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Money, Commodities, and Bretton Woods III

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Credit Suisse research has always prided itself on thought leadership. In today's environment, where we have to navigate a global conflict between great powers and an unfolding crisis of commodities, thought leadership is more important than ever. The current environment is perhaps more complex than the crises of 1997, 2008, or 2020, for the problem is not only nominal (FX pegs, par, or the great overdraft, respectively), but also real: commodities are real resources (food, energy, metals), and resource inequality cannot be addressed by QE…

…you can print money, but not oil to heat or wheat to eat.

Wars also upend the dominance of currencies and serve as a doula to the birth of new monetary systems. What Deutsche Bank's Bretton Woods II framework was to the first decade of the new century, and what QE and Basel III then were to the second (post-GFC) decade of the new century, we believe that our Bretton Woods III framework will be to the third decade of the new century…

…and potentially beyond.

If we are right, our framework will be the right framework to think about how to trade interest rates in coming years: inflation will be higher; the level of rates will be higher too; demand for commodity reserves will be higher, which will naturally replace demand for FX reserves (Treasuries and other G7 claims); demand for dollars will be lower too as more trade will be done in other currencies; and structurally then, the negative cross-currency basis (the dollar premium) will naturally fade away and potentially become a positive cross-currency basis.

Credit Suisse and the House View will be here to guide you through all this, and with that, let's begin to hash out the details of our Bretton Woods III framework.

In today's dispatch we will expand on Perry Mehrling's "four prices of money" framework. We have used this framework in our last dispatch from March 7th to show that in every major crisis since 1997, one of the four prices of money came into play, and, by extension, every major crisis is also a crisis of money.

To remind the reader, in Perry Mehrling's framework, the four prices of money are:

(1) Par

(2) Interest

(3) Foreign exchange

(4) Price level

Par (parity) is the one-for-one price of different types of money: for banks, reserves are convertible into currency at par, and for all non-banks, deposits at one bank are convertible into deposits at another at par, and deposits at banks are convertible into currency at par. Parity between these forms of money ensures that transactions take place seamlessly *today*. Parity broke in 2008. Had the Fed not stepped in, we could not have been able to transact normally.

Interest is the price of future money (money tomorrow versus money today). Interest is the price at which you part with money for a period of time, that is, the price at which you part with liquidity. Depending on who you lend to, interest rates are different: fed funds is a rate of interest on interbank loans, repo is a rate of interest on loans versus collateral, FX swap implied yields are rates of interest on loans involving the swap of two different currencies. Interest rates depend on the nature of the transaction (unsecured or secured), the quality of the borrower, and the term of the loan. An overnight interest rate (EFFR) is always the anchor, and a swap curve indexed to an overnight anchor (an OIS curve) is the base against which all other interest rates are expressed (the EFFR-SOFR basis for repos and the OIS-OIS basis for FX swaps). Interest is about lending, lending uses balance sheet, and balance sheet costs, together with the type of lending, determine bases. Interest rates basically consist of an OIS part and layers of bases on top of OIS – the proverbial money market cake (sponge, cream, sponge, cream) that we often refer to. STIR traders trade either the OIS curve (the number of hikes up or down), or bases around OIS driven by one-off events like money market fund reform or corporate tax reform, or left-field events like the onset of Covid-19 in March 2020. Had the Fed not stepped in in March 2020, corporations would not have been able to draw on their credit lines and the Treasury couldn't have funded itself.

Foreign exchange is the price of foreign money – the price of the U.S. dollar versus other currencies, which can be floating or fixed, or managed in between. Fixed exchange rates broke in several countries in Southeast Asia in 1997. Had the IMF not stepped in, we would have had a banking crisis in New York.

Price level is the price of commodities in terms of money. Commodities mean fossil fuels, metals, grains, and rare earths, and through these commodities, the price of everything imaginable. Commodity prices determine food and energy inflation and also core goods inflation. The price level was an afterthought for the past 25 years. Unlike crises related to par, interest (bases), or FX rates, there were no major price-level related crises over the past 25 years. If anything, the problem was persistently low inflation, which central banks tried to counter very hard through aggressive balance sheet policies (QE) with limited success.

Now consider this:

for a central bank like the Fed (or any other major central bank), it is easy to police the par, interest (bases), and FX rate aspects of money, for these prices exist in the nominal domain – if there is a run on banks and the par price breaks, become the LoLR to the troubled banks; if covered interest parity (CIP) breaks, become the DoLR to the troubled cross-currency pairs; if FX rates are in play, become the DoLR to the spot FX market and engage in QE or QT as needed.

Central banks have it easy when it comes to policing the prices of money in the nominal domain, but not when it comes to policing prices in the real domain of commodities, especially when pressures come not from demand, but supply, or rather, a supply shock caused by a collapse in demand for specific commodities, like Russian commodities (the market self-policing for fear of future sanctions).

Central banks are good at curbing demand, not at conjuring supply. Energy and commodities are needed for virtually everything, Russia exports everything, and unlike 1973, it's not just the price of oil, but the price of everything that is surging. After laying dormant for decades, the fourth price of money is back with a vengeance – the par, basis, and FX-related prices of money are dormant at the moment, but the price level is about to become very volatile and the market is trying to price the price of future money (OIS), that is, the number of interest rate hikes and the FOMC adjusting the level of terminal rates (r*) in response to the new price level regime brought about by war and sanctions.

Once you cross over from the nominal domain of prices to the real domain, things gets more complicated. We will now expand the four prices framework:

(1) Par

(2) Interest (OIS and bases)

(3) Foreign exchange

(4) Price level = commodities

(5) Foreign cargo (priced in U.S. dollars)

(6) Shipping

(7) Protection

The red items are all nominal – the four prices of money, the domain of money, and the domain of institutions that deal money: dealers, banks, and central banks.

The blue items are all real – the infrastructure that moves commodities around and the domain of institutions that deal in commodities: commodity traders (dealers), banks that finance commodity traders, and the foreign policy and military arms of the state that provide the legal and military protection to assets, which range from mines to fields, pipelines, ships, shipping routes, and straits.

Banks make loans and create deposits, while loans are created to buy stuff, which can be real assets or financial assets. In the current context, we focus on real assets – commodities. Like anything, the price of commodities is determined by demand and supply, and demand and supply are always financed by banks.

The physical (blue) aspects of commodity trading are usually an afterthought, much like plumbing was an afterthought before the 2008 crisis when par broke.

We wrote before about risks to the financial plumbing of commodity trading (see here), and today we will highlight some risks to the real plumbing that underpins physical trading. Our entry point to thinking about all this is the observation that price level = commodities, and from here we structure things so that each of the other three prices of money has a corresponding counterpart in the real domain (see above). The point we make is that for price stability, we need structural stability in both the nominal and in the real domains – deflation (structural) happens when demand cannot be funded, and, contrarily, inflation (structural) happens when supply is disrupted by war and other events.

This is how various prices of money link up with commodities trading conceptually:

Foreign cargo is a conceptual counterpart to foreign exchange. The "foreign" in foreign cargo underscores the fact that most demand for commodities comes from the developed world, but most supply comes from the developing world. In the world of commodities, the demand side dominates the form of payment – U.S. dollars, petrodollars, eurodollars – and if you have dollar balances, there

is no foreign exchange involved, but there is "foreign exchange" because you are swapping dollars for foreign cargo, that is, foreign-sourced commodities.

Shipping is a conceptual counterpart to interest (OIS and bases). Shipping foreign cargo from port A to port B takes time, and for that period of time, commodity traders need to lease a ship. Commodity traders lease ships with borrowed money and fill ships with foreign cargo also with borrowed money. The duration of the loans to lease the ships and fill them up with cargo is a function of the time it takes to sail from here to there – the time value of money meets the time it takes to ship foreign cargo from port A to port B. Much like lending encumbers balance sheet, leasing ships, filling them up with cargo, and sailing them from here to there encumbers shipping capacity. Furthermore, like there is a "base" interest rate (EFFR and the OIS curve that springs from it) and a basis between that base rate and other interest rates, there are also bases between different sources of similar commodities (WTI, Brent, and Urals), and like harvesting money market bases uses balance sheet capacity, harvesting commodity bases uses "shipping balance sheet capacity" (vessels).

Protection is a conceptual counterpart to par. When you decide to take money out of a sight deposit, you expect the same amount back that you put in (par). When you sail foreign cargo from port A to port B, you expect to unload the same amount of cargo that you onloaded. Banks can deliver par on deposits most of the time. When not, central banks step in to help. Commodity traders can deliver foreign cargo from port A to port B most of the time, but when not, the state intervenes again: not the monetary arm, but the military arm of the state. What central banks are to the protection of par promises, the military branch is to the protection of shipments: foreign cargo needs to sail on sea routes and through choke points like the Strait of Hormuz, and "par" in this context means being able to sail from here to there freely, safely, and without undue delays…

Protection applies more broadly. Not just to shipping, but to mining and oilfield interests, pipelines, *et cetera*, and protection for assets is not only military, but also legal and diplomatic. For colorful anecdotes, please refer to Chapter 21 ("Can't the CIA and the Navy Solve This Problem") in Steve Coll's book, *Private Empire: ExxonMobil and American Power*, or the first page of the book, *The World for Sale*, by Javier Blas and Jack Farchy, recounting the descent of Vitol's private jet with the legendary oil trader and CEO Ian Taylor aboard under the protection of a NATO drone chaperoning its plane into war-torn Libya in order for him to negotiate with rebels to trade crude oil from fields controlled by the rebels for gasoline needed by the rebels to fight the forces of Gaddafi…

…all that trouble and protection to harvest crack spreads. You get the idea…

Par (nominal) and protection (real). Interest (nominal) and shipping (real). Balance sheets (nominal) and vessels (real). Foreign exchange (nominal) and foreign cargo (real). Price level (nominal) and commodity prices (real).

We need to understand the details of commodity trading because the rules of the game are changing, and these changing rules will affect the price level, the level of interest rates (OIS), FX rates, and, in due course, OIS-OIS bases.

This is how:

Foreign cargo used to be priced in U.S. dollars (or in the case of gas, euros), but now the ultimate sources of foreign cargo (foreign nations) are changing the form of payment they demand and prefer: Russia is now invoicing its commodity exports to "non-friendly" nations in ruble, not U.S. dollars or euros,

and Saudi Arabia is open to China paying for oil in renminbi. It used to be as simple as "our currency, your problem". Now it's "our commodity, your problem".

Shipping used to be about minimizing the time it takes to get commodities from producers to consumers. Time at sea is a function of sea routes, and different sea routes correspond to different types of vessels. In the case of oil, for example, the three main types of vessels are VLCC, Suezmax, and Aframax vessels. VLCCs (very large crude carriers) carry 2 million barrels and are used for long-haul voyages. There are about 800 VLCCs in the world. Suezmax refers to tankers that are capable of passing through the Suez Canal in a laden condition. Suezmax tankers carry 1 million barrels on long-haul voyages. There are 700 of them. Aframax vessels are "go-fast boats" in comparison, shuttling 600,000 barrels on short-haul trips. There are about 600 Aframax carriers in the world. All this detail is important to know when the flow of oil – and in particular, the flow of Russian oil – is disrupted. If you trade STIR and cared about money fund reform, you need to follow "oil flow reform" too (reform due to sanctions, not SEC rules).

VLCCs and banks' LCLoR are interrelated. This is how:

Oil from Russia (Urals) gets loaded on Aframax carriers at the Port of Primorsk or the Port of Ust Luga to then be shipped on short shuttle runs to Hamburg and Rotterdam. But if Europe boycotts Russian oil, Russia will have to ship its oil to Asia through much less-efficient routes. Oil must be pumped, oil fields don't like to be turned off and on, and there are no new pipelines to Asia. Storage capacity can accommodate excess production in Russia for a while, but when storage facilities fill up, oil will have to get moved. Without pipelines, the only way Russian oil can be moved over to China will be through vessels, and this is where things get complicated: it's uneconomical to transport crude on long-haul voyages on Aframax carriers. If Europe no longer wants Russian oil and Russian oil needs an outlet, and that outlet is a buyer in China (see here), China will need more VLCC carriers to get oil from Primorsk and Ust Luga.

Now the details.

Roughly 1.3 million barrels of oil get shipped from Primorsk and Ust Luga to Europe on Aframax carriers, and these journeys take a week or two to complete.

If Russia now needs to move the same amount of oil not to Europe but China, the first logistical problem it faces is that it can't load Urals onto VLCCs in Primorsk or Ust Luga because those ports aren't deep enough to dock VLCCs. Russia will first have to sail Aframax vessels to a port for STS crude transfer (ship-to-ship crude transfer) onto VLCCs. STS crude transfer takes weeks, and after the transfer is done, the VLCC will sail two months east, discharge, and go back to the Baltics, which will also take two months. Conservatively, Russian crude traveled about a week or two before it fueled economic activity (the time it took to sail smaller Aframax carriers from Primorsk to Hamburg) and now will have to travel at least four months before it fuels economic activity.

Worse, it's not just the time to market that's getting worse, but we also end up with a ship shortage and a corresponding surge in shipping freight rates: consider that we are still using the same number of Aframax ships as before but now as links in a longer intermediation chain (the STS crude transfer bit), and we now also need 80 VLCCs to get the oil to the final consumer in China. 80 VLCCs are basically the product of the new, longer shipping routes to China: the logic is that instead of taking a week or so to move the oil to consumers, oil will now take at least 120 days (two months plus two months = four months) to transport, and so 1.3 million barrels per day (which is 75% of a VLCC's load)

times 120 days over 2 million barrels ship size is 78 VLCCs in permanent use!

The 80 VLCCs the world will soon be short of represent about 10% of the world's VLCC capacity, which includes 50 VLCCs that are Iranian flag vessels (NIOC) that are currently being used for floating storage, so the re-routing of Russian crude oil will encumber more than 10% of the global VLCC capacity.

It gets more complicated.

Consider that as cheap Russian oil gets diverted to China, China will buy less oil from the Middle East and then Middle Eastern oil will now have to be shipped to Europe with the same loss of efficiency as the shipment of Baltic oil to China.

Remember that a Suezmax vessel is called a Suezmax vessel because it can sail through the Suez Canal with a full load of oil cargo. VLCCs cannot, because they carry 1 million barrels more than a Suezmax vessel, which means they are heavier and sail deeper and the Suez Canal isn't deep enough for them.

But engineers in Egypt figured out a way around that: they skim the cargo load via pipes into storage facilities along the canal so that VLCCs can sail through and then pump the oil back onto the VLCCs once they are through the canal. But just as for taxiing Baltic crude on Aframax vessels for STS transfers above, lessening the load of VLCCs at Suez and then putting the load back on will take time. Time is money, and lending more money for longer terms means…

…that as commodity traders need more financing, banks' own liquidity needs will start to move higher over time too. If not immediately, surely inevitably.

There are implications for funding markets and parallels with funding markets: as the above example shows, oil transports will take four months to finance instead of two weeks, and because oil prices are up, it will take more money to fill up VLCCs – which means more notional borrowings for much longer terms.

Our instinct says that as commodity price inflation and volatility drives the commodity world's credit demand higher, banks' LCLoRs will move higher too and banks' willingness and ability to fulfill the commodity world's credit needs will diminish. In 2019, o/n repo rates popped because banks got to LCLoR and they stopped lending reserves. In 2022, term credit to commodity traders may dry up because QT will soon begin in an environment where banks' LCLoR needs are going up, not down. History never repeats itself, but it rhymes…

Banks currently have lots of excess reserves, so they will be able to lend more to commodity traders to move more expensive and more price-volatile cargo, while spillovers into measures of funding stress (Libor and cross-currency bases) will likely remain mute for now, but not forever. Banks' LCLoRs are moving up as we speak because commodity and trade financing needs are growing too, and that cannot be good for banks' demand for Treasuries on the eve of QT.

Furthermore, an encumbrance of VLCCs should ring alarm bells to STIR traders, since a lack of VLCCs to move oil around (and other ships for other stuff) is the real-world equivalent of year-end G-SIB constraints in the financial system.

One aim of this dispatch is to hammer home the parallels between the (nominal) world of money and its four prices and the (real) world of commodities, and just as G-SIB constraints around year-end gum up the free flow of money, VLCC constraints during times of war can gum up the free flow of commodities – can commodity prices spike like FX forward points when we run out of ships?

We can't QE oil (= reserves) or VLCCs (= balance sheet).

But that is what we need…

…and 80 extra VLCCs are just for one product. Russia exports every major commodity imaginable, and the same problems will show up in other products and also with ships that move dry, as opposed to wet cargo. It will be a big mess.

Protection we tend to take for granted, much like we take it for granted that currency, deposits, and money fund shares are interchangeable always at par. Tankers pass through sea routes, and sea routes pass through straits, and straits must be open at all times and sea routes must be free of bottlenecks…

…bottlenecks engineered by states or pirates.

Wheat and oil are connected. Egypt used to be a big importer of Ukranian wheat. If much more oil is about to pass through the Suez Canal, Egypt might consider to introduce its own G-SIB surcharge: raising the fee required to pass through the Suez Canal in order to raise more money for the state's coffers, such that the Egyptian state can buy more wheat in the wheat market to feed its people.

Hungary lost to Russia in 1956 because the U.S. protected the Suez Canal…

Pirates need to eat too, and they will have an extra incentive to engage in acts of piracy when there is a bread shortage (a wheat shortage is a bread shortage).

Protection again.

More expensive ships. More expensive cargo. More expensive transit fees. Much longer transit routes. More risks of piracy. More to pay for insurance. More price-volatile cargo. More margin calls. More need for term bank credit…

…a perfect time to do QT!

Don't get me wrong – we need to tighten financial conditions, but it is now time to think about how to do QT such that we minimize the destruction of reserves while maximizing the amount of duration delivered into the bond market…

…to undo the mistake of believing that we can craft sanctions that maximize pain for Russia while minimizing financial and price stability risks for the West. Did OFAC coordinate with the FOMC and FSOC when crafting sanctions on Russia?

These are the links between Perry Mehrling's four prices of money framework and the four pillars of commodity trading: you pay with dollars for commodities and the Fed and private banks (G-SIBs) police the par, interest (and bases), and foreign exchange aspects of the nominal side of the commodities trade, while sovereign states police the legal and military aspects of commodity trades so that shipping companies and commodity traders can move tonnages around.

Central banks and banks always cooperate. Money has no enemies.

Sovereign states sometimes cooperate and sometimes they do not.

Sovereign states have no enemies during globalization…

…but turn into enemies during periods of de-globalization.

If Larry Fink is right about globalization, some sovereign states are now enemies.

Let's now simplify the four prices and four pillars framework.

(1) Stability (financial stability instead of "par")

(2) Time (the time value of money instead of "interest")

(3) Trade (sell one currency, buy another instead of "foreign exchange")

(4) Stability (price stability = price level = commodities)

(5) Trade (sell commodities, get dollars; West pays the East/OPEC)

(6) Time (the time it takes to ship, which requires money)

(7) Stability (geopolitical stability, underwritten by a unipolar, U.S.-led world)

The price level is thus underpinned by a healthy, well-functioning banking system (demand needs credit; if there is no credit, there is no demand and prices fall), but also a healthy, well-functioning world with efficient and open sea routes (demand needs commodities, and if there are no commodities, prices rise fast).

If the banking system gets gummed up and OIS-OIS bases widen, credit gets more expensive and that saps demand, and if the commodity trading system gets gummed up, commodities get more expensive, and that saps demand too.

But the former is a nominal (credit) shock that leads to much lower prices, and the latter is a real (trade) shock that leads to much higher prices. Real growth slows either way, but in the former case, nominal activity falls faster than prices, and in the latter case, prices rise faster than nominal activity = stagflation.

If Ray Dalio is right about stagflation, he must mean that the price signals from the four pillars of commodity trading will dominate the signals coming from the four prices of money. Central banks have a very hard task at hand…

…they can slow/stimulate demand via the nominal credit channel by playing with the four prices of money, but they can't do a thing about commodities. You can print money but not print oil, iron, or wheat, nor VLCCs or other ships – not even with 3D printers. Let's next take the simplified framework and turn it into a game of "origami": the framework above has price stability in the middle and two other types of stability (financial and price stability) at the extremes.

Three points make a triangle (see Figure 1).

Between the left and top vertices we have notions of trade and time, and between the right and top vertices we have notions of trade and time too, where trade and time refer to currency trade and lending, and commodity trade and shipping, respectively. Between the bottom two vertices we have the monetary arrangement of the unipolar world: Bretton Woods II, where banks create eurodollars and OPEC and China buy U.S. Treasuries with eurodollars.

But this was not meant to be happily ever after…

Henry Kissinger is not Hans Christian Andersen…

…and realpolitik isn't a fairy tale.

Instead of one triangle, we now have two (see Figure 2). Naturally so, as a multipolar (duo-polar) world needs two triangles to work, or rather, to co-exist.

The triangle on the left is the same as the one before, and the one on the right is the same as the one on the left conceptually, but it's anchored by a different currency – eurorenminbi instead of eurodollars. We show the two triangles as mirror images of each other so that they have the geopolitical vertex in common…

…because the second triangle grew from the first one due to a geopolitical conflict.

The top vertex of the second triangle is connected to the other two vertices by concepts of trade and time too: the left and top are connected by the concepts of commodity trade and time, and the right and top are connected by the concepts of currency trade and lending. But here, renminbi for other currencies instead

of U.S. dollars for other currencies, and between the bottom two nodes we have the monetary arrangement of the new world order: Bretton Woods III, where banks create eurorenminbi and where eurorenminbi balances are accumulated to buy Chinese Treasuries (inevitably, but not imminently), outside money like gold instead of G7 inside money, and commodity reserves instead of FX reserves.

Commodity reserves will be an essential part of Bretton Woods III, and historically wars are won by those who have more food and energy supplies – food to fuel horses and soldiers back in the day, and food to fuel soldiers and fuel to fuel tanks and planes today. According to estimates by the U.S. DoA (the Department of Agriculture), China holds half of the world's wheat reserves and 70% of its corn. In contrast, the U.S. controls only 6% and 12% of the global wheat and corn reserves. This has implications for the price level of food and the conversation about VLCCs and the oil trade for the price level of energy.

The co-existence of the two triangles then has huge implications for the course of inflation in the East versus the course of inflation in the West. This is serious:

Bretton Woods II served up a deflationary impulse (globalization, open trade, just-in-time supply chains, and only one supply chain [Foxconn], not many), and Bretton Woods III will serve up an inflationary impulse (de-globalization, autarky, just-in-case hoarding of commodities and duplication of supply chains, and more military spending to be able to protect whatever seaborne trade is left).

Empires fall and rise. Currencies fall and rise. Wars have winners and losers.

When Wellington beat Napoleon, the trade was to buy gilts. I am no expert on geopolitics, but I am an interest rate strategist and I think the level of inflation and interest rates and the size of the Fed's balance sheet will depend on the steady state that emerges after this conflict is over. Three is a magic number:

The four prices of money are managed via Basel III and central banks as DoLR.

The four pillars of commodity trading are shaped by war, hopefully not WWIII.

The new world order will bring a new monetary system – Bretton Woods III.

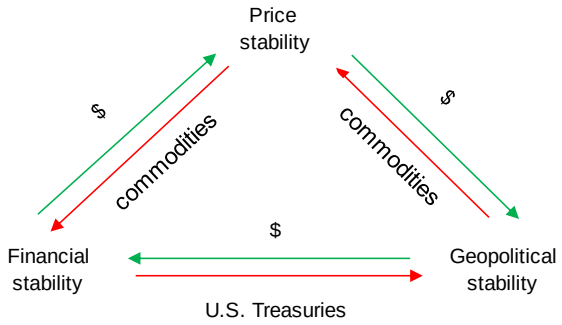
Paul Volcker had it easy…

…he "only" had to break the back of inflation but had a unipolar world order and the rise of Eurodollars to support him. The triangle on the left supported him, and the triangle markets fussed about was the impossible trinity (you know, the stuff about monetary policy independence, FX rates, and open capital accounts), but that was about "our currency, your problem". Jay Powell finding his inner Volcker won't be enough to break inflation today. He'll need a strong helping hand…

…a strongman to take on the (inflationary) mess caused by other strongmen?

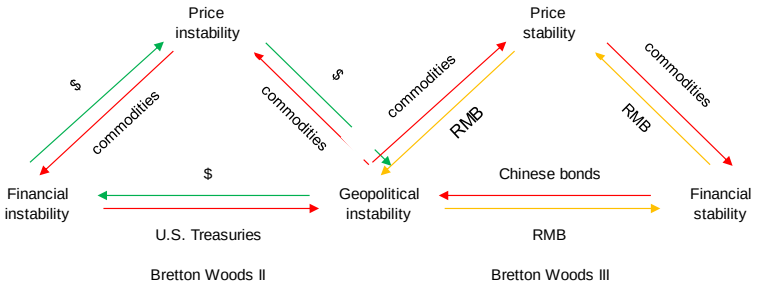
The new trinity of Bretton Woods III will be about "our commodity, your problem" – the EU's inflation problem for sure, if not the inflation problem of the entire G7.

Figure 1: Price Stability Is the Product of Financial Stability and Geopolitical Stability



Source: Credit Suisse

Figure 2: Geopolitical Instability to Beget Price Instability and Financial Instability



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