



CHAPTER

1



The predicament of commodity-dependent developing countries

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Commodity-dependent developing countries (CDDCs), defined as countries that derive at least 60 per cent of their total merchandise export revenues from commodity exports, have long over-relied on the extraction and export of natural resources to support their economies. While this concentration on the commodity sector has brought revenues to these countries, it has also created numerous challenges and vulnerabilities. These include macroeconomic instability, delayed industrialization or deindustrialization, the long-term declining trend of prices of exported primary commodities relative to the prices of imported manufactured goods,¹ and volatility of export revenue caused by commodity price fluctuations.² Many CDDCs are among the most vulnerable to the impacts of climate change, such as extreme weather events, rising sea levels, and droughts.³ The COVID-19 pandemic and the war in Ukraine have further exposed CDDCs' vulnerabilities⁴ and highlighted the urgent need for these countries to diversify their economies.

Diversification has eluded the majority of these countries for decades. In fact, most CDDCs seem to be trapped in a state of commodity dependence.⁵ To make matters worse, CDDCs now have to diversify in ways never done before: through low carbon paths in the context of climate change mitigation and the energy transition.⁶ This is challenging because diversification has been associated with the increasing use of fossil fuels and rising greenhouse gas (GHG) emissions.⁷ Figure 1.1 illustrates this point by showing the relationship between average diversification and total GHG emissions in the past two decades. Hence, efforts to reduce global GHG emissions will undoubtedly impact CDDCs' policy space to diversify their economies and achieve the Sustainable Development Goals (SDGs). And diversifying in the context of the energy transition should be done in a way that is just and equitable rather than worsening income inequality.

If the current and emerging global context will not permit CDDCs to follow the same development model that has allowed other economies to prosper, will they be able to chart their own pathways? What will such pathways look like? And what will be the meaning of economic transformation and diversification for these economies?

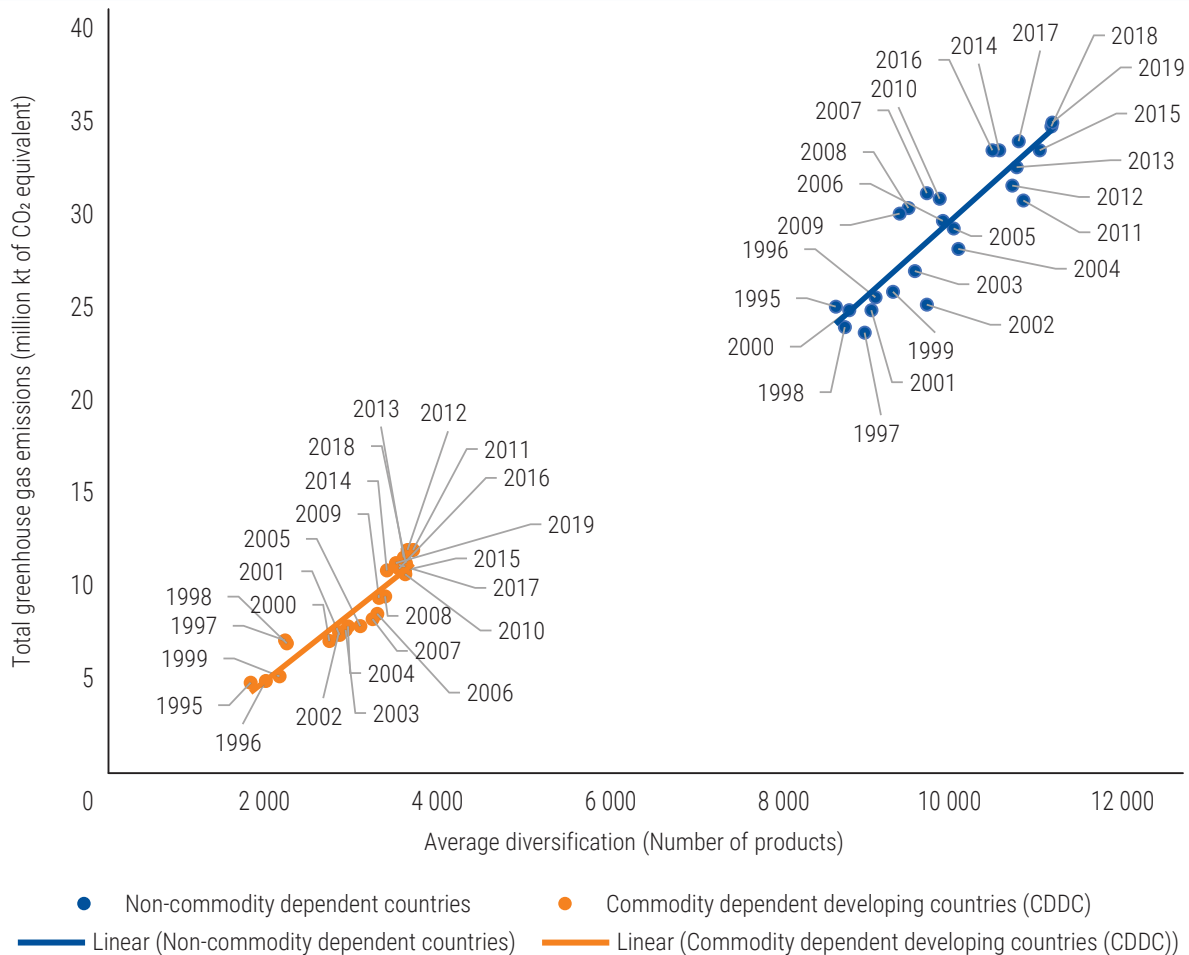
Economic and export diversification is the key to reducing commodity dependence and increasing the economic resilience of this group of countries. Diversification not only minimizes the risks associated with economic concentration but also generates faster economic growth⁸ by expanding productive capacities and shifting resources from low to high-productivity sectors, and promoting economic structural transformation. Successful cases of diversification often combine various pathways, for example, by adding value to primary commodities such as producing and exporting chocolate instead of cocoa or producing a larger number of products within or outside the commodity sector. A country may also diversify by investing its financial resources into a broad set of assets to minimize risk, as is the case with Norway.⁹

To successfully diversify, CDDCs will have to deal with old and new issues that have been hampering their socioeconomic development. These include the structural barriers that have prevented them from fully realizing their potential, such as political instability, limited institutional capacity and governance, poor infrastructure, and insufficient investment in education and skills training. CDDCs will also need to embrace new technologies and business models to create more resilient and sustainable economies.¹⁰

While the challenges seem daunting, this might be the time, more than before, when CDDCs should focus on overcoming commodity dependence. While decarbonization and the energy transition might represent challenges, they also come with opportunities for countries that are able to harness them.

In the current paradigm, which calls for decarbonization of production and consumption, the demand for traditional high-carbon commodity exports from CDDCs, such as fossil

Figure 1.1 Diversification has been associated with higher total greenhouse gas emissions: CDDCs need to diversify through a new low carbon-path



Source: UNCTAD based on UNCTADstat database and World Bank data.

Note: Diversification shows the number of products exported based on the HS 6-digit classification, further disaggregated by unit value.

fuels, is expected to drop drastically.¹¹ Due to declining demand for fossil fuels in the future, such natural resources and their associated assets might become stranded. This will have a devastating effect on CDDCs dependent on fossil fuels if the global energy transition is not accompanied by inclusive diversification in these countries.

At the same time, the global shift towards renewable energy presents opportunities for countries with abundant solar, wind, and geothermal resources. Embracing a transition towards green energy sources will give distinct advantages to early adopters from the CDDC group. Green energy will be an important commodity which, if produced in large quantities, could be exported to regional and global markets. Green hydrogen could be an example.¹²

Moreover, some CDDCs with the required basic capabilities could leapfrog old technologies and develop their productive systems based on low-carbon technologies and processes. Markets will likely be moving towards consuming goods with low carbon content, and countries that can use green energy in their production systems will be well-positioned to reap the benefits of expanding markets in green products.¹³ CDDCs could position their economies in such a way that they maximize the benefits derived from this new economic landscape.

While all CDDCs share challenges and opportunities, their diversification pathways will need to be tailored to country circumstances. CDDCs will need to define relevant green industrial policies (GIPs) that focus on enabling these countries to benefit from opportunities created by the global energy transition. One important element of such a policy would be its inclusivity through, for example, its capacity to create jobs that cater to the needs of different segments of the workforce.

CDDC diversification efforts are more likely to succeed if they are embraced and genuinely supported by the global community. Support can take different forms, including favourable international trade policy that provides room for developing countries' non-traditional exports, financial assistance, capacity building to acquire and use more sophisticated productive systems, and technology transfer.

Given that CDDCs' economic transformation will require an increase in energy use, often from very low bases, they will need to use all their energy resources in line with commitments under CDDCs nationally determined contributions (NDCs) in the context of the Paris Agreement, and conditional on external assistance.¹⁴ The quicker the scaling up of this assistance, the more GHG emissions can be mitigated in these countries.

This report explores ways in which CDDCs can become more resilient by diversifying production and moving up value chains to produce and export a wider variety of products – and do so in ways that are inclusive and protect the global climate.

The commodity trap

Most economic value chains originate in commodities such as crude oil, copper, cotton or wheat. As prices fluctuate in international markets, developing countries that depend on exporting these commodities often have volatile incomes and slow productivity growth and can be politically unstable. As the world moves to more advanced products that command higher prices in international markets, CDDCs risk falling further behind.

UNCTAD considers a country to be commodity-dependent if it derives 60 per cent or more of its merchandise export revenues from primary commodities. On this basis, in 2019-2021, 95 of the 195 UNCTAD member States were CDDCs, and an additional 15 were also very exposed, with shares in the 50 to 60 per cent range.¹⁵ Generally, CDDCs are countries at

earlier stages of development: for landlocked developing countries (LLDCs), the proportion of merchandise export revenues from primary commodities was 81 per cent; for small island developing States (SIDS), it was 61 per cent, and for the least developed countries (LDCs), it was 76 per cent (Figure 1.2).

In 38 CDDCs in 2019-2021, the dominant commodity export was agricultural goods; in 31, it was mining products; and in 30, it was energy.¹⁶ Moreover, many CDDCs depend on a narrow range of exports or even a single commodity. For Zambia, for example, 69 per cent of merchandise exports were of copper; for Suriname, 77 per cent were of gold; and for Iraq, 91 per cent were of crude oil. Of the developed countries, however, only 13 per cent were commodity dependent.

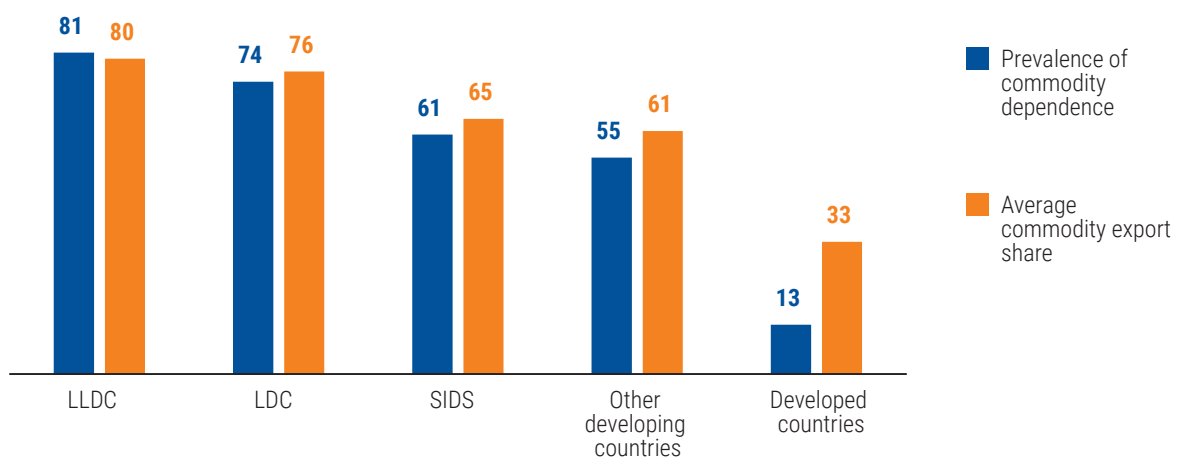
Countries dependent on commodities often experience slow productivity growth, volatile incomes, macroeconomic and political instability, and overvalued exchange rates.¹⁷ Typically such dependence goes hand-in-hand with underdevelopment – as reflected in UNDP’s human development index (HDI). For instance, in 2021, 29 of the 32 countries classified as having low human development in UNDP’s human development index (HDI) were CDDCs. Low-human development countries have average commodity export shares of 82 per cent.¹⁸

Fluctuating revenues

Overconcentration of exports also affects public revenue and the potential for investing in sustainable development. For example, in 2020, Angola generated 51 per cent of its central government revenue from oil, a figure projected to increase in 2022 to 59 per cent.¹⁹

Without proper fiscal policy frameworks, this can result in volatile and unsustainable spending and fluctuations in output. One way to address this is by saving a portion of commodity revenues for future use through sovereign wealth funds (SWFs). Examples of such funds include the Norwegian Oil Fund – the largest commodity-linked SWF with over \$1.1 trillion worth of assets, and the copper-based Economic and Social Stabilization Fund in Chile.²⁰ Such funds can also make countries more resilient by transforming wealth based on natural

Figure 1.2 Commodity dependence is more prevalent in the developing world: Commodity dependence by country group, 2019–2021 (percentage)



Source: UNCTAD based on data from the UNCTADstat database.

resources into other types of assets.

CDDCs are very exposed to fluctuations in exchange rates. A drop in commodity prices reduces export revenues in United States dollars, which tends to lower the demand for the local currency and puts downward pressure on the exchange rate. In Zambia, for instance, between July 2014 and January 2016, the price of copper per metric ton dropped from \$7,113 to \$4,472. Over the same period, the exchange rate of the Zambian kwacha fell from K6.14 to K11.13 per United States dollar – increasing the local currency value of external debt denominated in United States dollars.

Further recent shocks transmitted via global commodity markets have been the COVID-19 pandemic and the war in Ukraine – which have come on top of the climate crisis and the global energy transition, all of which are affecting patterns of production and consumption. These disruptions have hit hardest at vulnerable developing countries – but particularly at CDDCs, many of which rely on the export of one commodity group, such as fuels, while also being net importers of other basic commodities, including food. In 2020, according to the Notre Dame Global Adaptation Initiative, all the 25 countries most vulnerable to climate change impacts were CDDCs.²¹

Left with stranded assets

In addition, many CDDCs that depend on fossil fuel exports will suffer from a rapid decarbonization of the global economy. This could leave them with ‘stranded assets’ – resources that have lost their value or become liabilities, such as abandoned oil fields or equipment. CDDCs that depend on the export of crude oil, natural gas and coal fossil fuels will need to prepare for shrinking markets.

One estimate suggests that, to limit global warming to 2°C above pre-industrial levels, a significant proportion of fossil fuel reserves will need to remain unused – one-third of oil reserves, half of the natural gas reserves and over 80 per cent of coal reserves.²² In Africa, for example, this comprises 28 billion barrels of oil, 4.4 trillion cubic metres of natural gas and 30 gigatons of coal. In Central and South America, it comprises 63 billion barrels of oil, 5 trillion cubic metres of natural gas and 11 gigatons of coal. Even more assets would need to be stranded to achieve the 1.5°C target: to have a 50 per cent probability of reaching the 1.5°C target by 2050 would leave unextracted 58 per cent of oil reserves, 56 per cent of gas reserves, and 89 per cent of coal reserves.^{23, 24} These proportions would be even higher if the 1.5°C target is to be reached with a probability higher than 50 per cent.

The 1.5°C target might already be out of reach, but the global energy landscape is nevertheless undergoing a profound transformation. The latest forecasts of the International Energy Agency for the first time show that global fossil-fuel demand is peaking.²⁵ Under current policies, coal use would drop within the next few years, natural gas demand would plateau by the end of the 2020s, and oil demand would peak in the mid-2030s. If countries follow through on their climate pledges, fossil fuel demand would drop even faster. This is already reflected in lower investment in fossil fuels: between 2019 and 2022, investment in upstream oil and gas fell by 17 per cent to around half its 2014 level.²⁶

Fossil fuels will remain part of the global energy mix in the coming decades, but the mid-to-long-term trends show slackening demand.

Risks for commodity-importing countries

While there are risks for countries that depend on commodities for exports, there are also risks for commodity importers. Many developed and developing countries depend on imports of basic commodities such as food, fuels and fertilizers. In 2019–2021 among the 195 UNCTAD member States, 131 were net importers of basic food, 143 of fuels, and 154 of fertilizers.²⁷ And of the 95 CDDCs, 73 were net importers of basic food, 60 of fuels and 79 of fertilizers. And 42 were net importers of all three basic commodity groups.²⁸

International trade helps to balance the global supply and demand of commodities and provides more diverse food. But, as demonstrated after the onset of the war in Ukraine, import dependence is also a risk. For example, in 2021, Egypt sourced 75 per cent of its wheat imports from the Russian Federation and Ukraine; Mexico sourced 98 per cent of its maize imports from the United States of America; and Nepal sourced 99 per cent of its rice imports from India.²⁹

In mid-2020, as national economies started to rebound from the shock of the COVID-19 pandemic, supply chains could not keep pace, and commodity prices started to rise (Figure 1.3). Commodity production also depends on supplies of energy, so prices were also driven up by high energy prices. At the same time, there were increases in the cost of transport, notably for container freight.³⁰

The broad-based upward trend in commodity prices was given a boost by the start of the war in Ukraine, which affected basic food items such as wheat and sunflower oil, as well as fertilizers and fossil fuels. In 2021, the Russian Federation and Ukraine jointly accounted for 27 per cent of global wheat exports, according to figures in UNCTADStat database. Supplies were also affected when commercial vessels were prevented from leaving Black Sea ports after the war started. Net importers of food faced not just rising prices but also increasing uncertainty in supplies, especially in countries that depended on imports coming through Black Sea ports, including many LDCs. Some countries responded by restricting exports of wheat and other grains, which further exacerbated the situation.

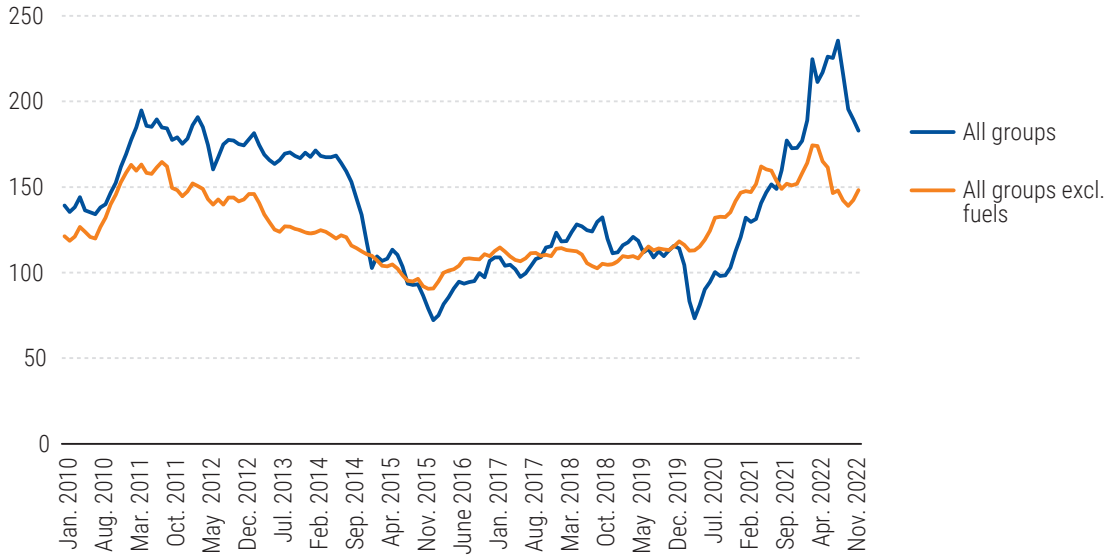
Between 2021 and March-April 2022, after the start of the war, the price of wheat rose by 56 per cent and that of sunflower oil by 65 per cent. Over the same period in Europe, prices of natural gas, for which the Russian Federation was the main supplier, increased by 131 per cent (Figure 1.4).

Prices of food started to fall after the Black Sea Grain Initiative was signed by the Russian Federation, Türkiye, Ukraine and the United Nations, which facilitated exports of food items and fertilizers from Ukraine and the Russian Federation.³¹ Between 3 August 2022 and 5 March 2023, 23 million tons of grain and other food products were exported.³²

Nevertheless, as of January 2023, many commodity prices remained higher than before the COVID-19 pandemic. Between 2019 and 2023, the price of wheat increased by 89 per cent and that of sunflower oil by 64 per cent. Also worrying for food production and supplies is the high price of fertilizers: over the same period, the average monthly price of urea increased by 81 per cent and that of potassium chloride by 120 per cent (Figure 1.5).

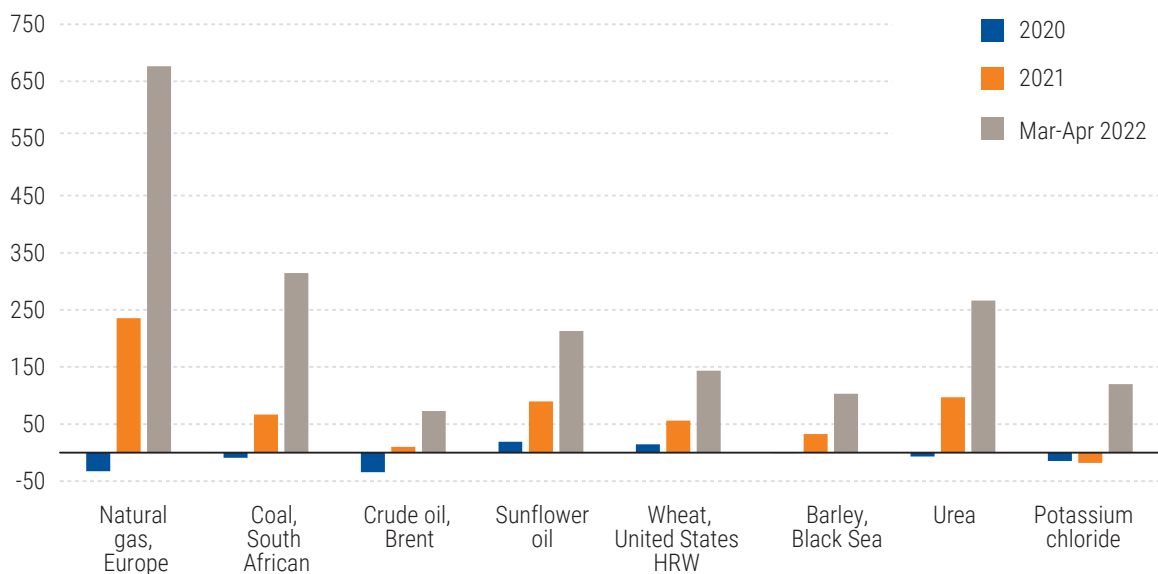
The price hikes since mid-2020 created a significant problem for net-commodity-importing developing countries – which were faced with higher import bills, inflationary pressures and rising levels of debt. This hit particularly hard at the poor, who tend to spend a higher share of their incomes on food – so that in 2022 the number of acutely food-insecure people hit a record of 349 million.³³ In 2022 and 2023, for the 48 most-affected countries, higher food and

Figure 1.3 Commodity prices rose sharply amidst the COVID-19 pandemic: UNCTAD commodity price index, excluding fuels 2010-2022 (2015=100)



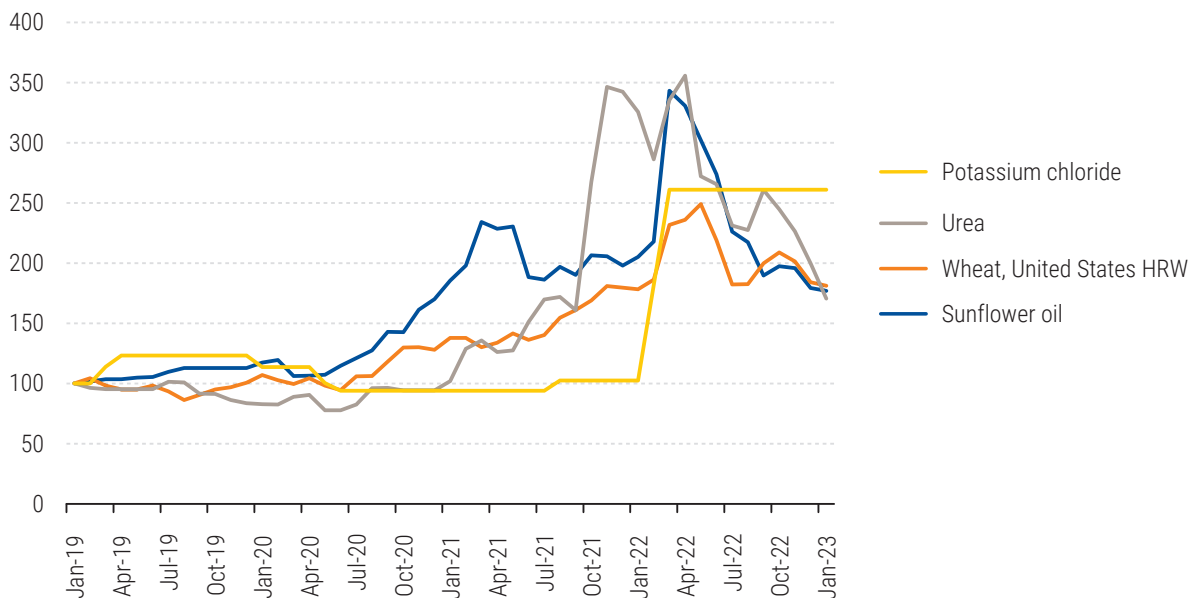
Source: UNCTAD based on data from UNCTADStat database.

Figure 1.4 The commodity price shock in early 2022 came on top of a rising price trend: Price changes from the 2019 average, selected commodities (Percentage)



Source: UNCTAD based on data from FAO and the World Bank.

Figure 1.5 Food and fertilizer prices remain high: Food and fertilizer prices, index January 2019 – January 2023
(Average 2019 = 100)



Source: UNCTAD based on data from the World Bank.

fertilizer prices raised import bills by \$9 billion, and governments had to spend \$5 billion–\$7 billion to protect vulnerable households.³⁴ There is also an important gender dimension: in 2019, women were 13 per cent more likely than men to experience either moderate or severe food insecurity³⁵ – a gap that widened in 2020 and 2021 during the COVID-19 pandemic.³⁶

In combination with rising energy prices, the world faces a cost-of-living crisis.³⁷ In Rwanda in January 2023, for example, year-on-year nominal food inflation was 41 per cent,³⁸ and in Ghana, it was 61 per cent.³⁹ Many net commodity-importing developing countries were also affected in 2022 by a depreciation of their currencies against the United States dollar – the main invoicing currency in international trade.⁴⁰

In highly integrated global commodity markets, supply disruptions in one region have knock-on effects around the world. For liquefied natural gas (LNG), for example, as the technology and infrastructure have been extended to more countries, the market has become more integrated. In 2022, reduced pipeline flows from the Russian Federation to Europe pushed up LNG prices globally – with dire consequences for some Asian countries. Pakistan, for instance, was forced to shut down gas-fuelled power plants, causing widespread blackouts.⁴¹ Bangladesh had to stop purchasing LNG on the spot markets in 2022 and faced an energy crisis and power outages.⁴² Higher LNG prices have also encouraged countries to turn to coal and oil – undermining global efforts to reduce GHG emissions. For example, Germany reactivated and prolonged the operation of coal-fired power plants to boost supply in 2022.⁴³

Endnotes

- ¹ Prebisch, 1950; Singer, 1950
- ² UNCTAD, 2021d
- ³ UNCTAD, 2019a
- ⁴ Including in the form of inflation, food insecurity, and unsustainable debt levels (UNCTAD, 2022h).
- ⁵ UNCTAD, 2021d
- ⁶ The energy transition is generally understood as the process of moving away from fossil fuel sources of energy, namely coal, oil, and natural gas, towards low-carbon energy sources, including solar and wind energy sources. The increasing use of lithium-ion batteries also contributes to the energy transition.
- ⁷ See, for example, Wang et al., (2020), Iqbal et al., (2021), and UNCTAD (2023a).
- ⁸ Empirical research establishes a strong link between economic diversification and growth, particularly export-led diversification e.g., Hausmann et al., 2007; Agosin, 2009; Freund and Pierola, 2012.
- ⁹ In this report, diversification is used to mean any or all its associated concepts discussed here, depending on the context.
- ¹⁰ UNCTAD, 2021d
- ¹¹ For example, in developing countries, international investment in fossil fuels power generation and extraction has declined by half from 2019 to 2022 (UNCTAD, 2023b).
- ¹² UNCTAD, 2023a
- ¹³ For example, a recent report found significant price premia being paid for green upstream products such as green plastic or green steel (WEF and Boston Consulting Group, 2023).
- ¹⁴ UNCTAD, 2019a
- ¹⁵ Data are not available for Monaco, San Marino and the Holy See; trade data for Liechtenstein are reported together with data for Switzerland.
- ¹⁶ For two CDDCs it is not possible to identify the dominant commodity group in a consistent way, see Osakwe and Solloder (2023) for details.
- ¹⁷ See, for example, references in UNCTAD (2021d).
- ¹⁸ UNDP, 2022
- ¹⁹ Calculation based on data in IMF (2022).
- ²⁰ See data on SWF's assets under management: <https://globalswf.com/ranking> (on 16 May 2023, the Norwegian Oil Fund was the largest in the world).
- ²¹ The ND-GAIN vulnerability score includes indicators on biophysical exposure, adaptive capacity and sensitivity, i.e. the extent to which a country is dependent upon a sector negatively affected to by climate hazard. Available at: <https://gain.nd.edu/our-work/country-index/>, accessed 1 December 2022.
- ²² McGlade and Ekins, 2015
- ²³ Welsby et al., 2021
- ²⁴ In Africa this would comprise 51 per cent of current oil reserves, 49 per cent of natural gas reserves and 86 per cent of coal reserves in Africa. In Central and South America, it would comprise 73 per cent of oil, 67 per cent natural gas reserves, and 84 per cent of coal reserves.
- ²⁵ IEA, IRENA, UNSD, World Bank and WHO, 2022
- ²⁶ Ibid
- ²⁷ countries in which imports are greater than exports, in value terms.
- ²⁸ Also, at global level, food security depends to a large extent on a few key staples. For example, wheat, rice and maize jointly accounted for 41 per cent of food calories in 2018-2020 according to data in FAOStat.
- ²⁹ Based on data from UNCTADStat database.
- ³⁰ UNCTAD, 2022g
- ³¹ UNCTAD, 2022i
- ³² <https://unctad.org/a-trade-hope-2>
- ³³ WFP, 2022
- ³⁴ Rother et al., 2022
- ³⁵ FAO; IFAD; UNICEF; WFP; WHO, 2020
- ³⁶ FAO; IFAD; UNICEF; WFP; WHO, 2022
- ³⁷ UNCTAD, 2022h
- ³⁸ National Institute of Statistics of Rwanda, 2023
- ³⁹ Ghana Statistical Service, 2023
- ⁴⁰ UNCTAD, 2022; Boz et al., 2022
- ⁴¹ Bloomberg, 2022
- ⁴² Reuters, 2022a
- ⁴³ Reuters, 2022b