Centering the Amazon: Economic Transformation for Climate Stability

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Background

Brazil has always been at the periphery of the world, and the Amazon rainforest has always been at the periphery of Brazil. In recent years, however, the tables have turned. What used to be the periphery of the periphery is now at the center of discussions about the climate, with major implications for food security and global politics.

Several climate subsystems play a crucial role in keeping the planet within safe operating parameters for humanity. Examples include the West African monsoon, the permafrost, coral reefs, and the Atlantic Ocean currents. An important difference between these systems and the Amazon, however, is that the former are being affected indirectly by climate change, while the Amazon rainforest is also the object of direct human activity. For this reason, it deserves to be considered on its own.

Some basic facts will help give the Amazon rainforest its proper scale. The biome spans nine countries and occupies an area almost the size of the continental United States (6.7 million km² versus 8 million km²). Around 60% of the Amazon rainforest is located in Brazil, where it occupies an area bigger than India. Approximately 20% of the Brazilian Amazon has been deforested, and the vast majority of this land – occupying an area much larger than France - has been abandoned or is severely underused.

Thanks to its size and ecological functions, the Amazon presents both as an existential threat and an extraordinary opportunity.

The Amazon presents a threat not only because it helps stabilize the climate, but also because it is perilously close to a tipping point. Abnormally high temperatures and prolonged droughts make it drier and therefore vulnerable to fire, which is not typical or healthy for tropical rainforests. When a significant number of trees die, the surrounding forest becomes drier still, leading to a destructive feedback loop that releases greenhouse gases, reduces rainfall downwind which hinders both agriculture and the generation of hydroelectric power, and gradually converts the forest into a Savannah, a transformation that cannot be reversed and would have catastrophic global consequences.

At the same time, the region has enough space, rainfall and biodiversity to produce large quantities of food and remove an estimated 23 billion tons of CO2 from the atmosphere. The key technology – photosynthesis – is the most efficient we have available for immediate deployment, and it would

buy us time until we have figured out better ways to reduce emissions and increase removals at a reasonable cost.

The two key questions, then, are: (1) how can we stop the native vegetation from being degraded or clear cut? And (2) how can we better utilize the vast swaths of land where forests should not have been removed, to produce foods and other renewable resources?

Forest Protection and Forest Restoration are Deeply Intertwined

Over the past couple of decades, Brazilian authorities have learned how to curb deforestation through top-down enforcement. From 2004 to 2012, the central government managed to reduce deforestation by more than 80% (from 28 thousand km2 to 4,6 thousand km2 per year).

We've also learned that top-down enforcement, while absolutely necessary, is far from enough. Strict monitoring followed by punishment has bred resentment and caused a backlash among the people who live in the region and have significant sway over what happens to the forest. Between 2012 and 2021, deforestation increased three times (from 4,6 thousand km2 to 13 thousand km2). This dramatic reversal reflects deeply entrenched local opposition. A recent survey of newly elected municipal leaders in the Brazilian Amazon revealed that 89% of mayors and 90% of city council members oppose environmental laws and would rather see them repealed. To a large extent, many influential people and their constituents still see the forest more as an obstacle to their economic prosperity than a source of wealth.

This type of local opposition cannot be overcome through educational campaigns, strict enforcement, or cash transfers alone. What's needed is a fundamental transformation of the local economy—one that helps forest-friendly enterprises succeed and thereby builds a lasting constituency for forest preservation and regeneration. Without this transformation, environmental gains remain fragile, dependent on the political will of distant authorities rather than the economic self-interest of the people who reside in the Amazon.

The Supply of Forest-Friendly Products

Forest-friendly products are those that can act as drivers of environmental conservation, forest restoration, recovery of degraded lands, economic inclusion of smallholders and members of traditional forest communities, and the creation of good jobs. Forest restoration—a key component of this approach—can take different forms, from recreating native-like ecosystems to developing what Brazilians call "production-oriented forests"—diverse assemblages of perennial species that yield foods such as cocoa, robusta coffee, palm oil, black pepper, açaí berries, and tropical fruits, along with valuable timber, fibers, oils, starches, and other feedstock. An expanded definition might also include additional food staples like rice, beans, cassava, and vegetables, as well as cattle ranching when practiced within integrated crop-livestock-forest systems.

Firms based in the Brazilian Amazon already produce sizable quantities of forest-friendly products for domestic consumption. Some of these companies also generate approximately US$300 million per year by exporting 60 different forest-friendly products, particularly foods like black pepper, saltwater fish such as snapper and yellow hake, and crude palm oil. While these figures aren't

enormous, they demonstrate that the Amazon can produce goods that meet global quality standards at competitive prices.

What's striking is the scale of the opportunity. The global market for these same 60 products approaches US$180 billion annually. Some individual categories, such as cocoa beans, palm oil, and coffee, represent multi-billion-dollar markets on their own. Even seemingly niche products command substantial trade flows—black pepper generates US$1.5 billion per year, honey accounts for US$2 billion, and tropical fruits like mangoes and pineapples each exceed US$2 billion in annual global trade. The global voluntary carbon markets pale in comparison.

Yet the Brazilian Amazon—a region hosting 30% of the world's tropical forests—captures less than 0.2% of this aggregate market, considering the products the region already exports. Of course, for products not currently exported, its global market share is zero. These figures suggest enormous room for growth.

While many attribute this paltry performance to structural problems—inadequate transportation infrastructure, poor communication networks, deficient public education, and bad governance, the evidence suggests these barriers are not insurmountable. After all, the leading exporters of forest-friendly products are often based in tropical countries equally poor or even poorer than the Brazilian Amazon. Vietnam leads in black pepper exports, Bolivia dominates the Brazil nut market, and Ecuador is the top exporter of hearts of palm. Their success demonstrates that producers in the Amazon region can achieve significant growth even before resolving all its structural challenges.

Conventional policy tools that revolve around regulatory exemptions, tax breaks, subsidies for land and capital, and protection from market competition have shown limited effectiveness in resolving the key bottlenecks. Instead, government agencies and their allies will need to develop more sophisticated instruments to accomplish two goals: first, to gather the necessary intelligence that reveals the specific constraints hampering forest-friendly businesses; and second, to mobilize public and private resources to either circumvent or eliminate these obstacles altogether. This targeted, information-driven approach represents a departure from broad-based, burden-relieving policies, and a move toward precision interventions that address the actual impediments to growth.

A New Global Trade Regime for Forest-Friendly Merchandise

While significant attention focuses on the supply side of forest-friendly products, equal consideration must be given to shaping global demand. The Brazilian Amazon and other tropical nations cannot safeguard their natural resources if their forest-friendly products struggle to reach international markets or if those markets undervalue environmental stewardship.

For example, Brazil currently demonstrates remarkable vigor in advocating for its interests in the Sustainable Aviation Fuel (SAF) arena, where specialized committees at the International Civil Aviation Organization (ICAO) are establishing the rules that will govern a market worth $10-20 billion annually over the next 5-10 years. In these negotiations, Brazil has forcefully defended criteria that recognize its tropical advantages, such as the capacity for multiple harvests per year—a stance that directly challenges traditional agricultural powers like the United States.

This strategic approach to SAF stands in stark contrast to Brazil's relatively passive stance regarding other forest-friendly products with equivalent value. At present, the rules that structure the

international trade of these products are generic (defined by the World Trade Organization), voluntary and negotiated by private agents (like the soy moratorium), or unilaterally imposed (like the European EUDR). These regulatory methods ignore the specific features of each producing country, do not efficiently promote technological innovation, and do not encourage the inclusion of small producers in global chains.

Tropical forest nations could reshape this landscape by establishing a coalition to develop trade standards that recognize the distinct attributes of sustainable tropical production. Countries like Brazil, Indonesia, Malaysia, Colombia, Peru, and others could leverage their combined diplomatic weight to engage consuming nations in creating verification mechanisms that are accessible to diverse producers and embed the right set of incentives for environmental and productive upgrading.

A big challenge is that tropical countries lack proper arenas in which to negotiate. Several commodities have (or used to have) dedicated UN-sponsored bodies such as the International Coffee Organization, the International Cocoa Organization, and the International Pepper Community, but they used to geared towards controlling quantities and prices, and thus they have lost influence with the rise of the WTO. Reviving or replacing them could be an important first step.

The geopolitical implications are unconventional but still clear. Traditional resource politics revolves around controlling existing stocks—oil reserves, mineral deposits, or land. But the challenge of forest-friendly products is different: controlling sustainable flows of renewable resources through production systems and trade rules. Nations that establish the standards for these flows will shape the next century's economy, just as fossil fuel powers helped define the last century.

Conclusion

Global conditions have turned hostile. Countries are investing more in defense, raising tariffs, imposing austerity, retreating into isolationism, and resisting fossil fuel reductions. Yet this turbulence creates openings. Brazil's simultaneous leadership of G20 and COP30, alongside its deepening ties with China, and the strengthening of the EU offers a rare chance to reposition the Amazon and other tropical regions in the global sphere. By transforming their local economy and establishing new standards for forest-friendly products, Brazil and its tropical allies can shift from rule-takers to rule-makers, securing both climate stability and economic prosperity in an increasingly fractured world.