

Price Dispersion Worsening in a World of Fragmented Currency Blocs



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The changes in the international order, led by nation-first policies, are fueling de-globalization and regionalization, thereby intensifying geopolitical instability. The strategic rivalry between the U.S. and China, the Russia-Ukraine war, and the potential for a U.S.-China military confrontation over Taiwan are intensifying tensions and widening the divide between the Western alliance and the China-Russia alliance. Accordingly, there are debates over the possibility that geoeconomic fragmentation will reduce the influence of the U.S. dollar in the dollar-centered global monetary system. Even though many argue that the dollar's role as dominant currency will not be weakened at least in the short term,¹ it is not wholly implausible that the global financial system might face multiple vehicle currencies. This article focuses on the implications of multiple lead currencies in international monetary policy.

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¹ Folkerts-Landau, D., P. Garber, and M. Dooley. 2022. "Seizures of foreign exchange reserves will not weaken the dollar's role as dominant reserve currency." VoxEU, May 12. (accessed on Apr. 9, 2024); Tombini, A. 2023. "The impact of international fragmentation and the role of the US dollar." BIS Speech, October 28. (accessed on Apr. 9, 2024).

An analysis of the macroeconomy through the Keynesian lens rests upon a fundamental assumption: the existence of nominal rigidities in price-setting mechanisms. In the context of a closed economy, this assumption suffices and no further elaboration is required. However, the intricacies of the global economy, characterized by numerous sovereign nations, demand a more nuanced consideration. With multiple currencies in circulation across interdependent economies, an essential inquiry emerges: in which specific currency are prices rigid?

In the traditional open macroeconomics, prices are sticky in the producer's currency and export prices are set in the home currency of the exporter. If we think of trade between the U.S. and Korea in the traditional Keynesian framework, when Korean firms sell to the U.S., they set products in won currency and won prices are rigid for some period of time. Symmetrically, when U.S. firms sell to Korea, their products are priced in dollar and dollar prices are sticky.

In this symmetric world, won depreciation against dollar makes Korean exports relatively cheaper in the international markets. Hence expansionary monetary policy reduces the demand for home currency to invest in the home country, depreciating the foreign currency price of the home currency and the terms of trade. Then the country gains competitiveness in international markets at the expense of the other country, which is consistent with predictions in the policy space such as the outbreak of currency wars.

In reality, the world is not symmetric. There are a few dominant currencies in use for international trade. For Korean exports in 2022, the U.S. dollar took 85% of invoicing currencies; the euro, the yen and the won took 5.8%, 2.3%, and 2.3% respectively. For Korean imports, the dollar accounted for 82.8%; the won, the euro and the yen took 6.1%, 4.8%, 3.9%.² By region, more than 90% of Korean trades with the U.S. used dollar for the invoicing currency. For the trade with Southeast Asia, Latin America, and China, U.S. dollars were used for more than 80% of exports and imports. The trade with EU and Japan was the exception. With EU, about 45% of exports were invoiced in euro currency and won currency took 30% of imports from EU. With Japan, more than 40% of trades were priced in yen currency. All in all, the U.S. dollar is the dominant currency for Korea's trade and only with EU and Japan, the counterparty's currency was significantly used.

Since the U.S. dollar is the main currency used even for trade between non-U.S. countries, the policy implication is different from that of a traditional Keynesian framework. Under producer currency pricing (PCP), the monetary authority does not have to care about the external target when it implements floating exchange rate regime: a country's productivity goes up; relative

² Bank of Korea. 2023. "Trade Settlement Currency in Korea 2022."

productivity increases; relative prices should fall but the price stickiness prevents this price adjustment; instead the exchange rate depreciation engineers the exactly same relative price movements and this brings back the efficient level of output. However, under dollar currency pricing as shown from data, international prices are sticky in dollars and the policymaker should target the trade-weighted exchange rate, which should be driven mainly by the invoicing currency share-based exchange rate. Obviously, the policymaker should focus on the exchange rate relative to dollar due to the fact that the majority of trade is invoiced in dollar term.

In the current international situation where economic blocs are forming and fragmentation is taking place, there is a possibility that the proportion of settlements in U.S. dollars or euros will be prevalent in trade with the Western alliance as it is now, while the proportion of settlements in Chinese yuan or Russian ruble can increase in trade with the China-Russia alliance. In a situation where trade settlement currencies are diversifying, monetary policy for exchange rate and inflation stability should target the exchange rates relative to dollar and other vehicle currency, which can complicate the policy implementation.

In this situation where multiple currencies, say dollar and yuan, are used for trade and bilateral exchange rates are fluctuating, the price dispersion³ in retail sectors emerges as additional loss terms for the central banker.⁴ The central banker should stabilize the exchange rates relative to dollar and yuan because this would mitigate inefficient price dispersion across markets. The prices are dispersed since homogeneous goods are invoiced in different currencies and prices are sticky in the invoicing currency. Due to the volatile bilateral exchange rates, retail prices are not aligned and this induces inefficiency since the marginal costs for production are the same for those goods.

All in all, one of the consequences of a bifurcating world could be changes in the invoicing currency composition. Under multiple leading invoicing currencies, price dispersion arises as additional loss terms for a central bank's target and it is known that price dispersion is related to inflation and the cost of business cycles. Larger price dispersion is associated with higher cost of business cycles. These implications are only from the trade side of economic fragmentation. If we extend the formal analysis to the fragmentation of the financial side, the welfare costs would be larger. To counteract this negative impact, it would be crucial to keep an institutional framework for us to have open relations with both blocs. [KIEP](#)

³ The price dispersion is defined as the variance of prices for the same good, in the same area, and during the same time horizon. See Kaplan et al. (2019).

⁴ See Han W. T. (2023) for the detailed analytics for the derivation of central bank's loss terms under multiple invoicing currencies.