Stable genius? The macroeconomic impact of Trump[*]

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Abstract

How much credit does Donald Trump deserve for the macroeconomic performance of the US economy? Growth and job creation have been robust during the first 2.5 years since he took office, but this does not prove that Trump made a difference. In this note we develop a counterfactual scenario for how the US economy would have evolved without Trump—we let a matching algorithm determine which combination of other economies best resembles the pre-election path of the US economy. We then compare the post-election performance of the US economy to this synthetic "doppelganger". For now there is little evidence for a Trump effect.

Keywords:	President Trump, macroeconomic performance, economic growth,
	stable genius, counterfactual, synthetic control method
JEL-Codes:	E30, E60

"I went from VERY successful businessman, to top T.V. Star to President of the United States (on my first try). I think that would qualify as not smart, but genius ... and a very stable genius at that!" (Donald Trump, January 2018)

"We've got the greatest economy, maybe, ever—maybe in history. We have the greatest economy we've ever had ... If we didn't win, this economy would be a wreck." (Donald Trump, March 2018)

1 Introduction

Donald Trump was elected President of the United States on November 8, 2016. He took office as the 45$^{\text{th}}$ President on January 20, 2017. At the time of writing, he has been in office for about 2.5 years. On many metrics, the US economy has been doing well during this period. To pick one indicator, in May 2019 the unemployment rate declined to 3.6 percent, the lowest value since 1969. President Trump does not hesitate to claim credit, as the quote above exemplifies in characteristic hyperbole. In this note we ask whether Trump really deserves credit for the booming economy?

To answer this question, we must not simply look at the actual performance of the US economy. Instead, we need to develop a counterfactual scenario against which we can benchmark actual developments. In order to do so we employ the synthetic control method (Abadie and Gardeazabal, 2003; Abadie et al., 2010, 2015). We construct a synthetic control unit as a weighted average from a "donor pool" of OECD countries. We determine the weights so that the behavior of the control unit resembles the US economy as closely as possible *prior to the presidential election in 2016*. The economies and their weights are picked by an algorithm in an entirely data-driven way. We then compare the actual developments in the US since the election to that of its "doppelganger" (Born et al., 2019).

We find that the doppelganger tracks the behavior of the US prior to the Trump election very well. Hence, it provides a natural benchmark for assessing the macroeconomic impact of Trump. Our identification assumption is that the doppelganger economy continues to behave

in the way the US economy would have behaved in the absence of Trump. On the basis of this assumption we find no evidence for a Trump effect: after the election, growth in the US has not been systematically different from what we observe for the doppelganger. The same holds for other economic indicators, notably total employment. This is remarkable, because we do not restrict post-election dynamics. Also, in an earlier study on Brexit, we find—on the basis of the same approach—that the Brexit vote in June 2016 has caused a significant decline of UK output relative to its doppelganger economy (Born et al., 2019).

Is our finding surprising? Perhaps. After all, in December 2017 the US congress enacted the *Tax Cuts and Jobs Act*. It brought about a large reduction of tax rates for individuals and businesses. While controversial in many respects, most observers agree that the tax reform provided a boost to output growth, both in the short and the long run (Barro and Furman, 2018; Mertens, 2018; Sedláček and Sterk, 2019). However, the tax reform was not the only policy measure put forward by the Trump administration. Another key item on the agenda is trade policy. While there was no full-blown trade war during the first years of the Trump adminstration, even a "cold trade war" is likely to be detrimental to economic activity (Born et al., 2019; Dietrich and Müller, 2019; Handley and Limão, 2017; Handley and Limão, 2017). Against this background, we stress that our approach is altogether silent on the distinct effect of specific policy measures. Instead, we assess the overall impact of Trump on the US economy thus far.

More fundamentally, one may thus ask whether administrations actually can make a difference to the macroeconomy as they come into power? As established by Hibbs (1977), election outcomes do matter for macroeconomic performance, because parties pursue policies that cater to their core constituencies. Alesina and Sachs (1988) provide further evidence for this partisan view. They document, in particular, that US growth is systematically higher during *the first half* of Democratic administrations. Just like Hibbs, they interpret their findings in the context of a trade-off between unemployment and (surprise) inflation. More recently, Blinder and Watson (2016) observe that the US economy has systematically

performed better under Democratic presidents than under Republican presidents. This, they find, is because Democratic presidents have experienced more favorable economic shocks.

Trump, however, transcends traditional partisan politics to the extent that some of his policies are not conforming well with the orthodoxy of the Republican party. In this regard, it is interesting to observe that national *leaders* as such can matter for economic growth. Jones and Olken (2005) find a sustained change in growth patters in the context of leadership transitions that are caused by death due to natural causes. Such leader effects are particularly pronounced among autocrats that are less constrained in their powers. Easterly and Pennings (2019) look into the growth performance of specific leaders and find it difficult to confirm statistically significant leader effects in terms of economic growth. They emphasize that it is key to consider an appropriate benchmark rather than "giving leaders credit for the raw growth average during their tenures." This insight lies at the heart of our analysis, too.

The remainder of this note is organized as follows. Section 2 describes the construction of the doppelganger that serves as a counterfactual against which we benchmark actual developments in the US. We do so in Section 3. A final section concludes.

2   Constructing the doppelganger

In order to measure Trump's impact on macroeconomic performance in the US we need to define an appropriate benchmark. For this purpose we construct a doppelganger for the US economy based on synthetic control methods as developed by Abadie and Gardeazabal (2003) and Abadie et al. (2010, 2015). Ideally, the doppelganger behaves just like the US economy, except that it did not get "treated" by Trump.

As in our earlier study on the Brexit vote, we construct the doppelganger on the basis of a "donor pool" of 24 OECD countries (Born et al., 2019). This is advantageous as it provides us with a set of relatively homogeneous countries and, importantly, we can also draw on a common data source: the Economic Outlook database of the OECD (issue 105, published in
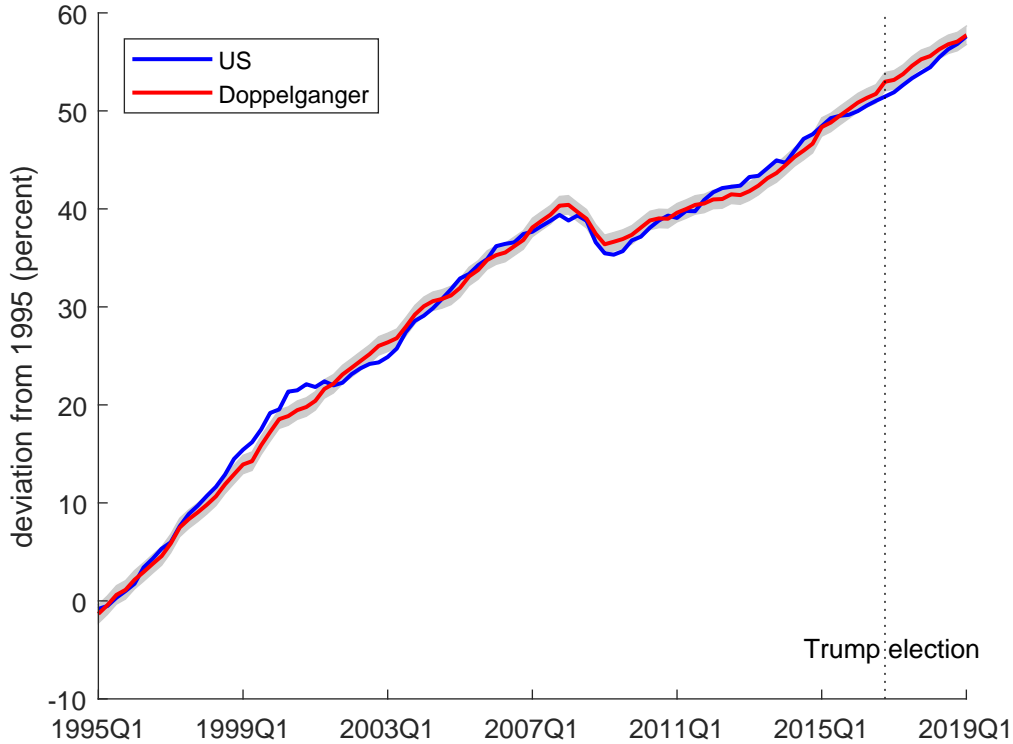
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Figure 1: Actual (real) GDP in the US (blue line) and in the doppelganger economy (red line). *Note:* shaded areas are one standard deviations of the difference prior to Trump election. Data source: OECD Economic Outlook 105 (May 2019).

May 2019). In all instances we use quarterly observations for the period 1995Q1–2019Q1. For our baseline specification we use real GDP (volume, market prices) which we normalize to unity in 1995. For alternative specifications, we also consider a measure of total employment (labor force survey basis), the total labor force, and the unemployment rate.

The doppelganger is a weighted average of the countries in the donor pool. The weights are determined by minimizing the distance between real GDP of the US and of the doppelganger prior to the treatment. Following Abadie and Gardeazabal (2003) and Abadie et al. (2010), we also match the pre-Trump-election averages of a number of country characteristics.[1] In our application, they are the GDP shares of consumption, investment, and net exports, plus labor productivity growth and the employment share in the population. Formally, we let $\mathbf{x_1}$

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[1]In order to best match on "predictors" of growth, we take averages of covariates one year prior to the election, that is, 2015Q3 to 2016Q2.

Table 1: Matching of covariates

	US	Doppelganger
Consumption / GDP	69.1	61.4
Investment / GDP	20.5	20.1
Net Exports / GDP	-4.3	-0.3
Labor productivity growth	-0.08	-0.06
Employment share	62.7	65.1

Note: All numbers are in percent. Labor productivity growth is the log difference between quarterly real GDP and quarterly total employment; employment share is the ratio between total employment and the working age population.

denote the (92×1) vector of 87 observations for real GDP and 5 covariate averages in the US and let $\mathbf{X_0}$ denote a (92×24) matrix with observations in the countries included in the donor pool. Finally, we let $\mathbf{w}$ denote a (24×1) vector of weights w_j, $j = 2, \ldots, 24$. Then, the doppelganger is defined by $\mathbf{w}^*$ which minimizes the following mean squared error:

$$(\mathbf{x_1} - \mathbf{X_0 w})' \mathbf{V} (\mathbf{x_1} - \mathbf{X_0 w}) \,, \tag{1}$$

subject to $w_j >= 0$ for $j = 2, \ldots, 25$ and $\sum_{j=2}^{25} w_j = 1$. In this expression, $\mathbf{V}$ is a (24×24) symmetric and positive semidefinite matrix.[2]

The doppelganger is a weighted average of the countries in the donor pool. The weights are determined by minimizing the distance between the observations for the US and for the doppelganger prior to the "treatment" which we assume takes place in 2016Q4. We thus match observations for the period 1995Q1–2016Q3 and allow for a possible effect of the treatment starting 2016Q4.[3]

Figure 1 and Table 1 show the results. The figure displays the time series for real GDP in

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[2]$\mathbf{V}$ is a weighting matrix assigning different relevance to the characteristics in $\mathbf{x_1}$ and $\mathbf{X_0}$. Although the matching approach is valid for any choice of $\mathbf{V}$, it affects the weighted mean squared error of the estimator (see the discussion in Abadie et al. (2010), p. 496). Following Abadie and Gardeazabal (2003) and Abadie et al. (2010), we choose a diagonal $\mathbf{V}$ matrix such that the mean squared prediction error of the outcome variable (and the covariates) is minimized for the pre-election period. Including the covariates in the optimization differs from Kaul et al. (2018) who have raised concerns about including all pre-intervention outcomes together with covariates when using the SCM.

[3]In an alternative specification we consider 2017Q1 as the treatment date, that is, the time when Trump actually took office, and find very similar results.

Table 2: Composition of GDP doppelganger: country weights

Australia	0.17	Austria	<0.01	Belgium	<0.01	Canada	<0.01
Denmark	<0.01	Finland	<0.01	France	<0.01	Germany	<0.01
Hungary	<0.01	Iceland	<0.01	Ireland	0.05	Italy	<0.01
Japan	<0.01	Korea	<0.01	Luxembourg	<0.01	Netherlands	<0.01
New Zealand	0.17	Norway	<0.01	Portugal	0.16	Slovak Republic	<0.01
Spain	<0.01	Sweden	<0.01	Switzerland	<0.01	United Kingdom	0.45

the US (blue line) and in the doppelganger economy (red line). The shaded area represents one standard deviation of the pre-treatment difference between the US and its doppelganger. Note that the match is imperfect as our procedure determines 24 parameters (country weights) in order to match more than 90 observations. This being said, both series display a very high degree of co-movement prior to the election—both at low and high frequencies. In the table, we show how the doppelganger performs in terms of the other targets. By and large, we find the performance satisfactory and conclude that the doppelganger provides us with a meaningful counterfactual for macroeconomic performance in the absence of Trump.

Table 2 displays the country weights (rounded to the second digit) that define the doppelganger economy. The United Kingdom is assigned the largest weight. Since macroeconomic economic performance in the UK was rather weak following the referendum our doppelganger provides a conservative benchmark (see Born et al., 2019).[4] In addition, there are significant contributions by Australia, Ireland, New Zealand and Portugal. Overall, this weighting scheme appears plausible, even though our purely data-driven approach allows us to refrain from a structural interpretation of the country weights.

3 Assessing Trump's macro impact

We are now in a position to quantify the macroeconomic impact of Trump. In order to do this we contrast the economic performance in the US and the doppelganger economy in the quarters following the election. Our identification assumption is that—from a macroeconomic

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[4]Also, in additional experiments (not reported), we find that our results are robust to excluding the UK from the donor pool.

point of view—the doppelganger and the US were equally likely to receive the "treatment" of electing Trump as president. Hence, the difference between the US and its doppelganger after the election is due to Trump. Put differently, the doppelganger is the appropriate benchmark to assess the macroeconomic impact of Trump.

Our identification assumption is plausible because prior to the election there were no *macroeconomic* trends which set the US apart from the countries in our donor pool. Also, by now it has become increasingly clear that economic factors played a limited role for the election outcome. Mutz (2018), for instance, finds that "change in financial wellbeing had little impact on candidate preference." The key factor, she finds, was *perceived status threat*: "White Americans' declining numerical dominance in the United States together with the rising status of African Americans and American insecurity about whether the United States is still the dominant global economic superpower..."(p. 1).[5] In addition it is also important to recall that the election outcome took most observers by surprise (see, e.g., Wright and Wright, 2018). It is therefore unlikely that our results are contaminated by anticipation effects.

Figure 2 shows the results as it displays the development of various macroeconomic indicators since the election. In each case we contrast actual developments in the US (blue line) and those in the doppelganger economy (red line). The shaded areas correspond to one standard deviation of the pre-treatment difference between output of the US and the doppelganger. Real GDP is shown in the upper left panel. Here we zoom into the post-election period of the same graph shown in Figure 1 above and normalize both time series to equal zero at the time of the election. This allows us to assess a possible Trump effect in a transparent way. The vertical axis measures the deviation from the level at the time of the election in percent.

We find that by and large the path of real GDP since the election has been very similar in the US and in the doppelganger economy. In the early phase after the election, the

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[5]Mutz (2018) also observes that the "left behind" thesis—"the theory that those who lost jobs or experienced stagnant wages due to the loss of manufacturing jobs punished the incumbent party for their economic misfortunes" (p. 1)—appears implausible in the first place because of a timing issue. After all, at the time of the election the economic picture appeared relatively benign.
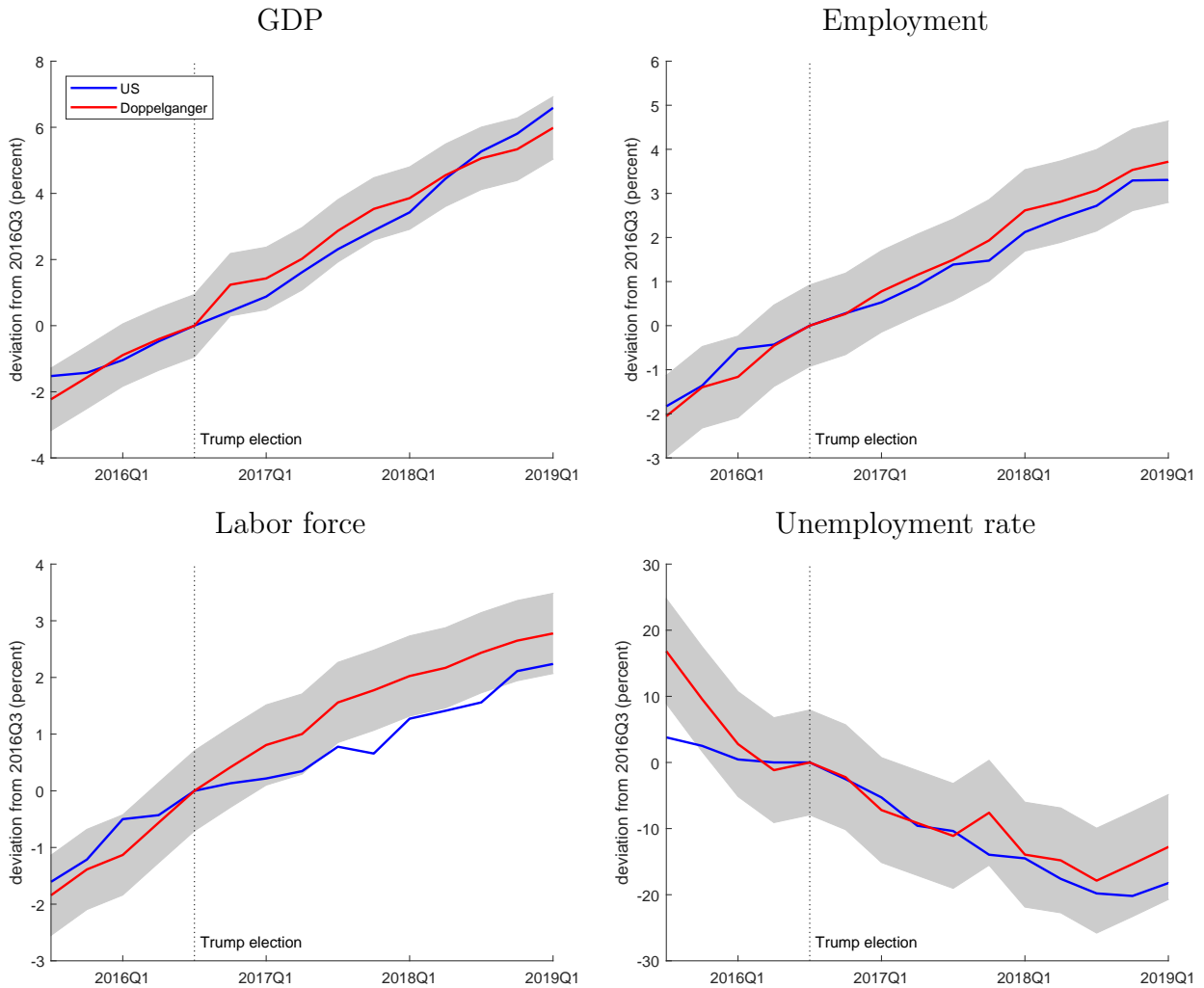
Figure 2: Macroeconomic performance of US economy (blue line) and doppelganger benchmark (red line). *Note:* shaded areas are one standard deviations of the difference prior to Trump election. Data source: OECD Economic Outlook 105 (May 2019).

US somewhat underperformed relative the doppelganger, but it caught up since early 2018 and has actually overtaken the doppelganger somewhat by the end of our sample (2019Q1). Importantly, however, US GDP has been evolving within the one-standard-deviation band around the doppelganger throughout. At the end of the sample the GDP gain of the US relative to the doppelganger is less than 1 percentage point, and statistically insignificant.[6]

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[6]More formally, we follow Hahn and Shi (2017) and use the end-of-sample instability test by Andrews (2003) to test whether the post-election doppelganger gap and all the pre-election doppelganger gaps of the same length can be considered to come from the same distribution. We cannot reject this hypothesis (p-value = 0.823).

Put differently, while GDP growth in the US economy was strong since the election, this performance is *not exceptional*: the US hardly performed better than its doppelganger.

This result is confirmed by the other indicators shown in Figure 2. Note that in each case we construct a new doppelganger based on matching the behavior of the variable of interest prior to the election. Employment is shown in the upper-right panel. Here the doppelganger somewhat outperforms the US, but also this effect is small and transient. The lower-left panel shows the evolution of the labor force. Since the election and up until 2019Q1, the growth of the labor force in the US is close to what we observe for the doppelganger. Notably, it is within the one-standard-deviation band of the pre-treatment difference. Finally, observe that a similar picture emerges for the unemployment rate. So far, the unemployment rate in the US is very close to, but somewhat lower than in the doppelganger economy. In all instances we perform the end-of-sample instability test by Andrews (2003) and cannot reject the hypothesis the performance in the US and the doppelganger economy has been the same. In sum, we cannot detect a Trump effect in terms of macroeconomic performance up to 2019Q1.

4 Conclusion

During the first 2.5 years after he took office, the impact of Donald Trump on the macroeconomic performance of the US economy has been negligible. Neither do we measure an exceptional output performance, nor do other important macroeconomic indicators suggest that the US economy is doing particularly well because of Trump. The key to this finding is the choice of an appropriate benchmark: we use the synthetic control method to construct a doppelganger economy which serves as a counterfactual for what would have happened in the US in the absence of Trump.

Still, we mention two caveats. First, a potential concern could be that the US is well integrated in the global economy so that its policies are also felt across the globe. It could be,

in other words, that Trump's policies lifted all boats so that we don't find a differential effect. However, it is unlikely that the missing "Trump effect" is simply the result of spillovers to the rest of the world because several of the policies implemented by the Trump administration had either a domestic focus and where meant to reduce foreign output growth. Second, the output performance since 2018Q1 is consist with the notion that the tax reform, in particular, provided a significant boost to the economy and that it just takes more time for these effects to materialize to a full extent.

At this point we conclude that President Trump largely inherited the "greatest economy ever". That said, we also note that there is no evidence to date that President Trump caused a deterioration of macroeconomic performance in the US: He is a "stable genius" indeed.

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