

CHAPTER

2

**Global
interdependence
persists—but is
being reshaped**

Global interdependence persists— but is being reshaped

People continue to live in globally interdependent societies. Despite a slowdown in economic globalization, interdependence—rather than fraying—is being reconfigured by drivers that will persist well into the future.

The dangerous planetary changes of the Anthropocene—pandemics, climate change, biodiversity loss—transcend borders, all while advances in digital technologies shift economic structures and drive ever higher cross-border information flows.

Going forward, as societies become more linked in multiple ways, collective action to address globally shared challenges will be imperative to safeguard human security and advance human development.

We live in a hyperconnected world. The supply chain disruptions and inflation in the aftermath of the Covid-19 pandemic put in sharp relief global economic interdependence and the attendant vulnerabilities.¹ Concerns about the unequal distribution of the benefits of interdependence across and within countries—and the risks arising from underregulated cross-border financial and trade flows—are not new.² A slowdown of international trade followed the realization of several of those risks during the 2007–2008 global financial crisis,³ and after the Covid-19 pandemic—leading some to proclaim the end of globalization.⁴ Compounded by resurgent conflicts, rising geopolitical tensions and deadlocks in some multilateral institutions,⁵ the ties that bind us appear to be under strain and even in retreat.

Yet this chapter argues that interdependence, rather than fraying, is being reshaped and in some respects is deepening—in part because of drivers that will persist well into the future. Three main arguments emerge.

First, beyond economic ties, cross-border flows of people, information and ideas across countries remain high⁶ and make interdependence a defining feature of our time.⁷ While interdependence can create economic and other opportunities for people and help attenuate the impacts of local and regional shocks,⁸ it also implies that new vulnerabilities may emerge and that shocks can propagate globally.⁹ Vulnerabilities and propagation of shocks are not an inescapable feature of interdependence; rather they reflect excessively unregulated approaches to globalization. These approaches have led to, for example, the concentration of production of some commodities and goods in a few regions or a handful of producers, increasing the risks of global disruptions when one of them experiences problems in production or distribution.¹⁰ They have also resulted in an unequal distribution of the costs and benefits of globalization within countries,¹¹ eroding economic opportunities for many and fuelling perceptions of insecurity that can contribute to political polarization and the support of political positions characterized as populist¹²—potentially reflecting a globalization of discontent.¹³

Second, the scale and speed of global links are profoundly reshaping interdependence. Humans have become geological-scale drivers of planetary changes, ushering in a proposed new geological epoch—the Anthropocene, the age of humans. With it comes an

unprecedented set of planetary challenges, in addition to globalization shaped by policy choices. The cross-border impacts of such events as forest fires, zoonotic disease outbreaks and extreme weather are at least in part the result of planetary changes driven by human production and consumption, and those changes cannot be directly managed by curbing flows of goods, finance and people at the borders. At the same time advances in digital technologies and concerted efforts to decarbonize economies are shifting economic structures and development opportunities. Digital services and platforms shrink the world by enabling real-time collaboration and almost instantaneous global communication. Even though global trade in goods may have plateaued and global value chains are being reconfigured, cross-border information flows are still on the rise, reaching new record highs every year.¹⁴

“Vulnerabilities and propagation of shocks are not an inescapable feature of interdependence; rather they reflect excessively unregulated approaches to globalization

Third, the globalization of discontent points to blind spots in managing global interdependence. Pursuing unregulated globalization or retreating to protectionism are not the only options—and neither is likely to manage the shared global challenges of the Anthropocene. We all share this planet.¹⁵ Even if imposing trade barriers or making international migration increasingly difficult would reduce certain types of interdependences among countries, planetary challenges such as climate change do not stop at national borders. Neither do the benefits of climate change mitigation or pandemic preparedness. As we move deeper into the Anthropocene, our futures are inexorably interlinked. Avoiding the mismanagement of interdependence, and the human development costs that come with mismanagement, is important (chapter 1), but so is harnessing interdependence in ways that advance human development.

The persistence of global ties —a hyperconnected world with multiple global interdependences

More and more people live in communities that are part of globally interdependent societies,¹⁶ their

lives closely intertwined with cultures, economies and ecosystems across the globe. The process of globalization—marked by intensified cross-border flows of information, people, finance, goods and services—has deep roots and a long history of technological and political drivers.¹⁷

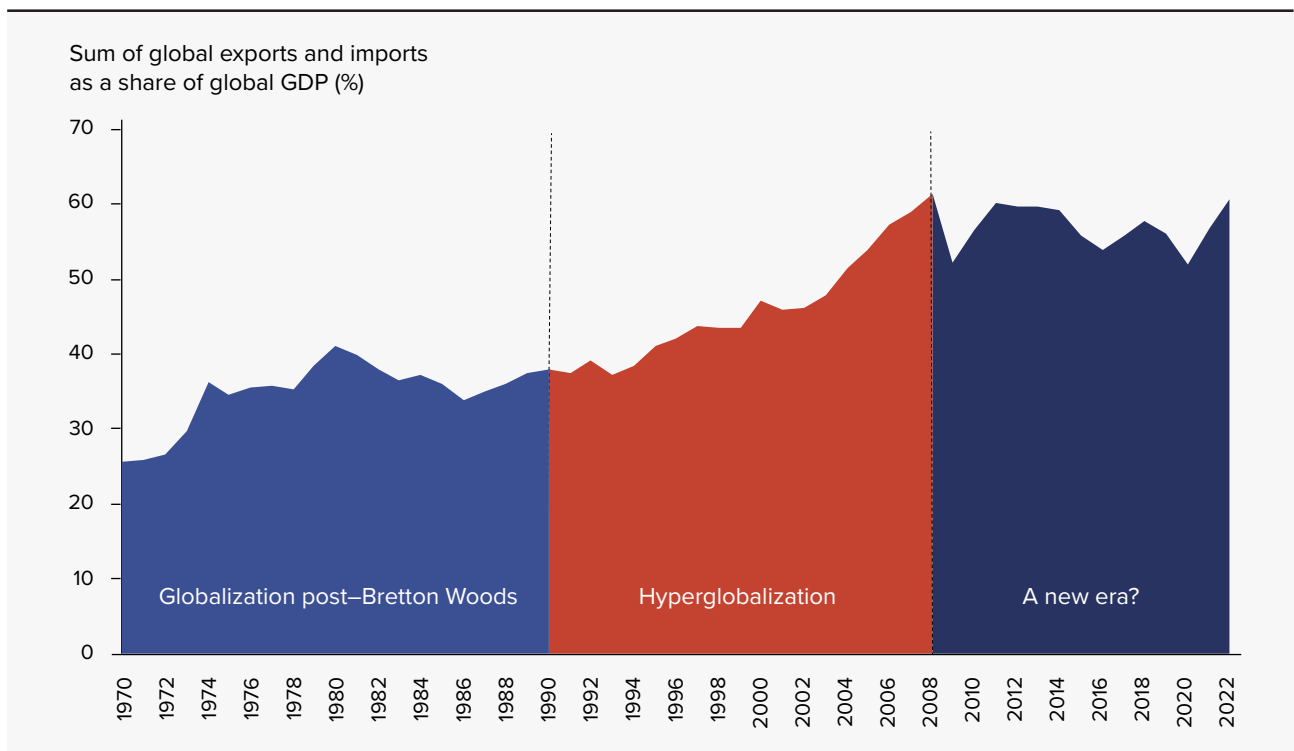
Technological advances have reduced the transportation and communication costs of many cross-border flows,¹⁸ while deliberate policy choices have driven a deepening of interdependence across societies and economies. Financial and trade liberalization, instrumental in driving economic globalization since the 1970s, accelerated global economic integration to the point of being characterized as hyperglobalization.¹⁹ Most countries integrated into global value chains and opened their markets to foreign trade and financial flows, yielding some control over these flows for the promise of economic growth and poverty reduction.²⁰ This period brought massive increases in standards of living for large numbers of people,²¹ but the gains from trade and economic integration were not evenly distributed. It also brought increases in within-country inequality in many high-income countries,²² often manifested

in the emergence of or increase in large subnational inequalities,²³ with declines in job opportunities concentrated in some areas and economic sectors.²⁴ For some low- and middle-income countries hyperglobalization was sometimes characterized by unequal terms of trade and the implementation of policies that may have inhibited productivity growth and development progress.²⁵

In the past dozen or so years, amid growing concerns over supply chain disruptions and resurgent violent conflicts, the emphasis on efficiency in the prelude to hyperglobalization is being rebalanced with concerns over stability and resilience. That rebalancing has occurred, in part, through the imposition of trade barriers at national borders. For instance, trade restrictions surged from fewer than 500 a year in 2010 to nearly 3,000 in 2022.²⁶ Efforts to reshore, nearshore and friendshore production²⁷ also suggest a partial retreat from hyperglobalization.²⁸

Despite the now slower pace of global economic integration, or even its stagnation in some respects, the world remains hyperconnected, with economies highly interdependent—by some accounts at historically unprecedented levels (figure 2.1).²⁹

Figure 2.1. Hyperglobalization is down, but interdependence remains unprecedentedly high



Source: Human Development Report Office based on the World Bank's World Development Indicators database; recreated from Aiyar and others (2023).

International trade has been rising over the long run, in spite of substantial global disruptions.³⁰ Financial integration today is almost four times higher than in the mid-1990s.³¹ No region of the world can claim self-sufficiency, as they all rely on imports from other regions of 25 percent or more of at least one major type of goods and services.³² Global value chains support everything from food to medicines, and even the digital services and the hardware on which they run.³³ Goods today travel twice as far as in 1965 and cross more borders before reaching their final destination.³⁴ This makes for intricate global economic

relationships with multiple interdependences across the production of goods and services (box 2.1).

Every day, millions of people cross national borders in temporary or permanent moves between countries. Since 1970 the estimated number of people living outside their country of birth has tripled from 84 million to almost 280 million, though as a share of the world population the increase has been more modest (from 2.9 percent in 1990 to 3.6 percent in 2020).³⁵ The largest share of international migrants goes to Europe (30.9 percent), closely followed by Asia (30.5 percent).³⁶

Box 2.1 A smartphone's global journey—a tale of cross-border economic, social and environmental impacts

Smartphones have quickly become a ubiquitous feature of everyday life for a large share of the global population. Since the launch of the iPhone and Android phones in 2007, global sales have skyrocketed. There were 6.4 billion smartphone mobile network subscriptions worldwide in 2022,¹ and 1.15 billion new devices were expected to be sold in 2023²—one for every seven people on the planet. Smartphones are more than just devices to connect to the digital world. They are products of a complex and interconnected global system that transcends borders and involves multiple actors and processes. The journey of a smartphone from conception to use reveals how flows of materials, information, value and waste across the world shape our lives.

Before reaching consumers, smartphones cross multiple borders, sometimes the same border more than once. Components of smartphones, including memory chips, processors, batteries and camera modules, are produced by specialized firms in places such as in China, Japan and the Republic of Korea.³ Each component requires inputs from other economies along the global value chain. For example, a battery requires cobalt, often extracted in low-income countries where the mining industry has been associated with serious human rights violations, including child labour, and severe environmental degradation.⁴ Cobalt is exported from countries with mines for processing in countries such as China, before being sent to countries such as Japan or the Republic of Korea to be combined with other materials to create battery cells.⁵ Battery cells may then be sent back to China or shipped to, for example, Malaysia for assembly in battery packs, together with other components such as circuit boards.⁶

The value added by these intermediate activities is low relative to the final retail price of smartphones, leaving low- and middle-income countries with a smaller share of the profits from a globally produced device. Most of the profit is captured by the firms that design, market and sell smartphones, mainly based in high-income countries.⁷ These firms also own most of the intellectual property rights and patents related to smartphones.⁸

Smartphones have transformed the lives of billions of people around the world, enabling them to communicate across borders, acquire information almost instantaneously, access financial services and participate in the digital economy. However, there are still large inequalities in smartphone access globally.⁹ Furthermore, despite its many positive effects, excessive use of smartphones has also been associated with negative mental health impacts, especially among young people.¹⁰

The journey of the smartphone does not stop once it reaches consumers. Smartphones have a short lifespan, with built-in obsolescence and heavy marketing of newer models hastening their replacement. Electronic waste (e-waste), including smartphones, is growing rapidly. Globally, each person produces about 6 kilograms of e-waste each year. Yet the gradients are steep: the average person in parts of Africa produces less than 2 kilograms of e-waste each year, while the average person in Norway produces 28.5 kilograms.¹¹ Only about 17 percent of e-waste is recycled, despite the potential to recover and repurpose critical minerals.¹² A large share of e-waste ends up in landfills in low- and middle-income countries, releasing toxic materials and creating health hazards.¹³

Notes

1. Statista 2023. **2.** Kharpal 2023. **3.** Gentile and others 2021; Sturgeon and Kawakami 2010. **4.** Amnesty International 2023. **5.** Carton, Mongardini and Li 2018; Gulley 2023; Richter 2023. **6.** Farooqui 2023. **7.** WIPO 2017. **8.** Sturgeon and Kawakami 2010. **9.** Rowntree 2019. **10.** Abi-Jaoude, Naylor and Pignatiello 2020. **11.** Parajuly and others 2019. **12.** Forti 2020. **13.** Parajuly and others 2019.

People move across borders for various reasons, including seeking work, advancing their education or pursuing humanitarian protection. Mobility is a key feature of human development, as it enables people to expand their choices, exercise their agency and contribute to their wellbeing and that of their families, as well as that of both their host and origin communities.³⁷ Consider the economic significance of remittances from migrants, which for low- and middle-income countries have long surpassed official development assistance and in 2022 were reaching the same levels as foreign direct investment—but are much less volatile (figure 2.2). In addition to economic ties,³⁸ international migration also creates social and cultural ties between host and origin countries.³⁹

While concerns about the economic and social implications of international migration have increased in many high-income countries, along with anti-immigration narratives, a large body of research shows that international immigration provides net benefits in advanced economies, especially when

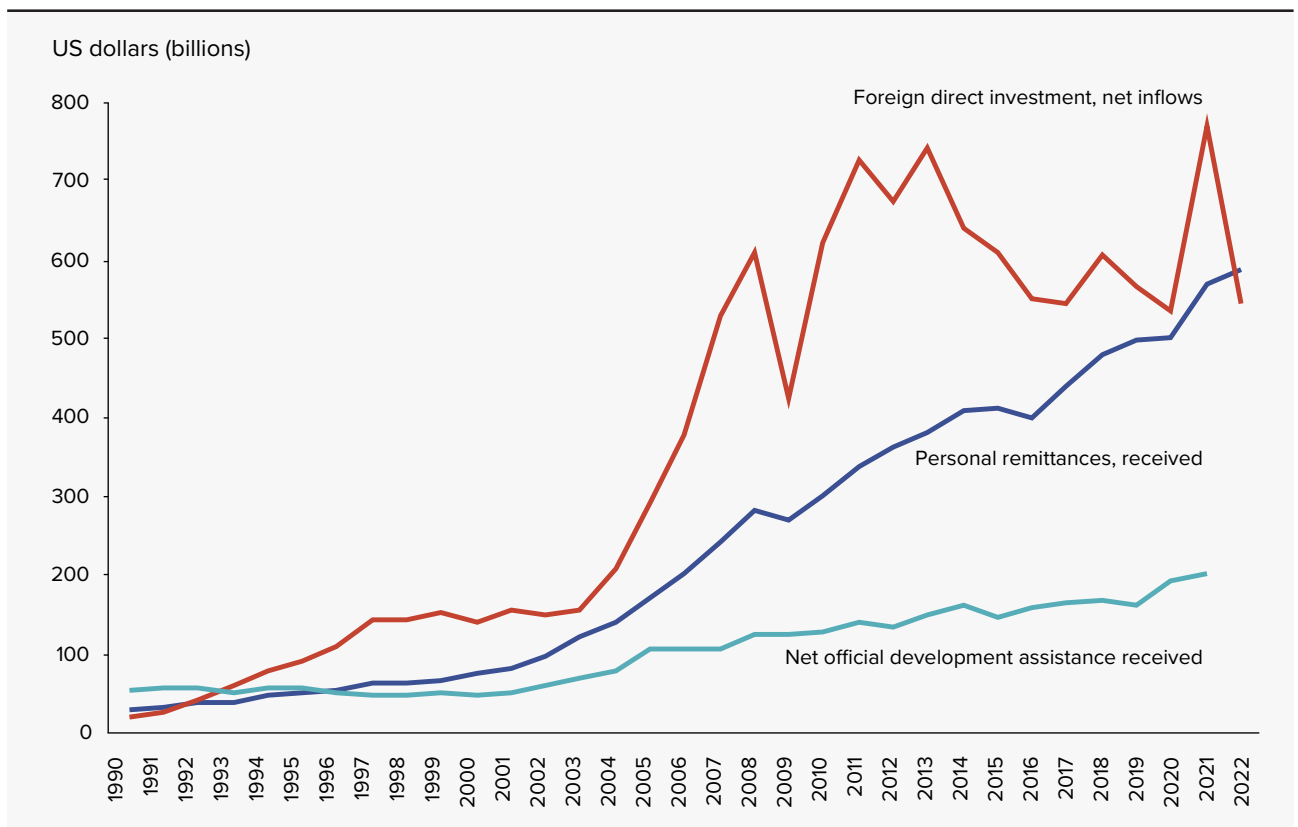
policies are in place to help international migrants establish themselves in the local labour market.⁴⁰

Perhaps the most telling example of hyperconnections (explored in coming sections) is the rapid increase in digital technology capacity and adoption, linking vast geographic distances—almost in real time. Global bandwidth capacity, up dramatically since 1990, has enabled massive growth in cross-border flows of information⁴¹ and boosted international commerce among countries⁴² through global value chains.⁴³ Despite regionally concentrated inequalities, the roll-out of digital connectivity has been broad: 95 percent of the global population is now within the range of a mobile broadband network, and 5.4 billion people were internet users in 2023.⁴⁴

New risks of economic concentration and dislocation

In a hyperconnected world, where tightly coupled interactions allow for cross-border flows of

Figure 2.2 Remittances to low- and middle-income countries are approaching the level of foreign direct investment



Source: Human Development Report Office based on the World Bank’s World Development Indicators database, accessed 10 November 2023. Recreated from IOM (2022).

information, people, finance, and goods and services,⁴⁵ some domestic policies and choices can have spillovers that quickly spread regionally and even globally. Large economies of scale and scope can concentrate production in one or a few countries, leaving other countries vulnerable to decisions made elsewhere. Most global trade occurs within macroregional blocs dominated by the largest economies,⁴⁶ whereas many low- and middle-income countries heavily dependent on international trade find themselves at the tail-end of global trade with far less control over factors that influence terms of trade.⁴⁷ That is why domestic policies in major economies can affect low- and middle-income countries. For example, the US Federal Reserve sets monetary policy under its legal mandate in the United States, but its decisions have substantial effects⁴⁸ in emerging market economies.⁴⁹ Because transmission runs through multiple channels, cross-border spillovers can be hard to contain.⁵⁰

“Market concentration may be a sign of specialization and economies of scale, which yield efficiency gains, but it also increases the risks that disruptions and shocks in one or a few firms will propagate through deeply integrated global value chains across many sectors and countries

In many global value chains power is often concentrated in a few transnational corporations whose business strategies can directly affect multiple economies.⁵¹ Transnational corporations can boost investment, innovation and economic opportunities,⁵² but they can also crowd out domestic firms, especially in low- and middle-income countries.⁵³ Market concentration in global value chains enables markups and rent seeking by top firms, which have been linked to the decline in the global labour share of income⁵⁴ and to higher consumer prices.⁵⁵

Market concentration is particularly high in the global value chains for goods that serve some basic needs, such as food,⁵⁶ as well as in the digital technology space. Today, a handful of technology companies wield significant market power, and their decisions influence societal and political dynamics. In 2021 the market capitalization of each of the three largest tech companies in the world surpassed the GDP of more

than 90 percent of countries—including some of the world’s largest economies.⁵⁷

Concentration may be a sign of specialization and economies of scale (as well as network externalities), which yield efficiency gains,⁵⁸ but it also increases the risks that disruptions and shocks in one or a few firms will propagate through deeply integrated global value chains across many sectors and countries.⁵⁹ Specialization can lead to markets where there are “too few to fail.”⁶⁰ According to recent data, almost 40 percent of global trade in goods is concentrated in three or fewer countries—even for goods with more suppliers.⁶¹ Concentration may be particularly high for some critical products and materials required for digital technologies and the energy transition.⁶² Disruptions in global value chains have become more common and more systemic than in the past,⁶³ driven largely by a mix of climate shocks and geopolitical tensions that may continue into the future.⁶⁴

The other side of concentration is the economic dislocation associated with shifts in production that reduce economic opportunities in sectors or regions previously engaged in domestic production that has been replaced by imports. Despite clear warnings about those risks, the implicit promise that the aggregate gains would be distributed so that the “losers” of globalization would be compensated often failed to materialize.⁶⁵ Indeed, governments were often either unwilling or unable to offset negative side effects of global economic integration for some segments of their population, perhaps in part because economic dislocation was driven not by economic integration alone but also by other factors such as technological change.⁶⁶

Regardless of the process that led to economic dislocation, regions or groups that felt left behind and believed this to be the result of globalization often became hostile to trade openness, contributing to increases in support for political positions that can be described as populist (see below) and political polarization.⁶⁷ Painted with the broadest possible brush, interdependence that is not well managed not only harms human development (chapter 1); it also has broader implications reflected in a discontent with globalization that feeds into processes of political polarization.

Mismanaging interdependence feeds the globalization of discontent

In recent years political movements that advocate the domestic over the international and question the need for global cooperation have gained traction in many countries.⁶⁸ These movements are characterized by narrative frames that contrast what is purported to represent the interests of the general population with what serves an established elite, in what has been described as an anti-elite theory of society.⁶⁹ Rather than ideology based, these views centre on people's "moral" superiority over a corrupt elite. Some variants include identity-based organized views, such as nativist movements based on the superiority of one race or ethnicity, or movements that favour strong leaders without checks and balances.⁷⁰

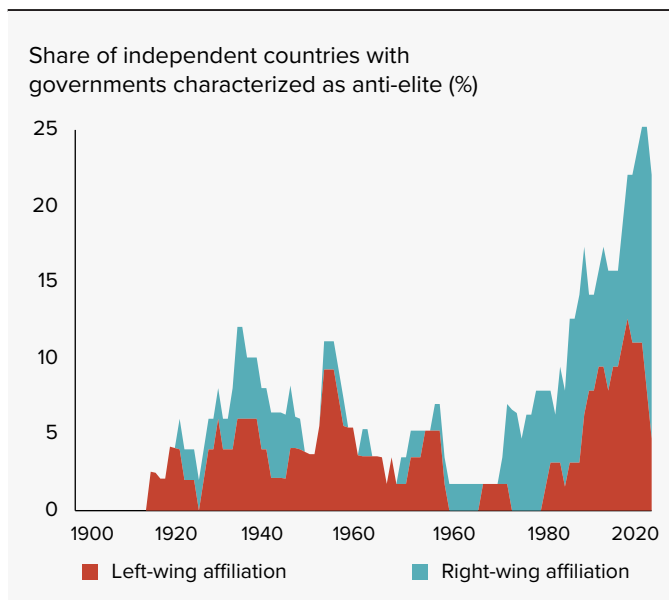
Today, the share of countries with governments that fit with this broader definition characterization of anti-elite movements that question the need for global cooperation (often designated as populist) is unprecedented. What is more, there is a shift in their ideological affiliation. Left-wing affiliation was once dominant (and is still at high levels), but the share of right-wing affiliation has increased dramatically since the 1990s (figure 2.3).

What drives discontent?

Despite the surge in support for these political movements, the animosity towards globalization has not necessarily increased among the general public.⁷¹ One way of accounting for this paradox is through a framework that explains the links between mismanaged interdependence and the rise of political movements that can be characterized as populist on the demand side (people supporting parties and leaders) and on the supply side (emergence of those leaders and parties) of politics.

Both welfare and beliefs-based channels feed into the hostility towards globalization to boost support for populist movements (figure 2.4). Simply put, the welfare channel shows how economic dislocations and human development implications of mismanaged interdependence can lead people to rally behind populist leaders, who may use people's discontent and grievances about distributional effects (actual or perceived) to their advantage.⁷² The beliefs channel

Figure 2.3 Support for anti-elite politics is on the rise



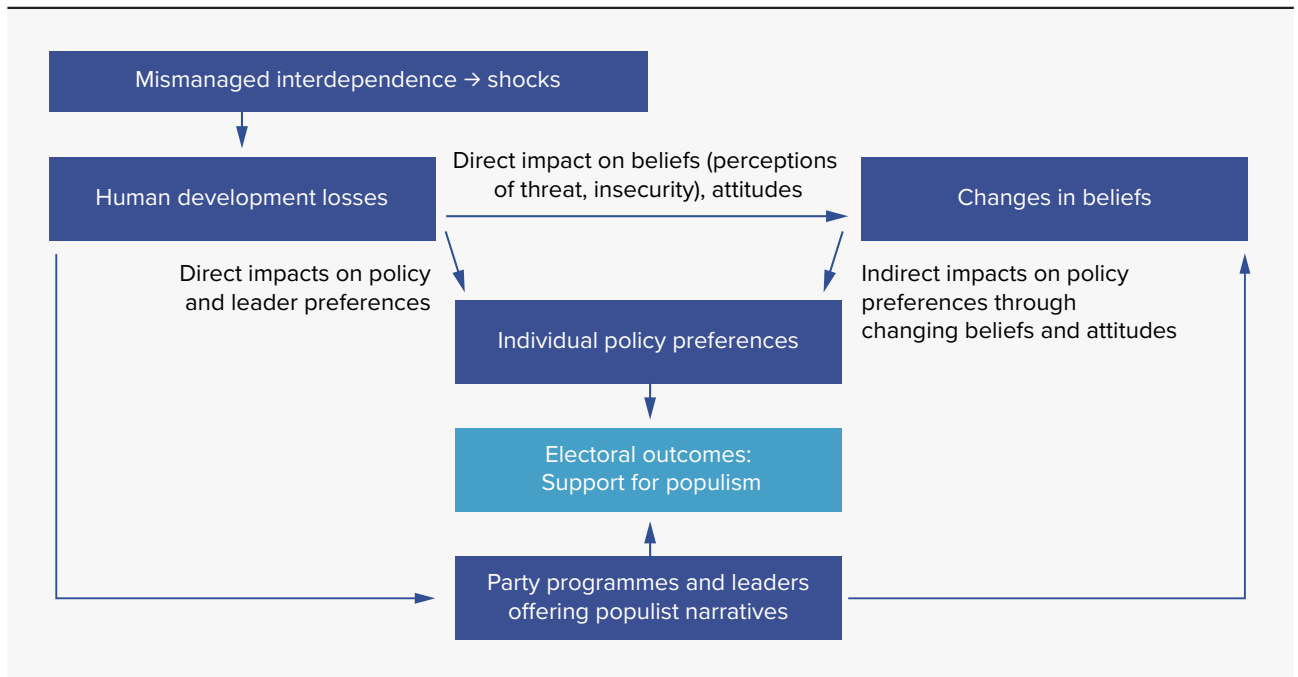
Source: Funke, Schularick and Trebesch 2023.

entails norms and identities that may be perceived as under threat from globalization, and these perceptions of threat contribute to the support for populism.⁷³ And the two channels can reinforce each other,⁷⁴ making it hard to untangle the links.

Both welfare and beliefs channels link mismanaged interdependence and discontent

In globally interdependent socioecological systems, shocks and disruptions have multiple, sometimes unforeseen, global ripple effects. Human development suffers when interdependence is mismanaged (chapter 1). On the demand side human development losses may directly affect people's policy preferences, opening policy space for populist and nativist narratives if established mechanisms are unable to manage and mitigate the impacts of global shocks. For example, natural hazards and financial crises increase support for authoritarian leadership and extreme political movements, particularly on the far right. Household debt crises that frequently follow a financial crisis are also linked to mounting support for far-right populist parties.⁷⁵ Since the 2007–2008 global financial crisis, the number of countries that have implemented austerity policies has risen substantially,⁷⁶ potentially further circumscribing their capacities to protect people from the repercussions of global shocks.⁷⁷

Figure 2.4 Mismanaged interdependence leads to demand for populism through welfare losses and beliefs



Source: Human Development Report Office elaboration based on Rodrik (2021).

Still, the increased risk of globalization-linked (in reality or perception) localized welfare losses cannot fully explain the rising appeal of populist and nativist movements. A recent review of survey experiments finds little support for the hypothesis that economic self-interest alone drives antiglobalization sentiment.⁷⁸ In some cases electoral support for political candidates advocating protectionist measures even increased despite these measures having negative effects on local employment.⁷⁹ The findings echo public opinion data, as well research on the effects of objective globalization risks such as offshoring of jobs.⁸⁰

Thus, the link between human development losses from global shocks and increased support for populism may also work through changing perceptions, beliefs, identities and attitudes towards globalization.⁸¹ Fear and feelings of insecurity, especially those related to losing status, can shift preferences in a populist and nativist direction.⁸² This beliefs-based link can be particularly potent in contexts of long-term deteriorating economic prospects.⁸³ For example, nationalist and anti-immigration narratives take hold more easily in places experiencing adverse economic change (for example, increases in the unemployment rate matter more than the levels of unemployment as such).⁸⁴

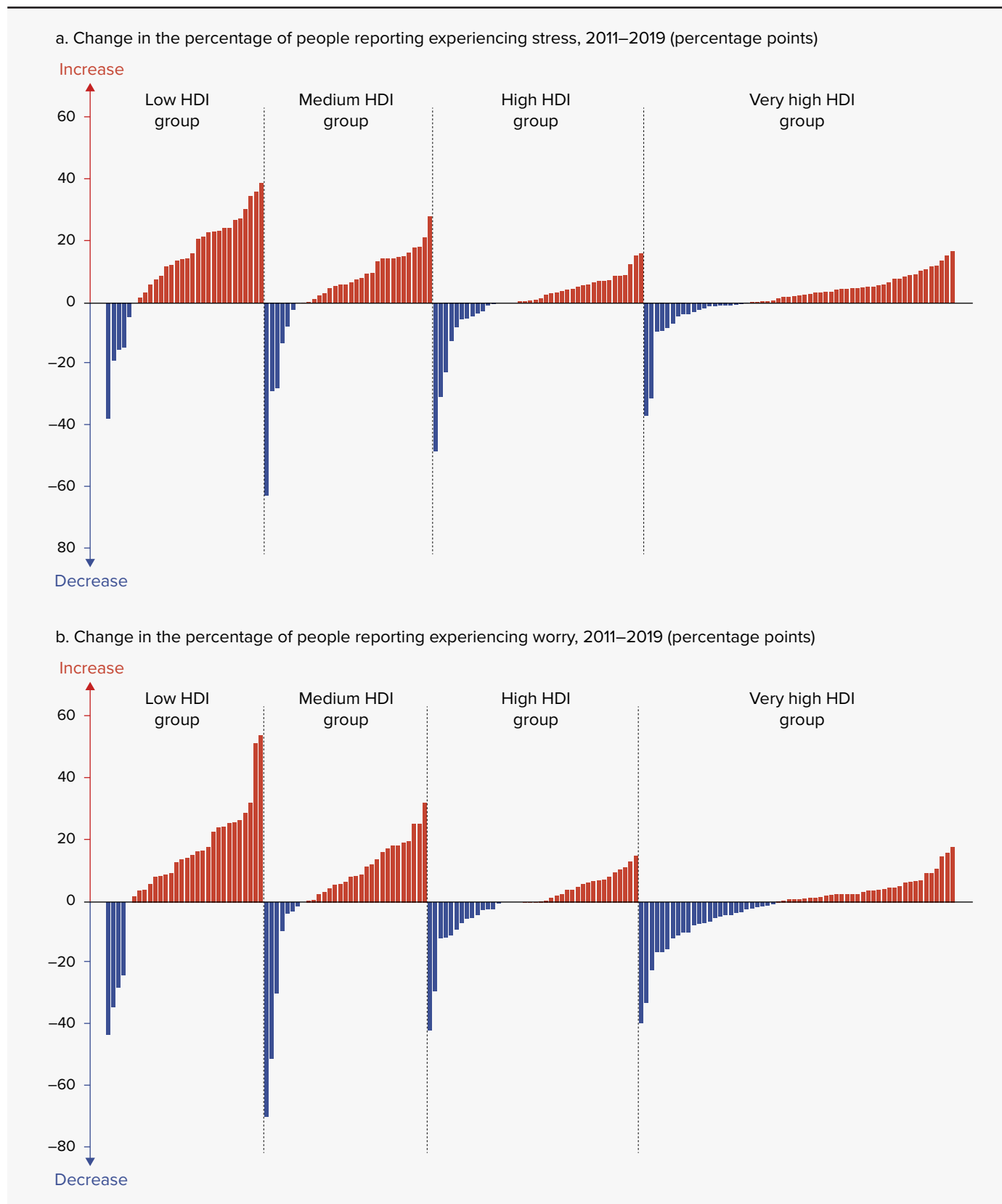
This matters in a globally interdependent world that is also increasingly worried and distressed.⁸⁵ Today,

feelings of distress and insecurity are pervasive and persistent, permeating even the wealthiest countries. Across the world almost 3 billion people report feeling worried, stressed or sad.⁸⁶ While subjective wellbeing has been found to be susceptible to external shocks,⁸⁷ the Covid-19 pandemic seems only to have exacerbated a pre-existing existing trend: both worry and stress were reaching record highs even before the pandemic (figure 2.5). These feelings of distress have been on the rise even as the world has made substantial development progress,⁸⁸ though the trend of progress was interrupted in 2020 and 2021 (chapter 1).

Political leaders and movements can exploit the links between mismanaged interdependence and discontent

On the supply side political leaders and movements can reinforce the links between mismanaged interdependence and rising support for populism, by mobilizing discontent to their advantage.⁸⁹ While such tactics are not unique to populist movements, a common narrative of these movements is to pit negative collective emotions towards revenge against an established elite,⁹⁰ often portraying leaders as champions and competent protectors of “common people”⁹¹ in opposition to a global elite. As such, they may gain

Figure 2.5 Even prior to 2020, worry and stress were rising in most countries



HDI is Human Development Index.

Note: Values refer to the change in the percentage of people who reported experiencing stress or worry “during a lot of the day yesterday.”

Source: Human Development Report Office, based on Gallup (2023).

traction by tapping into frustrations among those who feel left behind by globalization or see globalization as a threat to their identities.

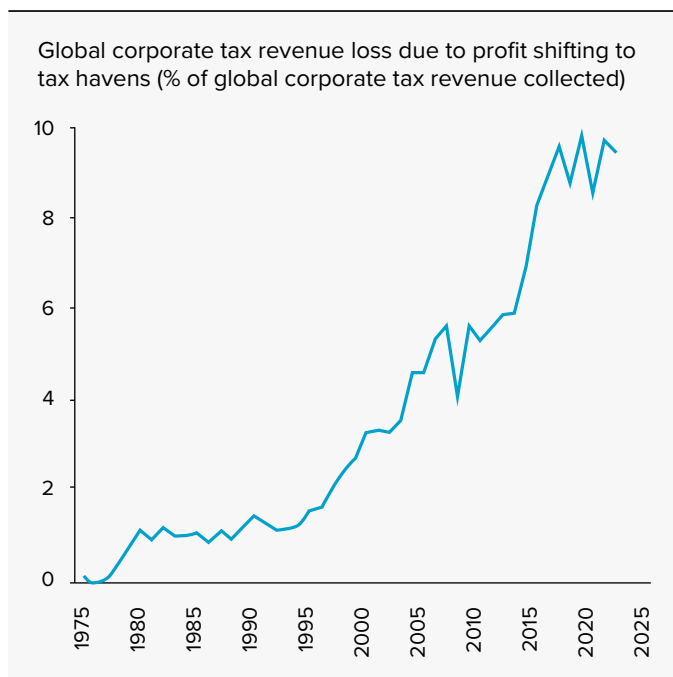
This anti-elite, antiglobalization sentiment may be rooted in part in the way that global elites have been able to cash in on the benefits of globalization to race further ahead. In addition to the economic dislocations, with increased inequalities within countries and pervasive job losses in certain places, hyperglobalization has enabled offshore tax evasion and avoidance by wealthy individuals and companies. Multinationals may have shifted as much as \$1 trillion of profits to tax havens in 2022,⁹² resulting in billions of dollars in lost tax revenue. Global losses of corporate tax revenue have skyrocketed since the mid-1990s as a result of profit shifting (figure 2.6). These patterns are clearly associated with asymmetries between how elites and the general population benefit from hyperglobalization, fuelling discontent that feeds into populist narratives.

Populist leaders and movements can also work through the beliefs channel by using discourse and narratives to foment polarization and politicize issues such as international cooperation.⁹³ Indeed,

antiglobalization sentiment has become increasingly salient in partisan discourse.⁹⁴ As these issues become more visible through political campaigns and narratives, they can lead to shifts in people’s beliefs and to sorting along narrow identity lines rather than along income groups—and subsequently to shifts in policy preferences.⁹⁵ These shifts can lead to voting patterns that, in some cases, might go against one’s economic self-interest,⁹⁶ and they may even influence behaviours beyond voting.⁹⁷ For example, populist campaigning against scientific advice during the Covid-19 pandemic reduced adherence to social distancing in places where populist leaders enjoyed high support.⁹⁸

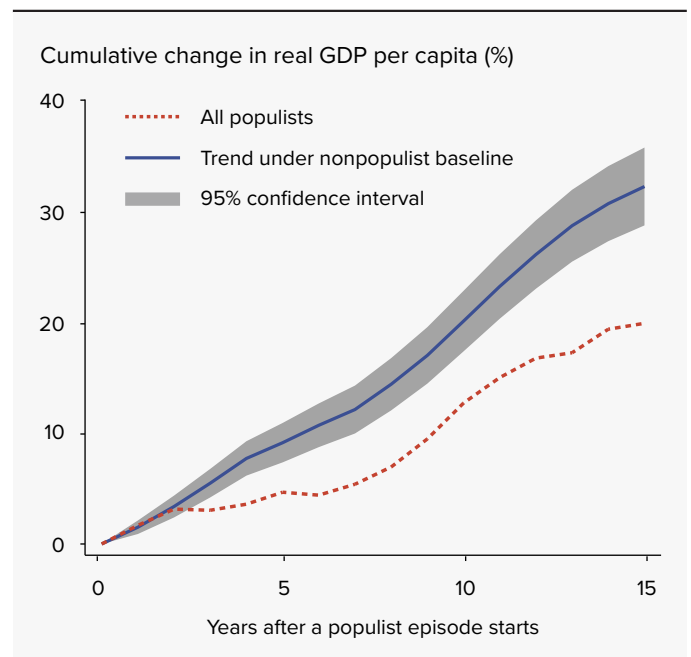
Populism is politically disruptive and economically very costly.⁹⁹ In countries with episodes of governments characterized as populist, whether on the right or on the left, GDP per capita is 10 percent lower 15 years after the episode started than where such episodes did not take place (figure 2.7). Negative effects on the economy tend to materialize only three to five years after the populist episode starts, and they

Figure 2.6 Elites have been able to cash in on hyperglobalization, as profit shifting to tax havens has skyrocketed



Source: Alstadsæter and others 2023.

Figure 2.7 Discontent is costly: Lower GDP trajectories in countries with populist episodes



Note: All regressions include country fixed effects and five lags of real GDP per capita growth, global growth, inflation, banking and sovereign debt crisis controls and an institutional/democracy quality index given by the first principal component of the Varieties of Democracy indices on judicial independence, election fairness and media freedoms (Coppedge and others 2022), as well as the Polity IV democracy score (Marshall and Gurr 2020). Data cover 60 countries since 1945 for the core sample of populist episodes.

Source: Funke, Schularick and Trebesch 2023.

continue to worsen over time¹⁰⁰—representing a potential permanent loss.

Discontent polarizes societies, with potentially dangerous consequences

The populist rhetoric of retrenchment and nativism polarizes societies by pitting groups against each other—us, the people, against them, the elite. The inward-looking, nativist direction of many of these movements erodes abilities to collectively manage reshaped global interdependence and tackle issues that transcend borders. Historically, the populist and radical regimes that came into power after the global financial crises of the 1920s and 1930s in a context of deep political polarization drove countries to a world war rather than delivering solutions to the shared challenges facing them (spotlight 2.1).

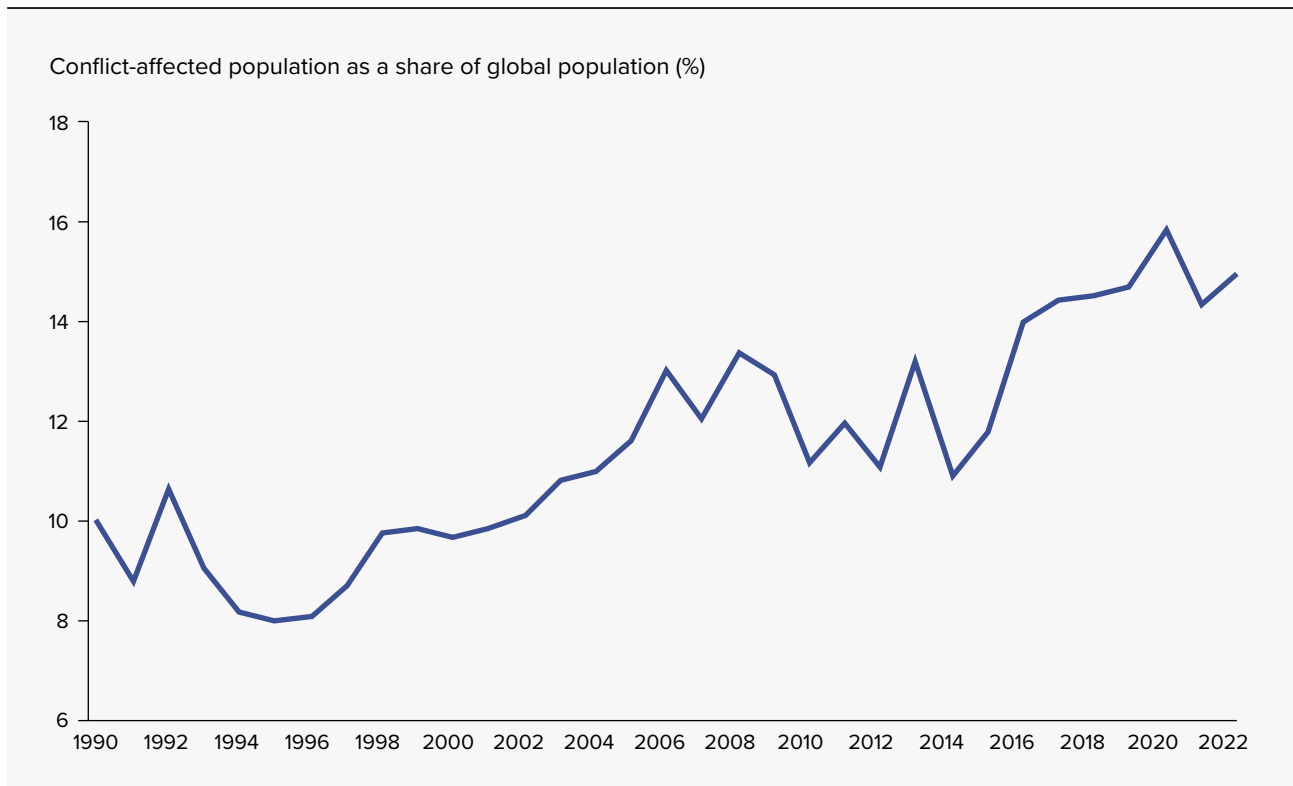
Today, the international community grapples with a renewed surge in violent conflicts, with devastating impacts on human development and human security. In 2022 alone, before the rise in violence and conflict in the African and Middle East regions in 2023,

almost 1.2 billion people—15 percent of the global population—lived in areas affected by violent conflict (figure 2.8).¹⁰¹ These staggering numbers are part of a horrific trend of rising violent conflicts that is becoming increasingly internationalized and entrenched,¹⁰² affecting more people in more places, including in higher Human Development Index countries.¹⁰³ In addition to devastating local impacts, violent conflicts often have impacts that spill across borders. The multiple ripple effects range from arms proliferation¹⁰⁴ to forced cross-border displacement, regional food insecurity¹⁰⁵ and rising inflation.¹⁰⁶

Global interdependence is being reshaped and likely to persist well into the future

Even aside from the policy choices shaping global interdependence—import tariffs that discourage trade, visa restrictions that slow migration—interdependence is an inescapable feature of living on a shared planet that is undergoing dangerous changes, unprecedented in that they are planetary and a result of human choices. They are also reinforced by

Figure 2.8 Violent conflicts affected 15 percent of the global population in 2022



Source: Human Development Report Office based on Aas Rustad and Østby (2023) and Arasmith, Østby and Aas Rustad (2022).

the fact that humans are relational beings (spotlight 2.2). Going forward, two drivers—dangerous planetary change and the deep transformations of economies, supercharged by digital technologies—are profoundly reshaping global links, demanding more—not less—management of interdependence, given that the opportunities to manage that type of interdependence by making decisions about at-the-border restrictions are limited to nonexistent.

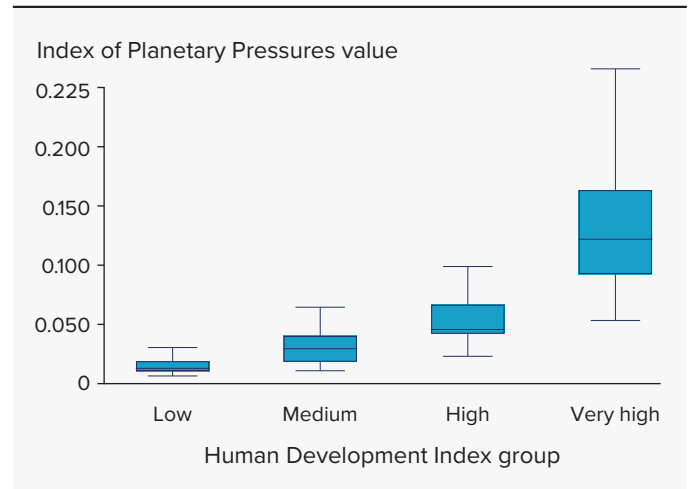
The Anthropocene adds a planetary dimension to global interdependence

The Anthropocene is a proposed new epoch in the geological timescale, characterized by the unprecedented impact of modern human activity on Earth systems (chapter 3). It provides a useful framing for understanding the interdependence among humans, human societies and our shared planet. It helps further “establish the connections between our economic, social, and cultural spheres and the Earth System itself”¹⁰⁷ and unveils the entanglements of global inequalities and endangering the critical functions of Earth systems.

Social and ecological systems have always been deeply connected but rarely at the planetary scale.¹⁰⁸ Today, human impacts on the planet are so stark that they are altering planetary processes. Humans have altered the natural cycles of carbon,¹⁰⁹ nitrogen,¹¹⁰ phosphorus,¹¹¹ water¹¹² and other elements, changing the temperature, precipitation, sea level and atmospheric composition of the planet.¹¹³

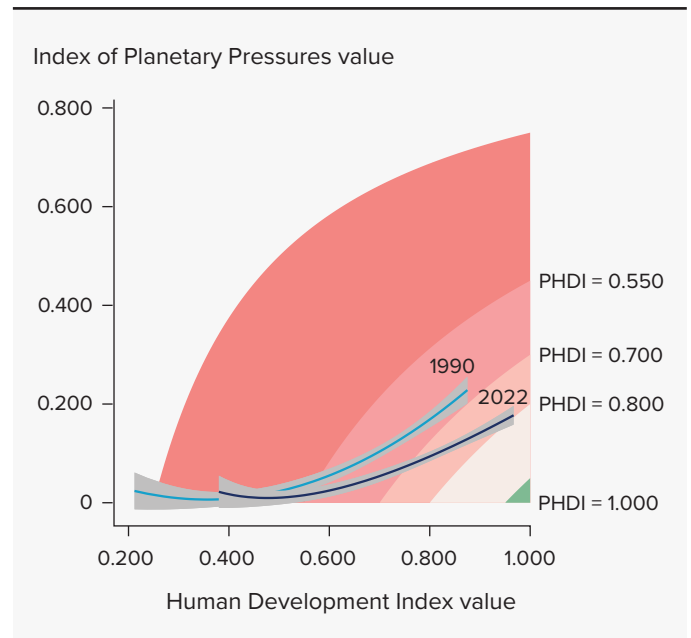
Countries with higher levels of human development, as measured by the Human Development Index (HDI), exert higher pressures on our planet (figure 2.9). Countries on the lower end of the HDI, which put fewer pressures on the planet, are likely to be disproportionately affected by the impacts of planetary pressures.¹¹⁴ These inequalities create destabilizing dynamics that, along with intensified polarization, may delay action to mitigate or reduce planetary pressures. Over time, though, human development progress is associated with lower planetary pressures—in 2022 the average planetary pressures required to sustain any given HDI level were lower than in 1990 (figure 2.10). In fact, in recent years both very high and high HDI countries

Figure 2.9 Inequalities and the Anthropocene—higher Human Development Index countries put higher pressures on the planet



Note: The Index of Planetary Pressures is constructed using the per capita levels of carbon dioxide emissions and material footprint in each country (it is 1 minus the adjustment factor for planetary pressures presented in table 7 in the *Statistical Annex*). Each box plots the middle 50 percent of the distribution; the central line is the median. Outside each box the extreme lines are the approximate minimum and maximum of the distribution. Outliers are not shown. **Source:** Human Development Report Office. See specific sources in table 7 in the *Statistical Annex*.

Figure 2.10 Pushing possibility frontiers—higher Human Development Index values at lower planetary pressures



PHDI is Planetary pressures—adjusted Human Development Index. **Note:** The Index of Planetary Pressures is constructed using the per capita levels of carbon dioxide emissions and material footprint in each country (it is 1 minus the adjustment factor for planetary pressures presented in table 7 in the *Statistical Annex*). Cross-sectional pressure patterns for 1990 and 2022 were calculated using polynomial regression models. Shaded areas are confidence intervals. **Source:** Human Development Report Office. See specific sources in table 7 in the *Statistical Annex*.

have continued to improve their HDI values without increasing planetary pressures, even though HDI progress in high HDI countries led to a sharp increase in planetary pressures in the first decade of the 21st century (figure 2.11). Still, all countries, but particularly those with very high and high HDI values, need to do much more, at greater scales and speed, to ease planetary pressures than what has been the current trend. In fact, the trend going forward needs to start sloping downward, so that improvements in HDI values happen along with declining planetary pressures.

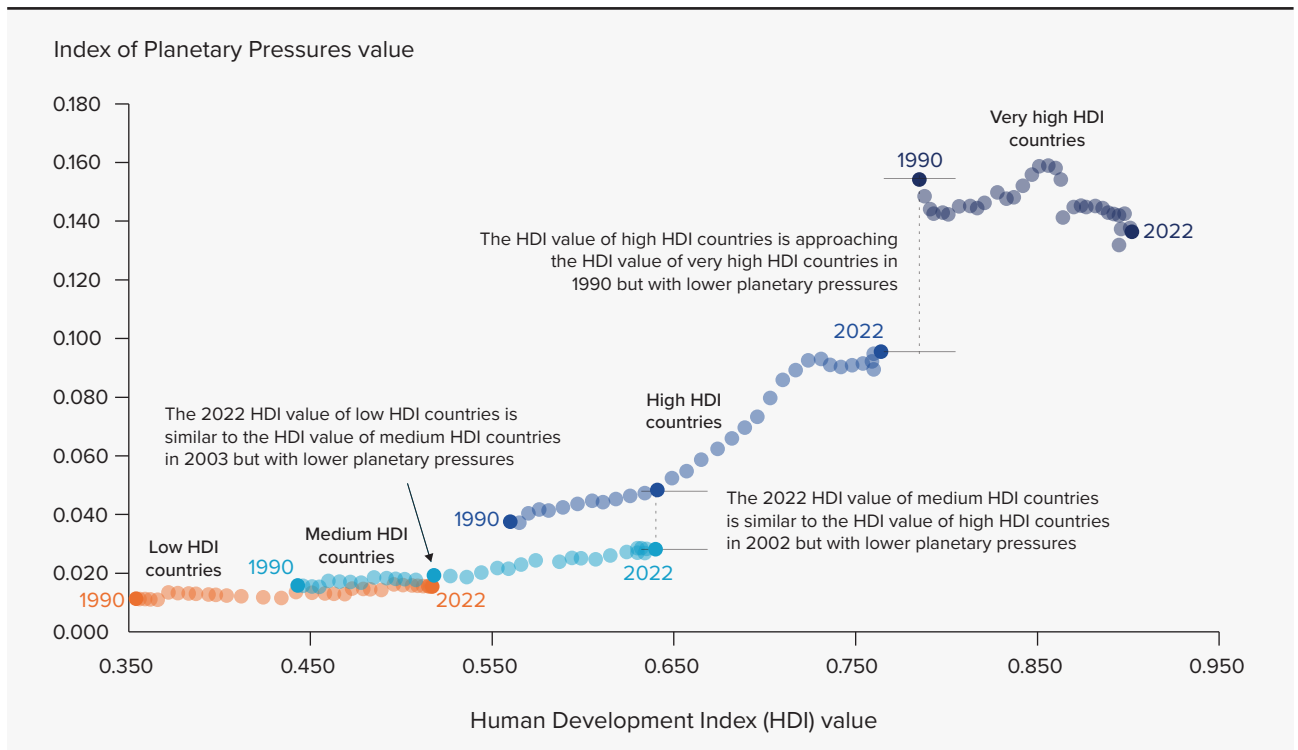
Technological development, especially renewable and low-carbon energy systems, pushes possibility frontiers and may enable gains on the HDI without increases in planetary pressures. However, transition periods, where fossil fuels and low-carbon system coexist, may be particularly volatile, with heightened cross-border risks.¹¹⁵ Transitions away from fossil fuels are very likely to shift the comparative advantages of countries and could drive shifts in trade patterns and economic power with geopolitical implications.¹¹⁶ Changes to domestic climate policies may reverberate internationally through both trade and

financial channels,¹¹⁷ with especially strong effects for low- and middle-income countries—effects that may go beyond balance of payments fluctuations to affect long-term debt dynamics.¹¹⁸ Therefore, the types of climate policies that countries pursue will not only affect prospects for mitigating climate change but will also have profound implications for global links and development prospects. If interdependence is harnessed in a positive way—starting with not mismanaging it—the outlooks for both people and planet are more positive.¹¹⁹

Planetary pressures lead to planetary spillovers

When social and environmental change interacts at a global scale, spillovers from a local socioecological system can turn planetary. To see how, consider telecoupling, which describes distant interactions and complex feedback loops between human and ecological systems over vast distances and attempts to account for socioeconomic and environmental spillovers across scale, space and time.¹²⁰ For

Figure 2.11 Decoupling of planetary pressures and the Human Development Index (HDI)



Note: The Index of Planetary Pressures is constructed using the per capita levels of carbon dioxide emissions (production) and material footprint in each country (it is 1 minus the adjustment factor for planetary pressures presented in table 7 in the *Statistical Annex*).
Source: Human Development Report Office. See specific sources in tables 2 and 7 in the *Statistical Annex*.

example, the land-use decisions of firms and farmers in tropical forests affect regional environmental degradation, biodiversity loss and global climate change not only through increased greenhouse gas emissions associated with deforestation but also through changes in precipitation patterns in regions far from tropical forests (chapter 3). The same land-use decisions are influenced by global market dynamics, such as consumer preferences and terms of trade. For example, higher global demand for soybeans can lead local farmers to switch to them from cattle ranching,¹²¹ potentially reducing both deforestation and carbon dioxide emissions in comparison to a scenario with continued cattle ranching.¹²²

Another example is fishing around coral reefs, which can reduce the biomass of fish species that provide important ecosystem services¹²³—such as the large herbivorous fish that reduce algae growth. Without those species, algae growth may increase, bleaching the reefs.¹²⁴ The erosion of coral reefs reduces global carbon cycling (thus adding to climate change). It also harms the livelihoods of many people and the natural protection of coastlines from storms.¹²⁵ By contrast, sustainable local fishing practices can improve the biomass of herbivorous fish and benefit coral cover.¹²⁶

With an Anthropocene lens, the notion of global interdependence needs to include an understanding of the Earth System as a whole. Highly complex globally interlinked societies shape, and are shaped by, highly complex and globally interlinked ecological systems. Yet “spatial assumptions about the world are frequently divorced from discussions of economy and, in turn, from issues of environment and nature.”¹²⁷

In a globally interdependent world even countries less exposed to climate change-related risks can still be affected by second- and third-order effects.¹²⁸ For example, if a natural hazard disrupts economic activities in one country, there may be spillover impacts on the country’s main trade partners; if critical infrastructure is hit in one country, it may reconfigure supply chains and reduce the GDP of both downstream and upstream trading partners¹²⁹ and can lead to volatility in aggregate stock market indices among trading partners.¹³⁰

Food production and consumption provide another telling example. Only an estimated 11–28 percent of the global population can access key food crops

within 100 kilometres of their homes, leaving a large majority of the world population highly dependent on food imports and global food value chains.¹³¹ The production of critical inputs and intermediary products for agricultural production, such as seeds and fertilizers, is geographically concentrated and controlled by a handful of companies.¹³² For example, four companies control about two-thirds of global agrochemical sales, including pesticides and synthetic fertilizers that enable industrial-scale agriculture. Three of the same companies are also among the four companies that control more than half the world’s commercial seed sales.¹³³

While trade in food has boosted food supplies globally and has been a resilience strategy in the face of local climate shocks,¹³⁴ the domination of multinational food companies in food systems is now associated with reduced diversity in local food production and lost local food culture traditions,¹³⁵ as well as rent seeking by top firms.¹³⁶ The concentration patterns in food production have built vulnerabilities in global food systems, which are likely to further increase if human planetary pressures remain unchecked. For example, biodiversity loss and climate change heighten the risk of simultaneous crop failures,¹³⁷ with potentially global consequences for food security. Global hunger numbers are already on the rise; 691–783 million people faced hunger in 2022, a situation exacerbated by the war in Ukraine and high inflation.¹³⁸

“The concentration patterns in food production have built vulnerabilities in global food systems, which are likely to further increase if human planetary pressures remain unchecked

When arable land becomes scarce or degraded due to climate change, farmers may experience reduced crop yields and diminished livelihood security, potentially driving displacement and migration.¹³⁹ But the paths and trajectories of human mobility in response to climate, food and livelihood stressors are difficult to predict, particularly as local temperature, rainfall and extreme weather events increasingly deviate from historical patterns. Migration is embedded in social, economic, political, demographic and environmental processes that can affect both the ability to move, as well as the risk of immobility.¹⁴⁰

As climate change continues and its impacts intensify, especially in the absence of widespread reductions in greenhouse gas emissions, migration could become one of the few viable adaptation and resilience strategies available to afflicted communities. Some projections suggest that under current emissions policy trajectories a third of the world population may be left outside the so-called human climate niche—that is, the temperature range most conducive to human life. If countries fully implement all climate change mitigation policy targets, global warming may be limited to about 1.8°C—which would still leave almost 10 percent of the world population outside the so-called human climate niche—that is, the temperature range most conducive to human life.¹⁴¹

The health, livelihood and labour market impacts of extreme heat are likely to be substantial, as shown by the UNDP Human Climate Horizons platform (box 2.2).¹⁴² Some research predicts that by midcentury, more than 200 million people are likely to migrate internally (within-country) in the face of climate stress.¹⁴³

Digital technologies make cross-border communication almost instantaneous—and are changing economic structures

Alongside the planetary challenges of the Anthropocene, economies are undergoing profound shifts,

Box 2.2 Human mobility in the face of climate change: The case of Viet Nam

Hannah Pool

The UNDP Human Climate Horizons platform calculates and visualizes how climate change will affect human well-being under different greenhouse gas emissions scenarios. The platform estimates the projected impacts of climate change at a highly granular level, illustrating how it might affect places and communities in more than 200 countries and territories.

Take Viet Nam, which is already grappling with the effects of climate change as droughts, floods and typhoons become more frequent. The average annual temperature is projected to increase from 25.9°C in 1986–2005 to 26.7°C in 2020–2039 to 27.6°C in 2080. In the high emissions scenario it could reach 29.2°C. The rising temperatures will particularly affect the working hours of people in both low-risk and high-risk occupations. In the moderate emissions scenario annual working hours per worker could be reduced by 2.3 hours in 2020–39 and by 10.5 hours in 2080–99, whereas in the high emissions scenario annual working hours per worker in high-risk jobs in agriculture and construction could fall by 36.7 hours.

With 3,000 kilometres of coastline, Viet Nam is particularly vulnerable to rising sea levels.¹ Under the high emissions scenario sea-level rise will affect an additional 1.3 percent of the population between 2020 and 2039 and 7.4 percent by the end of the century, compared with a scenario without climate change.²

Migration decisions are complex and multifaceted, and climate change and the environment can be contributing factors. By 2050, 1.5–3.1 million people in Viet Nam could become climate migrants.³ In Viet Nam’s Thừa Thiên-Huế Province people expressed their intention to relocate permanently because of a heightened risk of flooding caused by sea-level rise.⁴

When people are forced to move as a result of climate change, they tend to move first within national borders before moving to neighbouring countries,⁵ and they tend to move from rural areas to cities. In Viet Nam this will put additional pressure on urban infrastructure.⁶ People might also move to neighbouring Cambodia or Thailand, which, as the Human Climate Horizons data project, will also be affected by climate change.

Scenarios like these are important to assessing how climate change will affect human mobility and to driving people to do everything possible today to avoid the high emissions scenario. But human mobility cannot be deterministically predicted, even less in the distant future, since a continuum of human agency exists at various levels, which gives humans the capacity to “find creative, locally appropriate solutions” in a world of diverse social, economic, cultural and place-based physical systems.⁷

Notes

1. IPCC 2022. 2. UNDP and Climate Impact Lab 2022. Data from Human Climate Horizons, accessed 30 November 2023. 3. Clement and others 2021. 4. Duijndam and others 2023. 5. IPCC 2022. 6. Spilker and others 2020. 7. Horton and others 2021, p. 1279.

powered by rapid technological innovation, especially in digital technologies. These shifts are already changing the nature of global interdependence and will likely continue to do so well into the future.

Digital technologies link distant places almost instantaneously, affecting international trade, labour markets, and the production and consumption of information. In 2023 anyone with a computer or smartphone¹⁴⁴ could in theory reach more than half the global population, and the number of internet users is expected to continue to increase.¹⁴⁵ The digitally powered spread of (mis)information can speed up contagion dynamics and influence behaviours, with cross-border implications for, for example financial instability¹⁴⁶ or conflict.¹⁴⁷

While governments can put controls on internet use, blocking access to—or even just monitoring—online information is extremely difficult as the technology constantly evolves and expands.¹⁴⁸

Even during the physical lockdowns and border closures of the Covid-19 pandemic, when goods and people flows across borders plummeted, cross-border information flows soared.¹⁴⁹ Digital platforms and global flows of data enable larger trade volumes between countries,¹⁵⁰ as well as increased opportunities for small and medium enterprises to participate in global value chains.¹⁵¹ The rise of digital technologies in the global economy is part of deeper changes in the structure of economies, in which the value of knowledge and services increases relative to that

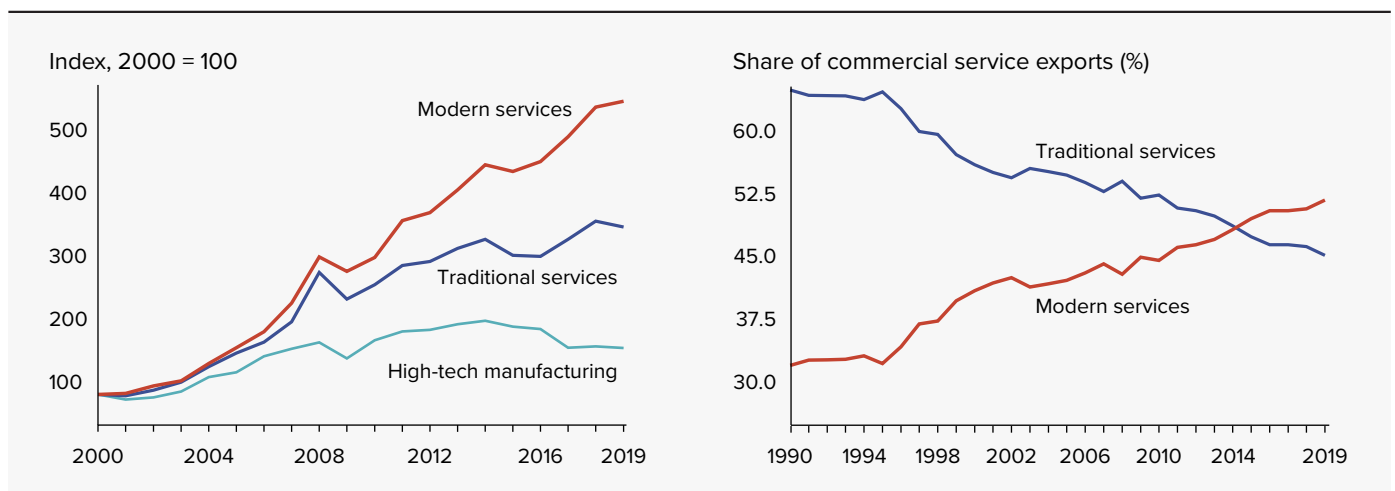
of physical goods,¹⁵² powered by increasingly low-carbon energy systems.¹⁵³ In 2022 digital service exports reached \$3.8 trillion in value and accounted for more than half of global trade in commercial services.¹⁵⁴ Modern service exports, which include computer and information services, have increased fivefold since 2000 and are quickly overtaking both exports in traditional services such as tourism, as well as high-tech manufacturing exports (figure 2.12).

Digital technologies are shaping how to navigate the Anthropocene

Navigating the Anthropocene will be shaped by choices associated with the Digital Revolution.¹⁵⁵ The increasing use of digital technologies has direct impacts on our planet, including the environmental footprints of novel technologies such as artificial intelligence and blockchain. These require vast amount of computing power and are associated with intensified greenhouse gas emissions.¹⁵⁶

The expansion of data availability and the increased ability to process huge amounts of data have been key factors in recognizing the Anthropocene, by enabling more precise measurement, monitoring and modelling of the Earth System, or how digital technologies have enabled communication and dissemination of scientific knowledge about the Anthropocene to the public at large.¹⁵⁷ But the interaction between already polarized societies and digital communication

Figure 2.12 Digital technologies are driving shifts in global economic interdependence, with dramatic increases in modern service exports since 2000



Source: Cornelli, Frost and Mishra 2023.

in social networks, characterized by algorithms that propel division and misinformation, can erode public deliberation, propel mistrust in science and put up barriers to collective action for a low-carbon transition.¹⁵⁸

While digitalization has expanded opportunities for many people, there are large and regionally concentrated inequalities in digital access. In Africa only 37 percent of the population were internet users in 2023, compared with a global average of 67 percent.¹⁵⁹ Only about a third of the digital gap in Africa can be explained by lack of infrastructure;¹⁶⁰ issues such as prohibitive costs and other barriers

may account for the rest. Investment in frontier technologies, such as artificial intelligence, is also associated with higher income inequality.¹⁶¹ If these asymmetries remain, many people risk losing out on the expanding economic opportunities that come with new technologies. Inequalities may also drive consumption patterns that add to planetary pressures, through spending cascades on so called positional goods, such as ever larger cars.¹⁶² These types of consumption patterns are channelled via aspirations and norms, which may be influenced by both traditional and social media.¹⁶³

The human toll of mismanaging interdependence: Insights from national and international history

Patricia Clavin, *Oxford University*

World War I was a catastrophic period in history with far-reaching effects. On average, 5,600 men died for every day that the war continued, and injured soldiers and civilians had some of the worst injuries ever seen. In the war zones factories, farms and homes were destroyed to the tune of around \$30 billion, roughly half of US GDP at the time.¹ As part of the political fallout of the war, the Austro-Hungarian, German, Ottoman and Russian Empires tumbled, and more than 14 million people were displaced.² In the peace negotiations that followed, it became clear that while millions of people everywhere aspired to greater self-rule, the British and French Empires expanded the number of territories under their governance as a result of the conflict. Other countries, notably Japan and the United States, grew in global prominence.

The Paris Peace Conference of 1919 and its subsequent peace treaties suggested that sovereign states existed on a plane of equality in the international system. But the war and its outcomes made it clear that the world's empires, nation states and colonized people who aspired to statehood had different natural endowments and access to resources that shape human development. In the international system states also had different interests and concerns. After 1918 governments, businesses, banks, farmers and people everywhere struggled to comprehend how much had changed as a result of the war. They were hit by a series of economic and social crises and responded by taking defensive measures that strongly prioritized national and imperial interests. Many governments mismanaged the interdependence of markets and people. Instead, numerous countries found themselves on a path to a second world war within a generation of the first.

World War II was even more destructive than its predecessor. Some 60 million people died around the world. Much more property and infrastructure lay in ruins. And the conflict inflicted unprecedented pollution on the planet, including radiation from a

new type of weapon, the atomic bomb. Yet this time, the types of social and economic crises that had battered many governments, people and world markets after 1918 were largely averted. In the following decades the prospects for human development improved markedly and remained on an upward trajectory for the rest of the 20th century. This spotlight reveals how the management of human interdependence in these postwar eras produced such different outcomes.

The search for national sanctuary in an interdependent world

After 1918 the first crisis that gripped the world was financial. No one had thought about how they were going to fund an unprecedented global war. As a result, the belligerent governments borrowed or printed money to pay for it. As the conflict ended, governments were desperate to get back to “normalcy” and removed all the controls on their national economies in an uncoordinated way. The result was rapid inflation. The worst cases were in the new republics of Austria, Germany, Hungary and Poland, which endured hyperinflation. In Germany prices quadrupled every month for 16 months.

But even some of the world's strongest economies had annual inflation of 20–30 percent. They dealt with this by returning their currencies to the international gold standard—a fixed exchange mechanism—which brought stability to prices and interest rates. States did this largely in an uncoordinated way, thinking about what suited their national interests and leaving the job to central banks and financial markets.³ It meant, for example, that the US dollar and the French franc were significantly undervalued, which helped their exports. Britain, a major importer of food and exporter of capital and financial services, preferred a strong pound and opted to overvalue the

pound sterling. This made life tough for its domestic producers and encouraged many of them to demand protection from overseas traders, a worldwide trend. It meant that while exchange rates were stable, the market interdependence that the gold standard system was supposed to safeguard had unstable foundations.

The next global financial crisis hit within a decade of the first, after October 1929. The consequences of the uncoordinated processes of financial reconstruction after 1919 became clear following the stock market crash on Wall Street in the United States. Having been heavily involved in stabilizing the currencies and economies of Central Europe in the 1920s, US political and financial leaders decided it had been too easy for investors—at home and abroad—to borrow money, so the Federal Reserve opted to increase interest rates. This decision pushed a downturn in the stock market into a full-blown depression as investment abroad was stopped in its tracks. The crisis was transmitted around the world through the gold standard system. Other central banks defended their currencies by increasing interest rates and demanded that their governments stop spending. Workers were laid off in droves, and poverty and hunger rates rose dramatically in the worst deflationary crisis the world had yet known.

By 1933 leading economists and international advisors had identified the right solution: they proposed internationally coordinated measures to reflate the world economy and stop the rising trade protectionism. But countries had acted to defend their economies in an uncoordinated way after 1929, and despite four years of suffering, the ability to cooperate was absent. There were now gaping domestic and transnational ideological divides between states, conflicting geopolitical interests and national politics moving in radically divergent directions. The failure of the world's major economies—Britain, France and the United States—to work together was especially damaging. And they now faced the emerging threat from National Socialist Germany, Fascist Italy and Imperial Japan, which was already waging war in Manchuria.

The see-sawing fortunes of the world's major economies from high inflation to a biting deflationary crunch, connected to ongoing—or triggered new—social and political crises. These were especially pronounced in countries that were defeated or

established as new nation states due to World War I. First came the Spanish Flu pandemic, so named because the first case was identified in Spain in 1918. It killed 50–100 million people, though it remains unclear where the pandemic began. This and other health challenges were exacerbated because so many people were on the move as a result of the war and its after-effects.⁴ The end of the war did not bring an end to health crises or to violence. The former territories of the Russian Empire were engulfed by civil war. By the time it ended, the population had fallen from 143 million to 134 million. Contemporaries were deeply worried by the risks posed by typhus and tuberculosis. In 1916 the first major study of the history of epidemic disease in wartime showed how soldiers were more likely to die from contagious disease than through enemy action and that epidemic disease among soldiers sparked worse epidemics among the civilian population.⁵

In 1920, in the former imperial capital city of Vienna, one in four deaths was caused by tuberculosis. Nutrition and living conditions were so bad that local officials calculated death rates rivalling those of the bubonic plague (called the Black Death) centuries earlier, generally recognized as the deadliest pandemic in human history. At the time new scientific understanding, including the discovery of vitamins and the role of minerals, made it clear that food quality was as important as quantity to human health. But many people around the world struggled to get enough to eat, despite the fact that the world suffered from agricultural overproduction that caused commodity prices to slump after 1918. Some 60 million peasants in Eastern Europe, for example, did not produce enough bread locally to get them through the year and thus faced a persistent cycle of rural undercapitalization, underemployment, malnourishment and misery. The sense of crisis among small-scale farmers and landless peasants in Asia and Europe was amplified by apparent threats posed by the emergence of industrial-scale food production on the American and Australian continents and the collectivization of agriculture in the Soviet Union after 1927.

The crisis in rural communities was matched by the crisis of joblessness in urban ones. Until the late 19th century impoverished rural workers could move to cities that were developing fast as a result

of industrialization and urbanization or migrate between countries. But new migration controls introduced before World War I and strengthened during it locked labour markets behind national and imperial frontiers, and cities, too, struggled to absorb rural poor people.⁶ The danger of unemployment—evident already in the 1920s as the world economy adjusted from the dislocation of the war and the move from heavy industry that characterized the first wave of industrialization to a new focus on consumer industries—expanded into a full-blown crisis in the Great Depression. No country was left untouched, but the spectacle of large-scale destitution in the United States—the world’s biggest economy, which had roared in the 1920s—shocked informed publics worldwide.

By the end of 1930s, observers were in no doubt that the onslaught of these crises, which came in quick succession, radicalized world politics. The 1920s and 1930s were rich in revolutions initiated by the left and military putsches or states of emergency on the right. But the record of these radical regimes demonstrated that these administrations, too, had no effective answer to the challenges facing human development in a world where interdependence faced new and rising barriers: currency controls, trade protectionism and strict limits on migration.

The inequality already endemic among different people and social groups was given a dangerous and immoral twist in fascist, nationalist and authoritarian regimes. They wanted to improve the standard of living for people who they claimed as their own but saw the resources from which improvement would come as finite. Adolf Hitler, the German dictator, saw himself as a *Raumpolitiker*, a spatial politician, who demanded that the world be reshaped to match the quest for *Lebensraum*, or living space. His Axis alliance with Italy and Japan was gripped by the battle—it became World War II—for the “right sort” of material, human and physical.⁷

Crisis served as an opportunity for radical leaders of the Axis powers to introduce policies intended to raise living standards for their selected people and reduce them markedly for ethnolnational and socioeconomic categories they identified as the enemy, both within and beyond their national frontiers. Axis leaders were determined to break their dependence on other states and on international norms and to

control their own destiny. At the same time, beggary-neighbour policies, as contemporaries called them, were not confined to dictatorships. They were adopted by states everywhere in autarkic and isolationist measures that left the world economy depressed and set back human development.

Mutual help and institutionalized cooperation addresses interdependence

Historians have long debated the degree to which modern warfare plays a central role in the emergence and consolidation of the modern state. Paradoxically, major wars also make political leaders—regardless of whether their countries are at war—acutely conscious of the international context. As when Japan went to war against China in 1937 and Germany attacked Poland in 1939, the nationalism that characterized politics after 1918 gave way to the internationalism of war. It also set up new pathways to international cooperation in managing global interdependence.

In World War II leaders of the Allied powers were determined to see crisis as opportunity. The dominant impulse was to learn from but break with the past. This time, policymakers anticipated that there would be substantial postwar challenges and probably crises. The League of Nations, the forerunner to the United Nations, helped determine the basis for cooperative discussions among Britain, China, France, the Soviet Union and the United States, among other powers. Its view was that the problems of interdependence in a world of geopolitical rivalries “did not lend themselves to settlement by formal conferences.”⁸ Instead, it suggested, “the primary object of international cooperation should be mutual help ... above all, the exchange of knowledge and the fruits of experience.”⁹

In contrast to World War I, the planning for peace came early—as soon as the United States entered the war in December 1941. In contrast to World War I, too, when geopolitical questions around borders and disarmament took priority, the focus after 1941 was on economic and social issues. The move recognized the importance of economic and social questions to the prospects for human development and that the needs of national economies had to be understood and managed with those of the world economy. The

first organization of the new United Nations was announced in 1943 at a meeting in Hot Springs, Virginia. The new UN Food and Agriculture Organization was part of a new international will to jointly tackle problems under the general heading of freedom from want.¹⁰

This was underlined in new and discrete institutions—the International Bank for Reconstruction and Development (the World Bank), the International Monetary Fund, the United Nations Relief and Rehabilitation Administration (intended to oversee postwar reconstruction). A new organization was also planned to address trade protectionism—it became the General Agreement on Tariffs and Trade.

Although these institutions were new, they built on pathways to cooperation established by the League of Nations in 1919. At the start its focus was disarmament and peace. But the interwar crises encouraged new capacities in the organization, notably in relation to economic, social and health questions—for example, the World Health Organization, set up in 1945, was an extension of the League of Nations Health Committee. We often think of the League of Nations as a failure because it was unable to prevent conflict among member states. But the organization established key ideas and practices to effect multilateral cooperation that lived on in new global and regional institutions.¹¹ It also offered small and middling-size powers an enhanced international platform. They could be heard on terms of nominal equality with bigger powers that conventionally called all the shots.

After 1945 new stress on the need to manage and support the economy for social good was matched by the attitudes of governments that had new policy tools and information at their disposal, demonstrating a new confidence in the world’s major states that

they could handle crises nationally and internationally and a recognition of the interdependence of global, national and local stability. In 1945 the United States was wealthier and stronger than it had ever been in absolute and relative terms. In contrast to 1919, when both the United States and the Soviet Union were absent from the League of Nations, this time, both countries committed to supporting new international institutions to promote cooperation. There was strong agreement about the need to coordinate efforts on an international and regional basis to avert economic and social crises that, without cooperation, would lead to disaster as they had after 1914 and 1937.

Power politics could still get in the way of cooperation. Experts and policymakers were frequently divided over the details of specific measures, and bitter political disputes among China, the Soviet Union and the United States in the 1950s and early 1960s limited cooperation on some questions. It also generated rival attempts to address common dilemmas, with capitalism and communist powers competing to support the modernization aspirations of parts of Africa and Asia, for example. The history of mutual independence in the face of crises during these two postwar eras reveals that cooperation on specific initiatives was rarely the product of collective will. Rather, as in the 1940s, individual people and groups with big ideas promoted cooperation in ways that gave people hope in the world’s darkest hours. The international organizations and practices they developed recognized that societies and markets were mutually interdependent. The institutionalized world order created after 1945 was not the product of consensus or the end of argument. Instead, it reflected agreed rules and understandings of the terms under which conflict took place.¹²

NOTES

1. Bogart 1920.

2. Zhvanko and Gatrell 2017.

3. Eichengreen 1992.

4. Barry 2004.

5. Prinzing 1916.

6. Lake and Reynolds 2008; Zieger 1969.

7. Overy 2021.

8. League of Nations 1939.

9. League of Nations 1939.

10. Staples 2006.

11. Clavin 2013.

12. Hurrell 2008.

Managing global interdependence to advance human development

Humans are relational beings.¹ Social, economic and environmental relations shape values, opportunities and choices, implying that human development is a function not only of what people have or can do but also of how they relate to others, to the society they live in and to nature. Throughout the lifecycle people are embedded in social networks where they are at times dependent on and at times interdependent with others who influence opportunities, constraints and wellbeing² (box S2.2.1). Social contexts and relations also shape preferences and can lead to behaviours and practices that perpetuate social norms, including harmful ones.³ For example, strong gender norms and biases against gender equality can influence women's aspirations and discourage them from pursuing certain types of careers or occupations.⁴ Social norms can also greatly influence attitudes and behaviours in relation to nature and the planet (chapter 4).⁵

The spillovers between social contexts and human development outcomes can create vicious or virtuous cycles.⁶ For example, positive family relations and supportive parents are key for early childhood development,⁷ which can later contribute to stronger education achievements that translate into higher earnings in adulthood.⁸ Positive family and work relations also contribute to better mental health and wellbeing and “provide the conditions for the same positive relations to be perpetuated in an individual's own parenting and other future relationships.”⁹ By contrast, human development inequalities and deprivations can compound over one's lifecycle and into future generations.¹⁰ Scrutinizing these social externalities in a systematic way may help unveil new mechanisms for harnessing interdependence that goes beyond correcting for market failures¹¹ (chapter 4). For example, leveraging parental altruistic instincts can extend solidarity and prosocial behaviour beyond one's immediate family.¹² Even the existence and influence of social norms on behaviour suggest

that these can be harnessed in ways that enhance human development and the stewardship of nature.¹³

Relational wellbeing extends to the group, society and even planetary levels—the focus of this chapter. Leveraging humans' hypersociability¹⁴ and ability to form bonds with each other has played a pivotal role in facilitating cooperation and exchange even between strangers, enabling the formation of large-scale societies and complex economic systems. Insights from evolutionary theory and cultural and social psychology shed light on this trajectory (chapter 4).¹⁵

This does not imply that cooperation is inevitable, as countless examples of conflict and power struggles demonstrate. Different societies, facing different constraints and contexts, have developed a variety of mechanisms for cooperation,¹⁶ through social norms or codified in formal laws and regulations (chapter 4). The insights do, however, reveal that drawing on humans' relational capacities to cooperate and leveraging a “collective brain”¹⁷ have been important in fostering progress. Indeed, throughout human history larger and more interconnected societies have been able to “sustain more complex technologies, languages, institutions and behavioural repertoires.”¹⁸

Knowledge and innovation have been powerful, perhaps fundamental, drivers of human development. Ideas build on each other and are combined in processes that require people to work together.¹⁹ Engaging with other people can facilitate the direct sharing of ideas and enable indirect spillovers of knowledge, particularly when it is concentrated geographically, explaining why cities provide fertile ground for new ventures and technological advances.²⁰ At the same time global trade and long-distance connections enable local economies to overcome production constraints and natural endowment limitations, to support the flow of ideas²¹ and to tap into powerful forces of economies of scale and specialization. These connections

Box S2.2.1 Relational and interdependent wellbeing

By taking relationships as morally significant, relational approaches shape our way of understanding wellbeing and recognize the need for richer wellbeing tools and methods.¹ They do this by taking wellbeing as contingent on the quality of our relationships with other people and with nature. More than this, relational wellbeing acknowledges the way relationships feature within and across connected communities, including globally connected and intergenerational relationships. In so doing, relational approaches provide a starting point for confronting global, ecological and intergenerational challenges while also providing community perspectives to generate new solutions.

Relational frameworks extend the capabilities approach by highlighting how an individual's wellbeing is constituted through the interplay of personal, social and environmental processes.² Relationships become critical for living well—as means to or constraints on flourishing. Taking individuals as parts of a diverse network of social, cultural, ecological and intergenerational connections, relationships are understood as not just means to living well but vital for our identities too.

The wellbeing of humans, as relational subjects,³ is not merely bound up with others, but informed by our vulnerabilities, social needs and environmental dependency. By recognizing that our wellbeing is intimately bound up with the health of the natural environment, we can come to understand how climate change affects not only our physical health but also our mental health, social cohesion and cultural identity.⁴

Such approaches can be found in Indigenous communities worldwide. Relationships often provide a vastly inclusive and multidimensional way of grounding and structuring the conceptual framework and territory for Indigenous philosophies to take shape and evolve. Indigenous communities enact relationality under stewardship notions, such as *kaitiakitanga* in New Zealand,⁵ *sumac kawsay* and *allin kawsay* in South America,⁶ *Aloha* and *Mālama 'Āina* in Hawai'i⁷ and *Mabu liyan* (and other notions that incorporate caring for country for Aboriginal and Torres Strait Islanders) in Australia.⁸ For many Indigenous communities these relationships are so profound that their loss may present existential threats to their way of life (chapter 1). In Jonathan Lear's *Radical Hope*, Crow Tribe Chief Plenty Coups describes a sense of loss, identity and purpose felt across Indigenous groups in the face of disappearing landscapes and biodiversity: "When the buffalo went away, the hearts of my people fell to the ground, and they could not lift them up again. After this nothing happened."⁹

Relationality is found in various feminist approaches across and between communities and disciplines,¹⁰ in health and ecological system thinking¹¹ and in local communities themselves too. By emphasizing the interconnectedness and interdependence of human beings across borders and boundaries, these approaches provide different perspectives and innovations. They also foster a sense of global solidarity and help us cope with the uncertainty and complexity of a changing world by fostering adaptability through learning, social support and relationship building.

Notes

1. This box greatly benefited from the contributions of Krushil Watene. 2. White and Jha 2023. 3. White and Jha 2023. 4. Allen and others 2023; Grix and Watene 2022. 5. Grix and Watene 2022. 6. Watene and Merino 2018. 7. Ingersoll 2016. 8. Yap and Yu 2019. 9. Lear 2006, p. 3 10. Murdoch 2018; Teaiwa 2021; Underhill-Sem 2011; Yap and Watene 2024; Whyte 2016. 11. Jones 2019; Matheson 2022; Matheson and others 2020.

also foster learning, innovation and knowledge transfers that can enable companies and places to up-skill and increase productivity and income.²²

Harnessing global cross-border connections and leaning into cooperative capacities have brought a lot of prosperity. Global cross-border flows expanded economic opportunities and productivity growth, with unprecedented increases in living standards for millions of people.²³ International migration has contributed to cross-cultural connections,²⁴ enriching the world's art, musical and cultural landscape.²⁵ Knowledge exchanges and international scientific collaborations have driven critical breakthroughs and advances in human health. For example, the discovery

of the human immunodeficiency virus (HIV) and its treatments,²⁶ the recent development of Covid-19 vaccines²⁷ and the mapping of the human genome—all relied heavily on cross-border collaboration.²⁸

To continue harnessing the benefits of interdependence, we need to manage interdependence better and to find ways of doing it without reverting exclusively to barriers at national borders. Even though they may be justified in some cases to manage the risks of hyperglobalization, they will not suffice to deal with the ways in which global interdependence is being reshaped by humans' planetary pressures and the digital transformations under way. Furthermore, the inward-looking and protectionist actions advocated by many supporting or

leading populist positions are also costly²⁹—and potentially dangerous (spotlight 2.1). Trade fragmentation can increase price volatility and heighten uncertainty in global markets.³⁰ Low-income economies, highly dependent on international commodity trade, may incur the largest welfare losses with the fragmentation of global markets.³¹ But even large high-income economies and regions are susceptible to welfare losses under different geoeconomic fragmentation scenarios.³² In contrast, place-based policies that complement, rather than replace, international cooperation can spur economic development and support firms and regions in harnessing the benefits of global interdependence.³³ This might entail shifting local and regional economic development policy approaches from a logic of up-scaling of primary goods to manufacturing to service exports, to investing in skills that allow for moving from low- to high-value added activities within global value chains.³⁴

Going forward, the Anthropocene reality of a changing planet, in combination with large-scale economic transformations and technological innovation, will reshape and propel new patterns of interdependence. In this sense our choice is not between global interdependence and complete national self-reliance. It is between continuing business as usual or taking seriously the challenge of building systems and institutions that are resilient and adaptable to an evolving context.

The globalization of discontent calls for shifting the approach to managing global interdependence. Reduced global exchange and cooperation in favour of isolated nationalism are unlikely to help us face the challenges that arise from the current drivers of interdependence. But neither is unregulated globalization or hoping for a pure technological solution to challenges that span borders.³⁵ In a globally interdependent world we need to identify and pursue our shared problems and how to address them (chapter 3).

NOTES

1. Diverse knowledge traditions and philosophical schools of thought emphasize the relational aspect of humans. For example, the South African concept of Ubuntu—"I am because we are"—highlights the importance of community in defining the individual (Chowdhury and others 2021). Confucian ethics stresses the importance of fulfilling one's roles and responsibilities in relation to others (Shun and Wong 2004). In western philosophy Aristotle, for example, argued that that humans are political animals whose ability to cooperate through speech and reason is a defining feature (Arnhart 1994) Much later, feminist scholars have stressed the importance of relational and reproductive work to maintain the conditions of human life, such as caring for infants (see, among others, the work of Nancy Folbre, including Folbre 2008, 2012; Folbre and Bittman 2004; and the work of Julie A. Nelson, including Ferber and Nelson 2009).
2. Settersten 2018.
3. Hoff and Stiglitz 2016.
4. Tabassum and Nayak 2021.
5. UNDP 2020b.
6. Fleurbaey, Kanbur and Viney 2021.
7. Jeong and others 2021.
8. In Gertler and others (2021) a home-based intervention that improved both nutrition and the quality of mother-child interactions (to foster cognitive, language and psycho-social skills) led to approximately 40 percent higher earnings at age 31 among the children who had received the interventions, compared with a control group.
9. Fleurbaey, Kanbur and Viney 2021, p. 18.
10. UNDP 2019.
11. Fleurbaey, Kanbur and Viney 2021.
12. Fleurbaey, Kanbur and Viney 2021.
13. UNDP 2020b.
14. Henrich and Muthukrishna 2021.
15. Henrich 2023; Henrich and Muthukrishna 2021; Henrich and others 2016; Tomasello and others 2012.
16. Henrich and Muthukrishna 2021.
17. Henrich 2023; Henrich and Muthukrishna 2021.
18. Henrich 2023, p. 407.
19. Romer 1994.
20. Bettencourt and others 2007; Fujita, Krugman and Venables 2001.
21. The Ricardo and Heckscher–Ohlin models provide the foundations of the international effects on income; see, for example, Leamer (1995).
22. Crescenzi and Harman 2023. See also Stiglitz (2007) and Stiglitz and Greenwald (2014), as well as Grossman and Helpman (1991), Hoekman, Maskus and Saggi (2005) and Sturgeon (2008).
23. Bartley Johns and others 2015; Dollar and Kraay 2004; Winters, McCulloch and McKay 2004.
24. Leblang and Peters 2022.
25. Martiniello 2022.
26. National Academy of Medicine 2022; Schwetz and Fauci 2019.
27. Lee and Haupt 2021; UNESCO 2023.
28. International Human Genome Sequencing Consortium 2004; Maxson Jones, Ankeny and Cook-Deegan 2018.
29. Funke, Schularick and Trebesch 2023.
30. Alvarez and others 2023.
31. Bolhuis, Chen and Kett 2023.
32. Baba and others 2023.
33. Goldberg 2023.
34. Crescenzi and Harman 2023.
35. As seen in chapters 3, 5, and 6, in many cases technologies such as low-carbon energy sources already exist and could be scaled, but polarization and distrust can put up barriers to action.