Fall 2025 Issue

Penn Economics Almanac

EDITORS' NOTE

Penn Economics Almanac is an attempt to make economics accessible and interesting.

Economics might be confusing, but not because it needs to be—nor because you need a PhD to decipher the economy's impact on your day to day life. Economics is confusing because the language we use to talk about the economy is anything but inclusive. It's heavy in jargon and all too often the people who claim knowledge do their best to raise—rather than lower—the barrier to entry in economic discussions. As a result, a lot of the voices that should be heard don't feel comfortable enough speaking.

The Almanac is a forum for college students to write and for college students to read. Every semester, we'll publish pieces written by you: college students. In return, we hope you'll try reading something you might not have yesterday. The Almanac is not a forum for economics to be dumbed down. Rather, it's an opportunity to open up economic discussions to new voices, as we believe college students are more than capable of adding to discussions.

Our fall edition presents a diverse collection of articles examining both the micro and macro dimensions of economics in a rapidly changing world. Inside, you will find examinations of energy and regulation in America, war and labor in Ukraine, and the future of world currency.

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Energy Infrastructure Efficiency

Where Biden Economists and Trump Policies Intersect

In 2024, the Solar Energy Industries Association estimated that it takes an average of six years to open a utility-scale solar construction project for commercial service, with four of those years spent on planning and permitting. Stringent energy and infrastructure regulations have certainly been a frustrating issue for decades, but less prescient for the period that US energy demand remained stagnant. Energy consumption has been growing at a greater percentage, up to 4.3% in 2024. In the age of AI, increasing energy supply is crucial to maintaining not only US GDP growth, but lowering costs for the civilian consumer. However, the choice of regulations are limited in what sort of capacity they are applied.

Zachary Liscow, a member of the prior White House's Office of Management and Budget, published a spring 2024 paper pointing to the regulation inefficiencies that have stifled energy production. Some of the regulations, particularly those that pertain to Nixon's National Environmental Protection Act of 1970 (NEPA), have been reversed by the Trump Administration on grounds of increasing efficiency. While the Trump administration cuts incentivize oil, stifle clean energy production, and make development more susceptible to environmental harm and environmental racism, they also, to some extent, are aligned with the Biden Administration's Economists' goals for effective deregulation.

Liscow points to the benefits of increasing federal power in the regulatory space. Liscow states that NEPA had significant issues for development; for example, it was triggered anytime a development project crossed federal land, such as a highway. Particularly in the Western U.S., he called crossing federal land "all but guaranteed" (p. 155), and the average energy site installation site in federal waters. Moreover, most clean energy projects receiving federal funding were subject to NEPA requirements.

Liscow suggested a prioritization system for clean energy projects. The Fiscal Responsibility Act of 2023 had taken steps to loosen NEPA restrictions, particularly with respect to speeding up the environmental review process. Liscow called for a "green bargain", striking the balance between executive power and planning capacity. "But with all such concerns duly noted" he said, "the 'green bargain' suggests that in exchange for improved planning and broader early-stage participation, the executive should have greater scope for decision-making" (p. 176) Obviously, a "green bargain" isn't happening on a federal level any time soon. The One Big Beautiful Bill Act instituted a pay-to-play style system. For a fee set by the Council on Environmental Quality (CEQ), a project sponsor can receive a shorter NEPA review period. While this will certainly be beneficial for the private sector, it likely won't incentivize projects and pricing schemes beneficial to the average American energy consumer. The lack of a clear pricing scheme also raises questions as to the political favor of the client. While less relevant to the immediate macroeconomic trends and return on investments from a financial perspective, it's worth noting Trump's regulatory NEPA cuts also eliminate environmental racism and climate change concerns that could lead to substantial health impacts that were present in prior NEPA regulations. According to a paper by Oxfam, a self-proclaimed global organization that fights inequality to end poverty and injustice, NEPA was responsible for stopping fracking in New Mexico Indigenous populations because NEPA required an assessment of cumulative impacts on water and air pollution from the fracking wells. It also stopped plans for an oil pipeline designed to go from West Virginia to North Carolina, cutting through Appalachia and specifically majority Black Appalachian communities.

And aside from the efficiency-environmentalism debate, the most recent Trump Administration is certainly at odds with Biden Era environmental policies as a whole. It has cut Biden's 2022 Inflation Reduction

1. Liscow, "Getting Infrastructure Built: The Law and Economics of Permitting", Journal of Economics Perspectives, March 28, 2024, p. 152
2. International Energy Agency, Executive Summary 2025 https://www.iea.org/reports/electricity-2025/executive-summary"
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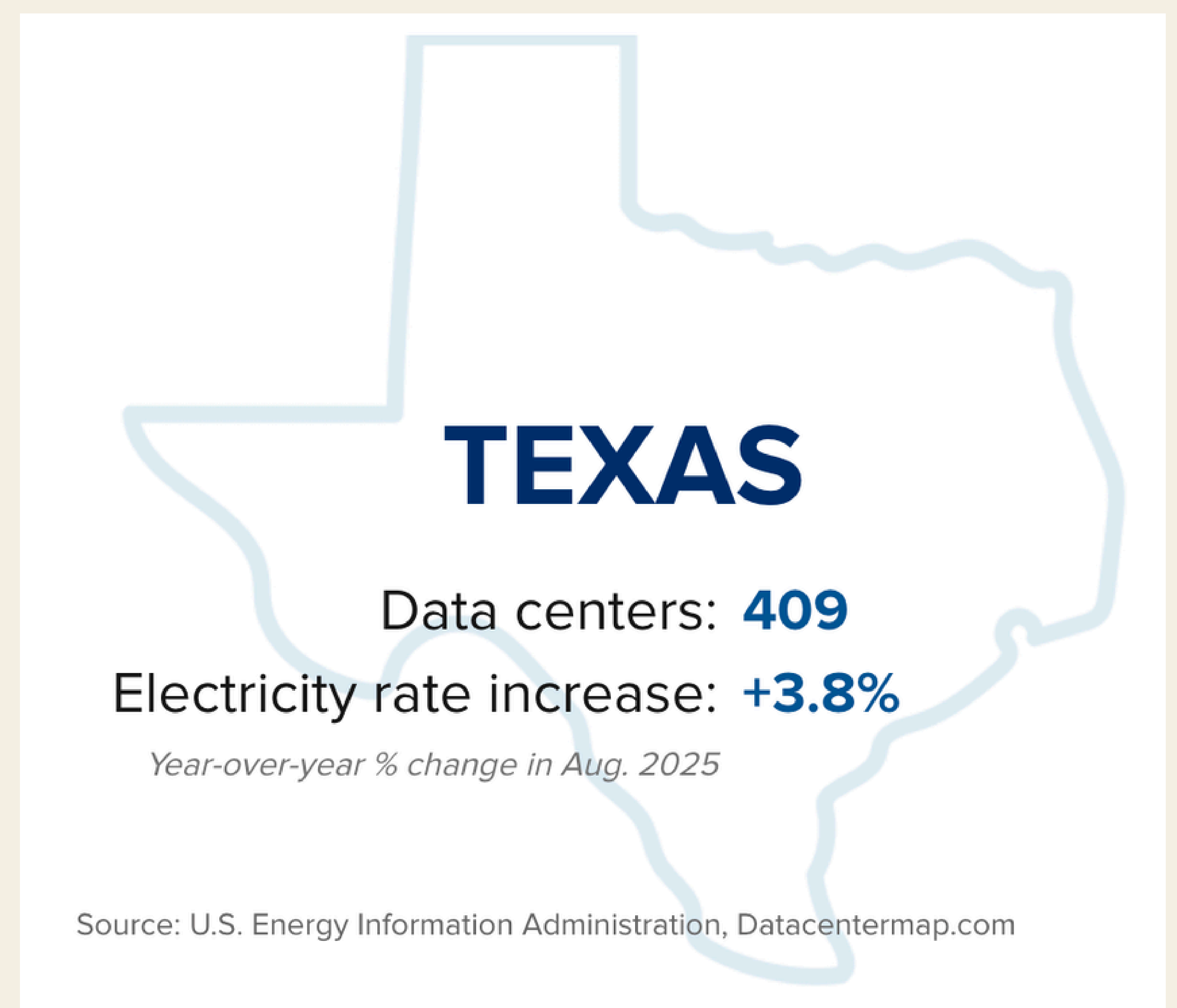
Act subsidies for clean energy, which have the consequence of not only reducing clean energy production but also put Texas' energy grid as a whole at a further risk. In a 2025 Bloomberg article, the vice president of strategy and advocacy of Clean Energy for America said that Trump's cutbacks on sustainable energy tax credits are "just completely making it so difficult to add more energy to the grid." Pablo Vegas, the CEO of the Electric Reliability Council of Texas, which manages the electricity grid for 90% of Texas, testified to the importance of a "balanced mix of generation resources" to congress in March.

Liscow highlights a variety of ways to increase efficiency in the environmental review process, but as the Trump administration has cut environmental restrictions through the rollback of NEPA, unleashing a host of negative externalities (negative consequences that won't be felt by the producer) onto present and future generations of America and the globe, it is challenging to compare the tradeoff between environmental deadweight loss (loss in future environmental resources due to today's environmental decisions) and unknown externalities. The private sector, particularly private equity (PE) firms, have benefited from the lack of public sector initiatives and high barriers to entry to build out the power grid.

Moreover, a key issue for NEPA permitting that arises through multiple areas are issues related to staffing shortages: inefficiencies and permitting wait times, the need to hire out consultants that an in-house staff could do for a lesser cost. But what the Trump Administration has amplified is how a failure in internal management and staffing shortages impacted efficiency with respect to environmental regulations. These efficiency issues are not stemming from environmental setbacks, and likely will not be resolved by NEPA cuts. An article by the Clean Air Task Force calls NEPA a scapegoat for efficiency issues while "a complex web of factors, including a lack of coordination and capacity at the federal level, play much more of a role."

These changes in policy have affected the private sector in a variety of ways. Changes to the infrastructure asset class, which has tripled since the financial crisis and bears significant portfolio share for its financial stability and inflation hedge (strength against inflation), could bear significant financial consequences. An article in The Texas Lawyer by Michael Blankenship and Pete Staviski of Winston and Strawn LLP called the increase in renewable energy investments a result of not just market trends but also "federal and state policies promoting clean energy



CNBC, "Data centers are concentrated in these states. Here's what's happening to electricity prices"

investments," 2022 Inflation Reduction Act's renewable energy tax credits an example of the incentivization of PE participation. An article from Troutman Pepper Locke assessing the state of PE infrastructure investments stated that while oil production is increasing, tariffs were actually boosting solar production, but wind was struggling. Authors highlighted that while the US energy sector is still strong, investment strategies seem to be "driven more by persistent demand than pure politics."

Liscow and other Biden-era economists would likely agree that due to increased energy demands from data centers and subsequent costs, now is the time for bold leadership and federal organization to increase supply, and that NEPA presented notable efficiency issues. However, the current administration has decided to walk back renewable energy subsidies, adding unnecessary risk to Texas' energy grid, and exacerbate federal staffing shortages. These decisions are likely to not only fail to solve the regulatory related efficiency issues but contribute lasting environmental and market damage at a time when the marginal costs of clean energy have just dipped below pollutants, and fail to mitigate the rise in energy costs to the civilian consumer due to data center demand.

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Workforces Where Women Win

Gains and Challenges in Ukraine’s Wartime Labor Market

“I would have never thought that I would be working in a mine,” Yatsina told The New York Times. At 21, she was a nanny until the war pulled her into one of the most male-dominated workplaces in Ukraine. She was one of thousands of women stepping into roles once considered off-limits for them as the mobilization created urgent labor shortages, restructuring Ukraine’s civilian workforce.

Yet the apparent rise in women’s labor participation masks a deeper paradox. Many of the working-age women who once formed the backbone of Ukraine’s workforce have fled the country, exiting Ukraine’s labor market. In other words, while mobilization has pulled new women into the labor market, displacement has simultaneously pushed others out. Understanding the net effect of war on women’s economic roles, therefore, requires more than counting new workers. It demands dissecting who left, who stayed, and what kinds of jobs each group gained or lost.

Before the War

Before the full-scale invasion in 2022, Ukraine’s labor market was already struggling with structural weaknesses and pronounced gender inequalities. According to the Hoover Institution, labor force participation hovered around 62% (below the OECD average of 73%) while unemployment remained stubbornly high at 9.8%. The COVID-19 pandemic worsened these issues, disproportionately displacing women from service sectors and intensifying their unpaid care burdens.

These conditions solidified a significant gender gap: in 2021, only 42.9% of women were employed compared to 56.9% of men. Gendered structural barriers, such as legal restrictions under Article 174 that barred women from "strenuous or hazardous" work, reinforced a highly segregated workforce. Women were heavily concentrated in education, healthcare, and services, while their presence in industrial and technical fields was minimal (for instance, women constituted only 14% of technical specialists and a mere 2-3% of the underground mining workforce). This segregation was compounded by a persistent gender pay gap, which stood at 18.6% in the pre-war period, limiting women's economic security and entrepreneurial capacity. Together, this paints a picture of a labor market that was not only underperforming but also fundamentally inequitable, setting the stage for the war's disruptive but potentially transformative impact.

Displacement and Mobilization

The war has triggered two powerful, opposing labor market shocks that have reshaped Ukraine's workforce. On one hand, mass outward migration and internal displacement have removed a significant portion of the working-age population from the labor force. According to International Labour Organization estimates, Ukraine has lost approximately 2.4 million jobs (15.5% of its workforce) since 2022, with nearly 1.6 million Ukrainians of working age leaving the country (as of April 2025), the majority being women. Additionally, the internal displacement of 3.7 million people further disrupted the labor market (as of 2024), with women comprising 58% of the displaced population.

On the other hand, the mass mobilization of approximately 700,000 people (predominantly men) into the Armed Forces in the first 6 months of the war has created severe and immediate labor shortages, particularly in traditionally male-dominated sectors such as construction, transportation, and heavy industry (large-scale manufacturing). This dual shock has created what economists may term a forced labor reallocation where war-induced necessity, rather than gradual economic evolution, is driving occupational and sectoral shifts. Pressure from the recession and the loss of male income has pushed many women to seek work. This shift directly challenged obsolete gender norms, testing whether a crisis could permanently reshape women's economic roles in society.

Sectoral Redistribution

Yet the feminization of Ukraine's workforce has not been uniform: it represents a targeted takeover of specific sectors rather than a blanket transformation.

Key Labor Market Indicators in Wartime Ukraine:

Indicator	Pre-War Level	Current/Wartime Situation
Total Employment[9]	~17.4 million	~12.5 million (2023)
Women in the Workforce	42.9% of female population	Projected 63.2% by 2032
Women Entrepreneurs	51% of new entrepreneurs (2021)	59% of new entrepreneurs (2024)
IDPs who are Women		58%

This redistribution manifests most visibly in women's entry into traditionally male-dominated fields where labor shortages are most acute (for example, sectors such as transportation, construction, and logistics). This represents a concrete realignment of the workforce, driven by both economic pressures and targeted interventions.

The most profound change, however, may be occurring in the realm of entrepreneurship, where women have moved from peripheral to central actors. Since February 2023, every second new entrepreneur has been a woman, with the share of women among all new entrepreneurs reaching 59% in 2024, up from 51% in 2021. This represents a significant reorientation of women's economic agency, though it reflects a complex mixture of opportunity and necessity. As observed in other fragile states, women in low-income or fragile economic contexts often turn to entrepreneurship or informal work as a default option when formal employment is unavailable, though these ventures typically offer less social protection and security than traditional employment.

The Quantity-Quality Paradox

Increased female participation has not automatically translated into equitable economic empowerment. The most striking example of this quality-quality paradox is the growing gender pay gap, which shifted from only 18.6% before the full-scale invasion to an estimated 41.4% in 2023. This divergence is explained in part by women's exclusion from high-paying roles in booming sectors like construction and technology and in part by a widespread undervaluing of their labor due to discrimination and stereotypes.

The rising informality of women's work from 16.2% in 2021 to 18.8% in 2023 only adds to the rising gap. This trend of informal employment carries significant implications for social protection, job security, and long-term economic resilience. To be more precise, the World Bank states that “informal work complicates the process of securing an official, high-paying job in the future, as candidates often struggle to verify their work experience or provide references.” This results in a vulnerable women’s workforce with limited access to labor protections and social safety nets.

The entrepreneurial sector illustrates this paradox particularly well: while women are creating businesses at unprecedented rates, these ventures often exist in the precarious space of "necessity entrepreneurship" rather than representing genuine opportunity-driven enterprise. This suggests a labor market that is expanding in terms of raw participation, but may fail to deliver a significant improvement in the quality of working conditions for women. These risky labor market conditions are creating a fragile foundation for long-term gender equality in the workplace.

Long-Term Solutions

Changes in women’s roles in Ukraine’s labor market reflect not just a reaction to labor shortages, but also a coordinated effort from both government and non-government actors who see the current moment as an opportunity for change. This multi-stakeholder approach has created a “space for dialogue” between the public and private sectors that didn’t exist before the war. Before the invasion, most businesses saw little benefit in a gender-diverse workforce and had no urgency to change. The war has shifted this perspective, generating both political support and a business incentive for collaboration.

This new collaborative environment has witnessed the creation of numerous innovative programs specifically designed to facilitate women's entry into non-traditional sectors:

1. The Reskilling Ukraine Project:
    - Trains women to become truck drivers, public bus drivers, and operators of heavy equipment.
    - In 2024, it has trained and accompanied in their career transition over 300 female participants.
    - In 2025, approximately 1,000 women are expected to benefit from this training.
2. "She Drives" Project:
    - Focused on creating jobs for women in passenger transportation.
    - Implemented through a partnership between an NGO, UN Women, the Ministry of Community and Territorial Development, and transportation businesses.
3. "Alef Stroy" School of Construction Equipment Operators:
    - Trained 60 women to operate specialized construction equipment between August 2024 and January 2025.
4. State Employment Service Study Vouchers:
    - Covers expenses for learning in-demand professions, with 74% of the 21,000 vouchers issued going to women.
    - The most popular specialties and professions: nursing, psychology, cooking, driving, and preschool education.
5. And more!

These programs are more than temporary fixes for labor shortages, as they have the potential to help women overcome obstacles to working while also offering new opportunities to gain skills and advance in their careers.

The Sustainability of Change

The critical question for Ukraine's economic future is whether these wartime shifts in women's employment will prove transient or transformative. Historical precedents from conflict and post-conflict societies offer both encouraging and cautionary insights. For example, research on displacement in post-war Bosnia and Herzegovina found that displaced women were more likely to drop out of the labor force, suggesting that crisis-induced gains can prove fragile without sustained institutional support.

However, several factors suggest that Ukraine's current transformation may have a lasting effect. First, the scale of the demographic challenge creates a structural imperative for continued female participation, with Ukraine facing a projected need for 8.6 million additional workers by 2032. Second, EU integration processes are creating external pressure for alignment with European standards on gender equality and non-discrimination. Third, the newly established intervention programs introduce reforms and investments in human capital that could facilitate more sustainable workforce realignment.

However, significant headwinds still pose a threat. Among those are (1) funding vulnerabilities, such as the US Executive Order to suspend USAID programs, (2) the persistent wage gap, and (3) high informality that fosters structural vulnerabilities in women's employment. Additionally, (4) social norms and stereotypes continue to present barriers, with employers in male-dominated sectors still exhibiting bias against hiring women despite labor shortages.

Ukraine's labor market is thus suspended between breakdown and breakthrough. The trajectory of this "quiet revolution" will be determined not by market forces alone, but by conscious policy choices that recognize women’s presence in the market as essential, not just a simple wartime necessity. This highlights the need for reconstruction policies that will consciously translate the fragile gains of war into the durable equality of peace.

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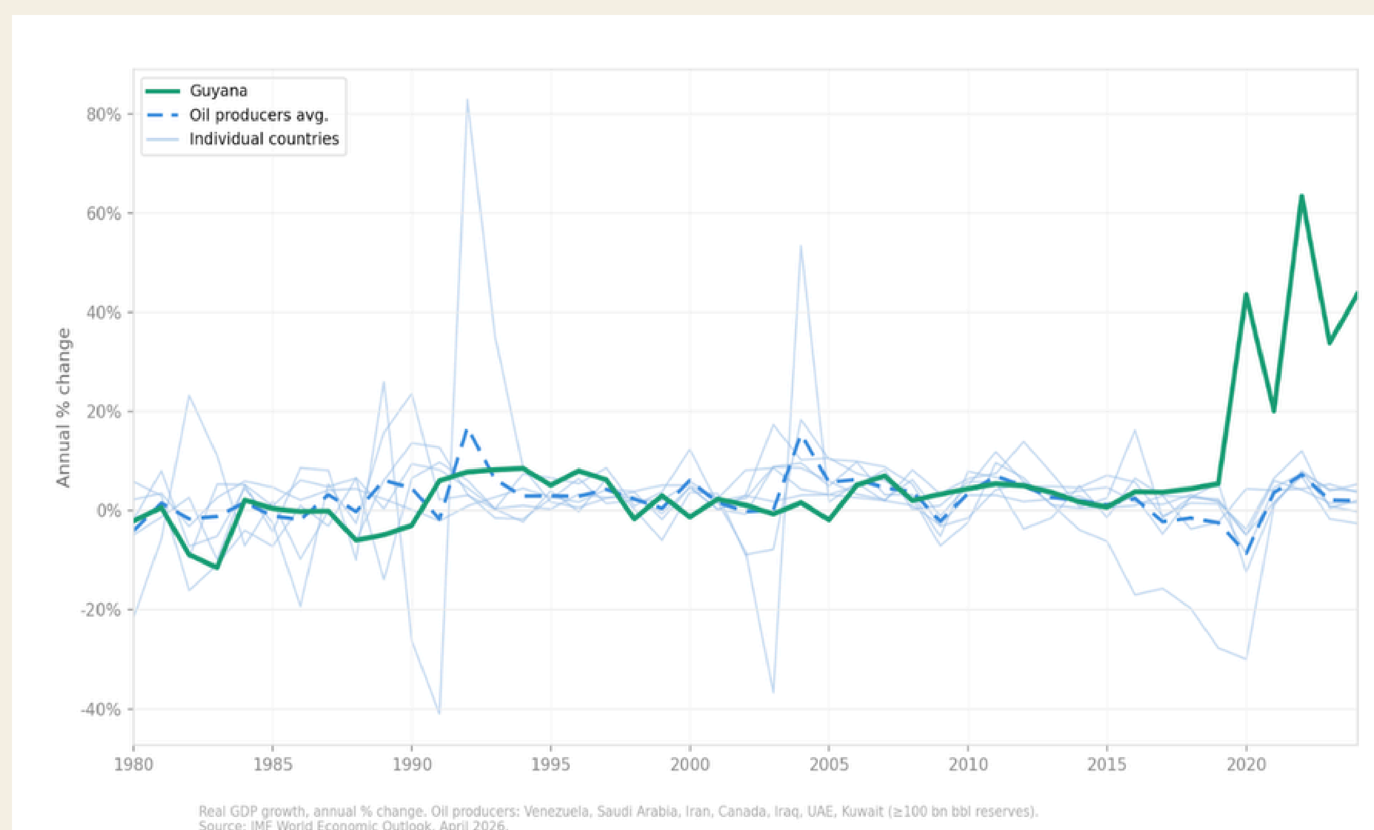
Spending the Boom: How Guyana Risks Repeating the Resource Curse

In February 2026, Georgetown hosted the Guyana Energy Conference, drawing ExxonMobil executives, heads of state, and global investors to a country of just 800,000 people. The turnout reflected a dramatic shift. Guyana now sits at the center of one of the world's most consequential energy stories. Since 2022, Guyana has averaged 47% annual GDP growth, the fastest sustained rate globally, while per capita income has roughly tripled in just three years, prompting a World Bank high-income reclassification in 2023. With an estimated 11 billion barrels of recoverable oil, the country now holds more oil per capita than Saudi Arabia or Qatar.2



The government has responded aggressively. Guyana has quadrupled its national budget over five years. Billions have been allocated to infrastructure, housing, and both energy and non-energy projects. Among the most ambitious is a major gas-to-energy pipeline, backed by an estimated 16 trillion cubic feet of natural gas reserves, aimed at dramatically lowering electricity costs and supporting industrial growth aspirations. “We are not building an energy nation," President Irfaan Ali declared in a 2024 interview. "We are building a diversified economy that is focusing on many areas of growth." Non-oil GDP grew at 14.3% last year, suggesting that this diversification may be gaining traction. However, while these trends have resulted in rapid growth, they raise a deeper question: does this growth reflect sustainable diversification or temporary spillovers of an oil boom that could harm economic stability?

The Risk: The Resource Curse

The "resource curse," coined by economist Richard Auty in 1993, describes a paradox: countries rich in natural resources often experience weaker long-run growth than those without them. The resource curse typically operates through four main channels that can transform natural wealth into a long-term liability, including fiscal volatility, inefficient public spending, weakened institutions due to corruption, and the particularly damaging Dutch disease, where as revenues flow in, rising government spending appreciates the exchange rate and erodes the competitiveness of non-energy exports. In Guyana's case, these risks are not hypothetical, but rather increasingly relevant as oil revenues continue to surge. Since manufacturing and tradable sectors are key drivers of economy-wide productivity, hollowing them out carries severe long-run costs. Regional examples such as Trinidad and Tobago and Venezuela demonstrate how oil-driven growth can lead to economic distortions, or, in more extreme cases, macroeconomic collapse. However, it's important to note that this curse isn't inevitable; Chile, Norway, and the UAE have been able to evade these adverse effects through strong fiscal policy measures.

For Guyana, there is no clear Dutch disease yet, but (according to the IMF) the risk is high.1 The recent surge in infrastructure investment has fueled a construction boom significant enough to attract foreign labor to meet rising demand. At the same time, agriculture's declining share of GDP may reflect a reallocation of resources away from tradable sectors, consistent with early-stage Dutch disease, though part of this shift is likely driven by the rapid expansion of oil

output itself. The more immediate threat, however, is fiscal overheating. Rapid public spending, if poorly managed, could drive inflation and exchange-rate appreciation that undermines investment in non-oil sectors before they have a chance to materialize. Critics have warned of a trajectory of waste, pointig to the same flagship gas-to-energy power plant, now two years behind schedule with its budget swelling to roughly $2 billion.

Growth alone is not enough. The structure of that growth matters, and while Guyana has avoided clear signs of resource curse dynamics so far, its current fiscal trajectory increases that likelihood.

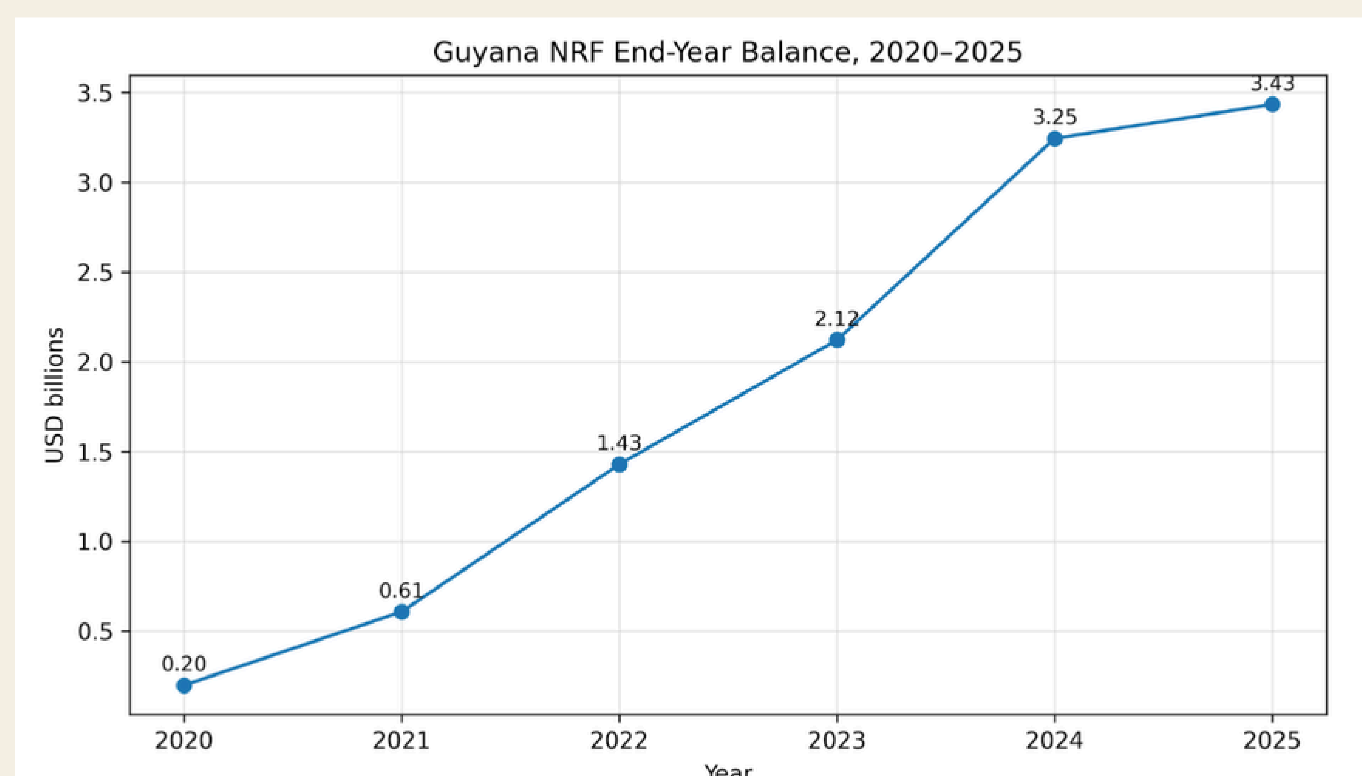
Guyana's National Resource Fund

Guyana has introduced several institutional frameworks aimed at preventing the resource curse and promoting sustainable development, including policies targeting economic diversification, environmental sustainability, and long-term fiscal stability. Among these, the Natural Resource Fund (NRF) stands as the country's primary mechanism for managing the structural risks associated with oil wealth.

The Fund was designed to serve three purposes:

1. Savings: Saving a portion of revenues for future generations.
2. Stabilization: Smoothing government revenues across volatile oil cycles
3. Control: Absorbing excess foreign exchange to limit Dutch disease

Since its first deposit of US$54.9 million in March 2020, the fund has grown to approximately US$3.4 billion - roughly 13% of Guyana's GDP - making it one of the fastest-growing sovereign wealth funds among new oil producers.



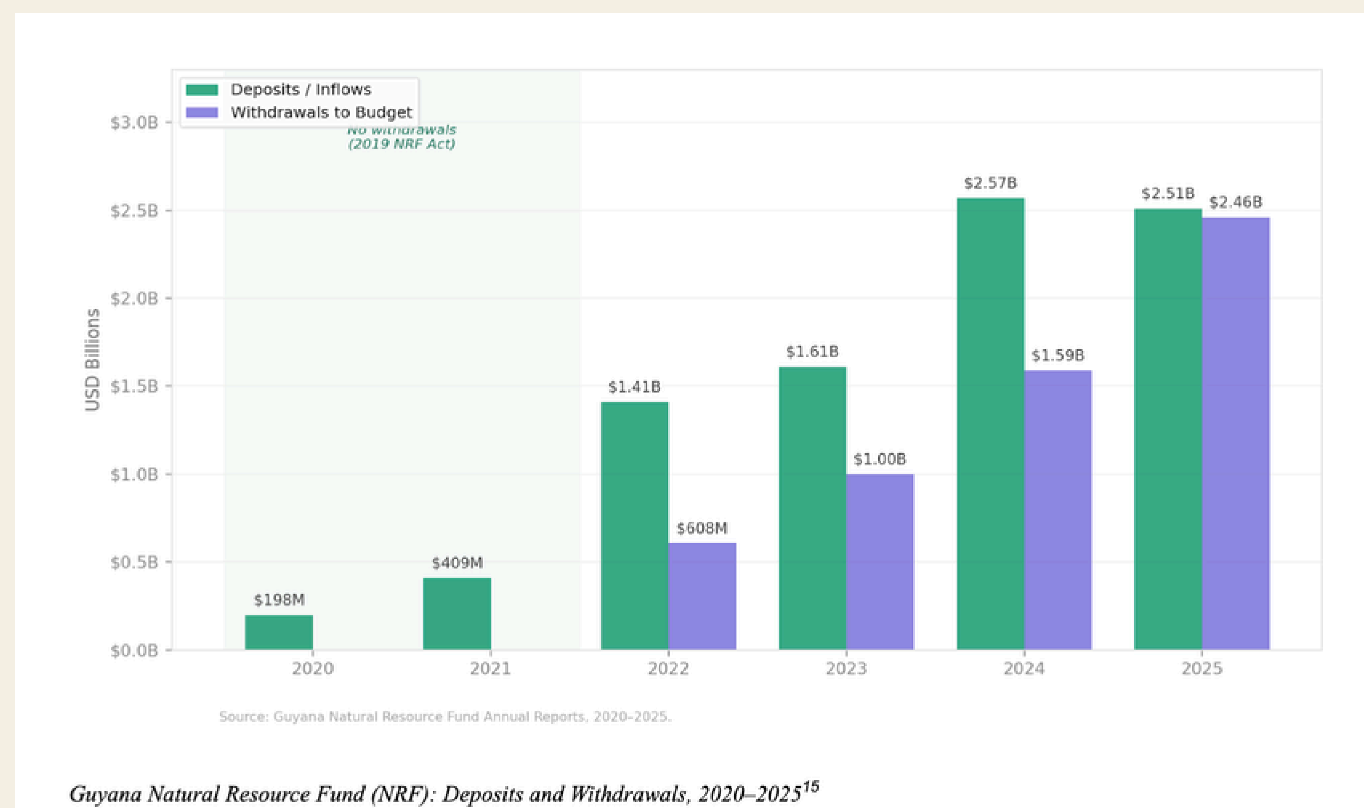
However, Guyana's NRF has undergone three major policy changes, each shifting the balance between saving and spending. The original 2019 NRF Act, passed under the former APNU+AFC coalition government, prioritized caution. Withdrawals required parliamentary approval, and independent committees played a central role in decision-making. These included a Macroeconomic Committee and a Public Accountability and Oversight Committee drawn from civil society, academia, unions, and religious groups. As a result, no withdrawals were made in either 2020 or 2021, allowing the NRF to accumulate and better fulfill its role of balancing fiscal flexibility and long-term saving.

That approach changed in 2021. After taking office, the PPP/C government repealed and replaced the 2019 Act entirely. The multi-committee framework was replaced with a smaller, presidentially-appointed Board of Directors, drawing criticism over increased executive control. The new administration also introduced a rules-based withdrawal formula that allowed the share of the fund that could be transferred to the budget to decline as the fund's balance increased. The goal was to front-load access during the early years of the boom, when development and investment needs are greatest, signaling a shift toward greater fiscal flexibility.

In 2024, the government amended the formula again. Withdrawals became tied to the prior year's inflows rather than total savings, allowing it to access a large share of new oil revenue each year. This shift effectively further loosened spending constraints, moving the fund toward a framework that facilitates higher near-term fiscal absorption of oil revenues. The current framework allows the government to withdraw the full first US$1 billion of annual deposits, followed by 95% of the next US$1 billion, 90% of the third, 85% of the fourth, 50% of the fifth, and 10% of any amount exceeding US$5 billion.

The successive revisions have sparked concern that the NRF is shifting from a long-term savings machine to a mechanism for financing current expenditures. Former Investment Committee member and APNU parliamentary leader Terrence Campbell has repeatedly criticized the government's handling of the fund, before resigning in late 2025. He later pointed to the government's spending of 89% of oil proceeds that Guyana earned between September 2024 and September 2025 as evidence of this mismanagement. A claim that is consistent with recent data. Guyana's NRF is effectively operating on a "spend-as-it-comes" basis: 2025 transfers were US$2.46 billion against roughly US$2.6 billion in inflows. The government's emphasis on growth has increasingly come at the expense of its savings and stabilization function, amplifying the risk of inflationary and exchange-rate pressures with offshore production expected to expand significantly over the coming decade. The IMF has praised

the fund's accumulation while notably flagging the absence of a medium-term fiscal framework, with an explicit spending anchor. That anchor is what ultimately determines whether sovereign wealth funds deliver long-term stability.



Guyana Natural Resource Fund (NRF): Deposits and Withdrawals, 2020–2025[15]

Norway's Model: Discipline, Scale, and Trade-Offs

President Irfaan Ali invites a comparison to Norway, one of the most successful resource economies in recent history, and offers a very useful benchmark. He noted, at the Energy Conference, that Norway's position today reflects over two decades of investment in infrastructure, education, and social services, suggesting that Guyana is attempting to replicate that trajectory. Pointing to the significant investments made in terms of education and technology, he coined the country to be "Norway on Steroids".7 It is a bold claim and one that potentially overlooks the discipline that drove Norway's success.

Norway's success with oil wealth is the product of decades of constraint, not speed. Its sovereign wealth fund, now exceeding $2.1 trillion, was built under a fiscal framework designed to limit how much oil revenue enters the economy each year. Since 2001, the government has anchored transfers out of the fund annually to the fund's expected real return, estimated at around 3%, with recent budgets closer to 2.5%. These transfers, which accounted for about 20–25% of the national budget in 2024, helped finance expensive welfare initiatives, including free education, universal healthcare, and broad social protections. The result has been one of the highest standards of living globally, ranking third on the UN's global Human Development Index.16

Thus, Norway's system is one where most oil income is saved rather than spent. The majority of revenues are reinvested exclusively globally, allowing the fund to compound over time while reducing pressure on the domestic economy. This discipline has helped Norway maintain stable inflation, avoid significant exchange-rate appreciation, and preserve competitiveness outside the oil sector.

Yet, even Norway's model is not without trade-offs. Some critics argue that decades of comfort have affected economic urgency, with productivity growth lagging and rising public spending raising concerns about long-term efficiency.15 At the same time, the fund's scale exposes Norway to global risks. In April 2025, it recorded its largest loss in six quarters as markets reacted to trade tensions, highlighting its dependence on global financial conditions.

Different Economies, Different Constraints

While the two sovereign wealth funds operate in very different economic contexts, the comparison remains useful. Norway's framework was designed for a mature, high-income economy seeking to manage excess wealth, rather than build it. Guyana faces a different reality: significant infrastructure gaps, a developing private sector, and a need for capital to drive growth. Regardless, Norway spent three decades building its buffer while Guyana is making different choices much earlier in the process, when the risks are highest. The challenge is not to replicate Norway's model directly, but to adapt its underlying principle of discipline to an economy still in the process of evolving.

The Path Ahead

On one hand, Guyana faces urgent development needs. Infrastructure gaps, energy costs, and public services all require significant investment, and delaying spending could slow broader economic progress. On the other hand, rapid spending increases the risk of overheating, inflation, and long-term instability.

While it has the resources and institutional frameworks to avoid the mistakes of past oil economies, Guyana's current trajectory is a risky one. As President Ali claimed, Guyana is pursuing multiple avenues of growth, but without greater fiscal discipline and a clearer spending framework, this current path will lead to the very resource curse dynamics it seeks to avoid.

Moving forward, the challenge will not be whether to spend, but how to pace and structure that spending. Strengthening fiscal rules and prioritizing investments that expand productive capacity over short-term demand could help Guyana balance its development ambitions with long-term macroeconomic stability. Ultimately, the success of Guyana's oil era will depend less on the scale of its resources and more on the discipline with which they are managed.

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The Peptide Boom is Here.

Early science suggests natural healing molecules could transform medicine. It's up to economics to decide.

Economic intuition suggests that natural resource endowments might propel economic growth and living standards in their host, nations, yet in many nations resource wealth has led to conflict, corruption, and underdevelopment. Such a counterintuitive phenomenon has been the subject of extensive study under the case name of "the paradox of plenty". Although abundant natural resources can provide a solid foundation for economic prosperity, in many cases they have had the opposite effect. Countries rich in oil, gas, and minerals often showcase slower growth, weaker institutions, and sharper inequality compared to resource-poor nations.[1] Literature suggests that the presence of valuable natural resources tends to encourage "rent-seeking behavior" in host nations, characterized by political and economic elites who prioritize short-term gains over long-term development.[1] The battle for control over these resources usually leads to corruption, weakened institutions, and conflict, as several groups fight for wealth control. Such a phenomenon poses a threat to development in Latin America: a region heavily challenged by its economic and institutional conditions. I will study the historical origins of the economic structures governing natural resource extraction in Latin America: analyze its misdirected incentives, and failures to reform in order to underline the need for broad democratization and economic diversification at the heart of natural resource reform.

Latin America's Colonial Institutionality

The phantom of rent-seeking behavior signifies a particular threat to nations built over the foundation of weak institutions, where the incentives to reform the natural-resource extraction model for elites might perish to the possibility of costlessly overtaking rents. For this reason, many institutionalists seek to understand the origins of weak institutionality in the Global South, a phenomenon whose reversion seems to be a major prerequisite to redirecting incentives toward effective developmental reform. Naturally, regions with a history of colonial subjugation seem particularly exposed to the harmful effects of natural resource endowments, as their institutions often stem from the ashes of the extractive colonial system.

Latest Nobel-laureate Daron Açemoglu argues that this is the special case of regions like sub-Saharan Africa and Equatorial South America: where high mortality for non-native settlers pushed systems of non-settler colonial rule, pushing for the establishment of a state foundation comprised of extractive institutions.[2] The prevalence of endemic diseases like malaria and yellow fever, made these areas a region of high mortality for European settlers, who in turn decided to establish non-settler extractive institutions in the region: building a system with little regard for welfare and nation-building, but rather concentrated in maximizing extraction volume and profit.[2] This situation was contrary to that of colonies in the North Atlantic, like the United States. These colonies posed environments of low settler mortality: pushing for the

1. Torvik, "The Political Economy of Reform in Resource-Rich Countries."
2. Acemoglu et al., "The Colonial Origins of Comparative Development: An Empirical Investigation."

creation of inclusive institutions built around a common welfare motive, seeking to benefit settlers and society through extraction.[2] Given this, colonized regions around the Equator were mostly built upon foundationally extractive institutions, leading to prominent examples of harmful resource abundance: ranging from Bolivia's natural gas to Ecuador's oil. Many of these colonized nations not only possess weak institutions unable to correctly manage growing rents, but are also conditioned by deeply entrenched racial and class inequities: turning corrosive societies into fertile soil for conflict and instability.

From Latifundismo's Geopolitical Subjugation to The Pink Tide

Sitting on top of a history of political chaos, Latin America has suffered the burden of its extractive institutions made manifest through their political regimes. Sailing out of the independentist wars, the region was reborn in the form of agrarian feudal states —latifundios— subject to the rule of military strongmen —the caudillo.[3] Such a system cemented agrarian extractivism in its countryside — majority Indigenous, in cases like Peru—, while industrializing its capital cities, hosts of the old European economic castes.[4] Over time, caudillismo transfigured into the form of market economies reliant on trade with the United States —who openly influenced the decision-making of Latin America's economic elite, rendered political elite.[5] As natural resource discoveries surged, and trade reliance on new commodities increased, the Latin American countryside was soon to be abandoned for the exploration of more profitable industries[5]: widening racially marked social inequalities that grew evident to the eyes of a majority-rural population. The underlying social convulsion attached to a changing economic system fueled by commodity replacement, as well as the evident influence of foreign and domestic elite intervention in resource management, had turned Latin America into a canvas for social turmoil. Over the years, these divisions have made Latin American nations grow distant from the status quo, a division deepened by coups to leftist governments in the 20th century and the re-establishment of elite-backed governments.[6] The beginning of the 21st century witnessed the establishment of a wave of populist leftist movements in the region, often identitarian, though always fueled by the unaddressed class inequality of their nations. This wave, baptized as "The Pink Tide", took control of natural-resource-dependent nations under the promise of effective and sovereign rent distribution for these forgotten societies[7]. Leaders like Venezuela's Hugo Chávez and Ecuador's Rafael Correa were handed oil-dependent nations in the height of the oil price surges of 2008 and 2011. Similar to natural gas-dependent Bolivia: Venezuela and Ecuador enjoyed an abundant influx of fiscal revenue from sky-rocketing demand for commodities. Commodity prices, such as June 2008's $140 oil barrel price[8], allowed for sharp increases in public spending: targeting investment in social programs and poverty alleviation efforts.[7] Despite the increase in commodity prices resulting in a spending surge, Latin American governments have failed to diversify their economies. The region not only shows a 60% share of exports originating from natural resources but also a strong share of fiscal revenue depending directly on natural resources revenue: with the case of Venezuela, whose fiscal revenue depends by 96% on oil revenue.[9] [10] Such a commodity-dependent economy exposes the region to the volatility of commodity global markets. Thus, most of these governments have sought to correct societal inequalities through a model of rent distribution devoid of the productive change needed to emancipate the region from the whims of commodity markets: transferring the shackles of socioeconomic marginalization from economic elites to global markets.

Sovereign Wealth Funds and Solutions

The establishment of Sovereign Wealth Funds (SWFs) in Latin America seems an evident necessity in the face of large commodity dependence. SWFs are state-owned investment funds often funded by revenue from commodity exports: such mechanisms usually target economic stabilization and diversification as an investment goal. However, Latin America is plagued by examples of SWFs' failure to diversify its economies. From Peru's Fiscal Stabilization Fund and Venezuela's Macroeconomic Stabilization Fund, to Colombia's Savings and Stabilization Fund: most SWFs established in Latin America have failed to diversify their economies and effectively stabilize their nations. These SWFs, rather than focusing on economic planning via diversification, target the creation of saving funds for government spending and macroeconomic stabilization during financial crises: mostly caused by commodity price declines.[1] The

1. Torvik, "The Political Economy of Reform in Resource-Rich Countries."
2. Acemoglu et al., "The Colonial Origins of Comparative Development: An Empirical Investigation."
3. Topik, "From Silver to Cocaine : Latin American Commodity Chains and the Building of the World Economy, 1500-2000."
4. Barraclough, "The Legacy of Latin American Land Reform."
5. Cardoso and Faletto, "Dependency and Development in Latin America."
6. Tremlett, "Operation Condor: The Cold War Conspiracy That Terrorised South America."
7. Burns, Nick. "Lessons from the First Pink Tide's Collapse."
8. Rooney and Goldman "Oil Settles at Record above $140 a Barrel."
9. Margarita, "La Marea Rosa."
10. Larraín, "Missed Opportunities: The Economic History of Latin America."

design of most of these SWFs signifies a condemnation of their efficacy, with most of them relying on government control, the management of these SWFs is not only exposed to the threat of rent-seeking behavior but also reduces the transparency and civic bargaining that characterizes the successful model of citizen-managed SWFs of the Global North.

1. The Populist Challenge

It is evident how citizen-led diversification mechanisms are a necessity for natural resource reform in Latin America. However, a main collateral effect of the commodity-dependent welfare model restricts the effectiveness of change: political centralization. The introduction of checks and balances into state management of natural resources represents a priority when achieving transparency and efficient civic engagement in the management of rents.[1] However, institutionalists suggest that checks and balances represent a double-edged sword for unequal nations as they make it easier for economic elites to influence politics via non-electoral means. Such a visible control of economic elites over resource distribution incentivizes marginalized voters to support the dismantling of checks and balances on political power: opting to make popular political elites more powerful as long as it disempowers economic elites.[1] This has been the case of Latin America: traumatized by its economic elites, now cradled by a populist left. During The Pink Tide, Bolivia, Venezuela and Ecuador voted for constitutional reforms easing term limits— and in Venezuela's case, abolishing them.[11] More recently, México gave a clear mandate for MORENA's reforms to eliminate parliamentary proportional seats, and centralize several government agencies.[12] Past and present, deep social inequalities have fueled the centralization of institutions under the control of new political elites. The threat of economic elites' control, via lobbying and private financing, results in a popular handover of resource wealth to the political establishment. Measures like strong restrictions against private funding on political campaigns, lobbying, and efficient models of citizen-managed public political funding are necessary to formulate natural resource reform protected from populism's democratic backsliding. Otherwise, the political takeover of natural resources will not only obscure any attempt for diversification, but also the transparency required for efficient reforms.

2. The Enclave Challenge

Moreover, political control adds to a distinct problem of racially diverse resource-rich nations. Government reliance on the management of SWFs coupled with racially diverse societies and the prevalence of natural resource extraction in Indigenous areas fuels the creation of "enclave economies". Enclave economies are, in the context of natural resource extraction, secured enclaves where most of the investment from resource extraction is concentrated with no benefit to the wider society.[13] According to James Fergunson, these enclaves bear the burden of resource extraction despite not perceiving any societal benefit other than economic investment solely directed to extraction processes.[13] The Indigenous inhabitants of the Latin American countryside —such as the communities on the Lithium Triangle, and the Yanacocha Gold Mines — are disproportionately affected by extraction processes that benefit urban populations and political elites at a higher level.[14] [15] Such communities are not only affected by pre-existing social marginalization, but are also hit by a lack of social investment, as well as the ecological and medical consequences of extraction processes. Given this, it is necessary to theorize reforms leading to the establishment of inclusive citizen-led institutions for the management and reinvestment of natural resource rents: taking into account the geographical, ethnic, historical, and socio-economic conditions unique to Latin America.

3. The Canadian Model

The Alberta Heritage Savings Trust Fund, although not keen on ethnic investment, represents an optimal policy model to generate tangible inequality reduction while cementing democratic institutions alongside checks and balances on political power. Established in 1976, The Heritage Fund seeks to establish savings, improve welfare, and diversify the economy of Alberta, which sits upon the largest oil reserves of Canada.[1] The fund aims at re-investing largely in Alberta, through investments in a set of publicly-owned companies. However, The Heritage Fund also provides investment to other provinces through preferential treatment loans with interest rates below market rates.[1] Nonetheless, The Heritage Fund effectively prevents the creation of an Enclave Economy by re-distributing a large portion of its revenue within the extraction province, while also stimulating the broader economy and infrastructure of Canada. Such a model seems to be attractive for Latin

1. Torvik, "The Political Economy of Reform in Resource-Rich Countries."
11. Cubillos, "Chavez Wins Vote to Scrap Term Limits."
12. Trejo, "Así Son Las 20 Reformas Que Envió AMLO al Congreso; Morena Buscará Aprobarlas Antes Del Fin de Su Sexenio."
13. Fergunson, "Seeing like an Oil Company: Space, Security, and Global Capital in Neoliberal Africa."
14. Janetsky et al., "Native Groups Sit on a Treasure Trove of Lithium. Now Mines Threaten Their Water, Culture and Wealth."
15. *Common Dreams,* "How One Indigenous Woman Took on a Multinational Mining Corporation... And Won."

American nations, offering possibilities to establish minimum quotas for the re-investment in the social development of extraction-enclave Indigenous areas, while focusing public investment in host provinces, as well as in the nationwide economy. It is important to also note how The Heritage Fund places a focus on investment in public companies, who could play a role in effective economic diversification. Furthermore, it is necessary to apply a keen interest in public companies in the context of post-colonial societies: as many of these nations' resource extraction industries have been built upon foreign investment models which have disproportionately benefited foreign companies to the detriment of national revenue. However, such considerations are to be made considering the centralization epidemic of many Latin American public companies, whose efficiency is constrained by high levels of government-intervention and a lack of citizen-led management. Therefore, these reforms must be coupled with increased autonomy of public companies, incentivizing technocratic civic management over political agendas.

Table 1: ECLAC's Primary Exports Analysis for Latin America and Caribbean (Data from UNCOMTRADE).

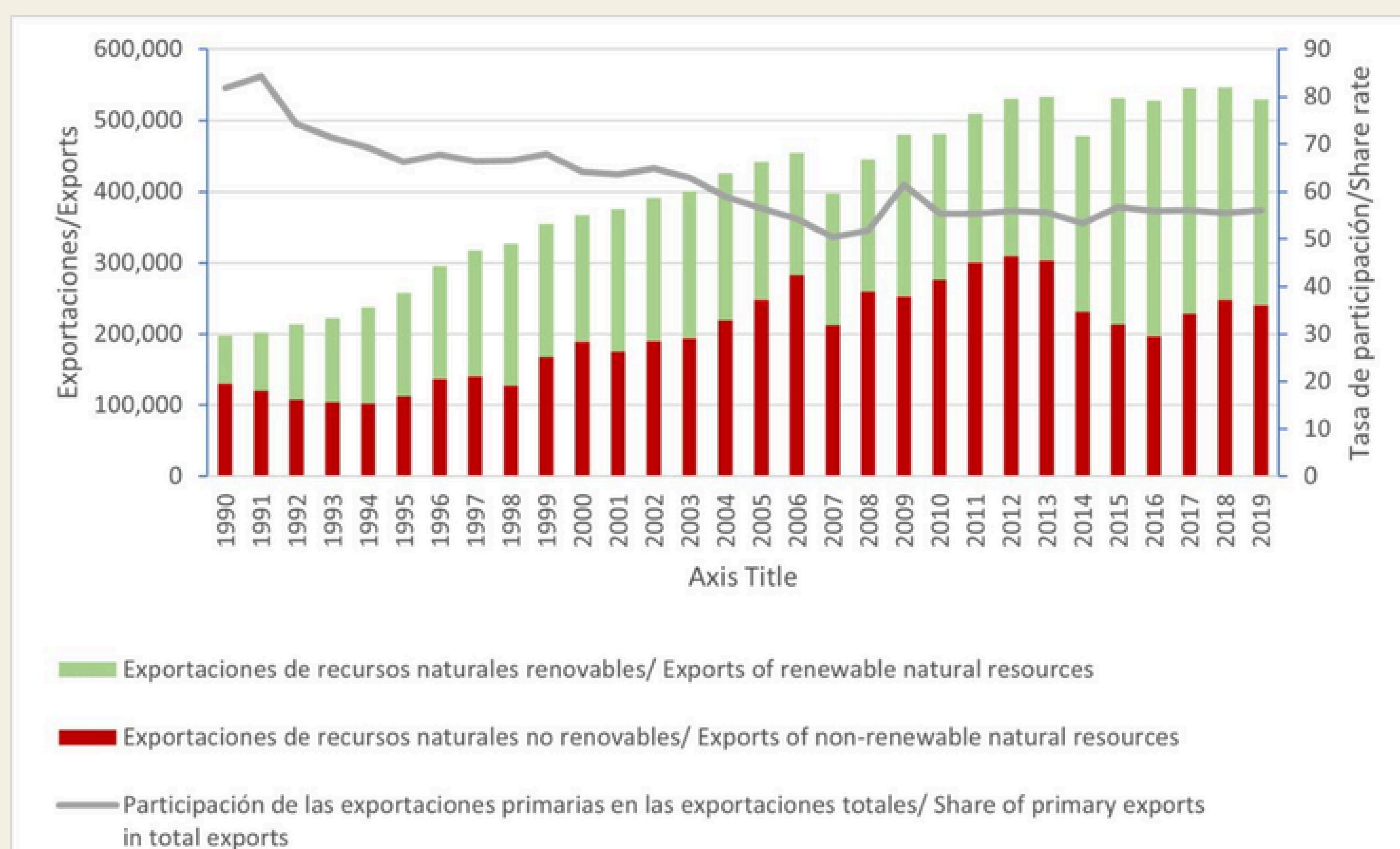
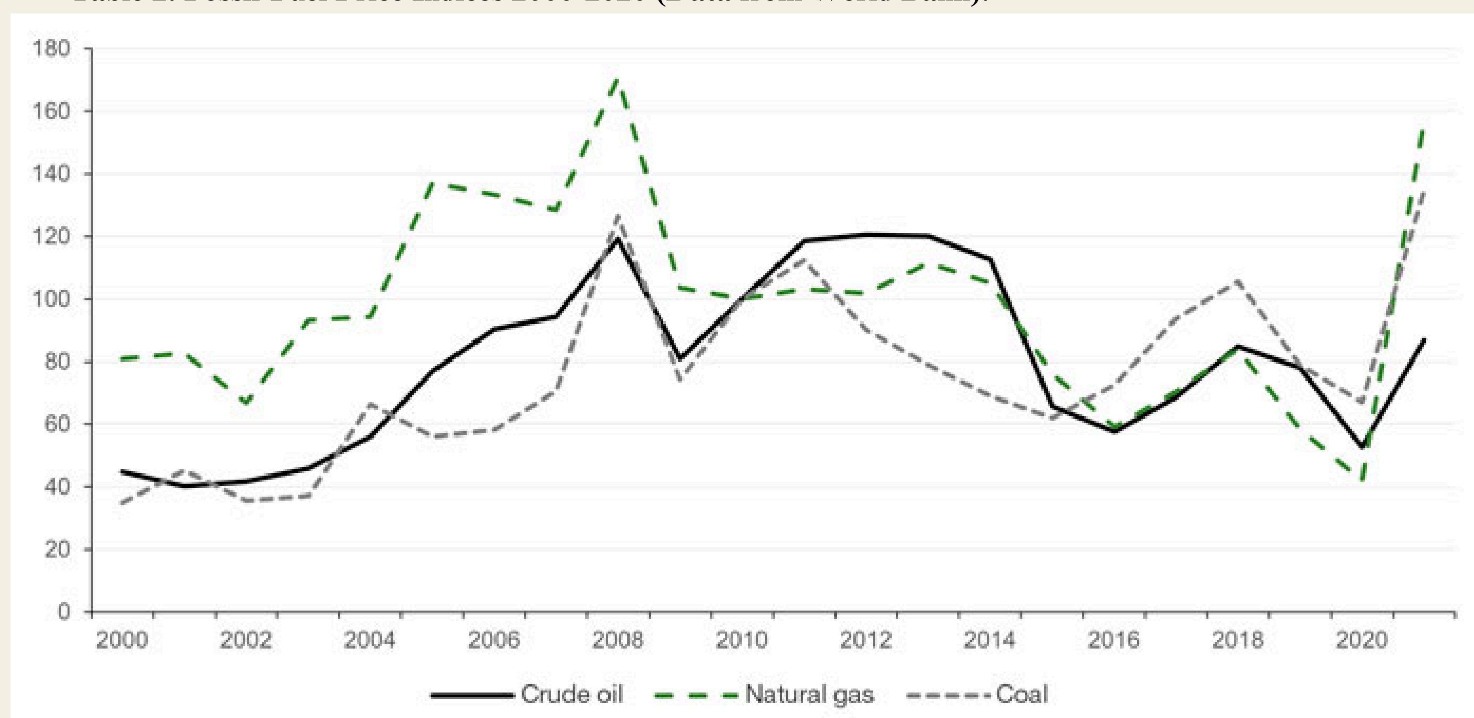


Table 2: Fossil-Fuel Price Indices 2000-2020 (Data from World Bank).



Conclusion

The unique conditions of Latin America call for unique solutions. In a region of colonialist institutions that have perpetuated race and class inequalities, we must seek to use rents in a way that fosters independence both from foreign investment and market volatility. We are called to remember that any reform devoid of an approach against social inequalities is ought to be ineffective. With a growing necessity for decentralized citizen-led rent management mechanisms, it is a priority to reform political institutions in a way that democratic backsliding is slashed via increased civic participation and regulated elite influence. It is only through deep democratic institutional reform that rents can be distributed in a way that maximizes economic security and social development: turning the page on extractivist institutionalism to chart a new path forward

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Pandemic, Penury, and Payment

Sovereign Debt Distress After Covid-19

Background

In September 2024, the International Monetary Fund (IMF) identified 69 countries as being at risk of or in debt distress; with earlier assessments from private credit rating agencies, this number rises to 79. While distress for many—indeed, near all—of these countries far predates the Covid-19 pandemic and its economic fallout, that fallout has undoubtedly exacerbated their troubles.

The broad channels aggravating post-Covid debt distress have been (1): tremendous government spending on economic support and relief, exceeding $9 trillion in 2020 alone and adding to high pre-existing debt piles, (2): a return of global inflation, reaching a median 8.7%, (3): tighter financial conditions and higher debt servicing costs amid global interest rate hikes, particularly for the poorest countries, and (4): the resulting foreign exchange implications of those hikes.

Naturally, this list is incomplete: the dramatic escalation of Russia's war in Ukraine in 2022; fluctuations in the prices of vital commodities like food and energy; and even climate change are other contributing global factors. And on the national level, one would be heedless to exclude years of corruption and economic mismanagement in Sri Lanka, Lebanon's 2019 political and liquidity crises, and Pakistan's 2022 floods and political unrest.

While each country must be considered in its specific context—and global debt burdens considered in the context of the past few decades—this article will examine chiefly those debt effects most attributable to the Covid-19 pandemic and its economic effects. It will also examine only sovereign, not private, debt.

Debt Distress

A country in debt distress is one where the government is experiencing difficulty servicing its sovereign debt (that is, paying its own government-issued debt). A default occurs when a government halts payments on its debt or otherwise declares it will do so. Distress is often a precursor to default, but can be resolved without default, often by a bailout or debt restructuring.

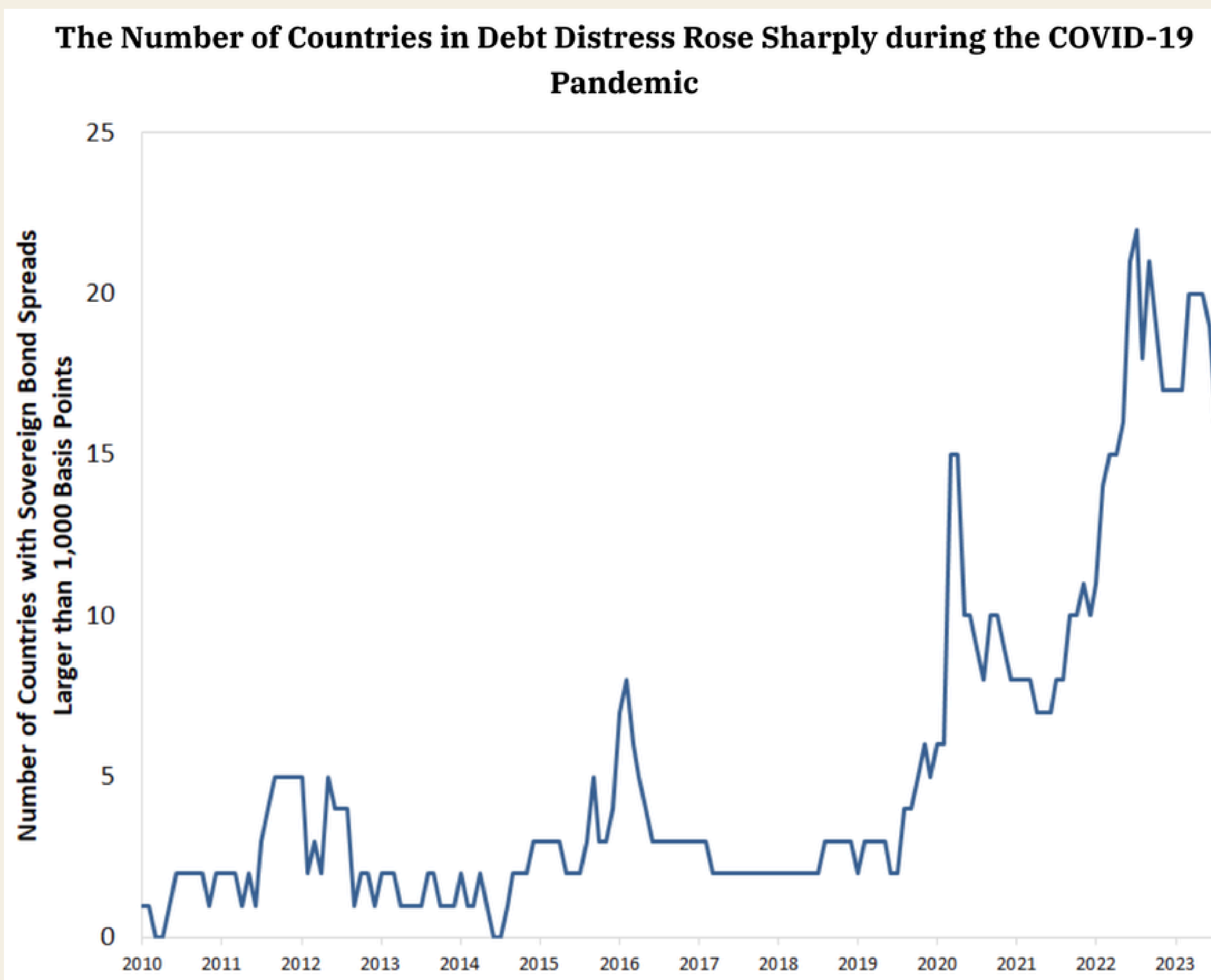
A common indicator of (or response to) distress is rising borrowing costs and, particularly, rising spreads. Debt investors (borrowers) require interest payments from debt issuers (lenders; here, sovereigns), and demand higher interest rates[1] when they believe the debt is riskier—this is the classic risk-return tradeoff. Private credit ratings agencies also rate sovereigns (government borrowers) on their creditworthiness, and their ratings can particularly influence major institutional investors. A country with a low enough credit rating may find itself virtually cut off from international capital markets.

Governments that run prolonged deficits (that is, that regularly spend more than they take in, requiring the issuance of debt to make up the difference), that set unfunded budget plans (pursue policies without clear funding beyond the issuance of more debt), that reach high or exceed maximum debt-to-GDP or deficit-to-GDP ratios, or that experience general political, economic, or civil or military turmoil, distress, or impasse are likely to see interest rates rise, even without issuing new debt.[2]

Beyond outright rises in interest rates, another key metric for distress is the spread, or difference, between a (potentially) distressed country's debt and that of a traditionally safe (and usually developed) country, such as the United States or Germany. A higher spread indicates investors demand higher interest from one country, likely because they view that country as riskier. Spreads are computed for bonds of similar

1. Equivalently, demand is lower for riskier bonds, which are thus purchased at lower prices. A lower price and an unchanged coupon (bond payment) mean the interest rate (the coupon divided by the price) is higher.
2. One may note the United States has experienced repeated budget standoffs and carries a high debt-to-GDP ratio of 123%. America's ability to remain the world's financial safe haven and a major borrower has been attributed bys ome to its "exorbitant privilege;" that is, its status as the monopoly supplier of the world's reserve currency, the United States dollar, in which commodities (which the US imports) and much government debt are denominated.

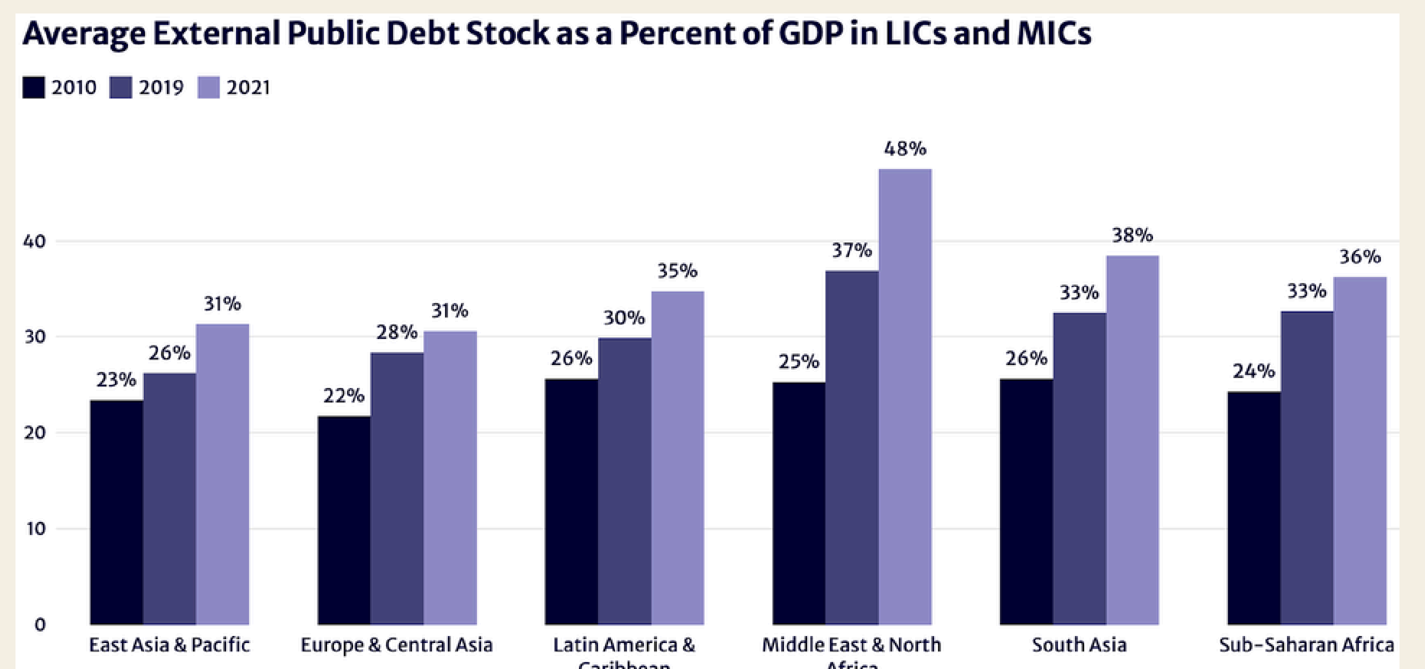
term, so a 10-year Lebanese sovereign bond would be compared to a 10-year US Treasury bond, not a 2-year or 5-year note. Higher (or, equivalently, "wider") spreads are often used to measure distress:



Note that spreads are often quoted in basis points, or hundredths of a percent. Thus, this graph depicts sovereigns with spreads greater than 10%, which is quite high and can indicate distress.

Debt distress is usually resolved with a bailout or debt restructuring, often in international fora. The European Union and IMF,[3] for instance, collaborated on financial rescue packages (bailouts) for Greece, Ireland, Portugal, and others during the European debt crisis of the 2010s. In 1995, the US organized an IMF-, G7-, and Bank of International Settlements (BIS)-supported bailout for Mexico.

Restructurings exchange outstanding debt for new debts or cash, altering or replacing distressed existing debt to ease the borrower's path to repayment. Typically, restructurings include a haircut, or markdown, on the value of the debt. In 2003, Uruguay negotiated a 13% haircut, while in 2005, Argentina reached a 73% haircut, though these are extremes. Investors accept these haircuts to increase their expected repayment: a sovereign without a haircut may remain in default (and thus make no payments) for years, while a sovereign that negotiates a haircut may resume payments sooner (as its financial condition ideally recovers).



External debt as a share of GDP has risen in low- and middle-income countries around the world since 2010, enjoying the now-reversing benefits of loose global monetary policy and economic openness.

Critically, most sovereign defaults occur on external debt, or debt issued to and owned by foreign states, companies, and individuals, rather than internal or domestic debt, held by an issuing government's own citizens.[4] This is partly why debt restructurings can take years: they must be litigated across multiple legal systems and within the international system. Zambia, for instance, took nearly four years to reach an international bondholder vote through the G20's Common Framework.[5] The southern African country had originally defaulted in 2020 after Covid shocks—including a collapse in the value of copper, which comprises 75% of its export revenues—pushed years of unsustainable borrowing over the edge.

Covid Relief and Loaves of Bread

As early as May 2020, governments allocated $9 trillion, or just over 10% of world GDP, to pandemic economic relief, about evenly split between (1): direct budget support and (2): indirect relief loans, equity injections, guarantees, etc., though the vast majority ($8 trillion) of spending was by the wealthy G20 group of developed countries.

Remaining expenditures were spread across low- and middle-income countries (LMICs), many with more limited fiscal space or heavy pre-existing debt loads (Zambia, as mentioned). Crisis-plagued Lebanon, where a quarter of residents are Syrian refugees and the social safety net has been strained by years of political and economic strife and regional conflict, defaulted in March 2020 on a $1.2 billion USD bond, with Prime Minister Hassan Diab asking "[h]ow can [Lebanon]

3. This grouping of the European Commission, European Central Bank, and IMF is called the Troika, and sustained some criticism for being removed from democracy, though defenders argue national parliaments accepted its plans.
4. Erce, Malluci, and Picarelli (2022) found that internal debt defaults have recently overtaken external debt defaults.
5. The Common Framework incorporates both the wealthy Western Paris Club lenders group, traditionally dominant in international lending, as well as China, an emerging bilateral lender. Given the state of relations between China and the West, particularly the United States, this process was slow and included recriminations on both sides.

pay the creditors while there are people in the streets without the money to buy a loaf of bread?"

In Ghana, years of economic growth saw government spending (and borrowing) rise and imports of Western and Chinese consumer goods, paid for in US dollars, increase similarly. With Ghanians exchanging (selling) Ghanaian cedi for USD, the cedi depreciated and inflation rose. Over-ambitious debt-funded plans to build 111 hospitals, expand infrastructure, and raise the standard of living after the pandemic collided with Russia's invasion of Ukraine. Hyperinflation set in, with interest payments rising to consume between 70% to 100% of government revenue. Ghana defaulted on most of its external debts in December 2022.

Faced with the cessation of basic services or defaulting on foreign debts, governments have predominantly—and not unreasonably—chosen the latter, if often reluctantly. International assistance programs, such as IMF bailouts, are also often unpopular for the foreign-dictated austerity—or cutbacks in government services, welfare, and social safety nets—they entail.

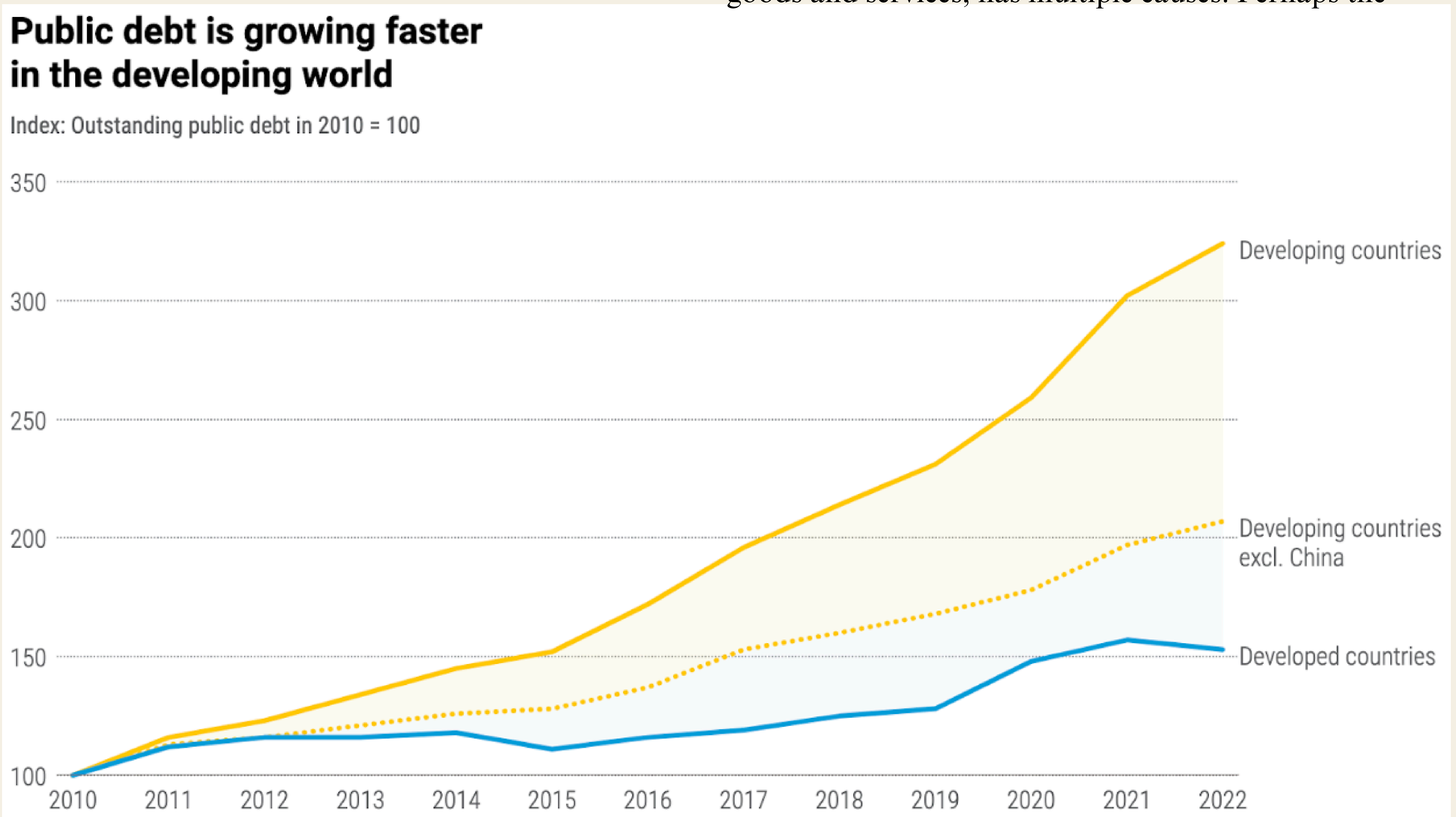
Pre-Existing Debt Loads

Yet these programs have become increasingly necessary: for a myriad of reasons beyond the scope of this article, public debt loads have surged since about 2010, especially among LMICs or developing countries: By 2023, developing countries owed about $3 trillion in sovereign debt, double 2010 levels, with about 60% owed to private creditors, who typically demand higher rates,[6] shorter maturities, and less generous restructurings. Private creditors also receive the majority of LMICs' debt service payments, or about 68%. Most of these loans were taken out during the 2010s "easy money" era of low interest rates and economic openness, but have become more onerous given the slew of 2020s economic difficulties.

All this pre-existing debt means sovereign borrowers were already servicing interest payments when the pandemic hit, so any new spending was constrained by debt service or market reactions: "unfunded" (that is, debt-funded) tax cuts or spending, the Keynesian prescription for curing recessions, often incurs a market backlash if investors deem the measure unwise. Even developed countries are not immune: famously, British Prime Minister Liz Truss' October 2022 mini-budget, which included £45 billion GBP of unfunded tax cuts, alarmed investors who feared it was fiscally irresponsible and inflationary. These investors sold off the pound sterling (devaluing the currency), sold off British government bonds (devaluing the bonds and thus raising yields or the government's cost of debt), and sold off British stocks.

Inflationary Environment

Inflation, generally the rate of increase in the price of goods and services, has multiple causes. Perhaps the



6. In addition to the profit motive, private creditors' rates are often higher because international lenders like the IMF or World Bank offer "concessional financing," or loans intentionally at below-market rates. Recently, some private lenders have also been offering concessional financing to socially- or environmentally-beneficial projects.

most "direct" Covid contribution is supply chain snarls (supply-side or cost-push inflation), and, arguably, increased demand for certain critical goods such as PPE (demand-side or demand-pull inflation). Early inflation was largely down to supply-side factors, such as supply chain restrictions and volatility and highs in commodity prices, chiefly energy (here, Russia's war in Ukraine is an important contributor). The depreciation of an importer's currency can also contribute to inflation, but is covered separately here.

Certainly, inflation reduces the real value of debt: inflation is broadly the decrease in purchasing power such that money now is worth more than money later (if the same loaf of bread is $1 today and $2 tomorrow, we can say the dollar's value has halved). Thus, debt taken out today but paid back later is worth less, too: it is easier to pay off in the future, since if prices rise, government revenues—usually a proportion of income or prices—rise as well, all else equal. Nominal (non-inflation adjusted) GDP also rises while debt remains constant, so debt-to-GDP falls, lowering a key metric of debt distress.

The countervailing point is that high, sustained high, or volatile inflation is bad for consumers, businesses, investors, and the politicians they (usually) elect. For reasons given below, central banks and monetary authorities must stamp out inflation by raising interest rates, which naturally increases the interest payments paid on debt (the cost of debt). Thus, while inflation can devalue the real (inflation-adjusted) value of debt, it can also lead to higher interest rates that hike payments on that debt.

Interest Rate Hikes

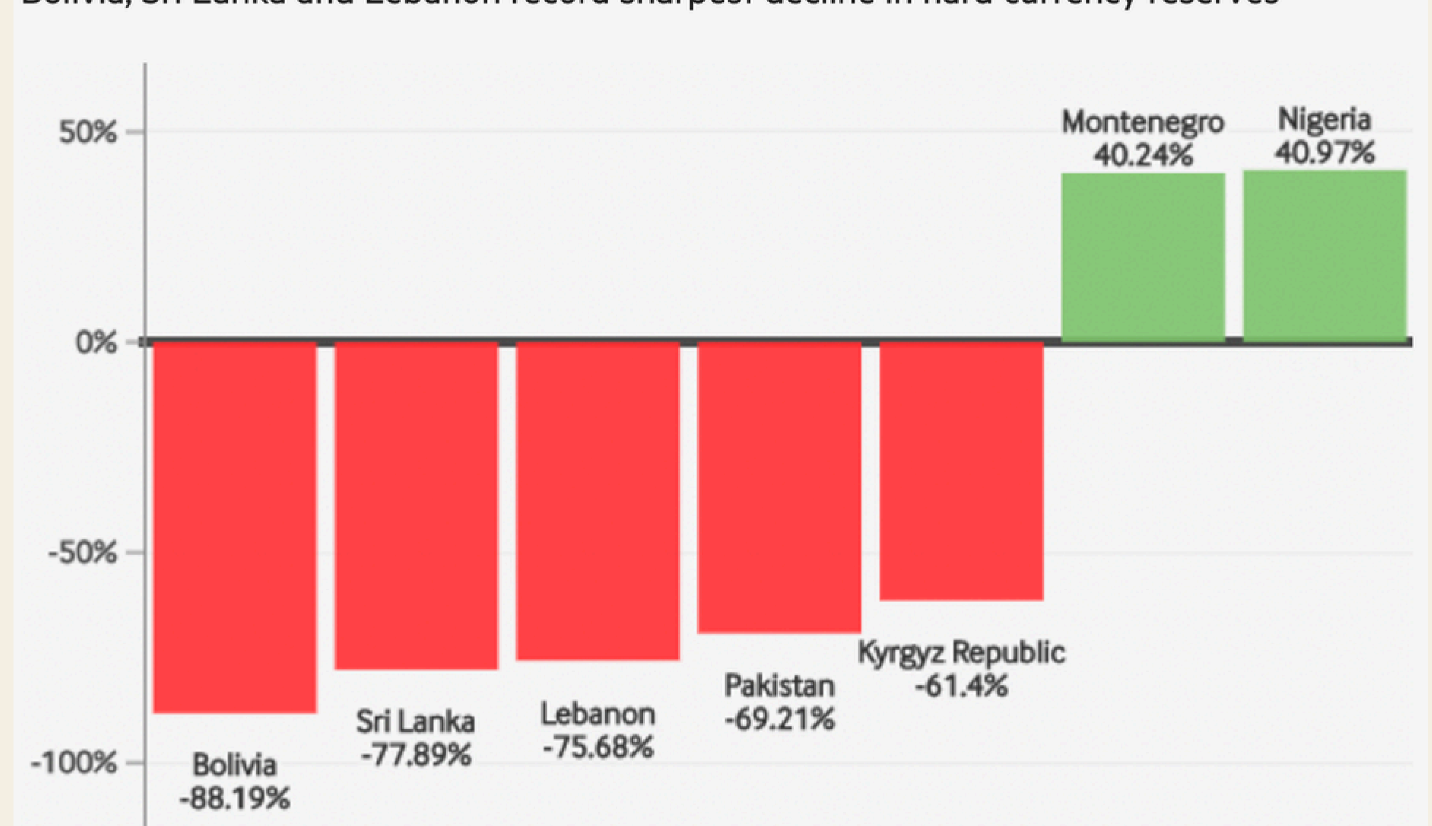
Once the economic fallout of pandemic restrictions became clear, central banks around the world lowered interest rates (in wealthy countries, this often meant bringing them to near-zero levels). This served to encourage more consumer and business spending, aiming to stimulate economic activity, since, under lower interest rates, saving (and thus not spending) money becomes less attractive while borrowing money (to spend on consumer goods or capital investment) becomes cheaper.

However, a stronger-than-expected economic recovery (and accompanying inflation) led to a reversal, with developed economies like the US and Eurozone hiking interest rates well above pre-Covid levels in an attempt to slow the overheating economy. These higher interest rates made developed economies, their assets, and their currencies more attractive to global investors, decreasing the appeal of riskier, emerging market and LMIC investments: a 7% return in the safe United States, for instance, may be more attractive than a 5% return in a riskier LMIC. Thus, a higher interest rate paid on US treasuries, considered a risk-free haven asset globally, can increase the interest rates investors demand from other countries, which are considered riskier than the wealthy United States.

Foreign Exchange

Another challenge arises in currency. While internal debt is often denominated in the borrowing state's local currency, external debt may be denominated in foreign currencies (these may be called Eurobonds, though they are not necessarily issued by European states or in euros). Especially among countries with unstable local currencies, Eurobonds are denominated in "hard" foreign currencies like the US dollar (USD), euro (EUR), or Japanese yen (JPY), which are generally considered safe by investors.

When US and other developed economies' interest rates rose, authorities in emerging market economies faced two choices: defend their currency or allow it to depreciate against a hard currency. Defending their currency (that is, keeping its foreign exchange rate relative to the dollar, euro, yen, etc. stable) would have meant keeping rates high or hiking them higher, which would depress investment and consumption, threatening recession and increasing debt costs. The alternative method of defending a currency is for a central bank to buy (demand) it with other currencies by spending its (limited) foreign exchange reserves, or stores of foreign currency. Allowing the currency to depreciate (for instance, Nigeria allowing the naira to fall from 500 Naira equalling 1 USD to 700 Naira equalling 1 USD) would be the natural consequence of lower rates, but increase the relative costs of imports and foreign currency denominated debt.



Importers, who pay for many goods in foreign currencies, and countries whose domestic currencies are unstable often maintain higher foreign exchange reserves; higher interest rates in developed countries can draw down these reserves, as seen. Here, Montenegro's reserves rose on rebounding tourism and Nigeria's on the issuance of USD-denominated bonds, meaning it was loaned principal (by bond buyers) in USD.

Most developing economies import much of their food and fuel, meaning a weaker currency ultimately hurts the general population (who spend a higher portion of their income on such necessities than the populations of wealthy countries)—the resulting popular discontent could also, beyond costing politicians their positions, contribute to broader social and political instability and thus capital flight, an exodus of capital or assets from a country investors fear is unstable (American rate hikes are particularly relevant here, as commodities like oil and food are often denominated in dollars). Disorder or protests can also trigger downgrades in a government's credit rating, restricting its ability to access international capital markets (investors, lenders, or "debt-buyers").

A government whose bonds are downgraded from investment grade (low risk) to junk (high risk) status would likely see a quick sell-off (many institutional investors' rules prohibit them from holding non-investment grade securities), further pushing down the market value of their debt. Mathematically, a fall in bond prices means a rise in yields, or the relative cost of debt, further straining finances.

Finally, external debt must be paid in the currency in which it is denominated. While self-evident, this means a borrowing government must have enough foreign currency, which it typically acquires by export: exported goods are sold abroad, so foreigners buy the exporter's currency to pay. The reverse is true for imports, so a country with a trade surplus (one that exports more than it imports) should have a stronger currency and a country with a trade deficit (one that imports more than it exports) should have a weaker currency (in the real world, a myriad of other factors also influence relative currency valuations).

Thus, a country that exports too little or imports too much can run out of foreign exchange (forex) reserves (that is, its stock of foreign currency), meaning it is unable to pay its foreign-currency denominated debt. That country could use its local currency to buy the foreign currency, but would likely do so at an increased rate. The effect is to increase the cost of debt: say 1 USD equals 20 Mexican pesos (MXN) and Mexico has a dollar-denominated $50 USD Eurobond (worth 1,000 MXN). If the peso depreciates to 1 USD equalling 40 Mexican pesos, the price in pesos of that bond doubles to 2,000 MXN.

In Egypt, for instance, the Covid-19 pandemic slashed oil prices and collapsed tourism and shipping, cutting off the country's main forex sources (Egypt collects lucrative fees from the Suez Canal). Coupled with a longstanding reliance on fickle foreign investment to make up forex deficiencies, persistent ill-fated exchange rate interventions, and Russia's invasion of Ukraine (both countries collectively provide 85% of Egyptian wheat imports), the Egyptian pound lost two thirds of its value against the dollar and forex reserves fell to $35 billion USD, enough to pay for just over 4 months of exports. This strained the government's ability to pay its foreign currency denominated external debts, which quadrupled from 2015, and necessitated a $3 billion IMF loan in 2022, expanded to $8 billion in 2024.

Political Effects

When these risks are mismanaged—or neglected or exacerbated—a government can default, and its people suffer or revolt, peacefully or at the ballot box.

Sri Lanka, in the decade before the Covid-19 pandemic, recovered from a decades-long civil war through extensive public debt-financed infrastructure investments while government economic interventions favored domestic production of non-tradable goods (such as public services, real estate, and local commodities) that could not be exported and earn their exporters foreign currency.

Thus, as Sri Lanka was accumulating foreign debts denominated in foreign currencies, its government was undermining the exporting sectors that earned foreign currencies. In 2019, a fiscally devastating unfunded tax cut and budget deficit resolved by printing money led rating agencies to cut the country's credit score, virtually cutting it off from international capital markets.

It was in this context that the Covid-19 pandemic and recession hit: tourism, which employs or supports 14% of Sri Lanka's population and comprises about 3% of GDP, virtually collapsed. Foreign currency inflows from tourists fell from about $4 billion USD in 2019 to just over $500 million USD in 2021. Bucking potentially unpopular IMF intervention, the Sri

Lankan government embarked on a questionable forex and import restriction scheme, the most ill-fated component of which was a ban on agriculturally vital pesticide and fertilizer imports.

Farmer protests forced the government to rescind the ban by late 2021, after it had already caused a massive harvest failure. The country thus had to import nearly a majority of foodstuffs, further draining its limited foreign exchange reserves, which fell from $7.6 billion USD in 2019 to a mere $50 million USD in April 2022, enough to pay for less than a month of imports. Sri Lanka defaulted that month.

Severe shortages of food, fertilizer, gas, and fuel on the island nation[7] led to mass protests against the sitting government and politically influential Rajapaksa family, accused of persistent mismanagement. The cabinet and prime minister resigned, and, in July 2022, protesters stormed the presidential palace and President Gotabaya Rajapaksa fled to Singapore.

Sri Lanka is an extreme example, but demonstrative of the fact that the Covid-19 pandemic, while enormously disruptive, did not alone create the conditions for debt distress: rather, it was the final push to a beleaguered, mismanaged economy. Without years of debt-driven growth and an ill-conceived government response, Sri Lanka may well have weathered the pandemic's shock.

Conclusion

Presently, 3.3 billion people live in countries that spend more on interest payments than on health or education. They may face a "lost decade" of underinvestment in workers, students, technologies, and institutions as debt service consumes otherwise-productive capital. 100 million people worldwide have been sent back to extreme poverty, and over a third of all countries in the world may default. The economic shock of the Covid-19 pandemic has been tremendous, and it has struck the poorest countries the hardest.

Yet the fault for their distress cannot be laid on the pandemic alone: the fallout of Russia's invasion of Ukraine, civil wars and regional conflicts, natural disasters, climate change, political deadlock, geopolitical rivalries, and outright errors in economic and fiscal statecraft going back years or decades have yoked the world's developing countries to a collective $9 trillion in debt. The low-rate, debt-growing era of the 2010s deserves an examination of its own, as do the insufficiencies of the millennium debt jubilees, the emergence of China as a major bilateral creditor, and the possibilities of greater debt forgiveness now.

American and European readers may consider their countries to have largely tamed the inflationary aftermath of the Covid-19 pandemic, but as the world turns its eye to the impacts of the returned American president, it would do well to remember that over a third of its people and nations still face the threat of sovereign default.

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7. These were also exacerbated by Russia's invasion of Ukraine, which raised prices for food, fuel, and fertilizer.

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— Murray Rothbard

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