# Paper Title: Geopolitical risk, policy uncertainty and the role of anchor currency


## Abstract:

This paper examines the factors driving the co-movement between the three international currencies (USD, EUR, CNY) and other currencies, with a particular focus on the impact of the geopolitical risk and economic policy uncertainty on international currency co-movements. Using panel data covering 48 countries from 2015 to 2024, the study finds that, among the emerging economies, geopolitical risk and economic policy uncertainty strengthens the anchoring on USD weights. Emerging economies having strong trade linkage with China de-anchor with the RMB during stronger threats from the geopolitical risks. US monetary policy uncertainty increase the cost of developing countries to sacrifice the monetary policy independence to anchor the USD.

In the first section, Frankel and Wei(1994)'s workhorse model modified by Kawai and Potines (2016)'s methodology is estimated using rolling window regression for 48 surveyed economy. Figure 1 shows the estimated daily international currency co-movement with currencies in different regions.

In the second section, using geopolitical threats(GPT) index by Caldara et al. (2022), economic policy uncertainty(EPU) index by Baker et al. (2016), this study firstly investigates how these factors influence the anchor currency weights. Using estimated currency weights as dependent variable, and macroeconomic variables like GPT index, VIX index and EPU index as independent variable, I estimate their impacts when controlling for both time and country fixed effects. Table 1 indicates that the associated outcomes for emerging economies. USD and RMB is favored by emerging economies during high level of economic policy uncertainty. Table 2 shows how the emerging economies with high trade linkage on each anchor country respond to the changes in GPT and EPU. Table 3 shows how the US monetary policy uncertainty indexed by Baker et al. (2016) influences the cost of economies to sacrifice the monetary policy independence.

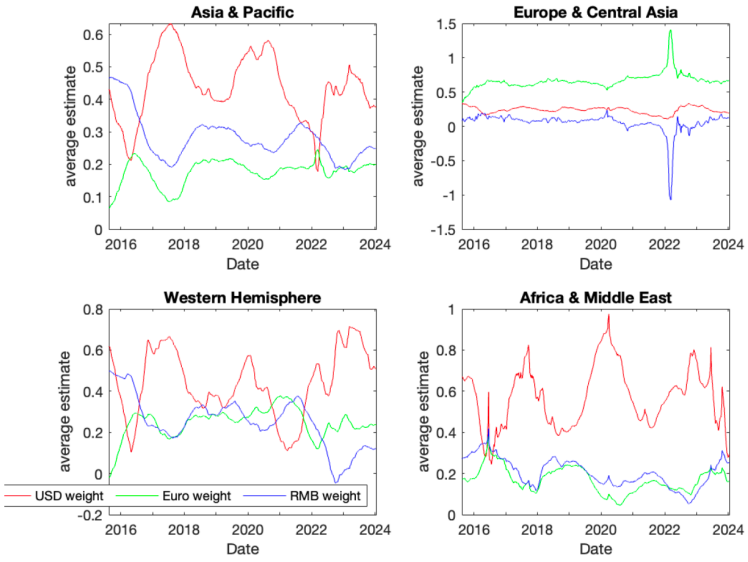



Figure 10: Aggregate weights across income and trading groups from a model that uses USD as numeraire.

(Figure 1)

Table 2: Emerging economies: geopolitical risk, stock market volatility, policy uncertainty and anchor currency weights

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| Dep. Variable | USD weight | USD weight | USD weight | RMB weight | RMB weight | RMB weight | EUR weight | EUR weight | EUR weight |
| GPT | 0.108*** | 0 | -0.113** | -0.035*** | 0 | -0.053 | 0.051*** | 0 | 0.094 |
| s.e. | 0.01 | 0 | 0.046 | 0.013 | 0 | 0.059 | 0.018 | 0 | 0.08 |
| VIX | 0 | 0 | 0.027 | 0 | 0 | -0.046 | 0 | 0 | -0.014 |
| s.e. | 0 | 0 | 0.057 | 0 | 0 | 0.073 | 0 | 0 | 0.099 |
| EPU | 0 | 0.195*** | 0.267*** | 0 | 0.023** | 0.086* | 0 | -0.023 | -0.079 |
| s.e. | 0 | 0.01 | 0.053 | 0 | 0.013 | 0.068 | 0 | 0.018 | 0.092 |
| N | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Adj R squared | 0.72 | 0.72 | 0.72 | 0.39 | 0.39 | 0.39 | 0.506 | 0.506 | 0.506 |

Note: explanatory variables include the geopolitical threats(GPT) index by Caldara & Iacoviello (2022), VIX index, and economic policy uncertainty(EPU) by Baker et al. (2016). Time and country fixed effects are all controlled. Significance level: *** p <0.01, ** p <0.05, * p<0.1.

(Table 1)

Table 3: Response of emerging economies with high trade dependence on the anchor country

| Dep. Variable | USD weight | USD weight | USD weight | RMB weight | RMB weight | RMB weight | EUR weight | EUR weight | EUR weight |
|---|---|---|---|---|---|---|---|---|---|
| GPT | -0.109*** | 0 | -0.223*** | 0.022* | 0 | -0.023 | 0.863*** | 0 | 0.105 |
| s.e. | 0.011 | 0 | 0.048 | 0.013 | 0 | 0.067 | 0.045 | 0 | 0.071 |
| EPU | 0 | -0.036 | 0.093* | 0 | 0.089*** | 0.087 | 0 | 0.076*** | -0.006 |
| s.e. | 0 | 0.045 | 0.05 | 0 | 0.013 | 0.06 | 0 | 0.017 | 0.064 |
| GPT*TRADE | 0.324*** | 0 | 0.275** | -0.852*** | 0 | -0.795*** | -1.197*** | 0 | -0.339** |
| s.e. | 0.086 | 0 | 0.119 | 0.063 | 0 | 0.275 | 0.084 | 0 | 0.154 |
| EPU*TRADE | 0 | 0.238*** | 0.065 | 0 | -0.714*** | -0.05 | 0 | -1.182*** | -0.922*** |
| s.e. | 0 | 0.078 | 0.108 | 0 | 0.055 | 0.236 | 0 | 0.075 | 0.14 |
| N | 1499 | 1499 | 1499 | 1499 | 1499 | 1499 | 1499 | 1499 | 1499 |
| Adj R-squared | 0.722 | 0.723 | 0.723 | 0.457 | 0.46 | 0.46 | 0.581 | 0.569 | 0.582 |

Note: TRADE term indicates the trade dependence as shown in equation 7. Time and country fixed effects are all controlled. Significance level: *** p <0.01, ** p <0.05, * p<0.1.

(Table 2)

Table 8: Response of USD anchor to U.S. monetary policy uncertainty

| Dep. Variable | EMs | EMs | EMs | AEs | AEs | AEs | All | All | All |
|---|---|---|---|---|---|---|---|---|---|
| MPU | 0.148 | 0.11 | 0.051 | 0.095 | 0 | -0.018 | 0.148 | 0.107 | 0.114 |
| s.e. | 0.01 | 0.014 | 0.02 | 0.006 | 0.008 | 0.01 | 0.005 | 0.009 | 0.01 |
| MPU*i rate | 0 | -0.098 | 0 | 0 | 0.054 | 0 | 0 | -0.058 | 0 |
| s.e. | 0 | 0.05 | 0 | 0 | 0.101 | 0 | 0 | 0.028 | 0 |
| MPU*inflation | 0 | 0 | -0.219 | 0 | 0 | 0.515 | 0 | 0 | -0.049 |
| s.e. | 0 | 0 | 0.052 | 0 | 0 | 0.107 | 0 | 0 | 0.027 |
| MPU*output | 0 | 0 | 0.082 | 0 | 0 | -0.003 | 0 | 0 | -0.007 |
| s.e. | 0 | 0 | 0.01 | 0 | 0 | 0.011 | 0 | 0 | 0.006 |
| N | 1500 | 1322 | 940 | 1200 | 991 | 771 | 4700 | 3636 | 2411 |
| Adj R-squared | 0.72 | 0.672 | 0.769 | 0.859 | 0.813 | 0.802 | 0.823 | 0.833 | 0.822 |

Note: MPU is the US monetary policy uncertainty index by Baker et al. (2016). i rate is absolute value of deviation of country's interest rate relative to the US rate. Inflation and output are the absolute difference of value between a country and US. Time and country fixed effects are all controlled. Significance level: *** p <0.01, ** p <0.05, * p<0.1.

(Table 3)

# References

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The quarterly journal of economics*, *131*(4), 1593-1636.

Caldara, D., & Iacoviello, M. (2022). Measuring geopolitical risk. *American Economic Review*, *112*(4), 1194-1225.

Frankel, J. A., & Wei, S. J. (1994). *12 Yen Bloc or Dollar Bloc? Exchange Rate Policies of the East Asian Economies* (Vol. 3, p. 295). University of Chicago Press.

Kawai, M., and Pontines, V. (2016). Is There Really a Renminbi Bloc in Asia?: A Modified Frankel–Wei Approach. *Journal of International Money and Finance*, 62, 72-97.