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Exchange Rate Reaction to International Organization Loans and Geopolitical Preferences

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Abstract

This research provides novel empirical evidence about the exchange rate reaction to international organization loans and geopolitical preferences using an unbalanced panel of 153 countries observed from February 1993 to December 2019. For elected temporary members of the UN Security Council, the International Monetary Fund (IMF) loans cause a sizeable appreciation in the exchange rate *vis-à-vis* the USD of around 2 percent at the 12-month horizon, after controlling for institutional quality. Asian Development Banks (ADB) loans cause an appreciation of around 0.25 percent at the 4-month horizon. These effects are stronger when the geopolitical distance with China is higher, indicating a higher credibility for these loans.

Keywords: Exchange Rates, Geopolitical Preferences, International Organization Loans, Institutional Quality, Local Projections
JEL: D78, F30, F42

Highlights

- We estimate the exchange reaction to international organization loans.
- IMF loans cause a sizeable appreciation in the exchange rate *vis-à-vis* the USD of around 2 percent at the 12-month horizon.
- ADB loans cause an appreciation of around 0.25 percent at the 4-month horizon.
- Loans are more credible, when geopolitical distance to China is higher.

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1. Introduction

Growing geopolitical tensions are reshaping the global economy and redefining the nature of international cooperation. Since the 2010s, many countries have pivoted toward national or regional production policies, reversing decades of globalization trends (Gong et al., 2022). This shift has disrupted global supply chains, particularly in critical sectors like technology and energy, and could reduce global growth by up to 7% in the long run (Aiyar et al., 2023). Moreover, reduced international trade, exacerbated by post-COVID-19 instability, can be viewed through the lens of Rodrik's (2000) augmented trilemma, where countries can reach only two dimensions out of three between nation states, mass politics, and global economic integration. Compounding these challenges, global foreign direct investment has sharply declined since 2007, dropping from 5.3% of world GDP to just 0.7% in 2023.[1]

In this context of geopolitical fragmentation and diminishing funding availability, the role of international organization loans has grown particularly significant. However, optimizing the impact of such investments amid these challenges remains a critical concern. On one hand, international financing can exhibit a catalytic effect, boosting investor confidence and attracting additional capital flows to recipient countries (Marchesi and Thomas, 2001). On the other hand, it can exhibit an inhibitory effect by signaling economic instability, thereby deterring investors (Dreher, 2006). The situation is further complicated by international organizations like the International Monetary Fund (IMF), whose interventions often impose austerity measures that dampen domestic demand and may exacerbate economic instability in the short run (Rickard and Caraway, 2019). These catalytic and inhibitory effects are influenced by factors such as the debt concessionality (Reynaud and Vauday, 2009) and size (Krahnke, 2023) of the funding provided.

Despite their multilateral structures, international organizations are not immune to geopolitical influences, which often shape their financing decisions. For instance, countries with strong trade ties to the United States are more likely to receive IMF support (Reynaud et al., 2007). Geopolitical determinants, such as alignment with powerful nations or strategic interests, often outweigh purely economic considerations (Kentikelenis et al., 2016). For example, the popularity of incumbent governments (Shim, 2022) and proximity to United Nations Security Council (UNSC) permanent members (Oriola and Saadaoui, 2024) can significantly affect funding efficiency and outcomes.

This paper focuses on the reaction of exchange rates to international organization loans. This focus is motivated by the rapid responsiveness of exchange rates to political news, as the 2024 US presidential election (Aizenman and Saadaoui, 2024) and the critical role of policy uncertainty in shaping these expectations (Beckmann and Czudaj, 2017). We hypothesize that the announcement of a credible loan boosts confidence in international financial markets, attracting new investors and improving the financial situation (Barro and Lee, 2005). This catalytic effect of international organization loans will lead to an appreciation of the national currency against the US Dollar (USD) representing a decrease in our dependent variable (FX). Conversely, an inhibitory effect will result in a currency depreciation, corresponding to an increase in FX.

This paper examines the dynamic causal effects of two international organizations (the IMF and the Asian Development Bank, ADB) loans on bilateral exchange rates *vis-à-vis* the USD.[2] Using a local projection methodology (Jordà, 2005), we estimate a model comparable to Andresen and Sturm (2024), augmented with monthly institutional quality measures. Overall, our extended set of monthly controls and the use of local projections provides a better identification than in previous studies.

Our analysis reveals two important insights. First, IMF loans produce a sizable monthly appreciation in the domestic currency of around 2 percent at the 12-month horizon, when a country is a temporary member of

[1] Data measured as net inflows and retrieved from World Development Indicators. See: https://data.worldbank.org.

[2] These two organizations were chosen because they are the only ones dominated by UNSC permanent members (the US for the IMF and China for the ADB). While the Asian Infrastructure Investment Bank could have been a more pertinent option for China, it only began operating in 2017.

the UNSC. This catalytic effect of IMF loans is stronger when the geopolitical distance with China increases. Second, ADB loans produce a monthly appreciation in the currency of more than 0.25 percent at the 4-month horizon, when a country is a temporary member of the UNSC. This catalytic effect of ADB loans is almost 4 times stronger when the geopolitical distance with China increases.

Section 2, details the data and the methodology used to estimate dynamic causal effects. Section 3 presents and discusses the results. Section 4, concludes.

2. Methodology

2.1. Data

Our dataset is composed of unbalanced monthly data on a large cross-section of 153 countries spanning from February 1993 to December 2019, representing 37 440 usable observations for the bilateral exchange rate (fixed-exchange rate regime observations excluded). In the Appendix A, we present the descriptive statistics for all the variables involved in our analysis.

2.1.1. Exchange rate

Our dependent variable, the growth rate of the bilateral exchange rates against the USD, comes from the International Financial Statistics (IFS) database provided by the IMF. As in Andresen and Sturm (2024), we focus exclusively on *de jure* floating exchange rate regimes, as defined by the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER), to isolate market-driven dynamics. Finally, to mitigate the influence of outliers, we windsorize *FX*, capping values at the 1st and 99th percentiles.

2.1.2. Loans financed by international organizations

Data on loans financed by international organizations are derived directly from institutional sources. For each country-institution pair, we create a dummy equal to 1 if funding is granted to the country by one organization in a given month and 0 otherwise. IMF loans are extracted from the Monitoring of Fund Arrangements (MONA) database (variable *IMF*). For the Asian Development Bank (ADB), we use data from the ADB Sovereign Loans dataset that begins in 1997 (variable *ADB*). For detailed information on the classification of loans and the computation of our project dummies, refer to Oriola and Saadaoui (2024).

2.1.3. UNSC membership

Data on UNSC non-permanent membership are sourced from Andresen and Sturm (2024) and is a quasi-random treatment due to the nature of the election process for non-permanent UNSC members (Dreher, 2006). This variable is a binary indicator, set to 1 during the two-year non-permanent mandate and the six months preceding it, capturing potential nomination effects. This computation reflects the possibility that even the anticipation of future membership can influence international financing decisions.

2.1.4. Ideological distance

Our data on ideological distances are based on countries' ideal points in the United Nations General Assembly (UNGA), as provided by Bailey et al. (2017). These ideal points are calibrated to correspond to each UNGA session to ensure consistency over time, in line with Oriola and Saadaoui (2024).[3] We compute ideological distances as the absolute difference between a country's ideal point and the ideal points of three permanent UNSC members: China, Russia and the United States respectively. Consequently, we have the following three variables: $DIST^{CH}$, $DIST^{RU}$ and $DIST^{US}$. To avoid potential threshold effects due to

[3]As countries cannot anticipate their election, they cannot trade votes against loans before the election. The "horse trade", suggested by Dreher et al. (2009) using annual data, may appear after the election. However, our backward-looking measure of geopolitical preferences and the use of monthly data ensure robust causal identification.

the beginning of a new UNGA session, we introduce these variables as their moving average of the twelve preceding months.

These variables capture the degree of alignment or divergence in political stance relative to these influential nations. We exclude France and the United Kingdom from this analysis, as their voting patterns in the UNGA are often aligned with the United States. In spite of similar voting patterns between Russia and China, the voting pattern of Russia is also relevant in our study, as Russia has stronger geopolitical views on several topics, compared to China (Chen and Yin, 2020).

2.1.5. Additional controls

We incorporate monthly institutional controls derived from the International Country Risk Guide (ICRG) dataset, provided by the PRS group. These controls are particularly well-suited for capturing short-term institutional dynamics that might influence both economic and political outcomes in relation with international public funding. These controls include measurement of institutional characteristics such as government stability, corruption, democratic accountability, religious tensions, ethnic tensions, rule of law, quality of the bureaucracy, and so on. All these institutional features will impact the perception of financial markets during the announcements.

Besides, we also include the monthly Consumer price index (CPI) as an additional control variable. Data on CPI are extracted from the IFS database provided by the IMF. CPI inflation is also winsorized.

2.2. Econometric specification

Our estimates are based on Andresen and Sturm (2024) with the addition of institutional quality controls (that is, the political risk rating components coming from the ICRG dataset), and rely on local projections to estimate dynamic causal effects, as follows:

$$FX_{i,t+h} = \alpha_i + \mu_t + \beta_h (INST^P \times UNSC)_{i,t} + CPI_{i,t} + \sum_{L=1}^{12} ICRG^L_{i,t} + \epsilon_{i,t+h}, \quad h = 0, 1, ..., 12 \tag{1}$$

where FX is the growth rate of monthly bilateral exchange rate against the USD; $INST$ is a dummy equal to 1 if an international institution grant public funding in a country i in month t; $UNSC$ a dummy taking the value 1 if a country is a non-permanent UNSC member; $INST^P \times UNSC$ stands for the interaction term, this is the shock variable for one of two international institutions, namely, $P = IMF, ADB$. The control variables CPI, $ICRG^L$ are the year-on-year monthly CPI, and the L twelve variables in the political risk rating measures of the ICRG database (External conflict, Bureaucracy, Corruption, Democratic accountability, Ethnic tensions, Internal conflicts, Law and order, Military in politics, Religious tensions, Socioeconomic profile, and Investment profile). Respectively, α_i denotes country fixed-effects (FE), μ_t time FE, and $\varepsilon_{i,t}$ represents the error term.

To consider the geopolitical distance, we amend the shock in Equation 1, as follows:

$$FX_{i,t+h} = \alpha_i + \mu_t + \beta_h (INST^P \times UNSC \times DIST^H)_{i,t} + CPI_{i,t} + \sum_{L=1}^{12} ICRG^L_{i,t} + \epsilon_{i,t+h}, \quad h = 0, 1, ..., 12 \tag{2}$$

The $DIST^H$ variable represents the UNGA ideal points (Bailey et al., 2017) distance to one of the H countries, namely, the US, China, and Russia. The larger the distance is, the smaller is the geopolitical alignment.

3. Results

In Figures 1 to 4, we show the results of the reaction of domestic exchange rates to IMF loans, when the country is a temporary member of the UNSC.[4] The shock variable is the interaction between the *IMF* and *UNSC* dummies. The ICRG institutional controls are not totally absorbed by the country FE. Indeed, a better score in the "Internal conflict" variable, representing less internal conflict, is associated with exchange rate appreciation at all time horizons. At the 2-month horizon, the geopolitical interest (*i.e. UNSC*) produce a short-lived and sizable monthly depreciation of the exchange rate of around 2 percent, as displayed in Figure 1.[5] These short-run results are in line with the results of Andresen and Sturm (2024) and Oriola and Saadaoui (2024). At the 12-month, we discover that a unit shock on the interaction between the *IMF* and *UNSC* dummies produce a sizable appreciation of around 2 percent. This novel evidence in the literature indicates that the catalytic effect of IMF loans is persistent after a few months, when a country is a non-permanent member of the UNSC.

When we control for geopolitical preferences, we observe that the 12-month appreciation of the domestic currency is lower when the geopolitical distance to the US increases in Figure 2. In Figure 3, the resulting 12-month horizon appreciation is around 2 percent, in line with Figure 1, when the geopolitical distance to China is higher. In Figure 4, the short-run impact is more significant and the peak appreciation appears sooner when the geopolitical distance to Russia is higher. Again, these last results are in line with the baseline results in Figure 1. Overall, geopolitical interest may dampen the catalytic effect of IMF loans, as shown by Andresen and Sturm (2024). More importantly, we provide empirical evidence indicating that this catalytic effect is strong at the 12-month horizon. This indicates that estimating the dynamic causal effects matter in this branch of the literature.

We find results of economic importance, when we turn our attention to the results for ADB loans in Figure 5 to 8. In Figure 5, the ADB loans produce an appreciation of the domestic currency of around 0.25 percent at the 4-month horizon, when the country is a non-permanent member of the UNSC. Again, the ICRG institutional controls are not totally absorbed by the country FE, as a better score in the "Internal conflict" variable (that is, less internal conflict) is associated with exchange rate appreciation at all time horizons.

In the case of ADB loans, considering geopolitical distance to the US, China, and Russia reveals interesting insights. First, in Figure 6, the peak appreciation is weaker, around 0.10 percent, when the geopolitical distance with the US is higher. Second, in Figure 7, the appreciation of the domestic currency and, thus, the catalytic effect of ADB loans is 4 times stronger at 3 and 4-months horizons than in 7 when the country is a member of the UNSC and the distance to China is higher. This novel evidence, in line with the short-run results of Oriola and Saadaoui (2024), indicates that the exchange rate reaction is much stronger after the announcement of an ADB project for countries in the UNSC, when the alignment with China decreased. We conjecture that financial markets react more strongly to ADB loans when they are convinced that the project has not been granted due to geopolitical proximity. Third, the results in Figure 8 indicate that the resulting appreciation, after an ADB loan is granted, is around 0.5 percent at the 3, 4 and 5-month horizons when the geopolitical distance to Russia is higher. These results are halfway between the baseline results for ADB loans in Figure 5 and the stronger reaction in Figure 7.

In summary, both IMF and ADB loans significantly contribute to monthly appreciation of the domestic currency in non-permanent UNSC member countries, reflecting the catalytic effect. Specifically, loans from these institutions enhance national financial markets, primarily through a boost in investor confidence that attracts additional private funds. However, this effect is diminished in countries geopolitically aligned with China. As a result, international financial markets perceive geopolitical proximity to China as reducing the effectiveness and credibility of these loans.

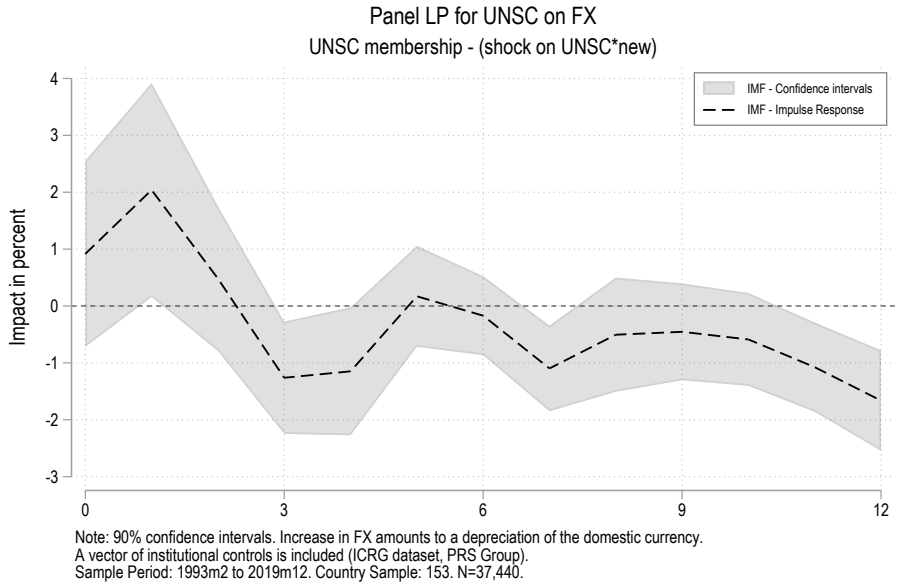
[4] Standard errors are clusterized at the country level.

[5] In Appendix A, we can see that the average monthly depreciation is around 0.4 percent.

4. Conclusion

This research provides novel evidence about the exchange rate reactions to geopolitical preferences and international organization loans. We show that the catalytic effect of international organization loans is observed at different time horizons. When countries are non-permanent members of the UNSC, IMF loans cause a sizeable appreciation of the currency around 2 percent at the 12-month horizon. Besides, ADB loans cause an appreciation of the currency around 0.25 percent at the 3-month horizon. These effects are stronger when the geopolitical distance to China is higher.

Figure 1: Local projections for IMF loans and UNSC membership



Note: 90% confidence intervals. Increase in FX amounts to a depreciation of the domestic currency.
A vector of institutional controls is included (ICRG dataset, PRS Group).
Sample Period: 1993m2 to 2019m12. Country Sample: 153. N=37,440.

Figure 2: Local projections for IMF loans, UNSC membership, and geopolitical distance to the US

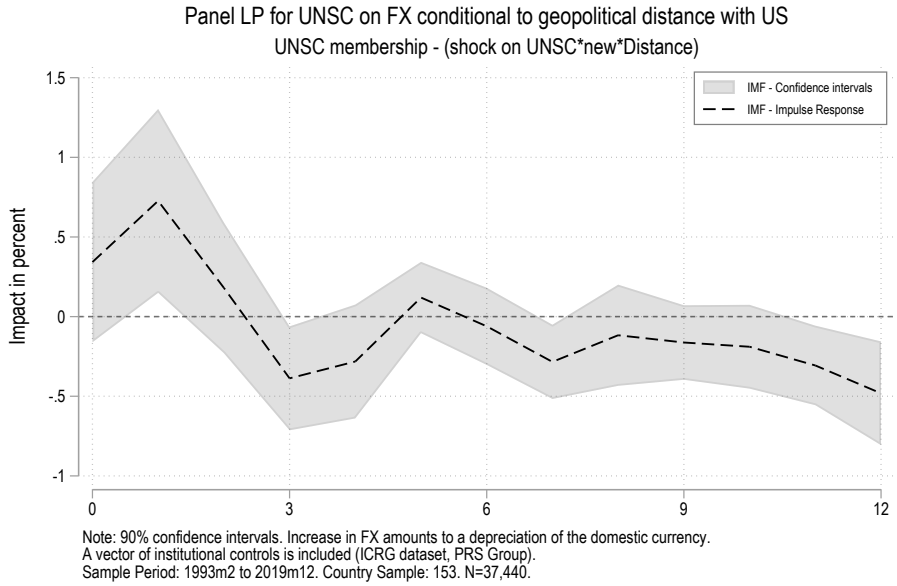


Figure 3: Local projections for IMF loans, UNSC membership, and geopolitical distance to China

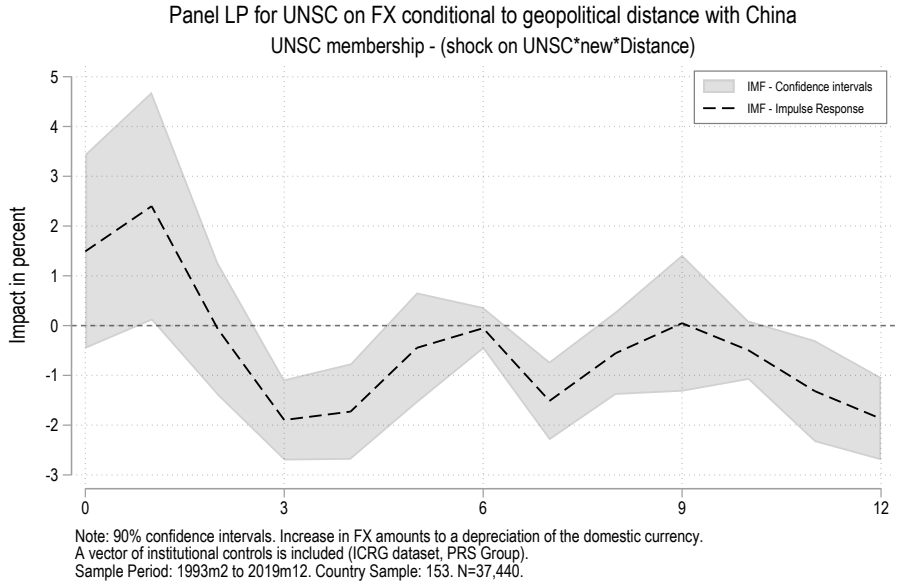


Figure 4: Local projections for IMF loans, UNSC membership, and geopolitical distance to Russia

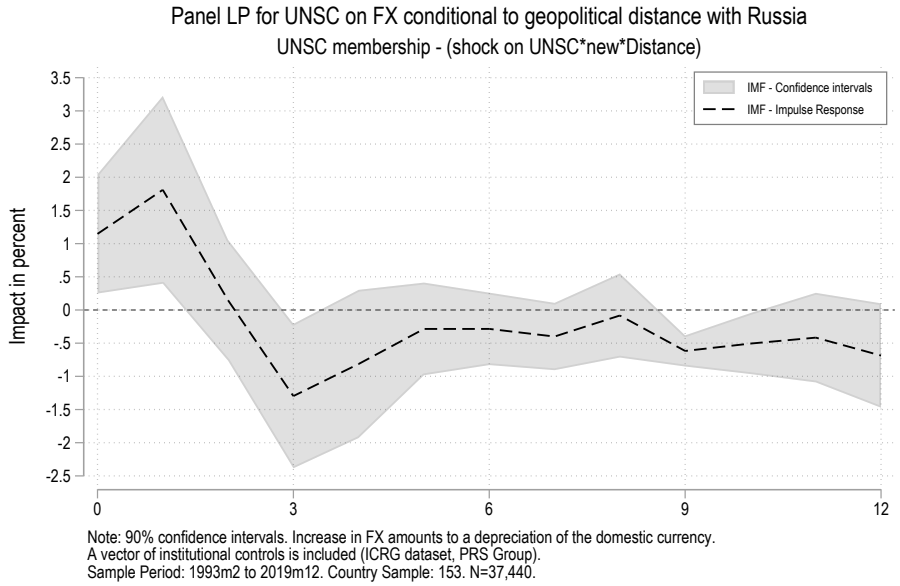


Figure 5: Local projections for ADB loans and UNSC membership

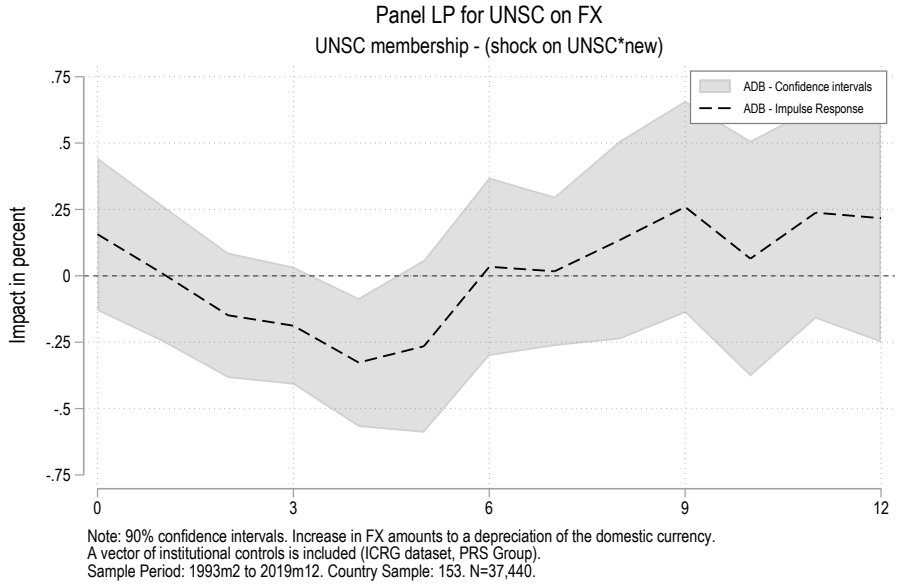


Figure 6: Local projections for ADB loans, UNSC membership, and geopolitical distance to the US

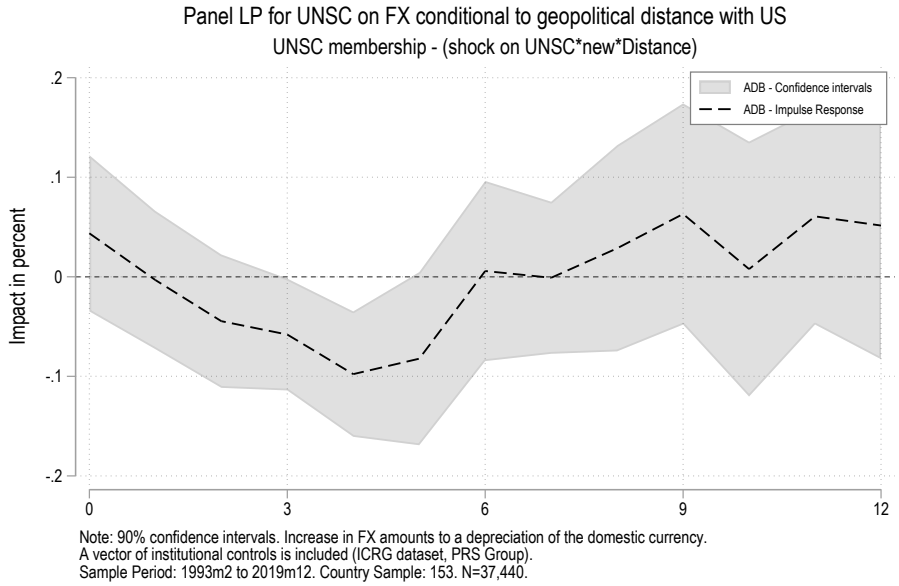


Figure 7: Local projections for ADB loans, UNSC membership, and geopolitical distance to China

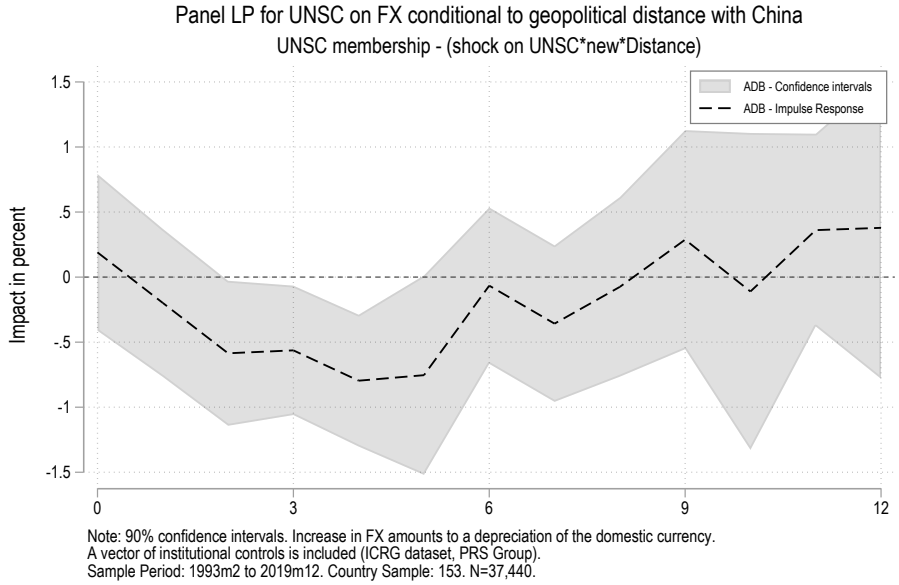
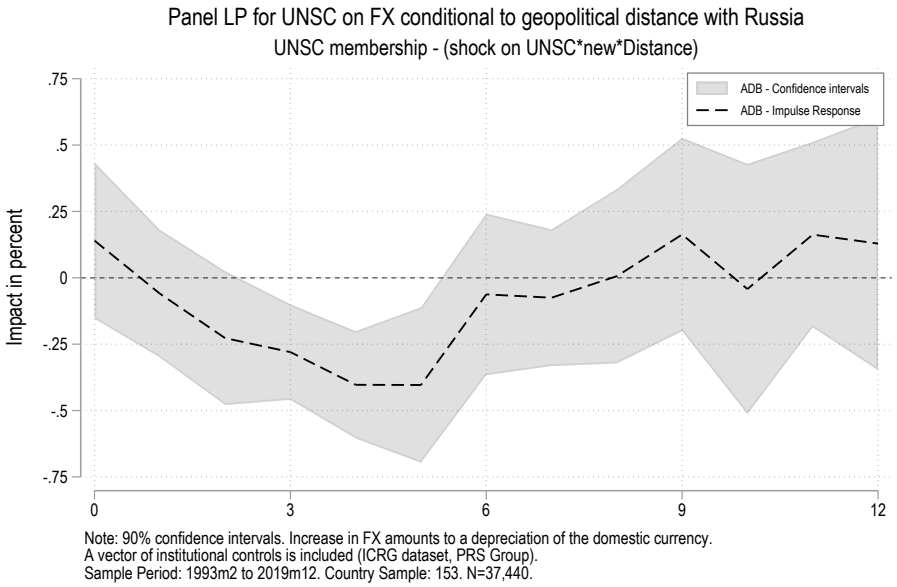


Figure 8: Local projections for ADB loans, UNSC membership, and geopolitical distance to Russia



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None.

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Appendix A. Descriptive Statistics

Variables	(1) *Count*	(2) *Mean*	(3) *SD*	(4) *Min.*	(5) *Max.*
FX	37,440	0.432	2.465	-5.198	12.41
IMF	37,440	0.0106	0.103	0.000	1.000
ADB	37,440	0.0604	0.238	0.000	1.000
UNSC	37,440	0.0679	0.252	0.000	1.000
CPI	34,534	0.629	1.385	-2.114	8.925
$DIST^{US}$	37,440	2.893	0.821	0.107	5.131
$DIST^{CH}$	37,440	0.842	0.784	0.000	4.407
$DIST^{RU}$	37,440	0.810	0.527	0.000	3.191
ICRG: Extconf	28,729	10.06	1.417	1.000	12.000
ICRG: Bureau	28,729	2.122	1.084	0.000	4.000
ICRG: Corruption	28,729	2.744	1.205	0.000	6.000
ICRG: Demoacc	28,729	3.996	1.519	0.000	6.000
ICRG: Ethnictens	28,729	3.988	1.276	0.000	6.000
ICRG: Govstab	28,729	8.034	1.778	2.000	12.000
ICRG: Intconf	28,729	9.169	1.873	0.000	12.000
ICRG: Laworder	28,729	3.705	1.293	1.000	6.000
ICRG: Milpol	28,729	3.767	1.706	0.000	6.000
ICRG: Reltensions	28,729	4.598	1.354	0.000	6.000
ICRG: Socioeco	28,729	5.460	2.261	0.000	11.000
ICRG: Invprofile	28,729	7.981	2.081	0.000	12.000

Note: we exclude countries with fixed exchange rate regimes, that is the growth rate of the bilateral exchange against the USD is zero. The bilateral exchange rates are retrieved from the IMF's International Financial Statistics