IFF Measurement Workshop and
Policy Expert Group Meeting

Economic Structure, Trade and IFFs

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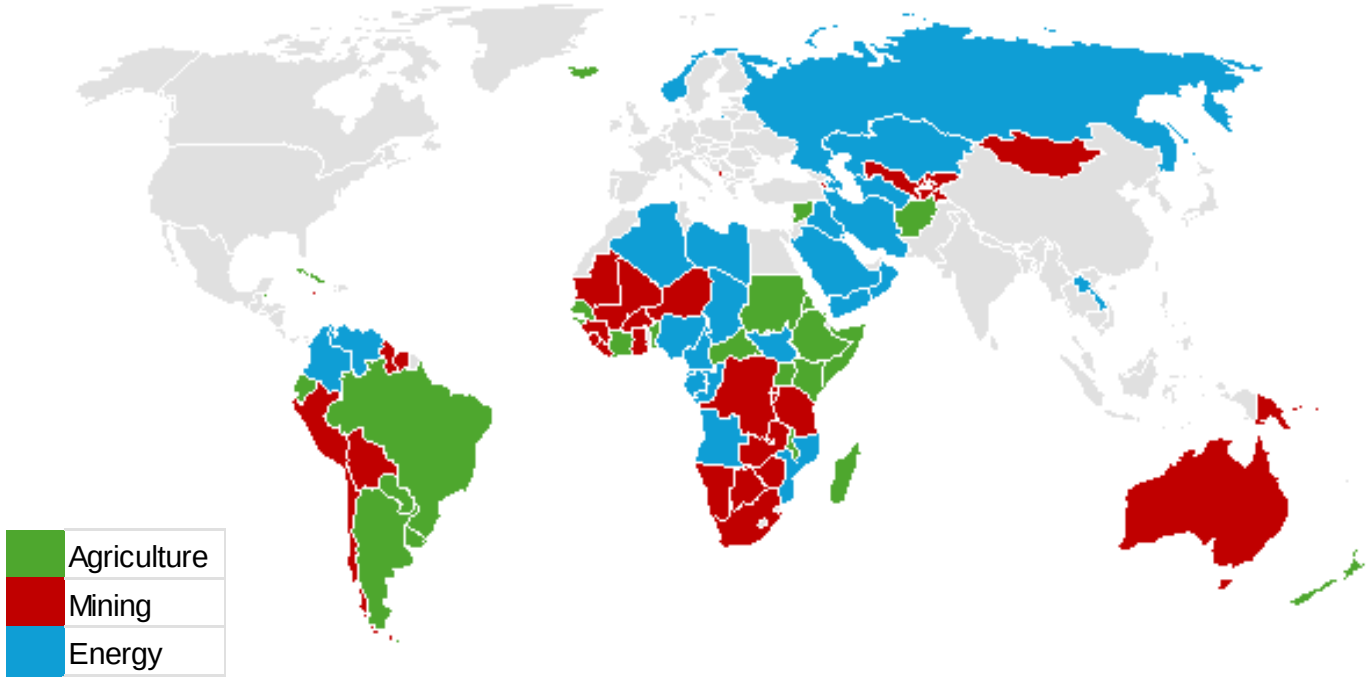
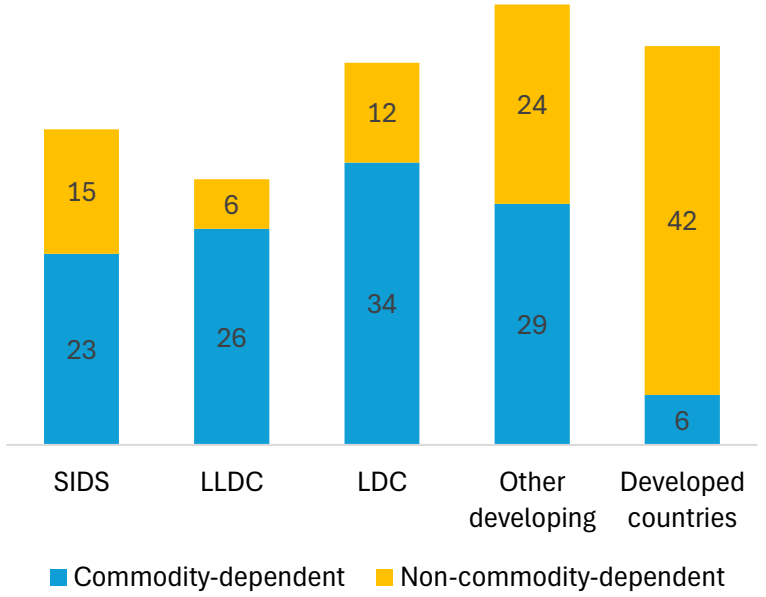
Commodity dependence is a developmental challenge

Commodity-dependent countries and their main dependency, 2019-2021



Note: The boundaries and names shown, and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNCTAD 2023. State of Commodity Dependence

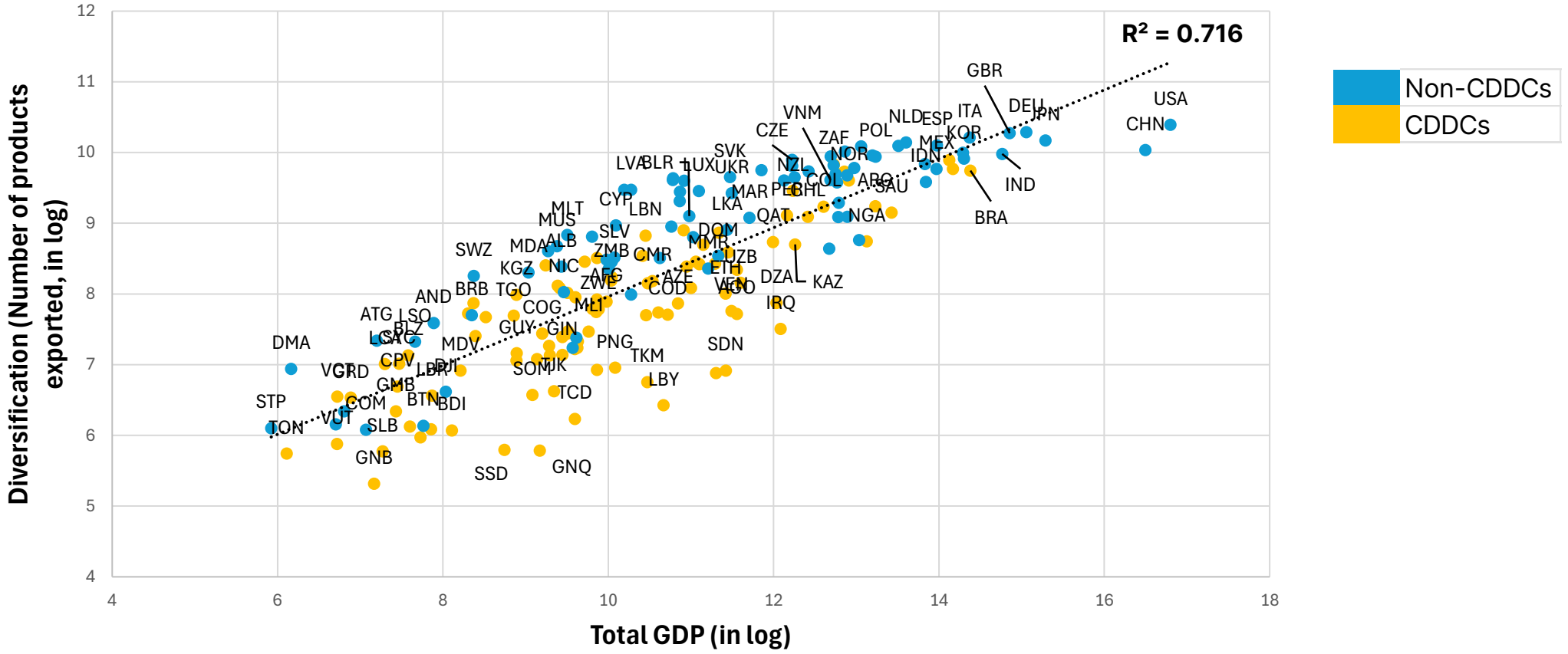
Commodity dependence by development group, 2019-2021



Source: UNCTAD calculations

The imperative of diversification

Association between diversification and total GDP, 2020



Note: 2020 data, Number of products is based on HS codes at the 6 digit level, disaggregated by unit value
Source: UNCTAD based on Freire (2019) and data from UN COMTRADE.

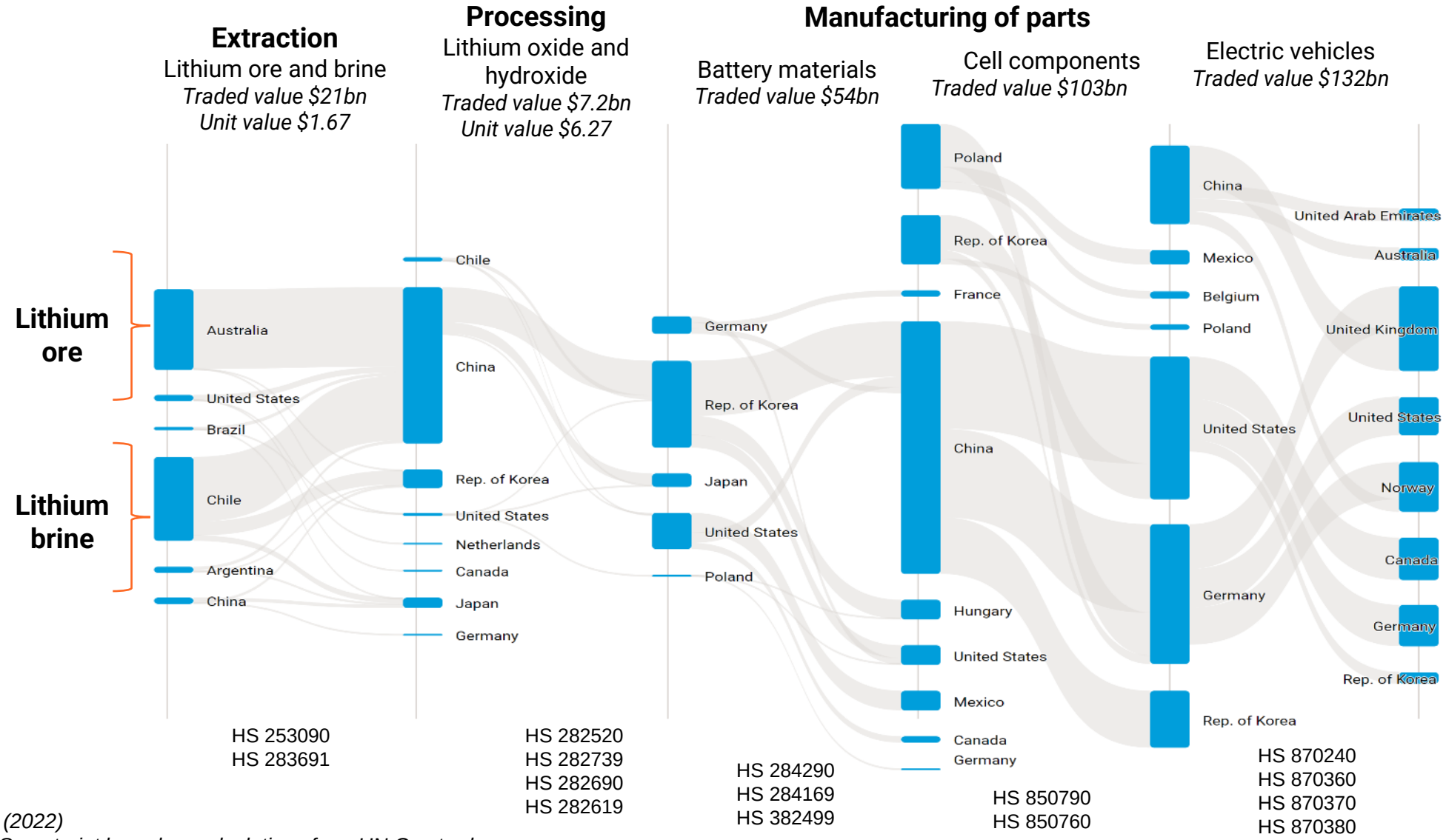
The Link Between Economic Structure, Commodity Dependence, and Illicit Financial Flows (IFFs)

Economic Structure	Trade Characteristics	IFF Risks
High Commodity Dependence (Extractives)	Exports dominated by extractive commodities; limited domestic processing	High risk of trade misinvoicing, export under-invoicing, and capital flight
Moderate Commodity Dependence	Mixed exports with some manufacturing and services	Moderate risk with some illicit outflows in specific sectors
Low Commodity Dependence	Diverse exports with strong industrial and service sectors	Lower risk due to diversified economic activities and stronger institutions

Source: Author based on UNCTAD Economic Development in Africa Report 2020 and Nkurunziza, J. D. (2012). *Illicit Financial Flows: A Constraint on Poverty Reduction in Africa.* Association of Concerned Africa Scholars Bulletin, (87), 15–21.

It is important to consider the whole value chain

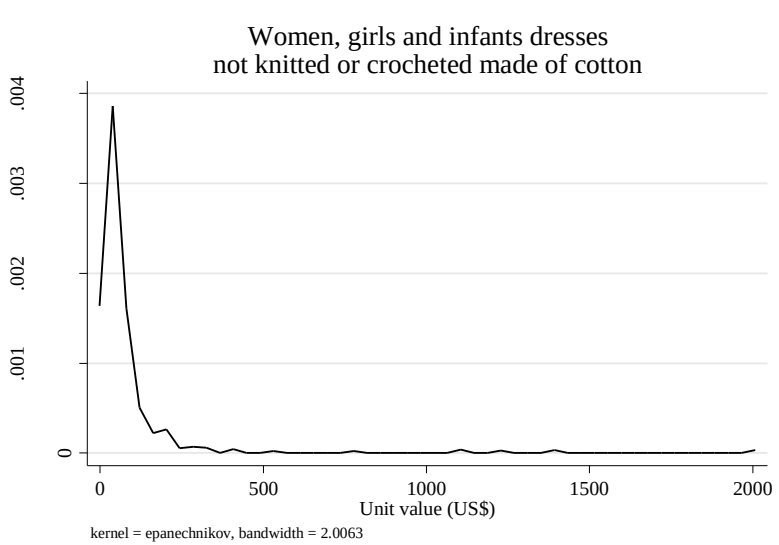
Lithium trade flows along the EV value chain, 2022 (USD)

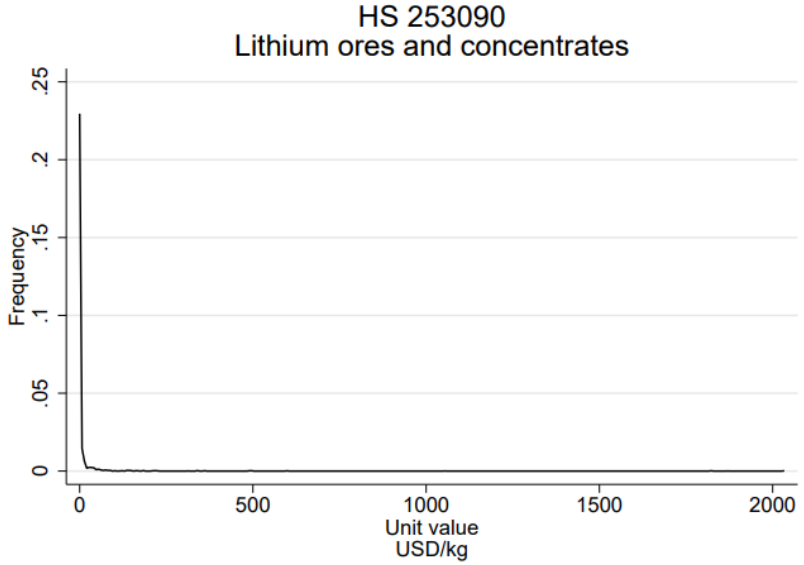


Note: export value (2022)
Source: UNCTAD Secretariat based on calculations from UN Comtrade.

Using trade data: Fat tail distribution of unit values

Examples of distribution of unit values of tradable goods





As emphasized in Lall et al. (2005) “empirical economics relies heavily on product classification”, which are proposed to apply and test theories. What we are interested in is to measure the level of productive capacities of countries.

The assumptions of the empirical literature on economic complexity are that products require a specific set of capabilities to be produced, countries have a subset of these capabilities and they produce the commodities for which they have the required capabilities. These assumptions describe a much-disaggregated dataset of production. We should be able to differentiate, for example, between a low-priced men’s t-shirt made with easily available technology and a few hours of training and a high-end men’s t-shirt that was cut using laser technology and has a whole set of technologies involved in creating a well recognizable and valuable brand. The former uses a set of capabilities that is different of that used to produce the latter.

The empirical literature on the impact of quality on trade specialization has used the information regarding the unit value of trade flows to infer those differences between products within the same product category (e.g. Schott, 2003, 2004; Hummels and Klenow, 2005; Fontagné et al., 2008; and Sutton and Trefler, 2016).

Source: Freire (2017).

Data

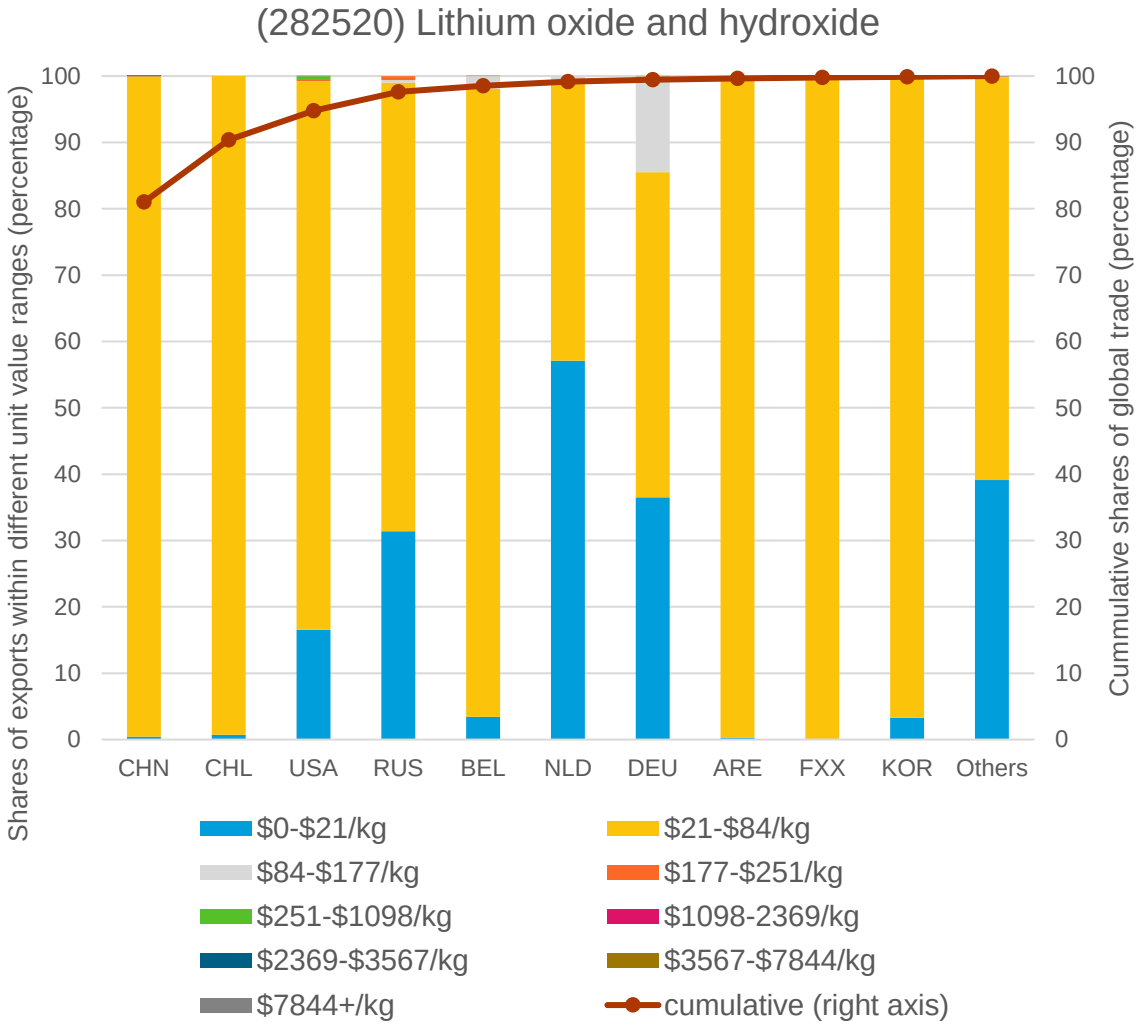
- Bilateral trade data from UN COMTRADE disaggregated at 6digit level of HS classification, year 2019.
- Methodology to disaggregate the classification by unit value (Freire, 2017):
  - Unit price as an indicator of variety (Literature on Product differentiation, variety and quality of trade; e.g. Schott, 2004; Hummels and Klenow, 2005)
  - Products are also differentiated based on their unit value (13 unit values: area in square metres, number of items, etc..)
  - Price range: outliers (interquartile range), up to 9 price ranges

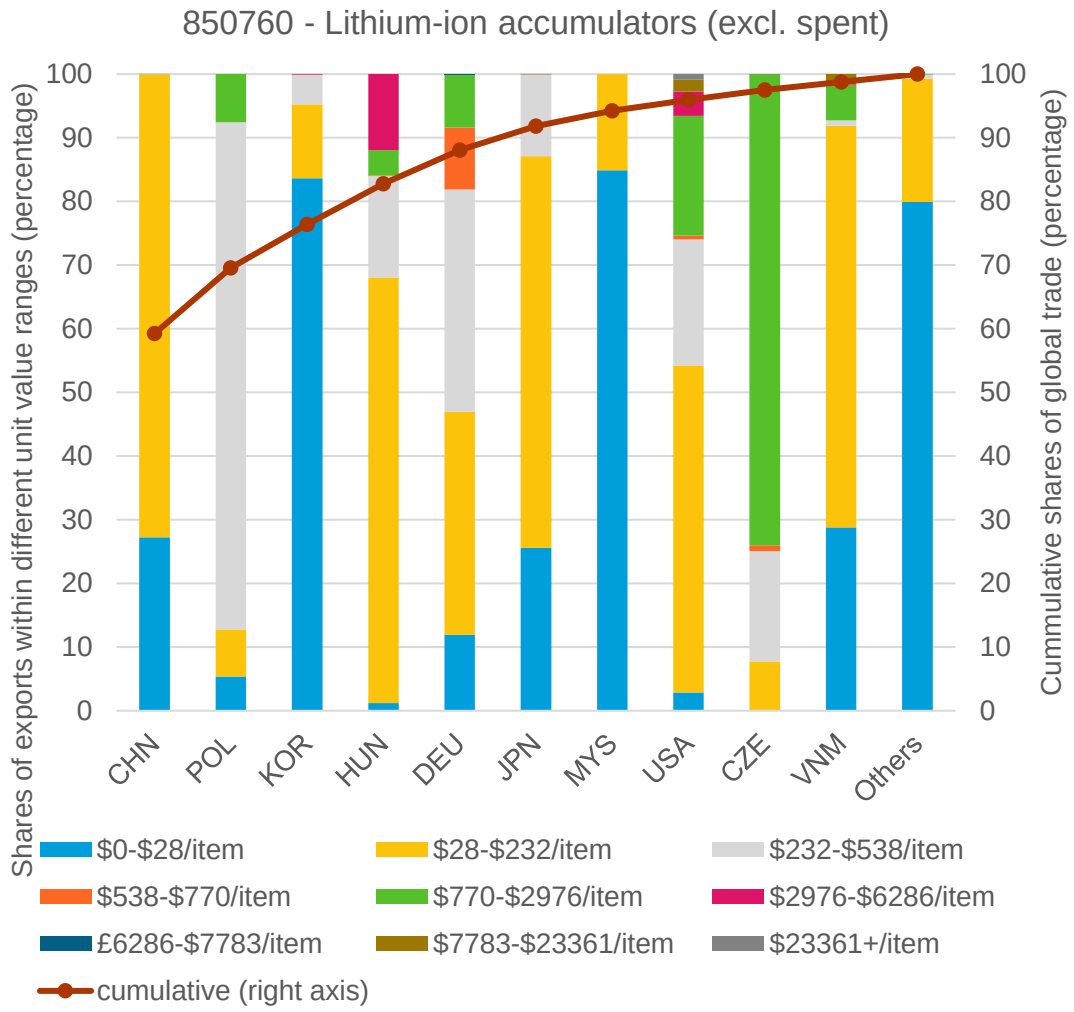
code = 6-digit (HS) + 1digit (quantity unit code) + 1 digit (unit value range)

  - Over 45,000 products were considered in the analysis

Products are traded in a wide range of values associated with different markets

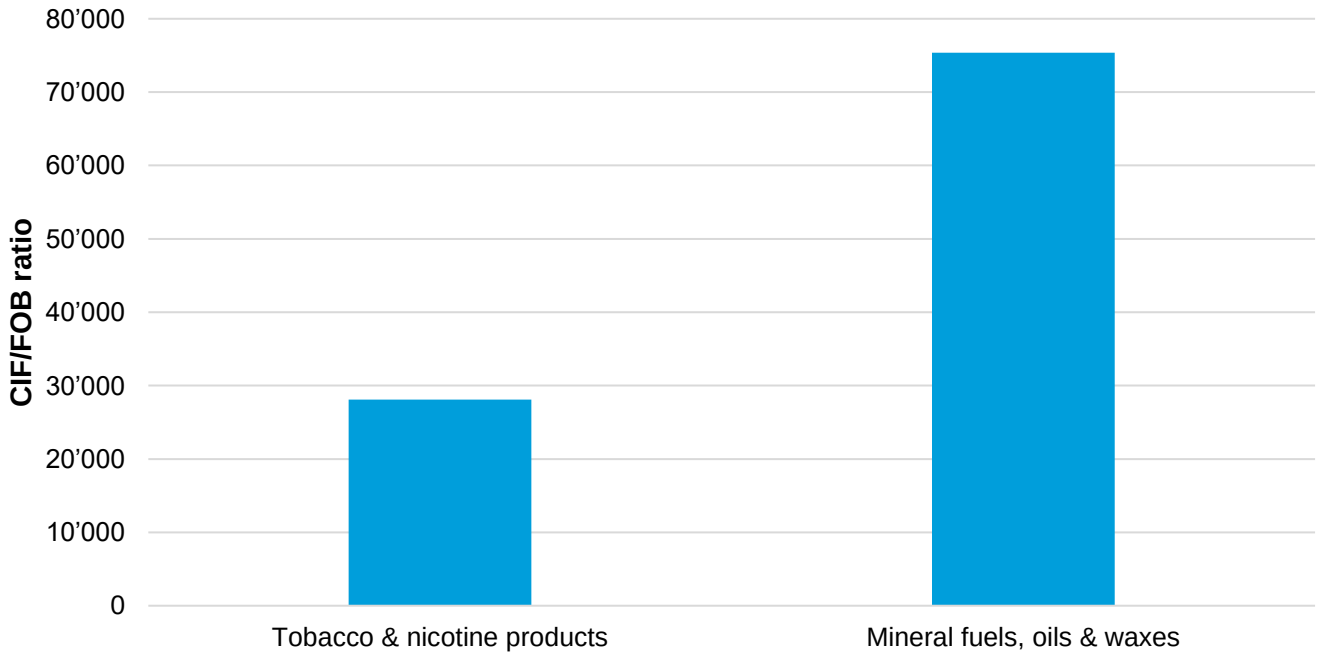
Unit value of exports| Extraction and processing of Lithium | EV value chain





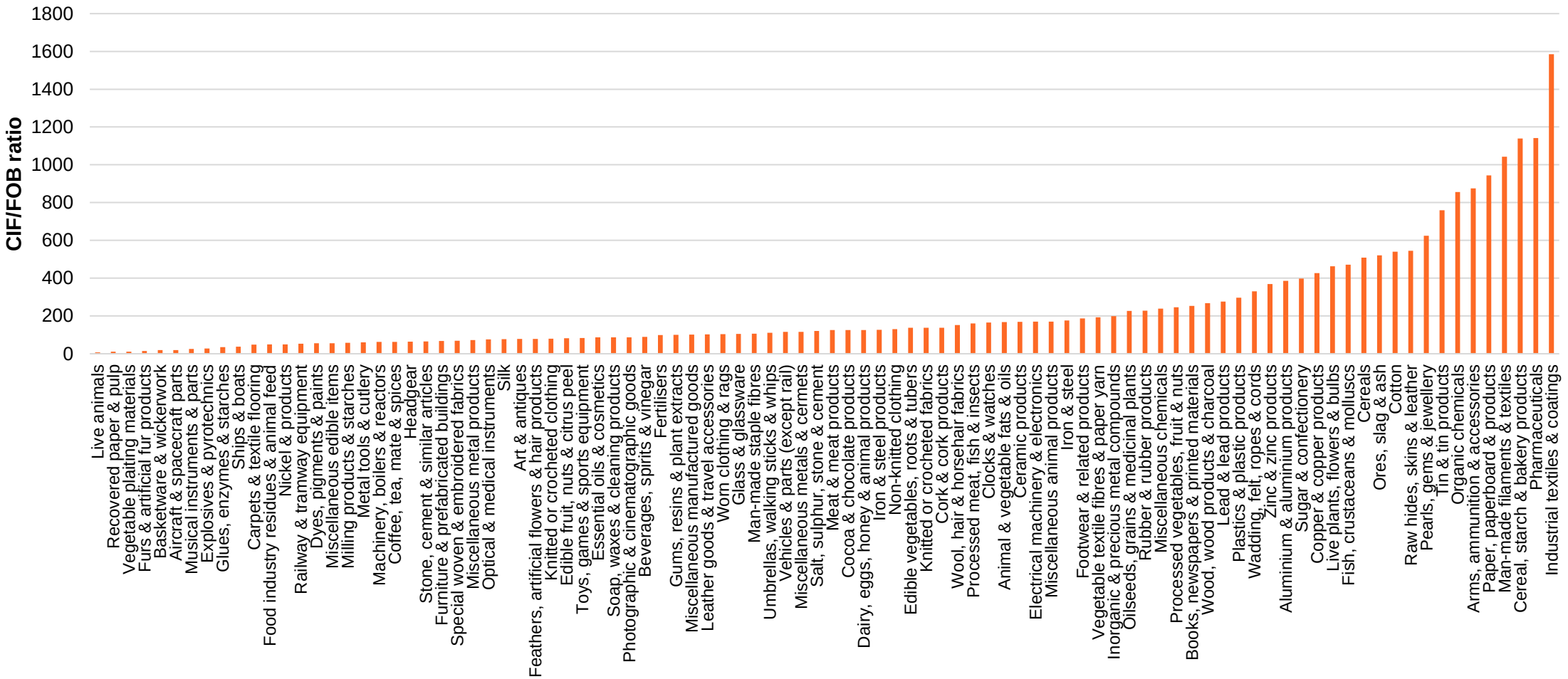
Note: export value (2022)
Source: UNCTAD Secretariat based on calculations from UN Comtrade.

Mineral fuels and Tobacco have the highest ratio CIF/FOB



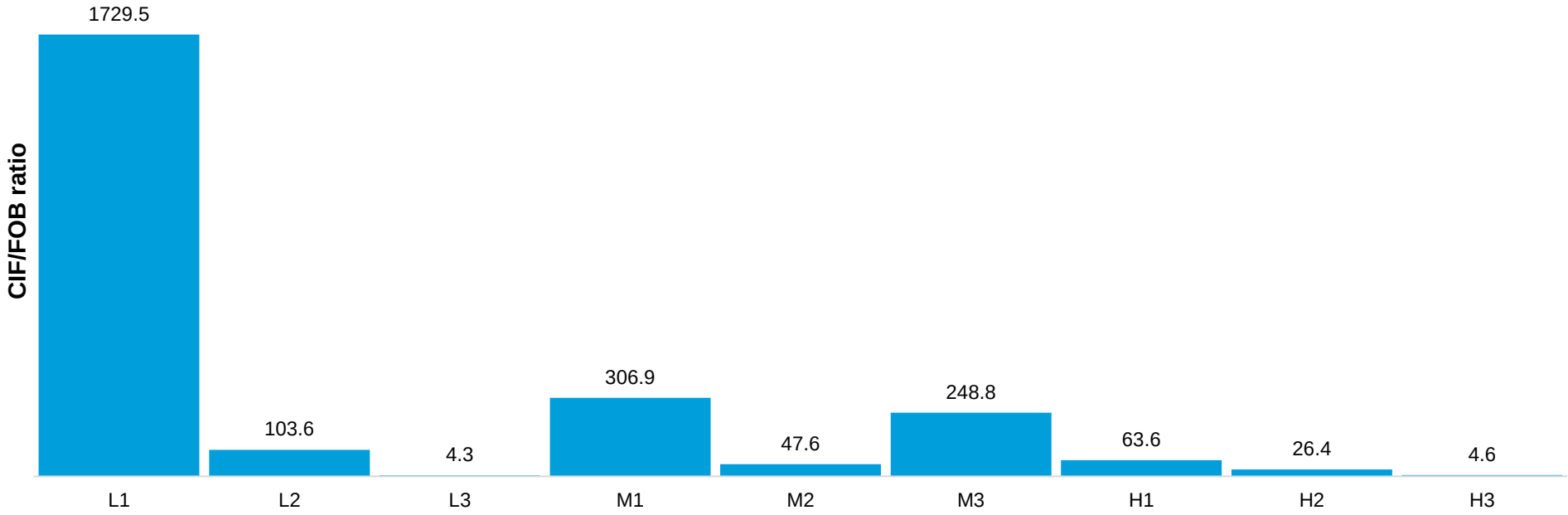
Source: UNCTAD (Data analysis by Sofia Dominguez, DITC).

Surprisingly, some industrial products also have a high ratio CIF/FOB



Source: UNCTAD (Data analysis by Sofia Dominguez, DITC).

The highest CIF/FOB ratios are in low-price range products



Source: UNCTAD (Data analysis by Sofia Dominguez, DITC).

Top 10 CIF/FOB ratios (HS2 digit and price range)

Commodity (HS 2dig) + price range		CIF/FOB value
27L1	Mineral fuels, oils & waxes	250684
24M1	Tobacco & nicotine products	43872
27M1	Mineral fuels, oils & waxes	7316
29M3	Organic chemicals	4103
93L1	Arms, ammunition & accessories	3553
19L1	Cereal, starch & bakery products	3153
29L1	Organic chemicals	2663
24M3	Tobacco & nicotine products	2503
59M1	Industrial textiles & coatings	2441
30M2	Pharmaceuticals	2305

Source: UNCTAD (Data analysis by Sofia Dominguez, DITC).

Conclusions

Commodity dependence fuels Illicit Financial Flows – Trade data disaggregation and economic diversification are key to curbing IFFs

- Commodity dependence → Higher IFF risks (trade misinvoicing, capital flight)
- Diversification reduces vulnerability → More complex economies = lower IFFs
- Disaggregated trade data exposes mispricing → Unit price analysis is key
- CIF/FOB gaps signal trade misinvoicing → High ratios = potential IFF hotspots
- Value addition increases transparency → Strengthens tax collection & local revenues
- Policy action needed → Strategic diversification, regional value chains, better trade monitoring

Thank you

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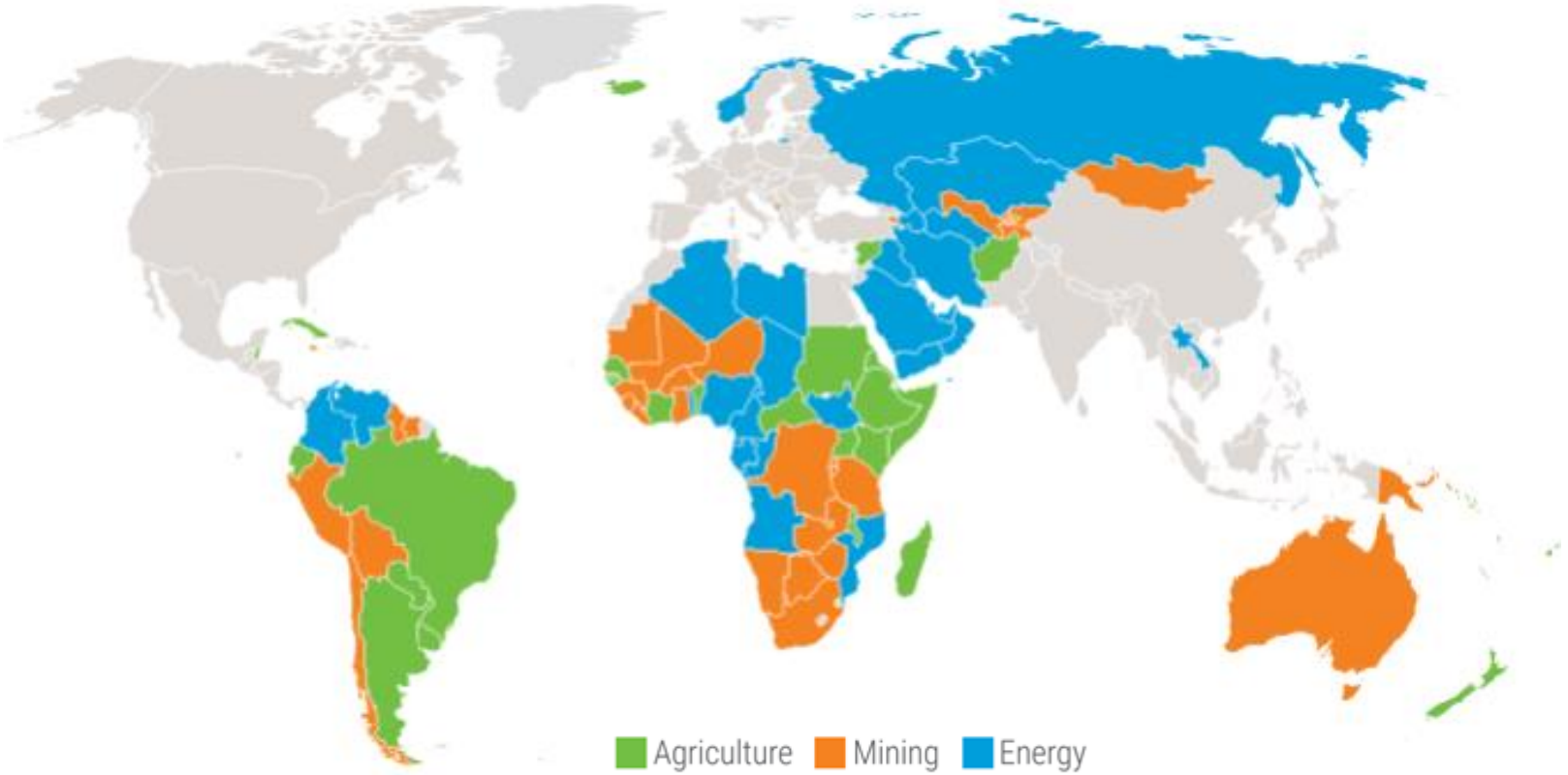
Commodity dependence remains a critical issue for developing countries

Commodity-dependent countries and their main dependency, 2019–2021



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