FOREST
TRENDS

CHINA'S INTERNATIONAL WOOD TRADE: A REVIEW, 2011-2020

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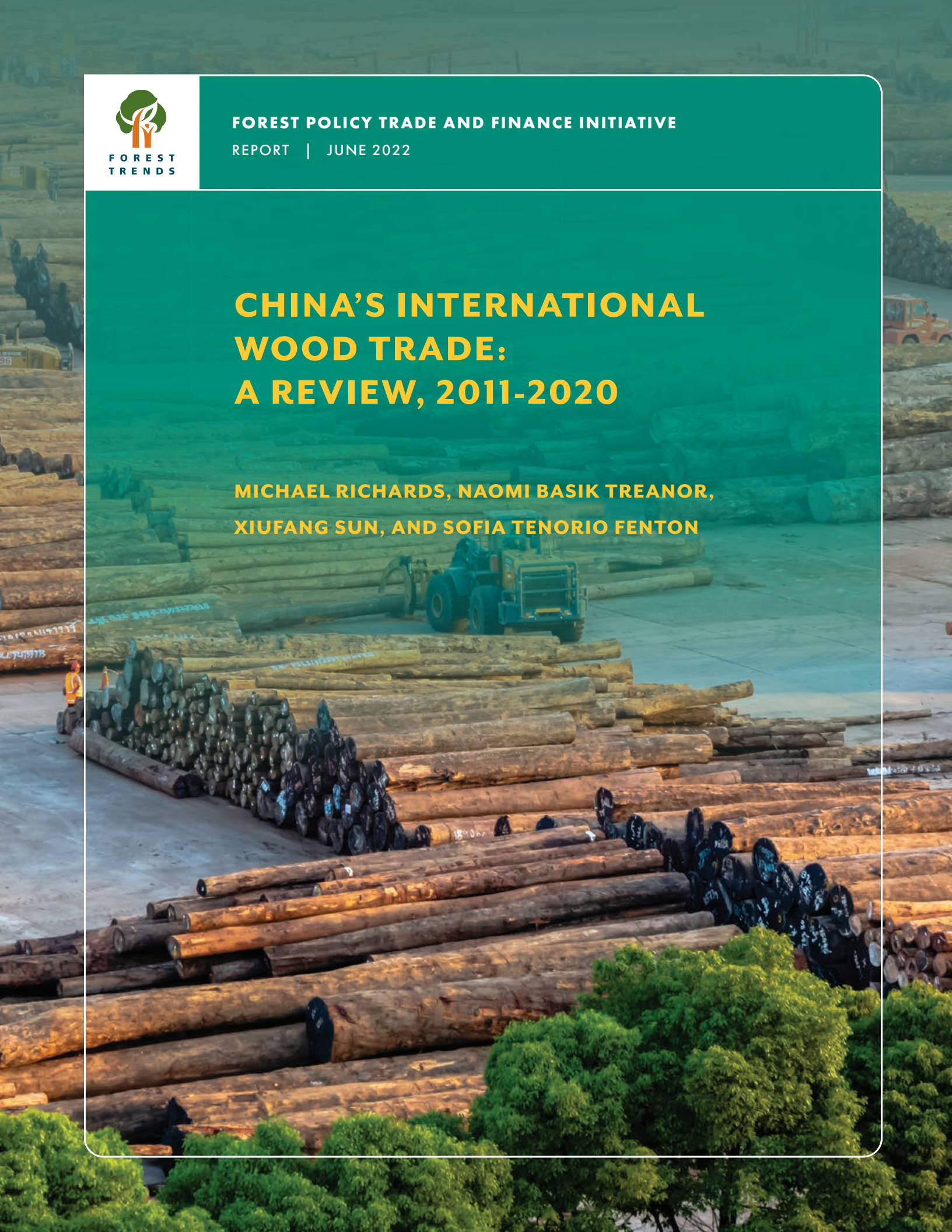
About Forest Trends

Forest Trends works to conserve forests and other ecosystems through the creation and wide adoption of a broad range of environmental finance, markets, and other payment and incentive mechanisms. This report was released by Forest Trends' Forest Policy, Trade, and Finance program, which seeks to create markets for legal forest products, while supporting parallel transformations away from timber and other commodities sourced illegally and unsustainably from forest areas.

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Acknowledgments

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Acronyms

AD	antidumping duties	**NFGA**	China National Forestry and Grassland Administration
CBP	United States Customs and Border Protection	**P&P**	pulp & paper
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	**PEFC**	Programme for the Endorsement of Forest Certification
CVD	countervailing duties	**PNG**	Papua New Guinea
EFTA	European Free Trade Association	**RFE**	Russian Far East
EU	European Union	**RWE**	roundwood equivalent
EUTR	European Union Timber Regulation	**SER**	sawnwood export restriction
FCS	Fragile and Conflict-affected Situations	**TLVS**	Timber Legality Verification System
FOIA	Freedom of Information Act	**UAE**	United Arab Emirates
FPR	Forest Product Export Restriction	**UK**	United Kingdom
FRC	forest-risk commodities	**US**	United States
FSC	Forest Stewardship Council	**WCMC**	UN Environment Programme World Conservation Monitoring System
HS	Harmonized Tariff Schedule	**WTO**	World Trade Organization
LER	log export restriction	**YoY**	year on year

Executive Summary

China has gone through great efforts to establish itself as an international leader in the climate sphere, announcing high-level commitments to peak emissions, reach carbon neutrality, and address environmental challenges. These commitments have manifested through a framework of "ecological civilization" in domestic policy and diplomatic pledges such as the US-China Joint Glasgow Declaration on Enhancing Climate Action in the 2020s, which purports to "eliminat[e] global illegal deforestation through effectively enforcing ...laws on banning illegal imports" (USDOS 2021).

Despite this momentum, over half (51%) of China's timber product[1] imports in the 2010s were sourced from countries with weak governance, poor rule of law, and/or documented evidence of widespread illegal deforestation. This substantial proportion of wood imported by the Chinese timber industry carries high risk of having been harvested and traded in violation of source country laws and regulations. More alarmingly, there has been no discernable difference in the volumes of high-risk timber imports between the beginning and end of the decade (2020) — a decade in which strenuous international efforts have been made to reduce illegal logging and associated trade, and substantial investments have been made in China to incentivize legal trade, albeit on a voluntary basis.

This report reviews trends in China's international trade in forest products over the last decade (2011 to 2020), with a specific focus on imports and exports of timber products, including assessing the risk associated with China's forest product sourcing and links to illegal logging and associated trade, or in some cases, illegal deforestation. Given the recent US-China Glasgow Declaration and concern within the US Government that forest products imported from China may contain illegally sourced material, the report also touches on trade between China and the US and implications for US importers conducting Due Care under the Lacey Act.

As the world's largest importer of timber, pulp, and paper, and major forest-risk commodities (FRCs), including soy and beef, China's significant and growing demand for products sourced from forests is well documented, and the country plays an outsized role in how decisions are made that impact timber harvesting and trade across the globe. Wood harvested from China's own forests and imported from around the world is needed to meet the needs of multiple industries serving both domestic and export-oriented markets, and Chinese demand affects a diverse range of timber species grown in tropical and temperate forests.

As demand has grown, domestic harvesting has been unable to keep up, causing China's timber supply gap (the gap between domestic supply and industrial demand, including for domestic consumption) to rise 60% over the past decade, due in part to rapid economic growth, burgeoning export demand, and China's 2017 logging ban, which prohibits harvesting in natural forests (as opposed to plantation forests). Consequently, China has further increased its reliance on imported raw materials.

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[1] This report refers to "forest products," a term that encompasses timber, pulp, paper, and wood furniture. For a list of all HS codes analyzed, see Annex 1.

Forest Trends evaluated China's timber import profile, complemented by an average relative ranking of governance and corruption to assess the risk that timber is harvested and traded illegally.[2] While 44% of China's timber product imports in 2020 were from source countries classified as low governance and legality risk such as the US, Canada, and New Zealand, there is a non-negligible segment of this trade that is high risk — namely, hardwoods sourced from tropical forested countries in Asia, Africa, and Latin America, as well as timber from the Russian Far East (RFE). Many of these species command high market values and are increasingly facing a decline in commercially available stocks, with resultant climate and biodiversity impacts in ecosystems from which they are harvested. High demand for these often-rare species has further incentivized illegal extraction.

The risk of illegal sourcing continues throughout the supply chain, with illegal wood products manufactured in China shipped onward to the US and other markets. Once exported, these products may be re-exported via "transit" countries, often newly labeled as originated from countries such as Vietnam and Malaysia, and sometimes undergoing further processing before reaching their final point of consumption. This "transshipment" further complicates supply chain traceability.

In source countries with weak governance, the uptick in demand from Chinese markets has served to increase environmental pressures on their remaining tropical forest estate, resulting in increased greenhouse gas emissions, encroachment on indigenous peoples' and local communities' customary territories. Illegal tropical forest clearance and selective felling linked to China's demand for agricultural and forest product imports has caused estimated annual carbon dioxide (CO_2) emissions of over 1% of China's total emissions, which is about double those of China's aviation and shipping sectors, and 15-20% of its domestic agricultural sector. China's embodied deforestation also poses risks to biodiversity and may contribute to the rise in zoonotic diseases traced to ecosystem loss. Finally, continued imports of illegally sourced timber pose a reputational risk to all parties involved in the supply chain.

KEY FINDINGS

China's imports, 2011–2020

- **Almost all timber imported by China is unprocessed.** China predominately imports raw material for its wood processing industry. Ninety-four percent (94%) of China's timber imports continued to be in log, sawnwood, or woodchip form. Woodchip imports rose fastest over the decade, followed by sawnwood and logs; together, imports of these three products rose 57% from 2011 to 2020.

- **China's log imports grew steadily, with stronger demand for softwood species towards the end of the decade.** China's imports of hardwood logs rose 17%. The main sources for China's hardwood log imports have remained stable, topped by the higher risk countries of Papua New Guinea (PNG) and the Solomon Islands, and followed by Russia, which doubled its market share over the decade. Brazil experienced the highest gain in market share, with additional growth from the US and European Union (EU) plus European Free Trade Association (EFTA) Member States (hereinafter "EU/EFTA"). In contrast,

there was much stronger growth in China's softwood log imports (49%), particularly since 2018. The comparatively slow growth in hardwood log imports, in contrast to sawnwood, woodchips, and softwood logs, may be due to more countries introducing or enforcing log export restrictions (LERs) to promote domestic value-added processing.

- **Imports of hardwood sawnwood increased 38%, while softwood sawnwood increased 70%.** Russia's market share of sawnwood rose sharply (58% of the import volume in 2020) as industry regrouped after an increase in log export taxes, as did that of Ukraine, Belarus, and Brazil, while Canada's dropped from 46% of the import volume in 2011 to 12% in 2020. The four main low-risk supplier markets (Canada, EU/EFTA, US, and New Zealand) supplied 31% of the import volume in 2020 compared to 60% in 2011. More recently (2019-21), softwood sawnwood imports have fallen, while hardwood sawnwood imports have increased; there is a sharp increase in sawnwood imports from countries that put in place LERs a decade or more earlier, such as Gabon and Russia.

- **Woodchip imports doubled.** Woodchips are used mainly for pulp and paper production, and Vietnam continued to dominate China's woodchip import profile. Other fast rising sources included Brazil and Malaysia, both considered high risk, followed by Australia and Chile. Thailand and Indonesia both saw decreasing market share.

- **Analysis of all forest product imports revealed that over half (57% by volume) were pulp and paper (P&P).** Most P&P imports, like chemical woodpulp (62% of the P&P import volume in 2020), were inputs for pulp mills. The 2010s saw a significant shift in sourcing P&P away from North American and European sources towards tropical forested countries (especially Brazil and Indonesia). In many P&P source countries, raw material is plantation-grown.

- **Russia continued to be the top source country for China's timber imports**, supplying 24% by volume in 2020, but its relative importance fell over 2017-2020 while imports from EU/EFTA and Vietnam rose sharply. There was also a strong increase in the importance of Brazil as a source of hardwood logs, softwood sawnwood, and woodchips.

Legality risk embodied in imports

- **Most of China's hardwood timber imports (68%) sourced from natural forests were at high risk of non-compliance with producer country national laws and regulations due to indicators of poor governance, conflict, and institutional fragility.** China's imports of high-risk hardwoods remained significant. The proportion of timber imports classified as high risk barely budged over the course of the decade, dropping only two percentage points overall. Temperate hardwoods and softwoods from Russia, especially from the RFE, and some countries in Eastern Europe, were also high risk. By import volume, Russia was the most significant source country rated as high legality risk, followed by Vietnam, Brazil, the Lao People's Democratic Republic (Laos), Cambodia, and India.

- **Countries classified on the World Bank's Fragile and Conflict-affected Situations (FCS) list supplied about half of China's hardwood logs and most of its tropical logs.** From the FCS list, PNG, Solomon Islands, Laos, Cameroon, Republic of the Congo, and Mozambique were the top supplier countries to China, collectively accounting for 10% of all timber imports but over 25% of hardwood imports, by value.

- **In 2020, China imported about 8 million cubic meters (m³) of logs – over half of all hardwood log imports – from 40 countries with full or partial LERs.** The main source countries with LERs were PNG,

the Solomon Islands, Brazil, Republic of the Congo, and Cameroon. Although the absolute volume of logs from LER countries fell significantly from 2018 to 2020, this is more likely due to the overall reduction in log imports from these countries and the substitution of sawnwood imports from these countries (see sawnwood export restrictions below).

■ **Sawnwood imports from countries with sawnwood export restrictions (SERs) almost doubled in volume from 2016 to 2020, and there was a marked shift towards higher-risk source countries for softwood sawnwood.** The main source country with an SER was Ukraine, China's fourth-largest supplier of softwood sawnwood in 2020. Russia replaced Canada as the main supplier of China's imported sawnwood, reaching nearly 60% of the total import volume in 2020. Interestingly, this growth comes more than a decade after Russia's own LER, indicating that it has taken this long for Russia to fully substitute sawnwood for logs.

■ **Imports of *hongmu* (rosewood) log imports have fallen rapidly since their peak in 2014, falling to just one-fifth of 2014 levels in 2020. From 2010 to 2014, however, China's rosewood imports from Africa soared 700%, as Asian rosewood species were increasingly logged out and traders found willing sellers,** a less-expensive species (*Pterocarpus erinaceus*), and governments that either lacked capacity to clamp down on illegal logging and trade, or in some cases, actively supported it. By 2020, over 83% of China's rosewood imports were from Africa, and 77% of all hardwood logs imported from West Africa are now hongmu species, up from just 34% in 2011. The most frequently traded hongmu species are now listed on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and most source countries have LERs in place, though the price of hongmu remains a powerful incentive to break the law.

■ **The governance risk associated with China's P&P imports increased at a higher rate over the decade, but overall, P&P imports remained lower risk than timber imports.** High-risk P&P imports doubled, increasing from 14% to 30% of overall P&P imports, while the proportion of low-risk imports declined from 74% to 47%. Governance context is important in P&P production; however, most pulp mill inputs are plantation-grown species with less recent exposure to illegal logging.[3] Pulp production from Indonesia, the second largest (and fastest growing) supplier, was nonetheless associated with deforestation during this decade, including of peatland.

China's exports, 2011–2020

■ **China's timber product exports were dominated by plywood and furniture.** These two products made up 83% of China's timber product export volume and 72% of the export value over the decade, with furniture comprising 60%. Exports trended toward lower value furniture exports (e.g., using Thai rubberwood) and away from expensive furniture made from tropical hardwood species.

■ **At the end of the decade, EU/EFTA and the US were the main markets for China's timber exports.** From 2019 the EU/EFTA replaced the US as the main market (by volume), but much of this was low-value plywood; the unit value (or price) of China's furniture exports to the EU/EFTA was one-third lower due to US preferences for more expensive furniture.

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[3] There may, however, have been historical land clearance, in which natural forests were (legally or illegally) converted to plantations.

- **There was also a clear trend of market diversification towards emerging consumer economies in Asia, Latin America, and the Middle East.** The fastest rising markets for China's timber product exports were the Philippines (the second main destination for plywood in 2020), Vietnam, Malaysia, and Thailand. Meanwhile, the relative importance of the US (except for furniture), Japan, and Canada (except for plywood), has declined.

- **The US was the main market for China's P&P exports until 2019, when it was surpassed by the EU/ EFTA.** Vietnam, United Arab Emirates (UAE), Malaysia, and Thailand experienced the sharpest rise in demand for Chinese-made P&P, while exports to Japan contracted.

US–China trade and associated risk

- **P&P imports comprised 78% of China's total forest product imports from the US by volume and 75% by value.** This occurred despite a sharp fall in wastepaper imports from the US from 2017 due to the imposition of strict import quotas. Wastepaper, chemical woodpulp, and paper were the most imported products.

- **China's timber imports from the US were dominated by softwood logs and hardwood sawnwood, which both fell sharply from 2018 to 2019 due to the US-China trade war.** From 2019 to 2020 there was a significant recovery in sawnwood import volume, but not in its value (implying a shift to lower value timber), and log imports continued to fall.

- **China's timber exports to the US also fell sharply in 2018, although by 2020, furniture exports had recovered to a level that was 25% higher (by volume).** Plywood exports to the US collapsed from 2016, the downward trend preceding the trade war. In 2020, China's plywood exports to the US were only one-fifth of the 2016 export volume.

- **There has been evidence of transshipment of China's timber exports to the US via third countries, such as Vietnam, to avoid higher tariffs.** The US has made several efforts to crack down on fraudulent labelling. Analysis of Vietnamese Customs data found that, after 2018, there were very sharp increases both in Vietnam's imports of wood furniture from China and US imports of these items from Vietnam. Key informants in Vietnam suspected that transshipment items have been hidden away in smaller or more obscure import product categories.

Although China has introduced some voluntary options for responsible timber sourcing over the years, including a national Timber Legality Verification System (CTLVS), these have not had a discernable impact on trade. In 2019, China revised its Forest Law which, for the first time ever, provides a legal basis for banning illegally sourced forest products from the Chinese market. Enforcement of this law, through implementing regulations currently under development, could finally put China on par with the world's other leading timber importers who have established mandatory measures to exclude illegal timber imports – and contribute to China's progress as a global leader in mitigating climate change and promoting sustainable development. Forest Trends strongly recommends that these measures be grounded in robust due diligence, coupled with traceability requirements and penalties for non-compliance.

1 Introduction: China's National Wood Supply Gap

In the early 2000s, China emerged as the world's foremost importer and exporter of forest products on the back of a booming national economy. Today, China continues to be the biggest consumer, importer, and exporter of wood. In 2020, China was responsible for nearly 30% of all reported forest product imports by net weight and 70% of reported log imports from tropical forested countries (China Customs 2022; UN Comtrade 2022). China's rapid pace of economic growth and rise in living standards, combined with a large export-oriented timber industry, has led to a burgeoning demand for wood – both for solid wood (timber) and wood fiber in the form of pulp and paper (P&P) products. This trend has been reinforced by government stimulus packages for wood processing, exports, and housing and infrastructure programs.

It has become increasingly difficult for China to meet its wood product demand from domestic timber supply alone. As a result, China is facing a "wood supply gap," defined as the disparity between domestic wood supply and the combined demand from domestic wood consumption[4] and the export sector.

Figure 1 | China's wood supply gap with estimated domestic consumption,[5] 2011-2020
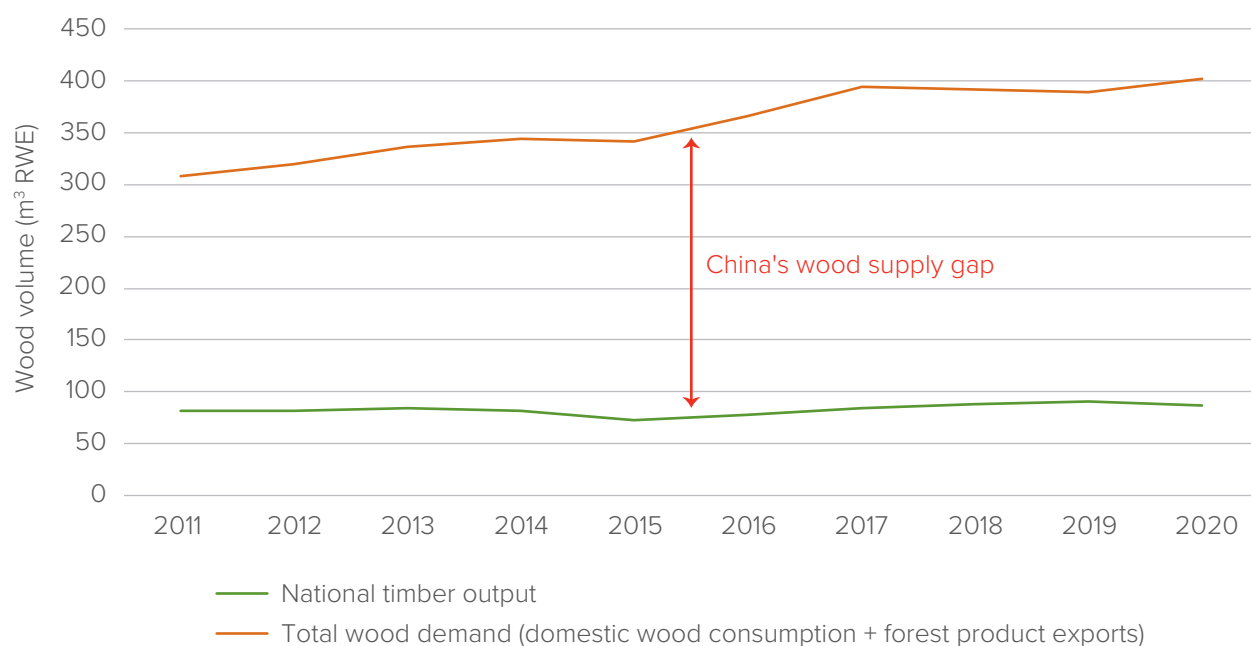
Source: General Administration of Chinese Customs, National Forests and Grassland Administration

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[4] Defined as the residual of the national wood supply and demand equation (i.e., domestic wood consumption equals the sum of national timber production and wood (or forest product) imports minus wood/forest product exports).
[5] Unless specified otherwise, all the forest product trade data presented in this paper are sourced from the General Administration of Customs, P.R. China ("China Customs"), compiled and analyzed by Forest Trends.

From 2011-2020, China's wood supply gap rose about 40% to 315 million m³ roundwood equivalent (RWE) in 2020 (Figure 1). Its timber supply gap increased by roughly 60% over the decade to 143 million m³ RWE in 2020. The wood supply gap has been exacerbated since 2017 by China's natural forest logging ban, which restricts timber harvesting to plantations with few exceptions. The direct consequence of the gap has been a 60% rise in timber imports over the decade, almost all of it unprocessed timber (logs, sawnwood, and woodchips), as well as a 25% increase in P&P imports. Zhang and Chen (2021) estimate that the logging ban alone was responsible for a 15% increase in solid wood imports.

In calculating China's wood supply gap, it is important to note that P&P imports surpassed timber imports in volume and comprised 57% of the total forest product import volume over the decade. P&P imports, however, rose more slowly (by 25% over the decade) than timber imports. One explanation may be that a larger proportion of the restricted domestic (plantation) timber supply was appropriate for the P&P sector than for processing into timber products. China's forest product imports closely tracked domestic wood consumption over the decade, and the volume of forest product exports was very similar to national timber production.

However, these calculations may involve an underestimation of both domestic consumption and the national timber supply. According to data from China's National Forestry and Grassland Administration (NFGA), domestic wood consumption in 2019 was 431 million m³ RWE – construction, paper, and furniture making accounted for almost 90% of this. This was over 40% higher than the domestic consumption estimated from the wood supply and demand equation (302 million m³ RWE in 2019). The NFGA also revealed a second domestic source of raw materials to commercial timber production: branches and harvesting/processing waste were converted to 143 million m³ of fiberboard and particleboard, which then went into construction, furniture, and other uses. The implications of the NFGA data were that both supply and demand are underestimated if the official timber output and estimated wood consumption are used. Regardless, the wood supply gap was roughly similar from both sets of calculations.

2 | Overview of China's Forest Product Imports and Exports

In previous decades, China exported more forest products than it imported, indicating stronger demand from overseas compared to domestic markets. As Chinese consumer power rose, the relative size of imports and exports has flipped: China's forest product imports (by volume) now greatly exceed its exports, and the gap between them has increased. From 2011 to 2020, forest product imports rose 39% by volume while the export volume rose only 14% (and experienced a slight decline from 2018 to 2020). The forest product export value however exceeded the import value in most years (Figure 2), due to a much higher proportion of manufactured timber products being exported, many of which include raw or minimally processed imported material.

This section presents overarching trends in China's forest product import and export data over the decade. More detailed analysis can be found in Annex 2.

Figure 2 | China's forest product imports & exports by volume and value, 2011-2020[6]

It is worth noting the diverging trends in timber and P&P imports. P&P import volume was significantly higher in all years except 2019, while the timber export volume was at least double the P&P export volume in most years (Figure 3). Export values were slightly more volatile than volumes. In contrast, the import volumes experienced a steady rise before falling back slightly in 2020, mainly due to the COVID-19 pandemic.

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[6] Unless otherwise specified, all figures from this point onwards are sourced from China Customs, compiled and analyzed by Forest Trends.

BOX 1
Post–2020 trends

The final year of our analysis was particularly unusual due to the onset of the global COVID-19 pandemic, which marked an immediate disruption in Chinese and global markets and, by March 2020, a collapse in both domestic and international demand, and a slump in economic growth. Months later this was followed by a surge in raw wood material and lumber prices in the US and other markets due to increased consumption in the housing and construction market. Supply chain disruptions have persisted since the onset of the pandemic (for more than two years as of the date of publication), which has roiled timber markets. In addition, Russia's invasion of Ukraine in February 2022 – both the conflict itself and subsequent economic sanctions imposed on Russia and Belarus – has further disrupted global markets for wood products and agricultural commodities sourced from forests.

For now, we note that 2020 was an unusual year, and future research is needed to shed light on forest product trade trends in 2021 and beyond.

Figure 3 | China's timber and P&P imports and exports by volume and value, 2011-2020

Timber product imports ——— Timber product exports ——— P&P imports ——— P&P exports
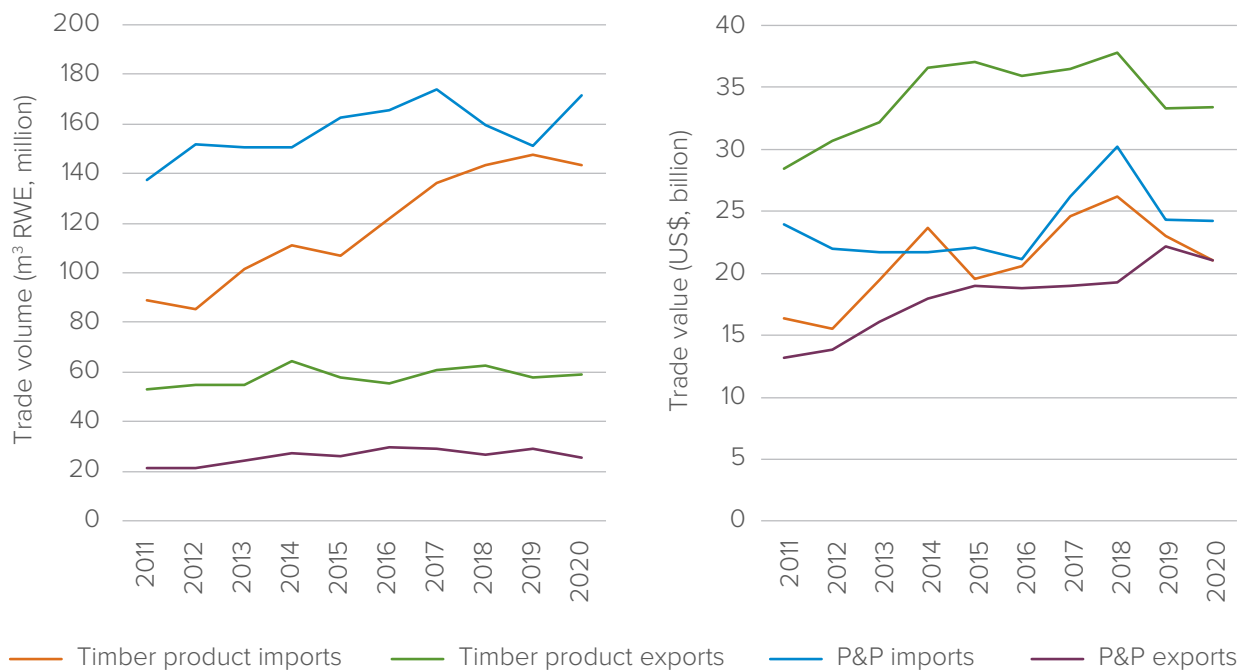
China's forest product exports

China's forest product exports were quite steady (by volume) from 2011-2020. The forest product export volume slightly contracted to mid-decade levels by 2020. On the other hand, export values rose sharply from 2016 to 2018 before contracting to a roughly 2014 levels. Key factors behind the recent fall include a shift to lower value products (e.g., furniture made from Thai rubberwood) and the decline in the US market following the US-China trade war.

Key products: China's timber exports were dominated by plywood and furniture (Figure 4). Together, plywood and furniture comprised 83% of the timber product export volume and 72% of the export value in 2020. Wood furniture was easily the most important product by value. Fiberboard, the third most important timber export (by volume) in 2011, fell steadily over most of the decade and by 2020 it was just over half its 2012 level. Other important timber product exports were veneer, joinery products, flooring, molding and strips, charcoal, and particleboard.

Figure 4 | China's main timber product exports by volume, 2011-2020
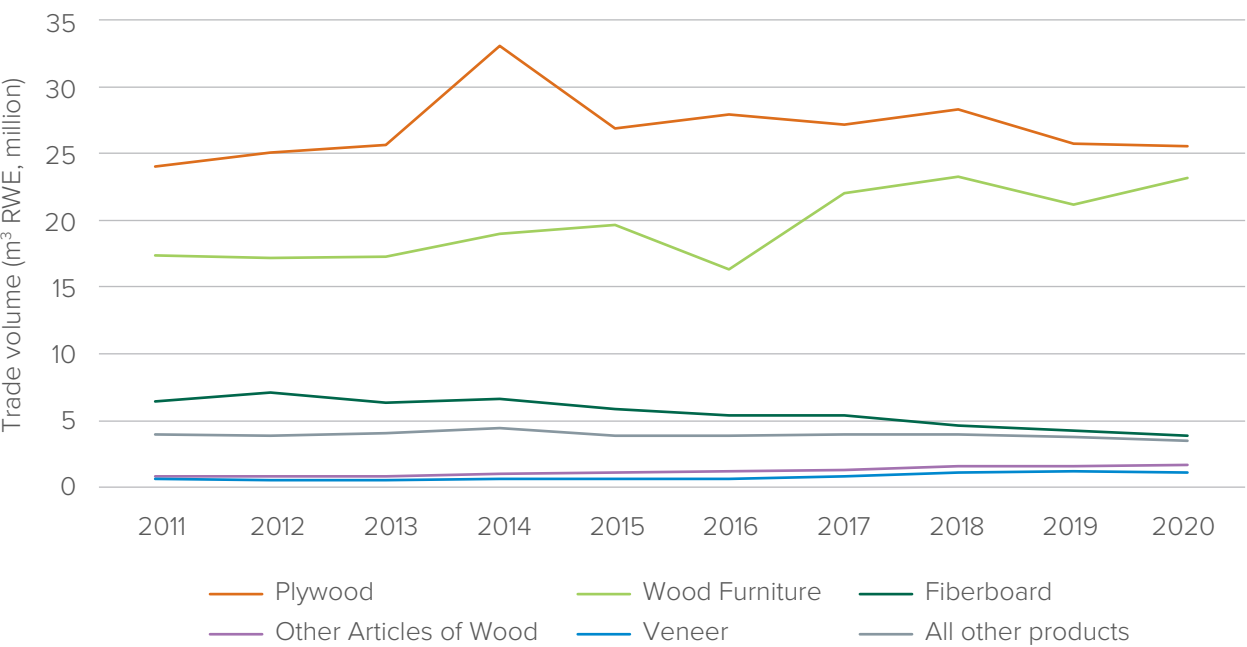
Key markets: At the end of the decade, the EU/EFTA and the US were the main markets for China's timber exports. However, there was also a clear trend of market diversification towards emerging consumer economies in Asia, Latin America, and the Middle East. Timber exports to the US rose every year until 2018-2020, when export volumes and value fell 34% and 35%, respectively. Meanwhile China's timber exports to the EU/EFTA rose gradually since 2013; over the decade, the export volume and value were up 17% and 20%, respectively.

Table 1 shows diversification over the decade towards emerging markets, especially in Asia. This shift began in the global financial crisis of 2008-2009, but due to economic growth in the emerging economies, has become more permanent. The fastest rising markets were the Philippines (the second main destination for plywood in 2020), Vietnam, Malaysia, Thailand, and Taiwan. Meanwhile, the relative importance of the US (except for furniture), Japan, Canada (except for plywood), Hong Kong, Republic of Korea, UAE, and Saudi Arabia declined over the decade.

Exports to regulated markets: Over the course of the decade, the percentage of China's timber products exported to markets with timber import regulations rose significantly, especially from 2012 to 2018 (Figure 6). The fall in the ratio going to unregulated markets (from 80% in 2011 to 43% in 2020) indicates that, as these markets begin to robustly enforce their import regulations, Chinese timber products will come under increased scrutiny and subject to due diligence processes to ensure the legality of the product.

This changing ratio was due almost entirely to the increase in number of timber import regulations passed into law over the decade. In 2011, the only measure on the books was the US Lacey Act. The EU Timber Regulation (EUTR) only came into force in 2013, while other countries introduced controls later in the decade. The flattening or slight reversal of the trend from 2018 to 2019 was due to the fall in exports to the US. China exports comparatively low levels of P&P. Of these exports, nearly all are in paper form.

Figure 5 | Top 20 destinations for China's timber product exports by volume, 2011-2020


% of total trade volume
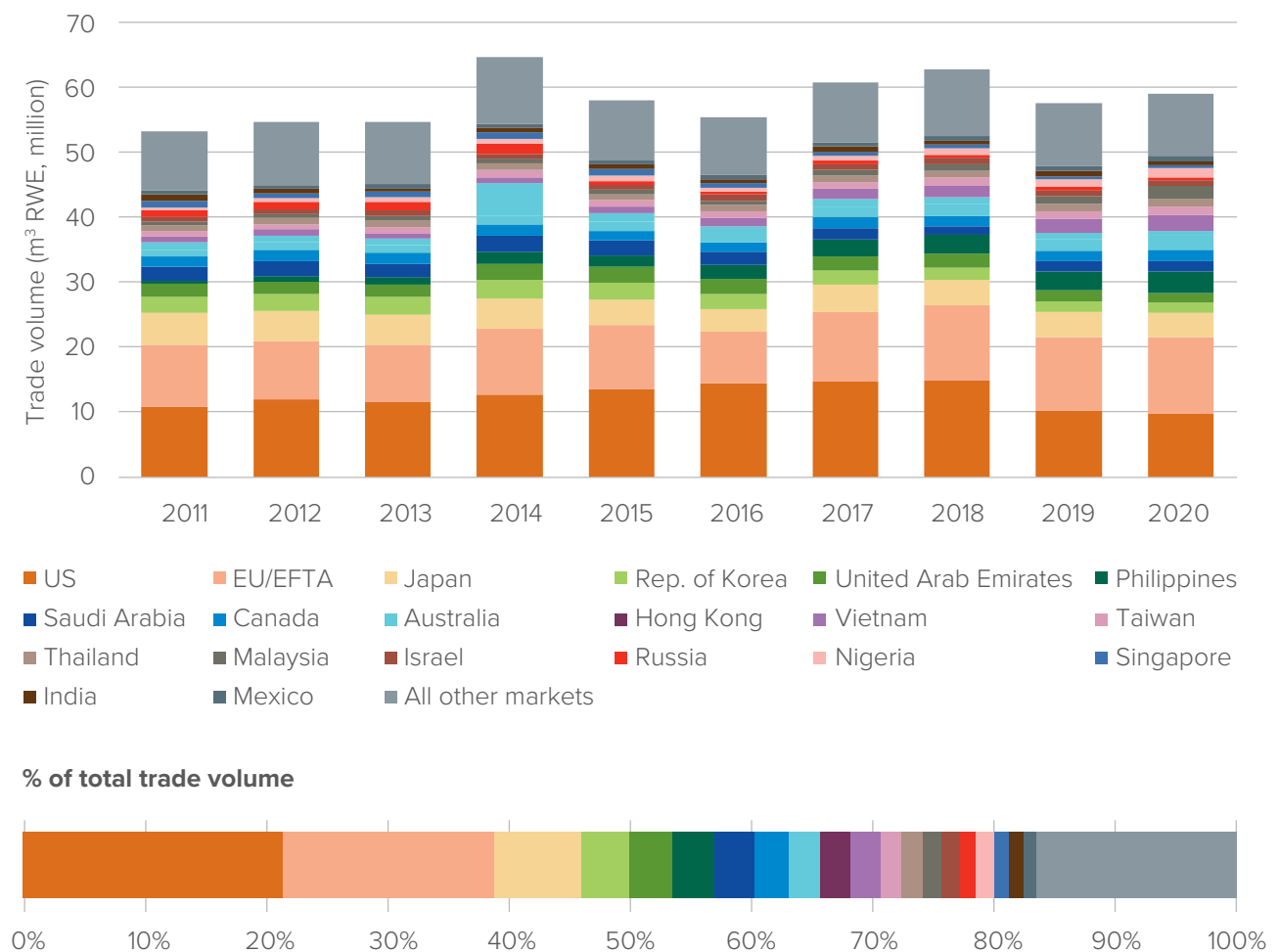
Table 1 | Changes in the top five markets for China's main forest product exports (by volume)

Exported products	Main markets in 2011	Main markets in 2020	Fastest rising markets, 2011-2020
Furniture	US – 32% EU/EFTA – 24% Japan – 9% Australia – 4% Canada – 4%	US – 30% EU/EFTA – 30% Japan – 7% Australia – 6% Rep. of Korea/Canada –3%	**Malaysia – 159%** **Rep. of Korea – 139%** **Australia – 74%** **EU/EFTA – 63%** **US – 25%**
Plywood	EU/EFTA – 17% US – 14% Japan – 9% Rep. of Korea – 6% UAE – 5%	Philippines – 11% Vietnam – 7% Japan – 5% Malaysia – 5% US – 4%	**Philippines – 790%** **Malaysia – 399%** **Vietnam – 246%** **Nigeria – 189%** **Canada – 91%**
P&P products	Hong Kong – 11% Japan – 11% US – 10% EU/EFTA – 9% Australia/India – 4%	US – 9% EU/EFTA – 9% Vietnam – 7% Hong Kong – 5% Australia – 5%	**Vietnam – 441%** **UAE – 105%** **Malaysia – 74%** **Thailand – 54%** **Australia – 47%**

**Figure 6 | China's timber product exports to regulated vs. unregulated markets by volume, 2011-2020**
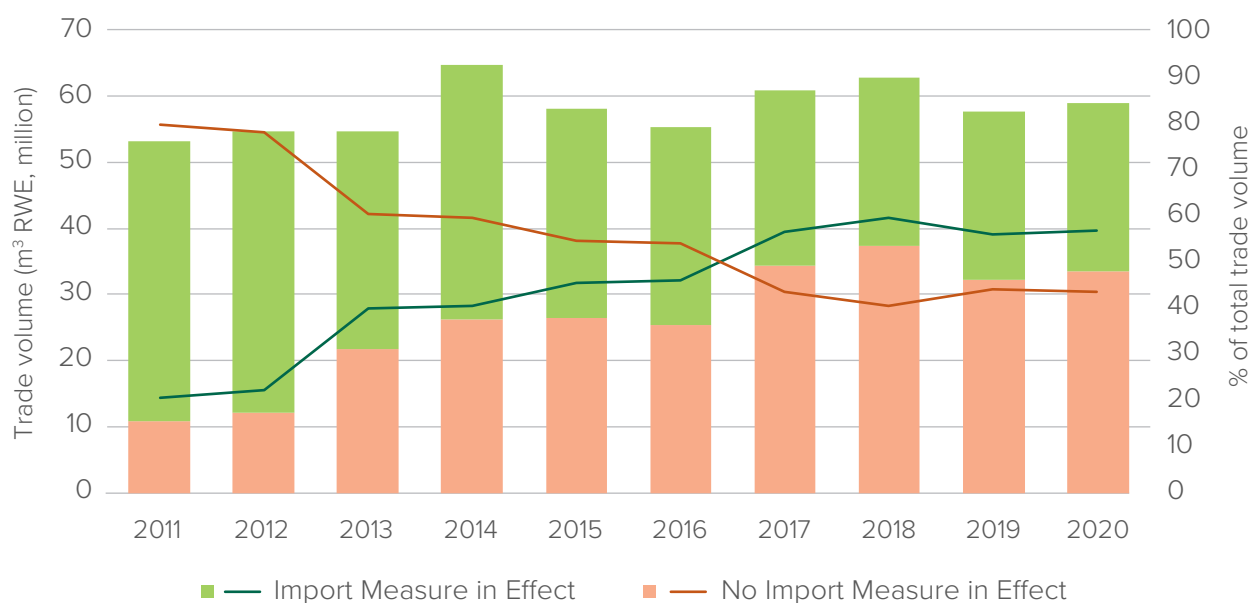
China's forest product imports

Timber Products: China's timber imports were dominated by unprocessed timber, and logs continued to be the top imported timber product, which decreased at the end of the decade. In 2020, logs, sawnwood, and woodchips comprised 45%, 37%, and 18% of the import volume respectively (or 94% altogether), and rose 40%, 61%, and 106%, respectively. Overall, import values fell 20% from 2018 to 2020, due to a combination of the US-China trade war, slower economic growth, COVID-19, and the increasing preference for softwood species (which typically command lower prices).

The Import values of hardwood logs and sawnwood fell from 2018 to 2020 due to decreased imports of high value tropical logs and US hardwoods, combined with the continued importance of rubberwood sawnwood imports from Thailand. Log imports recovered in 2021, however, rising 29% in volume and 48% in value year on year (YoY) from January to June (ITTO 2021a); in the third quarter of 2021, they were up 14% in volume and 43% in value YoY (ITTO 2021d).

In the second half of the decade, softwoods became relatively more important: from 2015 to 2020 import volumes of softwood logs and sawnwood rose 56% and 45%, respectively. Hardwood log imports have fallen since 2018 as source countries introduce or implement log export restrictions and/or shift to value-added processing and as overall demand for rosewood (*hongmu*) has declined.

Figure 7 | China's main timber import products by volume and value, 2011-2020
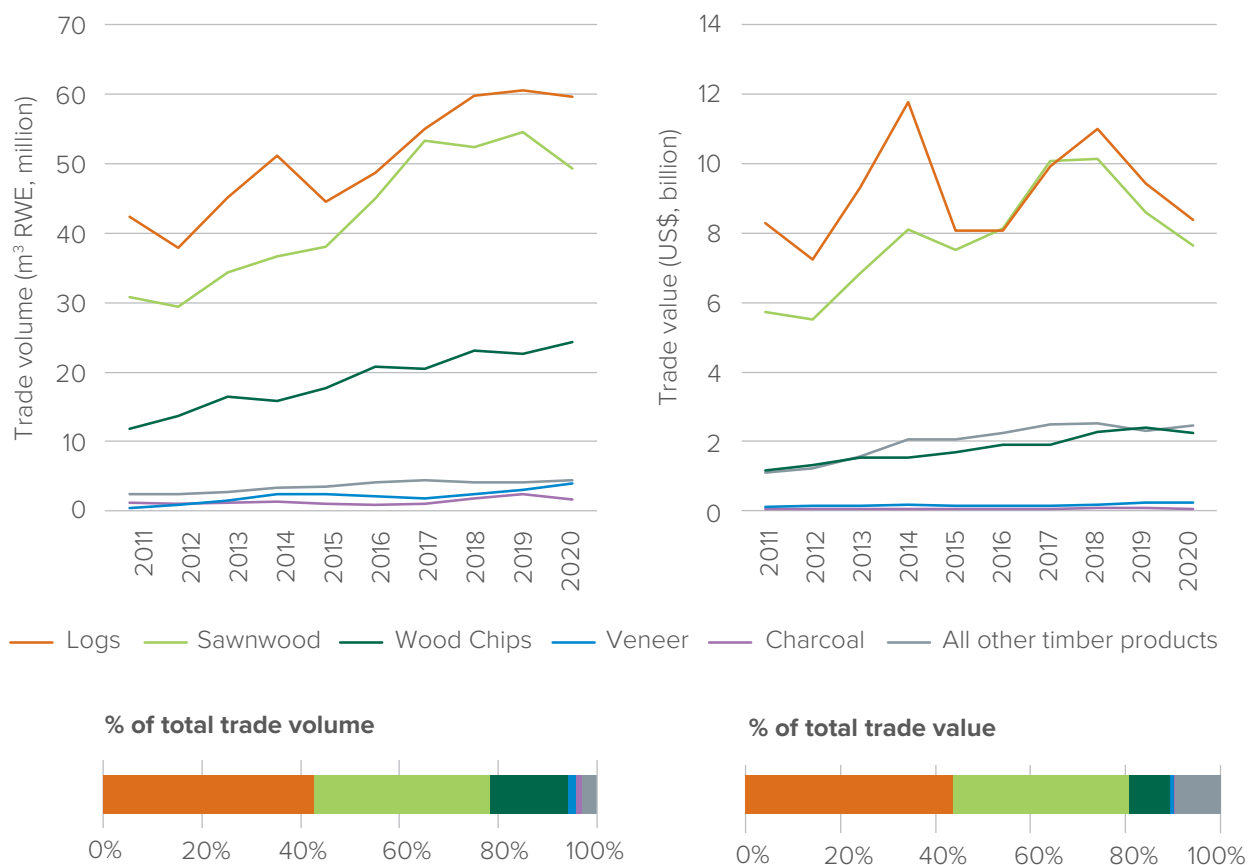
Figure 8 | China's imports of softwood and hardwood logs and sawnwood by volume, 2011-2020

Softwood logs   Softwood sawnwood   Hardwood logs   Hardwood sawnwood
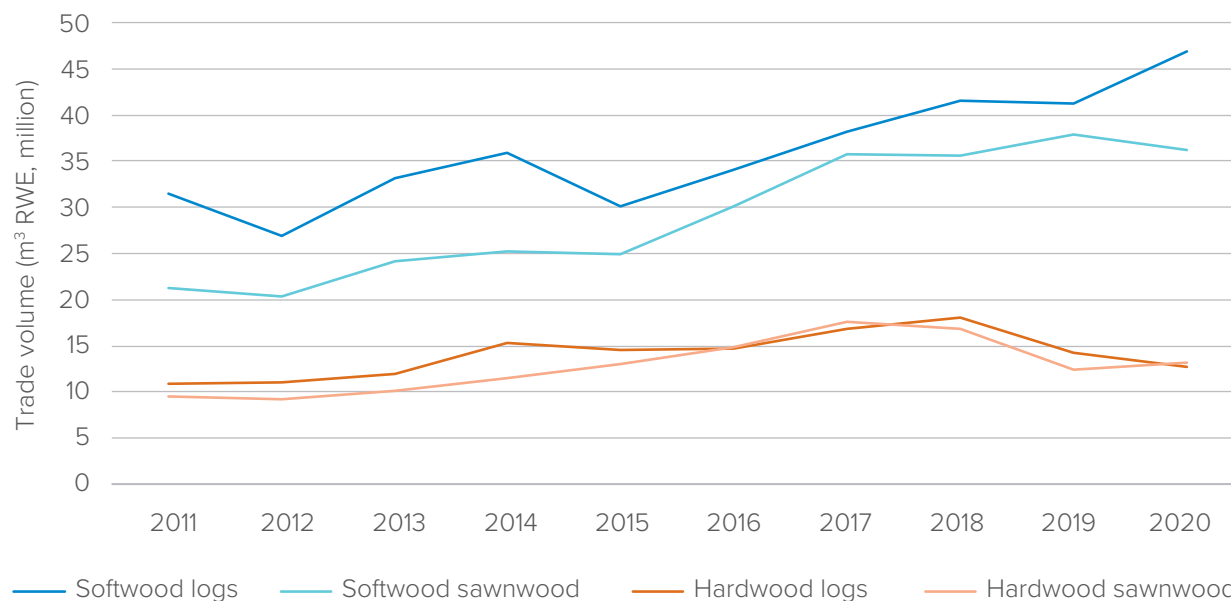
Key source countries: Russia was China's main source of timber, supplying 24% of the import volume over the decade, double the next source (New Zealand). Other main sources have been Canada (9.4%), Vietnam (8.2%), the US (7.8%), EU/EFTA (7.4%), Australia (7.3%), and Thailand (5.7%). Main trends over the decade were (Figure 9 and Table 2):

- Russia's market share fell from 2017-2020, though it remained dominant. In contrast, the EU/EFTA and Vietnam both rose sharply in importance.

- High-risk timber species from high-risk supplier countries continued to be dominant.

- China has pivoted towards higher-risk sources of softwood sawnwood. Russia has replaced Canada as the main source country: in 2020 Russia supplied 58% of China's import volume.

- China has increased its imports from both lower-risk sources (plantation-grown Thai rubberwood and the EU/EFTA) and higher-risk sources (Gabon, Vietnam) of hardwood sawnwood.

- Brazil has risen sharply as a source of China's hardwood logs, softwood sawnwood, and woodchips.

Pulp and Paper: The main changes in China's P&P imports were the increased importance of chemical woodpulp and paper and the fall in wastepaper imports due to import quotas introduced in 2016. In 2011, wastepaper comprised over half of China's P&P import volume but fell fourfold from 2016 to 2020. To compensate, the import volume of paper rose fourfold from 2016 to 2020. In 2020, chemical woodpulp comprised 63% of the P&P import volume while paper made up 62% of the P&P import value. From 2019 to 2020, there was a sharp rise in the P&P import volume, although the import value fell slightly.

China's P&P imports have shifted from "global north" suppliers to two main tropical country sources: Brazil and Indonesia. P&P import volumes from both countries rose 250% over the decade. In 2020, the main sources of China's P&P imports (by volume) were Brazil (18%), Indonesia (14%), the US (13%), EU/EFTA (12%), Canada (11%), Chile (6%), Russia (5%), and Japan (4%).

Figure 9 | Trends in main sources of China's timber imports by volume, 2011-2020
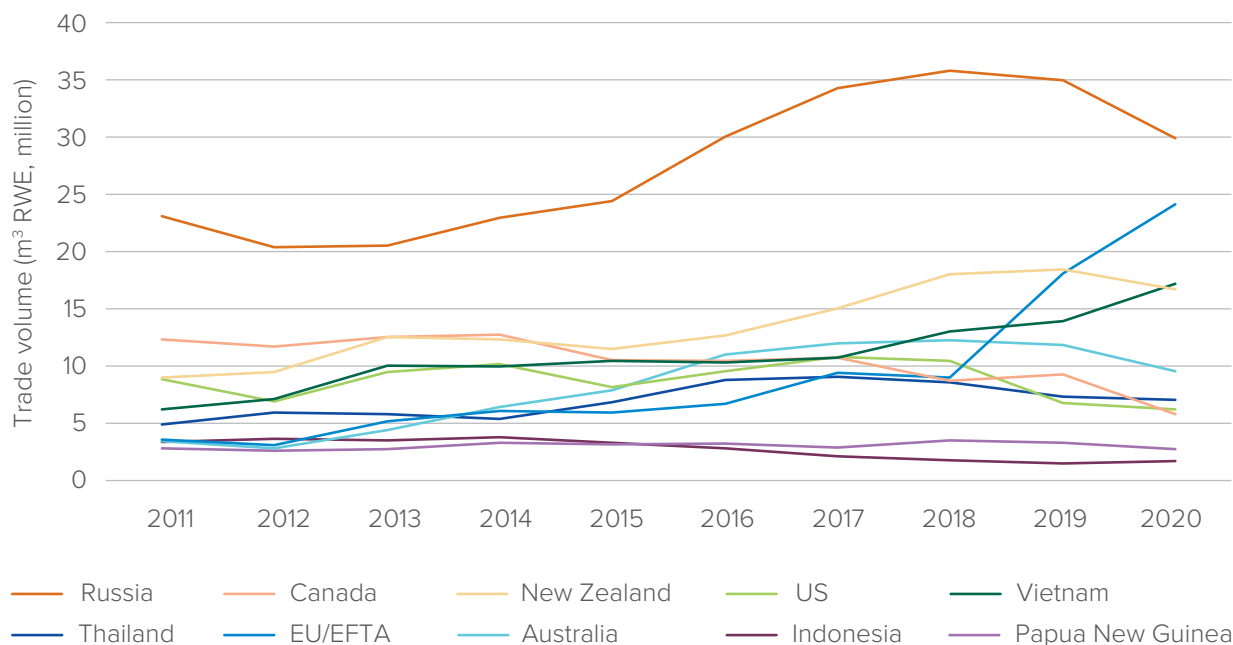
Table 2 | Summary of main changes in timber import sources, 2011-2020

Timber product	Change in import volume	Main change in sources over decade	Fastest rising markets, 2011-2020
Softwood logs	+49%	Sharp fall from Russia; big rise from New Zealand & EU/EFTA	Japan, EU/EFTA, Uruguay, Australia
Hardwood logs	+17%	PNG & Solomon Islands continued as main suppliers: big increase from Russia & EU/EFTA	Brazil, US, Australia, Russia
Softwood sawnwood	+70%	Sharp fall from Canada, big increase from Russia, EU/EFTA	Ukraine, Belarus, EU/EFTA, Brazil
Hardwood sawnwood	+38%	Thailand (rubberwood) continued as main source + increased share; US declined	Gabon, Thailand, Thailand, Vietnam
Wood chips	+106%	Vietnam continued as main source with higher market share	Brazil, Chile, Australia, Malaysia

Figure 10 | Trends in main sources of China's hardwood log imports by volume, 2011-2020
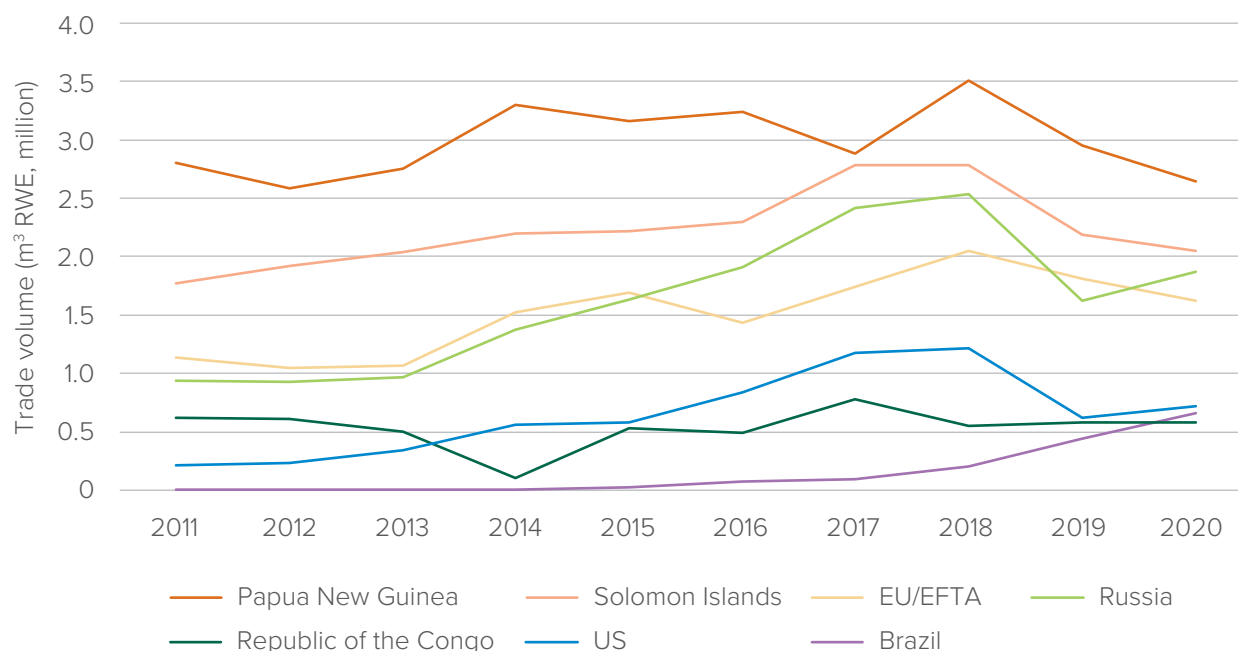
Risk analysis: The largest proportion of timber from high-risk source countries is imported as hardwood logs. PNG and the Solomon Islands continued to be the main sources (though both have been on a downward trend since 2018). Brazil, Republic of the Congo, and Cameroon also supply significant volumes of high-risk tropical hardwood logs. While hardwood log imports from most sources fell from 2019 to 2020, they rose sharply from Brazil, Russia, and the US (Figure 10). These trends continued in 2021: China's hardwood log import volume rose 65% from Brazil, 36% from Russia, and 22% from the US. They also rose 62% from Mozambique and 39% from Myanmar following the military coup in February 2021 (ITTO 2022)

There are general perceptions of lower illegality risk for P&P products due to typically being sourced from plantations. However, there are concerns about deforestation of native forests and indigenous land and resource rights in many parts of Asia and South America. Indonesia has a particularly well-documented history of displacement of indigenous peoples and local communities (Jong 2021). Much of Indonesia's P&P production was from plantations established (pre-2012) on peatlands, and a massive, planned expansion into Papua, Indonesia's easternmost province and one of the country's main forest frontiers. China's biggest pulp company, Nine Dragons, was reported to be planning a US$1 billion investment in Papua for producing 6 million tons of pulp per year (in 2019 Indonesia's total pulp production was 9 million tons). Opponents note that the industry has not adequately considered where the wood supply would come from, inferring that it would eventually come from natural forests, thus undermining sustainability pledges, and that expansion would encroach on indigenous territories.

3   The US-China Forest Product Trade

The US and China have long been interdependent in the forest product trade, with the US supplying raw material such as logs, sawnwood, and pulp, and China exporting wood furniture, plywood, and other processed products to the US. Supply chains for these products are often complex.

Starting in 2018, former US President Donald Trump began imposing trade barriers on China following allegations of unfair trading practices and intellectual property theft and to encourage growth in US manufacturing. China reciprocated with its own restrictions (trade war timeline, Annex 3). This trade war has significantly curbed the forest product trade between the US and China. It has also arguably been a boon to other countries with established timber harvesting, processing, and consumption sectors that present more stable markets for both China and the US. There is also evidence of the "transshipment" of forest products through third countries such as Vietnam to avoid tariffs.
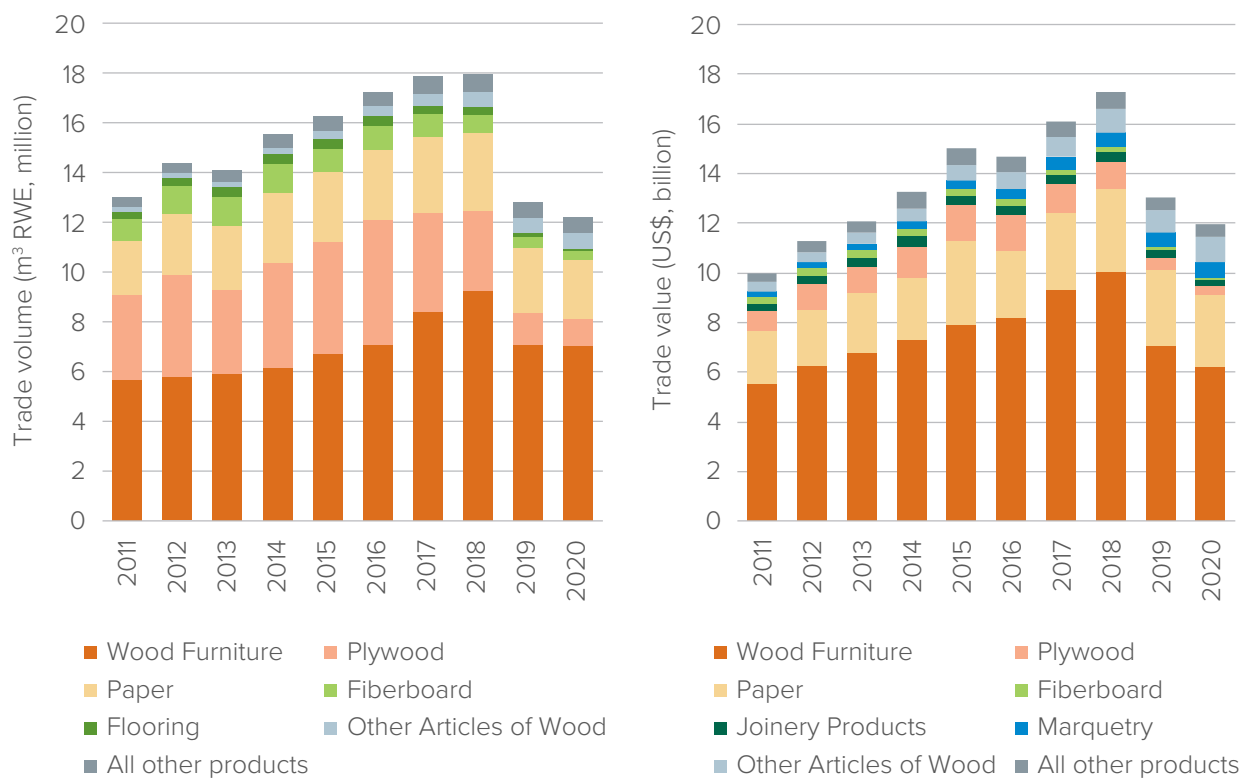
China's exports to the US

Wood furniture continued to be China's main forest product export to the US by both volume and value (Figure 11). Despite the US-China trade war, the export volume from China to the US rose 25% over the decade, although the export value fell 29%, reflecting a shift to lower cost furniture. Paper overtook plywood in 2019 to become the second main export to the US by volume. In contrast, plywood exports to the US fell very sharply from 2016-2020, so that by 2020 they were only one-fifth (by volume) of the 2016 import level.

China's imports from the US

China's forest product imports from the US over the decade were dominated by P&P products, especially wastepaper, chemical woodpulp, and paper (Figure 12). Despite falling sharply over the decade, P&P products comprised 78% of the import volume in 2020. The main cause of the fall was the introduction of quotas on wastepaper imports in 2017. China's main timber imports from the US were softwood logs and hardwood sawnwood. The trade war halved China's sawnwood and log imports from 2018 to 2019. While the sawnwood import volume recovered significantly from 2019 to 2020, log imports continued to fall.

Figure 11 | China's forest product exports to the US by volume and value, 2011-2020

Legend (left chart):
- Wood Furniture
- Plywood
- Paper
- Fiberboard
- Flooring
- Other Articles of Wood
- All other products

Legend (right chart):
- Wood Furniture
- Plywood
- Paper
- Fiberboard
- Joinery Products
- Marquetry
- Other Articles of Wood
- All other products

Figure 12 | China's forest product imports from the US by volume and value, 2011-2020

Legend:
- Wastepaper
- Chemical Woodpulp
- Logs
- Sawnwood
- Paper
- All other products
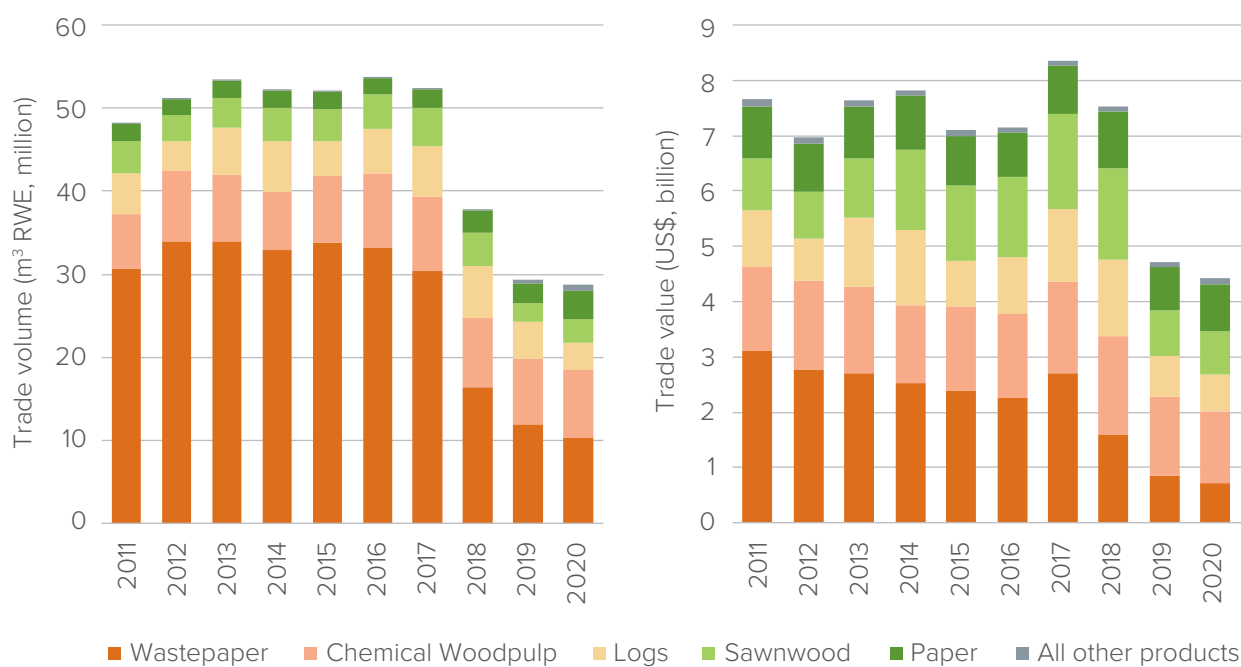
4   Legality Risk Analysis

This section outlines the timber legality risks associated with China's timber trade, with a focus on source countries where the risks of illegal timber entering transnational supply chains remains high due to poor governance, corruption, and conflict. By sourcing from countries with high governance and legality risk, particularly those in which China remains the dominant market for timber exports, China is incentivizing illegal timber harvesting and trading. This undermines international actions to improve governance of natural resources and curb emissions associated with forest loss.

Previous research from Forest Trends (2021) and others has identified the following legality risks associated with China's timber trade:

- There was a demonstrated risk of laundering high-risk RFE and Ukrainian species and falsely declaring them as having been harvested in northern Europe, North America, or even China (before the natural forest logging ban was expanded to the entire country in 2017). This has been relatively easy to do, as all these countries contain similar temperate natural forest species to those native to China.

- Enforcement actions in the EU and US have demonstrated the risk of illegal timber, laundering, and species misdeclaration on products manufactured in China. It has been particularly difficult to verify the legality of any product manufactured in China. Even low-risk timber products from China are under reputational risk, partly because China does not require traceability of wood products through its supply chain.

- There is evidence of supply chain documentation purporting to demonstrate legality or sustainability being fraudulently produced, or used multiple times, to "launder" timber into legal or certified sustainable supply chains (Yi 2019).

- There was evidence of illegal imports of high-value, endangered tropical timber species, including but not limited to CITES-listed rosewood (*hongmu*) species.

- There was evidence of widespread bribery and corruption within the trade networks supplying Chinese markets for forest products.

While the analysis below focuses on general sourcing risk, there are implications for US-China trade. Because China has no mandatory regulation in place to exclude illegally sourced timber and no traceability requirement to verify point of harvest, US importers should conduct due diligence on forest products imported from China, particularly those with a country of harvest that is not China.

Governance risk

According to Forest Trends' national relative governance risk ranking, the main "higher-risk" source countries were Russia, Vietnam, Brazil, Laos, Cambodia, and India. The proportion of China's timber imports sourced from "higher-risk" sources is shown in Figure 13. Half of China's timber imports over the decade were from higher-risk sources or conflict states, and this proportion hardly changed over that time. Although the volume of imports from "lower-risk" countries rose steadily over the decade, the proportion from these sources remained roughly the same: about half of the timber import volume. In other words, there was no substantial reduction over the decade in the proportion of China's timber imports coming from high-risk or conflict states.

Figure 13 | China's timber imports classified by governance risk, 2011-2020
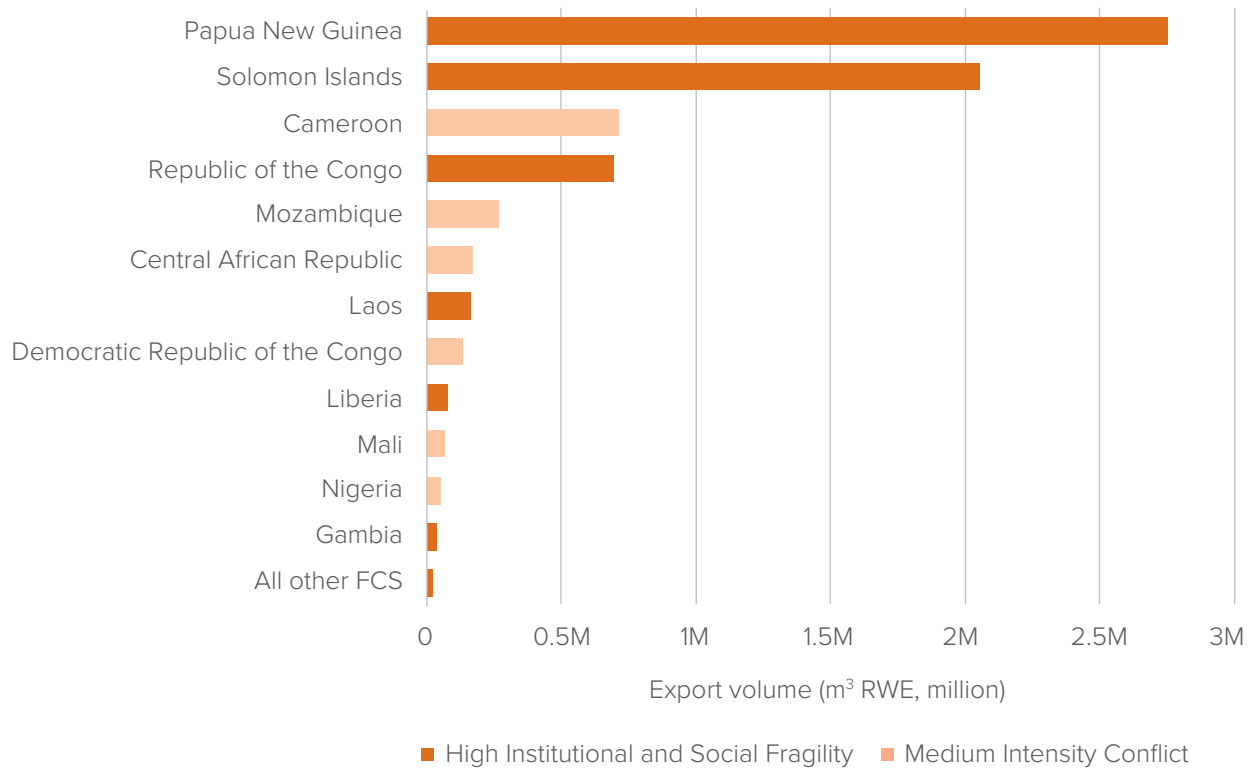

% of total trade volume
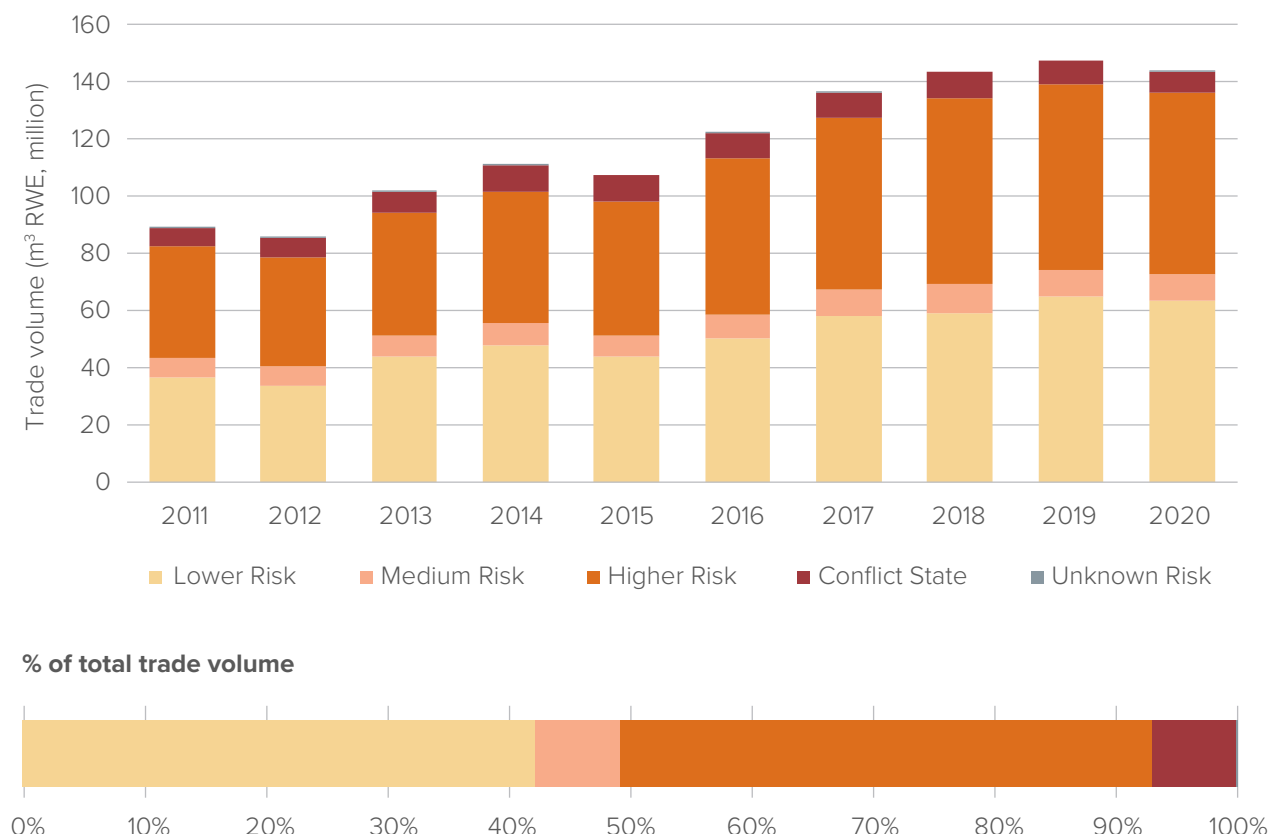
Conflict risk

China imported substantial volumes timber from countries classified on the the World Bank's Classification of Fragile and Conflict-Affected Situations (FCS list). Ten countries on the FCS list supplied about half of China's hardwood logs and most of its tropical logs. Between 2011 and 2020, China imported 82 million m³ RWE of timber from conflict-affected source countries. Most of China's timber imports from countries with conflict risk — including roughly half of China's hardwood log imports and most of its tropical log imports — were sourced from PNG, Solomon Islands, Laos, Cameroon, Republic of the Congo, and Mozambique. Figure 14 shows the top ten FCS countries supplying timber to China, five of them classified as "high institutional and social fragility" and the rest as "medium-intensity conflict." The proportion of China's total timber product imports sourced from conflict states was small at 7% of total timber imports by volume. However, it was 12% by value, signifying the overlap between countries with active conflict or fragility and those supplying high-value timber species.
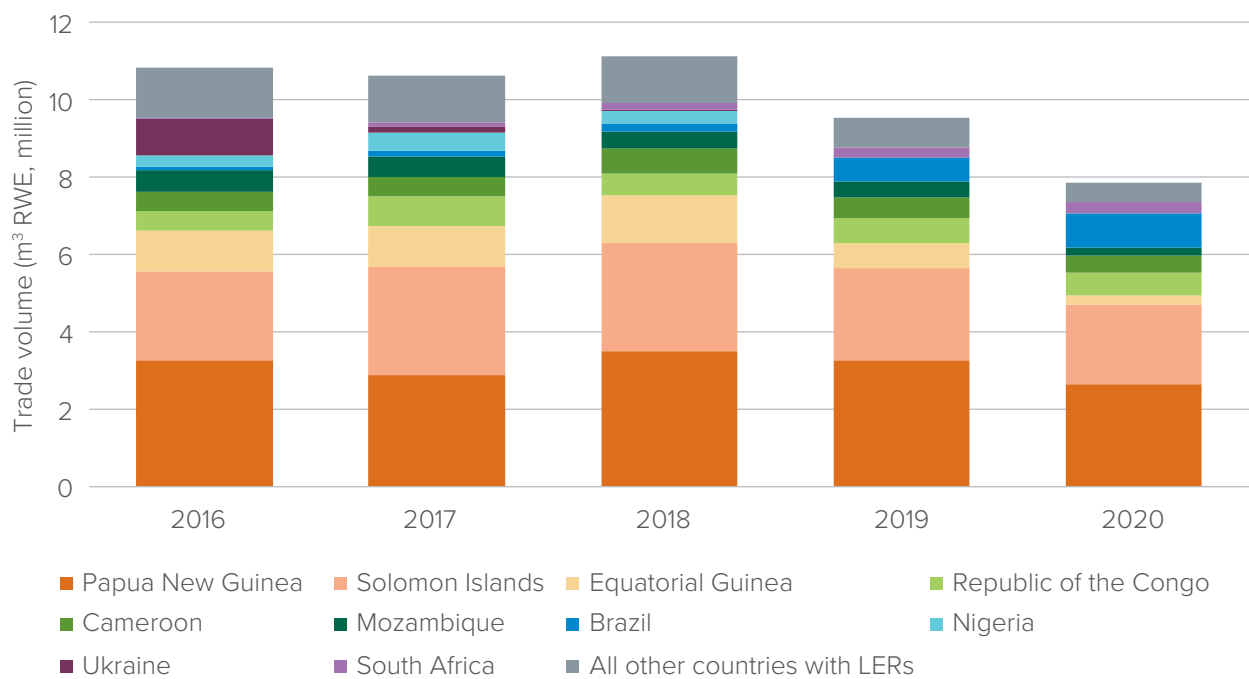
Forest Product Export Restrictions (FPERs)

Forest Product Export Restrictions (FPERs) range from comprehensive bans on all raw or crudely processed forest products, to more narrow, partial restrictions targeting certain types of timber, specific tree species, or distinct regions of harvest. Wording is often ambiguous, and there are many exceptions granted. For this reason, it can be difficult to determine whether the import of timber from an FPER country is illegal.

Figure 14 | China's imports from countries classified under the World Bank's FCS List, 2011-2020

Export volume (m³ RWE, million)

■ High Institutional and Social Fragility   ■ Medium Intensity Conflict

Figure 15 | China's log imports from countries with log export restrictions (LERs), 2016-2020

Trade volume (m³ RWE, million)

■ Papua New Guinea   ■ Solomon Islands   ■ Equatorial Guinea   ■ Republic of the Congo
■ Cameroon   ■ Mozambique   ■ Brazil   ■ Nigeria
■ Ukraine   ■ South Africa   ■ All other countries with LERs

Nevertheless, the presence of an FPER signals a need for additional risk assessment and mitigation to ensure that imports from that country are not illegal. In 2020, China imported about 8 million m³ of logs from 40 countries with full or partial LERs, 13% of its total log imports. The main sources with LERs were PNG, Solomon Islands, Brazil, Republic of the Congo, and Cameroon. Although the import volume from LER countries fell about 30% from 2018 to 2020 (Figure 15), the proportion of China's hardwood log imports from countries with LERs remained about the same.

The fall in import volume from LER countries did not necessarily equate to a lower illegality risk because many sources have reduced their log exports in a gradual move to value-added processing, a trend reflected to some extent in Figure 16. This shows that China's sawnwood import volume from countries with SERs nearly doubled from 2016 to 2020. As China's fourth main source of softwood sawnwood in 2020, Ukraine was the most prominent source country with an SER.

Figure 16 | China's sawnwood imports by volume from countries with SERs, 2016-2020
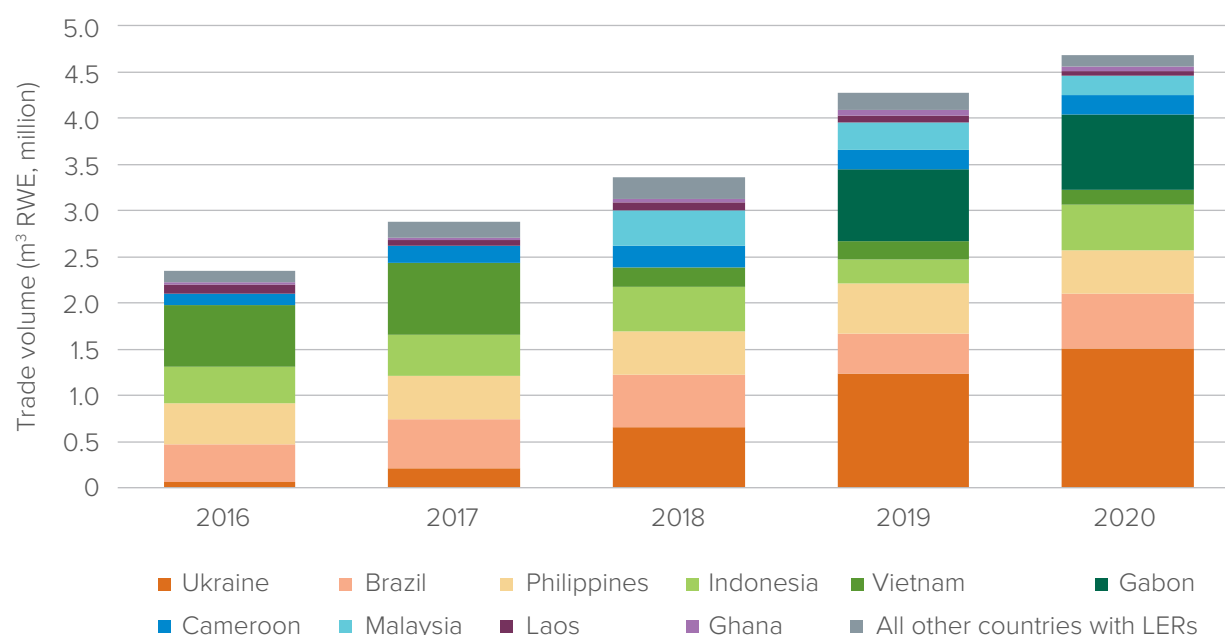
High-risk species

Published studies conclude that a high proportion of China's imports of timber from natural forest species was high risk from 2011 to 2020. The highest-risk species and corresponding source countries are listed in Table 3. Even for softwood species, there was a high risk if the source country was Russia. There is evidence that laundered timber from the RFE and Ukraine has been falsely declared as harvested in northern Europe, North America, and even China (Pillet and Sawyer 2015). In 2016, a US company (Lumber Liquidators, Inc.) was sentenced under the Lacey Act for importing wood illegally logged in the RFE, manufactured into flooring in China, and shipped to the US under false declarations of origin. This section highlights timber legality risks related to two geographies (Myanmar and the RFE), and one species group (rosewood).

Table 3 | High-risk species imported by China

| Species	Source countries with documented risk
Temperate softwoods	
Pine (*Pinus* spp.)	Russia
Larch (*Larix* spp.)	Russia
Temperate hardwoods	
Oak (*Quercus* spp.)	Russia, Ukraine
Birch (*Betula* spp.)	Russia
Ash (*Fraxinus* spp.)	Russia
Beech (*Fagus* spp.)	Russia, Ukraine, Romania
Tropical hardwoods	
Rosewood (*Dalbergia* and *Pterocarpus* spp., and others)	Nigeria, Sierra Leone, Ghana, Gambia, Guinea-Bissau, Madagascar, Senegal, Zambia, Laos, Indonesia, Vietnam, Myanmar, Panama, Guatemala, Costa Rica, Belize
Ebony (*Diospyros* spp.)	Madagascar
Teak (*Tectona grandis*)	Myanmar
Merbau (*Intsia* spp.)	Papua New Guinea, Solomon Islands, Indonesia
Taun (*Pometia* spp.)	Papua New Guinea, Solomon Islands
Bintangor (*Calophyllum* spp.)	Papua New Guinea, Solomon Islands
Okoume (*Aucumea klaineana*)	Equatorial Guinea, Gabon, Republic of the Congo
Sapelli/Sapele (*Entandrophragma cylindricum*)	Cameroon, Democratic Republic of Congo
Afromosia (*Pericopsis elata*)	Cameroon, Republic of the Congo, Democratic Republic of Congo, Ivory Coast, Ghana, Nigeria
Ipe "Brazilian walnut" (*Tabebuia* spp.)	Brazil
Jatoba "Brazilian cherry" (*Hymenaea courbaril*)	Brazil
Cumaru "Brazilian teak" (*Dipteryx odorata*)	Peru

Source: Forest Trends 2021

Myanmar: China's imports from Myanmar have a documented history of links to illegal logging, and have increased since the February 2021 coup. Commercial logging has been a significant driver of deforestation in Myanmar; the country has lost 27% of its forest since 1990, and much of this forest loss has been illegal or unreported. The illicit shadow economy poses a clear risk to Myanmar's forests and citizens. But more broadly, it has undermined state revenue (and the funding of government services), rule of law, and efforts at peacebuilding during the world's longest-running civil war. Illegal trade has also undermined the ability of the Myanmar timber sector to access more lucrative, but discerning markets, such as Europe and the US. In 2018, the European Commission instituted a common position that teak imports from Myanmar could not meet the requirements of the EUTR.

Myanmar has been vastly underreporting production and trade for years. According to India and China Customs data, cross-border trade has been seven times higher than exports reported by Myanmar agencies. Measures put in place during Myanmar's period of democratic rule (2011-2020) appeared to be somewhat successful, with China Customs data indicating a virtual elimination of imports of raw logs from Myanmar by 2017 following Myanmar's 2014 LER.

The largest inflows of foreign currency to the current military junta have been from the natural resource sectors, including forestry. In response, the EU, US, Switzerland, and Canada have sanctioned the Myanma Timber Enterprise, the state-owned enterprise with a monopoly on Myanmar's forest sector. China, on the other hand, has taken a largely non-interventionist stance. China's imports from Myanmar increased 35% by value from 2020 to 2021, despite the coup and border closures due to COVID-19. The officially reported volume, however, dropped by 27%, mainly due to a dramatic decrease in imports of low-value charcoal (Figure 17). Excluding charcoal, both the volume and value of forest products imported increased year-on-year (by 68% and 84%, respectively).

Figure 17 | China's timber product imports from Myanmar, 2020 vs. 2021
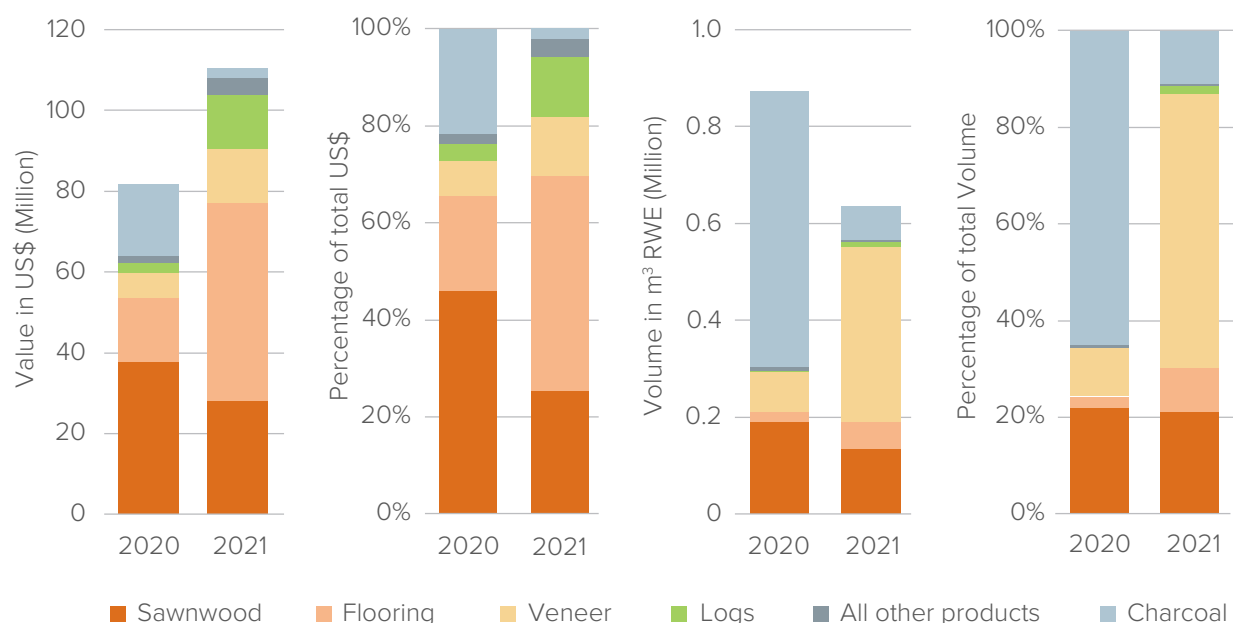
Russian Far East: Using 2013 data, the UN Environment Programme World Conservation Monitoring System (WCMC) estimated that 80% of the "precious hardwood" (especially Mongolian oak) from the RFE and Siberia was harvested illegally, and that China was importing over 95% of the RFE's hardwood exports (UNEP-WCMC 2018). This trade was facilitated by Chinese-owned sawmills in Russia that used falsified documents and bribes. In the US, Lumber Liquidators had to pay a US$13 million fine for importing oak flooring from China that was proven to be RFE timber (USDOJ 2016).

Many species imported from Russia, especially from the RFE, such as larch, Mongolian Scotch pine, birch, basswood, oak, and ash, were similar to those grown in Northeast China; some of China's exports of supposedly low-risk nationally produced timber may have been from the RFE. Six species (Mongolian Scotch pine, Korean pine, fir, spruce, larch, and birch) comprised 90% of China's log imports from Russia in 2019. The EU responded in early 2021 to the high risk attached to RFE softwoods (as well as hardwoods) by introducing permanent import duties (instead of temporary ones) on birch plywood from Russia (EU 2021).

Russia has made a commitment to implement a ban from January 2022 on the export of softwood logs and high-value hardwood logs, as well as to place very high export taxes on green lumber, in a renewed bid to support its wood processing industry (Wood Resources International 2021). This was met with a complaint from EU to the World Trade Organization (WTO) (Reuters 2022). Since Russia's invasion of Ukraine in February 2022, FSC has suspended all trading certificates in Russian wood, and the Programme for the Endorsement of Forest Certification (PEFC) has stated that all Russian timber was "conflict timber" and could not be used in any PEFC-certified products (PEFC 2022). The UK has also imposed a 35% tariff on Russian timber. These measures will have major implications for global log and sawnwood prices and for China as the largest economy that has not imposed financial sanctions on Russia.

Rosewood (*hongmu*): Rosewood has become the world's most trafficked group of endangered species, with a global seizure value surpassing that of ivory, rhino horn, and big cats combined (Zhu 2019). This is almost entirely attributable to growth in demand from China over the past two decades. A large body of evidence from Forest Trends (2015) and others has demonstrated illegalities in rosewood supply chains, including harvesting in contravention of national laws, smuggling, transshipment, and documented links to corruption and conflict.

China has classified 29 rosewood species as *hongmu* (redwood), codified in the 2017 National Hongmu Standard.[7] The Standard was legally enforceable in relation to product marketing claims and has played a key role in guiding the choice of materials in rosewood product manufacturing and consumption. Seventeen of the 29 species were also CITES-listed. China's trade of *hongmu* was analyzed as species classified under the Standard because these are also codified under several 8-digit Harmonized Tariff Schedule (HS) codes by China Customs.[8]

Publicly available evidence reveals a very high risk of illegality at several points in the *hongmu* supply chain. In addition, many source countries, including all the main African suppliers, Nigeria, Sierra Leone, Ghana, Mali, and Gambia, had LERs in place.[9] China's imports of *hongmu* timber have been volatile over the last decade (Figure 18). According to China Customs data, from 2011, *hongmu* imports rose threefold

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[7] For a full list of *hongmu* species classified by China, see https://www.forest-trends.org/publications/rosewood-species-classified-as-hongmu-under-chinas-revised-2017-standard/.

[8] Logs: 44034980, 44039930; Sawnwood: 44072940, 44079910; Furniture: 94035010, 94036010

[9] For example, the LERs of Nigeria (from 1976), Sierra Leone (2008), Ghana (2014), Mali (2000) and Gambia (2017). In 2014 Nigeria also banned logging in Taraba State, where most *Pterocarpus erinaceus* comes from, and Ghana introduced a rosewood logging ban (EIA 2017).

in volume to a peak in 2014, recognized as the *hongmu* "boom and bust" year. Imports then fell sharply in 2015 before recovering to a second peak in 2017 from which they continued to decline; in 2020, China imported 461,000 m³ RWE of *hongmu* timber – 27% less than in 2011.

Figure 18 | China's imports of *hongmu* logs and sawnwood (combined) by source region by volume 2011-2020
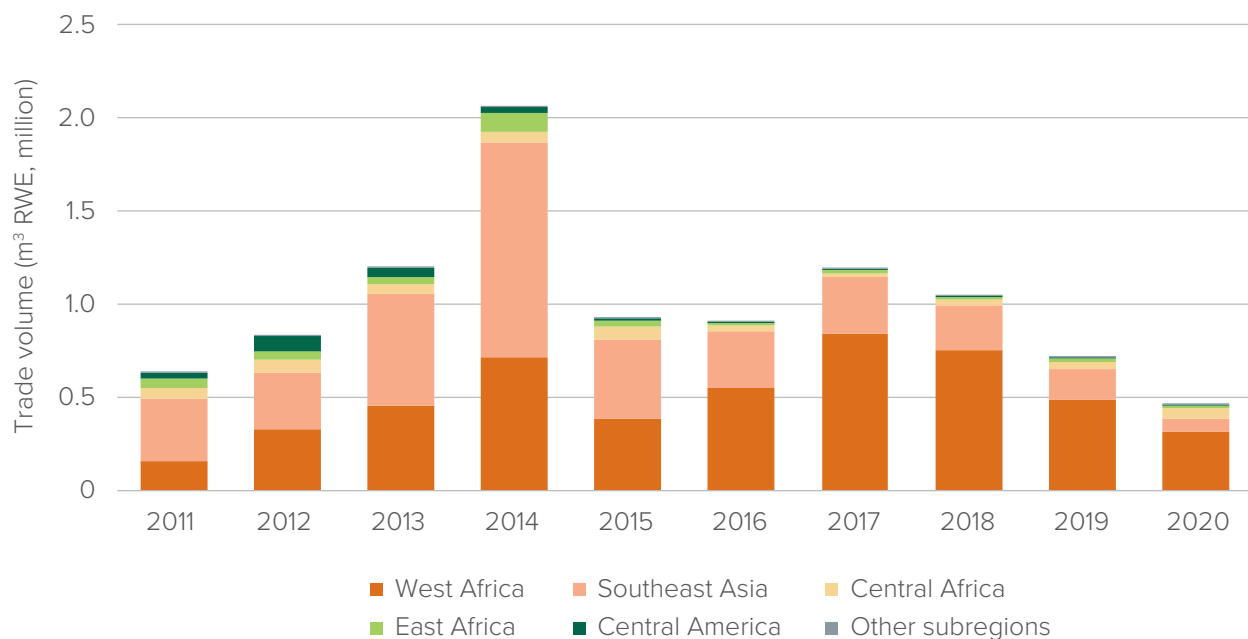
Until 2015, most *hongmu* timber was from Southeast Asia, predominantly the Mekong countries – in the 2014 peak year, Southeast Asia supplied 56% of China's imports (by volume). Since 2015, however, Africa, especially West Africa, has been the main source region. The supply of Southeast Asian *hongmu* plummeted – the import volume from Southeast Asia fell sixteenfold from 2014 to 2020. By 2020, Africa was supplying 83% of China's rosewood (by volume), while Southeast Asia supplied 15%. The volume sourced from Africa also fell since 2017, but much less dramatically.

In line with the regional shift, the (generally) higher value rosewoods (e.g., *Pterocarpus macrocarpus*, *Dalbergia cochinchensis Pierre*, and *Dalbergia oliveri Prain*) have been substituted by lower value species like *Pterocarpus erinaceus* (or kosso), *Dalbergia melanoxylon Guill. & Perr* (African blackwood), *Diospyros crassiflora Hiern* (African ebony), and *Millettia laurentii De Wild*. (Wenge). Kosso has been reported as the most-trafficked species in the world, flora or fauna (EIA 2017).

Transshipment risk

Associated with the US-China trade war, it has been widely alleged that Vietnam, Malaysia, and Cambodia have been used as transit countries for China's timber exports to the US, thereby allowing Chinese producers to circumvent high tariffs or duties, especially anti-dumping and "countervailing subsidy" duties. The US has made several efforts to crack down on fraudulent labelling, including via the 2021 "Agreement Between the United States and Vietnam to Resolve Timber Section 301 Investigation."

There have now been two successful prosecutions by US Customs and Border Protection (CBP) in cases involving imports of kitchen cabinets from Malaysia and Vietnam. The Vietnam case, decided in January 2022, was particularly significant – it was ruled that it was fraudulent to label the cabinets "made in Vietnam" since most of their value came from Chinese components (CBP 2022). This judgement has made it harder for transshipment protagonists to use a strategy of reassembling products in the transit country with a mix of Chinese and transit country materials to confuse the country of origin. The US importer in this case was also made retrospectively liable for millions of dollars of evaded duties/tariffs, thereby sending out a strong signal to other would-be transgressors (Adams 2022).

Figure 19 | Vietnam's timber product imports from China, 2016-2020 (L) & exports to the US, 2015-2020 (R)
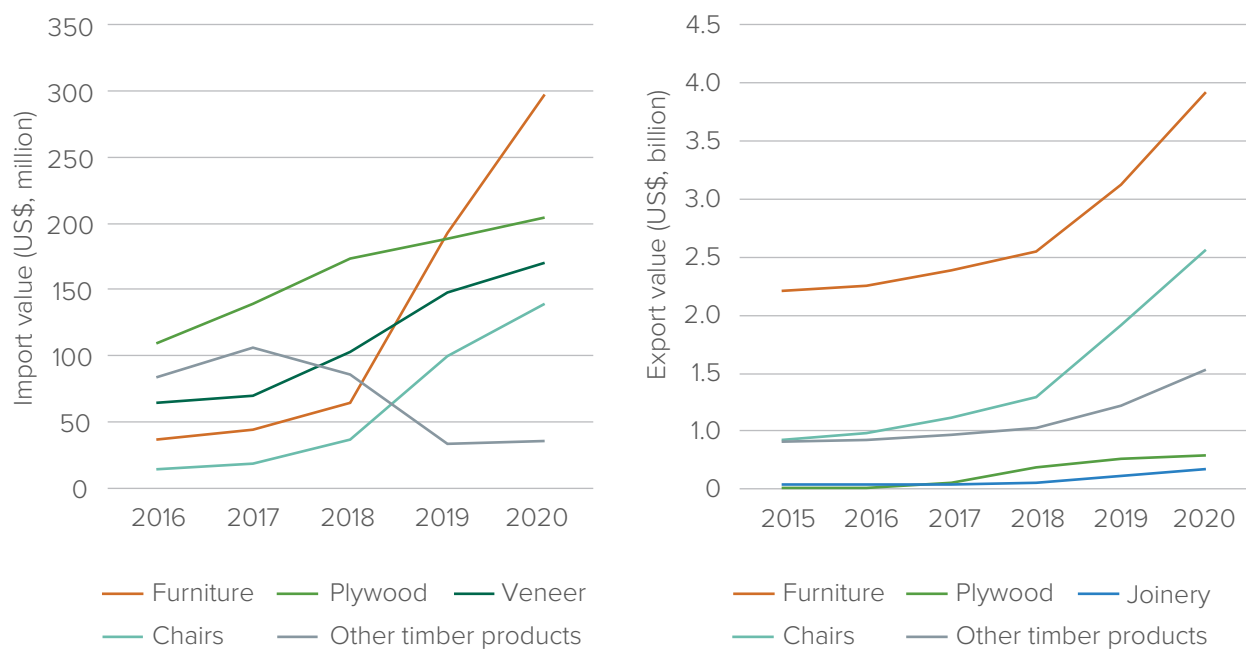

Source: Forest Trends, VIFOREST, FPA Binh Dinh, HAWA & BIFA Research Team.

An analysis using Vietnam Customs data also found that, after 2018, there were very sharp increases in Vietnam's imports of furniture and seats from China and US imports of these items from Vietnam.[10] Key informants in Vietnam, however, suspected that transshipment items were hidden away in smaller or more obscure import product categories (Forest Trends 2022).

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[10] For more details see US Customs and Border Protection (CBP) finds Chinese timber products fraudulently sold in US as "made in Vietnam" in order to evade tariffs (Forest Trends 2022).

Figure 20 | Percentage change in Vietnam's Imports from China, 2017-2020
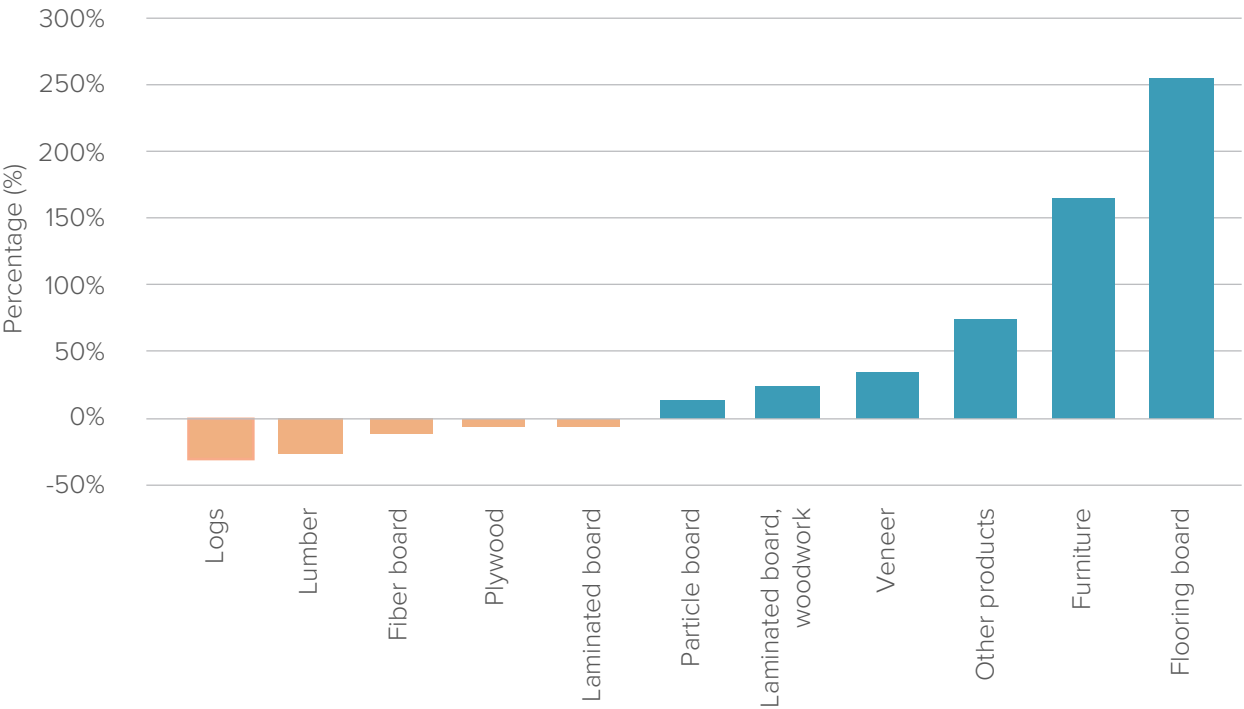
5   Conclusion

China has positioned itself as a global leader in mitigating climate change, conserving biodiversity, and addressing the inherent environmental challenges of economic development. As the world's largest emitter of greenhouse gasses, the Chinese government was instrumental in negotiating the Paris Agreement under the UN Framework Convention on Climate Change and President Xi Jinping has pledged to peak emissions before 2030 and reach carbon neutrality by 2060. It is now widely recognized within the Chinese policy community that these goals will not be met without reducing deforestation; indeed, China's history of domestic forest conservation initiatives has been largely successful.

Policymakers in China are increasingly reflecting on the impact of overseas investment and trade on forests, particularly tropical forests. The past decade has seen several bilateral agreements signed with producer countries (Myanmar, Laos, Gabon, and Cameroon). China has also announced voluntary guidelines on overseas investment and sourcing, private sector action, including pilots of the CTLVS, and checklists to assess and mitigate legality risk, indicating a growing consensus that China must play a strong role in eliminating illegal logging and deforestation worldwide.

However, the data presented in this report reiterate the need for China to move beyond voluntary measures towards sound and enforceable regulation. The volumes of high-risk timber imported by China are associated not only with deforestation, but with *illegal* deforestation, in violation of producer countries' sovereign laws and regulations. The above-mentioned commitments and initiatives, while promising, have failed to reduce legality risk in China's forest product imports at scale.

Unlike the US, EU, UK, Japan, Republic of Korea, Indonesia, Vietnam, Malaysia, and Canada, China has not passed mandatory legislation to ensure that forest product imports are of legal origin, nor does it require traceability of wood products through its supply chain. The size and nature of China's wood processing industry means that timber is regularly mixed from multiple sources with no obligation to trace back to the point of harvest or verify legality thereof. The supply chains of raw wood material, particularly imported material, manufactured within China into secondary products such as plywood, veneer, and furniture for export markets, remain poorly understood, with tracking of specific supply chains or use of scientific testing in the enforcement of timber trade legislation limited to ad hoc investigative studies. Therefore, tracking any material remains a challenge, let alone high-risk material sourced from tropical forested countries, processed in China, and ultimately exported.

However, there is a major opportunity to change the status quo through effective implementation of a new legal instrument. China's (revised) 2019 Forest Law aims at "protecting forest resources, promoting sustainable development, and contributing to ecological civilization." Article 65 of the Forest Law states that "no operator or individual may knowingly purchase, process, or transport timber of illegal sources" and requires all timber operators and processors to keep a standing book or ledger for entry and exit of raw materials and timber products (ClientEarth 2020). Implementing regulations (secondary legislation), currently under development, should be grounded in a due diligence requirement, with clear enforcement responsibilities and dissuasive penalties for non-compliance.

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