

The Vietnamese Furniture Industry: A Trade Discrepancy Analysis

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Key Takeaways

- This Trade Discrepancy Analysis (TDA) identifies significant and consistent discrepancies in the reported values of wood imported into Vietnam and wood products exported by Vietnam into the international market.
- TDA does not prove the existence of illegal activities, and discrepancies can be the result of simple reporting errors. But consistent value gaps represent red flags that can be useful starting points for in-depth investigations to interrupt any underlying illegal or corrupt activities.
- While recent changes such as the 2019 Vietnamese Voluntary Partnership Agreement with the European Union may improve the situation, available data shows discrepancies that indicate under-reporting of high-risk timber imports into Vietnam as well as significant differences in the reported values of various furniture exports. These differences cannot be explained by standard variables in import and export costs and can potentially be used to disguise illicit movement of money around the world.
- Imprecise classification of imported items hinders enforcement of restrictions to the trade in specific species or commodities, enabling illegal trade to continue. This is especially true in Vietnam's trade with African and other South-East Asian partners.
- Multiple data sources indicate potential transshipment of Chinese furniture through Vietnam. The fact that China also acquires an important proportion of its raw wood from at-risk countries means that this potential transshipment may also be contributing to the illegal trade in timber.

Key Terms

Trade Discrepancy: Trade discrepancy represents the difference between the trade value recorded by the importing country and that recorded by the exporting country. Trade discrepancies can be the result of simple reporting errors, or data aggregation methods. But they can also evince trade mis-invoicing, which is common practice in other illegal activities and closely linked to corruption (TraCCC 2020).

Trade Mis-invoicing: The illicit act through which any of the parties involved in an international transaction manipulate the value (or volume, quantity, or quality) of a shipment in their customs declarations. Cases in which the value is fraudulently increased are referred to as over-invoicing, and artificially decreasing the value is known as under-invoicing.

Harmonized System (HS) Codes: The HS is a standardized numerical method of classifying traded products managed by the World Customs Organization (WCO). Customs authorities around the world use HS codes to identify products when assessing duties and taxes and for gathering and reporting statistics. The United Nations uses these data to publish the International Trade Statistics Database (UN COMTRADE).

1. Vietnamese Wood and Furniture Sectors and their Environmental Significance

The Vietnamese wood processing sector has experienced an impressive growth rate over the past two decades. During this time, export turnover (the sum total of the value of final products exported) expanded six-fold, from under USD 2 billion in 2005 to a total of over 12 billion in 2020. Such great evolution has turned the Vietnamese wood and wood processing sectors into key players in the international markets for raw materials and furniture exports. However, available data show that Vietnam continues to buy most of its raw wood from countries that do not meet the criteria to be classified as non-risk regions (Xuan To, Thi Cam, and Le Hhuy 2020). This success story therefore shows that furniture bought by industrialized economies still has an important chance of being produced with at-risk timber.

Vietnam's furniture industry is currently one of the top-ten economic sectors in the country, bringing some of the highest export turnover to the country (MARD 2017). Official goals for expansion are for the sector to reach a total of USD 20 billion by 2025 (O. Polyanskaya et al. 2021). Export figures are expected to be boosted by the recent entry into force of trade agreements with the European Union and the United Kingdom. The industry is comprised of about 5,000 local and foreign direct investment (FDI) enterprises, which directly employ over half a million workers (Vo and Nguyen 2020), in addition to the more than one million households involved in afforestation and other forestry activities (MARD 2019).

Although historically an important factor, but particularly since 2019, FDI has played a key role in the impressive expansion of the industry and the positive growth of the economy altogether. In 2019, Vietnam's wood processing industry welcomed 99 new investment projects, with total registered capital reaching USD 726 million. This was 48 percent more projects and 170 percent more investment capital than the previous year. In 2019, FDI firms were responsible for an estimated USD 5 billion in exports, an increase of about 25 percent over 2018, and for approximately 50 percent of the country's total wood and wood product exports. The top five investing economies responsible for this impressive growth were China, Taiwan, Hong Kong, the British Virgin Islands, and South Korea (Vo and Nguyen 2020).

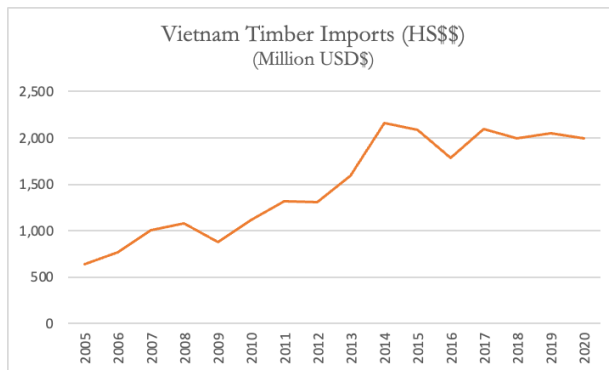


Fig. 1



Fig. 2

Globally, Vietnam's wooden product exports represent about 6 percent of the world market share (Nhat Minh - Anh Ngoc 2020). After China, Germany, and Italy, Vietnam is considered as the fourth largest furniture-exporting country in the world, and the leading among developing countries (Vu et al. 2019). Concurrently, it is one of the main buyers of raw wood around the world, and the largest buyer among developing economies. Figure 1 shows the growth of Vietnam's timber imports since 2005, and Figure 2 shows the growth of its furniture exports since the same year.

Most of this raw material imported from abroad has historically come in the form of wood in the rough (HS4403) and sawn wood (HS4407). It has also tended to come from tropical areas that do not meet the criteria to be classified as non-risk regions. In recent years, the main source countries of this wood have changed, but an important portion of raw wood imported by Vietnam still comes from at-risk regions (Xuan To, Thi Cam, and Le Hhuy 2020) (Figure 3).



Vietnam Exports HS94 in USD\$Millions
2005-2020

Year	USA	Japan	UK	France	Netherlands	Germany	Australia	Korea	China
2005	600	0	0	0	0	0	0	0	0
2006	750	0	0	0	0	0	0	0	0
2007	1000	0	0	0	0	0	0	0	0
2008	1200	0	0	0	0	0	0	0	0
2009	1300	0	0	0	0	0	0	0	0
2010	1500	0	0	0	0	0	0	0	0
2011	1600	0	0	0	0	0	0	0	0
2012	1800	0	0	0	0	0	0	0	0
2013	2000	0	0	0	0	0	0	0	0
2014	2200	0	0	0	0	0	0	0	0
2015	2700	0	0	0	0	0	0	0	0
2016	2900	0	0	0	0	0	0	0	0
2017	3300	0	0	0	0	0	0	0	0
2018	3900	0	0	0	0	0	0	0	0
2019	5700	0	0	0	0	0	0	0	0
2020	8400	0	0	0	0	0	0	0	0

Fig. 4

¹ For example, in 2020 the US bought approximately 40% of all its international wooden furniture from Vietnam.

2. What Is a TDA and How Is It Done?

TDA compares the reported bilateral export flows of one country to the respective reported import flows of the partner country. Ideally, the value of the two trade statistics should differ by the cost, insurance, and freight (CIF), which is reported by the importing party. Discrepancies can also arise due to valid logistical or statistical reasons, such as exchange rate volatility (both between trade partners and vis-à-vis the currency reported in the United Nations International Trade Statistics Database), uncertainty in terms of the quality, destination mismatches, different classifications for the same good, and/or lagged reporting and currency valuation (UNCTAD 2020).

However, mismatches between the exporting and the importing reports can also be result of deliberate trade mis-invoicing (UNCTAD 2020), a key method for illegal movements of value across borders, commonly known as illicit financial flows (IFFs). When this is the case, trade discrepancies can evince money laundering (GAO 2020), capital control evasion (Liu, Sheng and Wang), subsidy abuse (Schuster, Carlotta, and Davis 2020; Pardo-Herrera 2021), or tax evasion (Das, Meriluoto, and Rice 2020). Although it is not necessarily definitive, trade discrepancy analysis is a useful method to identify red flags related to potential cases of trade mis-invoicing, the related illegal activities that drive those cases, and the corruption that enables both.

This analysis uses data accessed through UN COMTRADE, which consolidates the annual reports that over 170 countries provide on their yearly trade and details the commodities by categories (HS Codes) and partner countries. Data on margins between free on board (FOB) and CIF come from the OECD Database on International Transport and Insurance Costs (ITIC), which details the bilateral, product-level international trade and insurance costs for individual products by HS codes.²

The study analyzes all HS codes for wood products (HS44 to HS442199) imported by Vietnam between the years of 2010 and 2019, identifying the most important timber products in terms of their weight on the total value of wood imports. It focuses on imports of rough wood (4403) and sawn wood (4407). The brief also analyzes all HS codes for furniture (HS94 to HS940690) exported by Vietnam during the same period of time, and focuses on those made with wood (HS940161, 940169, 940330, 940340, 940350 & 940360). Given the lack of consistent data on quantities and weight of traded goods, this trade gap analysis focuses only on discrepancies in value.

Countries exporting wood to Vietnam were selected through a desk review primarily based on internet news outlets, as well as general internet sites in English and in Vietnamese that reported accounts of illegal timber coming into Vietnam. Countries importing furniture from Vietnam were selected because they are the main trade partners.³ The analysis included all pairs of countries having consistent reports of both import and export transactions and focused on discrepancies that interrupt otherwise stable patterns of trade. Consequently, pairs of countries without consistent reporting were left out of the study. Results of data analyses were validated and complemented with nine semi-structured interviews with highly respected individuals whose work is directly related to forestry management in the region and the analysis of the international timber market.

² Data for years 2017-2020 were estimated as an average of the values of the previous 5 years.

³ See Annex 1 for list of countries included in the analysis.

3. What Are the Main Findings?

General trends in Vietnam's wood imports

As stated, Vietnam imports most of the raw materials it uses for its furniture industry. Most of these imports are wood in the rough (HS4403) and sawn wood (HS4407), which together make up for over two thirds of timber imports for any given year (Figure 5).

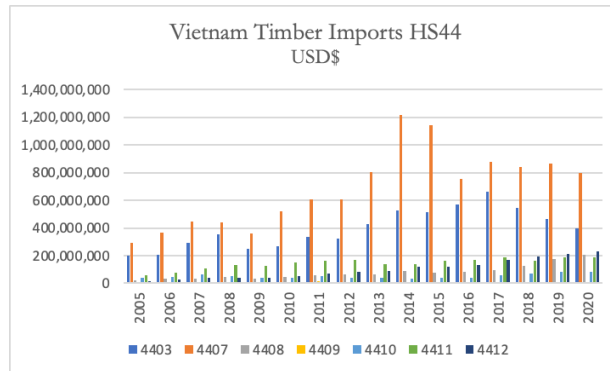


Fig. 5

Although Vietnam has diverted to other sources in recent years, the proportion of wood coming from at-risk countries is still considerable, and some of these countries continue to be top-five sources of raw material. (Figure 6). For example, since 2015, most of the wood in the rough (HS4403) Vietnam imported came from Cameroon, a country whose illegal timber production has been estimated to reach 65 percent of national production (Hoare 2015), making its timber industry an important potential source of illegal timber (EIA 2017, EIA 2020).

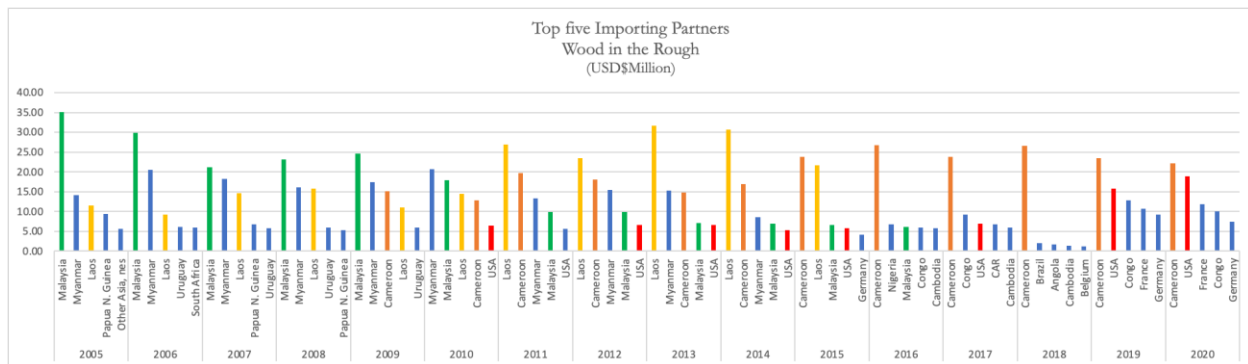


Fig. 6

A similar trend can be identified in terms of sawn wood (HS4407). Although the US has been the main provider since 2016, important quantities are still imported from Cameroon, Laos, Cambodia, and Gabon, all of which are countries that do not meet the criteria to be classified as non-risk regions (Xuan To, Thi Cam, and Le Hhuy, 2020) (Figure 7).

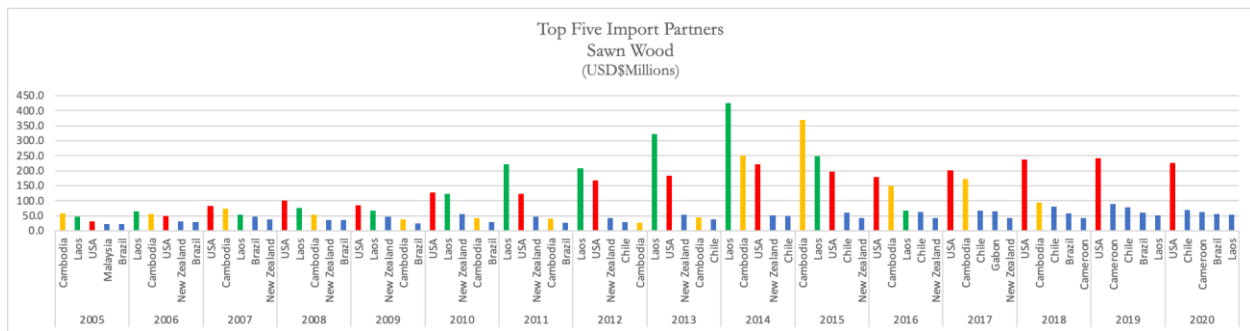


Fig. 7

Trade discrepancies in Vietnam wood imports

Significant trade discrepancies are identified in the trade in rough wood (HS4403) imported by Vietnam from Cameroon (Figure 8), Laos (Figure 9), and Congo (Figure 10). The values of imports have generally been higher than the reported values of exports.⁴ Given the size of the bilateral trade, the largest gaps correspond to exchanges with Cameroon and Laos, but in relative terms, the gap with Congo reaches even higher proportions.

The largest gap in the case of Cameroon took place in 2016 and reached a total of USD 90 million. In the case of Congo, the largest discrepancy is identified in 2018, when Vietnam reported USD 66 million in excess. Differences with Laos peak in 2014 when they reach almost USD 150 million.⁵ Together, the gap with these three countries between 2010 and 2019 amounts to USD 1.2 billion.

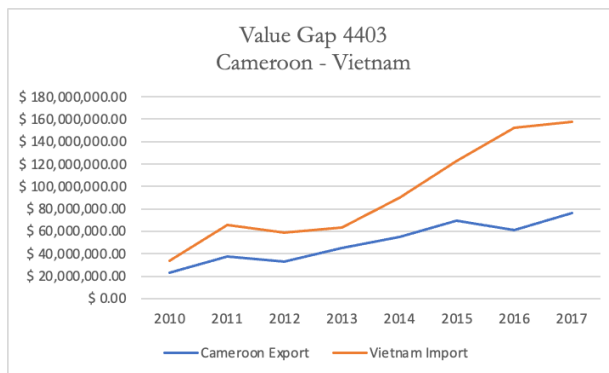


Fig. 8

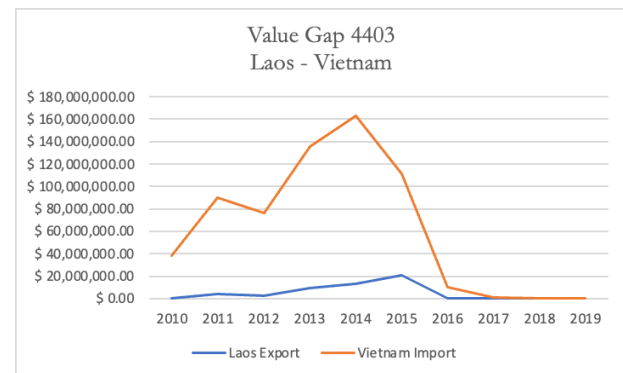
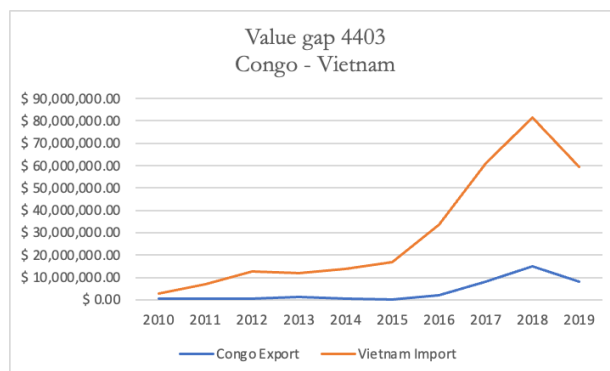


Fig. 9



⁴ Although only pairs of countries with consistent reports are shown here, most imports by Vietnam show this pattern. Note that Cambodia was not included in the HS4403 analysis due to a lack of consistent bilateral data.

⁵ Trade with Laos significantly decreased after 2014, due to the fight against illegal timber trade and the export ban imposed by the Lao government in 2016.

Fig. 10

The trade in sawn wood (HS4407) shows the same pattern, with imports having higher values than what the exporting countries reported. In this case, the differences between Vietnam and Laos (Figure 11), Cambodia (Figure 12), Cameroon (Figure 13) and Congo (Figure 14), go beyond USD 2.8 billion. Of special interest are the cases of Laos, which show extremely high differences between 2012 and 2016, and the case of Cambodia, whose gap in 2015 is over USD 350 million.

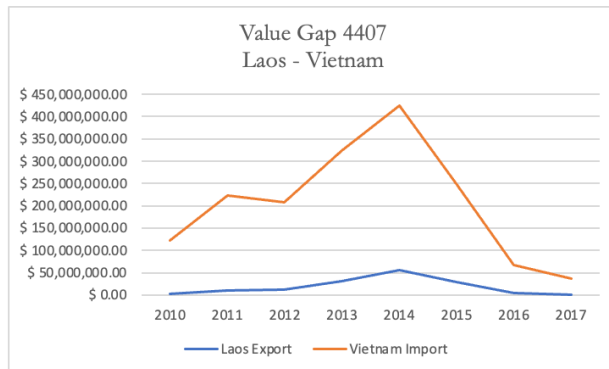


Fig. 11

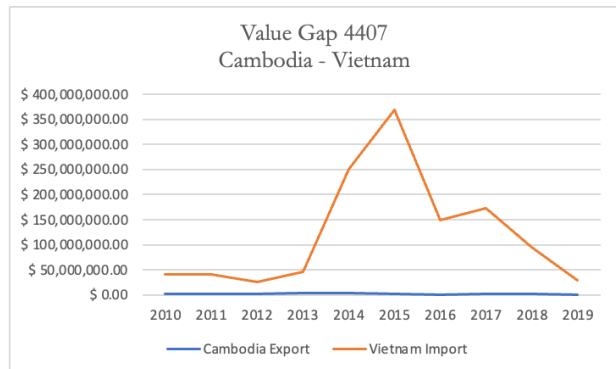


Fig. 12

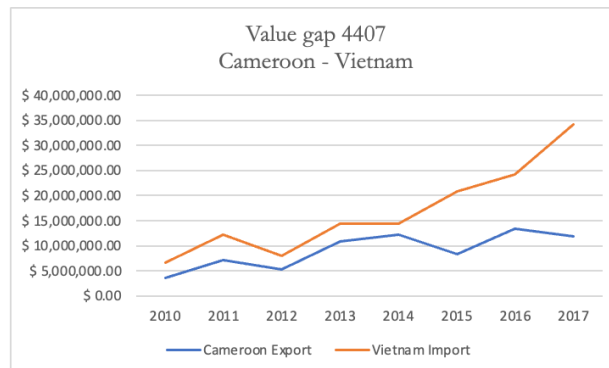


Fig. 13

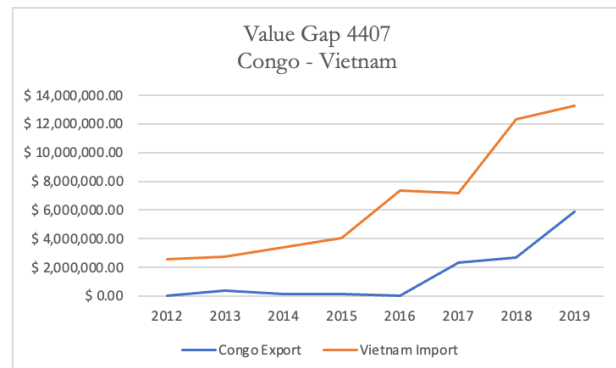


Fig. 14

When imports are “over-valued” relative to the exports, more money is sent out of the country than goods are received. This can be used to avoid capital controls and disguise capital out-flows as a form of trade payment (WCO 2018). By overstating the value of the trade, importers send the excess funds to foreign accounts instead of paying for actual imports. Over-valuing imports can also be used to inflate production costs, which can lower a company’s tax liability. This practice can also be used to gain from black market premiums in the case of exchange rate distortions. Since money is moved through the international financial system at official exchange rates, when the black rate is favorable, overstating the payments will allow to gain from the over-valued payment at the country of destination. Although not entirely illegal, these transactions can be used to launder the proceeds of illegal activities since the funds bought in the black market have an unknown origin.

Vietnam has a heavily managed exchange rate that is largely fixed against the dollar. The Dong has traded within a relatively narrow band since 2018, whose cap and floor are determined by the State Bank of Vietnam through a combination of reserve changes and capital controls (USTR). The regulation of Vietnam’s foreign exchange is so rigorous that the country has faced charges of manipulating its currency (Department of The Treasury 2020). Although these charges were later dropped, models such as this produce distortions that create parallel exchange rate markets. Those

markets can fluctuate to produce differences large enough that traders can gain from them, which in turn may incentivize trading firms to mis-invoice (Biswas and Marjit 2005; Buehn and Eichler 2011).

From the other side of the trade, if the discrepancy is due to under-valued exports, less money is received than goods are sent. When this corresponds to a case of mis-invoicing, goods leave the country, but a portion of the payment is not reported and instead concealed in foreign accounts, thus enabling irregular capital flight. Artificially lowering the values of the transactions can avoid taxes, depriving governments of needed funds to promote development, and the practice can also be used to gain from fluctuations in foreign exchange markets. This issue of under-valuing exports has been identified in the trade of other commodities exported from Africa (UNCTAD 2019, UNCTAD 2020, Ndikumana and Boyce 2018).

Mislabeling of raw wood imported by Vietnam

A large percentage of the overall gap identified corresponds to the difference between imports and exports of HS440399 and HS440799. These are categories used to label anything that was deemed not to qualify as any of the other 28 HS4403 sub-categories, or as any of the other 24 HS4407 sub-categories. These discrepancies respond to the fact that while countries label their exports to Vietnam as with the corresponding HS codes, Vietnam reports most (when not all) of its raw timber imports using these two categories (Figures 15 and 16). This is especially true in its trade with African and other South-East Asian partners, and to a lesser extent in the trade with other countries.

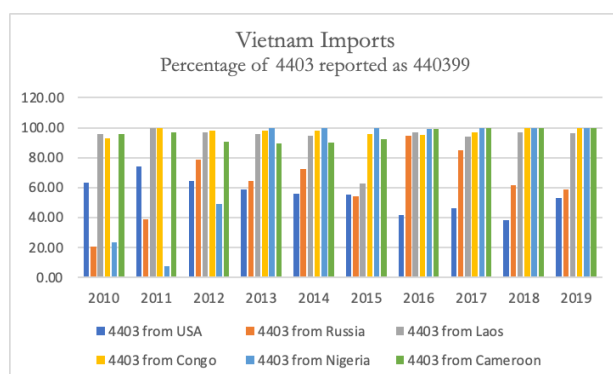


Fig. 15

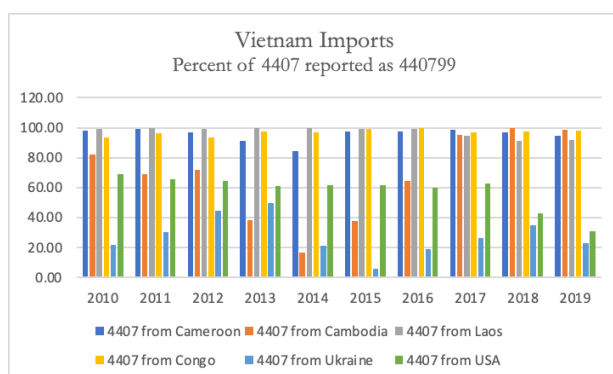


Fig. 16

This reporting can be explained by many factors. For one, it could be technically accurate; it could well be the case that there was no better classification for the commodities. But reporting errors are frequent, since most documentation in developing countries has some paper-based component at some point in the data reporting chain from the exporter/importer to the customs agency, or from customs agency to the digital file ultimately reported to UN COMTRADE. This type of reporting can also correspond to a short-staffed or poorly-resourced customs service. Or, as one of the interviewees put it, it could simply be that customs agents are apathetic, and instead of determining the type of commodity that is being traded, they label everything using the all-else categories to speed up the process. This could particularly be the case for over-valued imports, which pay more taxes or duties, so are of less interest to and therefore receive less scrutiny from custom agents.

However, it is not clear why this consistent poor reporting would take place only with timber coming in from certain countries. As the figures show, most (if not all) raw wood coming from other Asian or African countries, is categorized as HS440399 and HS440799, whereas imports from other countries (with more customs infrastructure, staffing, and capacity) like the USA, Russia, or Ukraine, show a different dynamic in reporting. For example, while 22 percent of sawn wood imported from Ukraine in 2019 was labeled using the ‘all else’ category, practically all imports from Cameroon (95

percent), Cambodia (99 percent), Laos (93 percent), and Congo (99 percent) were labeled using the HS440799 code that year (Figure 16).

This discretionary labeling and improper categorization makes it impossible to enforce restrictions to the trade in specific species or commodities. This is key, since countries showing poor labeling are the same in which most of those restricted commodities and species originate. In the same line, other potential issues, such as capital flight of money laundering, will be completely overlooked.

General trends in Vietnam's furniture exports

Vietnam had a longstanding reputation of producing high-end furniture products for the domestic market during the last decades of the twentieth century. However, the last 20 years have seen an enormous expansion in the country's furniture industry, making it one of the most dynamic currently operating in the world.

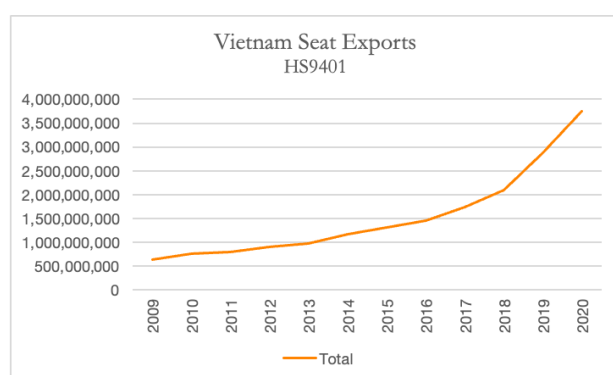


Fig. 17

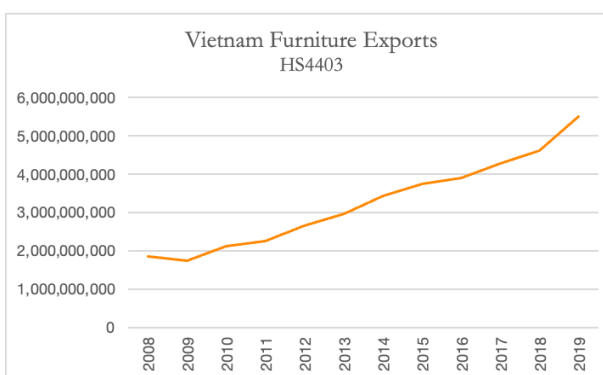


Fig. 18

Together, exports in seats (HS9401) (Figure 17) and furniture (HS9403) (Figure 18), make up over 90 percent of Vietnam's total furniture exports (HS94) any given year during the period under analysis (Figure 19). Most of those exports are of upholstered (HS940161) and non-upholstered seats (HS940169), along with wooden office (HS940330), kitchen (HS940340), bedroom (HS940350), and other furniture (HS940360).



Fig. 19

Practically all of the seats (9401) and furniture (9403) that Vietnam produces for the global market is destined to wealthy economies (Figures 20 and 21). In 2020, Vietnam replaced China as the world's largest exporter of furniture to the US, which now receives more than three fourths of total Vietnamese furniture exports.

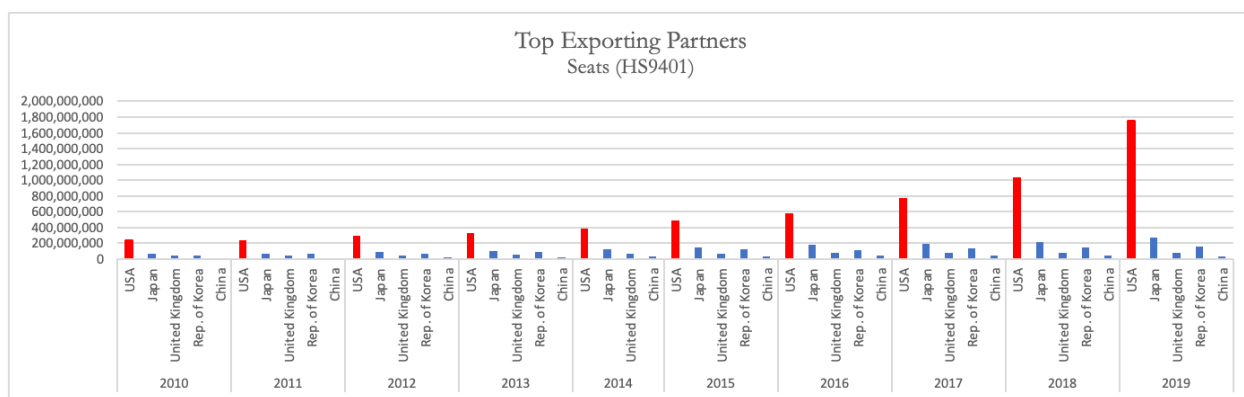


Fig. 20



Fig. 21

Trade discrepancies in Vietnam furniture exports

Statistics reported for Vietnamese exports show much more consistent trends than those of its imports. This is the case, for example, of the trade between Vietnam and Korea, which shows very consistent reporting by both countries (Figures 22 and 23).

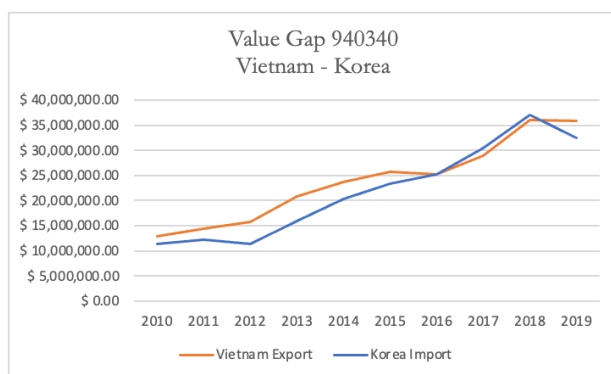


Fig. 22

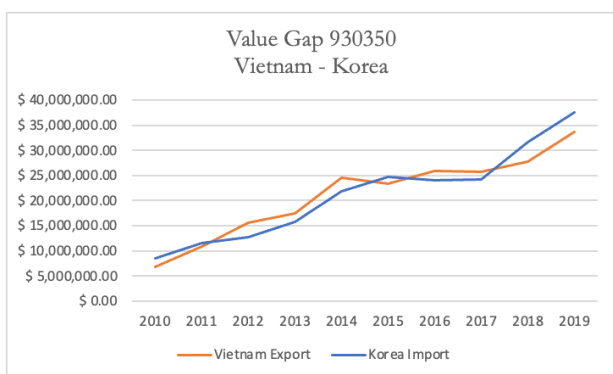


Fig. 23

Or the case of reporting between Vietnam and the US and the UK, which shows some discrepancies, but also shows very stable patterns of reporting by both countries throughout time (Figures 24 and 25).

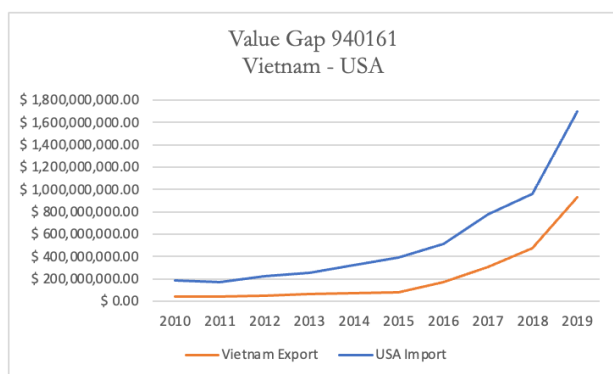


Fig. 24

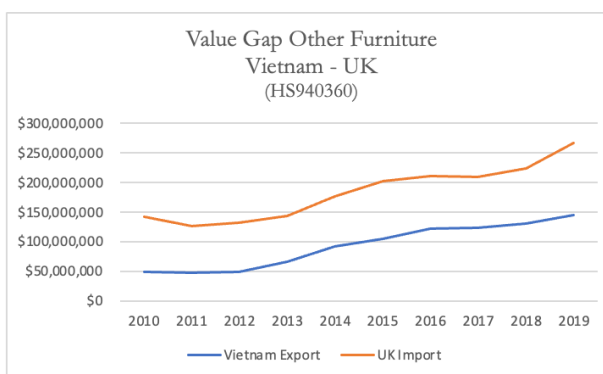


Fig. 25

However, there are cases in which the gaps are very significant and disrupt otherwise stable patterns. During specific periods of time, Vietnam reported considerably lower values for exports of non-upholstered wooden seats to China (Fig. 26) and of wooden kitchen furniture to Japan (Fig. 27), relative to the values the importing countries reported.

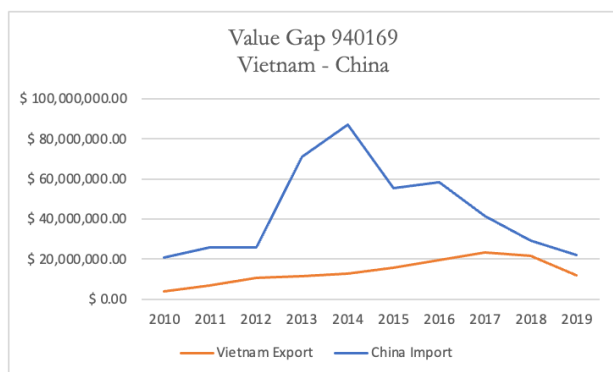


Fig. 26

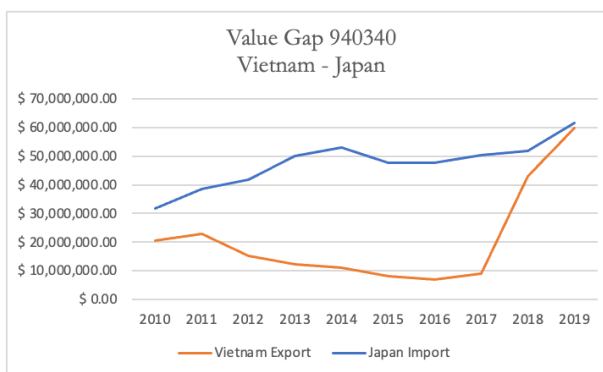


Fig. 27

An inverse pattern, where Vietnam reported a higher value of exports relative to the corresponding imports, is identified in other trades. This is the case, for example, of exports of wooden office furniture to Korea (Fig. 28) and of non-upholstered wooden seats to Japan (Fig. 29).

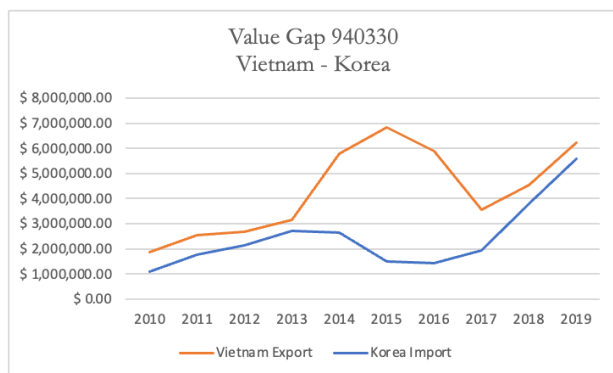


Fig. 28

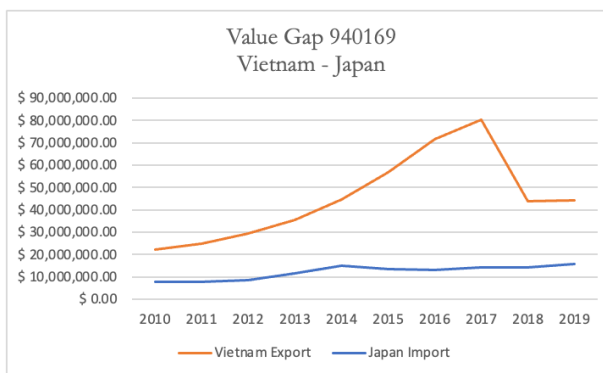


Fig. 29

In cases of lower values reported for exports than for imports, less money is received than goods are sent. When this is due to under-invoicing of exports, commodities leave the country, but the corresponding financial flows are partly concealed abroad. Although this practice is usually employed to avoid export taxes, in the case of Vietnam this does not apply, as furniture exports are exempt of

export duties. Conversely, the discrepancy could be due to import over-invoicing, to shift money out of the purchasing country or reduce import taxes (Pardo-Herrera 2021). Either practice could be used to avoid capital controls, or to gain from fluctuations in foreign exchange markets. Altogether, these practices deprive governments of needed funds to promote development.

In cases of higher values reported for exports than for imports, more money enters the economy than goods are exported. When this is caused by mis-invoicing, it is usually to fraudulently access trade incentives, or to bring unreported money into the country. At the other side of the transaction, less money is sent than goods are received. When this is caused by mis-invoicing, it is often to evade tariffs or to send value abroad and evade capital controls. Both usually correspond to cases in which the proceeds of crimes such as fraud, corruption, drug trafficking, or tax evasion, are being laundered.

Transshipment of Chinese furniture through Vietnam

Transshipment is a means to avoid trade sanctions. Firms in restricted country send products essentially produced there, for minimal processing and eventual re-export from a non-restricted third country. Although most accounts on Chinese transshipments point to textiles, seafood, steel, iron, and aluminum (e.g., Yap 2019), the data reviewed in this brief suggest that transshipments of Chinese furniture may also be taking place via Vietnam.

The Trump administration's America First policy set special tariffs on goods imported by the US from China in early 2018. This decision started building up more than a year before, when the Office of the United States Trade Representative began an investigation on Chinese economic practices in 2017. China responded by imposing other tariffs in 2018.

According to some media reports, however, some Chinese companies also responded with alleged transshipment of goods via Vietnam and other countries (Reuters 2019; Yap 2019). Several interviewees also mentioned this issue, and it was also discussed in the U.S.-China Economic and Security Review Commission (Thorson 2021). Through this illegal process, Chinese goods were exported to a third country, in this case Vietnam, where they were minimally processed and then re-exported as Vietnamese products (Yap 2019), essentially falsifying the information included in the corresponding certificates of origin.

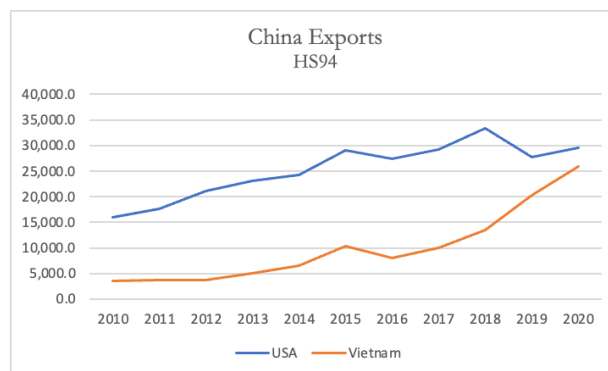


Fig. 30

Figure 30 shows how China's furniture exports to the US decreased in the same moment as those exports were increasing to Vietnam. This period coincides with the important growth in FDI in the furniture sector described above, most of which came from China. During the same period, a detailed look into Chinese exports to Vietnam shows drastic increases in the flow of seats (HS9401) (Figure 31) and wooden furniture (HS9403) (Figure 32), the same commodities that coincidentally show the greatest growth in Vietnam's exports to the US. Along with the financial implications of this trade and potential transshipment, China also buys an important portion of its raw wood from at-risk countries

like Laos, Cambodia, Papua New Guinea, Cameroon, or Gabon (25 percent in 2019 and 2020).⁶ This potential transshipment may therefore be complicating effective due-diligence in supply chains, by further obfuscating the high-risk origins of some timber used in the furniture industry.



Fig. 31



Fig. 32

Although the data and methods employed here do not allow to arrive at definite conclusions, nor is this the aim of the analysis, the coincidence of political context, time frame, FDI rates, commodities, and trade flows suggest an interesting opportunity for further analyses.

Conclusions and Recommendations

TDA is a useful first step in the process of identifying illegal actions in the trade of any commodity. Mismatches between the exporting and the importing reports can be result of deliberate trade mis-invoicing, a key method for illegal movements of value across borders. TDA does not prove the existence of illegal activities, and discrepancies can be the result of simple reporting errors. But the ease with which data can be accessed through UNCOMTRADE allows any person to perform a basic TDA and identify red flags that could lead to the identification of criminal activities and enabling corruption.

The value gaps presented in this analysis identify points for further investigation. The analysis focused only on certain highly significant gaps that disrupt otherwise consistent patterns in reporting. Although the analysis is not conclusive, the gaps identified only in particular commodities, only in certain trade flows, and/or only at specific periods of time provide authorities with valuable points of entry for further in-depth document reviews (e.g., customs, tax, financial, and/or ownership records).

The ambiguous labeling of imported wood hinders the effective enforcement of environmental protection regulations. Vietnam reports a considerable amount of wood imports using “all other” type categories. This hampers the ability to know exactly what type of commodity is being imported and therefore obstructs the enforcement of certain regulations banning, for example, log exports from Laos or Cambodia.

Furniture bought by industrialized economies still has an important chance of being produced with at-risk timber. Although efforts to increase due diligence in supply chains and to effectively address this issue are currently underway, the results are yet to be seen. For example, Vietnam recently issued the decree regulating its Timber Legality Assurance System (VNILAS), whose main aim is to develop mechanisms to ensure the legality of Vietnam’s domestic and imported timber. At the moment, however, available data still show a considerable portion of

⁶ COMTRADE data analyzed by the author.

Vietnam's supply of tropical timber coming from at-risk regions, as defined in the VN'TLAS (Xuan To, Thi Cam, and Le Hhuy 2020). In the same line, the VPA with the EU and the agreement concluding the recent Section 301 investigation, in which the Vietnamese government committed to keep illegally harvested or traded timber out of the supply chain, is also a good sign.

The current global furniture market puts Vietnam in a position where it can become a transshipment hub for Chinese furniture. The global demand for wood products and the willingness of the Vietnamese economy to integrate into global markets are both increasing. This has in turn led to an improved business environment in the country, and a concurrent growth in foreign direct investment with very positive impacts on the economy altogether. However, key investment and trading partner countries, like China, still buy an important portion of their raw materials from at-risk markets. This could allow illegal timber to continue to flow through the international market and add an extra layer of complexity to supply chain due diligence. In this context, although the issue has been acknowledged, it is imperative that the Vietnamese government enhance its auditing process to guarantee accurate information included in the certificates of origin of the furniture it exports. Also, based on the agreement recently reached to resolve the Timber Section 301 Investigation, this is a good opportunity to enhance the cooperation between China and Vietnam to enhance the integrity of timber legality assurances.

References

- Association Technique Internationale des Bois Tropicaux (ATIBT) (2020) *Vietnam Industry Profile*. Available at: <https://www.timbertradeportal.com/countries/vietnam/#>
- Biswas, A. K. and S. Marjit (2005), Mis-invoicing and Trade Policy. *The Journal of Policy Reform*, 8, 3, 189–205.
- Buehn, A. and Eichler, S. (2011), Trade Misinvoicing: The Dark Side of World Trade. *The World Economy*, 34: 1263-1287. <https://doi.org/10.1111/j.1467-9701.2011.01375.x>
- Das, Kuntal K.; Meriluoto, Laura & Rice, Amy (2020) Export tax and import-tariff avoidance: evidence from the trade data discrepancy in the China-New Zealand trade. *New Zealand Economic Papers*, 54:2, 161-189.
- Environmental Investigation Agency (2017) *The Rosewood Racket China's Billion Dollar Illegal Timber Trade and The Devastation Of Nigeria's Forests*. Available at: <https://rosewoodracket.eia-global.org/>
- Environmental Investigation Agency (2020) *Tainted Timber, Tarnished Temples*. Available at: <https://eia-global.org/reports/20201110-tainted-timber-tarnished-temples>
- Government Accountability Office (GAO) (2020) *Countering Illicit Finance and Trade: U.S. Efforts to Combat Trade-Based Money Laundering*. Available at: <https://www.gao.gov/products/gao-20-314r>
- Hoare, Alison (2015) *Tackling illegal logging and the related trade: what progress and where next?* Available at: <https://www.chathamhouse.org/2015/07/tackling-illegal-logging-and-related-trade-what-progress-and-where-next>
- Vo, Kiet Linh Nguyen (2020) *Vietnam Wood Processing Industry*. United States Department of Agriculture. Available at: <https://www.fas.usda.gov/data/vietnam-vietnam-wood-processing-industry>
- Liu, Renliang; Sheng, Liugang and Wang, Jian, (2021) *Faking Trade for Capital Control Evasion: Evidence from Dual Exchange Rate Arbitrage in China*. Available at SSRN: <https://ssrn.com/abstract=3728855>
- Ministry of Agriculture and Rural Development MARD (2019) *Prime Minister calls for sustainable development of wood processing industry*. <https://www.mard.gov.vn/en/Pages/prime-minister-calls-for-sustainable-development-of-wood-processing-industry.aspx>
- Ministry of Agriculture and Rural Development MARD (2017) *Vietnam's wood exports in the world top ten*. Available at <https://www.mard.gov.vn/en/Pages/vietnam-percentE2percent80percent99s-wood-exports-in-the-world-top-ten-1040.aspx>
- Nambiar, E.K. Sadanandan (2021) Strengthening Vietnam's forestry sectors and rural development: Higher productivity, value, and access to fairer markets are needed to support small forest growers. *Trees, Forests and People*. Volume 3.
- Ndikumana, Léonce and Boyce, James K. (2018) *Capital Flight from Africa. Updated Methodology and New Estimates*. Political Economy Research Institute (PERI) University of Massachusetts-Amherst.
- Nhat Minh - Anh Ngoc (Dec 03, 2020) Vietnam timber export makes record this year. *Hanoi Times*. <http://hanoitimes.vn/vietnam-wood-forestry-export-reaches-revenue-record-this-year-315103.html>
- O. Polyanskaya et al (2020) *Problems and prospects for the development of the furniture industry in Vietnam*. IOP Conference Series: Earth and Environmental Science. Available at: <https://iopscience.iop.org/article/10.1088/1755-1315/574/1/012067>
- Office of the United States Trade Representative Executive Office of the President (2021) *Report on Vietnam's Acts, Policies, and Practices Related to Currency Valuation*. Available at: https://ustr.gov/sites/default/files/enforcement/301Investigations/Vietnam_Currency_301_Actionability_Report_Jan_15_21.pdf
- Pardo-Herrera, Camilo (2021) *The International Links of Peruvian Illegal Timber: A Trade Discrepancy Analysis*. Targeting Natural Resource Corruption Topic Brief. <https://www.worldwildlife.org/pages/tncr-topic-brief-the-international-links-of-peruvian-illegal-timber-a-trade-discrepancy-analysis>
- Reuters Staff (Jun. 10, 2019) Vietnam to crack down on Chinese goods relabeled to beat U.S. tariffs. *Reuters*. Vietnam to crack down on Chinese goods relabeled to beat U.S. tariffs.
- Thorson, Maureen (2021) *Testimony before the U.S.-China Economic and Security Review Commission, U.S.-China Relations in 2021: Emerging Risks U.S. Trade with Hong Kong and the Potential for Duty Evasion*. Available at: https://www.uscc.gov/sites/default/files/2021-08/Maureen_Thorson_Testimony.pdf
- UNCTAD (2020) *Tackling Illicit Financial Flows for Sustainable Development in Africa*. Available at: https://unctad.org/system/files/official-document/aldcafrica2020_en.pdf

U.S. Department of The Treasury Office of International Affairs (2020) *Macroeconomic and Foreign Exchange Policies of Major Trading Partners of the United States*. Available at: <https://home.treasury.gov/system/files/206/December-2020-FX-Report-FINAL.pdf>

Vu, Thi T.H., Gang Tian, Naveed Khan, Muhammad Zada, Bin Zhang, and Thanh V. Nguyen (2019). Evaluating the International Competitiveness of Vietnam Wood Processing Industry by Combining the Variation Coefficient and the Entropy Method. *Forests*. No. 10: 901. <https://doi.org/10.3390/f10100901>

Xuan To, Phuc; Thi Cam, Cao; Le Huy, Tran (2020) *Vietnam's Import of Tropical Timber and the Implementation of the Vietnam Timber Legality Assurance System: Africa, Cambodia, Laos and Papua New Guinea*. <https://www.forest-trends.org/publications/vietnams-import-of-tropical-timber-and-implementation-timber-legality-assurance-system/>

Yap, Chuin-Wei (2019) American Tariffs on China Are Being Blunted by Trade Cheats. *Wall Street Journal*. Available at: <https://www.wsj.com/articles/american-tariffs-on-china-are-being-blunted-by-trade-cheats-11561546806>

Annex 1: List of countries analyzed

Wood Imports

1. Cameroon
2. Cambodia
3. Laos
4. Congo
5. Nigeria
6. Gambia
7. Gabon
8. Ukraine
9. Liberia
10. Papua New Guinea
11. Russia

Furniture Exports

1. China
2. USA
3. Japan
4. Korea
5. United Kingdom