only the debt-to-GDP ratio, we find that South Korea is most comparable to Mexico; and iii) if we take only the depreciation of the exchange rate as a comparison criterion, Poland results in one of the most similar economies to Mexico.\(^1\) Also, Colombia, Mexico, and Poland are the only three countries that have used the Flexible Credit Line (FCL) form IMF.

The synthetic 5-year sovereign CDS is defined as $X_1^* = \hat{X}_0 W^*$, where $\hat{X}_0$ is a matrix that contains\(^1\)

---

\(^1\)To compute this, we use the Euclidean norm for each variable and country compared to Mexico.
values of the 5-year sovereign CDS time series for the control countries and \( \mathbf{W}^\ast \) represents the vector of optimal weights that defines the combination of countries that best resemble the 5-year Mexican sovereign CDS before the nomination of the Republican candidate. The goal is to approximate the path that the Mexican 5-year CDS time series would have taken in the absence of the electoral rhetoric.

Figure 1a plots the Mexican CDS and the synthetic CDS for the period January 2013 to January 2018. The Mexican 5-year sovereign CDS and the synthetic control behave similarly until July 2016. From July 2016, after the Republican candidate was officially nominated, the realized and synthetic CDS diverge; the Mexican 5-year CDS took values up to 57 basis points above those of the synthetic CDS.

We analyze the difference between the Mexican 5-year sovereign CDS and the synthetic CDS
after the intervention date (July 19, 2016) and find that it is greater than zero after the treatment date (see Figure 1b). The difference represents the excess basis points required by foreign lenders to be compensated for any political and sovereign risks associated with the electoral rhetoric after the Republican presidential candidate was officially announced. The average pre-treatment effect is -0.6 basis points, while the average post-treatment effect is 23.7 basis points. We also find that the difference is sensitive to the elections outcome, Trump’s tweets, and rounds of NAFTA renegotiation.

<table>
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<tr>
<th>Country</th>
<th>Inflation</th>
<th>Debt-to-GDP</th>
<th>GDP per-capita</th>
<th>∆ER</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Norm</th>
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<td>4.64</td>
<td>18.96</td>
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<td>1.30</td>
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<td>Trinidad and Tobago</td>
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<td>Turkey</td>
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<td>4.72</td>
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<tr>
<td>Uruguay</td>
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<td>46.20</td>
<td>13,884.67</td>
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<td>3,940.46</td>
<td>5.70</td>
<td>3,940.47</td>
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</table>

Note: Annual data from Haver Analytics and Bloomberg. The variables inflation, debt-to-GDP ratio, GDP per-capita, and exchange rate depreciation (∆ER) represent the average of 3 years previous to the treatment date. Columns (1), (2), (3), and (4) present the distance of the variables inflation, debt-to-GDP ratio, GDP per-capita, and exchange rate depreciation from the corresponding variable for Mexico, respectively. Finally, Norm represents the distance for all four variables with regard to Mexico.

Table 2: Statistics of macroeconomic fundamentals

5 Placebo tests

Following Abadie et al. (2010), we run placebo tests by applying the synthetic control method to the other countries in the donor pool. If the placebo tests create premiums of magnitudes similar to the one estimated for Mexico, then our analysis does not provide significant evidence of a deterioration in the sovereign risk perception of foreign investors of the Mexican economy. If, on the other hand, the placebo tests show that the premium estimated for Mexico is unusually large relative to the premiums of the other countries, then our analysis provides significant evidence of an increase in the sovereign risk perception.

We conduct a series of placebo tests by iteratively applying the synthetic control methodology to every other country in the donor pool. In each iteration we reassign, in our data, the Trump nomination to one of the 19 control economies, shifting Mexico to the donor pool. We then compute the estimated effect associated with each placebo test. This iterative process provides us with a distribution of estimated premiums. Figure 2 displays the results for the placebo studies. The gray lines represent the premium associated with each of the 19 countries in the donor pool. The superimposed black line denotes the premium estimated for Mexico. The main result is that the estimated premium for Mexico is unusually large relative to the distribution of the premiums for the countries in the donor pool.

In Figure 2 there is evidence that the CDS before the treatment date cannot be well reproduced.
for some countries by a convex combination of other CDS values. The countries with the worst fit are Russia, Brazil, and South Korea with an $MSPE_{pre}$ of 11,072, 4,447, and 1,387, respectively. One fact that could explain why the synthetic control does not perform well for these countries is that Brazil and Russia were among the worst-graded countries, ranging from BB to BBB-, while South Korea is one of the countries in the donor pool with the highest sovereign rating (A+). That said, there is no combination of countries in our sample that could reproduce the time series of the CDS for those countries before the nomination of Donald Trump. This is a result of the lack of countries with higher (in the case of Russia and Brazil) or lower (in the case of South Korea) CDS values with which to construct a weighted average (i.e., these do not belong to the convex space of any other set of countries since they are on the extremes of the set).

Figure 2: Estimated premium for Mexico and placebo premiums in all 19 control economies

The placebo runs with poor fit prior to the treatment date do not provide information to measure the relative rarity of estimating a large post-premium for a country that was well fitted prior to the treatment. Therefore, we provide several versions of the previous Figure 2. Each version excludes countries beyond a certain level of pre-treatment $MSPE_{pre}$. As in Abadie et al. (2010), we choose countries with an $MSPE_{pre}$ less than or equal to 20 times the $MSPE_{pre}$ of Mexico (Figure 3a) and countries with a $MSPE_{pre}$ less than or equal to 5 times the $MSPE_{pre}$ of Mexico (Figure 3b).

Figure 3: Placebo runs excluding countries beyond certain level of pre-treatment $MSPE_{pre}$. 

(a) $MSPE_{pre} \leq 20$ times Mexico $MSPE_{pre}$

(b) $MSPE_{pre} \leq 5$ times Mexico $MSPE_{pre}$
From Figure 3 we can see that Mexico, among those countries with an $MSPE_{pre}$ less than or equal to 20 times and 5 times the $MSPE_{pre}$ of Mexico have the larger premium, which validates the hypothesis that the Trump nomination has a significant effect on the Mexican CDS.

As mentioned earlier, based on Abadie et al. (2010) we perform placebo tests to evaluate if the effect of the Trump nomination on the Mexican country risk perception is unusually large relative to the premium of the other countries in the donor pool. In the case of a large premium we can argue that our analysis provides significant evidence of an increase in the sovereign risk perception due to the electoral rhetoric of Donald Trump. As an alternative to previous graphs we use kernel density estimates. A kernel density estimate is constructed by summing the weighted values calculated with the kernel function $K$, as in

$$
\hat{p}_K = \frac{1}{nh} \sum_{i=1}^{n} \omega_i K \left( \frac{x - X_i}{h} \right),
$$

with

$$
K[z] = \begin{cases} 
\frac{3}{4\sqrt{5}} \left( 1 - \frac{1}{5} z^2 \right) & \text{if } |z| < \sqrt{5} \\
0 & \text{otherwise}
\end{cases}
$$

where $n$ is the number of observations, $K$ is the Epanechnikov kernel function, and $h > 0$ is the bandwidth that controls the amount of smoothing when estimating the empirical density. The bandwidth is calculated as follows:

$$
h = 0.9 \times \frac{n^{1/5}}{\min \left\{ \sigma_x, \frac{IQR_x}{1.349} \right\}},
$$

where $\sigma_x$ represents the standard deviation of $x$, and $IQR_x$ represents the interquartile range for $x$. For more details regarding the selection of the bandwidth, see Turlach (1993).

![Kernel density estimates](image)

(a) $MSPE_{pre} \leq 20$ times Mexico $MSPE_{pre}$ (b) $MSPE_{pre} \leq 5$ times Mexico $MSPE_{pre}$

Figure 4: Kernel density estimates

Figure 4 presents the kernel density estimates for premiums with an $MSPE_{pre}$ less than or equal to 20 times Mexico $MSPE_{pre}$ (Figure 4a), and premiums with an $MSPE_{pre}$ less than or equal to 5 times Mexico $MSPE_{pre}$ (see Figure 4b). The kernel density estimates represent the treatment distribution, and for all cases, the value of the risk premium for Mexico is in the tail of the empirical treatment distribution, which means that the effect of Trump on the Mexican country risk perception is significantly large.
6 Robustness tests

A number of tests are conducted to verify the robustness of our results. These include the following: i) application the synthetic control methodology to the Emerging Market Bond Index for Mexico (EMBIG), ii) changes in treatment dates, iii) linear and constrained linear regressions, and iv) Bayesian estimation.

6.1 Emerging Market Bond Index Global

We conduct the estimation using the JP Morgan EMBIG daily data for the following emerging market economies: Argentina, Brazil, China, Colombia, Ecuador, Hungary, India, Indonesia, Malaysia, Peru, Philippines, Poland, Russia, South Africa, Turkey, and Venezuela. We find similar results.

The model closely replicates the fit of the baseline model, while using economies that currently are in the same range of credit scores as the Mexican economy. The estimation results lead to positive weights for seven countries (Brazil, China, Colombia, Hungary, Poland, South Africa, and Venezuela). The model preserves the relative relevance of Colombia, Poland, and South Korea in replicating the Mexican 5-year CDS previous treatment. Taking July 19, 2016, as the treatment date, the positive and statistically significant premium still holds, taking values up to 90 basis points. Figures 5a and 5b present the EMBIG and counterfactual time series dynamic and the premium associated with this exercise, respectively.

![Figure 5: EMBIG counterfactual](image)

6.2 Changes in treatment date

We run the baseline model using different treatment periods. The treatment date is changed to January 19, 2016, (6 months before the nomination, during the Republican primaries) and to November 8, 2016, (the day of the elections)\(^2\). For January 19, the optimization results lead to positive weights for four countries: Panama ($\omega_1 = 0.7682$), Colombia ($\omega_2 = 0.0459$), Peru ($\omega_3 = 0.0540$), and South Korea ($\omega_4 = 0.1318$). For November 8, the countries with positive weights are Panama ($\omega_1 = 0.6952$), Colombia ($\omega_2 = 0.1794$), and South Korea ($\omega_4 = 0.1254$). Figure 6 presents the estimated premium for Mexico with different treatment dates.

\(^2\)Using Chow and Quandt-Andrews breaking point tests, we find that for both dates the CDS time series presented a statistically significant breaking point. Additionally, endogenous regime switching models give evidence that for those dates the probability of being in high-CDS level is greater than 75%.
These robustness checks provide similar weights to those of the baseline model, reducing the weight of Panama and increasing the weight of Colombia as the treatment period is brought closer. Each treatment date provides evidence for a positive and statistically significant premium.

### 6.3 Linear constrained regressions

We implement linear regressions with different constraints, which the synthetic control method approximates (see Table 3). As expected, the linear regression without constraints results in non-zero coefficients for countries that did not have a positive weight in the synthetic control method. Indeed, several countries may add information correlating negatively to the Mexican CDS. Without constraints, these countries can create an almost perfect fit for the Mexican CDS. The linear econometric specification is given by

\[ Y_t = X_t' \beta + \varepsilon_t, \]

where \( Y_t \) represents the Mexican 5-year CDS using the pre-treatment sample (from January 2, 2013, to July 18, 2016), \( X_t \) is the matrix with information of the sovereign 5-year CDS for the 19 economies in the donor pool, and \( \varepsilon_t \) represents the error term. The corresponding constraints are detailed in the note of Table 3.

The same explanation may be given for the linear regression constrained to have the coefficients add up to one, thus losing information on the explanatory capacity of the variables but being almost equivalent to the non-constrained linear model in direction and significance, if not in magnitude. We can interpret the results as a portfolio of credit default swaps.
<table>
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<tr>
<th>Country</th>
<th>SC</th>
<th>LR (1)</th>
<th>LR (2)</th>
<th>LR (3)</th>
</tr>
</thead>
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<td>0.0179*</td>
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**Note:** SC stands for synthetic control, LR (1) for linear regression, LR (2) for linear regression with constraint $\sum_j w_j = 1$, and LR (3) for linear regression with constraints $w_j = 0$ for all $j$ that correspond to countries with weight zero in the SC specification and $\sum_{i\neq j} w_i = 1$. Robust standard errors in parenthesis (Newey-West robust standard errors, HAC).

Table 3: Estimates

Finally, adding the positive coefficients constraint in the linear model (still constraining for the coefficients to add up to one), the variables that add information with negative coefficients are removed, while those not significantly different from zero also disappear. The regression models resemble the magnitude of the four largest CDS coefficients, those of Panama, Colombia, Poland, and South Korea.

In Figure 7 the synthetic control for the 5-year Mexican CDS is presented for each of the linear unconstrained and constrained regressions. We find a positive and statistically significant risk premium. The linear unconstrained regression (LR(1)) generates a lower risk premium, while the linear constrained regressions with both constraints (LR(2) and LR(3)) generate almost the same premium as the synthetic control method.

6.4 Bayesian approach: Structural time-series model

Brodersen et al. (2015) mentions that “in contrast to classical difference-in-differences schemes, state-space models make it possible to: i) infer the temporal evolution of attributable impact, ii) incorporate empirical priors on the parameters in a fully Bayesian treatment, and iii) flexibly accommodate multiple sources of variation, including local trends, seasonality and the time-varying influence of contemporaneous covariates.” We implement the following state-space model:
\( Y_t = X_t' \beta_t + \varepsilon_t, \quad \varepsilon_t \sim \mathcal{N}(0, \sigma_t^2) \)

\[
\beta_{t+1} = \Pi_t \beta_t + Z_t \nu_t, \quad \nu_t \sim \mathcal{N}(0, Q_t).
\]

where \( Y_t \) is a vector that contains the time series of the Mexican CDS, \( X_t \) represents a matrix that contains the CDS of the other countries (i.e., control units), \( \Pi_t \) is a transition matrix, \( Z_t \) is a control matrix, and \( \varepsilon_t \) and \( \nu_t \) are independent of all other unknowns. The first equation represents the observation equation that relates the observed data with a latent \( n \)-dimensional state vector \( \beta_t \). The second equation represents the state-equation, which describes the dynamics of the state vector \( \beta_t \) through time.

Figure 8a presents the observed Mexican 5-year CDS and the synthetic counterfactual along with the 95% prediction intervals (red-dashed line) and Figure 8b presents the premium. The results are comparable to those of the baseline model. Notice that during the post-intervention
period, the Mexican CDS had an average value of 129.15. By contrast, in the absence of an intervention, we would expect an average response of 106.20. The 95% interval of this counterfactual prediction is [93.13, 119.40]. Subtracting this prediction from the observed response yields an estimate of the causal effect the intervention had on the Mexican CDS. This effect is 22.95 with a 95% interval of [9.75, 36.02]. Adding up the individual data points during the post-intervention period (which can only sometimes be meaningfully interpreted), the response variable had an overall value of 51.92. By contrast, had the intervention not taken place, we would expect a sum of 42.69. The 95% interval of this prediction is [37.44, 48.00]. The above results are given in terms of absolute numbers. In relative terms, the response variable showed an increase of +22%. The 95% interval of this percentage is [+9%, +34%].

This means that the positive effect observed during the intervention period is statistically significant and unlikely to be due to random fluctuations. The probability of obtaining this
effect by chance is very small (Bayesian one-sided tail-area probability \( p = 0 \)). We can conclude that the causal effect can be considered statistically significant.

7 Electoral rhetoric

One of the issues we must address is related to the fact that the premium should reflect only the effect of the electoral rhetoric on the country risk perception measured via the sovereign CDS. For this, information was obtained from Real Clear Politics on the average number of polls that were favorable to Trump after his nomination as the official candidate of the Republican Party. We expect the premium to increase as more favorable polls appear, indicating a more plausible victory for the Republican candidate. In order to validate our assumptions, we estimate a bivariate VAR using the first difference in the estimated risk premium and the first difference in the average number of polls that were favorable to Trump. The specification is as follows:

\[
Y_t = c + \sum_{j=1}^{p} A_j Y_{t-j} + \varepsilon_t, \quad \varepsilon_t \sim N(0, \Sigma)
\]

with

\[
Y_t = [\Delta \text{Polls}_t, \Delta \text{Premium}_t]', \quad A_j = \begin{bmatrix} a_{11}^j & a_{12}^j \\ a_{21}^j & a_{22}^j \end{bmatrix}, \quad \text{and} \quad \varepsilon_t = [\varepsilon_1^t, \varepsilon_2^t]' .
\]

The results are presented in Table 4, while Table 5 presents the Granger causality test. Results suggest the average poll has a persistent effect on the premium and show evidence that the average number of polls that were favorable to Trump Granger-cause the premium, while there is no evidence the premium Granger-causes the average polls. Additionally, a VEC model is developed in order to capture long-run effects, and we find that the average polls have a positive and statistically significant effect over the premium (i.e., \( \beta_{\text{polls}} = 0.6081^{***} \)), while the premium does not have a statistically significant effect over the polls (i.e., \( \beta_{\text{premium}} = 0.0074 \)).

In Figure 9 we can see that, from the Trump nomination to the first week of January, the correlation between the premium and the average number of Trump-friendly polls is positive and high (\( \rho = 83\% \)). Months later, the correlation remains positive but much smaller (\( \rho = 31\% \)). This suggests that, at first, the premium reflected the rhetoric of Donald Trump regarding Mexico. But, as of the second week of January 2017, after various announcements of foreign investments in Mexico, the Bank of Mexico’s announcement of the new exchange rate swap program, the process of renegotiation of NAFTA, and the upcoming presidential elections in Mexico, the premium began to react not only to Trump’s comments but also to other idiosyncratic factors. Still, VAR results suggest that the electoral rhetoric is one of the most important factors.
Eq. 1: ∆Premium

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>S.E.</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>∆Premium$_{t-1}$</td>
<td>-0.0097</td>
<td>0.0493</td>
<td>0.0910</td>
</tr>
<tr>
<td>∆Premium$_{t-2}$</td>
<td>0.0064</td>
<td>0.0493</td>
<td></td>
</tr>
<tr>
<td>∆Premium$_{t-3}$</td>
<td>-0.0437</td>
<td>0.0492</td>
<td></td>
</tr>
<tr>
<td>∆Premium$_{t-4}$</td>
<td>-0.0078</td>
<td>0.0486</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-1}$</td>
<td>0.8256***</td>
<td>0.2929</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-2}$</td>
<td>-0.2387</td>
<td>0.2959</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-3}$</td>
<td>-0.9304***</td>
<td>0.2854</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-4}$</td>
<td>-0.2695</td>
<td>0.2880</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.0820</td>
<td>0.1098</td>
<td></td>
</tr>
</tbody>
</table>

Eq. 2: ∆Average Polls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>S.E.</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>∆Premium$_{t-1}$</td>
<td>0.0131</td>
<td>0.0084</td>
<td>0.0412</td>
</tr>
<tr>
<td>∆Premium$_{t-2}$</td>
<td>-0.0029</td>
<td>0.0084</td>
<td></td>
</tr>
<tr>
<td>∆Premium$_{t-3}$</td>
<td>0.0058</td>
<td>0.0083</td>
<td></td>
</tr>
<tr>
<td>∆Premium$_{t-4}$</td>
<td>0.0040</td>
<td>0.0083</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-1}$</td>
<td>0.0471</td>
<td>0.0503</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-2}$</td>
<td>0.0884*</td>
<td>0.0508</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-3}$</td>
<td>0.0829*</td>
<td>0.0490</td>
<td></td>
</tr>
<tr>
<td>∆Polls$_{t-4}$</td>
<td>0.0828*</td>
<td>0.0494</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.0063</td>
<td>0.0188</td>
<td></td>
</tr>
</tbody>
</table>

Note: Data frequency is daily and the sample contains 401 observations. The number of lags is chosen based on information criteria and the likelihood ratio.

Table 4: VAR estimates

<table>
<thead>
<tr>
<th>Equation (1)</th>
<th>Excluded (2)</th>
<th>χ²</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>∆Premium</td>
<td>∆Polls</td>
<td>20.5570</td>
<td>0.0020</td>
</tr>
<tr>
<td>∆Polls</td>
<td>∆Premium</td>
<td>3.3104</td>
<td>0.7690</td>
</tr>
</tbody>
</table>

Note: Represents a Wald test that the coefficients on the $j$ lags of (2) that appear in the equation for (1) are jointly zero.

Table 5: Granger causality tests

Figure 9: Premium and average number of Trump-friendly polls
8 Event study analysis

Based on Campbell et al. (1998), the usefulness of event study analysis comes from the fact that, given rationality in the marketplace, the effect of an event will be reflected immediately in asset prices. Thus, the event’s economic impact can be measured using asset prices observed over a relatively short period. In this case, we analyze the effect of the US presidential election, Donald Trump’s tweets concerning Mexico, and rounds of NAFTA renegotiation on the estimated premium. For each event we use a window of 20 days before and after the event occurs.

8.1 US presidential election

We use the following econometric specification to quantify the effect of Trump’s victory in the 2016 US presidential election:

\[
\text{Premium}_t = \beta_0 + \beta_1 t + \beta_2 \mathbf{1}_{\{\text{elections}\}} + \beta_3 VIX_t + \gamma_t,
\]

where \(\text{Premium}_t\) represents the risk premium, \(t\) controls for linear trends, \(\mathbf{1}_{\{\text{elections}\}}\) is an indicator variable that takes the value of one when results of the US presidential election were announced, \(VIX_t\) represents a global volatility index, and \(\gamma_t\) is the error term.

In Figure 10 we can observe the effect of Trump’s victory on the country risk perception. After the victory, the proposals that the Republican candidate made during the electoral campaign seemed more likely to materialize, generating a greater perception of country risk by the electoral rhetoric of the now-president of the United States. The estimated \(\hat{\beta}_2\) is equal to 9.0932 basis points and it is statistically significant at 1%. The mean previous to the announcement is 21.66 basis points, while the mean after the victory is 42.62 basis points.
### 8.2 Trump’s tweets

Using information from the Trump Twitter Archive, we classify tweets as negative or positive regarding the relationship of the US and Mexico. During the period of study, Trump tweeted 4,506 times in total; 42 of those tweets were related to Mexico. Most of the tweets were negative (e.g., more than 90% were related to building the wall, and threats to the NAFTA). We present the risk premium response to the following tweets:

- **Tweet 1**: With Luis, Mexico and the United States would have made wonderful deals together - where both Mexico and the US would have benefitted.
  
  @realDonaldTrump (September 8, 2016)

- **Tweet 2**: Just got a call from my friend Bill Ford, Chairman of Ford, who advised me that he will be keeping the Lincoln plant in Kentucky - no Mexico
  
  @realDonaldTrump (November 17, 2016)

- **Tweet 3**: Thank you to Ford for scrapping a new plant in Mexico and creating 700 new jobs in the US This is just the beginning - much more to follow
  
  @realDonaldTrump (January 4, 2017)

- **Tweet 4**: I received calls from the President of Mexico and the Prime Minister of Canada asking to renegotiate NAFTA rather than terminate. I agreed.
  
  @realDonaldTrump (April 27, 2017)

- **Tweet 5**: We are in the NAFTA (worst trade deal ever made) renegotiation process with Mexico & Canada. Both being very difficult, may have to terminate?
  
  @realDonaldTrump (August 27, 2017)

- **Tweet 6**: Chrysler is moving a massive plant from Mexico to Michigan, reversing a years long opposite trend. Thank you Chrysler, a very wise decision... Plenty of more to follow!
  
  @realDonaldTrump (January 11, 2018)

The econometric specification used to analyze the sensitivity of the premium to those tweets is the following:

\[
Premium_t = \beta_0 + \beta_1 \mathbb{1}_{\{tweet\}} + \beta_2 VIX_t + \eta_t,
\]

where \(Premium_t\) represents the risk premium, \(\mathbb{1}_{\{tweet\}}\) is an indicator variable that takes the value of one when Trump tweeted, \(VIX_t\) represents a global volatility index, and \(\eta_t\) is the error term. In Figure 11 we can observe the risk premium response to each of the Trump’s tweets regarding Mexico quoted above. Figure 12 summarizes the previous information.

As mentioned above, most of the these tweets about Mexico were negative. In fact, tweets 1 to 3 and 5 to 6 are negative news for the Mexican economy, while only one tweet, the fourth one, is positive news. Based on the estimates of the event study analysis, those tweets that carry
bad news for Mexico increased the risk premium, while the good news tweet reduced the risk premium a statistically significant amount. Since Trump’s tweets give repetitive information about migratory, commercial, and political topics, based on the efficient-market hypothesis that states that current prices reflect all available information at the moment and only react to new information, we would expect the effect of Trump’s tweets to be mitigated over time, which could be related to Trump’s credibility for carrying out his proposals (see Figure 12); however, more information is needed to prove that the premium becomes insensitive to such comments by the President of the United States.

8.3 Rounds of NAFTA renegotiation

Based on OEA (2019), from July 2016 to January 2018, 6 rounds of NAFTA renegotiation were carried out. The dates corresponding to the beginning of the rounds are round 1, August 16, 2017; round 2, September 1, 2017; round 3, September 22, 2017; round 4, October 1, 2017; round 5, November 15, 2017; and round 6, January 23, 2018.

As in previous sections, the econometric specification used to assess the impact of the rounds
of NAFTA renegotiation in the risk premium is as follows:

\[ \text{Premium}_t = \eta_0 + \eta_1 t + \eta_2 I\{\text{NAFTA}\} + \eta_3 VIX_t + \rho_t, \]  

where \( \text{Premium}_t \) represents the risk premium, \( t \) controls for linear trends, \( I\{\text{NAFTA}\} \) is an indicator variable that takes the value of one when a NAFTA round of renegotiation started, \( VIX_t \) represents a global volatility index, and \( \rho_t \) is the error term.

In Figure 13 we can observe the effect of the start of the rounds of renegotiation. Most of the rounds have a statistically significant effect on the risk premium. The first, fourth, and sixth rounds increase the country risk perception, while the second round decreases the premium, and there is no evidence that the third and fifth rounds have an effect on the premium. This is consistent with the information presented in OEA (2019) and reported in the news\(^3\) that in the first, fourth, and sixth rounds, there were pressures from the United States to increase the rules of origin on the automotive industry from 62.5% to 85%, to reject of the current dispute-solving mechanism, and to increase of regional material in the textile industry, as well as to implement several models that could damage the agricultural industry. Also, the US team incorporated a termination clause, which would cause the agreement to end every 5 years unless the three countries decided to renew it. These factors increase the country risk perception. Regarding the second round, based on a joint statement by the ministers of all three countries: “significant progress was made in many disciplines and the parties expect more in the coming weeks. The three countries will continue their internal consultation processes in preparation for the third round of negotiations.”\(^4\)

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9 Conclusion

In this work, the synthetic controls methodology proposed by Abadie and Gardeazabal (2003) was applied to build a synthetic Mexico that would not experience the electoral rhetoric of Republican candidate Donald Trump. The difference between the observed value of the 5-year CDS for Mexico and the synthetic control represents the risk premium or additional compensation that international investors would require in order to invest in Mexico as a result of such rhetoric. To validate that the risk premium captured the effect of Trump’s electoral rhetoric, a VAR model was used for the first difference in the premium and the number of favorable polls for Trump. We find that polls favorable to the Republican candidate Granger-cause the first difference in the premium; in addition, the more favorable were the polls for the Republican candidate, greater was the premium. Placebo tests suggest that the effect of Trump on the Mexican country risk perception is significantly large.

Different robustness tests were performed to validate the estimated risk premium: i) a different sovereign risk indicator (EMBIG for Mexico) was used; ii) the dates of treatment were modified; iii) the results were compared using ordinary least squares with restrictions on weights and the countries that best replicate Mexico before Trump’s nomination (Panama, Colombia, Poland, and South Korea) were found to be the same; and iv) using a Bayesian approach a risk premium comparable to the one estimated through the synthetic control method was estimated.

Finally, through event study methodology, the sensitivity of the premium to the following events was assessed: i) the presidential elections in the United States, ii) Trump’s tweets related to Mexico, and iii) rounds of renegotiation of the free trade agreement. We find that i) the risk premium increased by 9.09 basis points following the announcement that Donald Trump was the new president of the United States; ii) the premium responded positively (i.e., higher compensation required by foreign investors) after negative tweets regarding the commercial
and migratory relationship with Mexico; and iii) the premium was sensitive to the rounds of NAFTA renegotiation.

A natural extension of this work is to assess the impact of such a risk premium in the economic activity and the performance of Mexican institutions. Additionally, we could evaluate if the electoral rhetoric of the Republican candidate translated into significant financial uncertainty in the Mexican financial markets, and, if so, quantify the increase of uncertainty due to Trump’s nomination (see Chuliá et al. (2017)).

References


