The Effect of Withdrawing from the CFA Union on French Foreign Aid: Assessment of the Madagascar Case with the Synthetic Control Method*

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Abstract

The Communauté Financière Africaine (CFA) union consists of African countries that use the CFA franc, a financial arrangement rooted in French colonial rule. While the economic effects of CFA membership have been widely studied, little attention has been given to its political consequences. Using the synthetic control method, this article examines Madagascar's withdrawal from the CFA in 1973, finding that it led to a decrease in the transfer of French foreign. This result suggests that Madagascar received substantially less French aid than what it would have otherwise received had it stayed within the union. The article highlights the significant political implications of CFA union membership and contributes to the broader literature that underscores France's post-colonial influence over its former colonies.

*Thanks to ....

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Introduction

The Communauté Financière Africaine (CFA) union consists of African countries that use the CFA franc, a financial arrangement rooted in French colonial rule. The CFA was officially established in 1945 and has been considered as an important tool of influence that is particular to France. Clearly, benefiting the African members of the union was not the sole purpose that motivated the foundation of the union. For instance, De Gaulle's decision in 1960 to flood Guinea with counterfeit bills when Sekou Toure refused to join the union (Keita, 2021) is a vivid illustration of how France was willing to use coercive measures to pressure countries to join or remain in the CFA franc zone. This suggests France's readiness to manipulate economic conditions to maintain political influence over its former colonies.

The potential influence of France with respect to countries in the CFA union still remains very much relevant today as 14 African countries are currently members of the union. Furthermore, the monetary union often sparks intense debates within its member countries as many political elites raise the issue of membership as a matter of sovereignty (Bavier and Balima, 2024). However, while the economic effects of CFA membership have been widely studied, little attention has been given to its political consequences, and when addressed, they are often discussed only descriptively. This speaks to a broader issue regarding research on France's influence on the international stage. While there has been an abundance of qualitative works in political science investigating the influence of France over its former colonies, surprisingly few scholars have conducted systematic studies on this topic.

The lack of such quantitative research may be due to two reasons. First, much of international relations (IR) scholarship has concentrated on the foreign policies of superpowers, particularly the United States, due to the availability of the data, as well as their apparent significance in world politics. Second, the apparent limited regional influence of France may have prompted scholars to largely overlook its influence in a more serious way. However, there are good reasons to examine the role of Paris more seriously precisely because of its importance as a regional player. For example, as Gibilisco and Montero (2022) show France and the United States have often displayed behaviors of strategic complementarity or competition with respect to intervening in civil wars in Africa.

This article focuses on CFA membership, which, as we argue, has not only economic but also significant political consequences. Specifically, it examines Madagascar's withdrawal from the CFA union in 1973. We expect that, as a consequence of its withdrawal, Madagascar received substantially less French aid than what it would have otherwise received had it stayed within the union. We contend that the reduction in foreign aid to Madagascar reflects a shift in France's political strategy toward its former colony. This reduction not only indicated strained relations between the two countries but also potentially served as a coercive measure to pressure Madagascar into rejoining the CFA union.

The contribution of this study is mostly twofold. First, this paper represents the first quantitative study to examine the *political* consequence of exiting the CFA union using a empirically rigorous method. To thst of the our knowledge, no quantitative study has been conducted to assess the political consequences of CFA membership, despite relevant and far-reaching implications such findings have for studies on international political economy, post-colonialism and interstate relations. This study represents a first step in that direction. Second, this study has implications for economic studies on the CFA union, which focus on economic outcomes and may not fully consider the extent to which the French government may respond to whether members stay or exit the union. For example, Fielding and Shields (2001, 217) argue that Niger might want to reconsider staying in the union because of the lack of capability to deal with shocks to its economy. The findings presented here show that the potential decrease in French foreign aid may also be an important factor to consider.

CFA

The CFA union was founded in 1945. The nominal purpose of the union was to help the member countries in Africa gain macroeconomic stability. As René Pleven, the French finance minister, once stated: "[i]n a show of her generosity and selflessness, [metropolitan France,] not wishing to impose on her far-away daughters the consequences of her own poverty."[1] The CFA union nominally consists of two separate unions. The West African Economic and Monetary Union consists of eight members, namely Benin, Burkina Faso, Guinea-Bissau, Ivory Coast, Mali, Niger, Senegal and Togo. The Economic and Monetary Community of Central Africa currently consists of six members, namely Cameroon, the Central African Republic, Chad, Equatorial Guinea, Gabon, and the Republic of the Congo. While these two unions are nominally separate, scholars often consider them to be part of the same union because both currencies were pegged to the French franc in 1948, and later to the euro in 1999 (Fielding and Shields, 2001).

Not all countries that belong to the CFA union are former French colonies. In particular, Equatorial Guinea and Guinea-Bissau were once colonies of Spain and Portugal, but opted to join the union in 1985 and 1997 respectively (Taylor, 2019). Different countries joined and withdrew from the union at different times. For example, Mali left in 1962 only to rejoin

[1] "[M]ontrant sa générosité, son désintéressement, ne voulant pas imposer á ses filles lointaines les conséquences de sa propre pauvreté". Quoted in Pigeaud and Sylla (2018, 24)

in 1984.

CFA union membership obviously has important economic implications. Countries using the CFA franc, for instance, would obviously have more restricted monetary policies as each of the two unions would have only a "single monetary policy" (Fielding and Shields, 2001, 201). Intuitively, this implies that a government may only be able to rely on fiscal policies for dealing with business cycles. Some readers might argue that many of these developing countries do not "need" autonomous monetary policies because they do not suffer from economic recessions. However, according to Fielding and Shields (2001, 201), one major disadvantage of being a member is the loss of country-specific monetary policy to respond to economic shocks. In other words, monetary policies matter for even such developing economies.

While it is difficult to assess the net impact of CFA union membership on economic welfare, economists have conducted numerous studies examining economic outcomes of being a member of the CFA union. For example, Strong (2021) considers whether joining the CFA union helped Mali with its economic growth. Fielding and Shields (2001) examine the effect of economic shocks on inflation and growth for the members of the union. Hallet (2008) suggests that the membership has provided economic stability for its members.

In contrast to the abundance of studies examining economic outcomes, to the best of the authors' knowledge, no quantitative study has been conducted to examine the political implications of CFA franc membership. There are certainly good reasons to believe that France does not manage the CFA union merely out of goodwill. One particularly striking example of France's coercive tactics regarding union membership was de Gaulle's response to Sekou Touré's refusal to join the CFA union. In retaliation, de Gaulle authorized Operation

Persil, a plan to flood Guinea's economy with counterfeit currency, destabilizing its financial system.

CFA and French Foreign aid

We argue that, as a result of its withdrawal, Madagascar received significantly less French aid than it would have had it remained within the union. Why would Paris reduce its aid in response to Madagascar's withdrawal from the CFA union? We argue that the reduction in foreign aid to Madagascar reflects a shift in France's political strategy toward its former colony. This decrease not only signaled deteriorating relations between the two countries but also likely served as a coercive tool, aimed at pressuring Madagascar to rejoin the CFA union.

First, Madagascar's withdrawal necessarily resulted in weakened political ties between the two countries. Scholars have long argued that the transfer of foreign aid is not only determined with motivations of humanitarian assistance (e.g., Alesina and Dollar, 2000; Bearce and Tirone, 2010). It is well-established in the foreign aid literature that major donors give aid to recipients with deep political ties (Alesina and Dollar, 2000; Dreher, Sturm and Vreeland, 2009; Bearce and Tirone, 2010; Carter and Stone, 2015). For example, Alesina and Dollar (2000) argue that colonial past and security alliances are important determinants of the allocation of foreign aid. Given Madagascar's withdrawal from the CFA union, France had less incentive to provide the same level of aid. Paris's strategic interest in maintaining high aid flows diminished, reflecting a reduced priority in its foreign assistance strategy.

Furthermore, a long line of research across multiple fields in political science suggests that donors tend to use foreign aid to promote shorter-lived political cooperation. For example, Dreher, Nunnenkamp and Thiele (2008) argue that major power donors may seek to buy votes through aid. Similarly, Carter and Stone (2015) argue that poor democracies tend to vote with the United States not because of shared democratic values but rather because of linkages between aid and voting. A recipient country's dependence on foreign aid may allow a given donor to gain leverage over the recipient in other policy domains. For example, Miller (2014) discusses the role of using aid as a leverage to curb nuclear proliferation of the recipient states.

Going back to the relationship between France and Madagascar, Paris may have been willing to temporarily decrease foreign aid as a form of coercion to induce Madagascar into joining the CFA union again. Also, if the union serves as an instrument of influence for France, Paris may have been willing to make an example of Madagascar by reducing aid. While Madagascar's exit from the union may not have directly threatened French influence in Africa as a whole, it is likely that France sought to send a signal to other members that leaving the union could result as a reduction of foreign aid.

Research Design

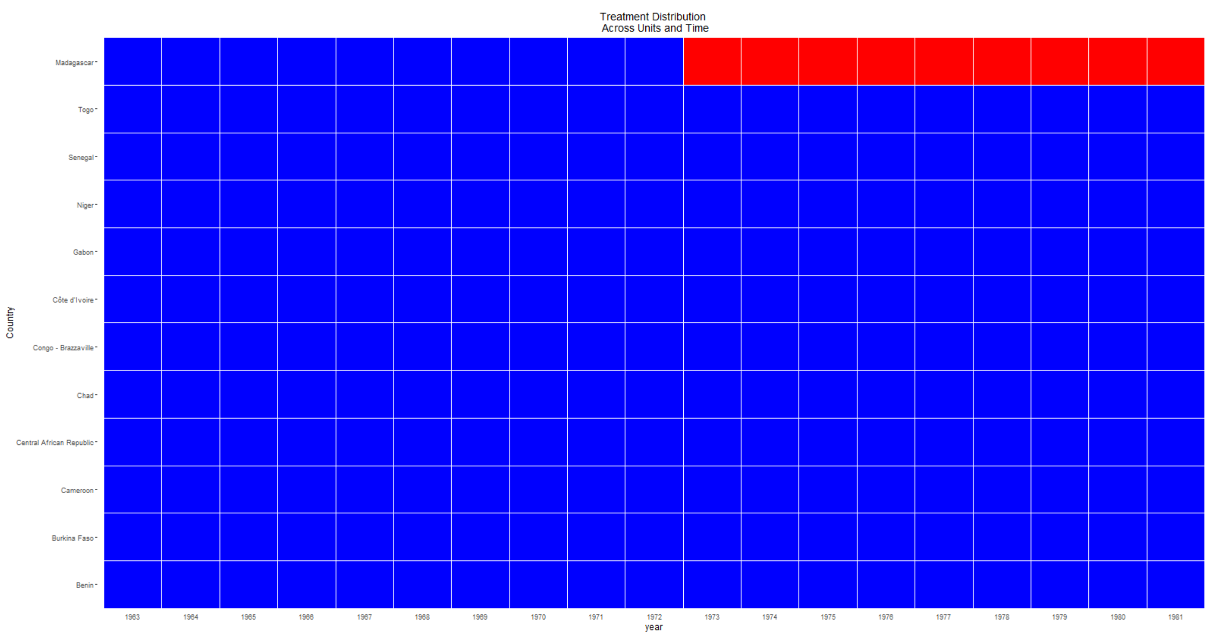
Treatment and Dependent Variable

Given the preceding discussion, we consider the withdrawal from CFA union to be the "treatment." The dependent variable of interest is French aid to the recipient countries. The data on French aid are drawn from the World Bank database.[2] For the main analysis,

[2]It is well-known that data on economic statistics are often full of measurement errors and have missing values (Barbieri, Keshk and Pollins, 2009; Gleditsch, 2010). We impute the missing values of aid with zero. The justification is similar to that of Gleditsch (2010) who notes a similar issue in the case of bilateral trade: while there might have been *some* aid transferred to a recipient in a particular year, the amount was not sufficiently significant to be recorded in the official statistics of the donor government. Based on this

we present the results based on total aid transferred.[3] The pool of countries examined are Benin, Burkina Faso, Cameroon, Central African Republic, Chad, the Republic of Congo, Ivory Coast, Gabon, Mauritania, Niger, Senegal, Togo, and Madagascar between 1963 and 1981. Madagascar's withdrawal from the union took place in 1973 (Herrmann and Bos, 2019). This panel setup is summarized in Figure 1.

Figure 1: CFA Union Membership



The synthetic control method has widely been used to conduct inference for such panel settings (Abadie, Diamond and Hainmueller, 2010). Although the synthetic control method is widely used as a tool for conducing robust causal inference, there are some important considerations. One important theoretical condition that needs to be satisfied for this to be a valid treatment is that there should be a non-zero probability for each unit to receive the treatment. We believe that this assumption is satisfied. In other words, it is at least

assumption, the amount of aid transferred would be close to zero even if not exactly nil.

[3]In the appendix, we present results with log-transformed aid as well as aid per capita for robustness checks.

theoretically possible for each of the member countries to withdraw from the union. In fact, this is what some of the other countries did as discussed above. The second consideration is to make sure that we have only one unit that receives the treatment during the time period that we analyze. We chose the above period to take into account of different countries joining and withdrawing from the union in different years.

Covariates

To control for observed confounders that could influence the decision to transfer aid as well as Madagascar's decision to leave or stay within the union, we control for various predictors that may confound the relationship between French aid to Madagascar and the withdrawal from the CFA union. First, we control for the GDP per capita as well as the population. Both of these factors would plausibly be correlated with how much foreign aid Paris assigns to each of the recipient countries as well as influencing the member countries' considerations on whether to leave the union. The data on these two variables are drawn from the Maddison Database Project (Maddison, 2022) and the World Bank database respectively.

Second, scholars have argued that political and military factors could be an important confounder. In particular, Pettersson and Johansson (2013) argues that major powers are likely to transfer more aid to countries that trade more with the donor. We thus control for imports to and exports from France. The data on bilateral trade are drawn from Barbieri, Keshk and Pollins (2009).

Third, we control for the ideal point distance between the recipient countries and France. Past research shows that major power donors may seek to give aid to buy their votes at the United Nations (Dreher, Nunnenkamp and Thiele, 2008; Carter and Stone, 2015). At the same time, the degree of affinity might affect one's decision to either stay within or leave the union. The data on ideal point distance to France are drawn from Bailey, Strezhnev and Voeten (2017).

Fourth, we control for the regime type. Democratic major power donors may seek to give more aid to countries that, overall, have good governance and are democratic although the relationship may be less clear for the Cold War period. At the same time, there is a long line of research suggesting that democratic countries tend to have closer relationships. We thus control for the regime score using Pemstein, Meserve and Melton (2010) where higher scores indicate more democratic regimes.

Fifth, we control for the total number of visits from and to Paris. Past research shows that leader visits may be associated with higher volumes of aid transfers (Hoshiro, 2020; Malis and Smith, 2021). At the same time, leaders may build mutual trust through face-to-face meetings (Holmes, 2013), and this may potentially affect the duration of membership in an institution. We thus control for the number of visits conducted with France using a novel dataset we collected.

Lastly, there is also a possibility that U.S. aid could be an important confounder. There is an abundance of qualitative literature on the strategic rivalry between the United States and France. For example, Muehlenbeck (2012) argues that the United States sought to exclude French influence from its former colonies by giving them aid. Thus, there is some possibility that Madagascar may have been willing to leave the union even at the risk of receiving less aid from Paris if it believed that aid from Washington would outweigh such costs. The data on U.S. aid are drawn from McManus and Nieman (2019).

We take the mean values of the covariates for the pre-treatment period (1963-1973) mentioned above and include French aid transferred in 1970 and 1972 for a good fit. We used the **tidysynth** R package to implement our analysis (Dunford, 2021).

Empirical Findings

Figure 2 presents the results. We see that there is a reasonably good fit between the observed and the synthetic trends for the pre-treatment periods. The divergence between the two trends after suggests that there is an effect of the withdrawal from the CFA union on the transfer of French foreign aid. In particular, we see that Madagascar received less foreign aid from France than what it would have received had Madagascar remained within the union.

Figure 3 presents the treatment effects over time. We see that the decrease in French foreign aid is much greater for Madagascar compared to the units in the control group. The purple line after 1973 shows the effect of leaving the union on the transfer of French aid for Madagascar. We see that the reduction in aid is much greater compared to the placebo group represented by the gray lines. Figure 4 shows that the post-RMSPE/pre-RMPSE ratio is the highest for Madagascar.

Robustness Checks

We conduct several robustness checks in the appendix. First, we replicate the findings here with log-transformed aid as well as aid per capita as the dependent variables. We once again find that French aid to Madagascar decreased dramatically after the country left the CFA union. Second, recent research on the use of synthetic control provides some guidelines on the type of predictors one should include. In particular, Kaul et al. (2015) warn against using "all pre-intervention outcomes together with covariates" as predictors. Kim, Lee and Gupta

Figure 2: CFA Union Membership and French Foreign Aid

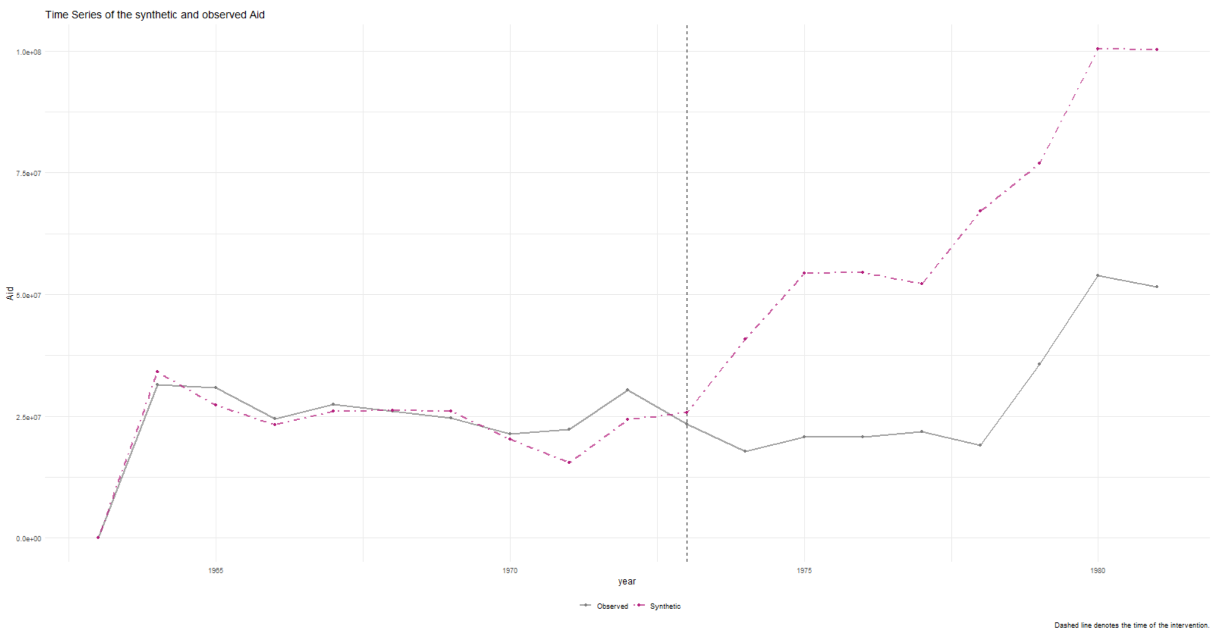


Figure 3: CFA Union Membership and French Foreign Aid

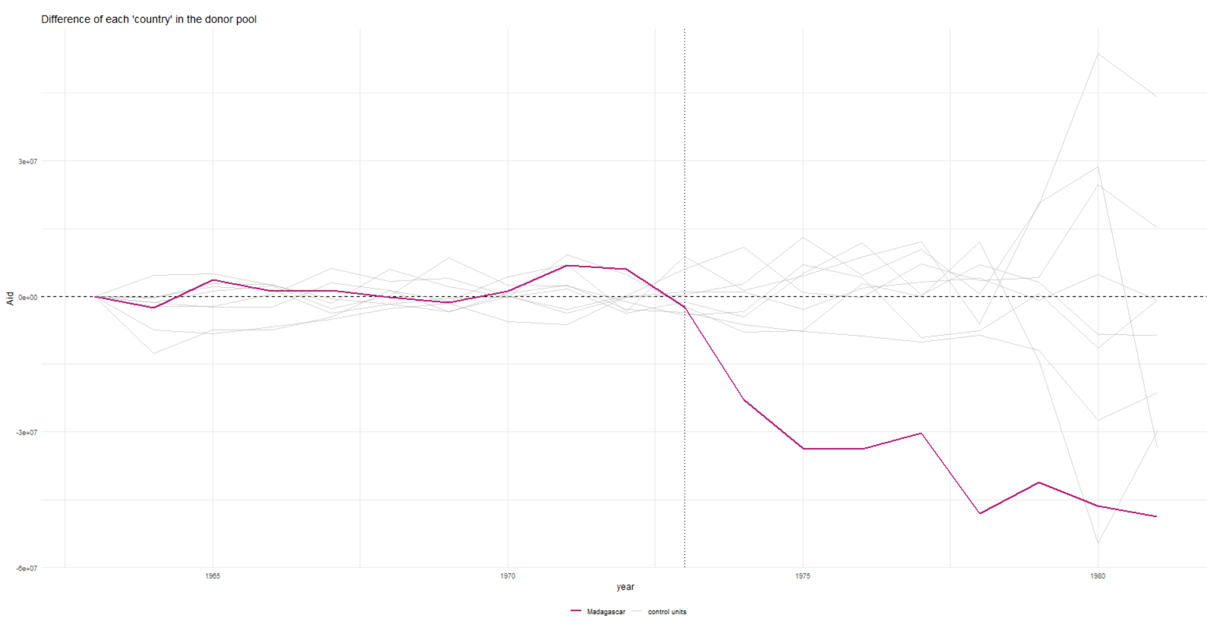
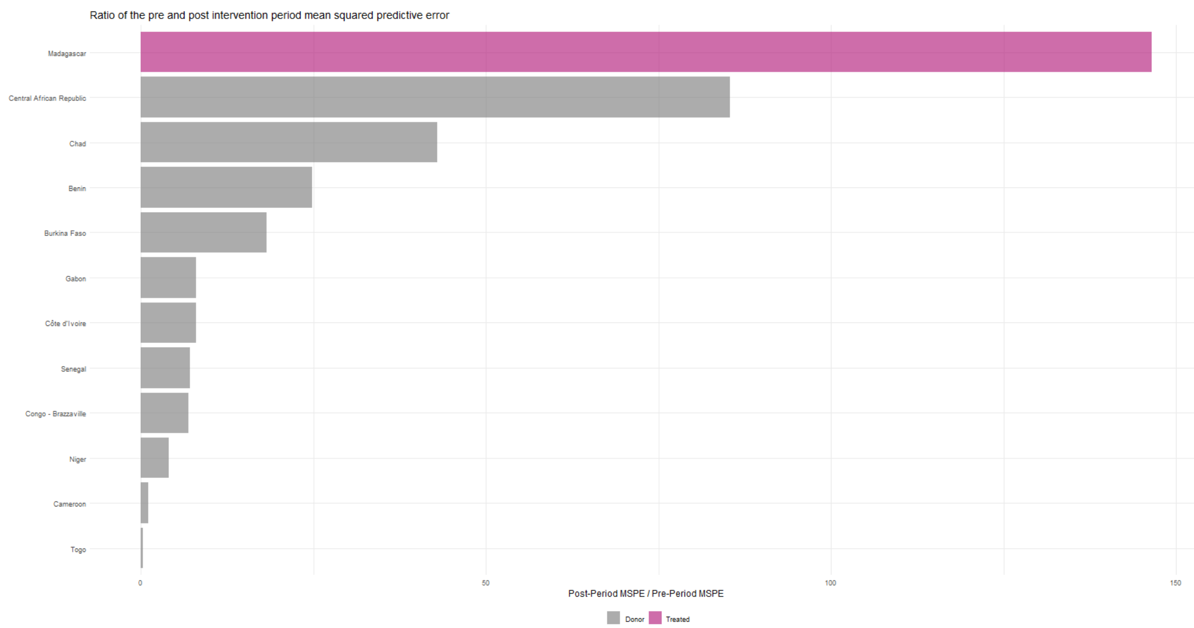


Figure 4: CFA Union Membership and French Foreign Aid



(2020) also show that including just pre-intervention outcomes as predictors can suffice for good inference. Thus, for clarity of the main analysis, we use only the pre-intervention outcomes as the predictors in the appendix. This also helps to alleviate the concern of overfitting. The results are shown to be robust.

Discussion and Conclusion

In this study, we asked: did France reduce its foreign aid to Madagascar when this former colony exited the union? We used the synthetic control method to assess this empirical puzzle. The results suggest that this was indeed the case. There are obvious limitations to the findings presented above. First, given the limited number of countries examined, the p-value fails to reach a standard level of statistical significance ($p < 0.05$) even if the post-RMSPE/pre-RMPSE ratio is the highest for Madagascar. It is important to remember, however, that the logic of using p-values generated through permutation tests with the synthetic control method differs from that of using p-values in standard regression analyses. As Abadie, Diamond and Hainmueller (2015, 500) notes, "the inferential exercises (and associated p-values) are restricted to the question of whether or not the estimated effect of the actual intervention is large relative to the distribution of placebo effects." We suggest that the synthetic control method used here may still provide some insight despite not reaching the conventional significance level. Indeed, the original application of synthetic control method in examining the effect of German reunification failed to reach the conventional significance level (Abadie, Diamond and Hainmueller, 2010).

Second, the historical context during which the withdrawal took place should be taken into account. France was willing to use punitive economic measures in the 1960s when Guinea refused to join the union by attempting to disrupt the economy. Such policies of economic disruption would probably be politically too costly today to be implemented. Similarly, although France might have been willing to decrease foreign aid in response to Madagascar's exit from the CFA union, such policies may receive greater scrutiny from the international community if implemented today should other countries follow suit.

Despite such shortcomings, we nonetheless believe that this study has important implications for international political economy, interstate relations and postcolonial studies. To the best of our knowledge, this is the first study to assess the political consequence of exiting the CFA union using quantitative methods. Of course, the lack of scholarly attention to a particular subject does not inherently mean that it should receive more attention. Scholars might have previously overlooked such questions because they are not inherently important. We suggest, however, that the political outcomes of CFA union membership is an important topic that political scientists should investigate further given its implications for a wide range of literature.

References

Abadie, Alberto, Alexis Diamond and Jens Hainmueller. 2010. "Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program." *Journal of the American Statistical Association* 105(490):493–505.

Abadie, Alberto, Alexis Diamond and Jens Hainmueller. 2015. "Comparative Politics and the Synthetic Control Method." *American Journal of Political Science* 59(2):495–510.

Alesina, Alberto and David Dollar. 2000. "Who Gives Foreign Aid to Whom and Why?" *Journal of Economic Growth* 5:33–63.

Bailey, Michael A, Anton Strezhnev and Erik Voeten. 2017. "Estimating Dynamic State Preferences from United Nations Voting Data." *Journal of Conflict Resolution* 61(2):430–456.

Barbieri, Katherine, Omar MG Keshk and Brian M Pollins. 2009. "Trading Data: Evaluating Our Assumptions and Coding Rules." *Conflict Management and Peace Science* 26(5):471–491.

Bavier, Joe and Boureima Balima. 2024. "For West African juntas, CFA franc pits sovereignty against expediency.".

URL: *https://www.reuters.com/markets/currencies/west-african-juntas-cfa-franc-pits-sovereignty-against-expediency-2024-02-13/*

Bearce, David H and Daniel C Tirone. 2010. "Foreign Aid Effectiveness and the Strategic Goals of Donor Governments." *The Journal of Politics* 72(3):837–851.

Carter, David B and Randall W Stone. 2015. "Democracy and Multilateralism: The Case of Vote Buying in the UN General Assembly." *International Organization* 69(1):1–33.

Dreher, Axel, Jan-Egbert Sturm and James Raymond Vreeland. 2009. "Development Aid and International Politics: Does Membership on the UN Security Council Influence World Bank Decisions?" *Journal of development economics* 88(1):1–18.

Dreher, Axel, Peter Nunnenkamp and Rainer Thiele. 2008. "Does US Aid Buy UN General Assembly Votes? A Disaggregated Analysis." *Public Choice* 136:139–164.

Dunford, Eric. 2021. "tidysynth: A tidy implementation of the synthetic control method." *R package version 0.1. 0* .

Fielding, David and Kalvinder Shields. 2001. "Modelling Macroeconomic Shocks in the CFA Franc Zone." *Journal of Development Economics* 66(1):199–223.

Gibilisco, Michael and Sergio Montero. 2022. "Do Major-Power Interventions Encourage the Onset of Civil Conflict? A Structural Analysis." *The Journal of Politics* 84(2):944–959.

Gleditsch, Kristian. 2010. "On Ignoring Missing Data and the Robustness of Trade and Conflict Results: A Reply to Barbieri, Keshk, and Pollins." *Conflict Management and Peace Science* 27(2):153–157.

Hallet, Martin. 2008. The role of the euro in Sub-Saharan Africa and in the CFA franc zone. Technical report Directorate General Economic and Financial Affairs (DG ECFIN), European . . . .

Herrmann, Clarissa and Jean-Michel Bos. 2019. "Africa's CFA franc - colonial relic or stabilizing force? – DW – 05/27/2019.”.

URL: *https://www.dw.com/en/africas-cfa-franc-colonial-relic-or-stabilizing-force/a-48908889*

Holmes, Marcus. 2013. “The Force of Face-to-Face Diplomacy: Mirror Neurons and the Problem of Intentions.” *International Organization* 67(4):829–861.

Hoshiro, Hiroyuki. 2020. “Do Diplomatic Visits Promote Official Development Aid? Evidence from Japan.” *Political Science* 72(3):207–227.

Kaul, Ashok, Stefan Klößner, Gregor Pfeifer and Manuel Schieler. 2015. “Synthetic Control Methods: Never Use All Pre-Intervention Outcomes Together with Covariates.”.

Keita, Mohamed. 2021. “Macron’s reforms to CFA franc don’t reduce financial dependence of former colonies.”.

URL: *https://foreignpolicy.com/2021/08/03/macron-france-cfa-franc-eco-west-central-africa-colonialism-monetary-policy-bitcoin/*

Kim, Sungjin, Clarence Lee and Sachin Gupta. 2020. “Bayesian Synthetic Control Methods.” *Journal of Marketing Research* 57(5):831–852.

Maddison. 2022. “Maddison Project Database 2020.”.

URL: *https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2020?lang=en*

Malis, Matt and Alastair Smith. 2021. “State Visits and Leader Survival.” *American Journal of Political Science* 65(1):241–256.

McManus, Roseanne W and Mark David Nieman. 2019. "Identifying the Level of Major Power Support Signaled for Protégés: A Latent Measure Approach." *Journal of Peace Research* 56(3):364–378.

Miller, Nicholas L. 2014. "The Secret Success of Nonproliferation Sanctions." *International Organization* 68(4):913–944.

Muehlenbeck, Philip E. 2012. *Betting on the Africans: John F. Kennedy's Courting of African Nationalist Leaders*. Oxford University Press.

Pemstein, Daniel, Stephen A Meserve and James Melton. 2010. "Democratic Compromise: A Latent Variable Analysis of Ten Measures of Regime Type." *Political Analysis* 18(4).

Pettersson, Jan and Lars Johansson. 2013. "Aid, Aid for Trade, and Bilateral Trade: An Empirical Study." *The Journal of International Trade & Economic Development* 22(6):866–894.

Pigeaud, Fanny and Ndongo Samba Sylla. 2018. *L'arme invisible de la Françafrique: une histoire du franc CFA*. La Découverte.

Strong, Christine O. 2021. "Did Mali Benefit from Joining the CFA Zone? An Analysis using the Synthetic Control Method." *Review of Development Economics* 25(2):931–955.

Taylor, Ian. 2019. "France à fric: the CFA zone in Africa and Neocolonialism." *Third World Quarterly* 40(6):1064–1088.

Online Appendix for

The Effect of Withdrawing from the CFA Union on French Foreign Aid: Assessment of the Madagascar Case with the Synthetic Control Method

List of Tables

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Table A1: Summary Statistics

Variables	Obs	Mean	Sd	Min	Max
French Aid	228	24,100,000	20,600,000	0	125,000,000
Visit to France	228	0.711	0.455	0	1
Visit from France	228	0.058	0.232	0	1
Population	228	4,115,028	2,219,410	532,592	9,207,310
Democracy	228	-0.427	0.271	-0.725	0.606
Imports to France	228	96,800,000	141,000,000	160,000,1	786,000,000
Exports from France	228	123,000,000	165,000,000,	9,700,001	1,190,000,000

Total Aid as the Dependent Variable

Pre-Intervention Outcomes as Sole Predictors

Figure A1: Total Aid: Pre-Intervention Outcomes as Covariates

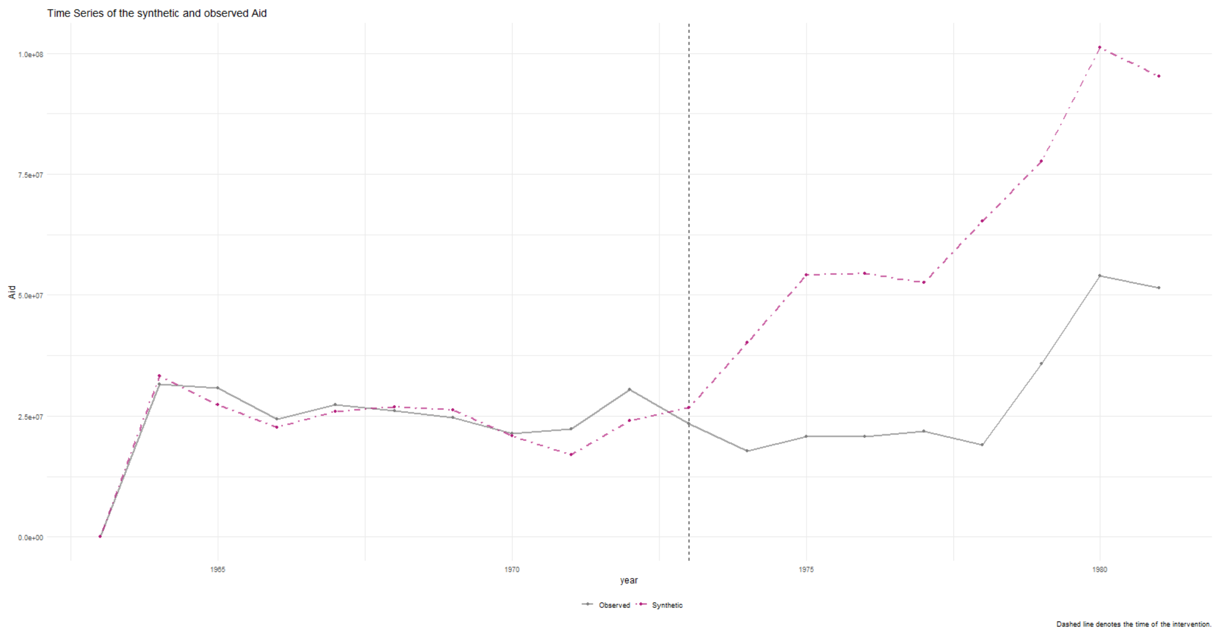


Figure A2: Total Aid: Pre-Intervention Outcomes as Covariates

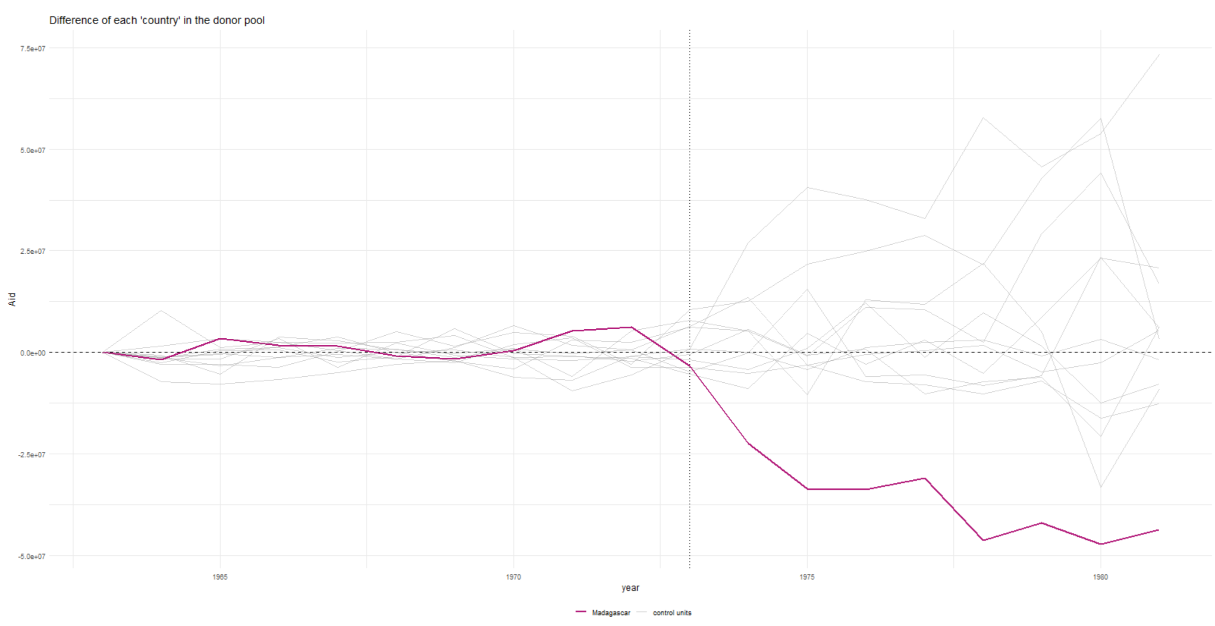
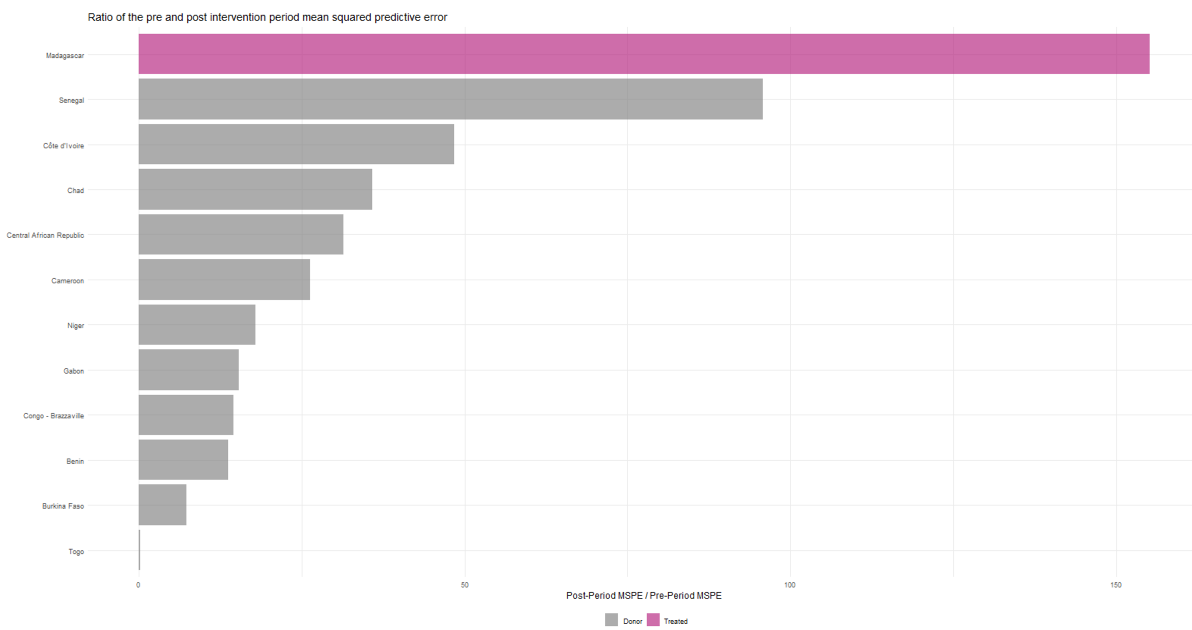


Figure A3: Total Aid: Pre-Intervention Outcomes as Covariates



Logged-transformed Aid as the Dependent Variable

Covariates and Aid in 1970 and 1972 as Predictors

Figure A4: Logged Aid: Independent Covariates

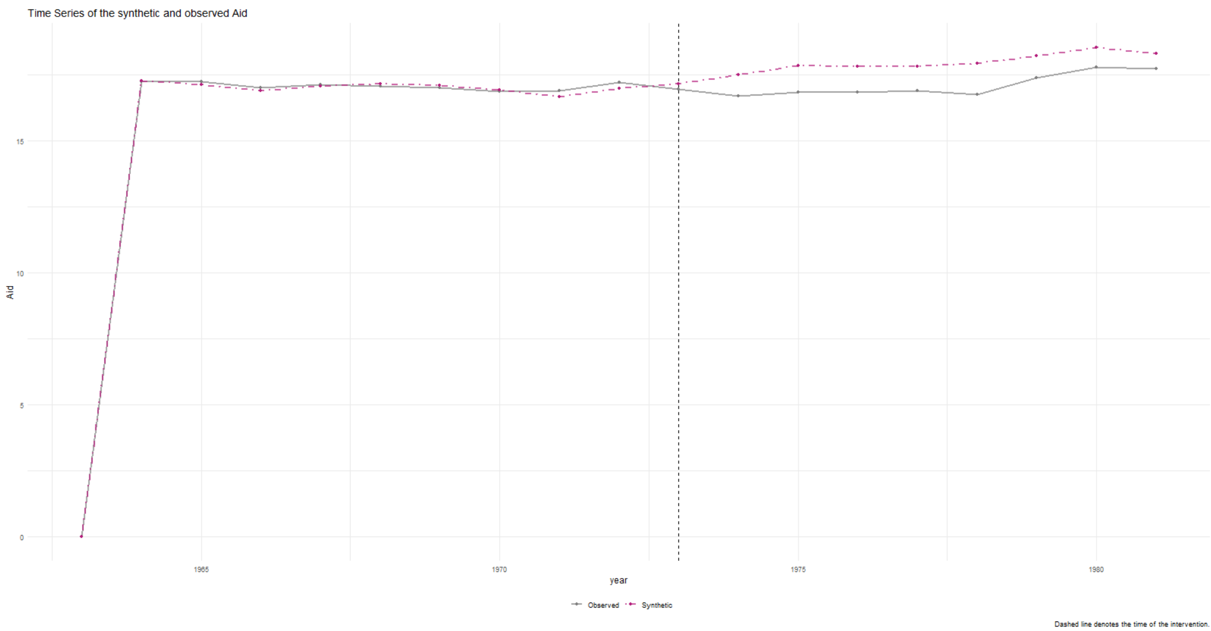


Figure A5: Logged Aid: Independent Covariates

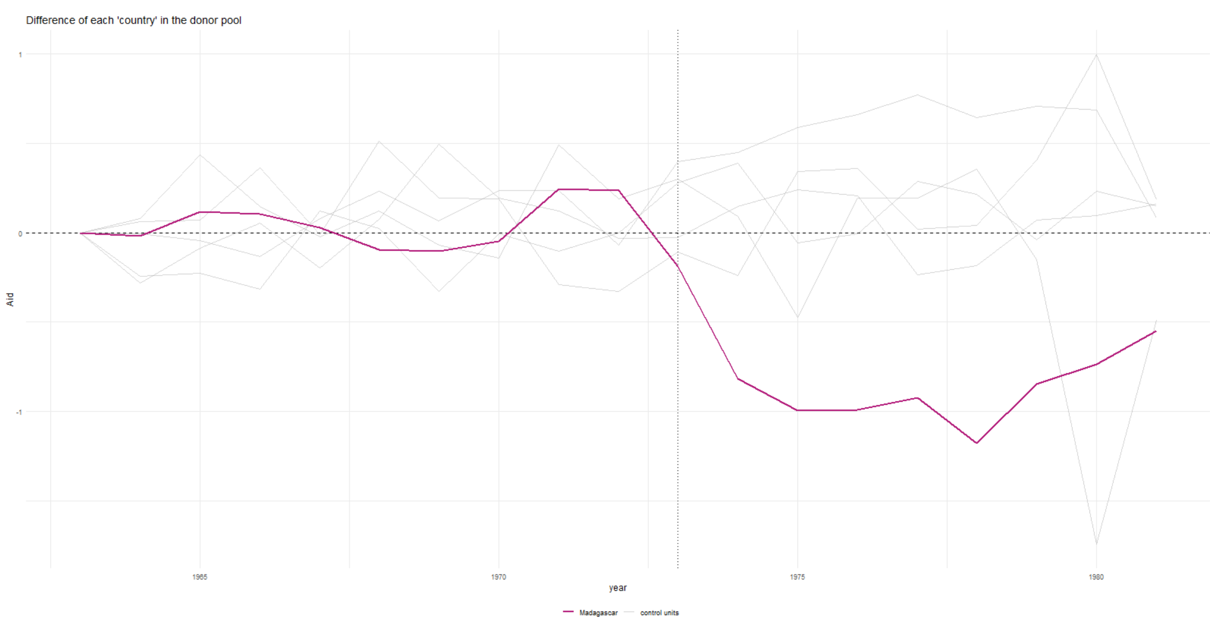
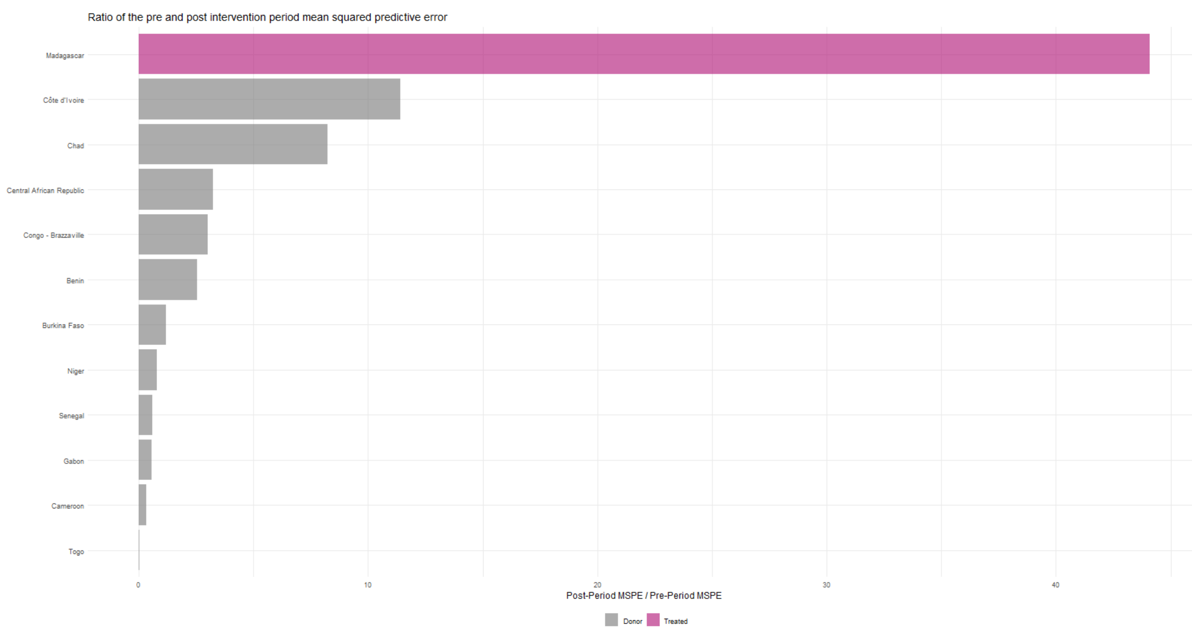


Figure A6: Logged Aid: Independent Covariates



Pre-Intervention Outcomes as Sole Predictors

Figure A7: Logged Aid: Pre-Intervention Outcomes as Covariates

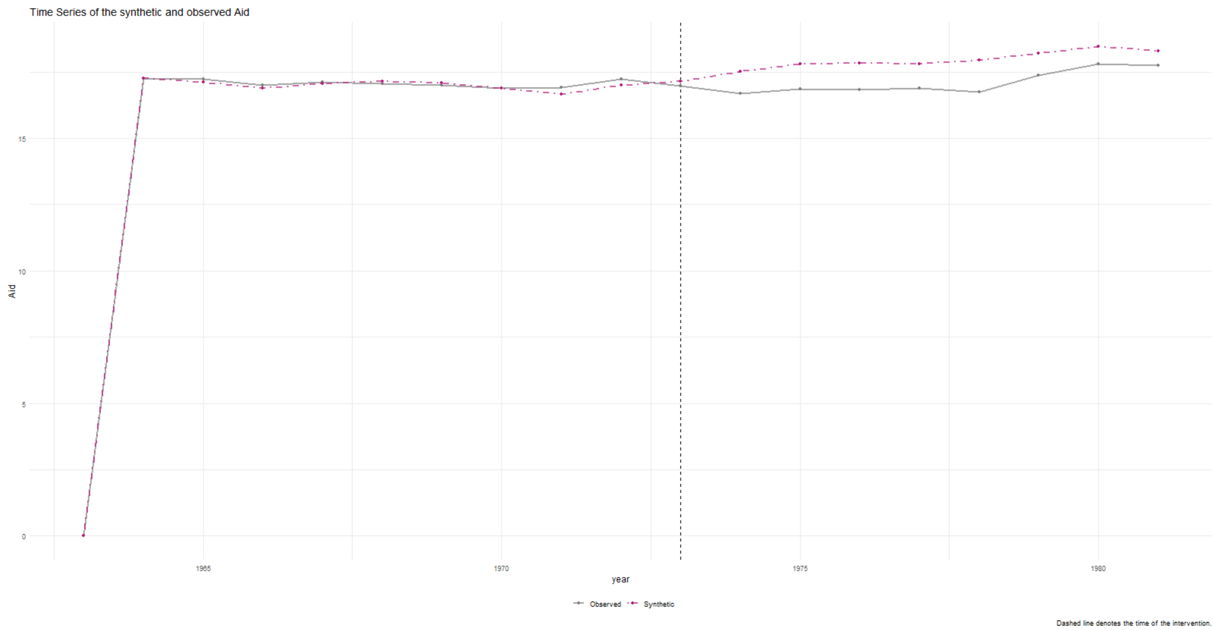


Figure A8: Logged Aid: Pre-Intervention Outcomes as Covariates

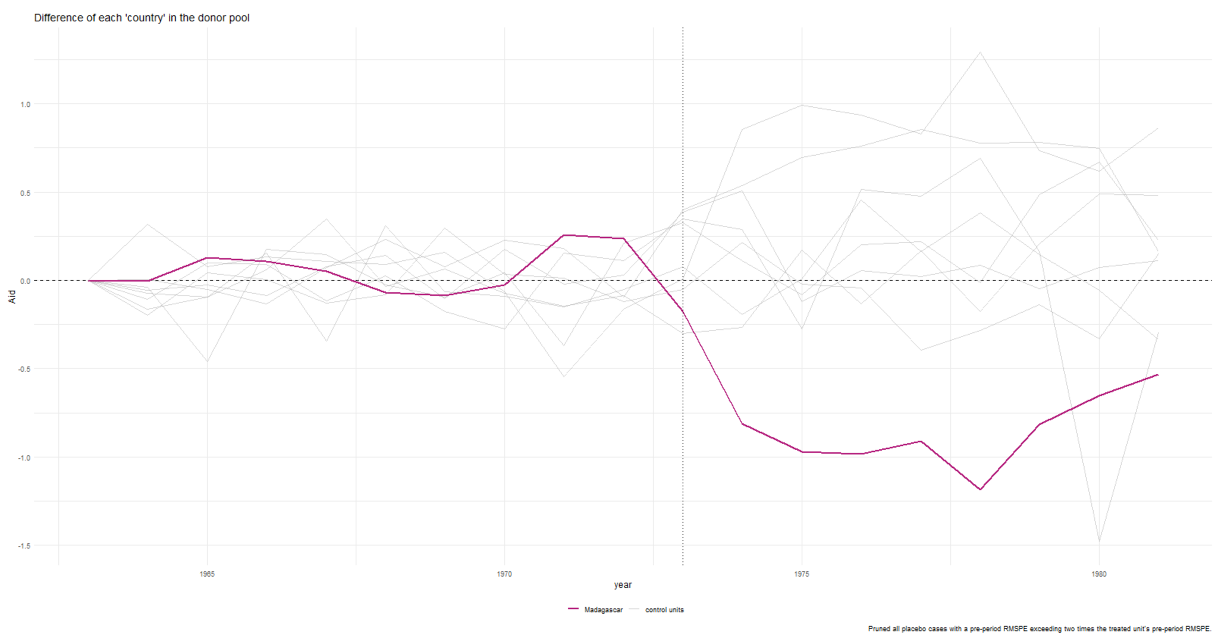
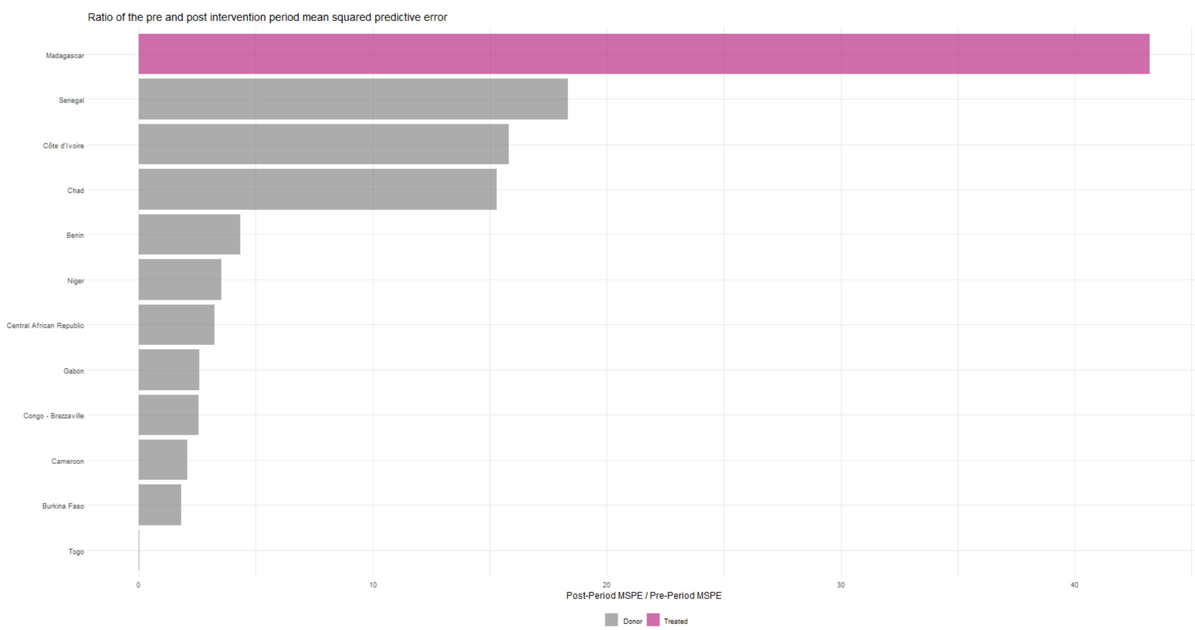


Figure A9: Logged Aid: Pre-Intervention Outcomes as Covariates



Aid per Capita as the Dependent Variable

Covariates and Aid in 1970 and 1972 as Predictors

Figure A10: Aid per Capita: Independent Covariates

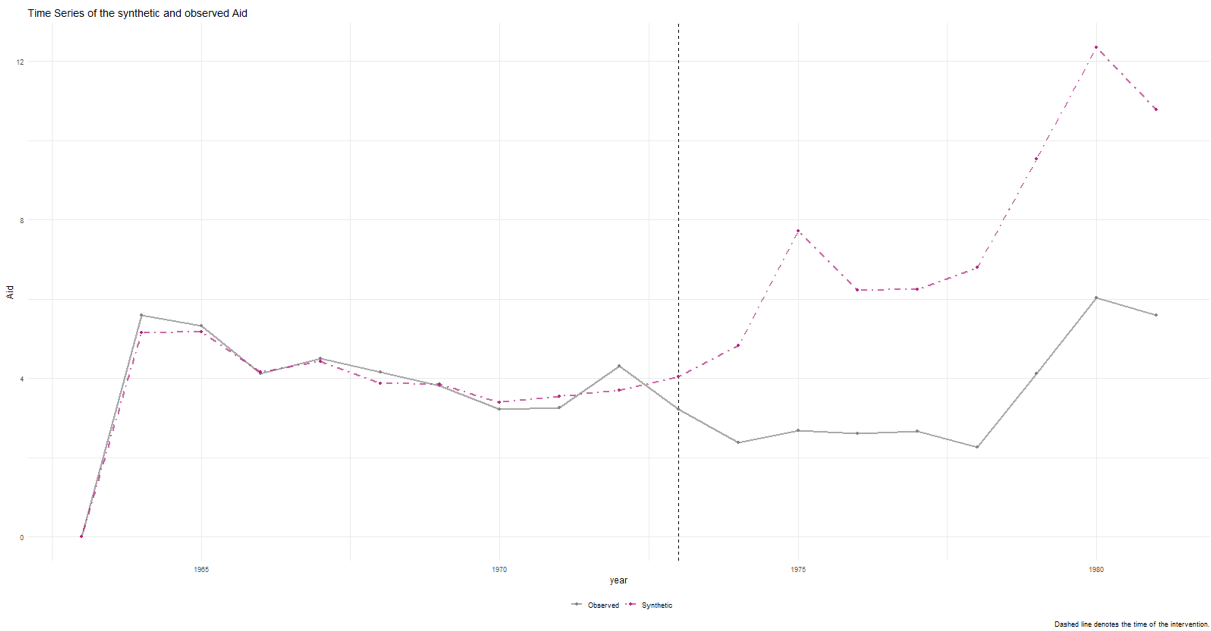
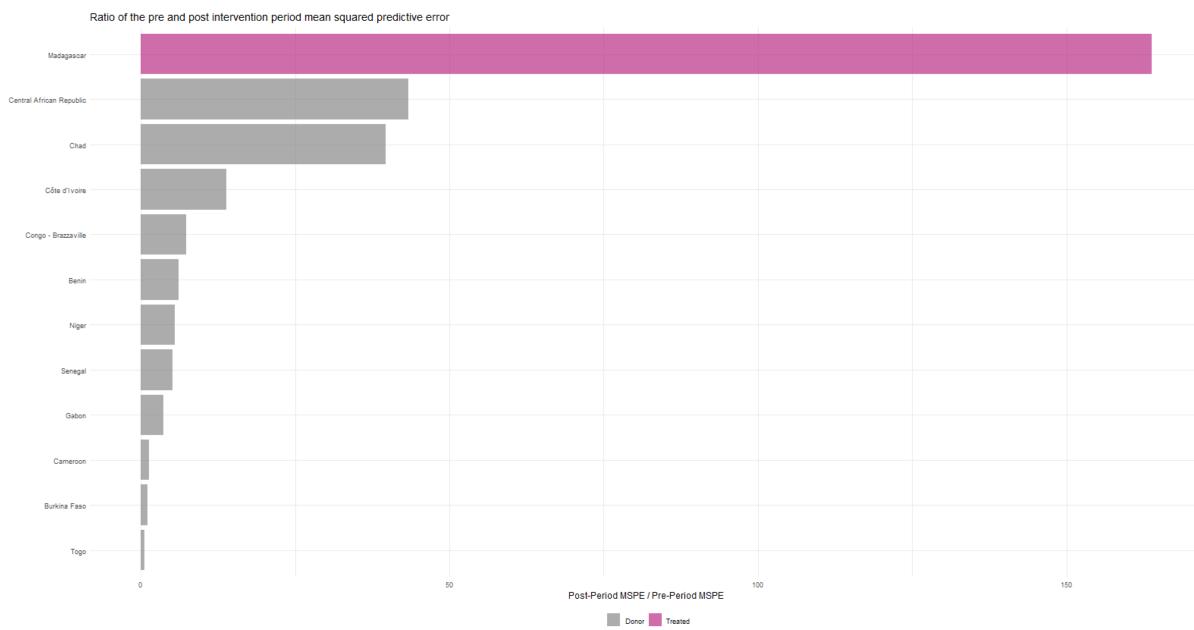


Figure A11: Aid per Capita: Independent Covariates

Figure A12: Aid per Capita: Independent Covariates



Pre-Intervention Outcomes as Sole Predictors

Figure A13: Aid per Capita: Pre-Intervention Outcomes as Covariates

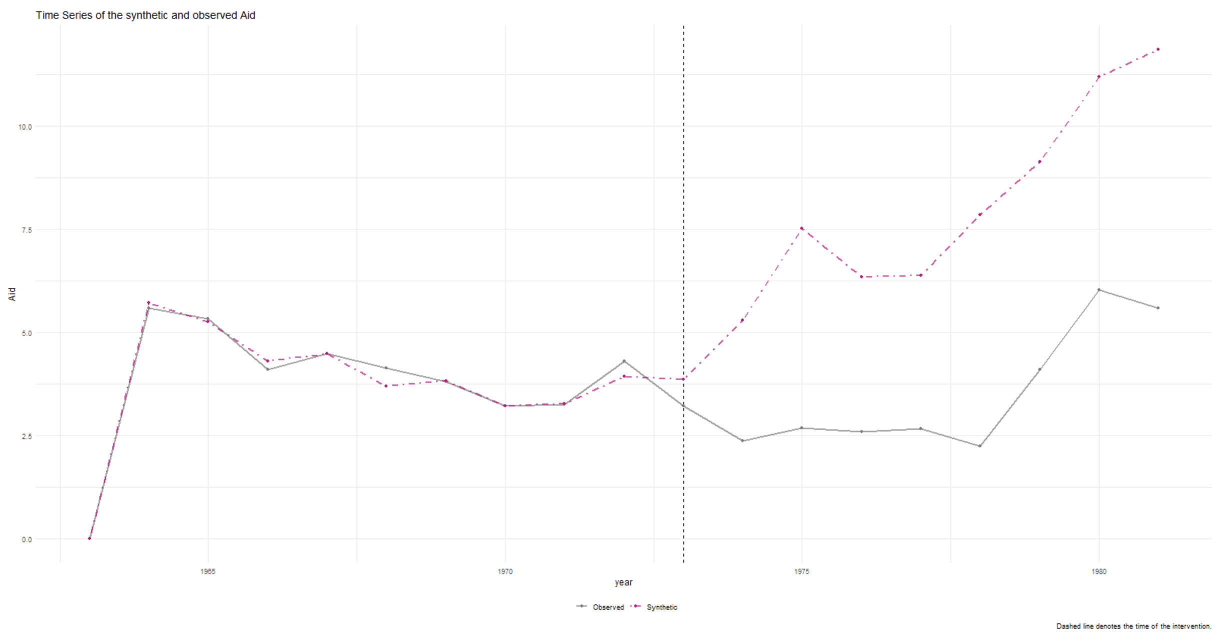


Figure A14: Aid per Capita: Pre-Intervention Outcomes as Covariates

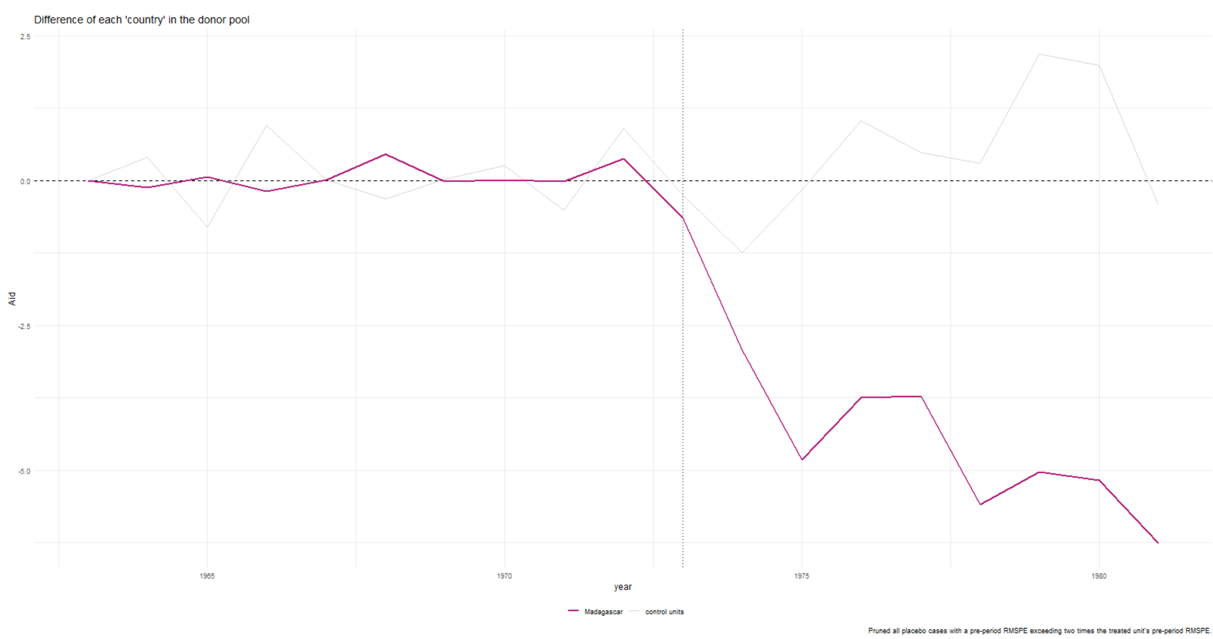


Figure A15: Aid per Capita: Pre-Intervention Outcomes as Covariates