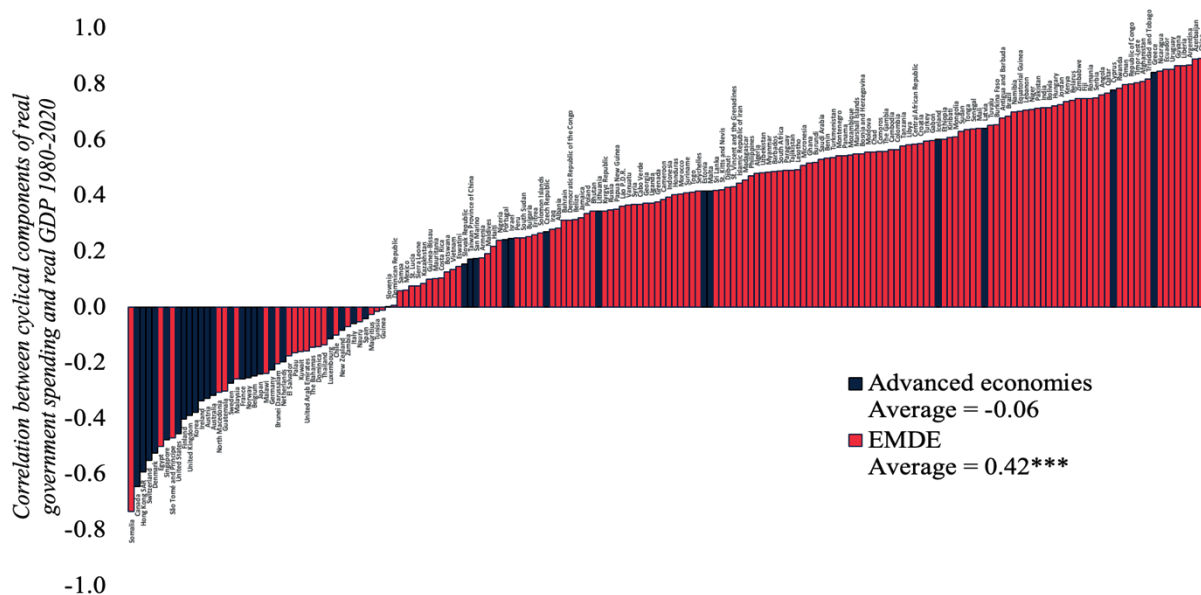


Supplemental Appendix: Figures

Fiscal Procyclicality in Commodity Exporting Countries: How Much Does it Pour and Why?

By FRANCISCO ARROYO MARIOLI AND CARLOS A. VEGH

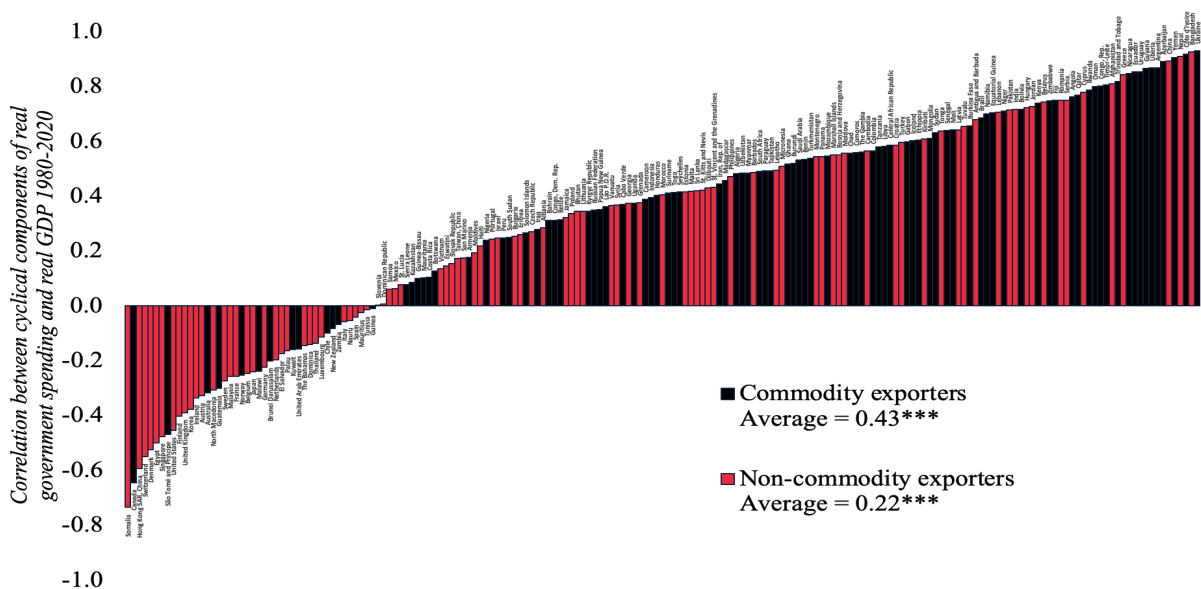
Figure 1: Country correlations between cyclical components of real government spending and real GDP, 1980-2020



Notes: Black (dark) bars denote advanced economies (AE). Red (light) bars denote emerging markets and developing economies (EMDE). Each bar represents the correlation between the Hodrick-Prescott cyclical components of real GDP and real government spending. *, **, and *** denote significance at the 10, 5, and 1 percent level, respectively.

Sources: Authors' calculations based on WEO (IMF) data.

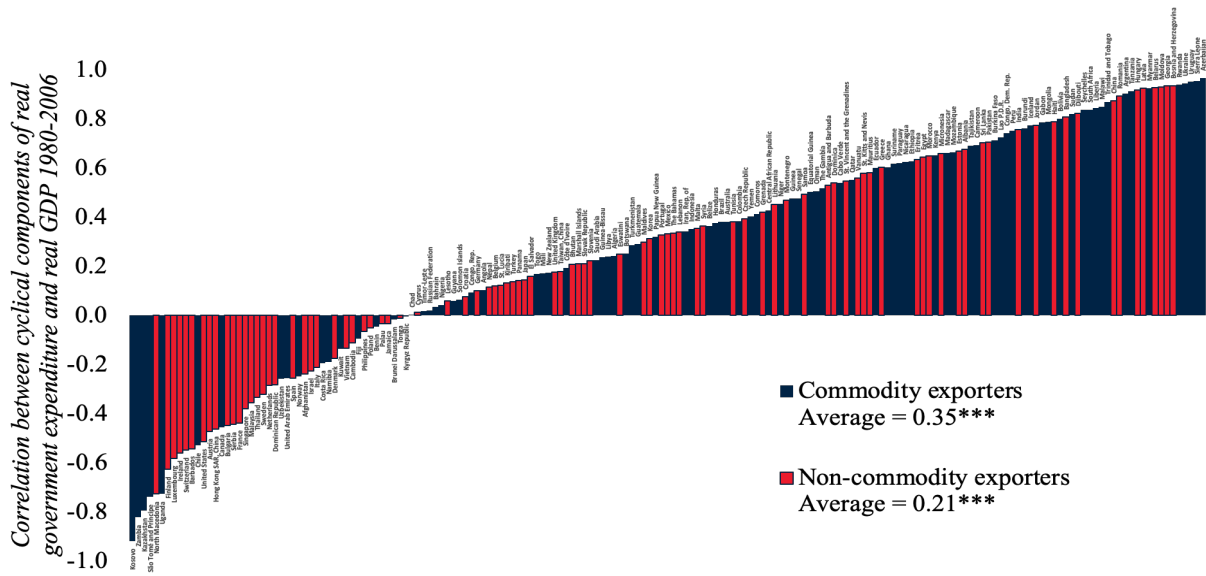
Figure 2: Commodity exporters versus non-commodity exporters, 1980-2020



Notes: Same as Figure 1, but bars are now divided between commodity exporters and non-commodity exporters.

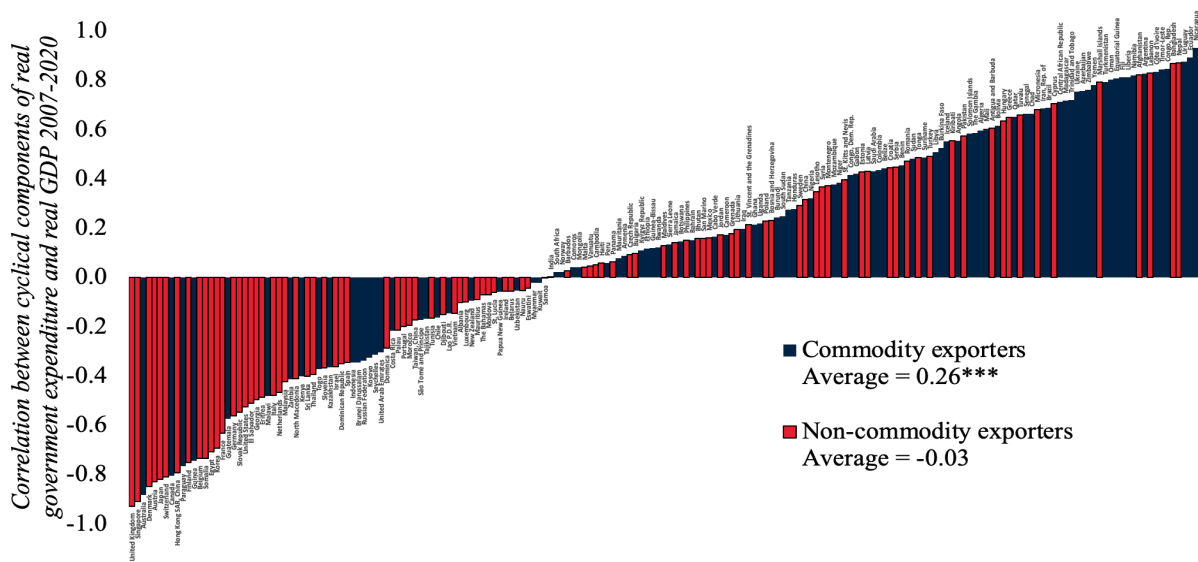
Sources: Authors' calculations based on WEO (IMF) data.

Figure 3: Commodity exporters versus non-commodity exporters, 1980-2006



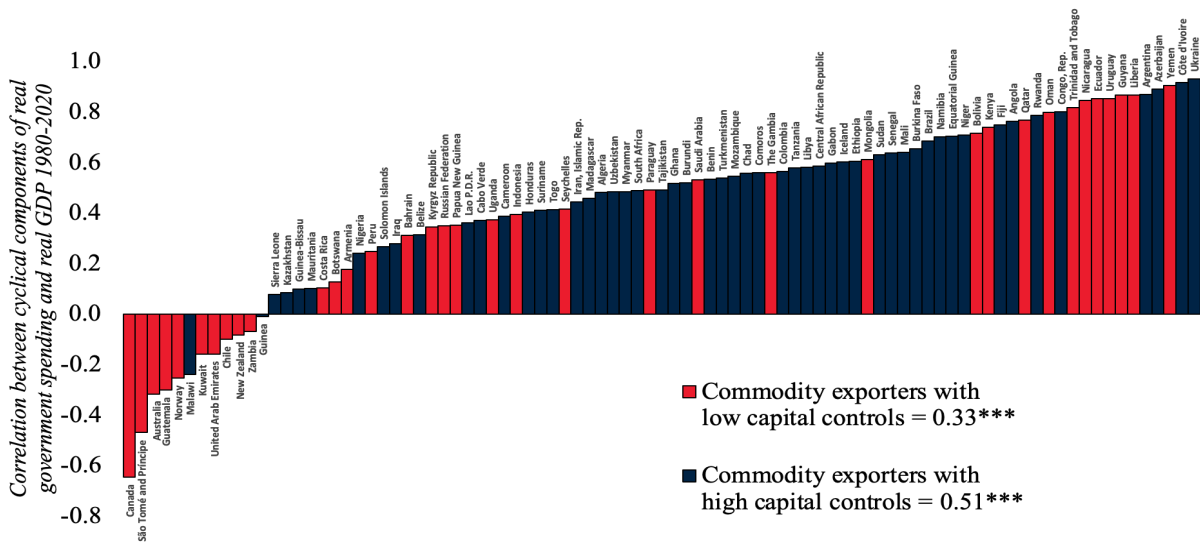
Notes: Identical plot as in Figure 2, but for the period 1980-2006.
Sources: Authors' calculations based on WEO (IMF) data.

Figure 4: Commodity exporters versus non-commodity exporters, 2007-2020



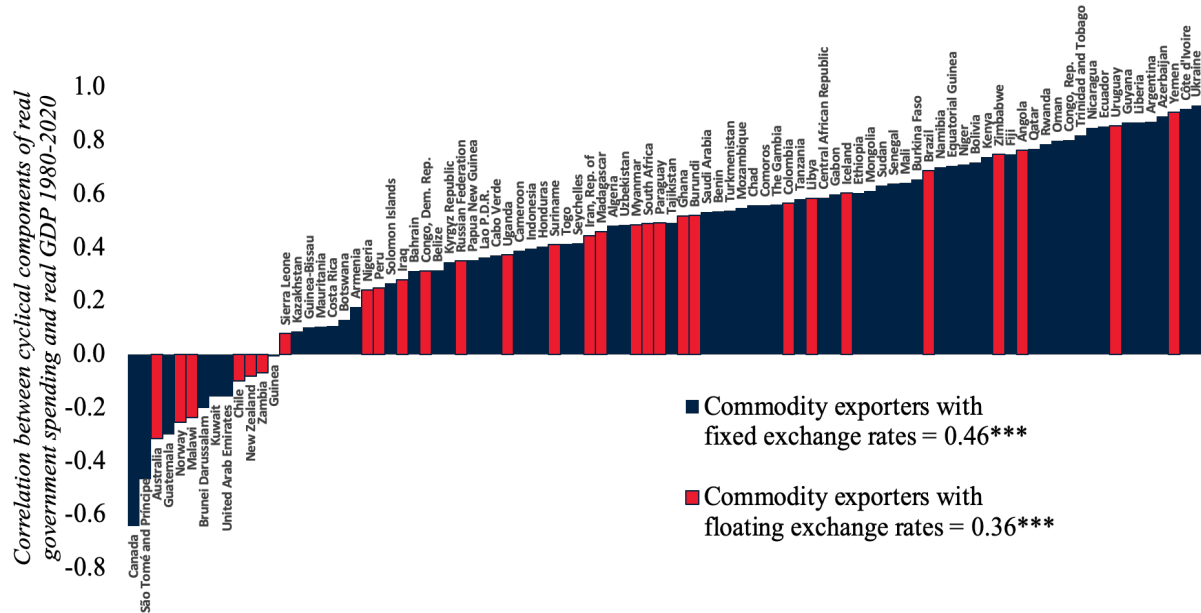
Notes: Identical plot as Figure 2, but for the period 2007-2020.
Sources: Authors' calculations based on WEO (IMF) data.

Figure 5: High versus low capital account restrictions, 1980-2020



Notes: Same as Figure 2 but countries are now divided into high and low capital account restrictions. Based on the Chinn-Ito index of financial openness (where a higher number represents more financial openness), a country is classified as having high (low) capital account restrictions if its Chinn-Ito index is below (above) the median. The difference between the two averages is significant at the 5 percent level. Sources: Authors' calculations based on Chinn-Ito index and WEO (IMF) data.

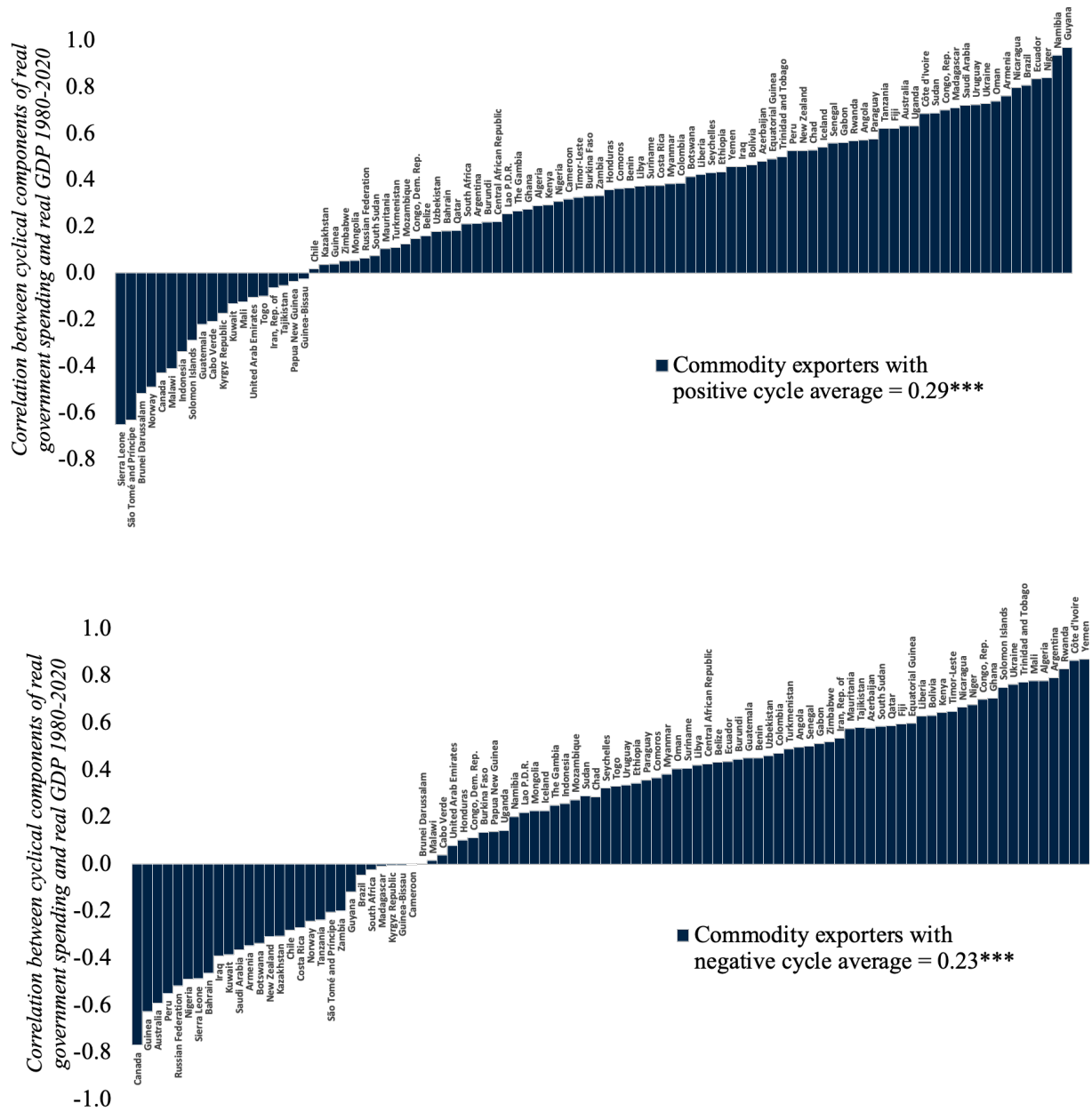
Figure 6: Exchange rate regime



Notes: Same as in Figure 2, but countries are now divided between those operating under fixed exchange rates or floating exchange rate regimes during the sample period, according to the classification in Ilzetzki *et al.* (2022). The difference between the two averages is not significant (p-value is 0.17).

Sources: Authors' calculations based on Ilzetzki *et al.* (2021) and WEO (IMF) data.

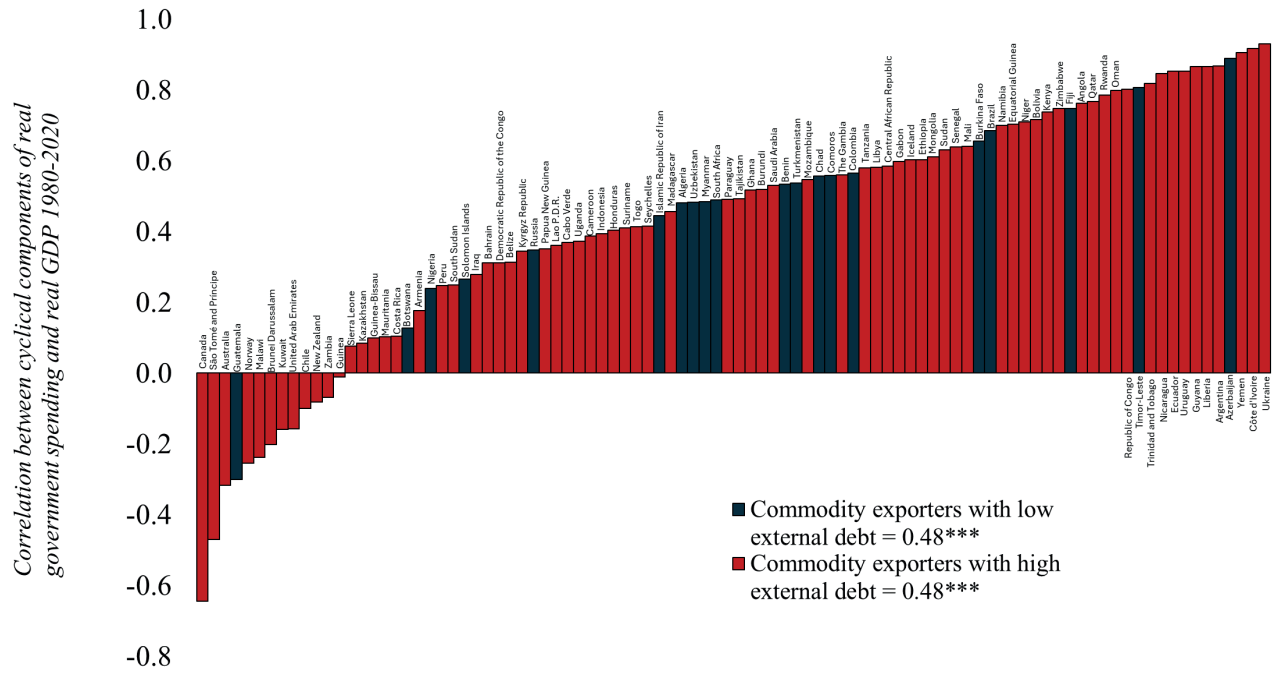
Figure 7: Good versus bad times



Notes: Same as in Figure 2, but countries are now divided between good or bad times. Good (bad) times are defined as a positive (negative) Hodrick-Prescott cycle. The difference between the two averages is not significant.

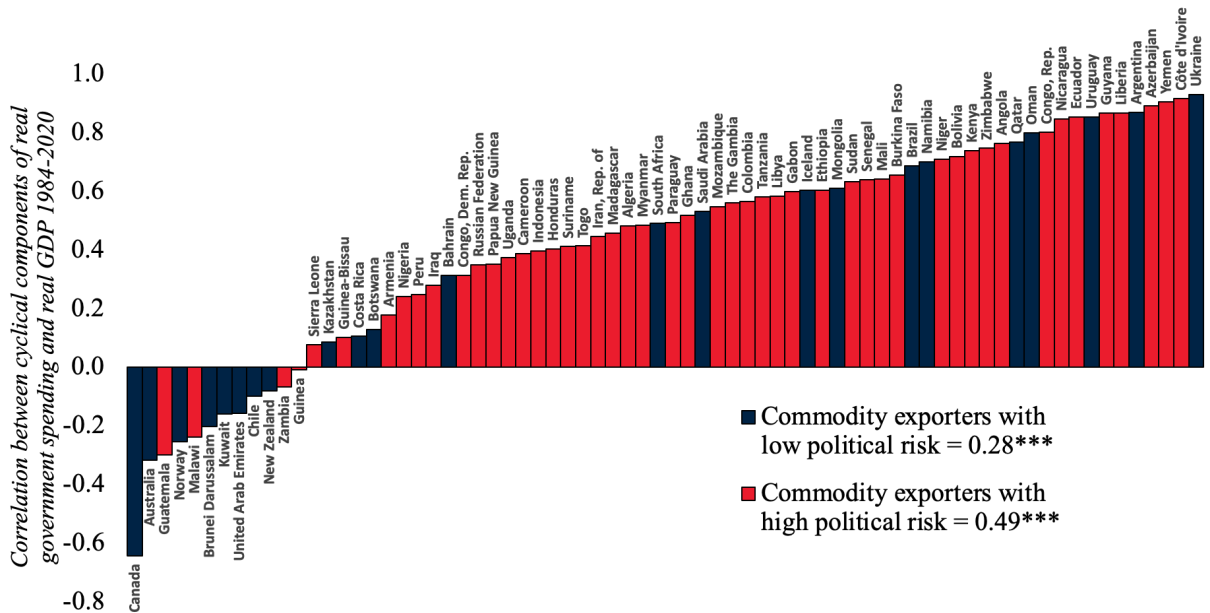
Sources: Authors' calculations based on WEO (IMF) data.

Figure 8: High and low external debt



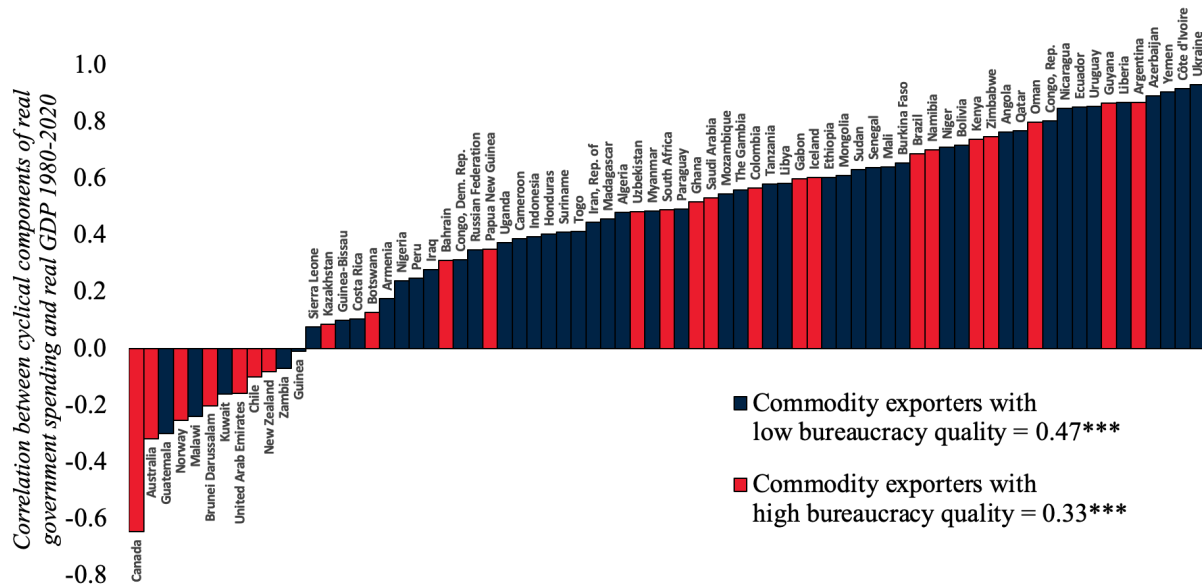
Notes: Same as in Figure 1, but countries are now divided between having high and low external debt, defined as external debt, as percentage of GNI, above (below) the sample median. The difference between the two averages is not significant.
Sources: Authors' calculations based on International Debt Statistics (World Bank) and WEO (IMF) data.

Figure 9: Political risk



Notes: Same as Figure 2, but countries are now divided according to political risk. High (low) political risk is defined as political risk above (below) the sample median. The difference between the two averages is significant at the ten percent level.
Sources: Authors' calculations based on International Country Risk Guide and WEO (IMF) data.

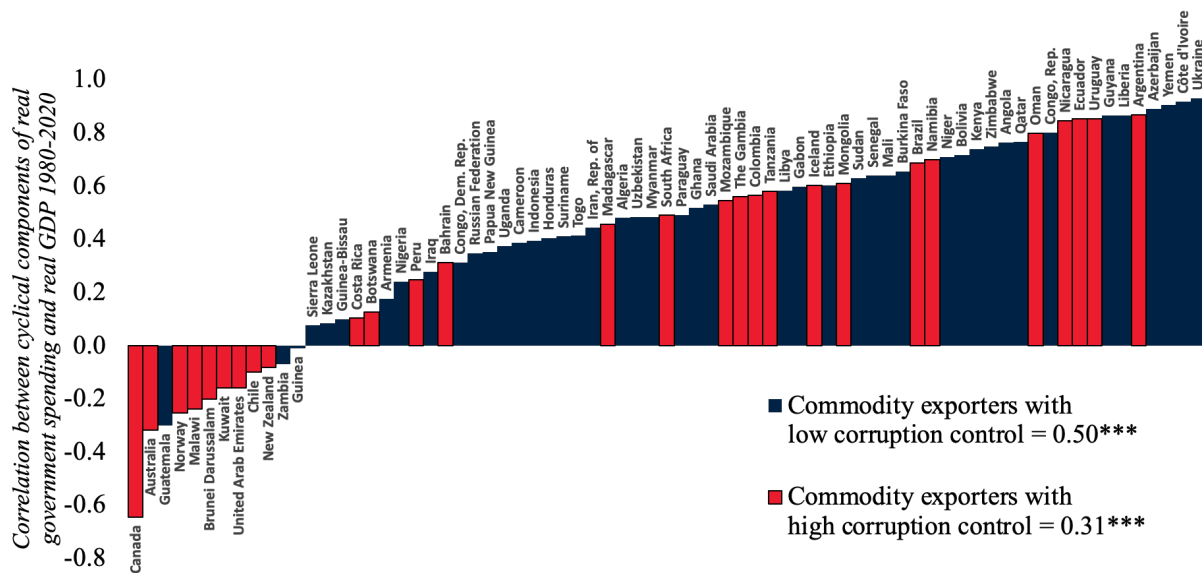
Figure 10: Level of bureaucracy quality



Notes: Same as in Figure 2, but countries are now divided according to level of bureaucracy quality, defined as bureaucracy quality above (below) the sample median. The difference between the two averages is not significant at the 10 percent level (p-value = 0.16).

Sources: Authors' calculations based on International Country Risk Guide and WEO (IMF) data.

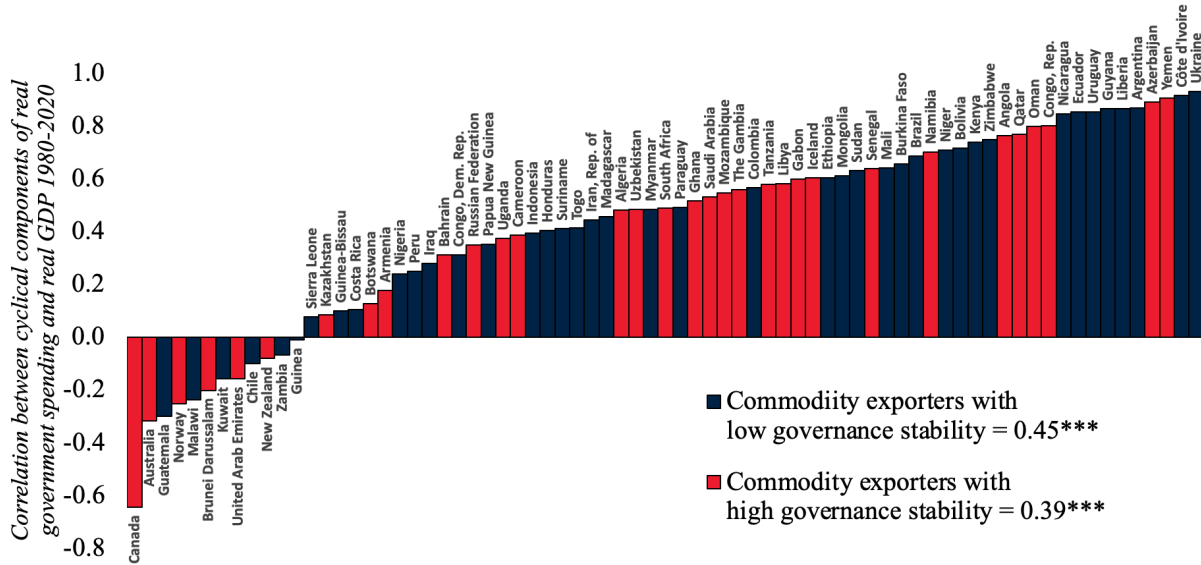
Figure 11: Control of corruption



Notes: Same as Figure 2, but countries are now divided between having high (low) control of corruption, defined as control of corruption above (below) the sample median. The difference between the two averages is significant at the 10 percent level.

Sources: Authors' calculations based on International Country Risk Guide and WEO (IMF) data.

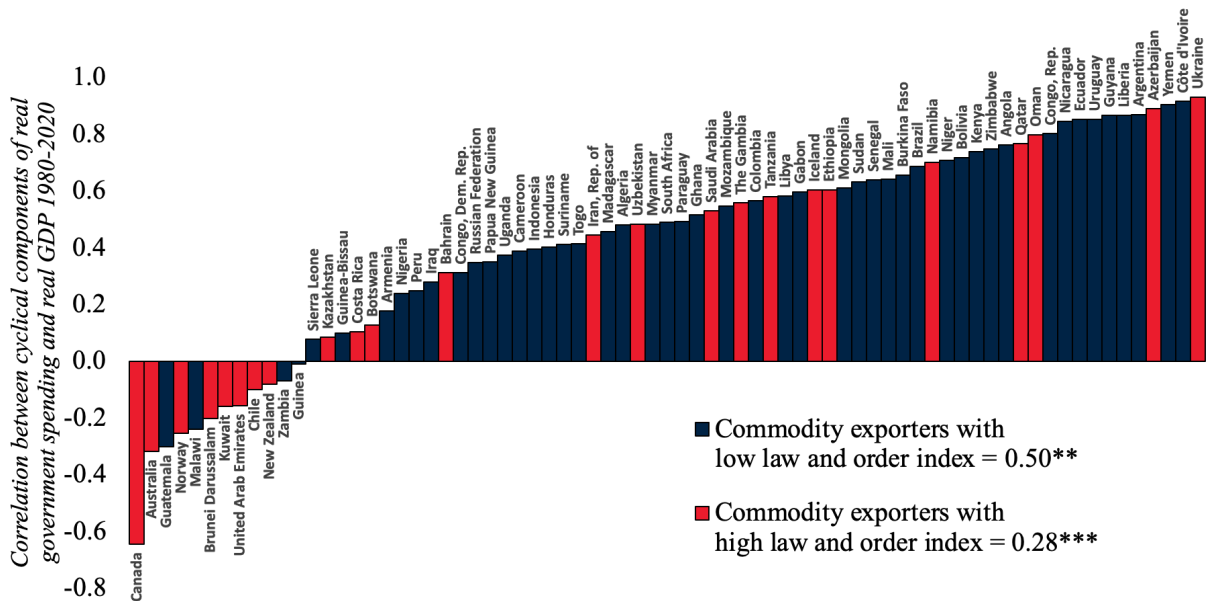
Figure 12: Government stability



Notes: Same as Figure 2, but countries are now divided between having high (low) government stability, defined as government stability above (below) the sample median. The difference between the two averages is not significant.

Sources: Authors' calculations based on International Country Risk Guide and WEO (IMF) data.

Figure 13: Law and order



Notes: Same as in Figure 2, but countries are now divided according to law and order, defined as law and order above (below) the sample median. The difference between the two averages is significant at the 5 percent level.

Sources: Authors' calculations based on International Country Risk Guide and WEO (IMF) data.