



**FINANCE AND DEVELOPMENT**

**JUNE 2023**

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# TRADE, DISRUPTED





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## Trade in Turmoil

**"GLOBALIZATION IS A FACT** of life. But I believe we have underestimated its fragility," United Nations Secretary-General Kofi Annan told the World Economic Forum almost a quarter century ago. Today, the fragility of the liberal international trading system that has underpinned peace and prosperity since the


end of the Cold War is all too evident.

Some policymakers, viewing globalization as a threat to domestic industries and national security, seek to reduce their reliance on precarious global supply chains. Even countries that once championed free trade are turning inward to isolate from rivals and secure strategic supplies of everything from computer chips to rare earths.

In this issue, we focus on the forces disrupting the established international trade order, such as Russia's war on Ukraine and geopolitical fragmentation. We also look at how global trade is being reshaped by technology and policy priorities, such as climate change and equality.

Mounting disillusionment with globalization has consequences. Yale's Pinelopi Goldberg concludes that protectionism would make the world less resilient and more conflict-prone. Dartmouth's Doug Irwin says history shows industrial policies and subsidies could leave countries worse off. Growing global tensions, notes the IMF's Michele Ruta, may push regional trade alliances toward less integration and more discrimination. And smaller economies may be sidelined as the world fragments into rival trading blocs. Some will find it advantageous to remain nonaligned, says Oxford's Ngaire Woods.

But the IMF's Kristalina Georgieva and the World Trade Organization's Ngozi Okonjo-Iweala appeal to countries to keep faith in trade as a transformative force that has lifted many millions out of poverty and call for a strengthening of multilateral institutions. Other contributors advocate for a new political consensus to resolve competing demands on the global trading system, taking into account structural changes in the global economy.

Reinforcing the trading system to safeguard its benefits and prevent losses is important. In the new world of trade, as Georgieva and Okonjo-Iweala note, "we cannot afford to stand still." 

**GITA BHATT**, editor-in-chief



### ON THE COVER

Ukrainian artist Nataliia Shulga's cover sets the tone for our June 2023 edition on trade, symbolizing the near halt in international integration and the embrace by some countries of protectionist or nationalist policies.



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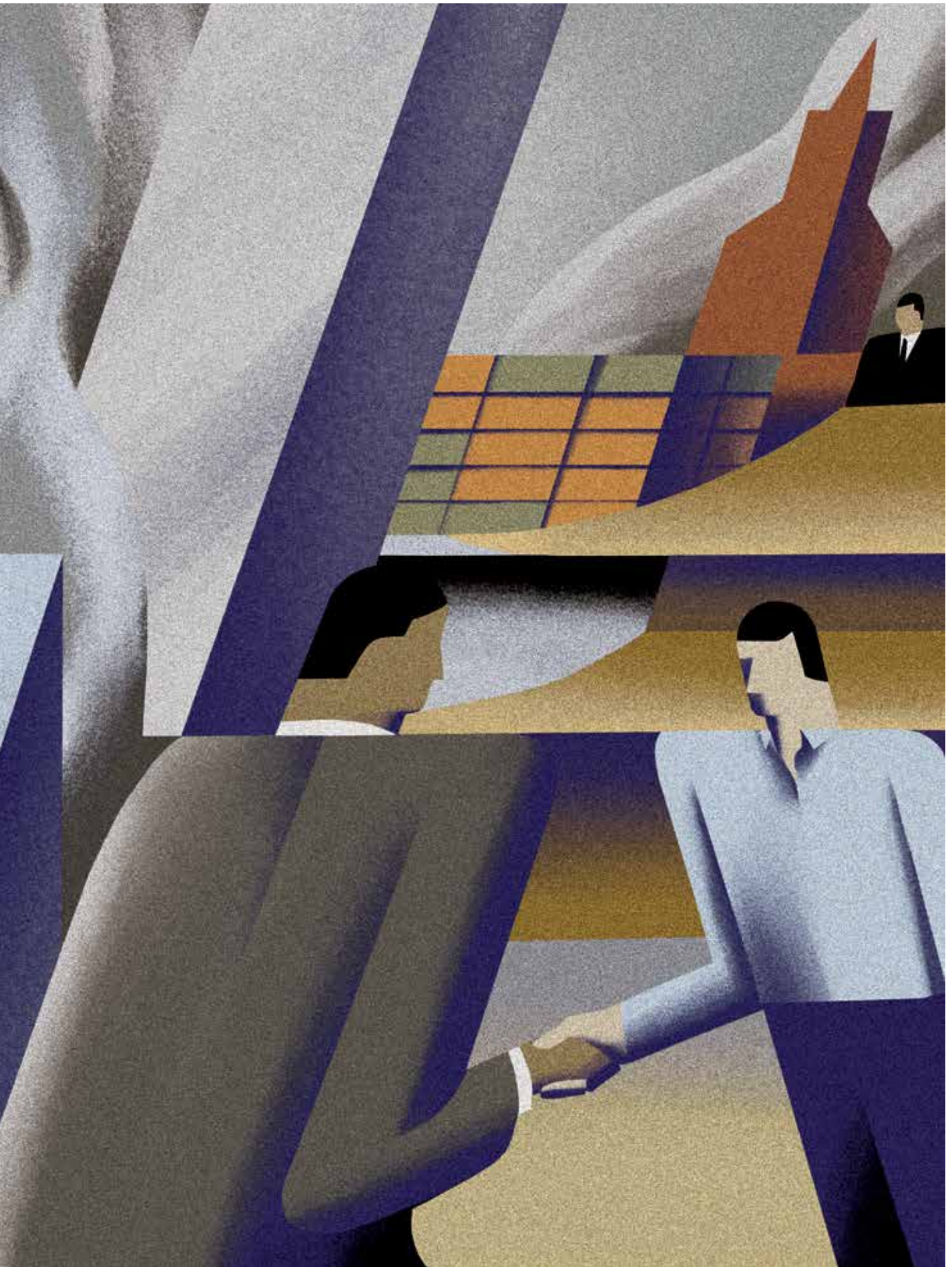
An abstract illustration featuring stylized human figures in a meeting. The figures are rendered in dark, solid colors (black, dark blue, olive green) against a background of various geometric shapes and patterns, including a checkered floor and vertical stripes. The overall style is modern and graphic.

# GROWING THREATS TO GLOBAL TRADE

Pinelopi K. Goldberg and Tristan Reed

Protectionism could make the world less resilient, more unequal, and more conflict-prone







**F**our years ago, one of us wrote an article on the future of trade for the June 2019 issue of this magazine, celebrating the 75th anniversary of Bretton Woods. The message was that there was no strong evidence of a retreat from globalization, but international trade and the multilateral system that underpinned it were under attack, and their future would depend on policy choices. Since then, policymakers in some of the world's largest economies have made choices to halt further international integration and, in several instances, to embrace protectionist or nationalist policies.

Today, there is still no conclusive evidence that international trade is deglobalizing. When measured in US dollars, global trade growth slowed after the global financial crisis in 2008–09 and declined sharply at the onset of the pandemic in 2020. But since then trade has rebounded to the highest value ever. As a share of GDP, global trade has fallen modestly, driven mostly by China—which for years has pursued a “dual circulation” strategy of prioritizing domestic consumption while remaining open to international trade and investment—and India (see figure). This reflects the end of an extraordinary export boom both countries experienced in previous decades as well as fewer imports of intermediate goods than in the past. Yet, as a share of GDP, imports of intermediates by the rest of the world are still growing. The same is true of exports.

American and Chinese tariffs introduced in 2018 did not reduce trade. They curbed trade between the US and China, as expected. But trade in the products most affected by tariffs grew among the rest of the world. In other words, trade was merely reallocated, not reduced. And the tariff war did not stop other countries—such as members of the African Union, the Association of Southeast Asian Nations, and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership—from pursuing regional or plurilateral trade agreements.

The COVID-19 pandemic led many countries to temporarily restrict exports of medicines, and some halted shipments of wheat and other foods as prices spiked following Russia's invasion of Ukraine. But many governments are still aggressively pursuing economic integration, for instance through deals that make it easier for professionals to work in foreign countries or that facilitate the flow of consumer goods through common safety standards.

Trade may, of course, respond with a delay to changes in the policy environment. And policy itself may lag changes in public sentiment. Terms such as “national security” and “reshoring” have shown up more frequently in news articles and research papers. Perhaps most telling are recent polls of economists by the University of Chicago's Booth School of Business. In March 2018, 100 percent of those surveyed were against the initial US tariffs. Yet in January 2022, respondents were skeptical about global supply chains: only 2 out of 44 economists disagreed with the statement that reliance on foreign inputs had made American industries vulnerable to disruptions.

There has been a clear change in policy and public attitude toward global trade. How did we get here? What role have different factors played? And what could come next?

## **Hyperglobalization**

The era of “hyperglobalization” that took shape from the 1990s onward was associated with great economic achievement. Extreme poverty as defined by the World Bank was dramatically reduced and expected to be eliminated in all but a small number of institutionally fragile countries, partly thanks to dramatic growth in East Asian countries. Standards of living, as measured by income per capita, increased across the world.

Consumers in economies open to trade gained access to an extraordinary variety of goods sourced from all over the planet at affordable prices. Smartphones, computers, and other electronics allowed people to be more productive and to enjoy more varied entertainment than previous generations had ever dreamed. Declining prices of air travel allowed people to visit other countries, exposing them to new cultures and ideas—an experience once reserved for the ultrawealthy.

While many factors contributed to this rise in living standards, openness and other market-oriented policies played an essential role. Trade with (at the time) low-wage countries influenced goods prices and wages in advanced economies, benefiting consumers in these countries and workers in exporting economies. Inflation remained surprisingly low—despite quantitative easing and increasing debt in the US.

Finally, the Western world enjoyed a historically rare long period of peace that fostered prosperity. The tight global interconnectedness achieved by

## There has been a clear change in policy and public attitude toward global trade. How did we get here? What role have different factors played? And what could come next?

the end of the 20th century was arguably a major contributing factor by giving everyone an incentive to behave. War in this hyperglobalized era meant disruption of global supply chains, with potentially dire consequences for the world economy—as we are in the process of finding out.

Yet beneath the surface, tensions were building that led to a backlash against globalization. We chart three phases of this deglobalization movement. The first phase began around 2015 as anxiety about globalization and competition from low-wage countries gave rise to Brexit, US tariffs, China’s retaliation, and a resurgence of extremist views in Europe.

### Global backlash

While the average person in the world was better off at the end of the 2010s, many workers in advanced economies were feeling left behind, doing worse than their parents. There is substantial economic research documenting these distributional effects, which had a distinct geographic component: communities more exposed to import competition from low-wage countries thanks to preexisting spatial industrialization patterns did worse than communities that were sheltered from imports.

This, in turn, had important political consequences in the US and the UK. At the same time, globalization created big winners: multinational “superstar” firms that benefited from the hyper-specialization of global value chains, in the form of lower costs and higher profits, as well as a class of highly compensated individuals who reaped the rewards associated with expanding markets and new economic opportunities. Not only were some left behind; others were racing ahead.

It took time for mainstream economists to acknowledge these effects. But in many ways the effects were nothing new: they reflected the usual tension between overall welfare and distributional conflict generated by trade. However, the speed and intensity of these changes gave this tension a new dimension. Similarly, there was nothing fundamentally new about economists’

recommendations: most rejected protectionism as a solution and endorsed some form of redistribution from winners to losers.

At the same time, Western governments were becoming increasingly concerned that competition with China was “unfair,” given its use of subsidies as well as restrictions imposed on companies seeking access to its market. This spurred demands for more confrontational policies toward China, especially because it was no longer a poor developing economy.

Of course, there had been backlash against global trade before, notably at the 1999 Seattle protests. But these movements did not influence policy. There was little reason to believe that the backlash against globalization between 2015 and 2018 would have permanent consequences for the future of globalization either. After all, the world was too interconnected to revert to the old regime.

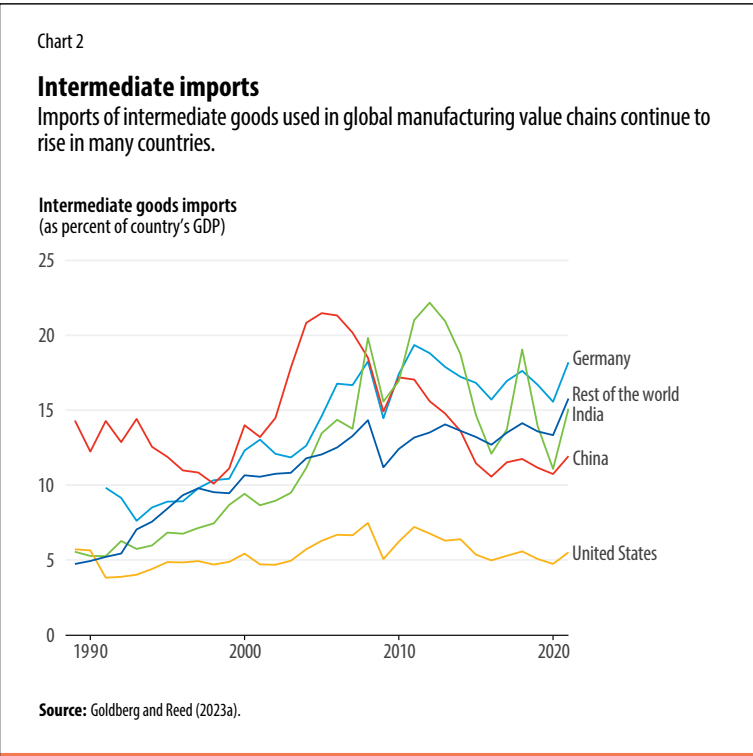
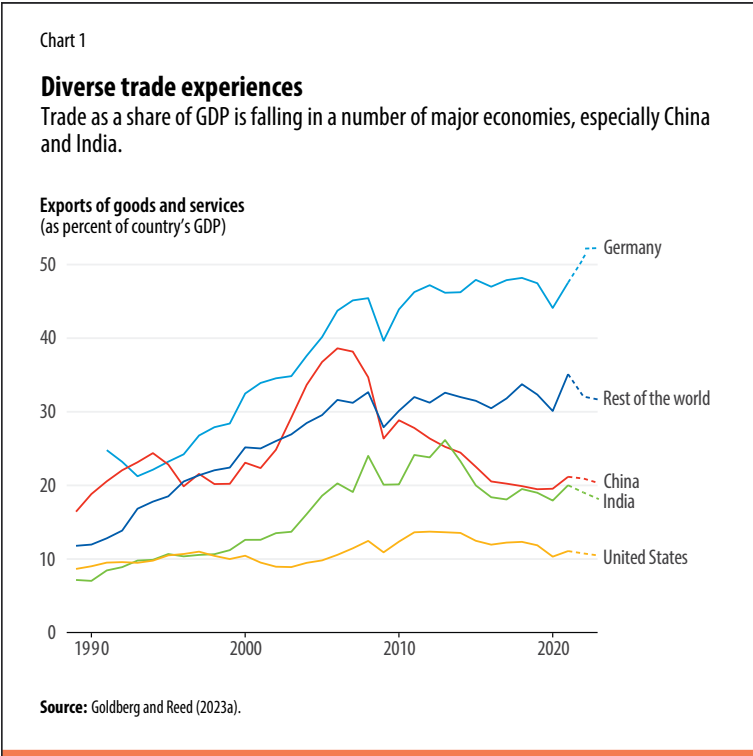
### Pandemic pressures

The second phase of the deglobalization movement began with calls for resilience at the onset of the pandemic in 2020. But what is resilience? There is no clear benchmark. Defining and measuring resilience depend on the nature of the shock. COVID, for example, was both a supply shock—with key international suppliers facing lockdowns at different times, slowing deliveries—and a demand shock, as demand for medical goods and durable goods like cars and second homes grew rapidly.

During COVID, short-term delivery delays and shortages due to the disruption of international trade were widely described as a crisis. But much of this was blown out of proportion, and in fact markets proved extremely resilient (Goldberg and Reed 2023a). The US, for instance, imports medical goods and supplies from a diverse group of countries. The one exception is face masks. But in 2020 shipments of face masks from China arrived within months, and this meant that shortages were completely alleviated.

Such examples show that international trade increased resilience. Along the same lines, the US actually preserved trade relationships; importers





traded with foreign partners more regularly and sought out new suppliers, even though overall trade volume fell. Other papers show, based on quantitative model simulations, that international trade makes economies more diversified and hence more resilient (Caselli and others 2020; Bonadio and others 2021). The intuition is that supply shocks are less correlated across economies than within them and that access to multiple suppliers makes it easier to respond to country-specific shocks.

Overall, arguments against trade that emphasize the fragility of supply chains are not consistent with evidence. These arguments were used to stoke the protectionist sentiment that had originated in the first phase, but ultimately the initial effects were not enduring. Trade grew fast in 2021 as the world turned a corner in management of the pandemic.

**Geopolitical pressures**

The third phase began with Russia's invasion of Ukraine in February 2022. For the public, this highlighted new risks from international specialization. As Russia cut gas supplies to Europeans and energy prices skyrocketed, the pitfalls of reliance on a single country for imports of a critical input became clear. The concerns were not intrinsically about Russia. But by extrapolation, countries began to wonder what would happen if they had to decouple from China overnight. Policymakers concluded, if they had not already, that it would be better to decouple immediately on their own terms.

Around the same time, a new mindset was widely adopted—namely, that international welfare is a zero-sum game. The United States imposed a ban on exports to China of advanced logic and memory chips and the machinery to produce them. Semiconductor technologies certainly do have military applications, and the export bans could set back China's military. But the technologies have many more applications in the civilian sector, and so these bans also retard civilian technological development. The world shifted from one in which trade, competition, and innovation in all countries were encouraged to one in which the most advanced economy sought not just to compete but to foreclose.

At this point any forecasts are highly speculative, since, as before, outcomes will be highly dependent on policy choices. One possibility is that this is as far as the deglobalization movement goes; interventions to foreclose technology access

## Another possibility is that the world will end up fragmented in rival camps and that a new cold war will unfold, this time between the US and China.

will be limited to products with a credible dual use, while trade in other products will continue to flourish. But another possibility is that the world will end up fragmented in rival camps and that a new cold war will unfold, this time between the US and China (and their respective allies). The consequences of the latter scenario could be severe.

### New cold war

Many models of long-term growth emphasize the role of population size in research and development. The world's largest and most populous economies are expected to have new ideas and develop absolute advantages, as evidenced by their leading market positions in a variety of products. If scientific collaboration between China and the US breaks down, the world could have fewer solutions to the next pandemic and endemic diseases.

More generally, separating from “non-friendly” partners means removing potential low-cost suppliers. When it comes to decarbonization, for instance, the cost of solar panels is substantially higher in the West than in China, and industry estimates suggest that tariffs have slowed installation. Addressing climate change is urgent. Every year lost results in more damage and substantially larger mitigation costs.

Is this the price of greater resilience? Restricting global trade is unlikely to lead to resilience. As we argued earlier, resilience cannot be evaluated without reference to specific shocks. Trade exclusively with “friendly” countries may imply greater resilience to geopolitical risks—at least in the near term—but the concept of friendship is itself subject to constant change. It may, however, lead to less resilience to other types of shocks, such as the recent health shock.

Within countries, inequality could increase. Greater trade barriers lead to higher prices, which mean lower real wages. Globalization may have contributed to more spatial inequality, but protectionism is not the cure: it will likely make

the problem worse. Across countries, there is a risk of increased global inequality. Geoeconomic fragmentation could lead to more trade between high-income economies that are “friends.” Increasing emphasis on environmental and labor standards in trade agreements would raise entry barriers for very poor countries that find it difficult to meet these requirements. Without access to lucrative foreign markets, there is no clear path for poverty reduction and development in such economies (Goldberg and Reed 2022).

But the greatest risk may be to peace. Cold wars have often led to hot wars. During the interwar period in the 1930s there was a dramatic shift away from multilateral trade toward trade within empires or informal spheres of influence. Historians have argued that this shift exacerbated tensions between countries ahead of World War II. We can only hope that the coming years will not be a replay of this pre-belligerence era. **FD**

*A more detailed discussion of this topic can be found in our paper published in the March 2023 Brookings Papers on Economic Activity (“Is the Global Economy Deglobalizing? And if So, Why? And What Is Next?”).*

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# WORLD TRADE CAN STILL DRIVE PROSPERITY

*But the international architecture must adapt to a fast-changing world*

**Kristalina Georgieva and Ngozi Okonjo-Iweala**

**R**ising from the ashes of three disastrous decades of deglobalization, extremism, and world war, our two institutions were built on the idea that thriving international trade goes hand in hand with global prosperity and stability. On balance, the post–World War II record has been impressive. Today fewer than 1 in 10 of the world’s people are poor, a fourfold reduction since 1990, as low- and middle-income countries have doubled their share of global trade. Pivotal to this leap in global income is a twentyfold increase in international trade since 1960.

Yet the tide is turning against economic interdependence and international trade. Trade restrictions and subsidies increased after the global financial crisis, and tensions escalated further as governments responded to the pandemic and Russia’s war in Ukraine by scrambling to secure strategic supply chains and rushing into trade-distorting policies. Taken too far, these measures may open the door to alliance-oriented policies that reduce economic efficiency and fragment the global trading system. They could backfire if short supply chains end up more vulnerable to localized shocks. Foreign direct investment is already increasingly concentrated among geopolitically aligned countries.

Should we abandon the idea of trade as a transformative force for good? Our answer is a resounding “No!” Despite all the talk, trade has continued to deliver even during recent crises. It has great potential to keep contributing to higher living standards and greater economic opportunities for decades to come.

There are at least three reasons international trade is crucial for global prosperity. First, it increases

productivity by expanding the international division of labor. Second, it enables export-led economic growth by providing access to foreign markets. And third, it bolsters economic security by giving firms and households valuable outside options when negative shocks hit.

During the pandemic, trade and supply chains became vital to ramping up production and distribution of medical supplies, including vaccines. The power of international trade as a source of resilience has become evident again during the war in Ukraine. Deep and diversified international markets for grain enabled economies traditionally reliant on imports from Ukraine and Russia to make up shortfalls. Ethiopia, for example, lost all its wheat imports from Ukraine but now sources 20 percent of its wheat shipments from Argentina—a country from which it had not imported any wheat before.

## **Fragmentation’s costs**

In this context, fragmentation could be costly for the global economy. A scenario in which the world divides into two separate trading blocs could lead to a 5 percent drop in global GDP, World Trade Organization (WTO) research shows. The IMF, meanwhile, reckons global losses from trade fragmentation could range from 0.2 to 7 percent of GDP. The costs may be higher when accounting for technological decoupling. Emerging market economies and low-income countries would be most at risk due to the loss of knowledge transfer.

Reinforcing the trading system to safeguard the benefits and prevent losses is important. But there is also an exciting forward-looking trade policy agenda that responds to the future of international trade, which we envision to be inclusive, green, and increasingly digitally and services driven.

Trade has done a lot to reduce poverty and inequality between countries. Yet we must acknowledge that it has left too many people behind—people in rich countries have been hurt

by import competition, and people in poor countries have been unable to tap into global value chains and are often on the front line of environmental degradation and conflict over resources. As we told Group of Twenty officials in a joint paper our institutions wrote with the World Bank, it need not be this way. With the right domestic policies, countries can benefit from free trade's great opportunities and lift those that have been left behind.

Addressing these underlying causes of discontent would solve people's problems more effectively than the trade interventions we see today. Well-designed social safety nets, greater investment in training, and policies in areas like credit, housing, and infrastructure that help, not hinder, workers to move across industries, occupations, and companies could all play a part.

The current push toward more diversified supply chains presents great opportunities for countries and communities that have struggled to integrate into global value chains: bringing more of them into production networks—what we call “re-globalization”—would be good for supply resilience, growth, and development.

Many of today's most pressing global problems will not be solved without international trade. We cannot overcome the climate crisis and get to net zero greenhouse gas emissions without trade. We need trade to get low-carbon technology and services to everywhere they are needed. Open and predictable trade lowers the cost of decarbonization by expanding market size, enabling scale economies, and learning by doing.

To provide one example, the price of solar power has fallen by almost 90 percent since 2010. Forty percent of this decline has come from scale economies made possible partly by trade and cross-border value chains, the WTO has estimated.

### Cooperation's possibilities

By updating global trade rules, governments can help trade thrive in new areas that would expand opportunities, for emerging market economies especially. Even as goods trade stalls, trade in services continues to expand rapidly. Global exports of digital services such as consulting delivered by video calls reached \$3.8 trillion in 2022, or 54 percent of total services exports.

Some efforts are already underway. A group of nearly 90 WTO members, including China, the EU, and the US, are currently negotiating basic rules on digital trade. Shared rules would make trade more predictable, reduce duplication, and cut the compliance costs that typically weigh heaviest on the smallest businesses.



ART: IMF

Similarly, multilateral cooperation and common standards could speed the green transition while preventing market fragmentation and minimizing negative policy spillovers to other countries. Bringing more small and women-owned businesses into global production networks—digital and otherwise—would spread the gains from trade more broadly across societies.

Despite geopolitical tensions, meaningful cooperation on trade remains possible. We saw this last June when all WTO members came together to deliver agreements on curbing harmful fisheries subsidies, removing barriers to food aid, and enhancing access to the intellectual property behind COVID vaccines. Governments can build on those successes at the WTO's next ministerial meeting in February 2024. And recent work by our institutions points to a way to defuse tensions in sensitive areas such as subsidies through data, analysis, and common perspectives on policy design.

Navigating trade policies through the current turbulent period is challenging. But keeping trade open and looking for new opportunities for closer cooperation will be essential to build on existing gains and to help deliver solutions to climate change and other global challenges.

The IMF, WTO, and other leading international institutions have a critical role in charting a way forward that is in the collective interest. We must cooperate tirelessly to strengthen the multilateral trading system and demonstrate that our own institutions can adapt to a fast-changing world. The IMF has a mandate to support the balanced growth of international trade. The WTO remains the only forum that brings all economies together to advance trade reform. We cannot afford to stand still. **FD**

**KRISTALINA GEORGIEVA** is managing director of the International Monetary Fund. **NGOZI OKONJO-IWEALA** is director-general of the World Trade Organization.





# THE RETURN OF INDUSTRIAL POLICY

Douglas Irwin

Should developing economies follow the United States and China by building national champions?

**G**eopolitics is rapidly changing the landscape of world trade. The policy environment of just a few decades ago seems like a distant memory. During the reform period of the 1990s and 2000s, developing and transition economies opened up their markets and embraced globalization. That period saw the creation of the World Trade Organization, establishing a rules-based system of nondiscriminatory trade. It was also marked by an absence of geopolitical tensions as China focused on growth and Russia struggled with stabilization.

Now policymakers debate the future of globalization. They worry about the fragmentation of the world economy and the flouting of global trade rules. Trade interventions are on the rise, in the form of industrial policies and subsidies, import restrictions based on national security and environmental concerns, and export controls to punish geopolitical rivals and ensure domestic supply.

What should developing economies do to navigate this new environment? Should they adopt similar policies, turning inward to protect key sectors with subsidies and trade controls?

The debate about whether developing economies should step into or back from the world economy is perennial. In the 1950s, many observers were pessimistic about the export prospects of low-income countries and feared they faced ever declining terms of trade. Global economic forces were seen as exacerbating inequality and pushing developing economies further behind. Import-substitution policies were needed, it was thought, to make their economies more self-reliant and less dependent on other markets.

### Misreading history

Part of the reason for turning inward was a particular interpretation of history. The belief that richer countries were successful because they protected manufacturing gave respectability to industrial policy. That turned out to be a misreading of history. Despite high tariffs, the United States developed as an open economy—open to immigration, capital, and technology—and one with an exceptionally large domestic market that was fiercely competitive. Furthermore, the high-tariff United States overtook free-trade Britain in per capita income in the late 19th century by increasing labor productivity in the service sector, not by raising productivity in the manufacturing sector. In Western Europe, growth was related to the shifting of resources out of agriculture and

into industry and services. Trade policies designed to protect agriculture from low prices likely slowed this transition in countries such as Germany.

While across-the-board import substitution fell out of favor decades ago, the debate over industrial policy continues to this day. The experience of successful East Asian countries has given it a positive gloss, but even here standard history can mislead. In 1960, South Korea was saddled with an overvalued currency and exports of just 1 percent of GDP. The country's ability to import depended almost entirely on US aid. After devaluing its currency in the early and mid-1960s, Korea's exports became more competitive and exploded, reaching 20 percent of GDP by the early 1970s. The main policy involved setting a realistic exchange rate that allowed exports to flourish along with cheaper credit for all exporters, not targeted industries. Industrial policy did not really start until the Heavy and Chemical Industry Drive of 1973–79, which was later terminated because of its excessive costs and inefficiency. But Korea's rapid growth had already been unleashed before the industrial policy era.

The debate over industrial policy has long been locked in a stalemate. Some see it as essential to productivity growth and structural transformation, while others see it as abetting corruption and fostering inefficiency. Some point to Argentina's costly attempt to promote the assembly of electronics in Tierra del Fuego, while others point to gleaming high-tech factories in China and Korea. The effects are easy to exaggerate. Quantitative models suggest that the gains from even optimally designed industrial policies are small and unlikely to be transformative.

What is new is that the United States has joined China in an explicit embrace of industrial policies. China has been in the game at least since President Xi Jinping reasserted state control over the economy, moving away from the outward-oriented policies of Deng Xiaoping and his successors. The Made in China 2025 initiative, consisting of large subsidies to targeted industries, has given way to the idea of "dual circulation," focused on reducing external dependence by strengthening domestic sourcing by local firms, and the drive for self-sufficiency in key technologies. The United States began protecting the steel and aluminum industries, ostensibly on national security grounds, during the Trump administration. With the CHIPS Act and the Inflation Reduction Act, the US introduced





subsidies to “reshore” production of semiconductors and adopted restrictive national content regulations for electric vehicles to ensure domestic production. And the European Union has always had industrial policies, announcing in 2020 an industrial strategy to enhance its “open strategic autonomy” in the transition to a green and digital economy.

Where does this leave developing economies? Should they follow the new Washington-Beijing-Brussels Consensus of building up certain national industries through government subsidies and trade restrictions? That would be a risky strategy. The subsidies could end up being expensive, and the benefits could prove elusive. Trade restrictions risk starting a damaging inward turn to protectionism that would reduce export earnings and thereby shrink the critical imports they purchase.

Large-scale industrial subsidies seem to be a luxury that rich countries can indulge. Just because the US, China, and the EU can afford subsidies does not mean that others should follow. As Ricardo Hausmann has warned, “Copying other countries’ solutions to problems you do not have, or focusing on trendy issues that are not really important, is a recipe for inefficiency, if not disaster.” Fiscally strapped developing economies cannot afford lavish subsidies for domestic producers when fiscal balances are precarious and the payoffs uncertain. Scarce public funds may be more effectively spent on improving health and education and helping poor people rather than being directed to domestic industries.

### **Industrial subsidies, import substitution**

China illustrates how industrial subsidies can be an inefficient way of spending scarce resources. In 2006, China identified shipbuilding as a “strategic industry” and began massive production and investment subsidies, mainly through cheap loans. Evidence suggests that these policies did not produce large benefits but were wasteful (due to excess capacity) and distorted markets (forcing more efficient countries to adjust by reducing their output). China’s global market share grew at the expense of low-cost producers in Japan, South Korea, and Europe but without generating significant profits for domestic producers. The subsidies were dissipated through the entry and expansion of less efficient producers, which created excess capacity and led to increased industry fragmentation. The loans

were political in the sense that state-owned enterprises rather than more efficient private producers received the bulk of the support. The shipbuilding industry did not generate significant spillovers to the rest of the economy, and there was no evidence of industry-wide learning by doing.

### **Sacrificing trade gains**

Likewise, a turn to trade restrictions risks sacrificing some of the gains developing economies have reaped from participating in world markets. Many countries have made economic progress in recent decades by engaging with the global economy rather than closing markets in the hope of spurring indigenous innovation. China did not get rich through industrial policy but by improving productivity in agriculture, allowing foreign investment in manufacturing, and unleashing the private sector. India’s 1991 reforms to dismantle the “License Raj” of red tape that stifled private enterprise and open the economy continues to propel growth, although more reforms are needed. Bangladesh has also reaped benefits from opening up to foreign investment, which brings in capital and technology, so much so that the country now has a higher per capita income than India. Other countries, too, from Ethiopia to Vietnam, have achieved more from economic engagement than from economic isolation, because they benefit from technology and investment from the rest of the world.

While it has become fashionable to disparage the neoliberal economic policies of the Washington Consensus, the openness of that reform period saw convergence—not the divergence that had been the historical norm—between the rich and poor countries around the world. Starting around 1990, developing economies began to grow more rapidly and catch up to the higher income levels enjoyed by advanced economies.

The recent debate about whether globalization is dead or not is sterile. Globalization is not dead but changing. Developing economies would be ill-advised to turn their backs on the global economy and give up the idea of supporting exports and acquiring technology from beyond their borders. They still have much to gain from the rest of the world and a lot to lose by returning to the closed-door policies of the past. **FD**

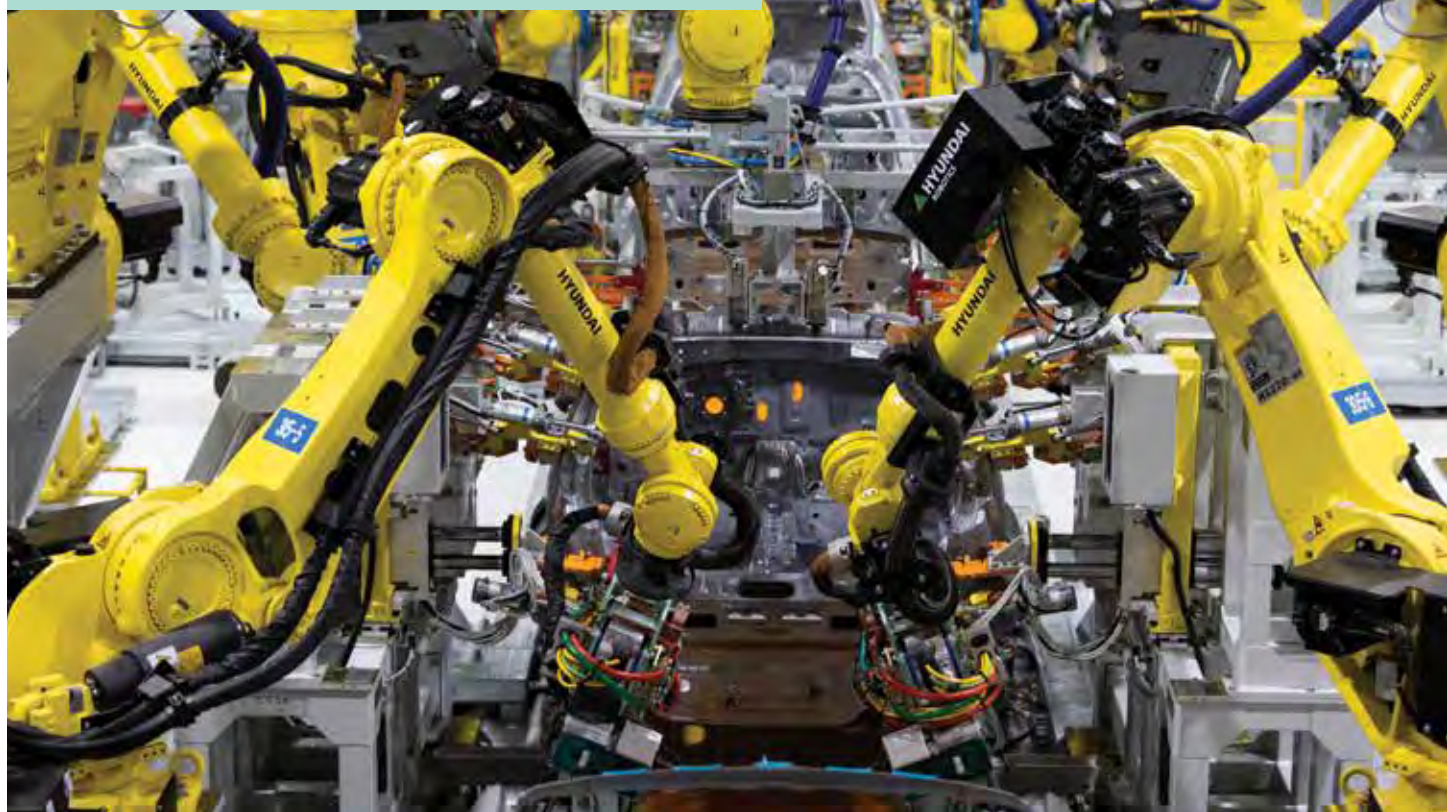
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# INTERSECTING PATHS

Advances in technology affect trade and vice versa

Caroline Freund



**T**echnological change is exciting and scary, empowering us to do more with less work while fueling fears of being replaced. Although it drives economic growth and progress, those who fall behind risk losing their livelihoods.

International trade has a similar impact but generates even greater anxiety. That's because its benefits are less obvious to people than the gains from innovation, and the domestic workers dealt setbacks by trade associate their losses directly with gains for foreign workers.

When technological change and international trade combine, the impact can be especially potent. The combination accelerates innovation, technology adoption, and economic growth. However, it can also become a polarizing force, both within and between countries.

Geopolitics tends to further intensify emotions. As countries jostle for position on the technological frontier, trade emerges as a vital conduit for the transfer of these game-changing innovations. International commerce accelerates global growth as technology spreads, but it also





carries the risk of sharing trade secrets with foreign adversaries.

All these pressures influence policy choices. The effects on workers from trade and technology have historically led to calls for protection, though strengthening the social safety net and helping workers find new jobs are a better long-term strategy than trade barriers. International security threats are being met with calls for industrial policies and export controls, though these may backfire if they distort domestic resource allocation while stimulating investment in strategic products abroad.

In a world that is fragmenting and where technological diffusion is slowing, governments face new policy challenges to stimulate trade, innovation, and growth. Though innovators may aim to “move fast and break things,” policymakers still must protect existing institutions and maintain predictability for investors.

### **Technology, trade, development**

Technological advances can give rise to new goods, such as electric vehicles; new processes like automation and 3D printing; and new modes of transportation, such as containerization and instant data transmission over the internet. All affect trade and tend to promote development.

The emergence of new goods, such as smartphones and flat-screen TVs, allows innovating countries to displace producers of obsolete goods, in this case flip phones and bulky cathode-ray tube TVs. Overall trade tends to increase as the new goods spur greater demand.

The adoption of new processes can increase production efficiency, which in turn reduces real prices and drives a surge in production and exports from the innovating countries. A concern for developing economies, which tend to specialize in simple stages of production that may be automated, is that demand for their exports will fall. However, research suggests that the scale effects of automation typically result in a greater need for imported parts, even if some of them eventually are domestically produced. In automobile production, for instance, robotization in advanced economies has coincided with an increase in imported parts and components from low-income countries.

Like technological advances in transportation, telecommunications innovation has also played a crucial role in facilitating trade. The internet, for example, enables businesses to find new

suppliers and partners located far away. It has also opened up new areas of trade, particularly in digital services.

Trade also influences technological change by creating a larger market with more intense competition. Frontier firms with access to the global market can expand their profits and invest in research and development, leading to more rapid innovation. At the same time, competition from other global leaders gives firms an incentive to remain at the forefront of technological advancement.

The overall effect of trade and technology on development is positive, because new technologies improve productivity and expand trade. Trade also enables new technologies to spread more rapidly around the world, further promoting growth.

However, there are winners and losers from both technological advancement and trade, with those locked into outdated technologies falling behind. As a result, some countries may see certain industries decline, requiring support for workers who lose jobs as technology and trade continue to spread. Similarly, countries that are largely excluded from global markets, because of politics, geography, or infrastructure, will lag further behind the global frontier.

### **The political response**

Historically, trade barriers have often been used to protect industries that are losing competitiveness to foreign counterparts. For instance, in the 1970s and 1980s, technological advancement in Japan led to cheaper and better cars and semiconductors, which prompted the US to manage trade by restricting imports and promoting exports. Intellectual property protection has also been sought primarily by rich countries to protect their companies’ proprietary technologies and profits, rather than to protect national security.

However, in recent years, export controls on scarce materials used in high-tech products, the machines to make them, and even the high-tech goods themselves have become a powerful tool designed to slow technological advancement in foreign countries. These government interventions depress global growth and innovation by design, as trade and the transmission of technology slow down. Reduced exports of high-tech products also mean slower profit growth and less money for high-tech industries to invest in research and development.

New trade restrictions can, moreover, be particularly detrimental to environmental goods and green innovation. The shift to renewables will be quicker if innovation is global and prices fall rapidly. Greater access at lower prices to products such as solar panels and batteries will mean less coal, gas, and oil will be burned.

## The way forward

Solving the problem of people left behind because of trade and advances in technology requires a stronger social safety net. Although redistribution policies have often been insufficient to combat the changes that come with economic transformation, there is a clear policy prescription: governments can continue to promote trade and technology and can use the proceeds to support the people and places negatively affected by the changes. Unemployment insurance and retraining programs are critical to keeping trade open and free.

The more complex question going forward is how to leverage trade and technology to address the existential threats we face today, without risking domestic security. From surviving pandemics and natural disasters to adapting to and slowing climate change, innovation to find solutions and international trade and cooperation to share those solutions are arguably the most important tools in mitigation. But they carry security risks.

Consider how trade and technology have shaped recent experiences: COVID vaccines were developed and released worldwide (albeit unevenly) in record time, benefiting from global partnerships in research and production. Semiconductors, the foundation of all electronic devices and machines, are designed largely in the US and produced mostly in Asia. Electric vehicle batteries can't be produced without cobalt, lithium, and nickel—minerals sourced primarily from Africa and South America.

Unfortunately, geopolitics is shaping the creation and spread of new technologies, with serious consequences for development and climate action. The United States has tariffs on most imports from China and regulates a growing share of exports; China has responded in kind. These tariffs are slowing growth in the two largest global economic engines and hurting global innovation.

The danger of overreach is real, with serious consequences for trade and growth. Rather than taking a broad-brush approach, growth and innovation

would benefit from government protection only of products threatened by technology, along with continued expansion and deeper integration with trusted partners.

There is also a danger that policies will backfire. For example, export controls on advanced chips and the tools to produce them could cause the US to lose its formidable edge in design as a result of smaller market share and shifting incentives abroad. If that happens, the policy may ultimately lead to bigger security risks.

The question other countries need to ask is what to do to avoid being caught in the middle of US-China conflict. Fortunately, despite the security risks, most tenets of standard economics still hold. Countries that encourage business entry and expansion with a good investment climate, sound infrastructure, and access to finance will remain at the forefront of innovation. Open trade and predictable policies will continue to push resources into their most productive uses. As some production relocates away from China, countries that adhere to such policies stand to benefit.

All countries must avoid being lured by the false attraction of widespread state intervention. China's remarkable economic growth over the past 30 years was driven by reforms that stimulated private industry, and growth is now slowing. The private sector in China has been underestimated for many decades, but now the public sector's ability to steer growth is being overestimated. Rather than protectionism and industrial policies, maintaining predictability, a rules-based system, trade openness, and access to capital are what will keep countries headed in the right direction.

Perhaps the biggest danger of the current trend toward protectionism and industrial policy is that such practices are highly contagious. History has shown repeatedly that tariffs lead to retaliation, breeding ever more tariffs. Similarly, government support for a particular firm or an industry puts foreign competitors at a disadvantage, leading them to lobby for similar support. A world where protectionism and subsidies spiral out of control would be a huge step backward on the path to raising global incomes and solving pressing challenges. [FD](#)

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# THE CHALLENGE OF EXPORT CONTROLS

Developing economies will need help navigating the growing number of sanctions and export controls

**Chad P. Bown**

**T**he World Trade Organization (WTO) is struggling to define its role in a fast-shifting geopolitical climate. The multilateral system is now wading through the implications of both trade wars and real wars. The WTO will be fortunate if it can help countries maintain the status quo, let alone facilitate additional trade liberalization anytime soon.



The resurgence of export restrictions—bans, controls, and sanctions—is one particularly concerning area for the rules-based trading system. Headline-grabbing policies are popping up in a variety of novel contexts. Such policies sometimes push trading partners to respond with additional actions—often in conflict with other WTO rules—to protect themselves from being exposed to future restrictions. This risks a downward spiral.

The WTO should continue to encourage members to limit their use of export restrictions and to keep them targeted and temporary when sales limits must be implemented. But the WTO also needs to push into new and uncomfortable areas and do more, especially to protect the most vulnerable countries in the trading system.

### Examples abound

Export restrictions are not new. The worry is that they may be increasing in severity. Arising from a variety of triggers, a few examples illustrate the numerous challenges for the WTO.

In response to spiking commodity prices in 2007–11, countries restricted exports of a variety of agricultural products. This drove up world prices further, contributing to food insecurity. One positive policy result was the launch of the Agricultural Market Information System (AMIS) by the Group of Twenty (G20) agricultural ministers, which has led to better monitoring of global food stocks. While export restrictions in agriculture remain a perpetual concern, given a world facing climate and other shocks, that information has reduced uncertainty and limited the self-perpetuating cycles of export restrictions on farm products in the period since, despite multiple instances of pressures to do so, including the COVID-19 pandemic and Russia's invasion of Ukraine.

Historically, China has used various policies to restrict exports of raw materials and other critical inputs, sometimes in response to temporary price pressures at home. By diverting supplies to domestic markets, such restrictions gave an implicit subsidy to China's downstream industries, providing them an edge over their foreign competitors. China did this despite the commitment as part of its 2001 WTO accession to *not* restrict exports. It lost two formal WTO disputes over the issue and was facing a third in 2016 before the United

States abandoned its use of the dispute settlement system altogether.

In April 2021, India suddenly banned exports of COVID-19 vaccines. The public health motivation was understandable—India was going through a sudden and unexpected wave of infections at home. The problem was that India's production facilities, which had been subsidized by foreign entities, including the Bill and Melinda Gates Foundation, had promised to export hundreds of millions of doses to COVAX, the multilateral disbursement arm created to deliver vaccines to dozens of low-income countries. Those exports stopped, leaving COVAX high and dry, and the international funding that could have gone to support expedited vaccine production elsewhere was effectively commandeered.

## WTO rules that might limit the national use of export restrictions are relatively weak.

Russia weaponized exports of natural gas in 2022. Alongside its invasion of Ukraine, Russia withheld energy shipments to Europe through its pipelines, creating political-economic pressure for countries dependent on its gas. Noticing the implications of such a vulnerability, the response elsewhere has been to enact policies to reduce sourcing of similarly critical products from “countries of concern.” The most prominent example to date was the US decision in the Inflation Reduction Act of 2022 to offer discriminatory tax credit incentives in an attempt to shift the sourcing of inputs for batteries in electric vehicles outside Russia as well as China, which is costly, given that is where most current production takes place.

Finally, the United States and other industrialized economies have imposed export controls on high-technology products, with the argument that such actions are needed to protect national security. Sometimes these measures have been imposed ex post, such as after an act of war. Many countries

## The WTO system can help by drawing from its own experience.

banned exports of high-tech products to Russia, for example, in an attempt to end the war. Other times, the export controls are imposed proactively. Japan and The Netherlands, for example, agreed with the United States to jointly restrict exports of equipment used for production of advanced node semiconductors in response to Chinese President Xi Jinping's "military-civil fusion" policy.

### **Weak rules, limited experience**

The WTO rules that might limit the national use of export restrictions are relatively weak.

Article XI of the General Agreement on Tariffs and Trade (GATT), for example, allows exceptions for "export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of

foodstuffs or other products *essential to the exporting contracting party*" (emphasis added). But "essential products" are not defined. Furthermore, Article XXI provides a national security exception that allows countries to invoke policies and justify them as needed to protect essential security interests.

In practice, the multilateral trading system that developed during the Cold War never really had to deal with hard questions involving export controls, military adversaries, and related sanctions. Those issues were mostly gone by the time countries like China (2001) and Russia (2012) joined the WTO—until now.

So how then can the WTO play a more useful role?

Outside of the national security realm, governments often implement new export restrictions when they lack information and fear a market shortage. The WTO should thus encourage additional market surveillance and transparency initiatives, like AMIS, wherever possible to reduce emergence of those instances.

The issue is more challenging for policy actions motivated by security-related concerns. The legal

rulings that have resulted from countries challenging such actions through formal WTO dispute settlement have done little but put additional strain on an already stressed multilateral system. Instead of litigation, in a recent statement before the WTO, the United States has thus suggested that adversely affected trading partners pursue what are called "non-violation" claims.

The idea is that, after a country invokes the national security defense for its policy, the dispute could then move immediately to arbitration, with concessions made to "rebalance" trade. The outcome would follow the WTO's reciprocity principle—if one country seeks to restrict its exports, then the expectation should be that trading partners do the same. Such retaliation would have the design benefit of preventing further escalation.

This cost would create additional incentives to discourage overuse of export restrictions for national security purposes in the first place. Especially if this move to arbitration were done quickly—as opposed to waiting years for the normal WTO legal process to play out.

### **New vulnerabilities**

The variety of sanctions and export controls that have come up in the context of Russia's invasion of Ukraine have serious implications for "nonaligned" developing economies. How can the WTO help capacity-constrained countries navigate this new environment? In principle, many countries likely want to stay neutral. In practice, steps are needed to prevent countries from inadvertently doing something wrong and facing penalties in the form of secondary sanctions. Three different cases illustrate the complexity of the issue.

First, consider food and fertilizer, for which Russia is a major global supplier. Taking Russian wheat, for example, off world markets would harm global food security. From the beginning, sanctioning countries attempted to make clear that it was legally okay to trade those products. For these and other humanitarian goods, there would be carve-outs in sanctions.

Second, trade in crude oil and petroleum products is more complicated. Pulling Russian energy supplies off world markets would increase prices and put pressure on the global economy, so the Group of Seven (G7) economies developed a plan to

encourage countries to buy such Russian products, but only if the transactions fell below a price cap. Following that process is tricky. Potential buying countries need to keep up with more information. The price cap level might change. But the differential between countries able to transact at that price—well below the price of access to energy from other sources—could be quite substantial economically, and thus worth it, from the perspective of their economic development.

Third, there are other, dual-use goods whose trade is strictly controlled. Take high-tech inputs, like semiconductors, which are often quite small, embedded in other things, and that can have both civilian and military (“dual-use”) purposes. When the United States sends an export-controlled product to a third country, under US law that country is often prevented from reexporting that good elsewhere—such as to Russia or to specific military supplier end users in Russia.

Yet companies in third countries often face strong economic incentives to engage in arbitrage and facilitate that trade after all. But if their own government is not part of the coalition imposing the sanctions, they may not understand the full consequences of engaging in those transactions.

These countries likely need help understanding both their rights and the trade-offs they face for their choices. Their governments may, for example, want to establish domestic screening procedures to prevent their firms from reexporting such products. On the other hand, without access to legal counsel, they may overcomply. Not trading where it is legal also comes at a cost.

### Looking out for the most vulnerable

The WTO system can help by drawing from its own experience.

First, the WTO has been supporting developing economy trade by reducing bureaucratic barriers through the Trade Facilitation Agreement. It could analogously work with border officials to help its members comply with sanctions. Because in the end, sanctions compliance—even if that means stopping a little bit of trade through a regulatory barrier—means keeping the rest of the country’s trade flowing, as it will not be penalized through secondary sanctions.

Second, is the question of impartiality, with lessons learned from the WTO’s sister organization, the Advisory Centre on WTO Law (ACWL). By providing highly subsidized legal assistance to poor countries, the ACWL has supported country efforts to follow WTO rules and represented them in dozens of formal WTO dispute settlement proceedings over more than 20 years.

Furthermore, the ACWL has established governance rules to address potential concerns over conflicts of interest. The ACWL has a system that allows it to support one developing economy as a complainant in one case and then a separate developing economy in a different case in which the first is the respondent. Thus, the ACWL has worked out how to provide sound legal advice, stay out of politics, and even sometimes support litigants with politically unpopular policy positions (just as in the domestic context, when public defenders must represent clients accused of heinous acts).

Providing subsidized legal assistance for sanction or export control compliance would be politically sensitive, of course. But for countries with limited capacity and few resources, ignoring the problem could have severe economic consequences. In the new geopolitical world with more sanctions and export controls, the trading environment inevitably becomes more expensive and legalistic. To continue to trade in support of their economic development, emerging market economies will need even more legal advice.

### Other contexts

The Russian context is complicated, but it is only one. Moving beyond acts of war, it gets even more complex when the subject turns, for example, to export controls motivated by attempts to prevent future conflict. Imagine similar issues regarding export controls impacting sales to China.

These are the concerns now facing much of the world and much of the WTO’s membership. The WTO cannot interfere with countries implementing policies in the name of their national security. However, it can do more to help innocent bystanders remain innocent bystanders, to preserve and advance the gains from globalization. [FD](#)

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# GREEN TRADE



# TENSIONS

Green industrial policy will drive decarbonization,  
but at what cost to trade?

**Noah Kaufman, Sagatom Saha, and Christopher Bataille**

## It would be naive to think that the intersection of trade and climate policies will lessen—and not accelerate—with time.

**T**he resurgent popularity of green industrial policy is a double-edged sword. On one hand, the protectionist provisions in the Inflation Reduction Act (IRA) were critical to the passage of the most significant US investment in climate action ever. Without the IRA's domestic sourcing and final assembly requirements, President Joe Biden's pledge of reducing US emissions 50–52 percent by 2030 would be out of reach. On the other hand, the same protectionist provisions have deeply frustrated US trade partners and aggressively bend—if not altogether break—international trade rules under the World Trade Organization (WTO) regarding equal treatment of foreign and domestic suppliers.

The Biden administration is working toward assuaging concerns over the IRA, which caught close US allies by surprise. However, this friction may be only the opening salvo in a decade marked by green trade tensions. It would be naive to think that the intersection of trade and climate policies will lessen—and not accelerate—with time.

The world should embrace the IRA and other green industrial policies, which are substantial, durable actions to meet climate commitments under the Paris Agreement. Still, they come with risk. For their part, the United States and others should establish guardrails to preserve the international trade rules that have underpinned global prosperity since World War II.

### Domestic politics, international rules

The US brand of climate action laced with industrial policy is not a one-off. The political incentives that shaped the IRA are not unique to the United States. For many more countries, crafting ambitious climate policy that doesn't erode key domestic support requires a mix of subsidies, tariffs, and regulations that current trade rules would heavily discourage if not outright disallow. The IRA's expected pull on global clean

energy investment is already encouraging others to follow suit.

For example, the European response—the Green Deal Industrial Plan and the Net-Zero Industry Act (NZIA), the legislation designed to realize the plan—bear a remarkable similarity to the IRA. The NZIA would further loosen state aid rules, the EU regulations regarding allowable domestic subsidies, to cover more types of clean energy projects. The European Union previously relaxed state aid rules at the start of the COVID-19 pandemic and again after Russia invaded Ukraine. The Green Deal Industrial Plan will also feature various funding measures and prioritizes workforce training to prepare European workers for maximum employability in the energy transition.

Importantly, Europe will also provide its own subsidies for domestic manufacturing in the form of a proposed European Sovereignty Fund, which would finance industrial policy initiatives, and an Innovation Fund to finance innovative demonstration projects. The plan emphasizes ambitious domestic manufacturing targets for a broad swath of clean energy technologies, including wind turbines, solar photovoltaic panels, heat pumps, batteries, and electrolyzers.

The European plan reflects reasonable worries among EU countries that their domestic firms will relocate investment to the North American market to chase the IRA's generous subsidies. These worries coincide with high energy prices—driven, in part, by Russia's war in Ukraine—that threaten to shrink major European industrial firms, such as German chemicals giant BASF SE and steelmaker ArcelorMittal. The IRA's massive pull toward the US market will mean billions in new clean energy investment but could also redirect billions away from the clean manufacturing agenda in Europe and elsewhere, including in emerging markets.

At the same time, a fight over carbon tariffs is looming on the horizon. In December of last year,





the EU finalized its carbon border adjustment tariff mechanism (CBAM), which extends the EU carbon price to imported greenhouse-gas-intensive products. As proposed, it will eventually impose tariffs on a broad swath of countries that do not have a domestic carbon price, including the United States and most developing economies. The EU's CBAM, although designed to comply with existing international trade rules, has already provoked negative responses among policymakers around the world. US proposals to impose tariffs on the carbon embedded in imports, including the Biden administration's Global Arrangement on Sustainable Steel and Aluminum (GASSA), are sure to elicit fury from the developing world as well, given the lack of comparable fees on domestic producers in the United States. These countries' call for increased climate financing, including for loss and damage

carefully designed to avoid wasteful spending or trade tensions, and to make sure that technology is shared with the developing world.”

If the momentum toward protectionism continues, the United States, the European Union, and others could drift into walled markets in which low-cost clean technologies cannot easily diffuse across borders, making it harder to decarbonize globally. This will be exacerbated by the limited capacity for emerging market economies to compete in a subsidy arms race. A worst-case scenario might involve a deluge of tit-for-tat cases at the WTO and retaliatory tariffs that fragment the global clean technologies market and decelerate climate action.

### Forging green industrial coordination

Achieving a better outcome—in which such policies as the US IRA and GASSA and the EU NZIA, Emissions Trading Scheme, and CBAM accelerate clean investment across markets without encouraging fragmented trade—will depend on how US and EU trade partners shape their responses and how the United States and the European Union respond to partners' concerns. Coordinated investment with heightened supply chain cooperation could instead create a supportive environment with partners and allies to spur climate progress. Negotiating comprehensive rules of the road for climate-focused industrial policy will be necessary to avoid a vicious cycle of protectionist measures that raise the collective cost or slow the pace of decarbonization. Conflict still looms, but early signs are promising, with US, Japanese, and EU leaders seeking compromise and the US Treasury interpreting IRA supply chain rules liberally so far. Biden and European Commission President Ursula von der Leyen reaffirmed their commitment to tackling concerns about both the IRA and the CBAM when they met in Washington in March.

The Biden administration, sympathetic to partners' concerns about domestic sourcing requirements, has attempted to flexibly implement certain parts of the IRA, stretching the definition of “free trade agreement” to include critical mineral agreements with Japan and likely with the European Union soon. Still, local content requirements are only one among several controversial elements. Moreover, forging one-off

If the momentum toward protectionism continues, the US, the EU, and others could drift into walled markets in which low-cost clean technologies cannot easily diffuse across borders.

as a result of climate change—which gained momentum at COP27—only further compounds the ire. Developing economies, unable to compete with subsidy packages of their own, may instead limit imports of clean energy technologies and impose export controls on raw materials, and especially on critical minerals, for the political and economic leverage they provide, in an effort to move up the value chain.

The controversies over green subsidies and carbon tariffs could portend even more intractable conflicts at the intersection of climate, trade, and industrial policy throughout the decade. IMF chief Kristalina Georgieva has already cautioned against this trend, urging that green subsidies “be

critical mineral deals is no substitute for comprehensive coordination on climate and trade—especially if only the loudest and wealthiest countries receive concessions.

Revamping institutions like the WTO and a more immediate agreement in the form of a climate club, perhaps starting with steel, are necessary. In its current state, the WTO is woefully ill-equipped to balance the benefits of national climate-focused industrial policies against their negative consequences on trade relationships.

First, WTO stakeholders must find ways to update the organization to fit the times, lest major countries ignore it completely. That is, international trade rules must create room for carbon tariffs, limited green sourcing provisions, and similar policy agendas. Without these policies, the United States and the European Union may not meet their goals. Specifically, the WTO could align rules for domestic supply sourcing with a clear environmental component based on Article XX on General Exceptions—which outlines circumstances that may exempt WTO members from international trade rules—and recharge efforts toward a comprehensive environmental goods agreement that lowers trade barriers for clean energy technologies. The environmental clauses in Article XX, agreed to almost 30 years ago in 1994, are vague and far removed from the current urgency of the global climate crisis. The WTO could recognize that spending programs in support of emerging, innovative technologies are a legitimate part of the policy toolkit. These technologies might not commercialize without government subsidies, and governments likely cannot afford to make such large and risky investments without favoring homegrown firms and domestic jobs.

To be sure, subsidies paired with domestic content requirements might raise decarbonization costs compared with a hypothetical cost-effective pathway with unfettered free trade, but that approach has caused political backlash throughout the world and has discouraged—rather than spurred—government action on climate. Prompting speedy government action, a necessity given the dwindling carbon budget, may require sacrificing some economic efficiency.

Second, the Group of Seven (G7), which agreed to establish a climate club under the German presidency last year, should provide a forum for an agreement to form climate clubs to support

deep decarbonization in emissions-intensive heavy industry sectors. These sectors' products (for example, steel) are sold in homogenous markets with no differentiation for greener versions, and their facilities and workforces are often based in regions that are struggling. Domestic subsidies that incentivize commercialization and create stepping-stone markets for identifiably cleaner versions will be nearly impossible to avoid. Still, this effort must also direct concessional financing and technology assistance toward developing economies given that they will drive emissions growth in coming decades, especially in the aforementioned industrial sectors. Partnering with developing economies, especially those with inexpensive renewables potential and critical minerals, to help them develop global supply chains at the outset can boost them up the value chain in the manufacturing of clean energy technologies. This will prevent future supply chain dependence on a single country or region. Italy, which next holds the G7 presidency, and other key G7 members should begin work now to develop a provisional working agreement on trade in emissions-intensive goods that meets all the parties' needs—ideally with active participation from developing economies.

Emerging green industrial policies are a starting point. The decisions policymakers make today will determine their ultimate trajectory. For example, whether the IRA achieves its full potential hinges on several inflection points, which include alleviating constraints on transmission, labor, and upstream commodity inputs. Similarly, its global impact and that of the EU's NZIA, Emissions Trading System, and CBAM and of other future policies will be shaped by international responses. Economic competition and national self-interest are powerful drivers of climate action, but wielding that influence requires restraint and a minimum level of cooperation. Navigating this tension today will determine whether the cycle is a virtuous race to the top or a vicious spiral to the bottom. **FD**

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# A Way Forward for Global Trade

*It's time to reenvision the global trade framework for a sustainable future*

**Michael Froman**



COURTESY OF MICHAEL FROMAN

**WHEN I BECAME** the US trade representative in 2013, my then-11-year-old son asked me to explain my new job. He had accompanied me on a trip to India the year before, and we had visited the US ambassador at his beautiful residence in Delhi. My son understood that as trade representative, people called me “Ambassador” too, but we weren’t moving to a new country and new house. He was curious. “What the heck does a trade representative do anyway?” he asked.

I suggested we look at the labels on the clothes in his closet. Made in Mexico. Made in Bangladesh. Made in Cambodia. “All of them,” I explained, “represent a trade agreement or a trade preference program that countries negotiated. It all comes down to trade,” I told him.

In the decade since, global trade has taken some significant twists and turns. Trade agreements and globalization were once lauded for creating efficient and dynamic supply chains, lifting hundreds of millions of people out of poverty, and reducing prices for consumers around the globe. What followed has been a sharp backlash amid

concerns that trade liberalization and the offshoring of manufacturing had hollowed out industry in developed nations. Countries are now pursuing more nationalistic policies. And in turn, that has led to hand-wringing about the future of the multilateral trading system and, specifically, the role of the World Trade Organization (WTO).

While globalization is being intensely scrutinized, it is also evolving. Rumors of its death are largely exaggerated or, at least, are premature. Some countries have certainly retreated from negotiations to liberalize trade, but others, particularly in Africa, continue to charge ahead. Companies are reevaluating their supply chains, focusing not solely on efficiency, but also on security, resilience, and redundancies. There has been some onshoring, but also nearshoring and even friend-shoring. Global trade continues to grow.

At the same time, the global trading system has reached an inflection point. Pressing concerns, such as the convergence of climate and trade policies, could strengthen international cooperation or create new fissures. And there are real questions about the limits of multilateralism and the need for a new political consensus around trade.

## Convergence of climate and trade

Late last year, I was in Egypt for COP27, the UN’s climate change conference. The dialogue was one of urgency. Governments, environmentalists, scientists, and business executives all focused on what could be done to address global warming.

The conference itself produced modest results, but, looking back, the most ambitious climate change actions might well have been unilateral steps taken by major economies last year—specifically the Inflation Reduction Act (IRA) in the US and the Carbon Border Adjustment Mechanism (CBAM) in the European Union.

The IRA became law last August and is considered one of the most significant pieces of climate legislation ever enacted in the US. It includes \$400 billion in climate-related spending over a decade.

Among other things, it incentivizes electric vehicle purchases with a \$7,500 consumer tax credit, and it subsidizes US-based manufacturers to produce clean tech and green energy.

The CBAM, which goes into effect in October, will impose a fee—the EU is careful not to talk about it as a tariff or a tax—on imported products from manufacturers in countries that do not have comparable carbon pricing mechanisms.

The IRA has faced criticism from US non-free-trade-agreement partners. They argue that applying these subsidies is discriminatory and could lead to the outflow of clean-energy-related investments from other countries. This, in turn, has led the EU to propose an additional package of clean energy subsidies of its own. The CBAM has raised concerns that, given the complexity of measuring emissions and comparing carbon pricing mechanisms, the EU's unilateral judgments could be exploited for protectionist purposes, including against developing economies.

While climate and trade policies once operated as separate regimes, they are now converging, and sometimes conflicting. Whether major economies collaborate or go their own way is yet to be determined.

### Trend toward open plurilateralism

Can the WTO resolve an issue like this? Likely not, at least not in the short term. Since its founding in 1995, the WTO has been slow or unable to fully reach multilateral agreements, with the notable exceptions of the Trade Facilitation and the Fisheries Subsidies agreements, two leading multilateral deals.

While trade economists tell us that multilateral agreements are the highest and best form of trade liberalization, our collective experience in recent decades has made clear that there is no political consensus around what major economies want from the global trading system and what role the WTO should play. Indeed, it is hard to achieve institutional reform if there is no underlying political consensus.

What is needed now is a substantive conversation among leaders of major economies about the shifting and often contradictory demands on the global trading system. To what degree should it be focused on economic efficiency? On national industrial agendas? On economic development? To what degree should it address labor and environmental issues? What role should it play in leveling the playing field, disciplining state-owned

enterprises, and weighing subsidies? Ultimately, should the goal be to create a rules-based system and the mechanisms for enforcing those rules?

These are fundamental questions that need to be addressed before meaningful WTO reform can be achieved. And they cannot be answered by simply ignoring or wishing away the reality of democracies, domestic politics, or public opinion. Populism, nationalism, nativism, and protectionism are real. They shouldn't dictate a lowest-common-denominator economic policy, but they do need to be addressed.

In the meantime, in the absence of consensus around the global trading system, the world continues to spin on its axis, technology advances, and economies evolve. Now, more than ever, coalitions need to come together to set standards that can lay the groundwork for a broader approach.

Take the digital economy. Issues around the role of digital services, data, privacy, and cybersecurity, to name a few, have a potentially greater impact on many economies than tariffs.

Disciplines that were introduced in previous regional and bilateral trade agreements set high standards around some of the most important issues facing the global economy. Now, too, there is an opportunity for public and private sectors to collaborate, but there is also a risk that unilateral action by one party or another could lead to greater trade friction.

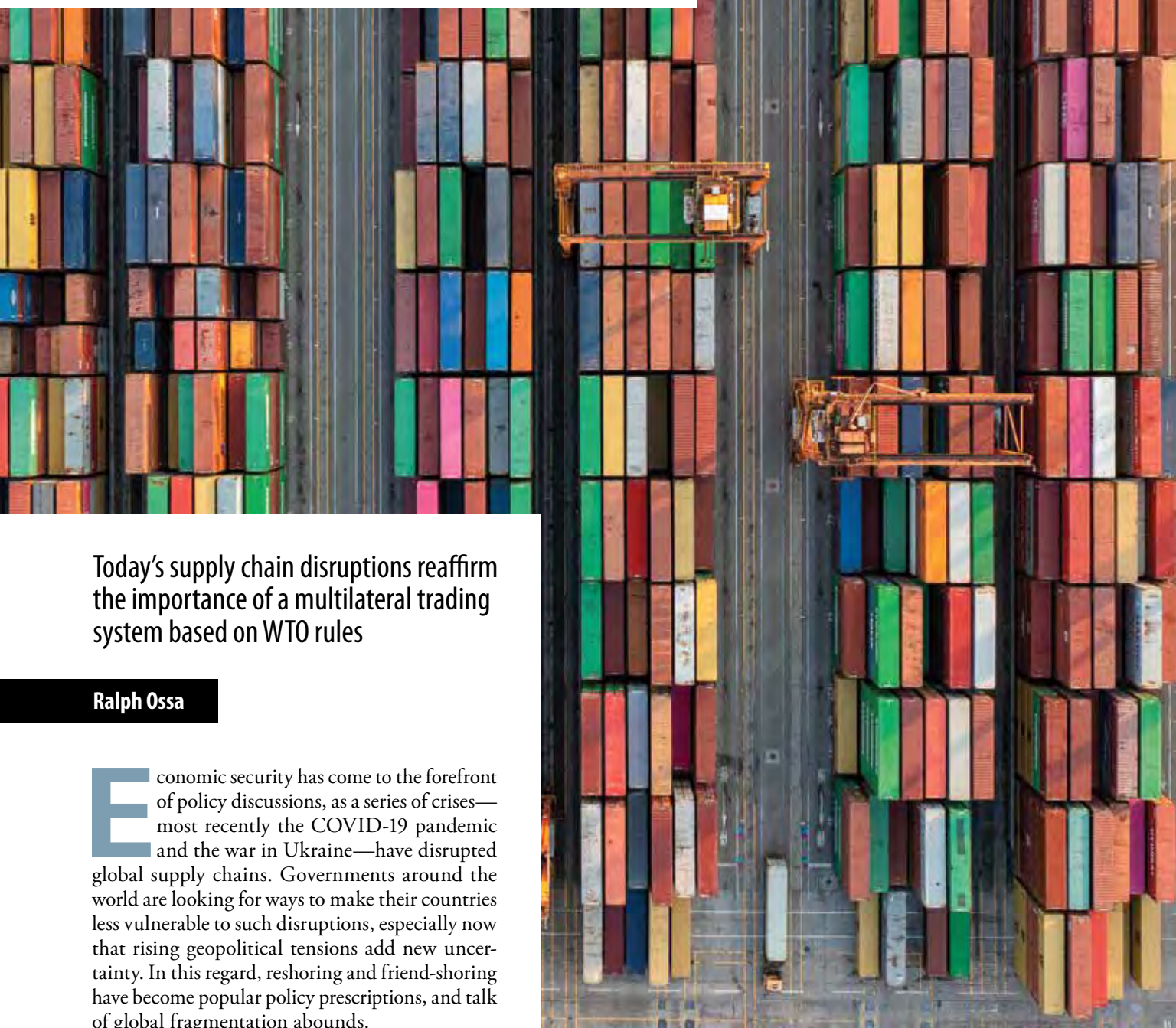
In the absence of consensus around multilateral agreements, open plurilateralism—the negotiation of agreements among countries willing to go above and beyond the lowest common denominator and willing to live up to those standards—might well be the most promising way to advance important trade issues. A series of recent trade deals, from the Comprehensive and Progressive Agreement for Trans-Pacific Partnership to the United States-Mexico-Canada Agreement, are important examples of how to move forward.

The challenges facing the global trading system might have gotten more complex since the journey through my son's closet a decade ago, but it is more important than ever that we deal with those challenges successfully. There is too much at stake to be complacent. **FD**

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# PILLAR OF ECONOMIC SECURITY



Today's supply chain disruptions reaffirm the importance of a multilateral trading system based on WTO rules

**Ralph Ossa**

**E**conomic security has come to the forefront of policy discussions, as a series of crises—most recently the COVID-19 pandemic and the war in Ukraine—have disrupted global supply chains. Governments around the world are looking for ways to make their countries less vulnerable to such disruptions, especially now that rising geopolitical tensions add new uncertainty. In this regard, reshoring and friend-shoring have become popular policy prescriptions, and talk of global fragmentation abounds.



In this article, I offer a different perspective, emphasizing the benefits of a strong multilateral trading system based on the rules of the World Trade Organization (WTO). I argue that such a system is the best guarantor of economic security because it provides households and firms affected by supply shortages with unparalleled flexibility. It is difficult to predict where supply shortages will arise and who has the capacity to step in, so access to a broad range of outside options is key.

Evidence is mounting that this “flexicurity” offered by the multilateral trading system is highly effective at mitigating supply shortages. Ethiopia’s adjustment to the tragic war in Ukraine is a striking example of this point. As highlighted in a recent WTO report on the trade effects of the war, Ethiopia imported 45 percent of its wheat from Russia and Ukraine before the war and then saw these imports plunge dramatically—by 75 percent in the case of Russia and even 99.9 percent in the case of Ukraine. However, it was able to respond to these disruptions by sharply increasing its wheat imports from the United States and Argentina, even though it had not imported any wheat from Argentina before. Clearly, such swift substitution among alternative suppliers would have been much harder in a fragmented world economy.

### The state of global supply chains

The evidence points to considerable concentration in global supply chains. For instance, only a small minority of US firms have diversified supply chains in the sense of importing the same product from more than one source country (Antràs, Fort, and Tintelnot 2017). Looking at macroeconomic data, WTO economists estimate that 19 percent of global exports are in “bottleneck” products, defined as products that have few suppliers but a large market share (Majune and Stolzenburg, forthcoming). Interestingly, this share has doubled over the past two decades, suggesting that global supply chains have become less diversified over time.

While it is tempting to interpret these facts as prima facie evidence of underdiversification, it is more plausible that they reflect simply the presence of large sunk costs in forming global value chains. It is costly for firms to identify a suitable foreign supplier, coordinate production processes, and build a trusting relationship, so they are forced to rationalize their global sourcing strategies. What is more, firms also have considerable self-interest in avoiding

supply chain disruptions since they directly affect their bottom line. McKinsey estimates that supply chain disruptions cost firms more than 40 percent of a year’s profit every decade on average.

The slow adjustment of global supply chains to the trade tensions between China and the US also speaks to the presence of large sunk costs. True, it is possible to detect first signs of decoupling in certain highly exposed products, as Chad Bown has recently shown. However, it is still striking that bilateral trade between China and the US was at a record high in 2022, despite the large and persistent tariffs that are in place.

At the macroeconomic level, it is worth recalling that country-level specialization is a natural outcome of the forces of comparative advantage and a classic source of gains from trade. Indeed, I have argued elsewhere that trade is beneficial precisely because it provides access to critical products for which domestic substitutes are hard to find, based on a calculation that the 10 percent most critical products account for 90 percent of the gains from trade (Ossa 2015). This suggests that diversifying the production of the above-mentioned bottleneck products would likely come at high welfare costs.

WTO economists estimate that fragmentation of the global economy into two rival blocs would reduce real incomes by 5.4 percent on average. A revival of multilateralism could instead increase real incomes by 3.2 percent, so the opportunity cost of forgoing international cooperation and instead moving to geopolitical rivalry is 8.6 percent. Importantly, the opportunity costs vary from 6.4 percent for developed economies to 10.2 percent for developing economies to 11.3 percent for least developed economies. The stakes are highest for low-income countries because they stand to benefit most from the positive technology spillovers associated with international trade.

### The case for policy intervention

A recent paper more formally analyzes the case for policy intervention in the face of potential supply chain disruptions (Grossman, Helpman, and Lhuillier 2023). The authors identify two opposing market failures that policy could potentially correct. On one hand, firms have an incentive to underinvest in supply chain resilience, because some costs of supply chain disruptions are incurred by consumers. On the other hand, firms have an incentive to overinvest in supply chain resilience, because this might





allow them to benefit from the extraordinary profit opportunities supply chain disruptions present. The bottom line is that the case for policy intervention is rather subtle, and governments may wish to push for reshoring, offshoring, nothing, or both.

For all practical purposes, this means that the case for policy intervention in global supply chains is weak. Resilience is desirable but also costly, and there is no reason to believe that firms are systematically under- or overexposed to supply chain risks. That said, it is important to recognize that this analysis abstracts from some of the national security considerations in the current policy debate. There may be circumstances in which it could be argued that firms do not internalize the security externalities of their commercial activities—which could then justify limited interventions in global supply chains designed to internalize these externalities.

These theoretical considerations are broadly consistent with the evidence. After all, global trade has been remarkably resilient—and also an important source of resilience—during the pandemic and the war in Ukraine. Following the COVID-19 outbreak, trade recovered within just three quarters of the downturn in the second quarter of 2020. It supplied households with the masks, vaccines, and home office equipment they needed to cope with the public health emergency. One year into the war in Ukraine, trade is also performing above expectations, after some initial slumps in products such as wheat. This helped ensure that food shortages could be largely avoided, even in heavily exposed countries such as Egypt, Ethiopia, and Türkiye.

### **The value of a strong multilateral trading system**

These considerations suggest that the main role for policy is to provide an economic framework in which resilient supply chains can thrive. Paramount to this role is defending the multilateral trading system, which keeps trade barriers low, nondiscriminatory, and predictable. It is worth remembering that the multilateral trading system is a historic achievement of the international community and not the natural state of international commercial policy. It was created in a constitutional moment after World War II following three disastrous decades of deglobalization.

The rules-based nature of the multilateral trading system is particularly important for supply chain security. It not only reduces the risk of policy-induced supply chain disruptions but also

increases the likelihood that markets will stay open when access to alternative sources of supply is needed most. These advantages would be lost in a power-based trading system in which countries were free to adjust their trade policies as they saw fit.

It is well documented how detrimental trade policy uncertainty is for trade flows. For example, Handley (2014) has shown that a reduction in bound tariffs increases trade flows even if applied tariffs remain unchanged. This is because a reduction in bound tariffs reduces trade policy uncertainty by limiting the extent to which applied tariffs can be changed. Countries sometimes apply lower tariffs than they are bound to by their WTO commitments, which results in so-called tariff overhang.

A broader implication of this is that preserving the credibility of the multilateral trading system is crucial. It not only matters what policies countries commit to but also how credible these commitments are perceived to be. This means that any violation of WTO rules comes with significant collateral damage, undermining the functioning of the multilateral trading system as a whole. The WTO's challenge of preserving the credibility of the multilateral trading system is not unlike central banks' challenge of anchoring inflation expectations.

All this does not mean that the economic framework in which global trade is conducted cannot be improved. If the goal is to strengthen the resilience of global supply chains, what the WTO calls “reglobalization” suggests itself as a natural guiding principle. The idea is to work toward more inclusive globalization that allows a broader range of countries to participate in global value chains. **FD**

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# THE RISE OF DISCRIMINATORY REGIONALISM

At a time of growing global tensions, regional trade alliances may be less about integration and more about discrimination

Michele Ruta

**F**or 30 years the number of regional trade agreements (RTAs) has been on the rise, from fewer than 50 in 1990 to more than 350 today. Major players such as the United States, the European Union, and China have built networks of RTAs as a flexible way of advancing economic integration. Some agreements—for example, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)—are “mega-regional,” with partners in Asia, Australia, and the Western Hemisphere. One of the newest, the 2018 African Continental Free Trade Agreement (AfCFTA), spans an entire continent and is the world’s largest regional trade agreement, covering more than 1.3 billion people.

RTAs have helped rewrite trade rules and reshape both trade and nontrade outcomes. Today, they address a range of policy areas and have been instrumental in reducing trade costs for all trading partners, members or not, which has helped expand multilateral integration. Beyond trade, the wave of regionalism has affected foreign investment, technological innovation, migration, labor, and environmental issues. In some cases, these agreements’ impact has been undeniably positive; in others it has not.

Many observers see regionalism and multilateralism as opposing forces. Some believe that global tensions that are weakening the multilateral trading system—including protectionism and rising nationalism—will inevitably push governments toward more and stronger regional pacts. Is that really so? And what kind of regionalism should we expect? Regionalism gained popularity during a period when the World Trade Organization (WTO) and its multilateral trade rules and adjudication processes were widely accepted—an era quite unlike that of today’s fraying trade relationships and weakened WTO.

There is an old Italian saying: “Athens cries, but even Sparta cannot laugh.” In ancient Greece, the cities of Athens and Sparta were two great rivals. It was believed that the demise of one would lead to the triumph of the other. It didn’t happen that way. After a period of turbulence, both cities succumbed to decline. Today we might say, “Multilateralism cries, but even regionalism cannot laugh.” Regionalism in a time of conflict is unlikely to triumph, but rather is likely to change. What could emerge is a more discriminatory regionalism designed to increase barriers to trade with non-members rather than reduce them with members.



This type of regionalism would be less efficient and, ultimately, weaker.

### Deep, dynamic agreements

During the past 30 years there have been significant changes to RTAs. There aren't just more of them; they are also "deeper." Before the 1990s—with the notable exception of the European Economic Community—a typical trade agreement addressed only a handful of policy areas, mostly tariff liberalization and border issues, such as customs.

Since the 1990s, agreements (see chart) have transformed to emphasize *deepening* economic integration and cooperation (Mattoo, Rocha, and Ruta 2020). Today, they also address regulations and so-called nontariff measures, which once were the domain of domestic policymakers. Although agreements vary, they broadly regulate three overlapping policy areas:

- The integration of goods, services, and factor markets and rules regulating areas such as tariffs, services, investment, and intellectual property rights
- Restrictions on governments' ability to take action that could reverse economic integration, including regulatory barriers, sanitary measures, subsidies, and rules governing competition

- Protection of rights that could be diminished by market integration if regulations governing areas such as labor or environmental standards are not upheld

### Deepening integration

RTAs that have emerged during the past three decades provided the institutional framework for market integration. They helped cut trading costs and accelerate growth opportunities, particularly in developing economies (Fernandes, Rocha, and Ruta 2021). One study found that deep RTAs increased trade between members by 40 percent on average.

Despite concerns that these agreements would hinder integration with nonmembers, evidence suggests just the opposite. Many provisions in recent RTAs are nondiscriminatory and have reduced costs for members and nonmembers alike. Rules that increase competition, regulate domestic subsidies, or support the adoption of international regulatory standards in members' markets have been found to boost exports by nonmembers.

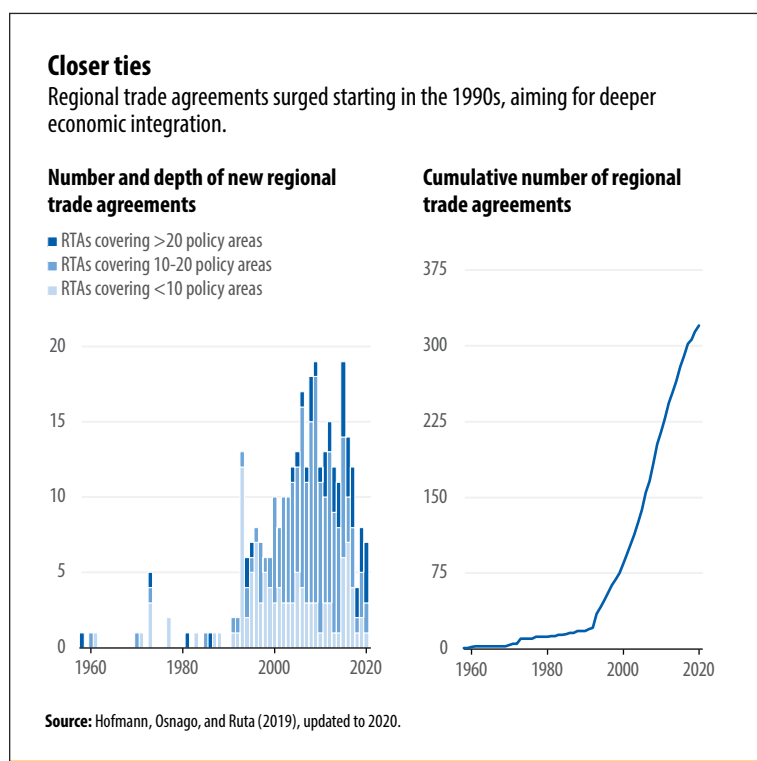
Nontrade outcomes are affected as well. Provisions on investments, visa and asylum issues, and protection of intellectual property rights have been shown to reduce the cost of cross-border activities and lessen legal uncertainties, which in turn stimulates foreign direct investment, migration, and technology flows. One study on the effectiveness of environmental provisions in RTAs found that they prevented about 7,500 square kilometers of deforestation during 2003–14.

But RTAs have had unintended consequences as well. A study on child labor standards found that agreements that don't include child labor provisions can reduce child employment and increase school enrollment. RTAs with child labor bans, paradoxically, can have the opposite effect: they shrink children's wages and sometimes lead poorer households to send more of their children into the labor market to make up for the lost income.

### Unseen complementarities

The difficulty in advancing WTO negotiations is surely one of the reasons RTAs have dominated the trade agenda in recent decades. But an underappreciated explanation for their success is that multilateral and regional integration complement each other in several ways.

First, the same societal segments that favor multilateral integration—exporting firms, for





example—also support regional integration. Second, WTO laws and dispute mechanisms are the foundation of RTA law. Many such agreements restate countries’ existing WTO commitments and rely on that organization’s adjudication system for enforcement. Other RTAs use multilateral commitments as the basis for advancing regional integration. Third, because many RTA commitments are nondiscriminatory, they promote both regional and multilateral integration.

This level of complementarity suggests that regionalism may be weaker during times of conflict. While governments may turn to regional agreements as an alternative to WTO rules or to pursue strategic interests, that doesn’t necessarily lead to deeper RTAs. One reason is that RTA laws would rest on shakier WTO laws. Another reason is that anti-integration forces, such as import-competing sectors, would be skeptical of regional integration, just as they are skeptical of multilateral integration.

### Discriminatory regionalism

Perhaps most worrisome is the danger that times of conflict could lead to RTAs that build higher walls against the outside world, rather than lower internal fences.

In the 1930s, as the global economy descended into depression and multilateral trade collapsed, a surge of protectionist measures aimed at countries outside regional blocs reshuffled trade patterns. For the UK, imports from the British Empire accounted for less than 30 percent at the beginning of the period and more than 40 percent at the end. By making trade less secure and more costly, the discriminatory regionalism of the 1930s received a great deal of blame for escalating international tensions.

Today, the trend toward strengthening ties with friends and loosening them with non-friends may reignite regional discrimination. We’ve already observed a surge of protectionist measures, such as local content requirements in subsidy programs and export restrictions targeting countries that are not regional trade partners. Stringent rules to establish the origin of a product, with the goal of increasing the regional value content in production at the expense of extraregional value content, is another example of such discrimination. These practices are contrary to the spirit, if not the letter, of multilateral trade rules and could increase integration costs and hinder efficiency.

Discriminatory regionalism may also be leveraged to achieve nontrade objectives such as ensuring higher labor and environmental standards, the adoption of domestic rather than global standards, or redirection of supply chains for national security reasons. An example is an agreement signed at the end of March between Japan and the United States on certain critical minerals, which could be the first in a number of new deals with limited scope. This agreement is very different from the deep RTAs of the previous three decades and poses many questions in terms of consistency with current multilateral rules.

### An uncertain future

Regionalism in times of conflict would certainly retain some of the characteristics of the past wave. RTAs would preserve integration between members and still experiment with new forms of integration. Deep trade agreements aimed at reducing market fragmentation should be welcomed and encouraged, especially in regions such as Africa that stand to reap tremendous development gains from a true continental market.

But regionalism without the anchor of multilateralism may be more exposed to the powerful forces of disintegration. RTAs could weaken and grow more discriminatory, concerned less with integration and inclined to erect protectionist walls against nonmembers. At the end of the day, there is no choice between regionalism and multilateralism; there is only a choice between integration and disintegration. A revival of multilateralism is necessary to complement RTAs in an age of conflict. **FD**

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# THE COSTS OF GEOECONOMIC FRAGMENTATION

*Disruption in trade threatens losses to global living standards as severe as those from COVID-19*

**Marijn A. Bolhuis, Jiaqian Chen, and Benjamin Kett**

Last year, on the 24th of February, Russia invaded Ukraine. Beyond the direct suffering and humanitarian crisis, the entire global economy has felt the adverse effects of the war. As the invasion disrupted production in Ukraine, and Western countries imposed sanctions on Russia, the global supply of key commodities was curtailed. Within days, energy, food, and certain mineral prices shot to record levels.

The disruption in global trade following the Russian invasion of Ukraine is not an isolated event. In recent years, trade restrictions in sectors like commodities and semiconductors, which are seen as crucial for national security and strategic competition, have increasingly taken precedence over global economic integration and its shared benefits. The United Kingdom's decision to leave the European Union in 2016 is an example of this broader trend. The world's two largest economies, the United States and China, have imposed a series of bilateral trade barriers in recent years. And, during the COVID-19 pandemic, many countries chose to restrict exports of medical goods and foodstuffs. While trade barriers were generally on a decreasing path throughout the 20th century, this trend has reversed over the

past decade (Chart 1). These events may be early signs of broader geoeconomic fragmentation—defined as a policy-driven reversal of economic integration, of which international trade is a central component.

The rise in trade barriers in recent years has accompanied a plateauing of global trade integration. In the three decades preceding the global financial crisis, global incomes and international trade increased in tandem. For many low-income countries and emerging market economies, this integration into the global economy was a crucial contributor to their development, providing access to affordable imports, extensive export markets, and foreign technology.

How do trade barriers affect living standards? Let's zoom out for a second to explain.

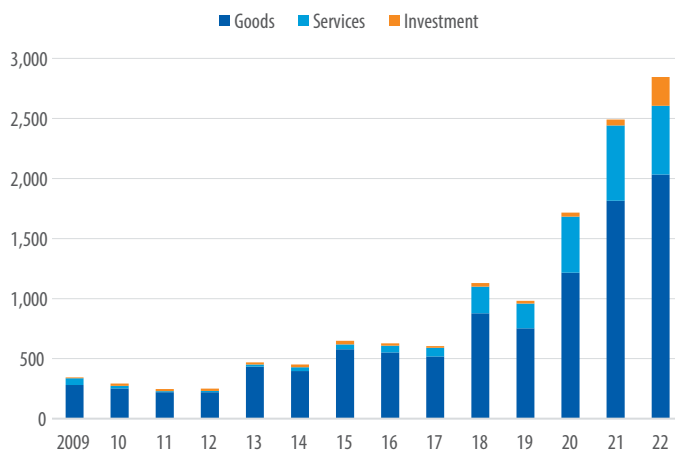
Consider a country that imposes an import tariff on semiconductors. First, for consumers who buy computers, a tariff immediately increases the price they pay. Of course, domestic firms can try to introduce competing models or expand production. But this is costly—in particular because consumers had already revealed over time their preference for the foreign chips by their purchasing choices, either because of lower prices or product characteristics. Consumers are therefore worse off.

Chart 1

### Explosion in trade restrictions

After declining during most of the 20th century, restrictions on trade have greatly increased in recent years.

(number of trade restrictions imposed annually worldwide)



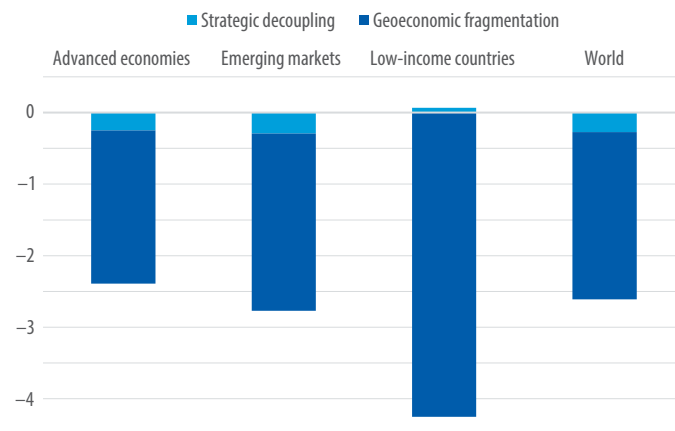
Sources: Global Trade Alert; and IMF staff calculations.

Chart 2

### The costs of fragmentation

A world split into two exclusive trading blocs would result in permanent losses to global GDP, most severely in low-income countries.

(permanent real GDP losses, percent)



Source: Bolhuis, Marijn A., Jiaqian Chen, and Benjamin R. Kett. 2023. "Fragmentation in Global Trade: Accounting for Commodities." IMF Working Paper 2023/073, International Monetary Fund, Washington, DC.

Second, consider the perspective of workers in the country that used to produce semiconductors for export. With shrinking access to their export markets, their incomes tend to fall.

Third, consider the impact on the prices of other goods and services that use computers as inputs. In the professional services sector, for example, accounting firms will now need to charge customers more to cover the higher prices of their computers. These indirect effects through complex supply chains can be large and have knock-on effects on consumers in other countries as well.

In sum, higher trade barriers tend to be a double whammy for households. Not only do they lead to higher prices, but they also tend to reduce the incomes households receive.

So what are the potential costs of geoeconomic fragmentation through trade? In a recent paper, we study this question in more detail.

We explore different illustrative scenarios using a quantitative multicountry model of international trade that allows us to simulate the impact of changes in trade barriers on prices, trade flows, and incomes. Given the importance of commodities in global trade and recent restrictions, and given that they are produced in a relatively small set of countries, we construct a dataset that allows for significantly more detailed coverage of their trade and production as an input to the model.

This dataset covers 24 aggregated sectors and 136 disaggregated commodities across 145 countries—representing 99 percent of global GDP. Other datasets leave commodities aggregated, treating products as dissimilar as gold and natural gas as perfect substitutes. Our approach allows us to capture the imperfect substitutability of different commodities, along with the fact that production of specific commodities is often concentrated in a few countries. Both of these elements increase the cost of trade barriers.

It is worth noting that our work focuses on the output losses of geoeconomic fragmentation through *trade*. The *total* losses of fragmentation will likely be even larger.

First, we look at a scenario in which trade fragmentation is limited to the elimination of all trade between Russia on one hand and the United States and the European Union on the other, as well as the elimination of trade in high-tech sectors between China and the United States and European Union. This scenario is akin to a broadening of current

Russian sanctions to the entire spectrum of trade in goods and services, and expanding beyond the current focus on semiconductor chips to all high-tech goods.

Such a strategic decoupling would lead to permanent GDP losses of 0.3 percent globally, roughly equivalent to the annual output of Norway (Chart 2). This global negative impact masks some heterogeneity. Indeed, as long as the rest of the world keeps trading freely with Russia, China, the United States, and the European Union, some countries may even see small gains. Commodity exporters, for example, that can eventually replace Russia as a key supplier, would see their incomes increase. Some Asian countries would benefit if semiconductor supply chains were relocated from China.

Second, we look at a more severe scenario, geo-economic fragmentation, in which all countries are forced to choose between either the United States–European Union or the China–Russia blocs, with no trade between these two blocs. In this illustrative scenario, countries are grouped based on how much they trade with either the United States or China.

In this case, global output losses would be substantial, at 2.3 percent of global GDP, equivalent to the size of the French economy (Chart 2).

Permanent losses for advanced economies and emerging markets would be on the order of 2 to 3 percent.

And low-income countries would come under significant pressure, losing more than 4 percent of GDP. These losses would deepen risks of debt crises and exacerbate social instability and food insecurity. Poorer countries are typically most at risk from geoeconomic fragmentation because they are heavily dependent on the imports and exports of key products, including commodities, for which it is more costly to find new suppliers.

How large are these losses relative to historic events? To provide some comparison—global GDP losses would be on the order of the 2020 output losses due to COVID. However, these losses would be permanent.

How bad things get would depend not only on the extent of trade restrictions and how countries divide into blocs. The adjustment process itself can be challenging. If fragmentation occurs quickly, it will be very costly for supply chains to adapt. This will also imply greater global GDP losses, as high as 7 percent if adjustment costs are particularly large.

So what can be done to prevent the worst losses from runaway fragmentation, including for the most vulnerable economies? A recently published IMF Staff Discussion Note outlines possible modalities of international cooperation that could help limit the risk of, and the damage from, trade fragmentation when geopolitical tensions are high.

To avoid a proliferation of unilateral trade barriers, the World Trade Organization, including its dispute resolution mechanism, should be reinforced. Multilateral efforts should focus on reforms with high impacts where preferred economic policies of countries are broadly aligned.

## Permanent losses for advanced economies and emerging markets would be on the order of 2 to 3 percent.

Yet in the current environment, progress through multilateral consensus may not always be possible. In areas where countries' preferences are not well aligned, deeper integration through regional trade agreements, along with an open and nondiscriminatory stance toward other countries, can be a way forward.

Low-income countries, which are the most vulnerable to the adverse growth effects of runaway fragmentation, must not become caught in the crossfire. If and when countries undertake unilateral actions, credible guardrails will be needed to protect the vulnerable and mitigate global spillovers. These guardrails could include, for example, safe corridors for food and medicine, along with multilateral consultations to assess the economic impact of unilateral actions and identify their unintended consequences.

The trend toward geoeconomic fragmentation is a significant challenge that will have far-reaching economic consequences for countries across the world. But by strengthening and modernizing the global trading system, we can overcome these challenges and preserve the large benefits of economic integration. **FD**

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# WORLD TRADE DEFENDER

Bob Simison profiles **Anne O. Krueger**, whose research helped build the global trading system that's now under attack

**F**ormer US President Donald Trump was fighting a multibillion-dollar trade war with China, and economist Anne Krueger decided to take a stand. Over a career spanning more than six decades, Krueger's groundbreaking research in India, South Korea, and Türkiye

had profoundly altered policymakers' thinking on the importance of trade in improving the lives of millions of people. Now all of that was under attack.

Krueger's response to Trump was a 300-page book published in 2020, *International Trade: What Everyone Needs to Know*, a cogent argument



PHOTO: IMF/JOSHUA ROBERTS

showing how world trade benefits billions of people and has lifted millions out of poverty. “Protection does not create jobs,” she wrote. “Trade destroys many fewer than is popularly believed... Should the trade war continue, the economic damage to the entire world will increase.”

Today, at the age of 89, the Johns Hopkins economics professor continues to push back forcefully against the tide of protectionism that’s sweeping the world. She keeps a full schedule of speaking engagements and writes a monthly column for the respected international online forum Project Syndicate. Recent titles include “America’s Industrial Policy Is Counterproductive,” “Multilateralism Is Still Better,” and “Sleepwalking into a Global Trade War.”

“It’s discouraging,” she says. “Things will show up soon as mistakes. [US President Joe] Biden is an internationalist, but the Biden administration has turned highly protectionist. It will hurt the US and the rest of the world.”

That’s not a popular position. Job losses in developed economies that were attributed to globalization spurred decades of protests. China’s rise as an export power raised national security concerns. And disruptions during the pandemic inspired a move to replace global supply chains with regional trading blocs and “friend-shoring.”

But Krueger has never been one to go along with conventional wisdom. In the 1960s it was generally accepted that developing economies needed to protect domestic businesses through currency exchange controls and import curbs. Data she collected directly from companies in Türkiye showed that such policies instead hobbled growth. Her subsequent research turned development theories on their head.

Krueger was the IMF’s No. 2 official during 2001–06 and chief economist of the World Bank 20 years earlier. She trained generations of economists at the University of Minnesota, Duke, Stanford, Johns Hopkins, and elsewhere. Of her dozens of books and research papers, one was listed among the top 20 articles in the first century of the influential *American Economic Review*, published by the American Economic Association, which Krueger headed in 1996. Other economists have long nominated her for the Nobel Prize for the sweeping impact of her findings on trade.

“Anne Krueger is an absolutely transformative figure,” says former US Secretary of State Condoleezza Rice. The two became professional

colleagues, personal friends, and golfing buddies in the 1990s when Rice, a political economist, was provost at Stanford and Krueger ran an economic research institute she founded there. “Anne could get things done. She is a top academic who has the rare ability to reach from the academy to policymaking. She is incredibly highly regarded among economists.”

### Accidental economist

By her own account, Krueger became an economist by accident. After growing up all over western New York state, she did her undergraduate studies at Oberlin College in Ohio. Her focus was prelaw, and she declared economics as a major only in her senior year. She took classes in economics “because I thought one had to understand economics in order to understand law and politics,” she wrote in an autobiographical sketch in a 2014 book on eminent economists. But there was no money for law school. Then she won a graduate fellowship in economics at the University of Wisconsin. “So economics it was,” she wrote.

After completing her doctorate in 1958 at Wisconsin, Krueger became an economics professor at Minnesota, a position she held until departing for the World Bank in 1982. In the 1950s and 1960s, she later wrote, economists thought that free trade would be bad for developing economies because they couldn’t compete in export markets. So governments should protect domestic industries from import competition and should directly invest in or at least subsidize manufacturing at home.

“We all like to see people better off and try to help the poor,” Krueger says today. Protectionist policies intended to do that just didn’t work. Since India and China opened up to international trade, poverty has plunged globally, she observes.

On assignment for the US Agency for International Development in 1965 in Türkiye, she spoke with dozens of businessmen and showed how such policies actually led to smuggling and rampant waste. This included “the ‘exportation’ of shiploads of stones, which were then dumped overboard (to collect export subsidies), the misgrading of commodities such as tobacco (tobacco inspectors were bribed by farmers to overstate the quality of tobacco), [and] the wasteful stockpiling of spare parts and even entire machines” to evade import controls, she wrote.

Krueger later studied more than 50 auto parts suppliers in 1968 in India. Some of them gave her data from “the three sets of books they kept — that for the taxman, that for the public, and that for purposes of management,” she wrote. Her findings on how businesses in Türkiye and India responded to protectionist economic policies led her to write a landmark paper, “The Political Economy of the Rent-Seeking Society,” published in 1974 in the *American Economic Review*.

In the paper she documented the costs to public welfare of policies such as trade restrictions and import licenses that encourage some market participants to try to cash in or collect what economists call “rents.” In declaring it one of the 20 most significant articles published in the 100 years through 2010, the *Review* credited the paper with helping to launch “a voluminous literature on the role of corruption and governance in the process of economic development.”

“By identifying the importance of rent-seeking activities and providing a framework for analyzing their welfare costs, this paper expanded the economic analysis of the government’s choice of policy instrument,” according to the *Review*. Other economists whose work made the top-20 list include Nobel laureates Milton Friedman, Joseph Stiglitz, Paul Krugman, and Robert Shiller.

Together with the prominent economist Jagdish Bhagwati, of the Massachusetts Institute of Technology and later Columbia University, Krueger organized a series of conferences and studies in the 1970s focusing on trade policies in 10 developing economies. The project resulted in a volume on each country and two overview books, one by Bhagwati and one by Krueger.

“To the great surprise of participants, and even somewhat to ourselves, many of the same phenomena were reported across the 10 countries covered in the project,” Krueger wrote. The costs of restrictive import policies outweighed the benefits, the research showed. “Since the 1980s, most developing countries have removed most of their quantitative restrictions, moved to more realistic exchange rates, and greatly lowered their tariffs.”

### Upending policy views

“She showed the distortions and welfare costs of specific policies, combining real-world experience with a theoretical basis,” says Dartmouth

economist Douglas A. Irwin. The findings changed economists’ and policymakers’ views on trade policy, he says.

A case in point is South Korea, whose trade policies in the 1950s hobbled growth. Once the government introduced more open trading systems, the economy took off, benefiting millions of people, Krueger wrote. The results of the changes in South Korea and of similar moves in Türkiye and India convinced her of the broad benefits of open trade policies.

“In my view, economic growth also generates the resources with which societal problems such as those with the environment can be more effectively tackled,” Krueger wrote. “In addition, as people escape from poverty, their demands for a better environment and other public goods also increase, thus enabling the government to address these issues more readily.”

“She changed thinking in developing economies, which led to more free trade and growth,” says Columbia economist Arvind Panagariya, a leading expert on trade. “She has had a very big influence on outcomes in the world and a tremendous impact on the lives of millions of people who were lifted out of poverty.”

As chief economist of the World Bank during 1982–86, Krueger helped bring the global poverty-fighting institution’s policies more in line with her research findings. In the bank’s 1983 annual report, she recalls, she succeeded in getting the organization out of the business of lending for government-owned tourism facilities and moved it to discriminate less against investing in agriculture.

In 2003, when she was the first deputy managing director of the IMF, Krueger had to fill the vacancy of chief economist. She turned to Raghuram Rajan, whom she had known for a few years.

“I said I didn’t know macroeconomics,” Rajan says. “She said, ‘Neither do I.’” Facetiously, of course. In the wake of the Asian financial crisis of the late 1990s, Krueger saw the need for the IMF to beef up its understanding of the financial industry and its impact on economies. Finance is Rajan’s area of expertise.

“The financial sector can get things very wrong,” Rajan says. “When there is a crisis, it forces governments to bail out the financial sector, putting pressure on national finances.” As chief economist under Krueger, Rajan expanded the IMF’s ability to evaluate the stability of countries’



banking industries. He later served as governor of India's central bank and today is a professor of finance at the University of Chicago's Booth School of Business.

### Tackling debt crises

One of her most important achievements at the IMF was the development of a proposal for a sovereign debt restructuring mechanism, known as the "SDRM." Krueger's SDRM plan was killed for political reasons. But the problem of developing economies' inability to repay their debt hasn't gone away over the past two decades, and the lack of such a bankruptcy reorganization system for national debt does affect millions of people.

"The world's poor should not have to pay the price for disagreements among the world's largest creditors," Krueger wrote in her April 2023 Project Syndicate column. She cited the debt crisis that hit Sri Lanka a year ago. Because the government couldn't obtain debt relief, it couldn't purchase life-saving supplies of food, fuel, medicines, and other necessities, she wrote. "The international community's process for responding to sovereign-debt emergencies urgently needs to be improved."

Krueger proposed that the IMF play a central role in helping cash-strapped debtor nations work out restructuring plans that would be equitable for creditors, including private financial institutions. The SDRM would include features of corporate bankruptcy reorganizations such as protection from creditor lawsuits. It would require construction of an international legal framework to enable a majority of creditors to make binding decisions for all creditors, eliminating the problem of holdouts.

In her April 2023 column, Krueger observed that China accounts for almost half of all lending to poor countries and that its "refusal to take the same haircut as other creditors" poses a giant stumbling block to resolving crises such as the one in Sri Lanka.

Ultimately, the proposal couldn't overcome opposition from the US, the UK, and the Group of Seven. "People didn't like the idea that an unelected international organization [the IMF] could interfere with contract rights and lead to the write-down of loans," says Matthew Fisher, who was a top Krueger aide on the project.

Instead, the international community adopted a proposal that had been floating around since the

1990s to include collective action clauses in government bonds. The provisions outline a mechanism for a majority of bondholders to make decisions applying to all.

"We wouldn't have even that if Anne hadn't pushed for the SDRM," says Rhoda Weeks-Brown, the IMF's general counsel today. She worked on the project with Krueger as a junior member of the legal department. "It was a very unusual and courageous thing for the IMF to do, and she had the vision and the leadership to take it on."

Krueger maintains that the SDRM still "has to go into effect someday," a position that some of her colleagues also take. "It died a political death, but not an intellectual death," says Sean Hagan, a Georgetown law professor who was in the IMF legal department at the time and later served as the fund's general counsel.

"Governments get into trouble because of poor policies," Krueger says. "We need someone like the IMF to look at policies and flag those that need to be changed."

### 'Force of nature'

In her profession, Krueger has attained the status of icon, a brilliant "force of nature" and "tough cookie," as some colleagues put it. As influential as her work has been, there is another dimension that she doesn't like to discuss.

"She broke through various ceilings as a woman, which was an enormous contribution," Chicago Booth's Rajan says. "But she is so competent that nobody could say she was there because she was a woman. She was there because she is bloody competent. She conducted herself in an extremely impressive way and never talked about it. She made it easier for others."

Krueger served as a personal inspiration and role model, Weeks-Brown says. "She was a woman in that role, and it was a big deal in those days, and it's part of her legacy. She was the first female first deputy managing director of the IMF. Women saw her as a role model because of her prescience, her forcefulness, and her effectiveness."

For her part, Krueger says she just wants to be known as an economist. **FD**

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**BOB SIMISON** is a freelance writer who previously worked at the *Wall Street Journal*, the *Detroit News*, and *Bloomberg News*.

PHOTO: YONHAP NEWS/YNA/NEWS.COM



## Policymaker and Negotiator

*Former Korean trade chief **Yoo Myung-hee** talks about her country's rise and risk amid economic fragmentation*

**WHEN YOO MYUNG-HEE** was a candidate to lead the World Trade Organization, she told members she was born in 1967, when South Korea acceded to the General Agreement on Tariffs and Trade, and began her career in the Ministry of Trade, Industry, and Energy in 1995, when GATT was succeeded by the WTO. She recalled Korea's remarkable growth from poverty and war to global trade leader, which she attributes to open trade.

Yoo, Korea's first female trade minister, from 2019 to 2021, made it to the final round for director-general before yielding to Nigeria's Ngozi Okonjo-Iweala. During nearly three decades in government, she negotiated the Regional Comprehensive Economic Partnership as well as bilateral trade pacts with China and the United States.

Yoo is a graduate of Vanderbilt University Law School and Seoul National University, where she is now visiting professor at the Graduate School of International Studies. She grew up in Ulsan, an industrial hub home to global trade giants like Hyundai.

**F&D: How did growing up in Ulsan shape your view of trade?**

**YM:** All the big manufacturing facilities were there, and talent from all over the country came to Ulsan. Thanks to the multilateral trading system, we could export products made in Ulsan all over the world.

But that's not what intrigued me when I took the job of trade expert. While Korea is often cited as a textbook case of successful growth and development through trade, trade has also been a source of controversy. During the final stage of Uruguay Round negotiations, in 1990, a Korean farmer attempted to take his own life in front of the WTO building in Geneva to protest market opening in the agricultural sector.

So whenever there were discussions about additional market opening, we were always met with huge protests and demonstrations, making it difficult to persuade the public to support the trade initiatives. That really intrigued me—the job of a trade policymaker and negotiator, the daunting task of coordinating divergent and contrasting interests internally while representing my country's interests and contributing to global rulemaking externally.

**F&D: How did you apply those lessons to negotiations?**

**YM:** Sufficient preparation and domestic consultation are increasingly important. First, you have to know the substance of the issues through a thorough analysis. Most importantly, engaging in extensive consultation with domestic stakeholders and relevant agencies helps you explore alternatives, identify landing zones, and fine-tune your redlines during negotiations. These efforts also enhance the likelihood of achieving smooth ratification and successful implementation in the future. However, it takes a lot of time and effort.

For example, when I was a chief negotiator for the Korea-US renegotiations, we had to suspend a public hearing, a legal requirement to launch FTA negotiations in Korea, due to a significant protest by agricultural stakeholders. I met with the protesters several times to explain the issues and seek their support and understanding. Thanks to these engagements, we were able to resume the public hearing smoothly. In fact, some of us even became good friends. And this process helped us conclude the negotiations and secure ratification from the National Assembly within a year.

**F&D: How did your time as counselor in Beijing, from 2007 to 2010, serve you later in bigger roles, such as talks with China?**

**YM:** Beijing was different then because China made active efforts to engage with other countries and open their markets. For example, China concluded a free trade agreement (FTA) with New Zealand, its first comprehensive one as well as the first FTA with an advanced country back in 2008.

I actively engaged with China and worked to expand trade and investment with Korea by contributing to the conclusion of Korea-China FTA Joint Study. I also made good friends with many people I met and worked with. Since then, there has been a shift in China's policy, and the economic trade landscape has been changing as well.

**F&D: What was it like when COVID-19 hit a year into your time as minister?**

**YM:** I worked for freer trade and more open markets for most of my career as trade expert, and there was a widespread belief that those would promote economic growth, increase competitiveness and innovation, and improve living standards.

As trade minister, however, I witnessed a shift in the global landscape toward a more security-oriented approach. Some called it the transition from rule-based to "security-oriented trade governance," emphasizing resilience, stability, and reliability in supply chains.

So 2019 to 2021 marked the beginning of this transition, with economic security becoming increasingly relevant. I had to navigate this complex environment still promoting open and free trade while enhancing supply-chain resilience.

Despite COVID-19, we signed the Regional Comprehensive Economic Partnership among 15 members. We substantially concluded the agreement before the pandemic but only signed the document after one-year negotiations on technical issues to close gaps. And we managed to do this virtually, which wasn't easy.

**F&D: How did you see the pandemic affect trade?**

**YM:** There were a lot of supply disruptions, which caused our country and our companies to reevaluate supply chain vulnerabilities and risks.

During the early days of COVID-19, because of the outbreak in China, Korean carmaker Hyundai couldn't import wiring harnesses from China. It's a simple product you can make by hand, not

sophisticated like a semiconductor. But 95 percent came from China. And when factories in China shut down, Hyundai Motor had to suspend production at factories in Ulsan because they couldn't get harnesses. Later they sourced the harnesses from Cambodia. We started FTA negotiations with Cambodia that year.

**F&D: Is the global economy at greater risk of fragmentation? How vulnerable is Korea?**

**YM:** It's a worrisome trend: the increasing politicization of economic and trade issues, the security-oriented approach in trade, the conflation of trade policy with security. With the growing concern about national security as well as geopolitical competition between the US and China, many policymakers in major countries and around the world look at economic issues through a national security prism.

This is manifested in different policies—like supply chain reconfiguration; onshoring, reshoring, or friend-shoring; the resurgence of industrial policy or massive subsidies; and export controls or investment screening. Those policies could have a lasting impact on global supply chains and lead to fragmentation in critical sectors. And as the IMF's latest World Economic Outlook said, this could increase the cost of doing business, limit companies' access to global markets, add uncertainty to trade, and result in protectionism and disputes.

Though Korea strives to remain an open trade nation, this trend has impacted us. Supply chain resilience and economic security are buzzwords here in Seoul as well. Therefore, we've taken steps to enhance resilience, including supporting industrial and technological competitiveness in critical sectors, and diversification.

Additionally, we are actively seeking to strengthen international cooperation through bilateral, plurilateral and multilateral arrangements, recognizing that improving supply chain resilience does not have to mean turning away from economic openness but can be achieved through collaborative efforts.

It remains uncertain how far this trend of fragmentation will extend. However, the challenges ahead will be significant. Nations, including Korea, must adapt to this changing environment, striving to maintain and promote open trade while striking a right balance between the efficiency, resilience, and security of supply chains. **FD**

*This interview has been edited for length and clarity.*



# SUPERPOWERS ARE FORSAKING FREE TRADE

Free trade is taking a back seat to powerful nations' politics, hurting developing economies

Ngairé Woods

**T**he great powers that built and sustained the free trade system now have other priorities. This puts most emerging market and developing economies in a difficult position. The United States and China are changing the system and making other countries choose sides in a growing geostrategic rivalry. The best strategy for other countries might well be non-alignment—not just to protect their own interests, but also to restrain the superpowers.

The importance of safeguarding an open and inclusive multilateral trade system is underlined in a recent World Trade Organization (WTO) report, which argues that open trade (as opposed to all countries protecting their own producers and products) is the best way to cushion the enormous and growing costs of Russia's invasion of Ukraine. The report highlights that, despite the war, global trade continued to increase in 2022, as did trade in global supply chains (which grew 4 percent year

over year in the second quarter of 2022). Although experts (writing in *Nature*) initially predicted that the war would drive up food prices and cause millions to go hungry, global markets have in fact stabilized prices (see the food price index of the Food and Agriculture Organization).

The problem is that the great powers are turning away from the free trade system they created. Their priorities are being reordered by global security concerns and sharpening domestic political and economic demands. And for developing and emerging market economies the global trading system is increasingly reshaped by these priorities.

**Jobs at home and social cohesion:** Since the global financial crisis of 2008, growing criticism of globalization and open trade has rippled across industrialized countries, polarizing politics within them. At the core is the view that trade erodes social cohesion. The anti-trade sentiment was captured and accelerated by US President Donald



**BUY MADE IN**  
**AMERICA**

Trump when he imposed tariffs on his country's closest allies and trading partners, including Canada, Mexico, and the European Union, citing the need to protect national security and US jobs and manufacturing. Developing economies, whose economic strategies have been shaped by promises of market access, now risk being shut out of markets.

**Winning the technological edge:** China and the US are now fully engaged in a race to take

## Nonalignment could permit countries to navigate tough economic straits in their own people's interests and project their own values and priorities in international relations.

the lead in technology. Both see free trade as a disadvantage in that race. In 2015 China launched "Made in China 2025," a 10-year plan for rapid development of its tech industry through subsidies and state-owned enterprises. More recently, the US has deployed sanctions, blacklists, export and import controls, investment restrictions, visa bans, and technology transaction rules, in what has been described as "American techno-nationalism." In October 2022 new restrictions were rolled out limiting China's ability to acquire advanced semiconductors and the technology to make them, to hinder its artificial intelligence capability. For developing economies, the prospect of technological decoupling will likely force a choice between one camp or the other, as countries pressured by the US to cut ties with Chinese technology manufacturer Huawei have already found.

**Security of supply:** The COVID-19 pandemic led to disruptions in trade and supply chains, focusing attention on security of supply. "Friend-shoring"—reducing dependence on potentially hostile suppliers—entered the economics vocabulary. The WTO has argued convincingly that open markets help ensure secure supply, but the major powers are taking a different approach. In December 2022, Canada and its friends and allies (Australia, France, Germany, Japan, UK, US) announced the formation of

the Sustainable Critical Minerals Alliance, and the Group of Seven is developing an initiative to invest in a secure supply of critical minerals. For developing economies, this may sound like a return to Cold War politics, when leaders of countries such as Zaire (now Democratic Republic of the Congo) with strategic resources were courted by one side or the other, usually with devastating governance consequences.

**Effective climate action:** The US and the EU have launched a powerful combination of industrial policy, subsidies, and trade restrictions to motivate businesses at home and abroad to reduce greenhouse gas emissions. In the US the new Inflation Reduction Act includes \$400 billion in subsidies for renewable energy and electric vehicles that contain a minimum amount of North American parts. This provision is already returning US companies' investment to the United States and attracting foreign investors such as BMW, Mercedes-Benz, Stellantis, and Toyota. The EU has launched the European Green Deal and a carbon border adjustment mechanism (scheduled to go into effect in October 2023), which imposes an "emissions tariff" on imports. For developing economies, the trade aspects of these initiatives look like "Fortress US" and "Fortress EU": Rich countries responsible for the most climate-threatening emissions are locking others out of the fortresses their prosperity built.

**Responding to a war of aggression:** When Russia invaded Ukraine, outraged Western powers quickly put together a package of economic and trade sanctions. However, many countries did not join them. Several developing economies grappled with issues including their reliance on Russia (for security or for grain), the failure to consult them about the sanctions, and fears that such a sanctions regime could work against them in the future.

The powerful states' new priorities mean a far less certain world for smaller states and developing economies. The world economy may split into two rival blocs: the consequences are modeled in recent work by the WTO that projects welfare losses (or cumulative reductions in real income) as high as 12 percent in some regions, with the largest in the lower-income regions.

There is already evidence of US-China economic decoupling (beyond the technology decoupling cited earlier). Chinese direct investment in the United States fell dramatically from a peak of \$46.5 billion in 2016 to \$4.8 billion in 2019. This



reflects controls on incoming capital imposed by the US government Committee on Foreign Investment in the United States and a sharp increase in control of outbound capital by the Chinese authorities. More recently—although in 2022 US-China trade flows hit an all-time record of \$690.6 billion—the percentage of Chinese goods in total US imports fell, as did the value of US goods exported to China as a percentage of total US exports. A recent report by DHL and the Stern School of Business finds far less decline in cross-border flows between China and US allies. Decoupling may be a slower and more limited phenomenon elsewhere in the world.

If the US and China pursue a new strategy of balance-of-power politics, both will seek to enhance their power by demanding unequivocal allegiance. For a rival superpower, more “allies” means more credible power to make threats (whether economic or military) and a greater prospect of deterrence. But for all other countries, the calculation is different.

Some countries may find it advantageous to align with one side or the other. During the Cold War, Western Europe aligned with the United States and benefited from an open rules-based system that enabled postwar reconstruction, growth, and democracy. But the Cold War had other implications for many decolonizing countries whose corrupt and repressive regimes were propped up by the United States or the Soviet Union.

For some countries, it will make more sense to use nonalignment to bolster regional trade, investment, and production—exclusive of the great powers. In the words of a Singapore minister, “If we take sides, that is highly disruptive, either for our security or our economy.”

For developing economies, the uncertainties of the global trading system mean that most will want to negotiate trade, investment, aid, weapon purchases, and security from several sources. India and some African countries, among others, still rely heavily on Russian arms. Others depend on Russian energy, food, and fertilizer. Joining in sanctions against Russia for its illegal invasion would cost them dearly. Many countries are strongly dependent on Chinese aid, trade, and investment and are currently resorting to bailout loans from China. They also need markets in Europe and North America.

Nonalignment could permit countries to navigate tough economic straits in their own people’s interests and project their own values and priorities in international relations. Nonaligned Singapore refused to support Indonesia’s invasion of East Timor in 1975, opposed the US invasion of Grenada in 1983, and opposes Russia’s ongoing invasion of Ukraine.

By remaining nonaligned, countries could use their collective voice to urge the world’s great powers to use (or even create new) multilateral processes and institutions to help the world navigate the new priorities. This would not only give smaller and developing economies a voice, but would restrain the most powerful states from actions that would damage those that are smaller.

The great powers’ new priorities are currently being set and implemented unilaterally. If great powers are more and more concerned with balancing their own political and economic interests without regard for longer-term mutual interests, including those of other countries, the latter need to remind them that their support is conditional on processes that include them.

The global balance of power is unstable, and it is not clear where the relationship between the United States and China will land. Their rivalry is sharpening. Yet their influence over global trade affects not just their power relative to each other but the future of all countries. The rest of the world would do well to prepare itself with a measure of self-reliance in the meantime and to use nonalignment to make sure that both superpowers relate to each other in a way that does not endanger all others. **FD**

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# TRADE DRIVES GENDER EQUALITY & DEVELOPMENT

Nadia Rocha and Roberta Piermartini

International trade can benefit women, especially in developing economies, but the rewards depend on determined policy action



**G**ender equality is not only a fundamental right but an economic imperative. A considerable body of research shows that it makes economic sense for society to benefit fully from the skills and labor of the entire population, not just half of it. And it makes economic sense for men and women to receive commensurate rewards. For developing economies, the economic case for gender equality is even more compelling, for two reasons: the levels of inequality between men and women are higher, and the potential rewards from reducing the gender gap are greater.

So how can developing economies promote gender equality? International trade offers a promising path. Our research shows that trade has the potential to significantly boost women's role in the economy, reduce inequality, and expand women's access to skills and education. Countries that are open to international trade tend to grow faster, innovate more, improve productivity, and provide higher income and more opportunities to their people.

To help the developing world close the gender gap and reap the rewards of greater equality and opportunity for women, economists like us are seeking to better understand the links between gender equality and trade and how trade policy affects women and men differently. This line of research has faced a key problem: a dearth of data, disaggregated by sex, on the types of goods women consume, their occupations, and the sectors where they work.

## How trade affects women

A recent World Bank and World Trade Organization report on women and trade seeks to fill this knowledge gap. Building on new analysis and new sex-disaggregated data, the report aims to advance understanding on the two-way relationship between trade and gender equality and to identify a series of opportunities through which women can gain from trade. The report also provides a framework to identify the various channels through which trade affects women as *workers*, both at home and at work; as *consumers*; and as *decision makers*.

The report confirms that trade is beneficial to women in several ways.

**Exporters employ more women.** In developing economies, women make up 33 percent of the workforce of exporting firms, compared with just 24 percent of non-exporting firms. Women see similar advantages in businesses that are part of global value chains or have foreign investors, which on average employ 11 to 12 percent more women compared with other firms (Chart 1).

**Trade increases women's wages and can help reduce economic inequality.** Women's share of total wages increases both because exporting firms pay better wages and because they hire more women. Doubling the value of exports in a country's manufacturing sector would increase the average female wage share from 24 to roughly 30 percent. In Africa, freer trade would help close the wage gap, especially for skilled women workers. In a World Bank analysis on the potential impact of the African Continental Free Trade Area, models suggest that by 2035, wages for skilled and unskilled female labor could be 4 percent and 3.7 percent higher (relative to baseline), compared with a 3.2 percent increase for male workers at all skill levels.

**Trade creates better jobs for women.** Workers in both developed and emerging market economies are more likely to be employed in formal jobs, which bring better benefits, training, and job security, if they work in sectors that trade more or are more integrated into global value chains. This effect is bigger for women than for men. Our study showed that 13 percent of women in highly integrated sectors work informally, compared with 20 percent in less integrated sectors. For men, the probability of working informally falls from 9.5 percent in less integrated sectors to 5.0 percent in those that are highly integrated.

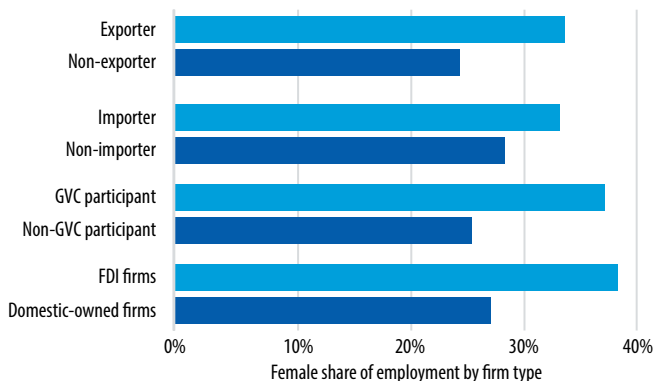
**Trade openness can increase women's incomes and consumption.** Eliminating import tariffs raises the average real income for female-headed households compared with male-headed households in more than three-quarters of the 54 developing economies analyzed. On average, real income gains reaped by removing import tariffs would be 2.5 percent greater for households headed by women than for those headed by men. In countries such as Burkina Faso and Cameroon, this increase is equivalent to one year's spending on education or health.



Chart 1

### Integration benefits

Average female labor share is higher for manufacturing firms integrated into global trade.



Source: Rocha, N., and D. Winkler. 2019. "Trade and Female Labor Participation: Stylized Facts Using a Global Dataset." Policy Research Working Paper 9098, World Bank, Washington, DC.

Note: The graph shows weighted averages by firm type, using the number of permanent workers as weights. Exporters are firms with an export share (direct or indirect) of at least 10 percent of total sales. Importers are firms with an imported input share of at least 10 percent of total inputs. Global value chain (GVC) participants are firms that are classified as both exporters and importers. Foreign direct investment (FDI) refers to firms with a foreign ownership share of at least 10 percent.

Opening up to trade therefore benefits women in developing economies because it expands the sectors where women work, reduces prices for the goods women consume, and allows firms that are more productive to grow. Increased competition generated by trade also makes it costlier to discriminate against women, which narrows the wage gap and improves working conditions for women.

### Trade's benefits

Three global trends present new and powerful opportunities for women to grow their representation in 21st century trade and better reap its benefits: expanding trade in services, the growth of global value chains, and the rise of digital trade.

Global economic activity is shifting toward services, which employ a larger share of women than sectors such as agriculture and manufacturing. Moreover, trade in services is expanding faster than trade in goods, providing more opportunities for women to trade. Services now create the most jobs and do so earlier in the development process (Ghani and O'Connell 2014; Rodrik 2016). According to International Labour Organization statistics, in 2000, 46 percent of all services sector workers were women, rising to about 58 percent by 2020.

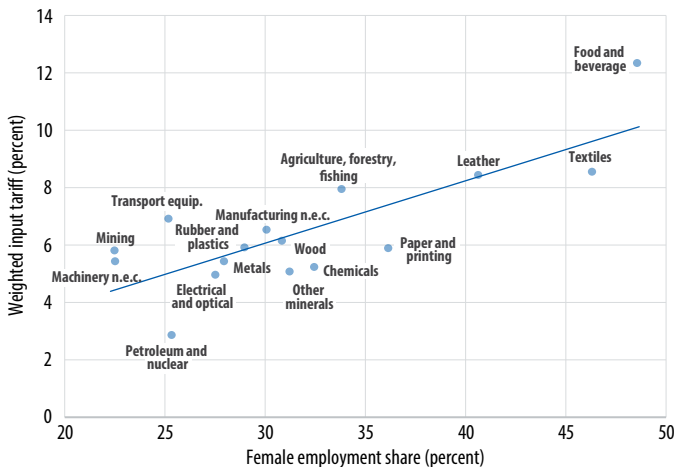
Global value chains create better jobs and increase income opportunities for women across the economy. They better connect female-run micro and small businesses and small-scale farmers to international markets. Women working in global value chains have a 10 percentage point higher probability of being in the formal workforce than women in sectors that are not highly integrated into such networks.

The growth of digital services presents another opportunity for women in developing economies. Digital technologies allow women to overcome constraints ranging from limited access to finance and education to limited mobility and flexibility. Digital platforms in both developed and developing economies have witnessed a sharp rise in women-owned companies over the years. For example, about half of the entrepreneurs on Alibaba platforms are women, compared with a quarter among all entrepreneurs in China. And growing online trade in education and health services increases women's access to those services and provides better employment opportunities in sectors where women face less discrimination.

Chart 2

### Pink tariffs

Sectors that employ more women face higher input tariffs.



Source: World Bank–WTO (2020).

Note: Tariffs are weighted by input proportions at the International Standard Industrial Classification (ISIC) two-digit sector level, using the World Input-Output Database, <http://www.wiod.org>. World Trade Organization Integrated Database tariff data are from the World Integrated Trade Solution (WITS), <http://wits.worldbank.org>. n.e.c. = manufacturing machinery and equipment or parts for such equipment not elsewhere classified.

## Rebalancing policies

But these trends alone are not enough to close the gender gap. Developing economies must implement significant policy reforms to help women overcome discrimination. Policymakers need to adjust tariff policies that stack the deck against women. Sectors that are female-intensive—such as food and beverages, and textiles and apparel—on average face higher tariffs on inputs (Chart 2). As a result, female producers pay more for their inputs and face higher restrictions on their exports than men. In India, this “pink tariff” amounts to 6 percentage points (Mendoza, Nayyar, and Piermartini 2018).

Nontariff measures, such as product standards and regulatory measures, can also affect women more than men. Because these measures often represent a fixed cost of trading, the burden is greater for small and medium enterprises—often owned by women—than it is for large companies. Small exporters also lack specialized teams to manage the trading process and, because they export infrequently or in small batches, are particularly exposed to the costs of cumbersome administrative procedures. There are other barriers, including limited access to trade financing and higher exposure to extortion and physical harassment at the border.

International cooperation in key areas—such as trade policy to close the gender gap in tariffs and trade facilitation to streamline regulatory requirements for goods to cross the border—would advance gender equality without explicitly targeting women. Policies to improve access to education, financial resources, digital technologies, and information can also help women maximize the benefits of trade. Such policies must be well designed, coordinated, and complementary to address the specific barriers that women face (such as time constraints and limited geographic mobility because of the additional tasks society imposes on them due to their role in the family).

## Pandemic and geopolitical tensions

The recommendations of the report are essential to guide policymakers as countries recover from the economic disruptions caused by the pandemic and face the consequences of geopolitical tensions, including the war in Ukraine. In 2020, the pandemic crisis destroyed 4.2 percent

of women’s employment worldwide (a drop of 54 million jobs), compared with 3 percent for men (a drop of 60 million jobs). Women also lost \$800 billion in income, a figure that does not account for wages lost in informal jobs, where women tend to be overrepresented. The pandemic had a disproportionate impact on sectors that tend to employ more women, and women bore the brunt of childcare center and school closures because of their greater family caregiving responsibilities (Landivar and others 2020), although teleworking has eased this burden. Increased investment in digital technologies, spurred by the pandemic, will give women more opportunities to benefit from trade going forward.

The recent rise in protectionist pressures, global value chain reshaping, and geopolitical tensions all threaten to reverse the gains in gender equality achieved so far. Open trade will be essential to designing a gender-inclusive economic recovery.

While the overall impact of trade on women has been positive and trade has the potential to provide further opportunities, trade-related disruptions will affect some sectors and workers as comparative advantages shift. Complementary labor market policies would help women in developing economies acquire new skills or move to new locations where job opportunities are improving. To craft such policies, governments will need additional studies of the impact of trade on women. That type of analysis, in turn, will require more gender-disaggregated data. **FD**

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# GLOBALIZATION'S PEAK

Trade plateaus and restrictions rise, marking a new era for globalization

**THE FREE FLOW OF GOODS**, services, capital, people, and ideas across national borders leads to greater economic integration. But globalization, the trend toward these things moving ever more freely between countries, has seen ebbs and flows over the decades and most recently has hit what appears to be a momentary peak.

The trade openness metric—the sum of exports and imports of all economies relative to global GDP—is used as a proxy for globalization. Looking back over a century and a half of data, the main phases of globalization are clearly visible.

As the charts show, the index has plateaued on a global level since 2008, and the metric has receded for some of the world's largest economies. At the same time, there has been a significant surge in trade restrictions globally over the past few years.

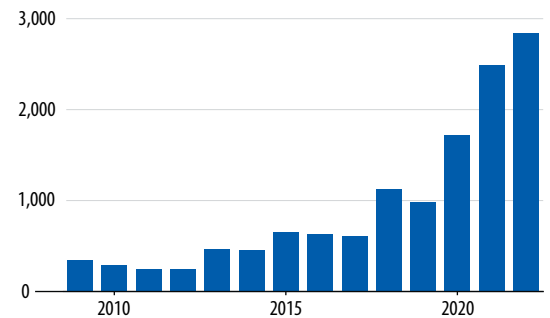
These trends do not bode well for the future of globalization, and they have come into sharper focus this year as policymakers work to understand and address the prospect of growing geoeconomic fragmentation.

This follows a rise in trade tensions between the world's two largest economies, the United States

and China, and more recently following Russia's invasion of Ukraine, which has caused massive disruptions of financial, food, and energy flows across the globe. In addition, COVID-19 has increased the focus on economic security and on making supply chains more resilient after the pandemic exposed their vulnerability in many countries. **FD**

## Rising restrictions

(number of trade restrictions imposed annually worldwide)



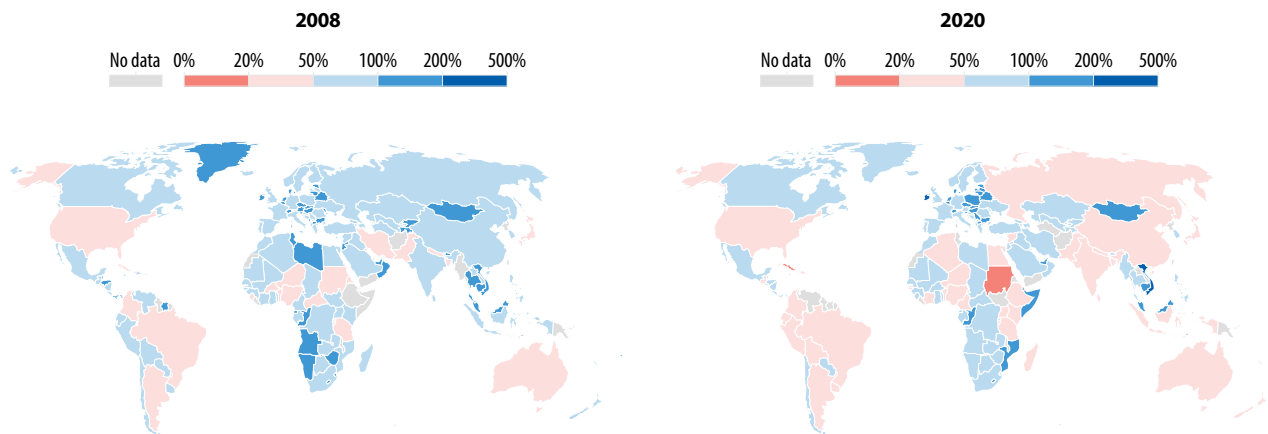
Source: Global Trade Alert.

Note: Includes restrictions on goods, investment, and services.

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## Trade retreat

Trade openness has receded for many countries since the global financial crisis of 2008, including for some of the world's largest economies. (sum of exports and imports as a share of GDP)



Sources: Organisation for Economic Co-operation and Development; Our World in Data; and World Bank.

Note: Includes both goods and services. The boundaries, colors, and any other information shown on the map do not imply, on the part of the IMF, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.



## Eras of globalization

The history of globalization is characterized by five main periods of different configurations of economic and financial power and different rules and mechanisms for economic and financial ties between countries.

### 1870–1914: Industrialization

The industrialization era was a period when global trade—dominated by Argentina, Australia, Canada, Europe, and the United States—was facilitated by the gold standard. It was driven largely by transportation advances that lowered trade costs and boosted trade volumes.

### 1945–1980: Fixed Exchange Rates

During the Bretton Woods era the United States emerged as the dominant economic power, with the dollar, then pegged to gold, underpinning a system with other exchange rates pegged to the greenback. The postwar recovery and trade liberalization spurred rapid expansion in Europe, Japan, and developing economies, and many countries relaxed capital controls. But expansionary US fiscal and monetary policy driven by social and military spending ultimately made the system unsustainable. The United States ended dollar-gold convertibility in the early 1970s, and many countries switched to floating exchange rates.

### 1914–1945: Wars, Protectionism

The interwar period saw a dramatic reversal of globalization due to international conflicts and the rise of protectionism. Despite the League of Nations push for multilateralism, trade became regionalized amid trade barriers and the breakdown of the gold standard into currency blocs.

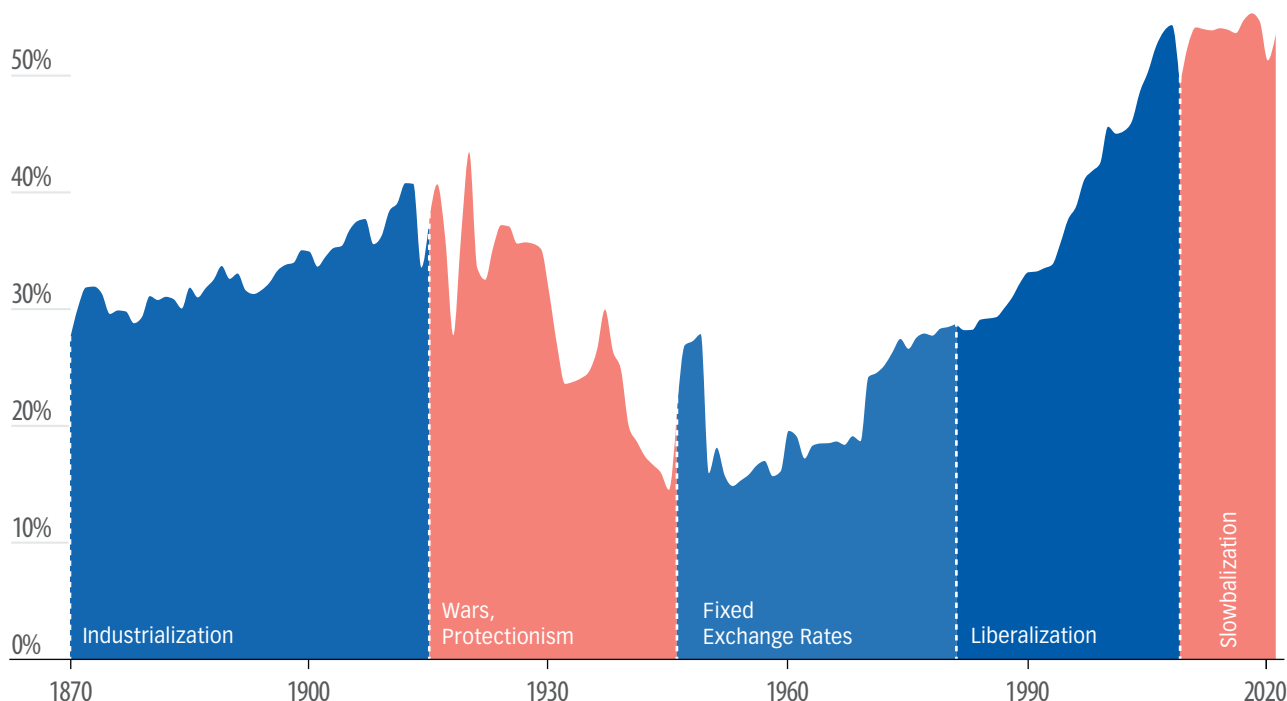
### 1980–2008: Liberalization

Liberalization saw the gradual removal of trade barriers in China and other large emerging market economies and unprecedented international economic cooperation, including the integration of the former Soviet bloc. The World Trade Organization, established in 1995, became a new multilateral overseer of trade agreements, negotiations, and dispute settlement. Cross-border capital flows surged, increasing the complexity and interconnectedness of the global financial system.

### 2008–2021: “Slowbalization”

The slowbalization that followed the global financial crisis has been characterized by a prolonged slowdown in the pace of trade reform and weakening political support for open trade amid rising geopolitical tensions.

### Sum of exports and imports as a share of GDP



Sources: Jordà-Schularick-Taylor Macrohistory Database; Penn World Data version 10.0; Peterson Institute for International Economics; World Bank; and IMF staff calculations.

Note: Sample's composition changes over time. The concept of eras of globalization is based on the work of Douglas Irwin at the Peterson Institute for International Economics.

# Subsidy Wars

Cooperation and common understanding could dial back trade tensions

Elizabeth Van Heuvelen



**A RAMPING UP OF SUBSIDIES** by some of the world's largest economies has contributed to a significant increase in global trade tensions. New subsidies, countervailing duties, and legislation such as the US Inflation Reduction Act, the EU Green Deal Industrial Plan, and the Made in China 2025 strategy have raised concerns about the potential for subsidy wars—subsidy competition that leads to a race to the bottom.

This concern has been bolstered by the way subsidies adopted by one major trading bloc have spurred others to enact their own subsidies within just six months. To defuse and mitigate these worrisome dynamics it is important to understand the fears and goals that lie behind these actions. What drives governments to subsidize their domestic economies? What problems can these subsidies cause? And what can be done to prevent an all-out subsidy war?

Subsidies are a transfer of resources from a government to a domestic entity without an equivalent contribution in return and can take many forms, including direct grants to domestic companies, tax incentives, or favorable terms for financing.

Governments use subsidies for several reasons, and their terms are shaped by the goal the government hopes to accomplish.

Governments might want to achieve a national strategic objective or to gain a competitive edge in international markets. Think of production subsidies in high-tech industries such as aerospace and telecommunications, which can be used to ensure predictable or guaranteed supply chains or to protect other national security interests.

Some subsidies lack a clear rationale and may be a response to lobbying or political pressure. Others might be motivated by understandable public policy objectives, such as the need to correct market failures or to respond to national emergencies, from health to climate change. Subsidies for COVID vaccines, when governments intervened to address capacity constraints, are a recent example. Regardless of the rationale, poorly designed subsidies that have a negative effect on other countries can invite retaliatory countermeasures.

## What's wrong with subsidies?

The classic economic argument against the use of subsidies is that they cause a misalignment between prices and production costs. In doing so, they can distort markets, prevent efficient outcomes, and divert resources to less productive uses. If subsidies benefit some firms over others, they can snuff out innovation and force efficient firms to contract out work or exit the market altogether. This, in turn, can reduce overall productivity. They also create opportunities for rent-seeking behavior—activities that manipulate the distribution of economic resources to bring positive returns to individuals, not to society—and harm smaller economies that cannot afford to subsidize.

Subsidies can also prop up practices that are harmful to the public interest and have negative environmental and health effects. For example, the world could have cut global carbon emissions by 28 percent and air pollution deaths by 46 percent had policymakers agreed to replace fossil fuel subsidies with an efficient carbon price, according to IMF economists.

But the impact of subsidies on trading relationships has been particularly fraught. First, subsidies can distort trade and investment decisions in other economies. This is particularly true when they include discriminatory provisions such as a requirement that manufactured goods use components made exclusively or primarily within the country. For example, if Country A grants tax credits to purchasers of widgets whose components are all made in that country, a number of inefficient results are likely: manufacturers may reconfigure supply chains to prioritize domestic partners, foreign producers may relocate production to Country A, and Country A's consumers may develop an unwarranted preference for domestically produced widgets.

Second, subsidies undermine the benefits of past tariff and market-access negotiations that were undertaken in regional and multilateral agreements. This happens most often when subsidies undercut improved market access that flows from tariff reductions. Over time, this can increase perceptions that trade is unfair and can reduce public support for trade.

Third, subsidies may lead trading partners to believe that a government promoted unfair competition and could compel them to react in kind. To take the above example a step further, if Country B, a main trading partner of Country A, determines that its domestic widget industry is being hurt by cheap imports of widgets subsidized by Country A, it might impose countervailing duties to neutralize the effects of the subsidies. Country B could also subsidize its own widget production and introduce measures similar to those of Country A. These reactions could spur Country A to retaliate in kind and lead to an escalating subsidy war.

### Can international rules help?

The World Trade Organization (WTO) Agreement on Subsidies and Countervailing Measures (SCM agreement, for short) and its Agreement on Agriculture provide a good foundation for rules governing subsidies that affect trade in goods. The SCM agreement, for example, defines what constitutes subsidies, including those that are prohibited (such as export subsidies and local-content subsidies) and those that can be challenged because they have adverse effects on another country. The agreement also requires governments to notify the WTO of certain subsidies and establishes procedures for unilateral and multilateral remedies,

including the use of countervailing measures and WTO dispute settlement.

But the SCM agreement has some important shortcomings. A chief concern is that some forms of state intervention, including subsidies to and provided by state-owned enterprises, are not automatically counted as “subsidies” in the current WTO definition. Such intervention might include providing favorable financing for land or equipment to state enterprises that produce goods for export. Some countries are concerned about how subsidy rules apply to state enterprises and have incorporated into recent trade agreements measures to limit their market-distorting behavior. Such agreements include the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and the agreement between the United States, Mexico, and Canada. Countries have also sometimes failed to notify the WTO when they introduce subsidies. This has contributed to a lack of transparency and sowed mistrust.

Rules are only part of the story, however. A lack of information makes it difficult for policymakers to make informed decisions about subsidy use. There is, for example, no comprehensive analysis of subsidies and their effects. Internationally, there is little guidance on how subsidies can be improved and how to minimize negative cross-border spillovers. Without this information, national policymakers are left with limited tools.

### Can a subsidy war be stopped?

The current landscape is challenging. Subsidy disputes and countervailing duty investigations at the WTO have increased steadily since 2010. As governments expand subsidies, tit-for-tat competition among major governments seems likely to continue.

But there may be a path out of this dangerous dynamic. A recent joint paper, “Subsidies, Trade, and International Cooperation,” by four international organizations, including the IMF, proposes ways to enhance transparency, provide better analysis, and strengthen cooperation to improve the design of subsidies and limit their harmful effects. Cooperation and common understanding would go far in dialing back tensions and contributing much-needed openness and predictability to global trade. **FD**

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## Partnerships for Refugees

*UNHCR's **Filippo Grandi** argues that long-term solutions for refugees go beyond humanitarian aid*

**FINANCIAL STABILITY IS NOT** only about managing inflation, employment rates, and spending; it's about understanding how those factors affect people in different places and circumstances. In an interview with F&D's Bruce Edwards, United Nations High Commissioner for Refugees Filippo Grandi discusses how strategic partnerships between humanitarians and economists can support the millions of forcefully displaced people and provide a firmer footing for economic recovery.

**F&D: What is the state of global refugees, and how do you explain the surge that we've seen especially in the past decade?**

**FG:** The surge is very noticeable. Ten years ago, the global population of forcibly displaced people, including refugees, was about 40 million people. It's now 103 million and rising. I call this a failure of our contemporary world to make peace. The multiplication of conflicts is the largest driver of population displacement. Of course, this needs to be seen against the broader background of other drivers—economic factors, inequalities, demographics,

and climate change. All of this conspires to make population movements increasingly complex.

My organization, UNHCR, has a specific mandate to protect and help find solutions for refugees—people fleeing violence, war, or persecution. We have been increasingly assisting internally displaced people—those fleeing within their own country, without crossing borders.

**F&D: How does UNHCR decide where to focus its attention and resources on any given day?**

**FG:** We bring our expertise where we can be most useful—not only in the typical refugee situations, like Ukraine, and protracted situations, like those of Afghan and Syrian refugees, but also where the intersection of causes generates population movements. For example, the many places in the world where climate change intersects with conflict, exacerbating existing tensions and leading to further displacement, such as in the Horn of Africa or the Sahel, parts of Central America and South Asia.

Let's not forget that displacement itself can have a negative impact on nature. Think of deforestation or the depletion of water resources when you also have large population movements. This is where we and the IMF can be useful in helping governments develop policies to address displacement.

Our organization works in 137 countries and has a workforce of about 20,000 people. We work with many partners, including local and international NGOs, other UN agencies, and development and financial institutions. We've had a

yearly expenditure of about \$6 billion in the last couple of years, almost entirely voluntarily funded. We struggle to find those funds in a world where competition for resources is very high. Our wish is to address this increasing demand through other partnerships—not only with those that are strictly humanitarian but also development actors.

**F&D: To what degree do you normally collaborate with financial institutions?**

**FG:** It's a growing field of cooperation. In 2018, the United Nations established two compacts, one on refugees and one on safe and orderly migration. These are two distinct issues, although often intersecting, as I said. UNHCR is the custodian of the compact on refugees, which serves as a toolbox for states, in particular, to address the refugee phenomenon. It proposes that, going forward, especially in large refugee situations, the best responses are not simply humanitarian. You will always need food, medicine, shelter, and immediate care for people that are fleeing in large numbers. But very soon you will have to think about medium- and longer-term needs—for example, education, proper health care, livelihoods. Humanitarian assistance is not particularly tailored for the long term, hence, our drive to partner with development organizations.

We have taken important steps with the World Bank. A few years ago, they established financial instruments within their International Development Association platform for low-income countries and, separately, for middle-income countries to help them host large numbers of refugees. The purpose is for us to work in parallel with the World Bank to address, for example, issues of inclusion of refugees in education and health systems and the improvement of livelihoods, economic opportunities, and overall support to the communities hosting refugees.

We also work with bilateral development agencies and other regional banks. The IMF is different, of course, because of its nature. But it's growing as an important interlocutor in this effort. To this end, we have a staff member on loan to advise the IMF on issues related to forced displacement in their work.

**F&D: How vulnerable are UNHCR's operations to global economic trends, such as high inflation?**

**FG:** Three factors make us vulnerable. First, inflation means higher costs. From the security logistical point of view, we run very expensive operations in places like

Afghanistan and northwest Syria. The second factor is that, although humanitarian aid has been growing globally, it hasn't matched the growth of needs.

The third and most important factor is that, with greater economic pressures and risks, displaced populations—the people we work for—and host communities become more fragile and need more help. In many countries, the high number of refugees has a macroeconomic impact. We would like the IMF to factor this in its work in refugee host countries and to help us make the case that integrating refugees brings large economic benefits to their economies and societies.

**F&D: How do you work in countries where the environment is extremely difficult?**

**FG:** We assist vulnerable people, who are sometimes in extremely fragile situations. For example, in countries or territories that are controlled by entities not recognized by the international community, like Afghanistan, or in countries that are under sanctions, which makes our work more complex.

The point we make to our stakeholders and donors is that we must be there. We're not there to recognize or endorse any government or institution. We're there to help the people, and that means dealing with all entities and governments, irrespective of the international politics. Sometimes it's difficult to even get financial resources on the ground, but there are arrangements that make it possible. In Afghanistan, for example, appropriate exemptions to the sanctions allowed us to receive sufficient resources to run humanitarian operations that are indispensable to the survival of millions of people.

**F&D: You've worked in some of the most difficult places in the world. How did you come to be in this position?**

**FG:** I've been doing this work for almost 40 years. I was very young when I started as a volunteer in Thailand. It was still the Cold War, and Thailand was a Cold War frontier, so there were refugees from Indochinese countries. I worked as a volunteer for an NGO, and that was the beginning of it all. I would not say by chance. I always had a desire to do international work and to do something useful for people; some intention and some luck brought those two personal paths together. **FD**

*This interview, based on a podcast from March 23, 2023, has been edited for length and clarity.*



# AGING IS THE REAL POPULATION BOMB

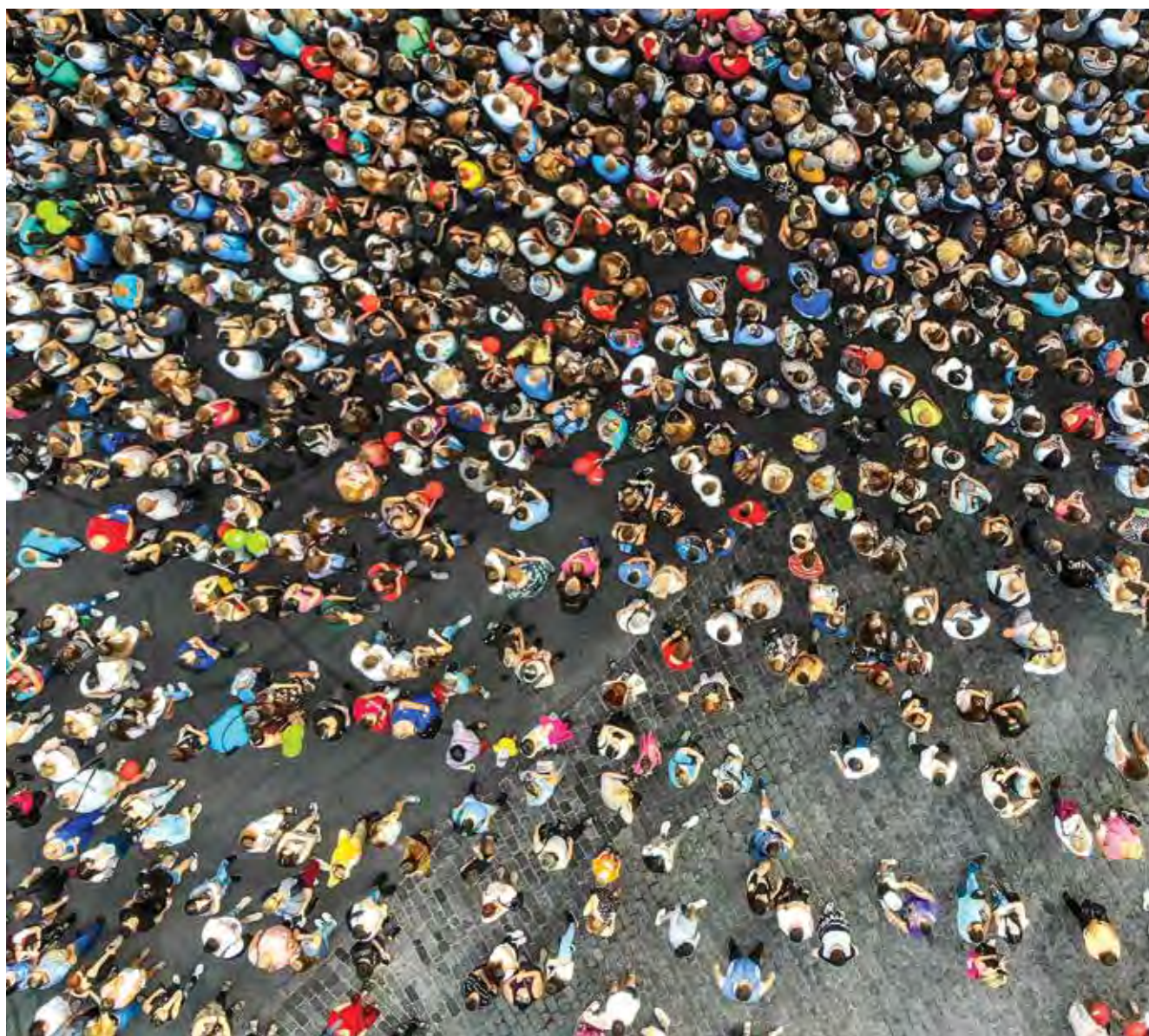


PHOTO: ADBESTOCK/DMYTRO



Population aging is the top global demographic trend; the pandemic can teach us how to prepare for it

David E. Bloom and Leo M. Zucker

**T**otal world population passed the 8 billion milestone on November 15, 2022. The progression from 7 to 8 billion people took a mere 12 years, conjuring up long-standing fears associated with rapid population growth, including food shortages, rampant unemployment, the depletion of natural resources, and unchecked environmental degradation.

But the most formidable demographic challenge facing the world is no longer rapid population growth, but population aging. Thoughtful preparedness—combining behavioral changes, investment in human capital and infrastructure, policy and institutional reforms, and technological innovations—can enable countries to meet the challenge and take advantage of the opportunities presented by demographic change.

The specter of a global population bomb has, in reality, been defused (or, rather, fizzled naturally). The world's rate of population growth has slowed appreciably in recent decades and is projected to continue slowing (see Chart 1, page 61). Even as India surpasses China to become the most populous country in the world, its average annual rate of population growth is projected at 0.7 percent during 2020–40, below the global average of 0.8 percent and just half its 2000–20 rate. Current UN projections also signal an increase in countries experiencing annual population decline, from 41 in 2022 to 88 in 2050 (with China included throughout).

### Dominant global trend

The pandemic affected global population size and growth only slightly, despite an estimated 15 million direct and indirect COVID-19–related deaths and an almost two-year decline in life expectancy

worldwide during the first two years of the pandemic (UNDESA 2022). Although it exacerbated inequalities and potentially created new economic burdens as a result of “long COVID” symptoms, the impact on fertility remains uncertain.

Population growth rates vary considerably across countries, income groups, and geographic regions. Growth is disproportionately high among low-income countries and in Africa and disproportionately low among middle- and (especially) high-income countries and in Europe. What *is* fast becoming universal is that population aging is the most pervasive and dominant global demographic trend, owing to declining fertility, increasing longevity, and the progression of large cohorts into older ages.

The population age structure has changed radically over the years, as shown in Chart 2 (page 61). Global life expectancy soared from 34 years in 1913 to 72 years in 2022 and is expected to continue on that long-term trajectory. Meanwhile, between 1970 and 2020, fertility dropped in every country in the world (Bloom 2020). When the United Nations and World Health Organization (WHO) were established, there were seven times more children under age 15 than people 65 and older; by 2050, these groups will be about the same size. Between 2000 and 2050 alone, the global share of people 80 and older is expected to quadruple to almost 5 percent.

These shifts portend a colossal set of health, social, and economic challenges in the coming decades. They also signal the heretofore unlikely prospect of widespread depopulation. Addressing all these challenges will require meaningful changes in lifestyle behaviors, public and private investments, institutional and policy reforms, and technological innovation and adoption. The potential consequences of inaction are dramatic: a dwindling workforce

straining to support burgeoning numbers of retirees, a concomitant explosion of age-related morbidity and associated health care costs, and a declining quality of life among older people for lack of human, financial, and institutional resources.

### **Demographic preparedness**

Demographic change is typically more evolutionary than revolutionary, certainly compared with other major influences on social and economic well-being, such as pandemics, civil and cross-national conflicts, and technological change. Because demographic trends are also more predictable, key stakeholders have a fairly wide window of opportunity to enact policies and encourage behaviors that shape future demographics and cushion potential adverse impacts of the demographic changes that do occur. Attainable goals for demographic preparedness include improving reproductive health, equipping people with the human and physical capital they need to be productive members of society, ensuring well-functioning labor and capital markets that allow people to realize their productive potential, establishing institutions and policies that limit the burdens people place on the environment, and promoting healthy aging.

A vital behavioral change centers on increasing physical activity. The WHO calls for 150–300 minutes of moderate aerobic physical activity a week for adults ages 18–64 and recommends that adults 65 and older augment physical activity with balance and strength training three days a week. However, one in four adults worldwide fails to meet these standards (WHO 2020). Meanwhile, the WHO’s recommendation for adolescent physical activity, 60 minutes a day, is unmet by more than 80 percent of the population. Proposed initiatives include policies to support travel on foot or by bicycle, as well as an alliance of schools, communities, workplaces, health systems, and governments to provide incentives and safe spaces for greater physical activity. Encouraging healthier diets (low in sugar, sodium, saturated fat, and calories) and reducing the consumption of tobacco and the unsafe consumption of alcohol could also yield significant and lasting returns to the healthy aging effort.

Indicators of population aging are muted in high-fertility countries. Nonetheless, these countries have the dual task of navigating high fertility and population aging. Addressing the fertility challenge involves constructive behavioral changes that enable better reproductive health to reduce

the unmet need for family planning and limit the sometimes crushing social and economic burdens that weigh on high-fertility societies. The urban share of global population—which nearly doubled from 30 percent in 1950 to 57 percent today—would also experience slower growth as a result of family planning, which would ease associated social and economic pressures.

### **Investing in healthy aging**

Infrastructure investments would naturally be focused on the creation of healthy, age-friendly spaces. Residential and commercial construction could emphasize well-ventilated buildings that rely on clean fuels to mitigate the deleterious physical and cognitive effects of indoor air pollution. Development based on electrified mass transit and ease of access for mobility-constrained older people is an appropriate and high-priority urban planning objective.

Human capital investment initiatives should focus on sustaining per capita economic growth despite declines in the share of the working-age population. Reinforcement of training and skills programs would ideally aim not only to increase the productivity of those already in the workforce but also to encourage workforce participation of underrepresented groups, such as mothers and older people. Also desirable are investments in primary and secondary education that shore up teaching of critical skills and, whenever possible, focus on cultivating innovators from a broad swath of society.

Institutional and policy reforms can promote access to quality family planning supplies and services, allow more choice about the age of retirement, incentivize individual saving for retirement, promote economic sectors with opportunities for older workers, develop and strengthen long-term-care systems, and promote disease prevention and early detection. Relaxed restrictions on immigration so that people can go where the jobs are would be particularly pragmatic and would correct mismatches between jobs and working-age populations. Africa, for example, has a surplus of young people searching for jobs while Europe, with an older population, has a plethora of jobs in search of workers.

Insofar as over 96 percent of the world’s people still live in the countries of their birth, there would appear to be considerable scope for international migration to relieve demographic-related pressures. Increased migration could also increase remittances from expatriate workers to support the economic

development of their native countries, particularly if the cost of international transfers declines. A recent World Bank report estimates that lowering remittance fees by 2 percent would result in an annual savings of \$12 billion for migrants from lower-middle-income countries (Ratha and others 2022). Liberalization of international migration policies could, however, magnify “brain drains” as skilled workers seek higher wages elsewhere.

Technological innovations hold exciting potential for addressing the challenges of population aging. Advances in health technology (the development of safe and effective vaccines and of wearable health monitoring sensors), assistive devices (robots), and information technology (interoperable electronic medical records and more and better population-level data to understand the experience of aging and develop policies to improve it) are already beginning to contribute to the healthy aging effort. Incentivizing their further development and expansion is a promising path for future gains.

Like the pandemic, population aging presents—together with its challenges—opportunities for societies to reorient and reinvigorate themselves. The most obvious takeaway is the need for enhanced preparedness. Other hard-learned lessons of the pandemic include the need to identify gaps in the care of societies’ most vulnerable, the role of technology to connect the homebound, reevaluation of work/home life balance that could yield long-term health benefits, and a renewed focus on the importance of mental health. As the world neutralizes the population growth bomb and seeks to fortify itself against the explosion of population aging, these lessons suggest a pathway for rewiring the global approach to healthy aging. **FD**

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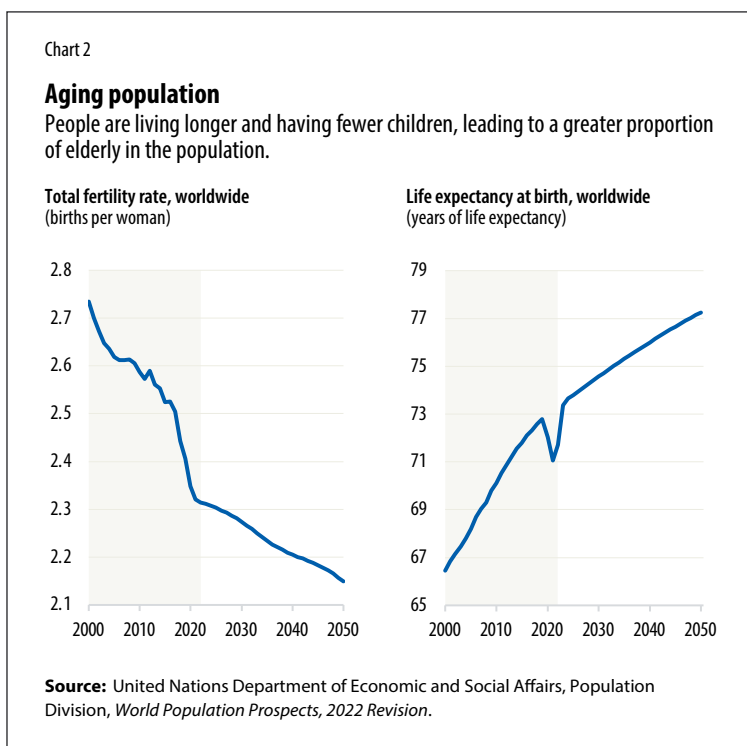
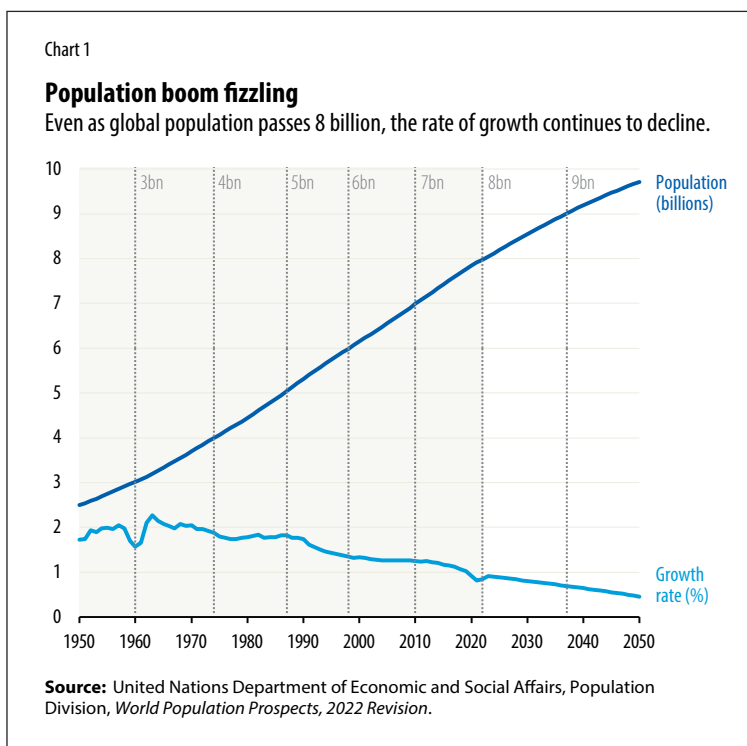
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## Riskless Capitalism

*The US government decision to cover uninsured deposits at Silicon Valley Bank undermines free market discipline*

**Raghuram Rajan and Luigi Zingales**



COURTESY OF RAGHURAM RAJAN



COURTESY OF LUIGI ZINGALES

**DID UNINSURED DEPOSITORS** in the failed Silicon Valley Bank (SVB) need to be saved? The argument is that even though everyone knew that deposits over \$250,000 were uninsured, if uninsured depositors had not been made whole, panic would have coursed through the banking system. Large depositors' withdrawals from other banks would have compromised financial stability.

Perhaps! But if large depositors are always protected in the name of financial stability, why aren't they at least charged the insurance fee that burdens the insured deposits? There are many low-cost ways for corporate treasurers to mitigate the risk of having money in a transaction account at a bank. They can keep only the amount needed to meet payroll and other immediate transactions in a demand deposit (checking) account and put additional soon-to-be needed cash in liquid money market funds. Yet too many firms did not practice elementary risk management. Streaming device maker Roku had more than \$450 million in deposits at SVB, according to Reuters. While shareholders in SVB were deservedly wiped out and management let go, large depositors enjoyed riskless capitalism as the government changed the rules to benefit them.

A haircut could have been imposed on SVB's large depositors. Based on past interventions by the Federal Deposit Insurance Corp (FDIC) this would have cost uninsured depositors about 10 percent of their balances. A few red-faced corporate treasurers would have justifiably lost their jobs. And if there were signs of contagion to other banks, the government could have announced a blanket implicit guarantee for all deposits, as US Treasury Secretary Janet Yellen eventually did. But the FDIC would have saved \$20 billion and retained the principle that at least some of those who took risks paid the consequences. SVB would then be seen as capitalism penalizing the incompetent, rather than as an aberration—setting a precedent that will likely engender more attempts at riskless capitalism.

## A government that repeatedly shows its willingness to bail out has little credibility when it says next time will be different.

More generally, as the Federal Reserve's own investigation put it, SVB failed "because of a textbook case of mismanagement by the bank." If so, flighty uninsured demand deposits can be a feature, not a bug, in the system. If uninsured depositors pay attention, they can shut down incompetent or greedy bank management quickly, saving the taxpayer immense sums. If they are anesthetized because regulators invoke the tired argument that "this is not the time to worry about moral hazard," uninsured depositors will not pay attention in the future. A government that repeatedly shows its willingness to bail out has little credibility when it says next time will be different.

The government decision was made after immense lobbying, including many cries for help from venture capitalists. David Sacks, of Craft Ventures, tweeted, "I'm asking for banking regulators to ensure the integrity of the system. Either deposits in the U.S. are safe or they're not." Billionaire hedge fund titan Bill Ackman tweeted, "If private capital can't provide a solution," a government bailout should be considered. One politician praising the bailout was California Governor Gavin Newsom. Three of his wineries were clients of SVB, and an SVB executive sits on the board of his wife's charity, according to the *Intercept*. Newsom's holdings have been in a blind trust since he was elected governor in 2018.

That the system's insurance rules could be bent in a way that benefits large depositors brings to mind an intrinsic contradiction in the venerable Chicago tradition of economics that we pointed out 20 years ago in our book *Saving Capitalism from the Capitalists*. On one hand, the Chicago tradition claims the free and fair working of markets requires primarily the existence of well-defined and well-enforced property rights. On the other, it argues that any form of regulation is liable to be captured by vested interests. If vested interests can capture regulation (and the Federal Reserve's post-mortem report on SVB acknowledges changes in rules in 2019 that allowed banks like SVB to

operate with less transparency and fewer checks), why are they not able to capture the definition and enforcement of property rights? Why can powerful venture capitalists not simply redefine uninsured deposits as insured, invoking some larger public good?

If they can, then free enterprise capitalism is not the inevitable product of a minimalist government, but a political creation, which can develop and survive only under very specific conditions. Otherwise, the natural state it tends to is rampant cronyism or, in its milder form, pro-business capitalism, rather than pro-market capitalism.

In our book, we focused on the development and survival of financial markets because these markets are probably the most fragile, but the argument is more general. We argued that "capitalism's biggest political enemies are not the firebrand trade unionists spewing vitriol against the system, but the executive in a pin-striped suit, extolling the virtues of competitive markets with every breath while attempting to extinguish them with every action." Rather than creating and supporting markets, the capitalists undermine the working of the market because they feel threatened not only by the competitive market itself but also by the institutions that make markets work. "The economically powerful are concerned about the institutions underpinning free markets because they treat people equally, making power redundant."

We recognized that "markets cannot flourish without the very visible hand of the government, which is needed to set up and maintain the infrastructure that enables participants to trade freely and with confidence." But that raises the question of who "has an interest in pushing the government to support the competitive market? For even though everyone collectively benefits from the better goods, the services, and the equality of access that competitive markets make possible, no one in particular makes huge profits from keeping the system competitive and the playing field level.

Thus, everyone has the incentive to take a free ride and let someone else defend the system.”

Free enterprise capitalism, then, is not the final stage of a deterministic process of evolution. “It is better thought of as a delicate plant, which needs nurturing against constant attack by the weeds of vested interests.”

## Competition between systems is increasingly threatened by old-style protectionism, often hiding behind geopolitical concerns.

We identified four conditions necessary to encourage this delicate plant to grow. First, there should be no incumbent businesses that are very powerful. Instead, each business must have only modest power, so that it needs the state to play the role of impartial enforcer.

The second condition is an effective welfare system. “Competition triggers failures. These failures are essential to the creative destruction process, but are extremely painful for the people affected. The bigger the cost of adjustment imposed on them, or the larger the numbers of the distressed, the stronger the political demand to intervene,” which can be easily manipulated. One way to prevent the politicization of relief is to have an explicit safety net offering basic support directly to affected individuals. Firms should go bust; people should not.

The third condition is reducing the power of incumbent firms by forcing them to compete with firms from some other country that does not protect the inefficient. “The most effective way to reduce the power of incumbents to affect legislation is to maintain domestic markets open to international competition.” It is not a coincidence that the banking industry is one of the most politically influential, because it does not really face international competition when its business is largely domestically focused.

Finally, we believe in the need to persuade the public of the imperative for free, competitive markets. “If the wider public sees the benefits of free markets, and understands their political fragility,

it will be harder for narrow interest groups to push their own agenda.”

Why is there so little concern with the SVB bailout today? Are the conditions in the United States today less conducive to competitive markets than when we wrote the book? In some ways, the disconcerting answer is, “Yes.”

Consider the conditions we laid out in reverse order. After the massive direct bailouts of banks during the global financial crisis that began in 2008, and the indirect bailouts during the pandemic (via transfers to households and firms that then repaid their bank loans), periodic bank bailouts now seem inevitable and have even gained intellectual respectability.

Furthermore, competition between systems, which would highlight the inefficiencies associated with such cronyism, is increasingly threatened by old-style protectionism, often hiding behind geopolitical concerns. When the accent is on trading only with other countries that have similar values (and also, incidentally, similar vested interests), everyone will suffer similar inefficiencies, and there will be less pressure from competition for change. In 2008, Germany, the United Kingdom, and the United States bailed out banks in quick succession.

Arguably, one reason industrial countries are so reluctant to see the losses associated with market adversity play out is that they fear the wrath of the electorate, which believes the gains from capitalism have not been fairly distributed and that competition, especially from across the border, is unfair. Yet this fear then entrenches inefficient practices and preserves incompetent firms—indeed it worsens their behavior by eliminating the free market’s penalties for mistakes.

Finally, though SVB was only the 16th largest bank in the United States, its clientele included very powerful and politically connected venture capitalists and firms. Antitrust authorities using the usual metrics of market dominance would have been unconcerned. Those who understand clout are concerned. We need to develop better metrics based on political influence to limit the political power of firms. **FD**

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## Unwelcome Return

**ALAS, THE 1970s** seem freshly relevant. Energy supplies are once more in doubt. The international order is yet again straining at the seams. Even the music is making a comeback. Earnest Jackson's 1975 funk song "Inflation" has suddenly found its moment: "Inflation," he implores, "why don't you get out the nation?" As much of the world confronts the worst inflation in nearly five decades, readers asking the same question would do well to turn to economist Stephen D. King's new book.

King contends that our current inflationary moment is not primarily the product of a few shocks—pandemic-induced supply chain snarls or Russia's invasion of Ukraine—but rather systemic problems in economic policy in recent years. Central banks, he argues, adopted frameworks that bias them toward inflation; quantitative easing, at first a last-ditch effort, became "totally addictive"; policymakers believed "their own anti-inflation credibility more or less guaranteed that inflation expectations would remain well behaved." Moreover, he worries that central banks are far less independent than they appear and subject to pressure to do the bidding of fiscal authorities.

These points are of course contestable, and the argument perhaps lacks empathy for the challenges of real-time policymaking during a once-in-a-century pandemic. Nevertheless, King makes his case with verve, in the process delineating the pernicious effects of inflation and underscoring the absurdity of thinking it could never reappear in advanced economies.

After all, inflation has a long history, one that policymakers would do well to heed. King touches on some of the more memorable examples: French assignats, US greenbacks during the Civil War, Weimar's hyperinflation. We also read about Roman coinage, medieval debasement, and, as to be expected, the 1970s. We even get to relive very recent history, as this hot-off-the-press book discusses Britain's mini-budget crisis. These anecdotes form a series of snapshots that liven and inform the narrative, though readers seeking a systematic treatment of inflation over the past two millennia will need to look elsewhere.

As for King's lessons and recommendations, most are quite sensible. Inflation tempts governments; it has massive distributional consequences



*Stephen D. King*  
**We Need to Talk about Inflation: 14 Urgent Lessons from the Last 2,000 Years**  
 Yale University Press  
 New Haven, CT, 2023, 240 pp., \$28

that can be unfair and undemocratic; price and wage controls, while superficially appealing, are bad in theory and worse in practice. Inflation must be tackled, head-on and without hesitation.

## Inflation has a long history, one that policymakers would do well to heed.

Some of the forward-looking takeaways, however, would benefit from further explanation. For instance, which "rules-based" policy framework does he favor? Precisely what does King mean when he calls for "monetary dominance" over fiscal policy?

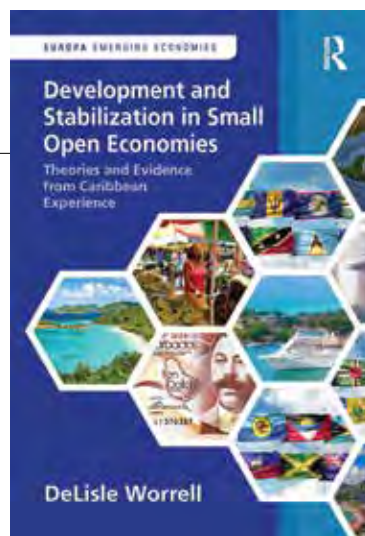
The most important lesson, however, is abundantly clear: monetary history matters. Right now, the historical discussion is properly about the dangers of inflation and the need to respond vigorously. Central bankers seem to have gotten the message, raising rates at a rapid clip. As we confront the challenges of inflation, the trick will be to not forget about the perils of deflation. After all, history is replete with examples of the pain caused by declining prices. Let us hope that, a few years from now, we do not suddenly find ourselves in need of urgent lessons again, this time on deflation. **FD**

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# Strategies for Small States

**THIS BOOK MAKES A VALUABLE** contribution to the analysis of the economic problems facing small developing states, particularly in the Caribbean. The analysis draws on the author's decades of hands-on economic policy experience, both at the IMF and at the Central Bank of Barbados, where he served as governor from 2009 to 2017.

*DeLisle Worrell*  
**Development and Stabilization in Small Open Economies: Theories and Evidence from Caribbean Experience**  
 Routledge  
 Abingdon, UK, 2023, 440 pp., \$49.45



With limited resources, small states are forced to specialize in a few internationally competitive products and services.

Worrell lays out why small states are different and what the implications are for economic policymaking. Small states are more open and hence exceptionally vulnerable to external shocks. With limited resources, they are forced to specialize in a few internationally competitive products and services. As a result, policies that seek to switch expenditures toward local products are usually not effective.

Another key factor is that in the Caribbean, prices that determine the competitiveness of local industries (tourism, mainly) are set not in local currency

but in the currency of a much larger neighbor—the United States. This reduces the effectiveness of exchange rate devaluation or depreciation as a tool of economic adjustment. In the view of the author, small states are therefore best served by a pegged exchange rate. A fixed exchange rate regime helps contain inflation and lend credibility to the overall economic strategy. Other tools of macroeconomic policy—in particular, fiscal policy—can and must be used when the need for adjustment arises.

In Worrell's view, if a small country is unable to establish a framework and track record for maintaining an exchange rate anchor, the best alternative is not a flexible exchange rate regime but abolishing local currencies altogether and simply adopting the dominant currency as legal tender—in the case of the Caribbean, the US dollar. This helps eliminate a potential source of instability, and of central bank financing for the government that could undermine fiscal discipline. Worrell thinks small Caribbean countries should follow in the footsteps of countries in the Americas that have decided to forgo their own currencies.

With limited or no monetary policy, fiscal policy takes center stage in economic policymaking. Small economies must get it right when it comes to tax policy and administration, expenditure and public wage policy, debt management, and the management of state-owned enterprises. Efficient delivery of public services is particularly important—and has been a struggle for the Caribbean. Budget allocations for health and education should be large enough to boost human development indicators, which would also raise international competitiveness. The bulk of consumption needs are imported, so fiscal policy that lacks prudence is bound to spill over into declining international reserves and eventually trigger a balance of payments crisis—a frequent occurrence in the Caribbean.

In Barbados, balance of payments crises in 1991 and 2018 both originated from fiscal policy failures. And both crises were successfully addressed by policies that centered on fiscal consolidation, while maintaining the exchange rate peg, in the context of an IMF-supported program. Worrell's analysis of what worked and did not work in macroeconomic adjustment programs in the Caribbean offers plenty of food for thought. **FD**

**BERT VAN SELM** is deputy chief in the IMF Strategy Unit and was the IMF mission chief for Barbados from 2017 to early 2023.

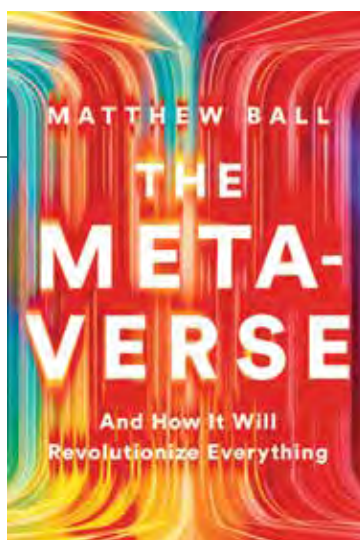
# The Next Big Thing?

**DESPITE ITS FORWARD-LOOKING TITLE**, *The Metaverse: And How It Will Revolutionize Everything* is as much about the past as it is about the future. Based on a series of blog posts by author Matthew Ball, this book intersperses anecdotes from the pre-Internet era with comprehensive current evidence to convince the reader that a scalable, interoperable metaverse is coming, and that it will be transformative.

The essence of the book is the definition of the metaverse, broken down and explained, concept by concept. Ball, an expert on the topic, uses simple analogies to condense difficult concepts about networking, computing, virtual world engines (game engines), interoperability, hardware, payment rails, and blockchain. He also brings the reader along to investigate the role of Web3 and NFTs (non-fungible tokens) in the metaverse evolution, which, according to the author, is mired in technical, legal, and cultural barriers.

The author continuously reinforces the idea that “uncertainty and confusion are the features of disruption.” Diving into the history of the personal computer, the internet, cable, mobile phones, streaming, gaming, and virtual and augmented reality, he posits that the metaverse is real, and it is imminent.

The most intriguing part of the book is the economics of the gaming industry, which Ball initially categorizes as a “\$180 billion leisure industry.” He goes on to explain that it is “poised to alter the \$95 trillion world economy” by showing how it makes economic sense for virtual worlds to share data and interoperate. And with some 75 percent of American children now playing on a single gaming platform, and 140 million potential gamers born each year, society itself is transforming the metaverse. What is noteworthy here are Ball’s proclamations about the duopoly in the smartphone industry, which constrains the margins of virtual world platforms and impedes their interoperability and integration. This hinders the development of metaverse-focused technologies, and he calls for regulatory action to loosen the grip of Google and Apple on payment systems and app stores.



Matthew Ball  
**The Metaverse: And How It Will Revolutionize Everything**  
 W.W. Norton  
 New York, NY, 2022, 352 pp., \$30

Ball demystifies the narrative on the metaverse by clarifying how it will be browser based and accessible (for example, through gaming consoles, PCs, and smartphones) and thus provide “an individual sense of presence” (that is, your very own digital twin alias/avatar) without a VR headset. Still, many critics would argue that an introduction to a functioning metaverse would add value to the book.

Building on his work in angel investing, corporate venture advising, television and film production, and video gaming—and warning that “technology frequently produces surprises that no one predicts”—the author calls for governance and standards for the metaverse, akin to the evolution of the internet, which functions thanks to common protocols around visual presentation, file loading, graphics, and data.

We all may be understandably wary when it comes to the idea of the intrusion of the metaverse into our lives, but this book reinforces my belief in the need to seize the untouched opportunity of work on regulations and standards for this parallel virtual economy, sooner rather than later. **FD**

**POOJA SINGH** is a senior financial sector expert in the IMF’s Monetary and Capital Markets Department.



## Face Value

*Many Commonwealth countries are reconsidering whom to feature on their banknotes*

**Smita Aggarwal**

**ON PAPER AT LEAST**, change is afoot. In the Commonwealth realms, a group of 14 former British colonies and the United Kingdom, where King Charles III is the monarch, Queen Elizabeth II's 2022 passing has ignited a debate: whether or not to feature the new monarch on its currency notes.

The queen's longevity and popularity may explain why this moment, in a few of these countries, was a long time in the making. "The queen's passing was a jolt that changed the course of history and international relations," said Harcourt Fuller, associate professor of history at Georgia State University, a numismatic scholar, and founder of the Black Money Exhibit.

In the United Kingdom, new banknotes featuring the king's image will enter circulation in 2024, alongside existing notes bearing Queen Elizabeth's likeness. "For lots of people, they've always had the image of the monarch on the banknote," said the Bank of England's chief cashier, Sarah John.

King Charles III will be the second monarch to be featured on the UK currency, after Queen Elizabeth, who made her first appearance on a note in 1960.

"People see that as part of our British culture," she added. But elsewhere in the Commonwealth, it is time for a reckoning with a difficult colonial past, assertion of an independent identity, and popular movements to honor national icons.

In Australia, the queen, whose image has been featured on the country's banknotes since her 1953 coronation, will be replaced on the five-dollar bill with a new design honoring the nation's indigenous heritage and culture. "The Reserve Bank of Australia is now embarking on a process of consultation with First Australians on the new design," Philip Lowe, the country's central bank governor, told a parliamentary committee earlier this year. Even though it will take at least a few years to design and circulate the new note, it marks a shift in its ties with the British monarchy.

COURTESY OF THE CENTRAL BANK OF THE BAHAMAS



The Central Bank of the Bahamas released a new B\$100 bill in 2021, featuring former Deputy Prime Minister Arthur Dion Hanna.



COURTESY OF THE BANK OF ENGLAND

*In the United Kingdom, new banknotes featuring King Charles III will enter into circulation in 2024.*

In neighboring New Zealand, the central bank has reported that it will be “several years” before the new monarch replaces the queen on \$NZ 20 notes—a sentiment echoed by the Bank of Canada regarding its currency.

Two years ago, Barbados, another Commonwealth nation, cut the last of its ties with the monarchy—having replaced the queen much earlier on its banknotes—and elected a Barbadian as the head of state.

In The Bahamas, the central bank released a new B\$100 bill a year before the queen’s death, replacing her image with one of the country’s founding fathers who fought for the country’s independence, former Deputy Prime Minister Arthur Dion Hanna. Today, the queen’s likeness remains only on the half-dollar and three-dollar notes, with no immediate plans to replace hers with the image of the new monarch. “I am proud that we have now moved to a point where we can showcase our national heroes,” said Nassau-based legal consultant Linda Virgill.

This desire to break from the past is also a part of the larger movement in these countries to forge an independent identity by reflecting on a turbulent history with colonialism, slavery, and racism. Recent events in the United States, such as the death of George Floyd, a Black man, in police custody in 2020 resonated globally—especially in countries

with marginalized groups. “It allowed them to reassess and to say that we have to take that next great leap forward in terms of social justice and equality. Currency is one of those leaps,” said Fuller.

Another Commonwealth member, Jamaica, removed the monarch from its currency in 1969 and is now planning a referendum to determine whether to elect their head of state. Queen Elizabeth also features prominently on the Eastern Caribbean dollars shared by eight nations. But a similar rethink is underway. “There are people who feel it’s time to move in a different direction. Rather than continuing with the British sovereign, we should be looking at using our own landmarks and our own heroes,” said a press statement from the Eastern Caribbean Central Bank last year.

Even as digital wallets and QR codes become the new norm, physical money may still reign in much of the world. “I always think of banknotes as the heart of our national identity,” said John. This struggle with reclaiming national identity is being felt across the realm. Ultimately, the person whose image is on the money matters—it’s a symbol and a chance to be immortalized, said Fuller. “Symbols, sometimes, are more powerful than the actual substance they represent.” [FD](#)

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