Investing in a World of Increasing Complexity

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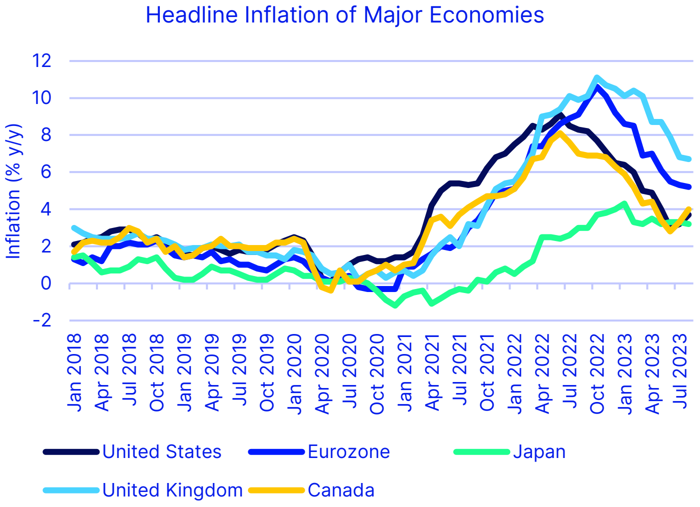
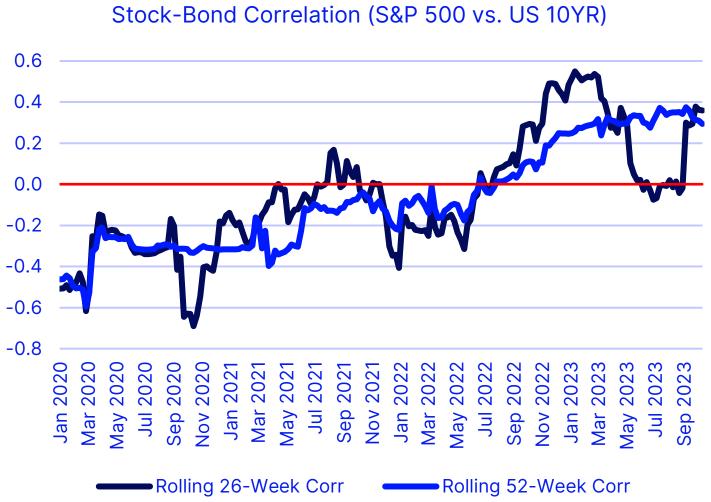
Agenda

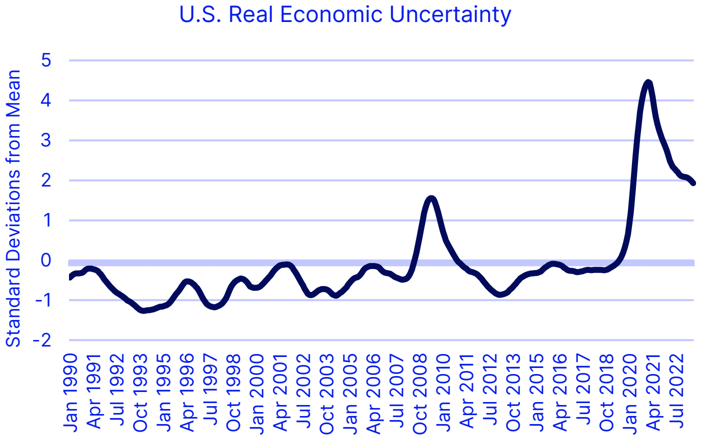
- The End of an Era: Have We Entered a Great Transition?
- Oil and Dollar: Dawn of a New Era?
- De-Dollarization: Is US Dollar Dominance Dented?
- Assignments

The End of an Era: Have We Entered a Great Transition?

The End of an Era







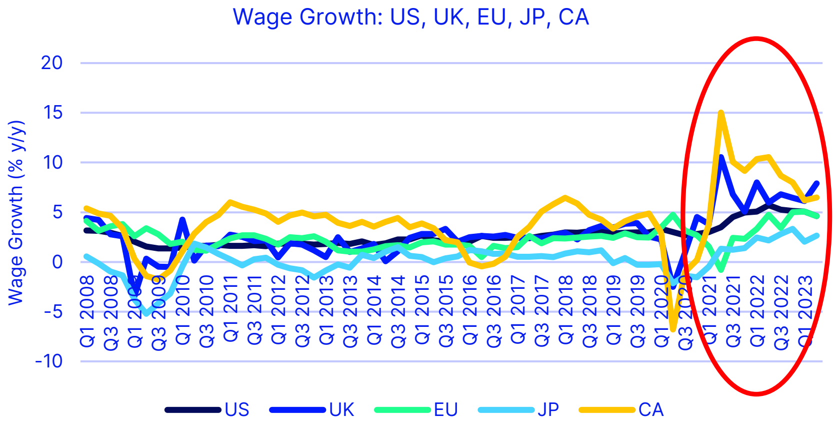
- What we observe and use in our investment management process have shifted recently due to a multiplicity of shocks happened since the onset of COVID-19 pandemic.
  - **Inflation has risen to multi-decade high.**
  - **Stock-bond correlation has recently turned positive after two decades of negative correlation.**
  - **Policy uncertainty has increased substantially.**
  - **Economic uncertainty has increased substantially.**
- Important question is whether these shifts will be permanent or transitory.

Source: Bloomberg; ; Davis, Steven J., 2016. "An Index of Global Economic Policy Uncertainty," Macroeconomic Review, October; Jurado, Ludvigson, and Ng, 2015. "Meausring Uncertainty," American Economic Review

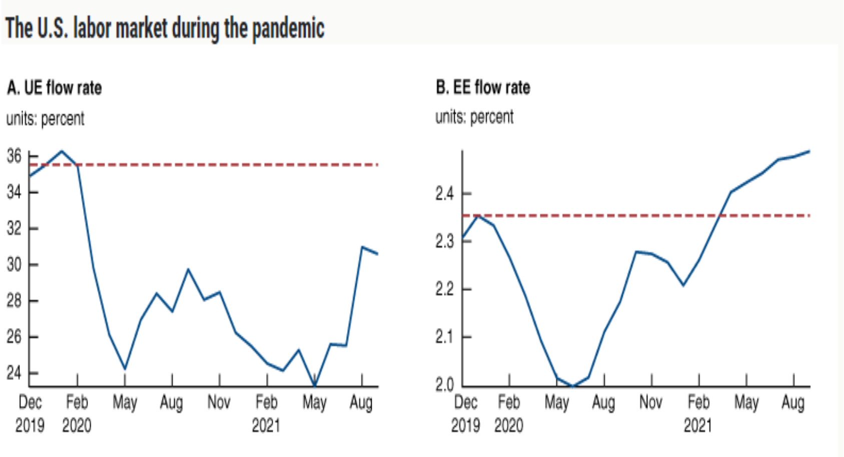
Structural Drivers of the Great Transition

Changes in the Labor Market

- New labor market dynamic in the post-pandemic world, heightening job-to-job mobility
- Potential structural shift in the way labor market responds to aggregate demand



- Economists have observed important changes in the labor market evidenced by:
  - Uneven recovery of jobs across different job categories
  - Extraordinary tightness in some job market segments
  - Fundamental changes in the formation of slack in labor markets based on the ability to work from home
- There is also permanent / temporary loss in labor force due to retirement and post-Covid effects like long-Covid, adding inflationary pressure.



Source: Faccini et al. (2022), "The Effects of the "Great Resignation" on Labor Market Slack and Inflation, Chicago Fed Letter, No. 465, February 2022

Source: FRED; Faccini et al. (2022);

Structural Drivers of the Great Transition (cont.)

Calls for Strategic Autonomy

- Sequence of adverse shocks post-Covid calling for strategic autonomy
- Reconfiguration of global value chains underway

- Semiconductors, the most important sector in terms of share in global manufacturing, are concentrated in few countries / companies. Advanced chips are only produced in Taiwan and South Korea.
- Many countries are pushing industrial policies to boost domestic production of chips, i.e. the US CHIPS Act ($53bn), the European Chips act (43bn euro), Japan's subsidy ($3bn/yr), South Korea's K-Chips Act (increase in tax credit).
- Production cost of chips will likely increase if produced elsewhere than main manufacturing hubs due to more expensive labor costs and lack of workforce with the requisite skills.

China Maturing

- Changes in economic structure
- Changes in demographics
- Continuation and strengthening of President Xi's regime

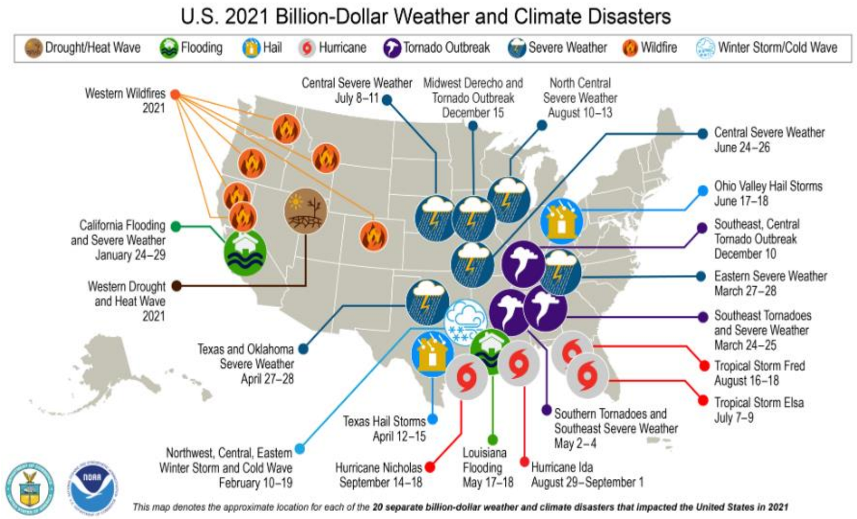
- China is the world's largest trading nation of goods. However, Chinese economy is being rebalanced toward domestic consumption.
- China is striving to become high-tech, high-productivity economy through national policy like "Made in China 2025".
- China's old dependency ratio is expected to surpass the global average, structurally changing the economic structure.
- Nationalistic stance of President Xi raises a concern for deepening and continuing geopolitical tensions between China and the United States.

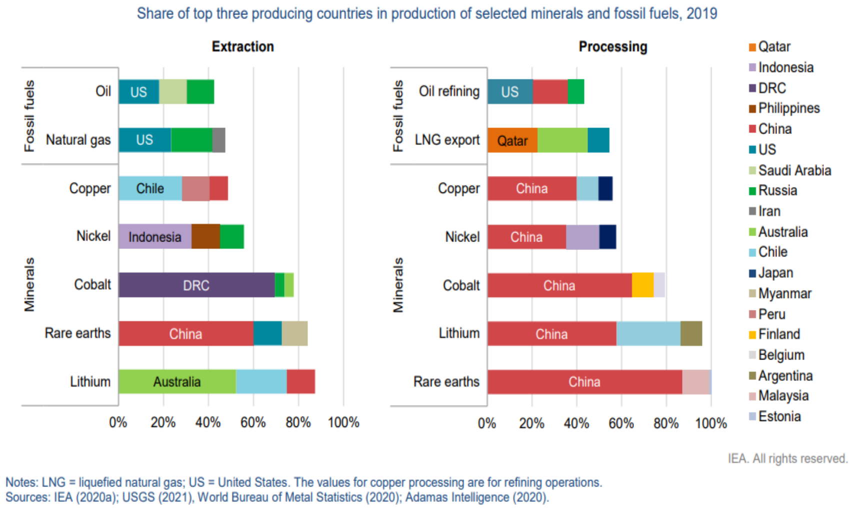
Structural Drivers of the Great Transition (cont.)

Climate Transition

- Climateflation, Fossilflation, and Greenflation
- Concentration and weaponization of resources a key risk

- **Climateflation**: inflationary pressure from the costs of climate change itself
- **Fossilflation**: inflationary pressure from the legacy cost of the dependency on fossil fuels
- **Greenflation**: inflationary pressure from increased demand for metals and minerals required for green technologies
- Different economic models suggest initial increase in inflation between 0.1% and 0.4% above BAU between 2023-2030.
- Significant share of clean energy metals are currently processed in China, and China is the dominant producer of rare earth metals.





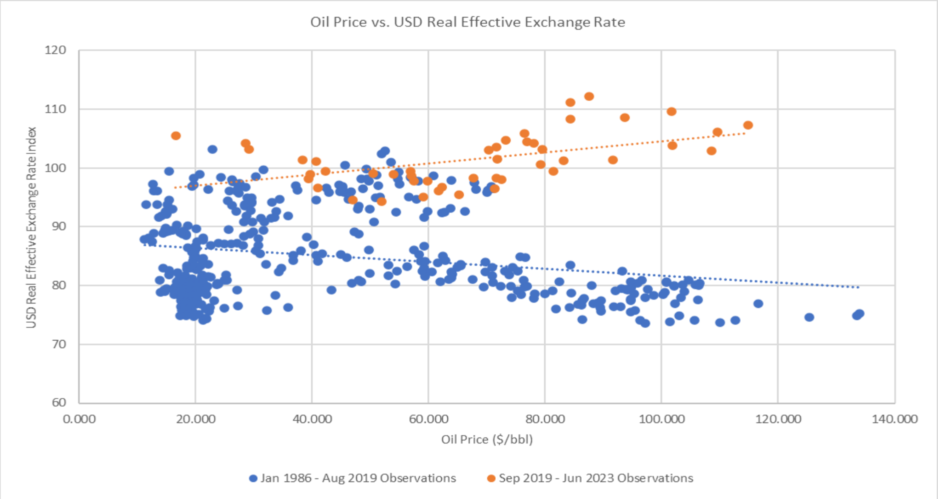
Source: NOAA, International Energy Agency

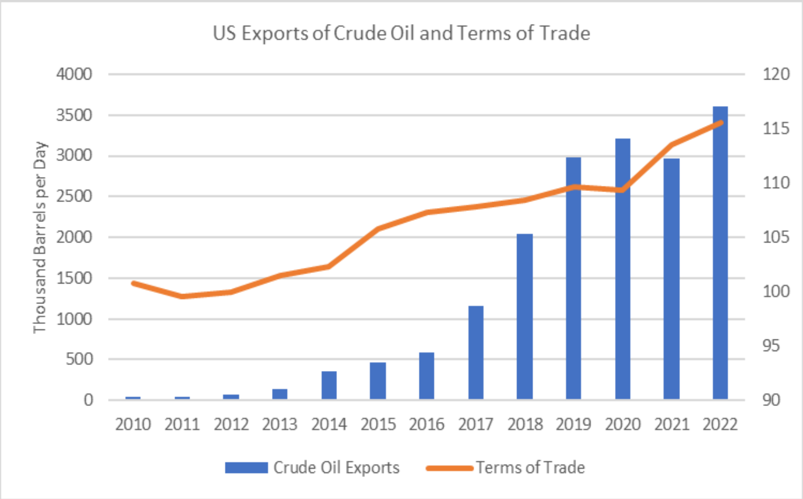
Macro and Investment Implications of Structural Changes

Macro Implications		Investment Implications
• Higher inflation and volatility • Limits to monetary policy • Higher policy uncertainty • Higher risk of shocks due to market fragility • Increased risk-aversion of liquidity providers	→	• Higher Risk Premium for Stocks and Bonds • Higher Probability of Tail Risks due to Increased Market Fragility • Higher Cost of Hedging • More Tools Needed for Diversification • More Opportunities for Active Strategies

Oil and Dollar: Dawn of a New Era?

Co-Movement between Oil and the Dollar





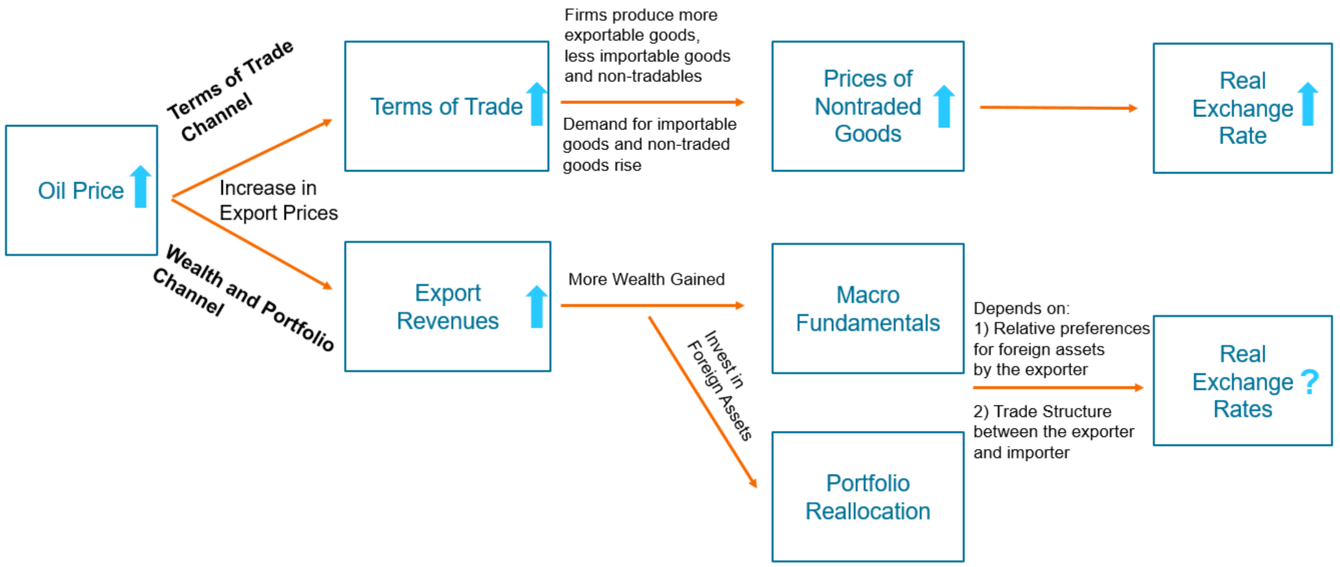
- The movement in oil prices and the dollar and the relationship between the two are some of the most important determinants of fiscal policy, domestic growth, inflation, and in turn, monetary policy.

- Over the last several decades, oil and the dollar have moved in opposite directions providing the necessary relief valve from fiscal pressures particularly for emerging market oil-importing countries.

- **Recently, this negative correlation in the oil-dollar relationship has reversed and turned positive, potentially due to structural reasons. This has a profound implications for the global economy.**

Source: Refinitiv Datastream; FRED; EIA

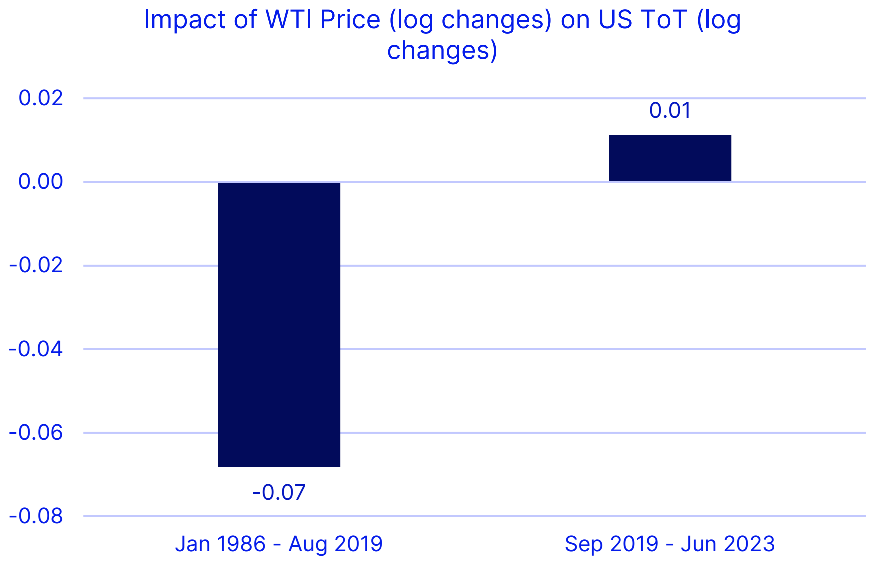
Drivers of Oil-Dollar Relationship

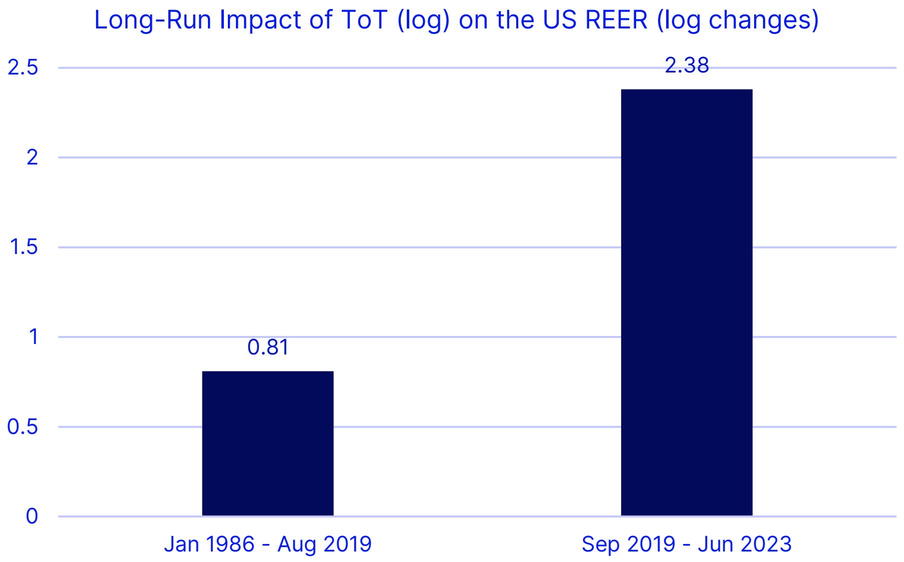


* Increase in exchange rate represents an appreciation of domestic currency

- Oil price shocks can affect foreign exchange (FX) rates through two major channels:
  - **Terms of Trade**: works through the trade balance of an economy
  - **Wealth and Portfolio**: works through capital account flows
- USD exchange rate shocks can affect oil prices as oil contracts are specified in USD.
  - Research has shown that the real price of oil increases at least six months following an exogeneous real depreciation of USD (the opposite effect can happen during real appreciation of USD).

Changing Oil-Dollar Relationship





- We empirically examine changing oil-dollar relationship through terms of trade channel. In particular, we show that:
  - Impact of oil price on the US terms of trade has changed sign (from negative to positive) post 2019;
  - And, long-run impact of terms of trade on the US real effective exchange rate has increased post 2019.

Source: Refinitiv Datastream; FRED; EIA

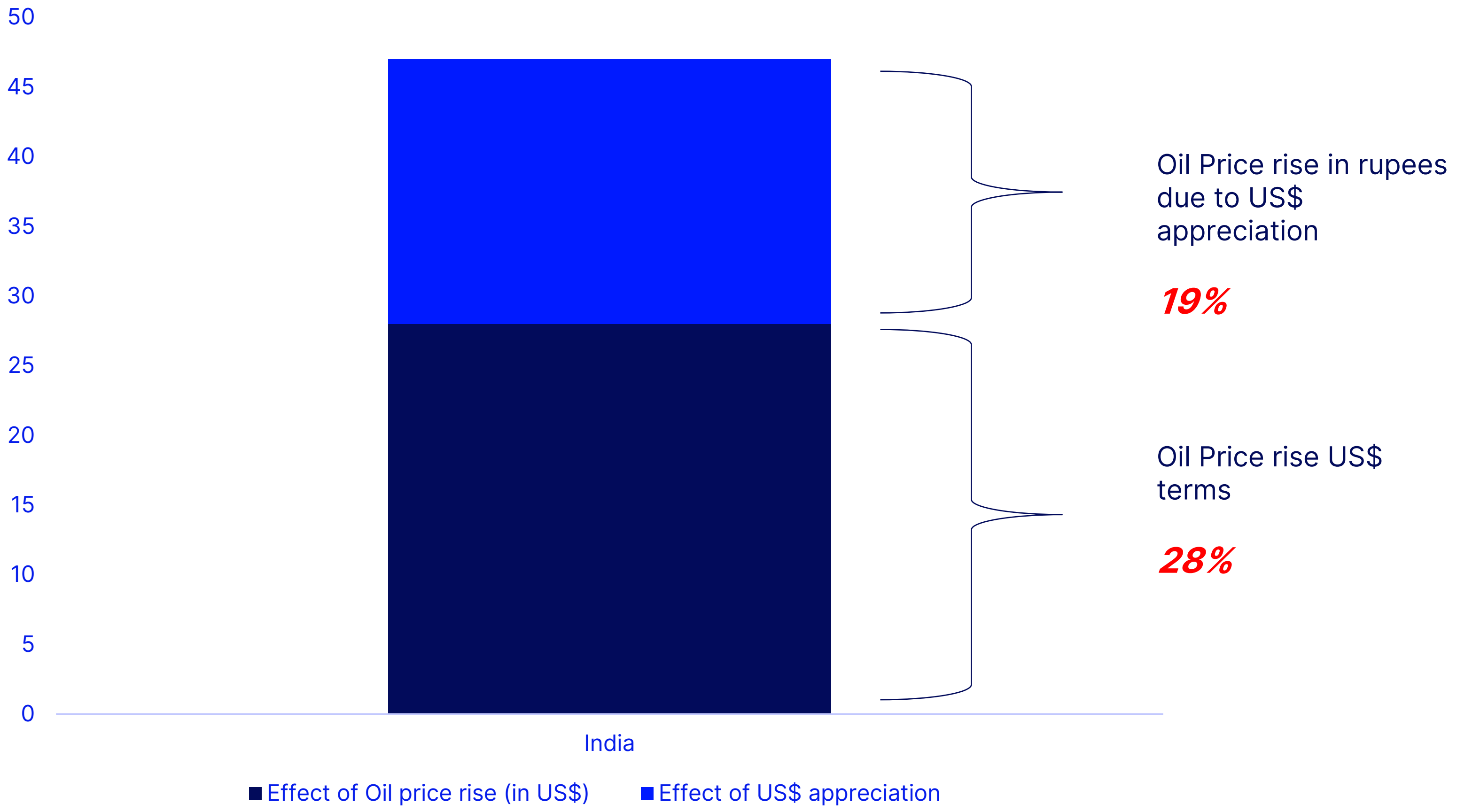
How Oil-Importers Can Deal with "Double Whammy" Effect from Oil and Dollar

Government Subsidies

Trade Surplus / Deficit	No	Yes
Surplus	• Direct hit on inflation and real consumption • More stable fiscal position and FX reserves • Examples: - Hong Kong, Singapore	• Fiscal hit through reduced taxes on oil • Trade surplus offsets fiscal deficit • Protects consumption and inflation • Examples: - China, South Korea, Taiwan
Deficit	• Stress from higher oil prices is shared by both private and public • Preservation of FX reserves for potential intervention • Examples: - India	• Erosion of FX reserves • Extended period of higher oil prices can result in long-term stress on balance of payment • Support domestic consumption steady • Examples: - Thailand, Indonesia

- Net oil-importers can handle "double whammy" effect from higher oil and stronger dollar through:
  - Provision of government subsidies
  - Running trade surplus
  - FX intervention through their FX reserves
- Each combination of strategy has pros and cons in terms of impact on:
  - Inflation
  - Consumption (growth)
  - FX reserves
  - Balance of payments
- In general, net oil-importers that run trade surplus are less vulnerable than those that run trade deficit.

Impact of Changing Oil-Dollar Relationship on Oil-Importing Country



- Oil prices in Indian rupees increased by 47% between Sep-2019 and Jun-2023.
- Changing oil-dollar relationship had a double whammy effect.
- Can have substantial long-run effects on trade deficit as ~85% of oil is imported by India.

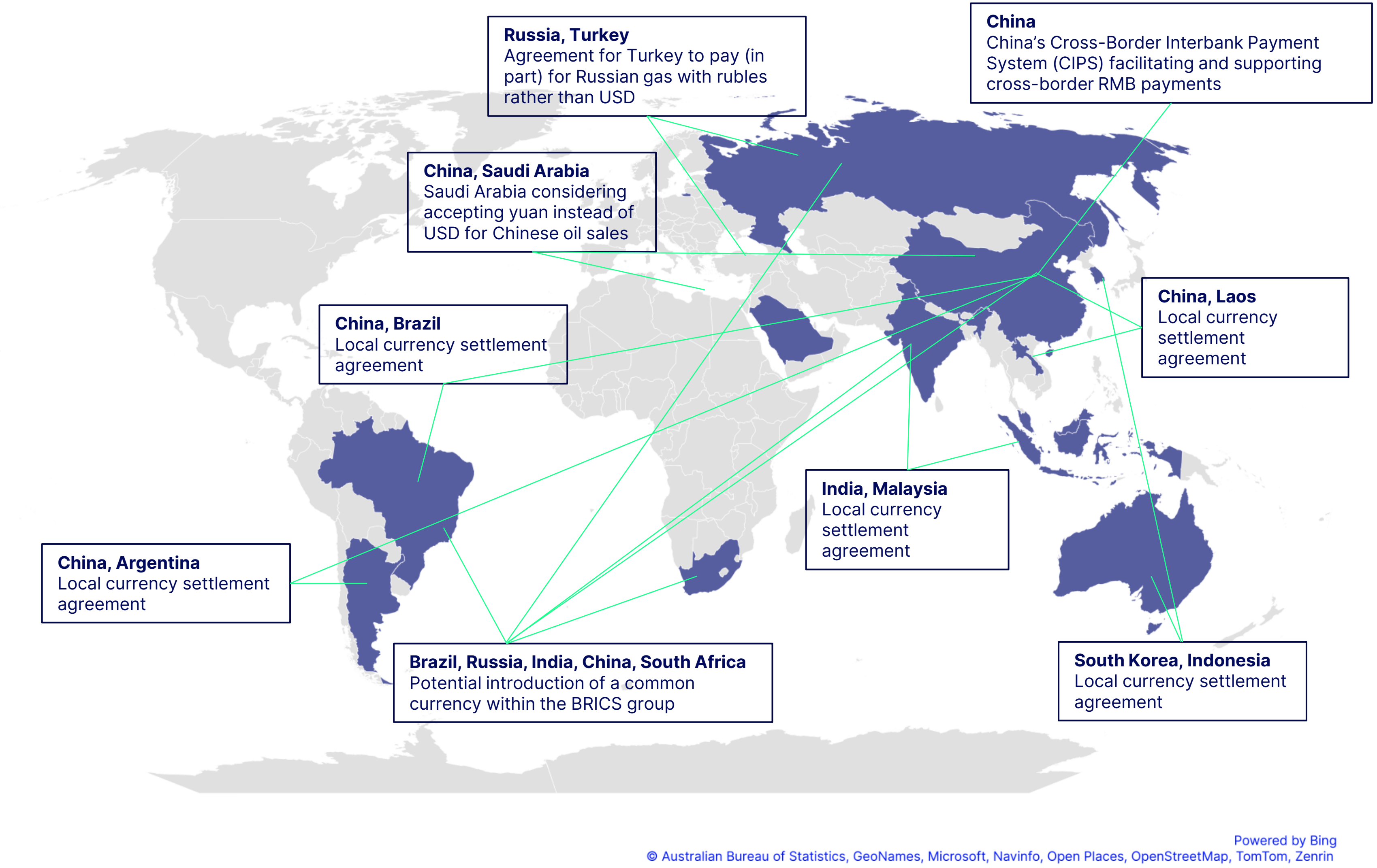
Source: FRED; EIA, RBI DBIE, Author's estimates

Implications of Changing Oil-Dollar Relationship

Economic Implications	Policy Implications	Portfolio Implications
• Rise in oil prices will drive headline inflation higher, especially for net oil importers. • Financial conditions for oil-importing countries can tighten further. • Oil importers will likely experience extreme pro-cyclicality irrespective of the direction of oil prices and the USD exchange rate.	• Oil importing countries will likely face increased fiscal pressures as their ability to provide fiscal support is now bounded by USD appreciation. • Fiscal-monetary coordination should be prioritized as fiscal dominance can lead to de-anchoring of inflation expectations. • Some oil importers may be compelled to expedite transition to a non-oil energy system.	• Country risk premia for oil importers will have to be reassessed. • Investors may hedge increased risk premia through: ➢ Increased exposure to USD during positive oil price shocks ➢ Currencies with sufficient liquidity and opposite characteristics w.r.t. oil compared to USD, such as EUR, CHF, and GBP

De-Dollarization: Is US Dollar Dominance Dented?

Current Concerns about the Dominant Status of the Dollar

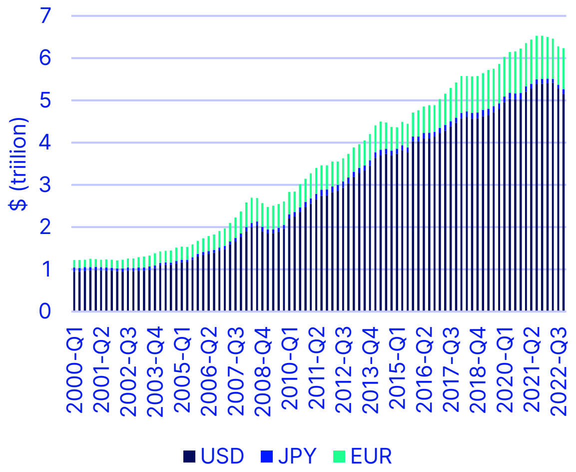


Current Status of Three Prongs of the Dollar Hegemony

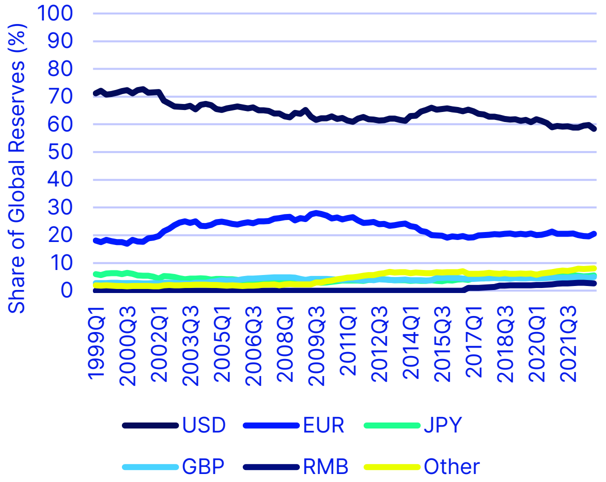
Share of Trade Invoicing and Exports / Imports: 2008 - 2019

Source: Boz et al. (2020), "Patterns in Invoicing Currency in Global Trade," IMF Working Paper 20/126; UNCTAD

Credit to Non-Banks in Emerging Market and Developing Economies by Currency



Share of Allocated Reserves by Currency



- We assess whether the dollar is indeed at risk of losing its hegemonic role based on an analysis of the tree attributes of currency dominance.
  - **Trade Invoicing**
  - **Cross-Border Financing**
  - **Central Bank Reserves**

- **Our evaluation of the three measures of currency dominance suggests that the USD still maintains its dominant status as a global currency and is likely to retain that role in the near future.**

Source: Boz et al. (2022); BIS; IMF

Rise of Alternative Currencies?

- The euro and the renminbi are generally considered the two leading contenders to replace dollar as a dominant currency. However, each has its own shortfalls:

Euro	Renminbi
• Lacks the depth and liquidity of financial markets. • Lacks a common sovereign bond market. • The EU's frequent political alignment with the US means that switching to the euro will not diversify political risks for countries aligned to Russia and China.	• While the Chinese economy is the second largest in the world, and China is top international trading partner for many countries, the renminbi's share in trade invoicing is relatively small. • China lacks openness of its capital market, and its economy is tightly controlled. • The renminbi is not easily convertible into non-Chinese assets.

- **The hegemonic status of a currency essentially implies the robust use of the currency in trade invoicing as well as in credit markets, both of which create claims in that currency. Satisfying these claims, in turn, requires a liquid and robust fixed income market.**

Merits of Dollar Dominance over a Multipolar Currency Regime

- Another alternative scenario to a single dominant currency regime is a multipolar world with multiple, weakly dominant currencies.

- We believe that transitioning to a multipolar world would be costly, particularly during times of liquidity stress despite the advantages of diversification away from USD for reserve mangers for following reasons:

Loss of Positive Network Externalities

- Global users of the hegemonic currency enjoy benefits in the form of significant positive network externalities:
  - ➢ lower financing costs
  - ➢ reduced exposure to currency volatility via natural hedges
  - ➢ lower currency transaction costs

Increased Costs of Managing Risks

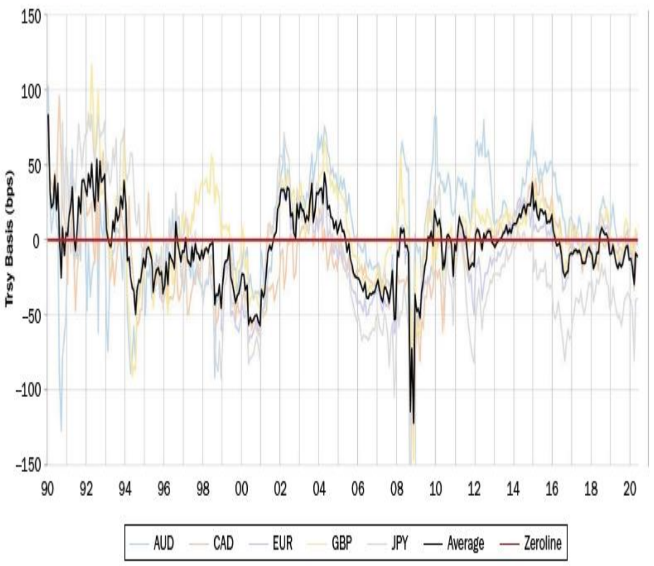
- Transacting and/or holding assets in multiple currencies would greatly increase the need and costs of managing the risk resulting from currency mismatches across assets/liabilities and costs/revenues.

Increase in Borrowing Costs and Currency Volatility

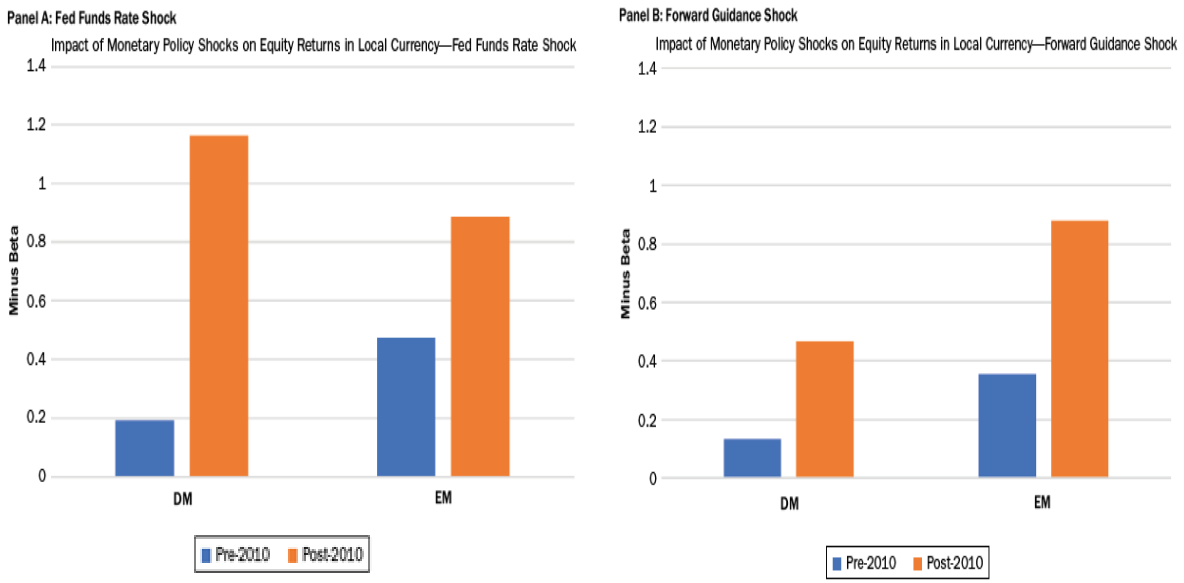
- Unless alternative currencies have similar level of depth, liquidity, and policy stability as the Untied States, currencies pegged to the USD would experience a much greater increase in borrowing costs due to the increased rise in currency volatility and loss of anchor of the credibility of US monetary policy.

Negative Effects of the Dollar Hegemony

US Treasury Basis versus G6



Swanson's MPS Shock Impact on Local Equity



- Dollar hegemony also has negative issues:

- During times of crisis, US Treasuries are being traded at a premium over the synthesized treasury yields from other countries, meaning that one has to pay more for Treasuries when those are most needed.

- The dollar funding of global balance sheets results in the propagation of the US monetary policy shocks to other economies.

Source: Thiagarajan et al. (2022), "Financial Globalization and Its Implications for Asset Allocation in a Dollar World

Summary

- **The criteria and clearance threshold for other currencies to replace the USD as a hegemonic currency remain high; the probability these criteria could be met is low; a multipolar world appears inefficient.**

- **However, the hegemonic status of the dollar is not pre-ordained.**

  - Policymakers should remain vigilant when exploiting the hegemonic status of the dollar.

  - Asset managers and asset owners should continue to monitor the situation, as the loss of the dollar's hegemonic status might imply the loss of faith in the currency, and importantly, the US Treasury market, a result which can carry significantly more serious implications.

- **While erosion of the dollar's extraordinary privilege would be slow, the geopolitical changes underway in the global macro world may ultimately weaken the USD's long-standing privileged position.**

Assignments

Assignments

The End of an Era: Have We Entered a Grate Transition? (Pick 1)

a. Deep dive into shifting global labor market dynamics – tightness in labor market has been a global phenomena in major economies in the world. What are the drivers of such shift given weaker growth outlook? Is there any common driver that drives global labor market dynamics?

b. Current state of strategic autonomy – analyze current state of strategic autonomy / reshoring / friend-shoring on semiconductors and discuss implications of such on global inflation.

De-Dollarization: Is US Dollar Dominance Dented?

a. Implications of dollar hegemony for the Middle East market – in a hypothetical scenario of USD de-pegging, what might be the viable alternatives to ensure the stability in the Middle East market?

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