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Global Shifts

Business, Politics, and Deforestation in a Changing World Economy

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3 Global Shifts and the Zero-Deforestation Regime Complex

This chapter uses the lens of international political economy to examine how global shifts in markets and power are transforming the world food system and its governance. It shows how, in the age of advanced globalization, the “Tropical Oil Crop Revolution” (Byerlee, Falcon, and Naylor 2016) has entered a new phase of development. What are the consequences for agricultural expansion and deforestation in the global tropics? How is the emerging regime complex for commodity-driven deforestation adapting to the new geography of trade and consumption? Are rising power actors contesting its norms, rules, and procedures? To answer these questions, I proceed in three steps. First, I provide historical context on agricultural transformations, including exploring the link between globalization and environmental degradation, particularly as it relates to the rise of South-South trade and its role in tropical deforestation. Second, I shift the focus of analysis from environmental consequences to institutional consequences. With a focus on the palm oil and soy sectors, I map the emerging regime complex for commodity-driven deforestation and examine its coverage of Global South markets. Finally, I investigate how the regime’s institutional fragmentation is shaped by contemporary globalization and the underlying power shift.

Transformations in Global Agriculture

Throughout history the agrifood system has undergone major transformations. Driven by technological, political, and economic changes, these processes often had wide-ranging societal and ecological consequences. In the nineteenth century, the technological progress ushered in by the industrial revolution made it possible to work the land much more effectively. The

invention of the steel plow and consequent industrial-scale production allowed farmers in the American Great Plains to bring millions of hectares of new agricultural land into productive use. The resulting increase in food production played an important role in the economic development of the still young nation. However, there were unintended consequences. The massive expansion of plow agriculture led to large-scale soil erosion in the Great Plains area. In the 1930s, during a period of extended drought, the loose topsoil was turned into dust. The result was gigantic dust storms, so-called black blizzards, which buried entire towns and destroyed the livelihoods of hundreds of thousands of people (Worster 2004). Famously described in John Steinbeck's classic novel *The Grapes of Wrath*, the "American Dust Bowl" was one of the great manmade ecological disasters in North America.

In the twentieth century, the "Green Revolution" fundamentally transformed agricultural production—this time in the developing world. Beginning in the 1960s, Western governments established large-scale agricultural support programs to supply farmers in Asia, Latin America, and Africa with high-yield seed varieties, fertilizers, and agrochemicals. The political objective was to reduce developing countries' dependency on food imports and thus curb the global influence of the Soviet Union. According to William Gaud, former director of the US Agency for International Development, the peaceful Green Revolution aimed to end the violent Red Revolution (Gaud 1968). The result was a period of unprecedented growth in global agriculture. From 1965 to 1985, the size of wheat fields and rice paddies in South America and South Asia (the two main regions and crops targeted) increased by 16 million hectares and 8.5 million hectares, respectively (analysis of data from FAOSTAT). Historically, the scale of this land use change was unprecedented. In terms of stimulating output, the Green Revolution was a great success; however, these gains came at significant environmental and social costs. Analyzing the Green Revolution in India, Shiva (2016) describes decreasing groundwater levels and large-scale soil erosion due to monocropping, irrigation, and widespread use of pesticides. In addition, the replacement of traditional farming systems with industrial agriculture led to rising inequalities and social conflict in the Punjab and other regions. In many ways, the Green Revolution was neither peaceful nor successful.

As described in chapter 1, in the late twentieth century, global agriculture underwent yet another major transformation, the Tropical Oil Crop Revolution. According to Byerlee, Falcon, and Naylor (2016, 7), between

1991 and 2013, the total land area for soybeans in South America and oil palm in southeastern Asia increased by 54 million hectares and 12 million hectares, respectively. The environmental consequences of this expansion are severe. Modern industrial agriculture is the single most important driver of tropical deforestation and biodiversity loss on the planet (Curtis et al. 2018). Between 1980 and 2000, over 50 percent of new agricultural land in the tropics came from clearing intact forests (Gibbs et al. 2010). To understand the Tropical Oil Crop Revolution, we must consider the economic context, because, unlike in the Green Revolution, a new factor played a key role in driving this transformation: economic globalization.

International trade in agricultural commodities has always been restricted. Many countries continue to shield their markets from foreign competition through tariffs, quotas, subsidies, and other trade barriers. Until the rise of neoliberalism in the 1980s, which liberalized trade in the sector, agricultural commodities were largely exempted from free trade rules. Developed countries with highly subsidized agriculture sectors resisted pressure to include agriculture in the Uruguay Round of the General Agreement on Tariffs and Trade (1986–1994). Nevertheless, pressure mounted. In the mid-1980s, the Cairns Group of Fair Trading Nations, an Australia-led coalition of countries with large export-oriented agricultural sectors, spearheaded an effort to include agriculture in the negotiations.¹ The result was the inclusion of an Agreement on Agriculture in the treaties of the newly formed World Trade Organization (WTO). Though criticized for its unevenness, the agreement helped to liberalize international agricultural trade (Clapp 2020, 57–90).

These global-level measures were accompanied by measures at the national level. In the 1980s and 1990s, many countries slashed their import and export taxes for agricultural products, especially tropical commodities (Byerlee, Falcon, and Naylor 2016, 8). The reduced trade barriers helped globalize these sectors further by allowing retailers and consumer goods companies to massively expand their global supply chains and to source their agricultural raw materials more cheaply from foreign producers. The liberalization of the agriculture sector was accompanied by a commodity supercycle in the 2000s (Coxhead and Jayasuriya 2010). Driven by rising demand from emerging economies, this led to a strong increase in international agricultural trade. WTO statistics reveal that between 1990 and 2020 trade in the sector more than tripled in export value from US\$442 billion to US\$1.492 trillion (analysis of data from FAOSTAT). As we shall see later in the chapter, with high export

ratios, tropical commodities like palm oil and soy accounted for a significant proportion of this increase.

In addition to trade liberalization, a range of other factors contributed to the Tropical Oil Crop Revolution. In the producer countries, technological innovation and government policy favoring agricultural expansion and export-led growth were important factors. New crop varieties, farming methods, agrochemicals, and genetically modified organisms greatly increased productivity. Government policy in Brazil and other commodity-producing countries favored the formation of large industrial conglomerates and provided agribusiness companies with cheap public land for expansion (Schnepf, Dohlman, and Bolling 2001). In an analysis of the state's role in the formation of the palm oil industry in southeastern Asia, Cramb and McCarthy (2016b, 27–77) describe how a coalition of political, bureaucratic, and business elites in Indonesia and Malaysia drove the transformation of traditional farming systems into export-oriented industries. This export-driven development strategy was supported by loans from the World Bank and other international donors.

In the consumer countries, again facilitated by trade liberalization, the expansion of markets for tropical oil crops was an important factor. For a long time, this demand was concentrated in Europe and North America. For example, biofuel consumption in the Global North contributed to agricultural expansion in the Global South. This consumption accelerated in the early 2000s, when the EU launched the ambitious Renewable Energy Directive, including a 10 percent biofuel target for its transport sector (EU Commission 2006, 2007; European Union 2009).² Due to shortages in the local supply, there was high demand for so-called energy crops from foreign producers. Imports contributed to European biofuel production from the beginning. It is estimated that over 50 percent of the imported palm oil from southeastern Asia is for biofuel (Transport and Environment 2020). Only recently has the EU taken steps to end this practice and phase out the use of palm oil-based biofuels (Bloomberg 2019b). Policymakers also have called for reductions in Europe's consumption of other forest-risk commodities, including soy. If implemented, these policies could help address Europe's "imported deforestation problem" (Duboua-Lorsch 2020). At the same time, these measures likely will accelerate the growing importance of Global South markets in the trade in forest-risk commodities.

South-South Trade and the Tropical Commodity Boom

Scholars argue that twenty-first-century globalization is markedly different from twentieth-century globalization (Pieterse 2012). A defining characteristic of the contemporary period is what the United Nations Conference on Trade and Development calls the “new geography of trade” (UNCTAD 2004). In a close look at the phenomenon, Horner and Nadvi (2018) argue that the previous dominance of North-South trade has been replaced by polycentric trade characterized by strong South-South interactions as trade flows between developing countries have gained size and significance. They further identify three major interrelated trends: (1) increased global exports from the Global South; (2) rapidly growing consumption in emerging economies; and (3) a shifting of trade flows from South-North to South-South as goods flow increasingly polycentrically within global, regional, and domestic channels. These global economic shifts have important ramifications for the distribution of power, authority, and sustainability in the world economy. They have overall effects, but different sectors are affected differently, often with significant variation even within the same sector.

The United States and the EU have long dominated international agricultural trade, and they remain the world’s largest exporters and importers of agricultural products today. However, trade statistics show that their market power in the world food economy has declined. On the supply side, the developing country members of the Cairns Group, plus China and India, have significantly expanded their export-oriented agricultural sectors since the creation of the WTO.³ From 1995 to 2020, the combined value of their exports grew from US\$89 billion to US\$390 billion. Today, a quarter (26 percent in 2020) of global agricultural exports (in value terms) originate from these countries (analysis of data from FAOSTAT). Projections of the UN Food and Agriculture Organization (FAO) suggest that this trend will continue. To feed the rapidly growing populations in the Global South, the FAO estimates that world cereal production will have to grow by 904 million tons (46 percent) and meat production by almost 200 million tons (76 percent) by 2050. Developing countries are projected to produce about 90 percent of this increase in global agricultural output, raising their collective share of global production to 74 percent by 2050 (Alexandratos and Bruinsma 2012, 95–96). A similar trend can be observed on the demand side. In particular, Brazil, Russia, India, China, and South Africa, known as the BRICS economies (see O’Neil 2001),

have increased their imports of agricultural raw materials. Whereas these economies accounted for only 11 percent (US\$52 billion in value terms) of global agricultural imports in 1995, this figure rose to 17 percent (US\$258 billion in value terms) in 2020. In the same period, the combined share of US and EU global agricultural imports (exclusive of intra-EU trade) fell from 22 percent to 18 percent (analysis of data from FAOSTAT).

As part of a broader change process in the world economy, these figures reveal a steady shift in agricultural trade flows from North-North and North-South to South-South. However, in interpreting these trends, it is important to note that these data are highly aggregated, stemming from trade in all agricultural products. This aggregation obscures significant shifts in individual agricultural sectors. For example, developed economies are still the largest importers of cocoa and coffee, but trade flows have shifted dramatically in other commodity sectors. Since the turn of the millennium, particularly, the forest-risk commodities of palm oil and soy have seen a strong increase in the volume of South-South trade (see figure 3.1). This suggests that in the age of advanced globalization, the Tropical Oil Crop Revolution has entered a new phase, in which Global South markets are increasingly replacing Global North markets as the main drivers of further growth and expansion.

As examined in more detail in chapter 4, China and India in particular have massively expanded their consumption of these commodities. With an import volume of 100 million tons in 2020 (58 percent of total global imports), China is by far the largest buyer of internationally traded soy, and Brazil is its largest individual supplier. The speed of this global market shift is remarkable. The Brazil-China soy trade had a volume of only 6.2 million tons in 2003, which rose to 61 million tons in 2020 (+884 percent). In the palm oil sector, India now tops the list of the world's largest international buyers. In 2019, it imported 20 percent (9.7 million tons) of the globally traded palm oil. The Indonesia-India palm oil trade accounts for most of it. Between 2001 and 2019 it grew from 1.3 million tons to 4.9 million tons (+277 percent). China also has high demand for palm oil, importing 7.6 million tons in 2019 (analysis of data from International Trade Centre [ITC] n.d.). Often overlooked by analysts, domestic markets are another important source of consumption. In Brazil, 27 percent of soybean production is consumed domestically (Chain Reaction Research 2018a). In Indonesia, the introduction of a new government-mandated biofuel blend in 2019 increased domestic palm oil consumption to one-third of total production (Trase 2019).

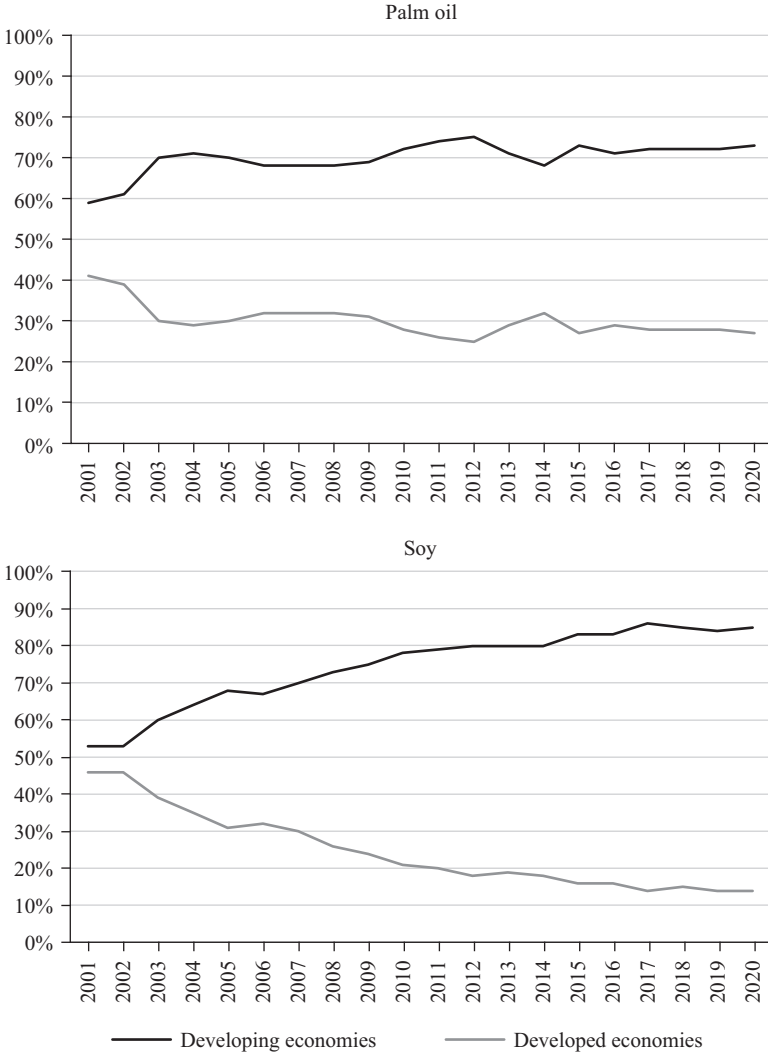


Figure 3.1

Share of global imports (in value terms)

Source: Analysis of data from ITC International Trade Statistics, <https://www.intracen.org/itc/market-info-tools/trade-statistics/>

A new dataset by Pendrill, Persson, and Kastner (2020) makes it possible to quantify the tropical deforestation risk that is embodied in the trade of agricultural and forestry commodities, including palm oil and soy. Analysis of this data reveals how the above-described global market shift has major environmental consequences in the producer countries. The dataset attributes deforestation across 135 countries in the tropics to the expansion of agricultural and forestry commodities and traces these commodities to the consumer countries using a physical trade model.⁴ Based on this data, figure 3.2 displays the annual deforestation risk contained in the imports of palm oil and soy by China and India between 2005 and 2017. It also includes the imported deforestation risk of the EU and the United States for the same period. The figure shows how, in the 2010s, deforestation linked to palm oil and soy was increasingly driven by Chinese (174,000 hectares in 2017) and Indian consumption (106,000 hectares in 2017). Conversely, the rate of EU-driven deforestation, while still significant (118,000 hectares in 2017), has declined. Given that the United States can meet much of its demand for oil crops through domestic soy production, its imported deforestation footprint is small in comparison. Through disaggregating the data further, it becomes possible to quantify the amount of deforestation that is contained in bilateral trade relationships. This shows that Chinese soy imports are linked to

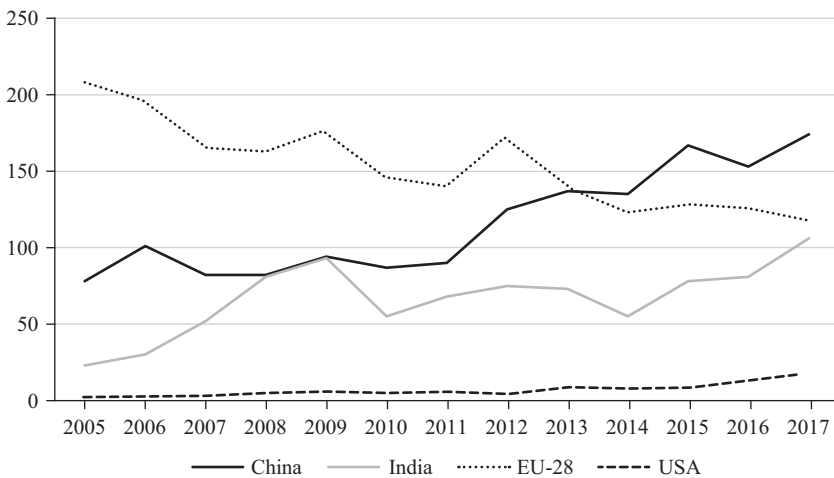


Figure 3.2

Tropical deforestation linked to imports of palm oil and soy (thousand hectares)

Source: Analysis of data from Pendrill, Persson, and Kastner (2020)

837,000 hectares of deforestation in Brazil in the period between 2005 and 2017. For the same period, Chinese and Indian consumption of palm oil is associated with 496,000 hectares and 786,000 hectares of deforestation in Indonesia, respectively. Together, this amounts to 2.1 million hectares of China- and India-driven deforestation in Brazil and Indonesia.

For the problem of tropical deforestation, these data show that the link between globalization and environmental degradation (see Christoff and Eckersley 2013; Newell 2012), remains strong in the twenty-first century, with markets in developing countries increasingly replacing those in developed countries as the main drivers of these processes. To study the implications of these developments for transnational business governance and the wider tropical deforestation regime, the next sections shift the focus of analysis from environmental to institutional consequences.

The Zero-Deforestation Regime Complex

Initially lagging behind other industries in the development of sustainability standards and implementation mechanisms (see World Bank 2004), the agriculture sector has emerged as one of the most dynamic sites of transnational business governance in recent years. As described in chapter 1, particularly, the problem of commodity-driven deforestation has led to substantial action by business and civil-society actors to regulate deforestation risks in agricultural supply chains. In the absence of a focal intergovernmental institution, however, the emerging global governance landscape is fragmented, and scholars are only beginning to explore the evolving institutional complexity in this policy domain (see Brandi 2021; Ludwig 2018; Overdeest and Zeitlin 2014; Pacheco et al. 2018; Rodríguez Fernández-Blanco, Burns, and Giessen 2019).

Transnational governance research examines institutional complexity using various conceptual lenses and at multiple levels of analysis (Eberlein et al. 2014). Areas of research include interactions between actors within transnational schemes (e.g., Boström and Hallström 2010; Schleifer 2016a), the nature of interorganizational ties (e.g., Fransen, Schalk, and Auld 2016), and the properties of organizational populations (e.g., Schleifer, Fiorini, and Fransen 2019). Moreover, at the macro level of analysis, so-called architectural approaches examine “the overall institutional setting in which distinct institutions exist and interact” (Biermann et al. 2009, 17). Scholarship on regime complexes (Keohane and Victor 2011; Mera-Gomez, Morin, and

Van de Graaf 2020; Orsini 2013), global governance architectures (Biermann et al. 2009; Zelli and van Asselt 2013), polycentric governance (Jordan et al. 2018), and experimentalist governance (Overdeest and Zeitlin 2014; Zeitlin and Overdeest 2021) falls into this category.⁵ With a focus on the macro level, this chapter uses the concept of a “transnational regime complex” (Abbott 2012b) to map the loosely coupled set of public and private regulatory institutions that aim to reduce deforestation within agricultural supply chains. The concept of a transnational regime complex derives from regime complex theory (Keohane and Victor 2011; Mera-Gomez, Morin, and Van de Graaf 2020; Orsini, Morin, and Young 2013; Raustiala and Victor 2004) and has been used to emphasize the increasing importance of private authority in this context (Green and Auld 2017).

The Mapping

To map the emerging regime complex for forest-risk commodities, a simple two-dimensional framework is used. Borrowing from Abbott and Snidal’s (2009) famous “governance triangle,” the first dimension distinguishes between different sponsorship arrangements (i.e., state-led, hybrid, and private-led). This categorization helps establish the relative importance of public and private modes of governance in the overall regime. Departing from Abbott and Snidal’s framework, the second dimension accounts for governance actors linked to different positions in global commodity chains by distinguishing between schemes that are primarily demand-side driven, such as by buyers, NGOs, or government actors from consumer countries, and those that are primarily supply-side driven, such as by producers, NGOs, or governments from producer countries. This separation allows for a systematic assessment of the evolving interactions between Northern and Southern regulatory schemes. In addition, a category for collaborative or multilateral schemes includes both demand-side and supply-side actors.

The scope of the mapping is delineated as follows. First, the mapping focuses on the collective of governance arrangements that aim to address problems of deforestation in agricultural supply chains, such as voluntary and mandatory regulatory programs, high-level commitments, principles, and frameworks, as well as instruments and forums for policy coordination. Second, the mapping focuses on the transnational level—that is, its focus is on governance arrangements aimed at moving actors’ behavior toward a shared goal in at least two countries (see Roger and Dauvergne

2016, 416). Legislation by consumer or producer countries is included here only if it has a transnational scope.⁶ Due to their large number, corporations' zero-deforestation commitments are not included individually but as a group. Third, in terms of the sectoral and geographic scope, the mapping focuses on the palm oil and soy sectors (the analytical focus of this book) and the major producers and consumers of these commodities. Fourth, to capture the proliferation of governance schemes over time, three time periods are selected for the descriptive analysis: pre-2010, 2010–2020, and post-2020 (the 2010 zero-deforestation pledge of the Consumer Goods Forum and its 2020 target mark important moment in the regime's development). Finally, to conduct the mapping, data from different sources are used, including information sourced from public databases, such as the Sustainability Map of the International Trade Centre.⁷ Additional information is obtained through a review of policy reports, academic research, communications with practitioners, and extended internet searches.

As shown in table 3.1, the mapping identified a total of fifty-three sustainability governance schemes and groups of schemes active in the palm oil and soy sectors. Whereas the pre-2010 regime consisted of only fifteen schemes, this number increased to forty-eight schemes or groups of schemes by 2020. This includes 339 and 104 corporate zero-deforestation commitments for palm oil and soy, respectively (Supply Change 2020b). Between 2020 and (April) 2022, another five new governance initiatives were established, bringing the known universe of schemes to fifty-three. The results show that the emerging governance architecture in these sectors closely fits the concept of a transnational regime complex (see Abbott 2012a; Green and Auld 2017). There is no integrated intergovernmental institution; instead, the regulatory space is populated by a multitude of loosely coupled public and private governance arrangements.

The Transnational Regulatory Space

When considering the two dimensions of the framework (sponsorship and position in global commodity chains), three features of the emerging regime stand out. First, privately sponsored schemes from the Global North dominate. Second, the overall regime is strongly demand-side driven, but supply-side actors from the Global South have become more active providers of sustainability governance in recent years. Third, while multilateral institutions remain weak, unilateral government-led regulation has

Table 3.1

List of governance schemes mapped

Zone	Abbreviation	Name	Founding Year
1	ADP	Amsterdam Declarations Partnership	2015
	EU-RED	EU Renewable Energy Directive	2009
	EU-SCRRD	EU Supply Chain Regulation to Reduce Deforestation	2024 (expected)
	GSCA	German Supply Chain Act	2023 (expected)
	UK EA	UK Environment Act	2021
	SNDI	French National Strategy against Imported Deforestation	2018
2	GCF	Governors Climate and Forest Task Force	2008
	GLDFL	Glasgow Leaders Declaration on Forests and Land Use	2021
	REDD+	Reducing Emissions from Deforestation and Forest Degradation	2009
	UNSDG 15.2	UN Sustainable Development Goal 15.2	2015
3	CPOCP	Council of Palm Oil Producing Countries	2015
	ISPO	Indonesian Sustainable Palm Oil	2011
	LTKL	Indonesia Sustainable Districts Platform	2017
4	IDH-VSAs	IDH Verified Sourcing Areas (multiple)	since 2018
	TFA	Tropical Forest Alliance	2012
5	EU-BR PSS	EU-Brazil Partnership for Sustainable Soy	2017
	GGP	Good Growth Partnership	2017
	NYDF	New York Declaration on Forests	2014
	SPOI	Sustainable Palm Oil Initiative	2012
6	JPs	Jurisdictional programs (25–39 programs) ^a	since 2009
	MSPO	Malaysian Sustainable Palm Oil	2014
7	AFI	Accountability Framework Initiative	2019
	BCRSP	Basel Criteria for Responsible Soy Production	2004
	CGF-ZDP	Consumer Goods Forum Zero Net Deforestation Pledge	2010
	CSPOA	China Sustainable Palm Oil Alliance	2018
	EPOA	European Palm Oil Alliance	2016
	FEFAC-SSG	European Feed Manufacturers Soy Sourcing Guidelines	2015
	FPCA	Forest Positive Coalition of Action	2019
	ISPOC	India Sustainable Palm Oil Coalition	2018
	IPOP	Indonesia Sustainable Palm Oil Pledge	2015 (dissolved)
	ISCC	International Sustainability and Carbon Certification	2007
	PF	Proterra Foundation	2006
	POIG	Palm Oil Innovation Group	2013
	RA	Rainforest Alliance	1987
	RC	Rimba Collective	2021
	RSB	Roundtable on Sustainable Biomaterial	2008
	RSG	Retail Soy Group	2013
	RSPO	Roundtable on Sustainable Palm Oil	2004
	RTRS	Roundtable on Responsible Soy	2006
	SCC	Soft Commodities Compact	2014
	SCF	Soft Commodities Forum	2019
SSTP	Sustainable Soy Trade Platform	2015	
TSC	The Sustainability Consortium	2009	
UK-RSSP	UK Roundtable on Sourcing Sustainable Palm Oil	2012	

Table 3.1
(continued)

Zone	Abbreviation	Name	Founding Year
	WWF-FCI	WWF Forest Conversion Initiative	2001
	ZDCs	Zero Deforestation Commitments (338 in palm oil, 104 in soy) ^b	since 2010
8	ASM	Amazon Soy Moratorium	2006
	CM	Cerrado Manifesto	2017
	SASPO	Singapore Alliance for Sustainable Palm Oil	2016
9	ISPOF	India Sustainable Palm Oil Framework	2017
	SPB	Soy Platform Brazil	2004
	SPOM	Sustainable Palm Oil Manifesto	2014
	SPP	Soja Plus Program	2011

^a See von Essen and Lambin (2021) and Stickler et al. (2018).

^b See Supply Change (2020b).

increased recently on both the demand and supply sides. Below, I describe the emerging regime and its salient features in more detail, and follow that by inquiring into its adaptation to global market shifts. Figures 3.3 and 3.4 in this section illustrate these patterns and trends.

Originating in the politics of late-twentieth-century globalization, transnational business governance flourished under the Western-led liberal international order. Beginning in the early 1990s, firms and NGOs from the Global North began to construct transnational, often private, modes of governance to re-embed globalizing industries in a regulatory framework (see Bartley 2007). Driven by the neoliberal zeitgeist, governments actively pursued the outsourcing of sustainability governance to regulate the “global value chain world” (see Mayer and Phillips 2017; Ponte 2019). The regime complex for forest-risk commodities reflects these processes and decisions. In an increasingly globalized agrifood system, this regime is the outcome of a pragmatic political settlement between governments, companies, and a civil society unwilling or unable to achieve more fundamental reforms (see McCarthy 2012).

As shown in figure 3.3, zone 7 (demand side-driven private governance) is the most densely populated. Most of the schemes in zone 7 were created by loose coalitions of Northern NGOs, buyers, and banks, often directly and indirectly supported by Western governments and international organizations. The WWF, the world’s largest environmental NGO, participates in more than a dozen of the private schemes mapped above, many of which it helped to create. Examples are the Accountability Framework Initiative, the

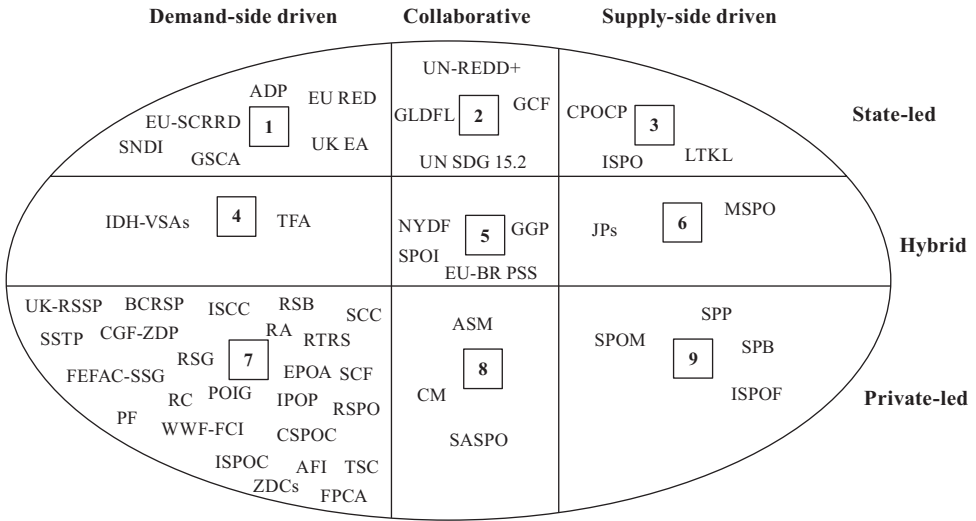


Figure 3.3
The regime complex for forest-risk commodities (palm oil and soy)

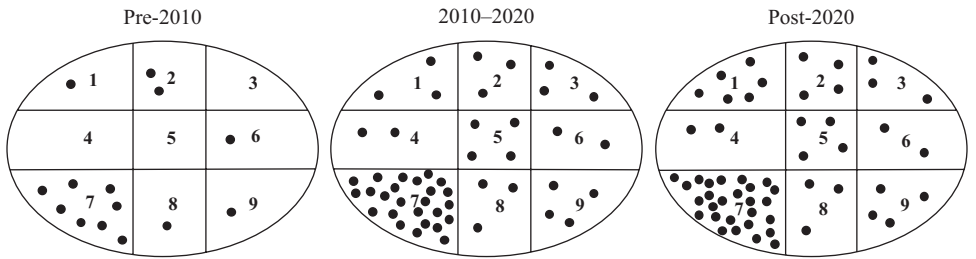


Figure 3.4
Proliferation of governance schemes over time

Basel Criteria for Responsible Soy Production, the Roundtable on Responsible Soy, the Roundtable on Sustainable Biomaterials, and the Roundtable on Sustainable Palm Oil. Other organizations involved in multiple schemes include the World Resource Institute, the Sustainable Trade Initiative, Solidaridad, Rainforest Alliance, Unilever, Mars, Nestlé, Rabobank, and HSBC. Policy analysts refer to this loose coalition of transnational actors as the “zero-deforestation supply chain movement” (see Climate Focus 2018).

The first generation of private governance schemes to tackle problems of commodity-driven deforestation were created in the early 2000s. As described

in chapter 1, transnational NGOs and corporations created a series of industry roundtables and certification programs in key agricultural commodity sectors. An important first initiative was the Forest Conversion Initiative of the WWF. Launched in 2001, it served as an incubator for the Roundtable on Sustainable Palm Oil (RSPO) and the Roundtable on Responsible Soy (RTRS) and various other certification programs in key natural resource sectors (see WWF 2010). In the 2010s, these certification-based mechanisms were complemented by a second generation of private governance instruments.

Following a high-level pledge by the Consumer Goods Forum, a network of 400 globally leading retailers and consumer goods manufacturers, to eliminate deforestation from global supply chains, transnational corporations developed hundreds of no-deforestation commitments (Lister and Dauvergne 2014). As of 2017, the NGO Supply Change has tracked 760 commitments linked to major forest-risk commodities (Donofrio, Leonard, and Rothrock 2017). This wave of firm-level commitments was accompanied by another wave of industry-level initiatives, such as the Retail Soy Group in 2013, the European Palm Oil Alliance in 2016, the Soft Commodities Forum in 2019, and the Forest Positive Coalition of Action in 2019. There have also been various attempts to create meta-governance mechanisms to coordinate the increasing number of supply chain initiatives in this domain, such as the civil society-led Accountability Framework Initiative and the Tropical Forest Alliance, a public-private partnership initiated by the Consumer Goods Forum in collaboration with the US government.

The “Cambrian explosion” of transnational governance schemes (Abbott 2012b, 571) in this issue area has given rise to a regime complex that is driven by demand-side actors from the Global North. Out of the fifty-three schemes mapped in figure 3.4, thirty-three (62 percent) are sponsored by demand-side actors, of which private governance schemes make up the largest share. As of April 2021, there were twenty-five schemes active in zone 7, and this number would be many times higher if it included firm-level commitments, such as Nestlé’s no-deforestation commitment. In addition, many collaborative schemes in zones 2, 5, and 8 were created on the initiative of Global North actors. For example, the Amazon Soy Moratorium, a regional moratorium on the trade of deforestation-linked soy from the Amazon biome, took shape after a Greenpeace campaign successfully targeted the sector’s major buyers (Nepstad et al. 2019, 2). Similarly, the Singapore Sustainable Palm Oil Alliance was initiated by the WWF.

Demand-side actors from the Global North clearly dominate the present regime, but Global South actors are no longer passive bystanders. Particularly in recent years, government and industry actors from major commodity-producing countries, including Brazil and Indonesia, have sought to regain their regulatory sovereignty in the sustainability field. They have created domestic standards and certification regimes, some of which are now mandated by national law. The governance schemes in zones 3, 6, and 9 include important examples of this transition from rule takers to rule makers (see Sun and van der Ven 2020), such as the government-led Indonesia Sustainable Palm Oil and the Malaysia Sustainable Palm Oil programs. Another example is Brazil's Soja Plus Program, created by the country's peak soy industry associations. As we shall see later in this chapter, these "Southern standards" often compete with the Northern-backed sustainability schemes over authority in the transnational regulatory space.

Another feature of the regime complex for forest-risk commodities concerns the role of the state. Until recently, state actors have played a background role in the governance of forest-risk supply chains. Multilateral institutions (state-led and hybrid) remain underdeveloped (zones 2 and 5), despite several high-level declarations. This includes the United Nations New York Declaration on Forests, whose global platform has been endorsed by over 190 public and private entities, including central governments, subnational governments, multinational corporations, NGOs, and organizations representing indigenous communities (NYDF Global Platform 2019). More recently, at the COP26 Climate Summit in Glasgow in 2021, 141 heads of state, representing 91 percent of the world's forest cover, endorsed the Glasgow Leaders Declaration to halt and reverse forest loss and land degradation by 2030. This is a clear signal that the issue of commodity-driven deforestation has risen on the international policy agenda. However, it remains to be seen whether high-level government declarations will translate into meaningful multilateral action. The wider domain of global forest governance also hosts several well-established intergovernmental programs, such as the International Tropical Timber Organization of 1986 and the United Nations Program on Reducing Emissions from Deforestation and Forest Degradation of 2009. However, neither of these programs directly addresses problems with commodity-driven deforestation.

While multilateral institutions to govern forestry-risk supply chains remain weak, government actors in both consumer and producer countries have become more active in providing regulation in recent years. On the demand

side, governments in the Global North have resorted to unilateral action (zone 1), including country-level commitments and regulations to eliminate deforestation from their supply chains (e.g., the Amsterdam Declaration on Deforestation,⁸ France's National Strategy against Imported Deforestation, the German Supply Chain Act, and the UK's new Environment Act). The regulatory agenda on forest-risk supply chains is most advanced in the timber sector. In particular, the EU has been instrumental in assembling a transnational legality verification regime to stop trade in illegally logged timber. In the form of the EU Timber Regulation of 2013, the regime combines demand-side supply chain regulation in the EU with so-called voluntary partnership agreements to build national legality verification systems in major timber-producing countries, such as Indonesia and Ghana (Overdevest and Zeitlin 2014, 2018). To minimize EU-driven deforestation, the EU Commission has recently taken steps to broaden its regulatory agenda on forest-risk supply chains beyond the timber sector. In November 2021, the commission tabled a proposal for a new regulation, covering the forest-risk commodities of beef, cocoa, coffee, palm oil, soy, and timber (EU Commission 2021). To ensure that only deforestation-free products enter the European market, the regulation will establish mandatory due diligence requirements for companies importing these commodities and products containing them. While this is widely praised as a pathbreaking regulation, analysts are concerned that weaknesses in its design (e.g., weak state monitoring, limited stakeholder involvement, and difficulties in establishing legal liabilities) could undermine its effectiveness (Schilling-Vacaflor and Lenschow 2021). Beyond concerns with institutional design, the remainder of this chapter explores how global shifts in markets and power could challenge regime effectiveness in this issue area.

Regime Complexity in a Changing World Economy

The regime complex for forest-risk commodities is taking shape at a time when the international economic order and the system of global governance as a whole are increasingly in flux (Hale 2020, 214–215). To explore these global processes and their implications for regime effectiveness, two questions are particularly relevant. First, how is the regime adapting to the new context of polycentric trade in terms of coverage? In this regard, I explore the ability of the regime's most established governance schemes to diffuse their standards into the growing South-South trade, as well as the formation of new schemes

focused on China's and India's fast-growing palm oil and soy supply chains. Second, how do processes of contemporary globalization and the underlying power shifts shape the regime's overarching governance architecture in terms of institutional fragmentation? As I explain in more detail below, for regime theorists, institutional fragmentation is a key variable linked to questions of governance effectiveness (see Biermann et al. 2009; Zelli and van Asselt 2013).

Adapting to Polycentric Trade

As described in the first part of the chapter, an increasing proportion of the global trade in forest-risk commodities flows through South-South supply chains (also see Zu Ermgassen et al. 2020). From a regime effectiveness perspective, this raises the question of how existing regulatory institutions adapt to the new world of polycentric trade. This section begins to explore this question by combining insights from the previous mapping analysis with data about sustainability certification and corporate zero-deforestation commitments. I show that many established transnational schemes remain anchored in the "world of late twentieth century trade" (Horner and Nadvi 2018, 229), whereas actors from emerging economies have been slow to engage with the zero-deforestation agenda. The result is a growing incongruence between the regime's coverage and the changing geography of globalization. If these gaps in coverage persist, they will limit the regime's reach and ability to achieve sustainability outcomes on a large enough scale.

As the mapping analysis shows, the production and trade of forest-risk commodities is increasingly regulated, with private market-driven governance playing an important role. Historically, societal, economic, and political pressures for the transnational regulation of environmental and social concerns have been strongest in the developed economies of the Global North. In the agriculture sector, this has allowed private sustainability standards to significantly expand their global market coverage over the past decade. As shown in chapter 1, the standard-compliant area of export-oriented tropical commodities grew from two million hectares in 2008 to almost twenty million hectares in 2019, an increase of 900 percent (ITC 2021).⁹ In several tropical commodity sectors, the global market coverage of private sustainability standards has now reached double-digit figures, including the forest-risk commodities of palm oil (10.9 percent), cocoa (22.7 percent), and coffee (16.1 percent). Also, the volume of standard-compliant soy production has increased, however, with 1.5 percent of global production

certified, it remains relatively small (ITC 2021). Much of this growth is concentrated in North-South supply chains. For example, for the palm oil sector, the European Palm Oil Alliance reports that in 2019 the Roundtable on Sustainable Palm Oil certified 86 percent of European imports under its various supply chain traceability systems (IDH and EPOA, 2020). For the same year, the European Soy Monitor estimates that 42 percent of the EU's soy imports were compliant with a private sustainability standard, although only 25 percent are estimated to be deforestation free (IDH 2021b). In addition to the uptake of third-party certification programs, like the Roundtable on Sustainable Palm Oil and the Roundtables on Responsible Soy, many of Europe's lead firms have developed firm-level zero-deforestation policies for their supply chains. Among lead firms with headquarters in Europe, the NGO Supply Change has tracked 160 and 68 zero-deforestation commitments in the palm oil and soy supply chains, respectively (Supply Change 2020b). In the short-term, new EU regulation of trade in forest-risk commodities could also lead to a "hardening" of corporate accountability in Europe's supply chains, as mandatory due diligence requirements and the risk of legal liability coerce companies into complying with public no-deforestation commitments (Schilling-Vacaflor and Lenschow 2021).

While the data presented above suggests a steady growth in the size of "sustainable markets" in the Global North (Meier et al. 2020), the no-deforestation regime complex appears to have very limited coverage in the major emerging economies. Unfortunately, there is little systematic information about the share of standard-compliant products in these markets. However, information from the leading certification programs suggests that uptake is very low. In the Chinese and Indian palm oil markets the uptake of the Roundtable on Sustainable Palm Oil is estimated to be 4–7 percent and 2–3 percent (values for 2019), respectively (WWF 2021b). For the Chinese soy market, the Roundtable on Responsible Soy even reports to have had no uptake in 2020 at all (RTRS 2021b). Similarly, multinational corporations from emerging economies have been slow to develop zero-deforestation commitments. According to Forest 500, a ranking of major companies' no-deforestation policies, none of the big Indian palm oil buyers has currently a strong commitment in place. In China, only COFCO, a state-owned food processor, manufacturer, and trader, has a commitment of medium strength for its palm oil and soy operations (Forest 500 2021). The mapping analysis conducted above also identified several new sustainability schemes targeting emerging markets, including the

China-focused Sustainable Soy Trade Platform, the China Sustainable Palm Oil Alliance, the India Sustainable Palm Oil Coalition, and the Singapore Alliance for Sustainable Palm Oil (see zone 8 and 9). Although focused on China and India, Northern companies, and civil society actors (e.g., Unilever, WWF, and Rainforest Alliance) were instrumental in initiating and financing these programs. As described in more detail in chapter 5, at the time of writing, participation from emerging market companies in these schemes was marginal.

In sum, the analysis suggests that significant gaps in coverage persist. Overall, the zero-deforestation regime complex has been slow to adapt to the changing global economic context. The growing volume of South-South trade in forest-risk commodities remains largely excluded from the regime, and established transnational schemes struggle to diffuse their standards into these supply chains. It is too early to tell whether the commitments by emerging market companies and the creation of new China- and India-centered schemes will translate into tangible transnational regulatory action. It is clear, though, that such action must happen soon to prevent irredeemable environmental damage from a growing demand for forest-risk commodities from emerging economies.

Global Power Shifts and Regime Fragmentation

Turning from the question of regime coverage and adaptation to the ways in which the overarching governance architecture is shaped by contemporary globalization and the underlying power shift, this section explores the implications for institutional fragmentation. The point of departure for the analysis is the above-described rise of Southern standards in agrifood governance.¹⁰ Recalling figure 3.3, major Southern-led schemes in the zero-deforestation regime complex include the Indonesia Sustainable Palm Oil program, the Malaysia Sustainable Palm Oil program, and Brazil's Soja Plus program. The emergence of these programs is believed to have multiple, interrelated root causes, such as a lack of local legitimacy of established transnational schemes and motivations among government actors in the producer countries to regain regulatory sovereignty in the sustainability field. These domestic factors are considered to be important immediate causes behind the rise of these programs (see Giessen et al. 2016; Hospes 2014; Hospes, van der Valk, and Mheen-Sluijer 2012; Schouten and Bitzer 2015). However, in a changing world economy, a deeper understanding of the phenomenon requires close consideration of the global political economy context as well. In the current phase of globalization, actors from rising powers are increasingly involved in

shaping “the rules of the game” that govern international economic relations, including the setting of environmental and social standards in supply chains (Nadvi 2014).

One way to theorize the link between global power shifts and the emergence of Southern standards in agrifood governance is to invoke Abbott and Snidal’s (2009, 70–83) governance triangle and their metaphor of a “regulatory standards bargaining game.” They conceive of the transnational regulatory space as a site of complex bargaining over the creation and design of regulatory standard-setting schemes. To explain the form and distribution of schemes in the governance triangle of states, firms, and civil society, they theorize that actors’ competencies in the regulatory process (i.e., what they can bring or deny to any potential regulatory scheme) translate into power resources. In this context, an actor’s level of “go it alone” power (i.e., its ability to establish a scheme that meets some or all of its objectives) is of particular importance in determining institutional outcomes (Abbott and Snidal 2009, 72).

The governance triangle has been widely used to describe and explain processes of institutional change in global governance (see Newell, Pattberg, and Schroeder 2012; Vogel 2009; Zelli et al. 2020). However, reflecting the debate on transnational business governance from over a decade ago, the framework pays little attention to the interactions between actors in different positions in the global economy. Its focus on the regulatory process also fails to acknowledge the role of large structural trends in the world economy and how they shape actors’ power resources in negotiating institutional settlements. When revisiting the framework in a time of major transformation, the inclusion of such structural factors creates direct links between the global political economy context, actors’ bargaining power, and processes of institutional change and interaction. Put differently, global economic shifts increase Southern actors’ go-it-alone power in the regulatory bargaining game. Of course, Southern standards, such as the Indonesia Sustainable Palm Oil program, currently do not fulfill all or even most of their sponsors’ objectives. In fact, many of them continue to suffer from major shortcomings, including a lack of global market acceptance (Hidayat, Offermans, and Glasbergen 2018). Nonetheless, in the current phase of globalization, Southern actors have gained significant power and leverage, and they increasingly use this power to insert themselves more forcefully into the regulatory standards bargaining game.

For the zero-deforestation regime complex, this raises the question how Southern actors’ increased structural power affects the nature of governance

interactions in this transnational regulatory space. It is clear that the influx of new governance actors from the Global South has further increased institutional complexity. However, it is an open research question whether this will result in cooperative or conflictive fragmentation between Northern-backed and Southern-backed schemes (see Biermann et al. 2009, 19). In regime theory, cooperative fragmentation describes a collaboration of loosely coupled institutions with enough integration of the governance architecture to prevent open conflict. In contrast, conflictive fragmentation refers to multiple competing institutions with conflicting sets of principles, norms, and rules, and a lack of integration in the overall governance architecture.¹¹ Commonly, regime theorists associate conflictive fragmentation with low regulatory capacity, whereas cooperative fragmentation is viewed more positively (see Alter and Raustiala 2018; Biermann et al. 2009; De Búrca, Keohane, and Sabel 2014; Keohane and Victor 2011).

Scholars of international politics have begun to analyze how long-term power shifts toward emerging countries in the Global South affect the fragmentation of global governance regimes (e.g., Paris 2015). In particular, in the literature on transnational sustainability governance, the question of whether Southern-led standards complement or conflict with established transnational schemes has emerged as an important research theme (see Brandi 2021; Dermawan and Hospes 2018; Giessen et al. 2016; Hospes 2014; Pacheco et al. 2018; Pickles, Barrientos, and Knorringa 2016; Schouten and Hospes 2018; van der Ven and Barmes 2019). This literature has produced important insights into the nature of these interactions in different countries and industry sectors. However, most of these studies focus on interscheme interactions, whereas the effects on the regime as a whole are less well understood.¹² Also, these works have paid little attention to the implications of global power shifts. To address this gap, the remainder of this section synthesizes the empirical insights from these studies. I show how the distribution of global market power is an important background condition that shapes transnational governance interactions in a sector.

In the palm oil sector, domestic and transnational governance actors have a history of conflict and cooperation. In Indonesia and Malaysia, the world's largest producers of palm oil, national governments and peak industry associations initially avoided interfering with sustainability standards set by transnational actors and even collaborated closely with them (Schouten and Hospes 2018, 4–7). However, as these schemes grew in market significance, powerful political, bureaucratic, and industry actors began to exert

more authority, such as the previously described efforts by domestic governments and peak industry associations to create national competitor programs (Hospes 2014; Schouten and Bitzer 2015; Wijaya and Glasbergen 2016). Governments in these markets also tried to curb the influence of transnational actors in their jurisdictions. For example, in 2016, the Indonesian government dissolved the Indonesia Palm Oil Pledge, a consortium of global palm oil traders and internationally oriented producers working toward zero deforestation (Dermawan and Hospes 2018). The academic debate remains inconclusive about the trajectory of these interactions. Some scholars argue that an increased focus on national sovereignty has intensified conflicts between domestic and transnational governance actors (Schouten and Hospes 2018). Others see a trend toward increased collaboration, pointing to market and regulatory pressures from the EU as an important driver (Brandi 2021; also see van der Ven and Barmes 2019). However, as the volume of South-South trade in the palm oil sector continues to grow, these drivers are likely to become less powerful over time.

A somewhat similar dynamic characterizes the Brazilian soy sector, which experienced parallel development of multiple sustainability initiatives centered on the supply chain in the early 2000s (Hospes, van der Valk, and Mheen-Sluijer 2012). Interactions between domestic and transnational actors became conflictive when Brazilian producers clashed with international buyers and NGOs over the standards and authority of the transnational Roundtable on Responsible Soy (Schleifer 2017, 5–6). After years of conflict, the leading Brazilian producer associations finally left the Eurocentric initiative and created the industry-led Soja Plus program instead. As detailed in chapter 4, these interactions cannot be understood without placing them in the global market context, which experienced a massive shift in Brazil's soy exports from Europe to China in the 2000s. Under the populist Bolsonaro administration, the position of transnational sustainability schemes in Brazil has been further weakened. There has been growing opposition to the buyer-driven Amazon Soy Moratorium, a regional moratorium on the sourcing of deforestation-linked soy production from the Amazon biome (Samora 2019a, 2019b).

For comparison, the dynamics in the palm oil and soy sectors differ from those in the timber sector. Government authorities in timber-producing countries have also sought to reclaim regulatory authority from transnational governance actors. The Indonesian Ecolabelling Program was an early attempt to develop an independent national certification system. Backed by the Ministry of Forestry, the program became operational in the early 2000s

and competed directly with the transnational Forest Stewardship Council. In the late 2000s, the Indonesian Ministry of Forestry again attempted to restore its sovereignty over national forests by creating a national Timber Legality Assurance System (Giessen et al. 2016). However, the subsequent integration of the Indonesian system in the EU's Forest Law Enforcement, Governance, and Trade framework resulted in a more collaborative pattern of interactions (see Overdevest and Zeitlin 2014, 2018; Zeitlin and Overdevest 2021). No doubt this was aided by the fact that the EU and United States continue to be the world's largest end markets for internationally traded wood products. This includes direct exports from tropical timber producing countries as well as reexports from third-party countries such as China (see Zeitlin and Overdevest 2021, 15). In the case of the EU-led transnational legality regime, Europe's central position in the global timber economy, combined with a regulatory penalty default to sanction for noncompliance (the EU Timber Regulation of 2013 prohibits operators from placing illegally harvested wood on the European market), have been powerful incentives for cooperation.

In sum, this section shows that the onset of twenty-first-century globalization has been accompanied by conflict and cooperation in the broader regime complex for forest-risk commodities. In palm oil and soy sectors, it has bred conflictive fragmentation (Dermawan and Hospes 2018; Hospes, van der Valk, and Mheen-Sluijer 2012; Schouten and Hospes 2018), whereas cooperative fragmentation dominates in the timber sector (Overdevest and Zeitlin 2014; Zeitlin and Overdevest 2021). Revisiting Abbott and Snidal's (2009, 72) "regulatory standards bargaining game" helps to make sense of these patterns. It shows how the type of interaction (cooperative or conflictive) correlates with the distribution of global market power in these industries. It needs to be understood as an important background condition that shapes actors' (structural) power resources. However, there is no determinism in this relationship. As we shall see later in this book, there are multiple examples suggesting that new forms of North-South (Langford 2019) and South-South (Bloomfield 2020) cooperation for sustainable development are possible in the context of contemporary globalization.

Conclusion

With a focus on the big picture questions, this chapter introduces the in-depth analyses provided in subsequent chapters. Following a historical

reflection on agricultural transformations, the chapter examines the link between globalization and tropical deforestation. A strong increase in the volume of South-South trade in forest-risk commodities indicates that this link will remain strong in the twenty-first century. As the Tropical Oil Crop Revolution enters a new phase of development, global, regional, and local South-South supply chains account for a growing proportion of the world's traded deforestation. Through their imports of palm oil and soy, particularly China and India drive deforestation in countries like Brazil and Indonesia.

Shifting the focus of analysis from environmental to institutional implications, this chapter also examines how the emerging regime complex for forest-risk commodities adapts to and is shaped by processes of contemporary globalization. The politics of "old" globalization forged the current regime, which is dominated by private governance actors from the Global North. Consequently, the incongruity between the regime's coverage and the new geography of agricultural trade threatens to undermine its effectiveness. It remains to be seen whether the creation of emerging market-centered schemes and stronger state-led governance on both the demand and supply sides of global commodity chains will help to close this gap. This chapter also discusses how contemporary globalization is increasingly fragmenting the regime's overarching governance architecture. A wave of governance actors from the Global South has entered the transnational regulatory space, which has further increased the institutional complexity in this domain. Closer attention must be paid to structural factors to make sense of the resulting patterns of interaction. In a changing world economy, shifts in global economic power is an important background condition that shapes the politics around transnational sustainability governance.

In sum, this chapter identifies important trends and challenges. However, the perspective of international political economy is too broad to capture the new politics of sustainability with any precision. A closer analysis of the sectoral contexts in which these processes unfold is needed. As a next step, chapter 4 shifts the focus from the macro to the meso level by conducting a comparative analysis of the political economy of private governance uptake in two forest-risk commodities sectors. Its emphasis is on the Roundtable on Sustainable Palm Oil and Roundtable on Responsible Soy, two of the regime's most established transnational schemes.

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