UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

SUSTAINABLE DEVELOPMENT GOALS

STANDARDS COMPLIANCE ANALYTICS

BORDER REJECTIONS IN MAJOR GLOBAL MARKETS
VIETNAM

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INTRODUCTION

Technical regulations and standards are increasingly prevalent and continuously evolving in the international trade of food and nonfood (industrial) products. Moreover, there is evidence that many developing countries face challenges in complying with the safety and quality requirements that these regulations and standards lay down. Since 2008, UNIDO has regularly collected evidence about trade related challenges and their evolution over time, particularly in the area of compliance with (quality, certification, labeling, etc.) requirements set by international markets.

In their efforts to improve compliance, the challenge for national governments and donors is to allocate scarce financial and technical resources amongst a plethora of capacity building needs. There is, therefore, a need to identify where the most acute compliance challenges are faced—in a trade context this means identifying the products and markets with the highest rates of non-compliance—thus recording rejections. In this context, the Standards Compliance Analytics (SCA) tool can be used to facilitate the use of rejection data to identify the key compliance challenges faced by exporting countries and thereby enhance targeting of investments in building relevant compliance capacities (more details about the SCA tool can be found in the Annex).

Using the SCA tool, this report focuses on analyzing the trends and patterns of Vietnamese agri-food import rejections in five major international markets, namely Australia, China, the European Union (EU), Japan and the United States (US). The objective of this report is to gain insights about the challenges faced by Vietnam in complying with product quality and safety standards and regulations in agri-food trade towards both regional and global markets.

The present report was prepared by UNIDO and was validated during a roundtable meeting. During the meeting, valuable feedback was provided by attendees from the Ministry of Agriculture and Rural Development (MARD), Vietnam National University of Agriculture, the Swiss Import Promotion Programme (SIPPO), the Directorate for Standards, Metrology and Quality of Vietnam (STAMEQ), Global Food Import & Export JSC, the Viet Phuc Cooperation, the Plant Protection Department, Vietnam Institute of Agriculture and Post-harvest Technology, TEFOOD company, the Asia Pacific Mango Network and the Australian embassy in Vietnam. Based on the analysis of the rejection data and consultation with various stakeholders, recommendations are provided and can be divided into three categories: strengthen the Quality Infrastructure System; enhance industry compliance, competitiveness and sustainability; and promote a conducive policy environment and culture for quality.

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The UNIDO Knowledge Hub (https://hub.unido.org/) contains a lot of information, online trainings and digital tools about Quality Infrastructure including the SCA tool, which can be accessed at https://hub.unido.org/rejection-data/trade-rejection-analysis.

Any feedback and comments on this report are welcomed and can be addressed to knowledgehub@unido.org.

CONTEXT

A. COUNTRY PROFILE

Country	**Socialist Republic of Vietnam**
Continent	**Southeastern Asia**
Population	**97.5 million** (2021)
GDP	**366.1 USD billion** (2021)
GDP per capita	**3,757 USD** (2021)
Value added by Agriculture, Forestry and Fishing	**12.6%** of GDP (2021)
Food Safety Index	**93** (2017)
Logistics Performance Index (overall)	**3.27** (2018)
3 Year Average of Food Production	**199** (2015 – 2017; unit: $1 per capita)

According to the World Bank, Vietnam is a **lower-middle income**[1] country with a Human Development Index value of **0.703**[2], which puts it in the high human development category positioning it at 115 out of 191 countries and territories in 2021.

After the reunification of the country in 1975, Vietnam was facing an economic crisis and suffering from a very high inflation rate. To rescue the country from this economic crisis, reform policies known as Doi Moi (translated to mean "restauration") were implemented in 1986. They served to move the country towards a socialist-oriented market economy by encouraging privately owned enterprises, overturning policies on collective farming and reorganizing private land use rights. They also encouraged foreign-direct investments (FDI) and reduced subsidies to state-owned enterprises[3]. For the next twenty years after the launch of the Doi Moi reforms, Vietnam recorded an average of 6.5% annual growth rate, one of the highest among developing countries. In addition, poverty rates declined dramatically from 32% in 2011 to below 2% in 2021. In 2010, Vietnam was removed from the list of the world' Least Developed Countries and became a lower-middle income country with the aim to reach the higher-middle income tier by 2045.

In 2020, while the whole world was in the midst of the Covid-19 pandemic, the Vietnamese economy still managed to grow 2.9% compared to 2019 which was one of the highest growth rates in the world during that year. This is a direct result of the supply chain relocation/ diversification trend out of China during the last few years that has benefitted immensely Vietnamese exports. According to the World Bank, the Covid-19 pandemic resulted in a decline in GDP growth from 7.02% in 2019 to 2.91% in 2020 and 2.58% in 2021. However, it's important to note that Vietnam is one of the few countries in the world which showed positive economic growth during this period of time[4].

As a key component of a country's exports business, the Logistic Performance Index (LPI) of Vietnam is shown in **Table 1**[5]. The overall LPI is ranked at **39th** among the 160 countries in the study. Most countries ranked before Vietnam are developed countries with higher income.

[1] World Bank. World Bank Country and Lending Groups. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

[2] UNDP (United Nations Development Program).2020. Human Development Report. 2020. The Next Frontier: Human Development and the Anthropocene. http://hdr.undp.org/sites/default/files/Country-Profiles/VNM.pdf

[3] Tuan, H. A. (2009, September). « Doi Moi and the Remaking of Vietnam ». Global Asia. https://www.globalasia.org/wp-content/uploads/2009/09/385.pdf

[4] Fidinam. Vietnam's post-Covid-19 thriving economy: an attractive investment destination. https://www.fidinam.com/en/blog/vietnam-economic-recovery-2022

[5] World Bank. Country Score Card: Vietnam. 2018. https://lpi.worldbank.org/international/scorecard/line/2/C/VNM/2018

TABLE 1: INTERNATIONAL LPI IN 2018 – VIETNAM

DATA TABLE

(Toggle Rank and Score for Subindicators)

Country	Year	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Vietnam	2018	39	3.27	2.95	3.01	3.16	3.40	3.45	3.67

The Global Competitiveness Index (GCI) is made up from up to 103 indicators from combined data sources from international organizations and the World Economic Forum's survey and includes institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market, labor market, financial system, market size, business dynamism, and innovation capability, etc. The GCI is a score between 1 and 100 and in 2019, Vietnam scored 61.543 and ranked 67th (out of 141), up ten places from the previous year[6], which represents an increase in the GCI score. Vietnam was actually the country whose GCI score improved the most globally. Regarding the 12 pillars or economic drivers, Vietnam's market size had the highest ranking of 26th with 72 points, while the lowest was its skills area with a rank of 93rd with 57 points[7].

In terms of value added, the agriculture sector contributed to **14.9**%[8] of the GDP in 2020 and employed **37.2**%[9] of the workforce in 2019 according to the World Bank while the industrial sector accounted for **33.7**%[10] of the country's GDP in 2020 and employed **27.4**%[11] of the active population in 2019. This sector is focused on food processing, garments, textiles, shoes, machine-building, mining, coal, steel, cement, chemical fertilizer, glass, tires, oil, and mobile phones. On the other hand, the manufacturing sector contributed to nearly 16.7% of the country's GDP in 2020 employing 18.24% of the population. For the last decade, the services sector has continued to rise in importance in its contribution to Vietnam's economy. Indeed, it accounted for **41.6**% in 2020 of the GDP and employed more than a third of the workforce. The services sector has now surpassed the agriculture and the industry sectors in terms of contribution to the GDP.

[6] Schwab, K. World Economic Forum. 2019. The Global Competitiveness Report 2019. https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

[7] Xinhua Net (2019, October 9). Vietnam up 10 places in Global Competitiveness Index. Xinhua. http://www.xinhuanet.com/english/2019-10/09/c_138458431.htm

[8] World Bank (2021). Agriculture, forestry, and fishing, value added (% of GDP) - Vietnam. The World Bank Data. https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=VN

[9] World Bank (2021). Employment in agriculture (% of total employment) (modeled ILO estimate) - Vietnam. The World Bank Data. https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=VN

[10] World Bank (2021). Industry (including construction), value added (% of GDP) - Vietnam. The World Bank Data. https://data.worldbank.org/indicator/NV.IND.TOTL.ZS?locations=VN

[11] World Bank (2021). Employment in industry (% of total employment) (modeled ILO estimate) - Vietnam. The World Bank Data. https://data.worldbank.org/indicator/SL.IND.EMPL.ZS?locations=VN

B. AGRICULTURE SECTOR

Since the Doi Moi economic reform in the 1980s, Vietnam has transformed from being a nation heavily affected by food shortages to one of the world's leading producers and exporters of many agricultural products, such as coffee, peanuts, and rice. Until 1986, agricultural prices were subject to price control and households subject to state requisition on harvests. The Doi Moi put an end to this practice, although the government still defined the amounts of rice that could be exported without proceeding with requisitions[12].

After Vietnam's trade liberalization and agricultural reforms, both the volume of production and the value of exports of the agriculture sector increased significantly. Since the 1990s, several major intensive monoculture systems emerged across the country, such as the rice monoculture in the Mekong Delta and the intensive production of coffee and pepper in the Central Highlands. Many of the agricultural products in the country first addressed domestic consumption. For example, Vietnam's rice consumption is one of the highest worldwide. Vietnam is also one of the largest paddy rice producers in the world[13], being ranked as the second largest rice exporter in the world in 2020 producing an astonishing 6.4 million metric tons of rice[14]. Meanwhile, other agricultural products have become major export commodities, such as coffee, pepper, cashew nut, and rubber. Recently, Vietnam has become the second-largest coffee exporter in the world after Brazil[15]. The country also accounts for more than 40% of the pepper production in the Asia Pacific region.

[12] Coello, B. (2007). Agriculture and trade liberalization in Vietnam. https://shs.hal.science/halshs-00585966/document

[13] Nguyen, M. N. (2023, January 13). Agriculture in Vietnam - statistics & facts. https://www.statista.com/topics/5653/agriculture-in-vietnam/#topicOverview

[14] Shahbandeh, M. (2022, July 27). Principal rice exporting countries worldwide in 2021/2022(in 1,000 metric tons). https://www.statista.com/statistics/255947/top-rice-exporting-countries-worldwide-2011/

[15] Ridder, M. (2022, May 10). Coffee export volumes worldwide in January 2022, by leading countries(in 1,000 60-kilo sacks). https://www.statista.com/statistics/268135/ranking-of-coffee-exporting-countries/

Agricultural production:

From a country struggling with hunger, Vietnam has now managed to rank second in Southeastern Asia and 15th globally in agricultural exports. The exports have increased dramatically from $4.2B in 2004 to $41.3B in 2019, which accounted for 15.7% of total national exports[16]. In addition, between 1969 and 2020, the real gross value of agricultural production of Vietnam grew substantially from **$5.42B** to **$45.91B** (2020).

Vietnam spans 331,212 square kilometers of which 39.5% is agricultural land (of which 22.5% was arable land in 2018) and 46% forest land[17]. Rice is the most important crop in Vietnam and is grown principally in the Red and Mekong River deltas. Other major food crops are sugarcane, cassava (manioc), corn (maize), sweet potatoes, and nuts. Agriculture remains highly labor-intensive in Vietnam and much plowing is still done by water buffaloes. There are many plantations of banana, coconut, and citrus trees. Coffee and tea are grown in the central highlands. The production of rubber was disrupted by the war but has been restored in the central highlands and southern regions. A variety of fruit trees can also be found in various fields and kitchen gardens throughout Vietnam (banana, orange, mango, jackfruit, and coconut). Kapok trees are found in many villages and the Vietnamese cultivate areca palms and betel peppers for their nuts and leaves and mulberry bushes to feed silkworms. Another food product that has seen a rise in exports is seafood, such as shrimp, squid, crab, and lobster.

Forestry is of major importance and primarily serves the domestic market. Charcoal production is widespread, and a number of factories produce furniture, pulp, and paper. Plywood, lumber, and rattan products also contribute to the economy. However, deforestation and soil degradation threaten the viability of this industry, especially as domestic demand for forest products continues to increase[18].

In 2020, cereals production reached **47.3M** tonnes compared to 10.7M tonnes in 1971 growing at an average annual rate of 3.2%[19]. In terms of rice, paddy production reached an estimated **42.8M** tonnes in 2020 showing an increase from 10.4M tonnes in 1971 reaching an average annual rate of **3.1**%[20]. On the other hand, in 2020, vegetables production increased from 2.1M tonnes harvested in 1971 to **17M** tonnes in 2020 growing at an average annual rate of **4.9**%[21]. Though Vietnam's roots and tubers production fluctuated substantially in recent years, it tended to increase through the 1971-2020 period reaching 12.2M tonnes in 2020[22].

Agriculture exports:

In 2021, Vietnam exported a total of **$336.3B** and in 2022 is set to expand its exports by 9.46% reaching **$368B**, exceeding the growth rate of 8% predicted by the government, according to the Ministry of Industry and Trade (MoIT)[23]. During the last five reported years, the exports of Vietnam have increased from $176.6 B in 2016 to $336.3B in 2021. The most recent exports are comprised of telephones and accessories ($57.5B), computers, electronics and components ($51.1B), machinery, equipment, tools and accessories ($38.3B), textile footwear ($32.7B), leather footwear ($17.6B), wood and furniture ($14.8B).

As for the agricultural sector, Vietnam exported **$6.98B** in 2020 in foodstuffs, rendering it the 24th largest exporter of foodstuffs in the world. The main destinations were the United States ($1.21B), China ($932M), Japan ($800M), South Korea ($555M), and Cambodia ($284M)[24]. Vietnam exported **$12.2B** in vegetable products; thereby becoming the 14th largest exporter of vegetable products in the world. Vegetables were the 6th most exported product in Vietnam and they were mainly exported to China ($2.64B), United States ($1.54B), the Philippines ($1.18B), Germany ($538M), and the Netherlands ($456M)[25]. As for rice, with an export amount of **$2.74B**, it was exported to the Philippines ($985M), China ($461M), Ghana ($282M), Malaysia ($237M) and Cote d'Ivoire ($211M)[26]. For fish, shellfish and crustaceans, the exportation rate was valued at **$27.9M**, rendering Vietnam the 6th largest exporter of fish, shellfish and crustaceans (non-food) in the world. Lastly, during the period of 2019 - 2020, Vietnam exported **23.6M 60-kilogram bags** of coffee beans, 0.55M 60-kilogram bags of roasted and grounded coffee, and 2.25M 60-kilogram bags of soluble coffee.

In the agriculture, forestry and fishery sector, the output of some perennial crops, major livestock products and shrimp production in 2020 increased significantly. It reached a growth rate of 2.68%, higher than the 2% growth recorded in 2019. Despite epidemics hitting livestock, climate change and the Covid-19 pandemic, agricultural exports increased in 2020 with rice exports reaching more than **$3B**, up by 9.3% compared to 2019; wood and wood products up by 15.7% for the same year.

[16] Open Development Vietnam (2020, May 14). The role of agriculture in Vietnam. https://vietnam.opendevelopmentmekong.net/topics/agriculture-and-fishing/

[17] Nguyen, M. N. (2023, January 20). Share of forest land in total land area in Vietnam from 2015 to 2020. https://www.statista.com/statistics/1069587/vietnam-forest-land-as-share-in-land-area/

[18] Turley, W. Vietnam. Retrieved from Britannica. https://www.britannica.com/place/Vietnam/Agriculture-forestry-and-fishing Accessed 22 November 2022.

[19] Knoema. Viet Nam - Cereals production quantity. https://knoema.com/atlas/Viet-Nam/topics/Agriculture/Crops-Production-Quantity-tonnes/Cereals-production

[20] Knoema. Viet Nam - Rice, paddy production quantity. https://knoema.com/atlas/Viet-Nam/topics/Agriculture/Crops-Production-Quantity-tonnes/Rice-paddy-production

[21] Knoema. Viet Nam - Vegetables primary production quantity. https://knoema.com/atlas/Viet-Nam/topics/Agriculture/Crops-Production-Quantity-tonnes/Vegetables-primary-production

[22] Knoema. Viet Nam - Roots and tubers production quantity. https://knoema.com/atlas/Viet-Nam/topics/Agriculture/Crops-Production-Quantity-tonnes/Roots-and-tubers-production

[23] Yen, H. (2022, August 23). Vietnam's 2022 export turnover to hit US$368 billion, above the year's target. https://hanoitimes.vn/vietnams-exports-set-to-surpass-years-target-at-us368-billion-321591.html

[24] Observatory of Economic Complexity. Foodstuffs in Vietnam. OEC. https://oec.world/en/profile/bilateral-product/foodstuffs/reporter/vnm

[25] Observatory of Economic Complexity. Vegetable Products in Vietnam. OEC. https://oec.world/en/profile/bilateral-product/vegetable-products/reporter/vnm

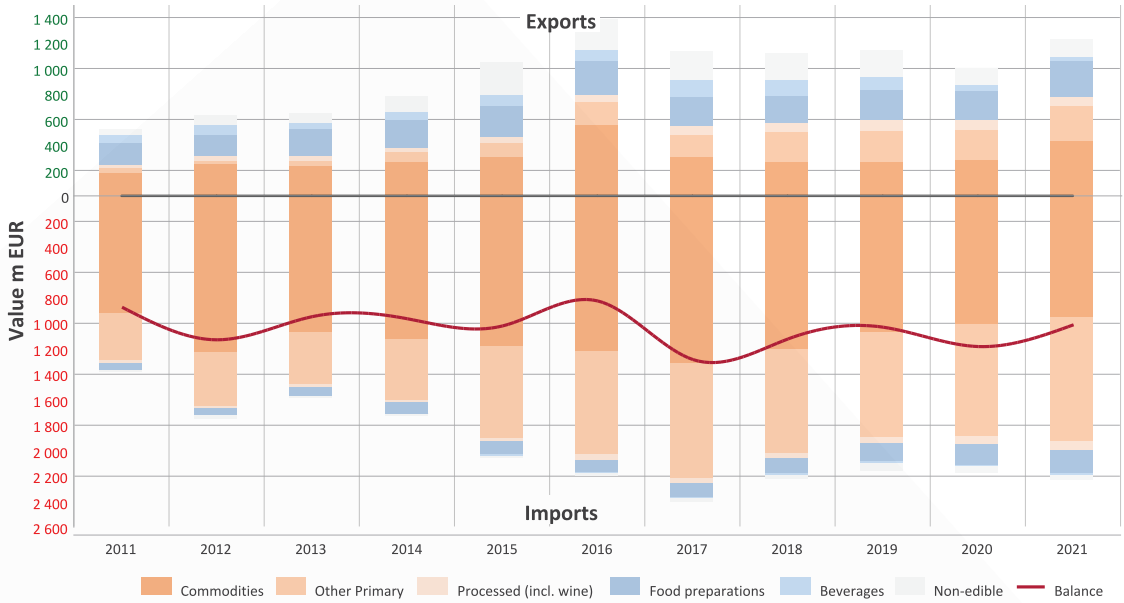
[26] Observatory of Economic Complexity. Rice in Vietnam. OEC. https://oec.world/en/profile/bilateral-product/rice/reporter/vnm

However, in contrast, seafood exports decreased and were valued at $8.4B, down 1.8% from the previous year[27]. Overall, the export of agricultural food and feed products to the EU as shown in **Figure 1**[28] has barely increased (by 2.5%) from 2019 to 2021.

[27] General Statistics Office (2021, January 14). Viet Nam Economy in 2020 the Growth of a Year with Full of Bravery. https://www.gso.gov.vn/en/data-and-statistics/2021/01/viet-nam-economy-in-2020-the-growth-of-a-year-with-full-of-bravery/

[28] EU Commission Directorate-General for Agriculture and Rural Development (2022, March 16). AGRI-FOOD TRADE STATISTICAL FACTSHEET European Union - Vietnam. EU Commission. https://agriculture.ec.europa.eu/system/files/2022-05/agrifood-vietnam_en_0.pdf

FIGURE 1: STRUCTURE OF EU AGRI-FOOD TRADE WITH VIETNAM, 2011 – 2021



C. INTERNATIONAL TRADE

In 2000, the United States and Vietnam concluded a Bilateral Trade Agreement, which came into force in 2001. This agreement covered trade in goods and in services, investment protection, intellectual property rights, and business facilitation. In 2007, Vietnam became the 150th member of the World Trade Organization (WTO) and once it had acceded it promptly promised to comply with WTO agreements on Customs Valuation, Technical Barriers to Trade (TBT), and Sanitary and Phytosanitary Measures (SPS). In addition, Vietnam has been a member of the Association of South East Asian Nations (ASEAN)[29] since 1995, which translates into being a member of the ASEAN Free Trade Area (AFTA). Other members of AFTA include Brunei, the Philippines, Indonesia, Laos, Myanmar, Malaysia, Singapore, Thailand and Cambodia. Vietnam has also signed other trade pacts with Australia, New Zealand, China, Chile, Japan and the Republic of Korea and in 2015 a trade agreement with the Russian-led Customs Union block[30].

More recently, in 2019, Vietnam signed a free trade agreement with the EU (EVFTA), which has successfully enabled exports to the EU to reach $34.8B in 2020 (after 5 months of implementation starting in August 2020), up 1.6% over the same period the year before. Finally, Vietnam also signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) with 10 countries: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, and Singapore. This agreement took effect in January 2019. Other agreements with the UK and the upcoming Regional Comprehensive Economic Partnership (RCEP) demonstrate that Vietnam values the diversification of its international trade partners, which will enable its economic development to progressively move away from exporting low-tech manufacturing products and primary good to high-tech products such as: electronics, vehicles, medical devices, etc.[31]

[29] Britannica. Vietnam Trade. https://www.britannica.com/place/Vietnam/Agriculture-forestry-and-fishing#ref52707

[30] International Trade Administration (2022, December 15). Vietnam - Country Commercial Guide - Trade Agreements. https://www.trade.gov/country-commercial-guides/vietnam-trade-agreements

[31] Dezan Shira & Associates (2021, March 31). Vietnam's Free Trade Agreements – Opportunities for Your Business. Vietnam Briefing. https://www.vietnam-briefing.com/news/vietnam-free-trade-agreements-opportunities-for-your-business.html/

STANDARDS COMPLIANCE ANALYSIS

A. COMPLIANCE WITH REGULATIONS IN AGRI-FOOD TRADE

Food safety has long been an issue in Vietnam for both consumers and government officials. With the adoption of the 2010 Law on Food Safety, the government has established the processes and framework for modern food safety management. However, progress has still been very slow. It has therefore been necessary to review the current legislation, procedures and processes of food safety management in the country and to make recommendations for restructuring the relevant agencies and institutions. The Ministry of Agriculture and Rural Development (MARD) has embarked on launching regular and ad hoc inspections of the hygiene and safety of food production and trade of 21,000 food companies. It also banned 300 types of pesticides[32].

In addition, Resolution 34/2009 sets the basis for advancing food safety management and the National Strategy on Food Safety during the period of 2011 - 2020 and with a vision to 2030 sets general targets to implement a master plan for food safety from production to consumption and by 2020 to establish effective food safety control over the entire food supply chain. The strategy aims to address some of the issues plaguing producers found in a 2016 World Bank report, such as bacterial contamination being the primary case of food-borne illnesses, the high use of antibiotics, pesticides and chemical fertilizers, the poorly regulated or illegal imports, the lack of traceability and cross-contamination, etc[33].

The standardization activities are overseen by Vietnam's national standards body, the Directorate for Standards, Metrology, and Quality (STAMEQ) of the Ministry of Science and Technology. Thanks to the 2006 Law on Standards and Technical Regulations, the standards were organized into two levels: national standards and organizations' standards at one level and national technical regulations and local technical regulations at the other level. While standards are applied voluntarily, technical regulations remain mandatory. Vietnam currently has over 13,000 national standards, of which over 80% are harmonized with international and regional standards. Vietnam also has more than 800 national technical standards and 30 local technical regulations as well as 1,850 standards on agricultural products including 367 standards on technical requirements for food and feed. In addition, there are 1,300 national standards for testing methods related to assessment of criteria and regulations and 183 standards for terms and definitions. In the last few years, most of the national standards have been developed through the adoption of the relevant international and regional standards, such as ISO, IEC, Codex and EN. For instance, for standards on testing methods, Vietnam refers to the standard of ISO, AOAC, EU and for standards for terms and definitions, they refer to the standard of CODEX and ISO.

National standards are developed thanks to a collaboration among interested stakeholders and are used as the technical criteria for quality certification, quality inspection of imported and exported products, and product conformity declarations. Under STAMEQ, there are four product certification bodies: QUATEST1, QUATEST2, QUATEST3 and QUACERT the Vietnam Certification Centre. QUACERT is the certification body of STAMEQ and provides certification services for organizations, companies and individuals who have complied with international standards including but not limited to the management system certification to international standards, such as ISO 9000, ISO 14000, OHSAS 18000, ISO 22000, HACCP, GMP, ISO 27001, ISO/TS 29001, ISO 50001, the certification of VietGAP (Vietnam's Good Agriculture Practices regulation established by the MARD), etc.

[32] Organisation pour l'alimentation et l'agriculture (FAO). Renforcer la sécurité alimentaire au Vietnam. https://www.fao.org/3/BT843FR/bt843fr.pdf

[33] The World Bank. Food safety risk management in Vietnam: Challenges and opportunities. https://www.worldbank.org/en/country/vietnam/publication/food-safety-risk-management-in-vietnam-challenges-and-opportunities

Quality Infrastructure for Sustainable Development Index:

The Quality Infrastructure for Sustainable Development (QI4SD) Index, developed by UNIDO, provides a framework of indicators that summarizes the overall state of development of a country's and/or region's Quality Infrastructure (QI) readiness to support the Sustainable Development Goals (SDGs). Countries are grouped into GDP groups and within these groups, countries are then ranked based on their QI readiness to implement the SDGs. It's important to note that some of the ranking information relates to ranks within these groups and that even within the same GDP groups, countries vary considerably in size and other growth indicators. The data from the INetQI organizations was collected from February to June 2021. However, the data year might differ from the year of collection as these organizations have different timeframes to update their own information.

QI is a multidimensional concept and is decomposed into the following five dimensions that are captured with 36 indicators from combined data sources: Metrology, Standardization, Conformity assessment, Accreditation, and Policy. Vietnam has a QI4SD Index score of **37.4** placing it in the **62nd** position for the countries assessed. With regard to the five dimensions, Vietnam has a value of 25.1 for Metrology, 36.3 for Standardization, 11.2 for Conformity assessment, and 76.9 for Accreditation (no data is currently available for the Policy dimension).

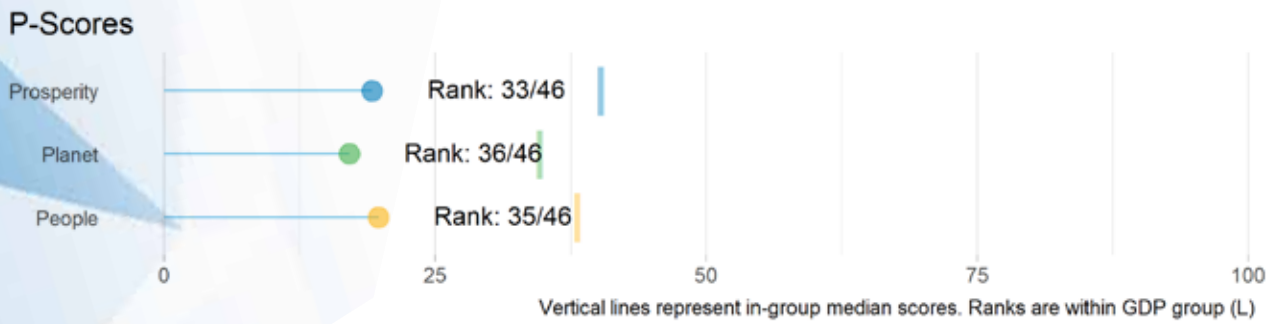
Vietnam has done well in the following areas:

Strengths	Dimension	Rank	Value	Unit
Membership of IQNet	Conformity	31	3	Composite score
Number of recognised certificates (ISO)	Conformity	43	4,940	Number
Scopes of IAF accreditation bodies	Accreditation	46	6	Number

The report identified the following weaknesses which Vietnam should focus on improving:

Weaknesses	Dimension	Rank	Value	Unit
Number of CMCs	Metrology	62	31	Number
Participation in IEC technical committees	Standards	63	6	Number
Participation in ISO technical committees	Standards	70	113	Number

Within its GDP group, Vietnam ranked on the three pillars of sustainable development (people, prosperity and planet) as follows:



More details about the QI4SD Index can be found at https://hub.unido.org/qi4sd/

B. REJECTION ANALYSIS

Sanitary and phyto-sanitary standards are measures aimed at protecting the safety and health of consumers and complying with these standards applies to both domestic products as well as exports. When food and feed products get rejected at the borders, the consequences can be extremely dire and costly. The total cost of these rejections include the loss of the export products as they're usually destroyed by the importing country, the loss of transportation costs, freight and insurance, and any other related costs. In addition to the earnings loss, rejections damage the country's reputation and the importing country may lose trust in the quality and safety of products coming from the export country; thus reducing the third country's export competitiveness in the long term. Exporters may also need to sell the product at a discounted price to account for the risk and exporters risk joining the list of producers facing reinforced checks (as in the case of exports to the EU)[34].

Aggregate rejection rate:

The Aggregate Rejection Rate (ARR) is the simple sum of the annual number of rejections over the study period. Increases in the number of rejections can reflect both increases in the volume of exports and in the rate of non-compliance to product quality and safety standards and regulations. While we are using the ARR to compare how well Vietnam's food exports are performing in the various markets, it's important to note that each country can apply different approaches to inspection. For instance, the US rejection data excludes meat, poultry, and their products.

Although analyzing border rejection data proves quite useful in determining some of the causes of non-compliance to food safety standards, it's important to use caution and keep in mind that it's not the only indicator of non-compliance. For instance, if a certain food and feed product cannot get exported due to an inability to access a certain market for non-compliance reasons, it will not be included in the border rejections data set that's being analyzed (as no exports means no rejections). Accordingly, this analysis should ideally be used hand-in-hand with other sets of data and indicators to get a broader picture of the short-term and long-term issues plaguing the quality infrastructure landscape of a specific country.

Table 2 and **Figures 2 and 3** show that during the period of 2010 - 2020 the US market had the largest share of rejections (42%). The other four markets have a similar share of rejections (between 9 to 18%). It can be noted that the aggregate number of rejections for food and feed Vietnamese exports for the five markets has decreased by 15% from 632 to 537 during the studied period.

FIGURE 2 : EVOLUTION OF THE GLOBAL NUMBER OF VIETNAMESE REJECTIONS FOR THE 5 MARKETS, 2010 - 2020

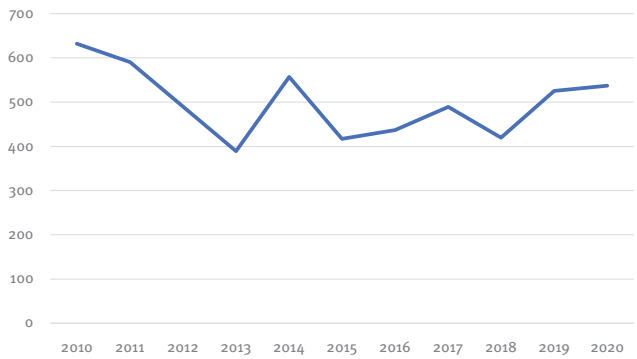


FIGURE 3: SHARE OF REJECTIONS BY MARKET, 2010 - 2020

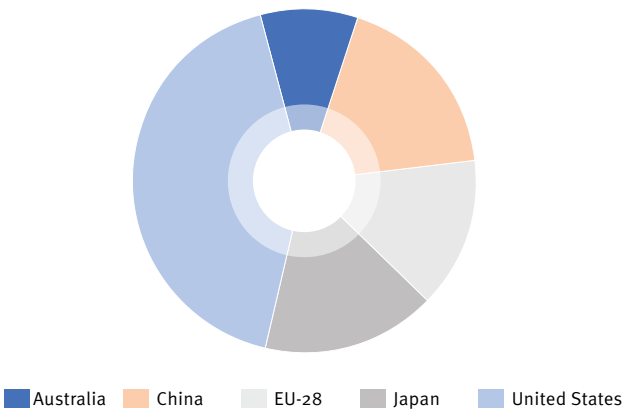


TABLE 2: AGGREGATE NUMBER OF REJECTIONS HS1-23 FOOD AND FEED VIETNAMESE EXPORTS DURING 2010 – 2020

Markets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Australia	46	36	38	36	42	47	27	62	62	15	72	483	**9%**
China	63	63	48	36	104	73	71	113	80	119	236	1,006	**18%**
EU-28	70	107	67	75	120	80	63	69	55	49	38	793	**14%**
Japan	115	157	122	68	55	67	59	62	54	59	65	883	**16%**
United States	338	227	215	174	236	150	217	183	169	283	126	2,318	**42%**
Total	**632**	**590**	**490**	**389**	**557**	**417**	**437**	**489**	**420**	**525**	**537**	**5,483**	**100%**

[34] Kareem, F. O., Brümmer, T. L., & Martinez-Zarzoso, I. (2015). Food safety standards, compliance and European Union's rejection of African exports: The role of domestic factors. GlobalFood Discussion Papers, 74. https://www.econstor.eu/bitstream/10419/121845/1/837623928.pdf

Table 2 and Figures 4 and 5 demonstrate that the decrease in rejections during the last decade does not come from a decrease in exports. On the contrary, Vietnamese food and feed exports have increased during that period. For instance, rejections of exports to the American market have steadily dropped year by year during the 2010 – 2020 period while exports to this market have increased. In 2020, the U.S. market became the largest market for Vietnamese agricultural exports, accounting for 26.2% of the total export turnover of the agricultural sector. This market is currently in first place winning slightly over China (24.6%), the EU (9.2%) and Japan (8.3%).[35]

The same findings apply to the Japanese market, with a 43% decrease in rejections over the last decade (**Figure 4**).

Table 2 and **Figures 4 and 5** show that rejections from the EU-28 market have decreased in number (70 in 2010 to 38 in 2020). However, according to Figure 6 we see that its share of the total rejections has fallen slightly (11% in 2010 versus 7% in 2020) which means that more efforts were made in the other markets.

Per **Figures 4 and 5**, rejections from the Chinese market have fluctuated during the studied period and have increased in number (63 in 2010 to 236 in 2020) and according to Figure 6, the share of the Chinese market of the total number of rejections has increased significantly from 10% in 2010 to 44% in 2020. The increase in rejections can be due to both an increase in exports as well an increase in non-compliance. In the following sections, we'll look into other indicators which will help us answer this question.

FIGURE 4 : EVOLUTION OF ARR BY MARKET, 2010 - 2020

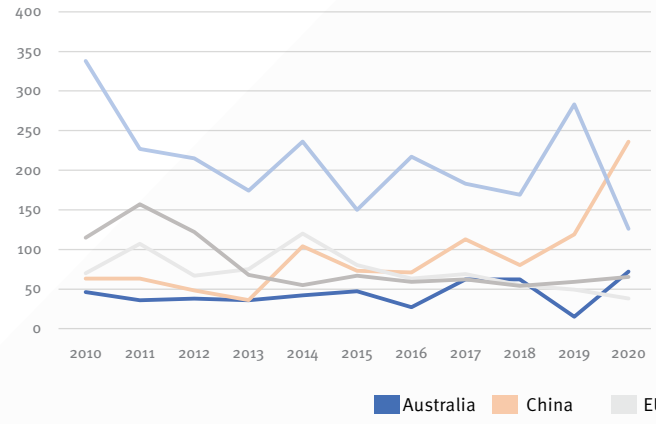
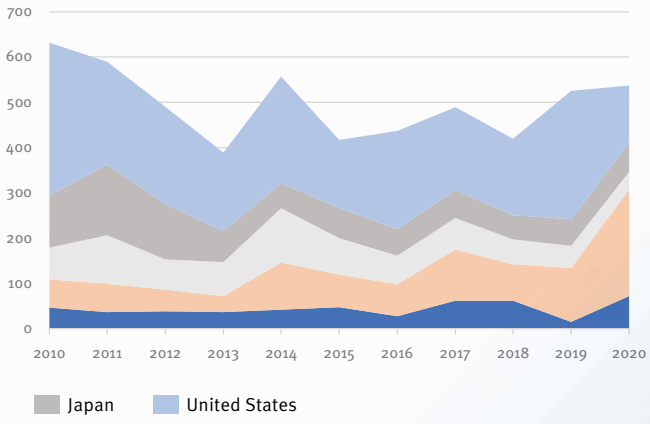


FIGURE 5 : GLOBAL NUMBER OF REJECTIONS FOR ALL MARKETS PER YEAR



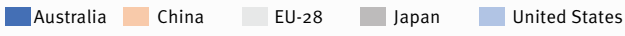
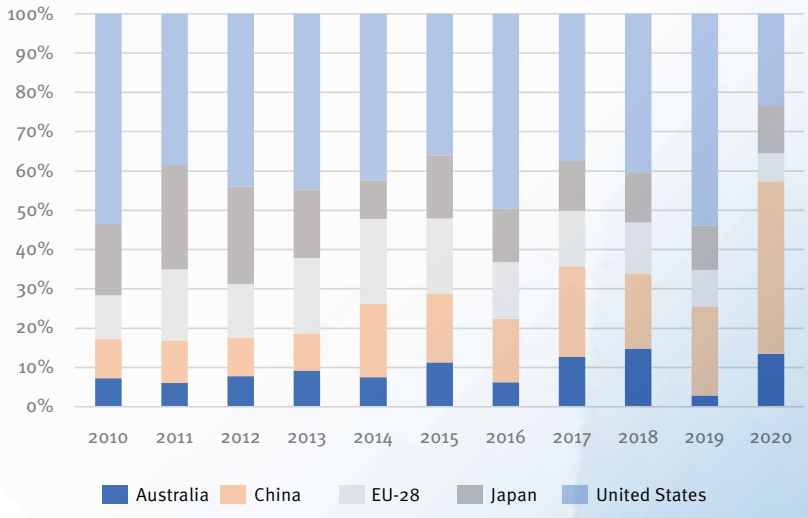


FIGURE 6: SHARE OF REJECTIONS FOR VIETNAMESE FOOD AND FEED EXPORTS BY MARKET, 2010 - 2020

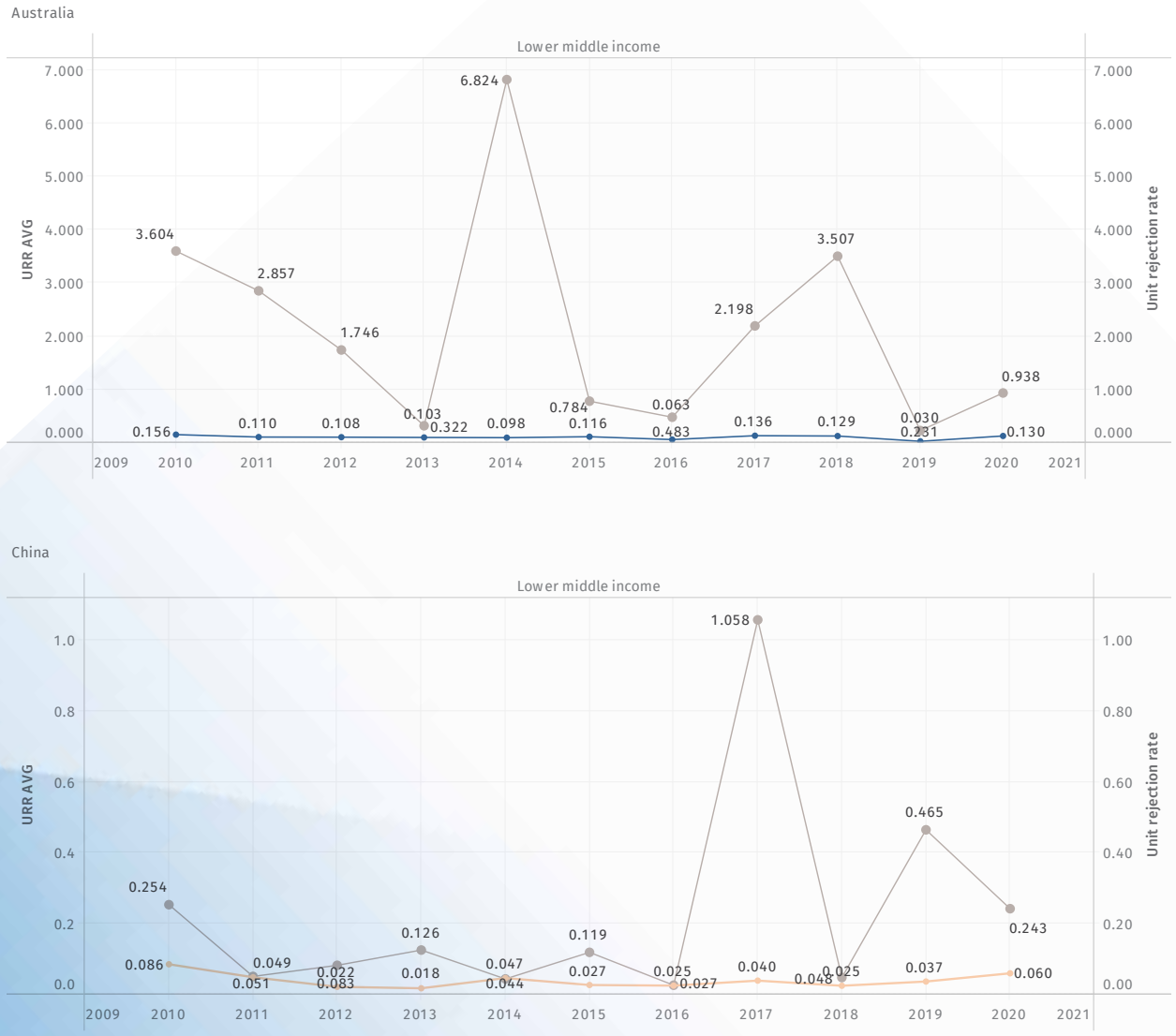


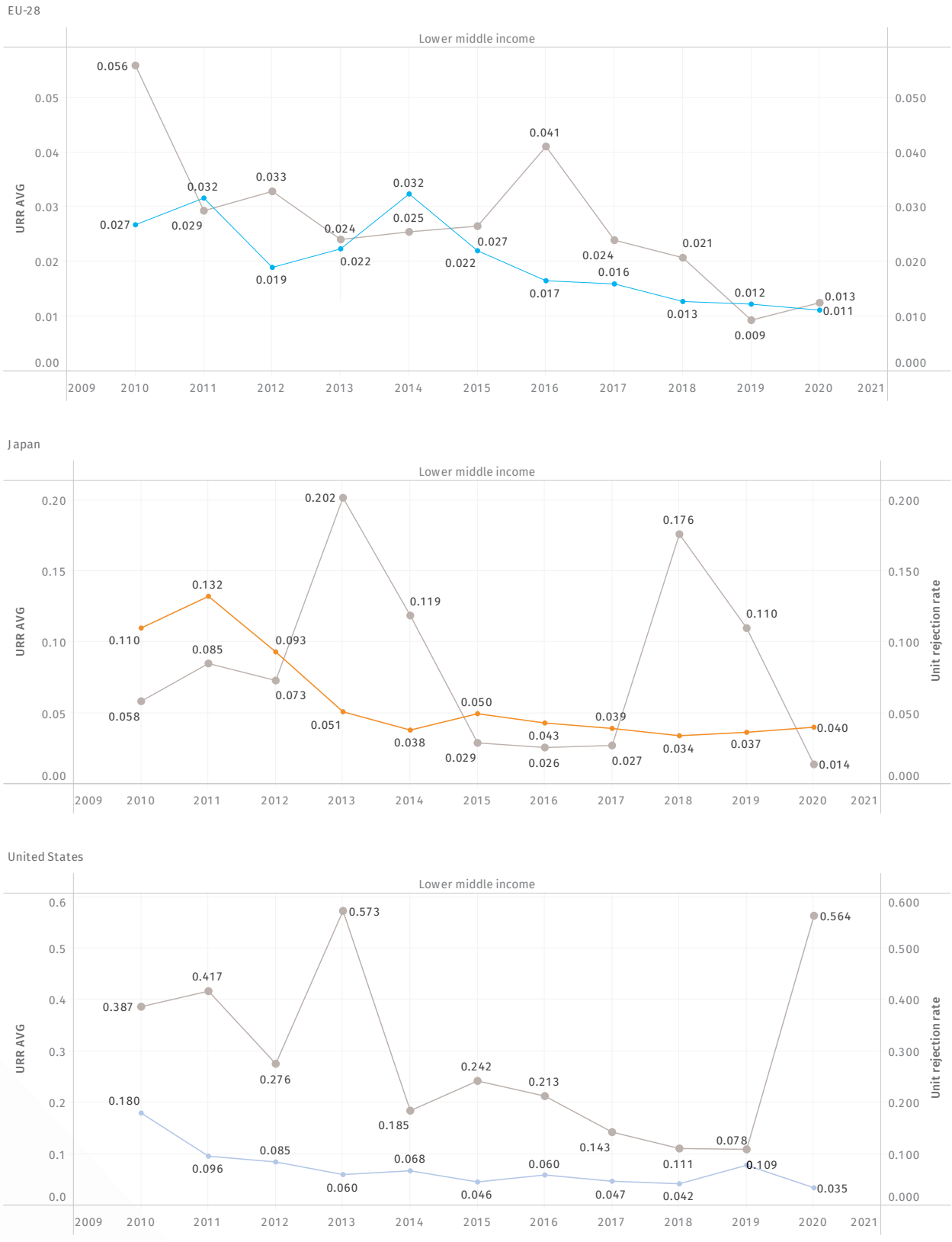
[35] Binh, L. H., & Ha, L. T. (2021). Vietnam-China Agricultural Trade: Huge Growth and Challenges. Trends in Southeast Asia, (4). https://think-asia.org/bitstream/handle/11540/13295/TRS4_21.pdf?sequence=1

Unit rejection rate:

The Unit Rejection Rate (URR) is defined as the number of rejections per US$ 1 million of imports. The colored charts represent the URR for Vietnam over the period of 2010 to 2020 food and feed products for a specific market. Vietnam's URR (the colored line) is being compared with the average URR for the World Bank income bracket to which Vietnam belongs to, which is the lower-middle income (the grey line). The URR indicator accounts for changes in the volume of exports such that it provides a direct measure of the rate of non-compliance. A higher URR shows a higher rate of non-compliance of Vietnam with regard to food safety and quality regulations.

FIGURE 7: URR FOR HS 1-23 VIETNAMESE FOOD AND FEED EXPORTS FOR THE 5 MARKETS, 2010 - 2020





According to **Figure 7**, Vietnam's URR in the Japanese market for food and feed products has been about 0.1 during the period of 2010 - 2020, which means that for every US$10 million of imports from Vietnam to Japan, there is about 1 rejection. For the EU-28 market, the URR has been stable and very low between 0.01 and 0.03 and quite close to the average URR of all lower-middle income countries as classified by the World Bank. In the other three markets, Vietnam's URR fluctuated. In the United States, the URR has gone from almost 0.2 to about 0.04 and is lower than the average URR of all lower-middle income countries. This means that Vietnam has performed better on average in the US market than other lower-middle income countries and has had fewer rejections. For the Australian and the Chinese markets, the URR has remained consistently very low and close to 0. This is a commendable effort as a quarter of all agricultural Vietnamese exports are shipped to China.

Relative rejection rate indicator:

The bar charts in **Figure 8** display the distribution of the Relative Rejection Rate (RRR) (log ratio) across markets for Vietnam for H1-23 food and feed export products in 2020. The RRR shown (log ratio) is the natural logarithm of the ratio of Vietnam's share of total rejections to share of total imports. The indicator provides a convenient measure of the performance of countries relative to one another in a year or over a period of time. A higher RRR (log ratio) for Vietnam implies poorer performance with regard to food safety and quality standards in that market relative to other markets.

FIGURE 8: RRR FOR HS1-23 FOOD AND FEED VIETNAMESE EXPORTS IN 2020

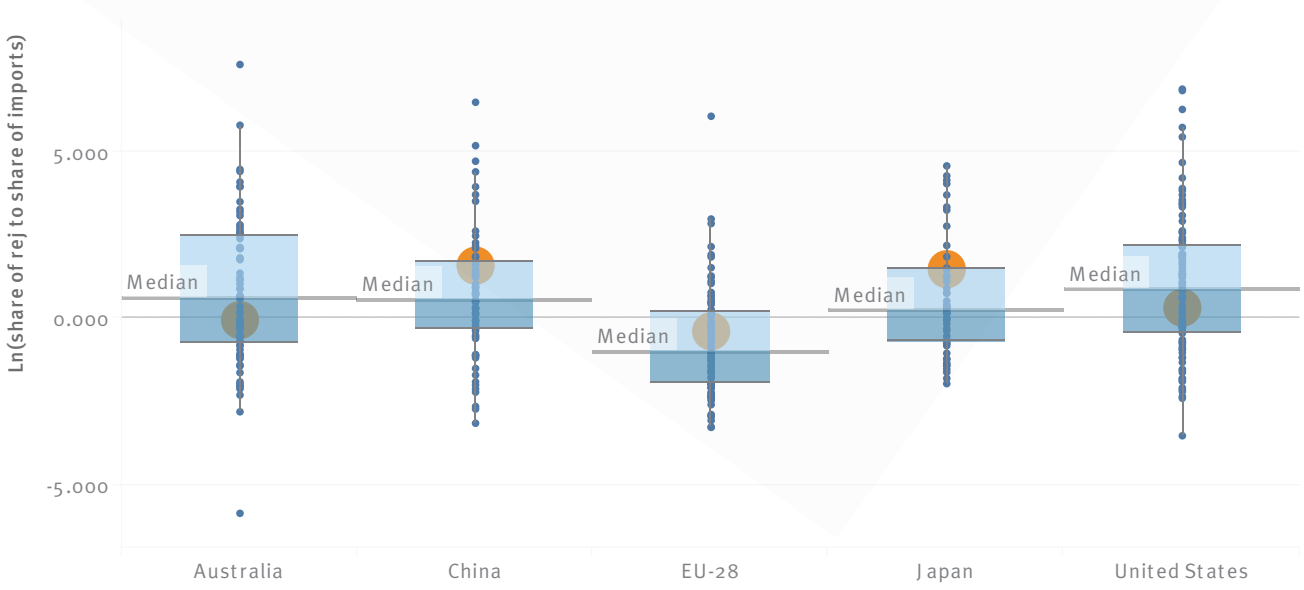


TABLE 3: RRR FOR HS1-23 FOOD AND FEED VIETNAMESE EXPORTS IN 2020

Australia		**China**		**EU-28**		**Japan**		**United States**	
Median	Vietnam	Median	Vietnam	Median	Vietnam	Median	Vietnam	Median	Vietnam
0.598	**-0.042**	0.541	**1.588**	- 1.031	**-0.379**	0.223	**1.482**	0.858	**0.328**

The RRR as shown in **Figure 8** and **Table 3** is higher for Vietnam in the Japanese and Chinese markets compared to the other markets which implies a poorer performance with respect to food safety and quality standards in the Japanese (Median = 0.223 and Vietnam's RRR = 1.482) and Chinese (Median = 0.541 and Vietnam's RRR = 1.588) markets compared to other markets. Therefore, efforts must focus on complying with their food safety regulations. Vietnamese exports performed better in the European market than in the other markets as well as better than other exporting countries to the same market on average as well as in the American market (Median=0.912 and Vietnam's RRR = 0.328). Similarly, Vietnam performed better than other countries in the Australian market (Median = 0.598 and Vietnam's RRR = -0.042) and in the EU-28 market (Median = -1.031 and Vietnam's RRR = -0.379).

C. REASONS FOR REJECTION

Frequency of reasons for rejection:

The frequency of reasons for rejections is the total counts of consignments rejected at the border of entry for a particular reason. Examples of possible reasons for rejection include labeling, hygienic condition, adulteration, missing document, additive, bacterial contamination, pesticide residues, veterinary drugs residues, mycotoxins, heavy metal, and packaging. The "aggregate frequency of reasons of rejections" can be different from "aggregate number of rejections" as a single consignment can be rejected on multiple grounds. To analyze the reasons for border rejections, we need to select a specific year.

General reasons for rejection:

TABLE 4: REASONS OF REJECTION (NUMBER & %) OF HS1-23 FOOD & FEED VIETNAMESE EXPORTS FOR THE 5 MARKETS IN 2020

VIETNAM	Australia		China		EU-28		Japan		US		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Additive	0	0%	148	14%	62	7%	67	8%	215	6%	492	**7%**
Adulteration / missing document	9	1%	84	8%	19	2%	27	3%	201	5%	340	**5%**
Bacterial contamination	133	23%	275	27%	175	21%	259	30%	744	19%	1586	**22%**
Heavy metal	1	0%	29	3%	134	16%	0	0%	6	0%	170	**2%**
Hygienic condition / controls	0	0%	64	6%	32	4%	55	6%	1,177	31%	1328	**18%**
Labeling	220	38%	167	16%	4	0%	0	0%	592	15%	983	**14%**
Mycotoxin	3	1%	9	1%	13	1%	9	1%	10	0%	44	**1%**
Other contaminants	16	3%	27	3%	40	5%	12	1%	184	5%	279	**4%**
Other microbiological contaminants	0	0%	128	13%	39	5%	0	0%	0	0%	167	**2%**
Others	5	1%	55	5%	90	11%	12	1%	8	0%	170	**2%**
Packaging	0	0%	15	1%	5	1%	0	0%	0	0%	20	**0%**
Pesticide residues	80	14%	16	2%	92	11%	97	11%	422	11%	707	**10%**
Veterinary drugs residues	117	20%	13	1%	130	16%	345	39%	329	8%	934	**13%**
Total	**584**	100%	**1030**	100%	**835**	100%	**883**	100%	**3,888**	100%	**7,220**	100%

Figure 9 and Table 4 show the aggregate frequency of reasons of rejections of products exported from Vietnam into the five markets in 2020 for food and feed (the year 2020 was selected, as it is the most recent currently available year in the data set). The frequency of reasons for rejection is the total counts of consignments rejected at the border of entry for a particular reason. This indicator helps exporting countries identify areas of capacity building (solving key reasons for rejection) to attain or improve international trade standards compliance.

The main causes of rejections, which represented 40% of rejections, were bacterial contamination (22%) and hygienic condition / controls (18%). Other causes were veterinary drugs residues (13%), labeling (14%), pesticide residues (10%) and additive (7%). Vietnam needs to strengthen its capacity in safety, hygiene and assessment and control techniques to comply with international regulations on the main causes of rejections: bacterial contamination, hygienic condition/ controls, and veterinary drug residues.

Reasons for rejection by market:

Figure 10 illustrates the reasons for rejection of Vietnamese food and feed products for each of the main markets.

FIGURE 9: AGGREGATE FREQUENCY OF REASONS FOR REJECTION (%) FOR FOOD & FEED HS1-23 VIETNAMESE EXPORTS FOR 5 MARKETS IN 2020

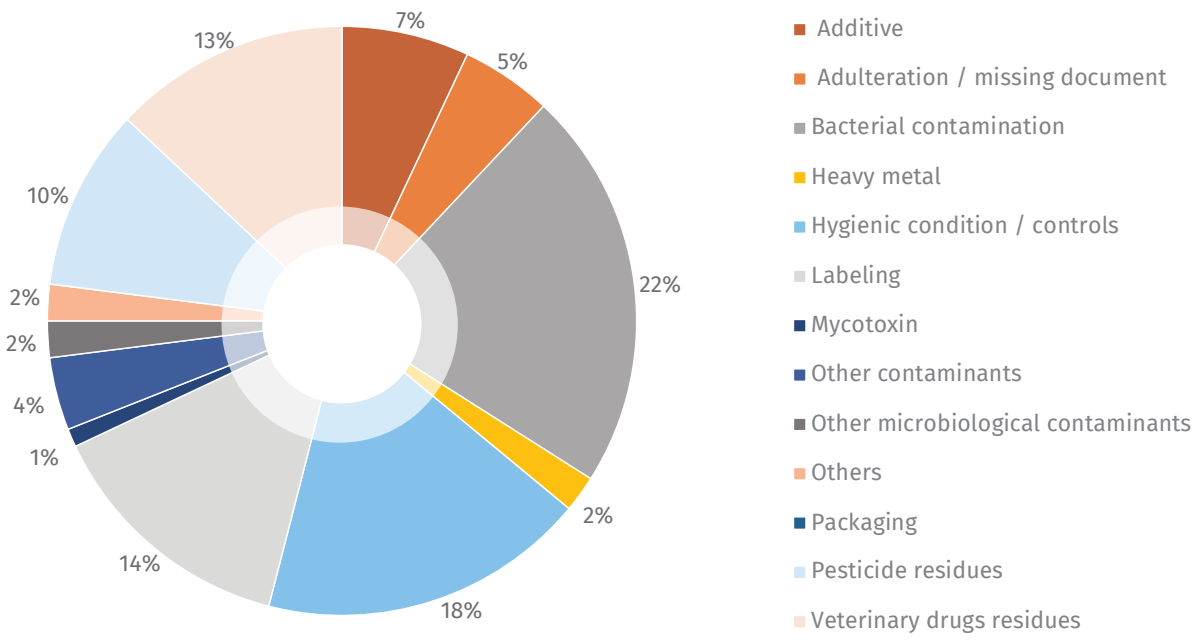


FIGURE 10: FREQUENCY OF REASONS FOR REJECTION (%) FOR FOOD & FEED HS1-23 VIETNAMESE EXPORTS BY MARKET IN 2020

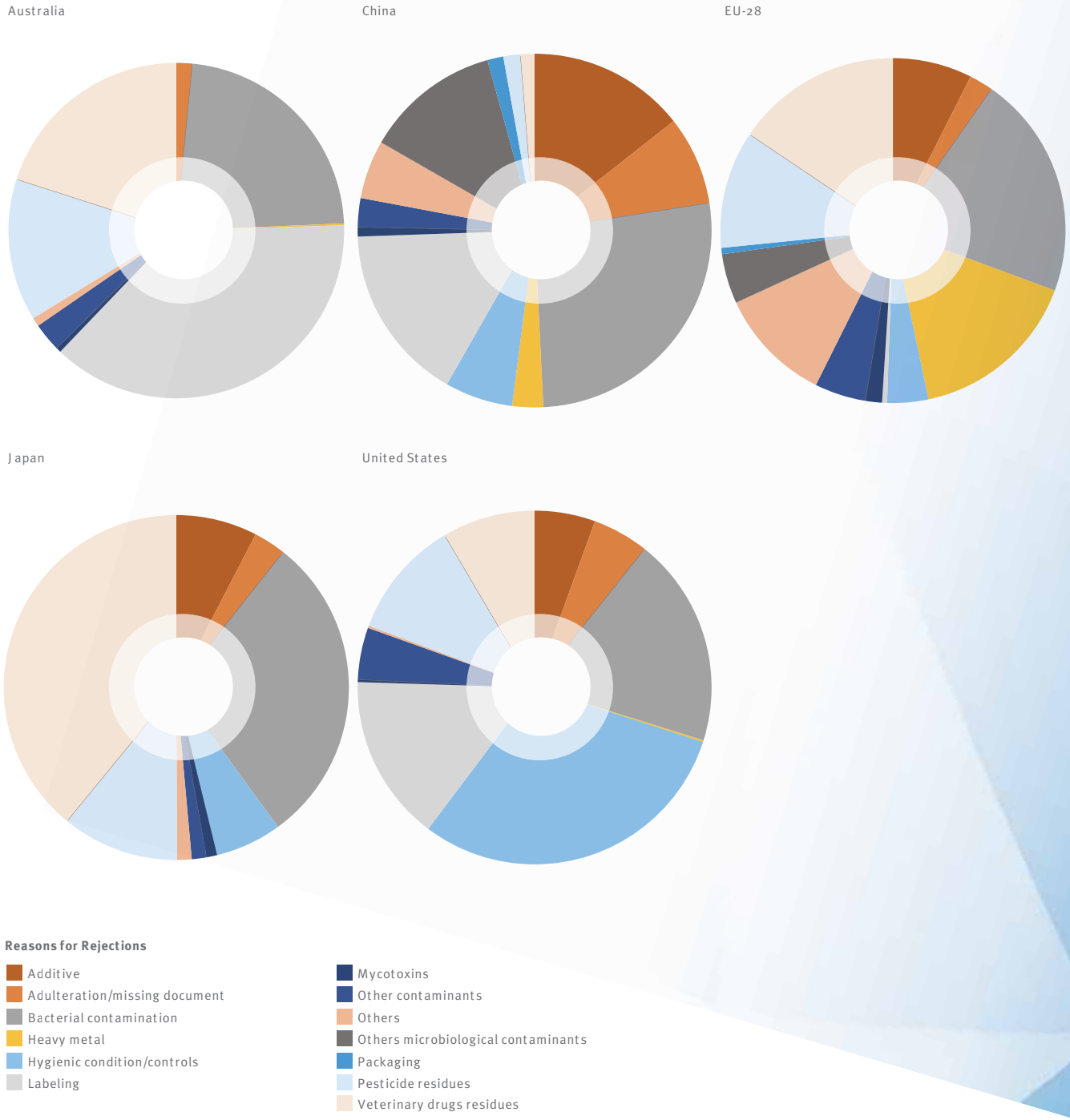


Figure 10 and **Table 4** demonstrate that in the U.S. market (42% of all rejections) , hygienic condition/controls was the most common reason for rejection (31%), followed by bacterial contamination (19%), labeling (15%) and pesticide residues (11%). The reasons for rejection in the Chinese market (18% of all rejections) were bacterial contamination (27%), labeling (16%), additives (14%), and other microbiological contaminants (13%). In the Japanese market, the most frequent reasons for rejection have been veterinary drug residues (which accounted for almost half of the reasons for rejection at 39%), bacterial contamination (30%), pesticide residues (11%) and additive (8%). In the EU-28 market, the most recurrent reasons for rejection in 2020 have been bacterial contamination (21%), veterinary drug residues (16%), heavy metal (16%), and pesticide residues (11%).

Finally, In the Australian market, the most common reasons for rejection of food and feed Vietnamese exports in 2020 were labeling (38%), bacterial contamination (23%), veterinary drug residue (20%), and pesticide (14%). The rest of the reasons were less frequent with small shares of the pie chart.

D. COMPARATIVE ANALYSIS

Country comparison:

TABLE 5: MAIN INDICATORS OF THE 4 COUNTRIES – VIETNAM, THAILAND, PHILIPPINES AND MALAYSIA

	Vietnam	Thailand	Philippines	Malaysia
GDP in billion USD – 2021	366.1	505.9	394.1	373
Total population in million – 2021	97.5	71.6	113.9	33.6
GDP per capita in USD – 2021	3,756	7,066	3,461	11,109
Value added by Agriculture, Forestry and Fishing – 2019	14%	8%	9%	7%
Human Development Index – 2018	0.693	0.765	0.712	0.804
3 Year Average of Food Production (2015 – 2017; unit: $1 per capita)	199	250	127	310
Logistics Performance Index (Overall) – 2018	3.27	3.41	2.90	3.22
Food Safety Index – 2017	93	100	80	N/A
Percentage of population employed in agriculture – 2019	37%	31%	23%	10%
Main exported agricultural products – 2020	Rice, Cotton, Soybeans, Grains, Dairy products, Tree nuts	Soybeans, Wheat, Cotton Dairy products, Tree nuts	Soybean meal, Wheat, Dairy products, Poultry meat, Soybeans	Soybeans, Food preparations, Dairy, Cotton, Wheat tree nuts
Main trading partners – 2020	USA, China, Japan, South Korea, EU, Australia	USA, China, Japan, Vietnam	USA, Hong Kong, China, Singapore	China, Singapore, USA, Hong Kong

Against a backdrop of increasing global uncertainty, Vietnam remains one of the most dynamic economies in the world, with a GDP growth rate of 2.9% in 2020 and of 7% in 2019 prior to the pandemic. Given this economic performance and its efforts to meet international standards, the countries selected for benchmarking are Thailand, the Philippines and Malaysia. Like Vietnam, these countries are part of ASEAN (South East Asian Economic bloc). This is the 5th largest "economic bloc" in the world (behind the EU, the US, China and Japan). It is a region made up of heterogeneous economies which share a common dynamic and potential. Based on an extroverted growth model (openness to trade and FDI) and solid growth drivers, the region's economy has grown by an average of 5% since the 2000s and is also responsible for 8% of world trade. Labor-force expansion and improvements to productivity drive GDP growth and ASEAN has made great progress in those areas. With a population of more than 661 million people in 2020, it has a larger population than the EU or North America as well as the third-largest labor force in the world, behind China and India.

Vietnam was able to grow at an astonishing pace as it doubled its GDP per capita from $1,300 to $2,600 in 11 years from 1995 to 2006[36]. It is a country in full industrial development and its exports have increased significantly. It is therefore interesting to compare Vietnam's global market performance with the performance of other ASEAN countries, some of the most successful of which are: Thailand, the Philippines, and Malaysia. These countries have experienced a remarkable industrial development and have in common a privileged commercial and financial relationship with China, which remains the most important economic partner of these countries. Finally, it should be added that these countries share several similar values for some indicators. For instance, the HDI is between 0.7 and 0.8; the LPI is between 2.9 and 3.4; and the FSI is between 80 and 100 for all four countries. They also export similar agricultural products, such as rice, coffee, soybeans and some fruits.

[36] HV, V., Thompson, F., & Tonby, O. (2014). Understanding ASEAN: Seven things you need to know. https://www.mckinsey.com/~/media/McKinsey/Industries/Public%20Sector/Our%20Insights/Understanding%20ASEAN%20Seven%20things%20you%20need%20to%20know/Understanding%20ASEAN%20Seven%20things%20you%20need%20to%20know.pdf

Aggregate Rejection Rate:

The Aggregate Rejection Rate is shown for Vietnam, Thailand, the Philippines and Malaysia in **Table 6**.

TABLE 6: AGGREGATE NUMBER OF REJECTIONS FOR HS1-23 FOOD AND FEED EXPORTS DURING 2010 – 2020

VIETNAM

Markets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Australia	46	36	38	36	42	47	27	62	62	15	72	483	**9%**
China	63	63	48	36	104	73	71	113	80	119	236	1,006	**18%**
EU-28	70	107	67	75	120	80	63	69	55	49	38	793	**14%**
Japan	115	157	122	68	55	67	59	62	54	59	65	883	**16%**
United States	338	227	215	174	236	150	217	183	169	283	126	2,318	**42%**
Total	632	590	490	389	557	417	437	489	420	525	537	**5,483**	**100%**

THAILAND

Markets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Australia	74	38	24	23	45	49	37	51	49	39	117	546	**11%**
China	66	74	72	103	157	134	34	214	57	17	69	997	**20%**
EU-28	121	87	114	86	84	67	85	79	55	22	26	826	**16%**
Japan	115	90	90	75	71	67	54	55	47	46	38	748	**15%**
United States	295	211	235	158	170	195	140	124	106	146	134	1,914	**38%**
Total	671	500	535	445	527	512	350	523	314	270	384	**5,031**	**100%**

PHILIPPINES

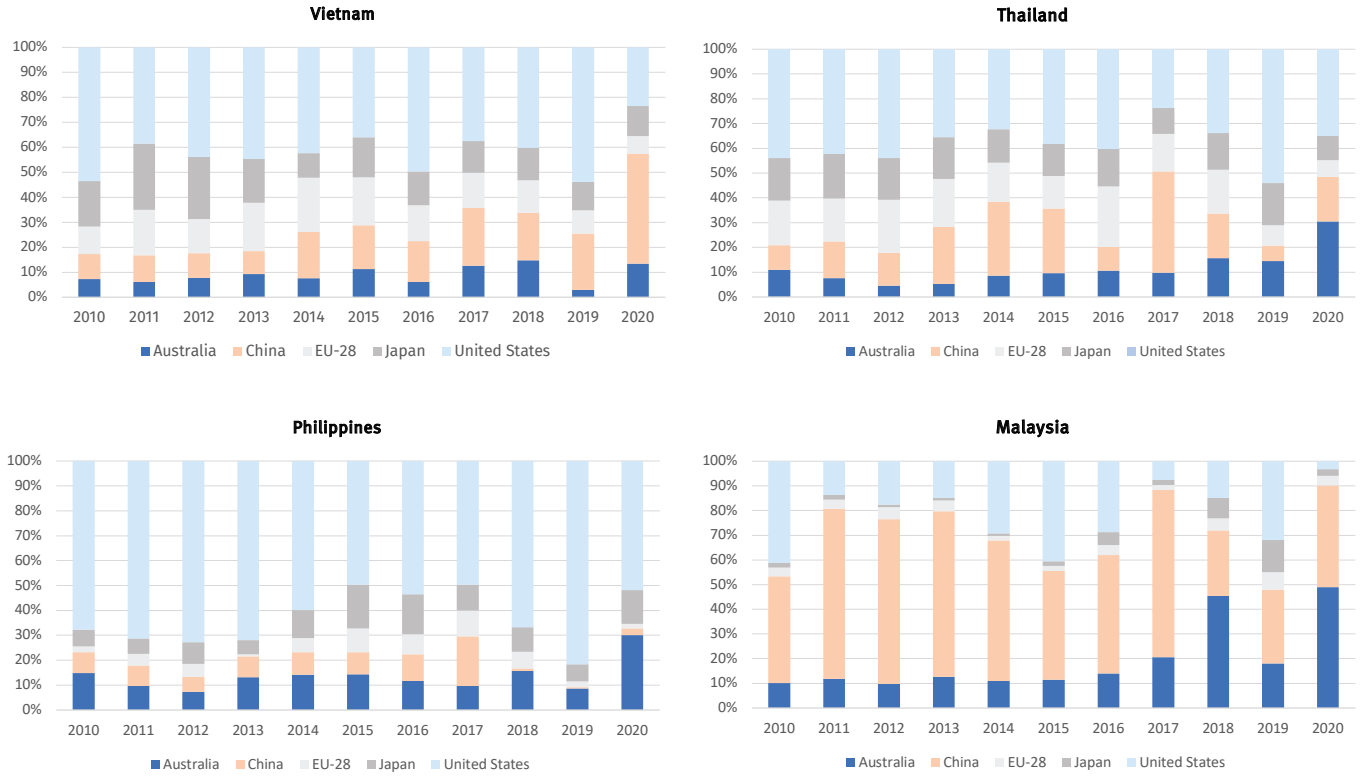
Markets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Australia	43	25	17	30	20	18	13	13	33	15	33	260	**13%**
China	24	21	14	19	13	11	12	27	2	1	3	147	**7%**
EU-28	7	12	12	2	8	12	9	14	14	4	2	96	**5%**
Japan	19	16	20	13	16	22	18	14	21	12	15	186	**9%**
United States	196	184	169	164	85	62	60	67	140	142	57	1,326	**66%**
Total	289	258	232	228	142	125	112	135	210	174	110	**2,015**	**100%**

MALAYSIA

Markets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Australia	26	25	20	28	34	36	21	51	55	18	75	389	**17%**
China	110	146	137	148	177	138	72	168	32	30	63	1,221	**53%**
EU-28	9	8	10	10	6	6	6	5	6	7	6	79	**3%**
Japan	5	4	2	2	3	6	8	5	10	13	4	62	**3%**
United States	105	29	36	33	91	127	43	19	18	32	5	538	**24%**
Total	255	212	205	221	311	313	150	248	121	100	153	**2,289**	**100%**

Table 6 illustrates that the US border rejections have the highest share of all rejections in the five markets for Vietnamese, Thai and Filipino exports (between 38 and 66%). For Malaysia, the majority of rejections comes from the Chinese market (53%). For the other countries, border rejections for goods entering the Chinese market represent 1/5th at most of total rejections during the period of 2010 to 2020 (7% for the Philippines, 18% for Vietnam and 20% for Thailand). We can therefore conclude that most of these countries should first focus on reducing US food and feed border rejections.

FIGURE 11: : SHARE OF REJECTIONS FOR FOOD AND FEED EXPORTS BY MARKET, 2010 - 2020



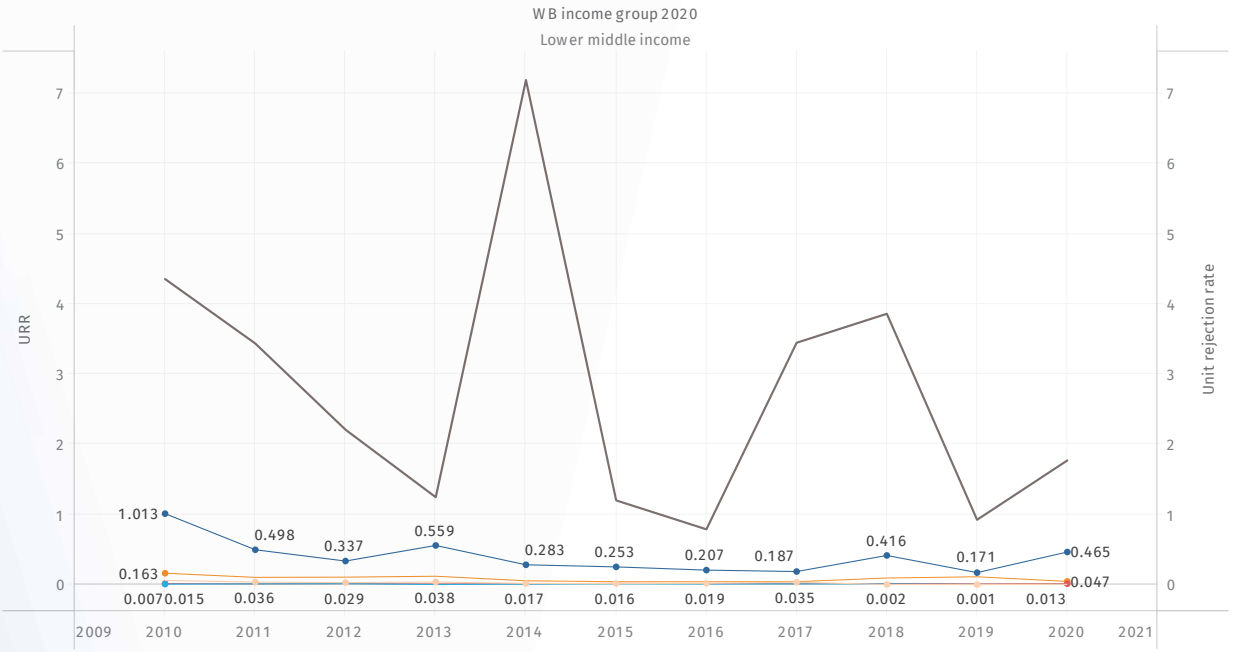
Based on **Figure 11**, the share of US rejections was quite high for Vietnamese, Thai and Filipino exports in 2010. Then, over the next decade, they decreased for all four countries. Indeed, Vietnam has managed to significantly reduce its share of US border rejections (54% in 2010 to 23% in 2020). This performance was also achieved by the Philippines (68% in 2010 to 52% in 2020) and Thailand (44% in 2010 to 34% in 2020). On the other hand, Malaysia has successfully brought down its share of rejections in the American market from 51% in 2010 to 3% in 2020. The share of rejections from the Australian market has marginally increased for Vietnamese exports (7% in 2010 to 13% in 2020). Rejections from the Australian market have increased significantly for the other countries, especially Malaysia (10% in 2010 to 49% in 2020). Finally, the share of rejections coming from the Chinese market have increased dramatically for Vietnam (10% in 2010 to 44% in 2020) and slightly for Thailand (10% in 2010 to 18% in 2020).

Unit Rejection Rate:

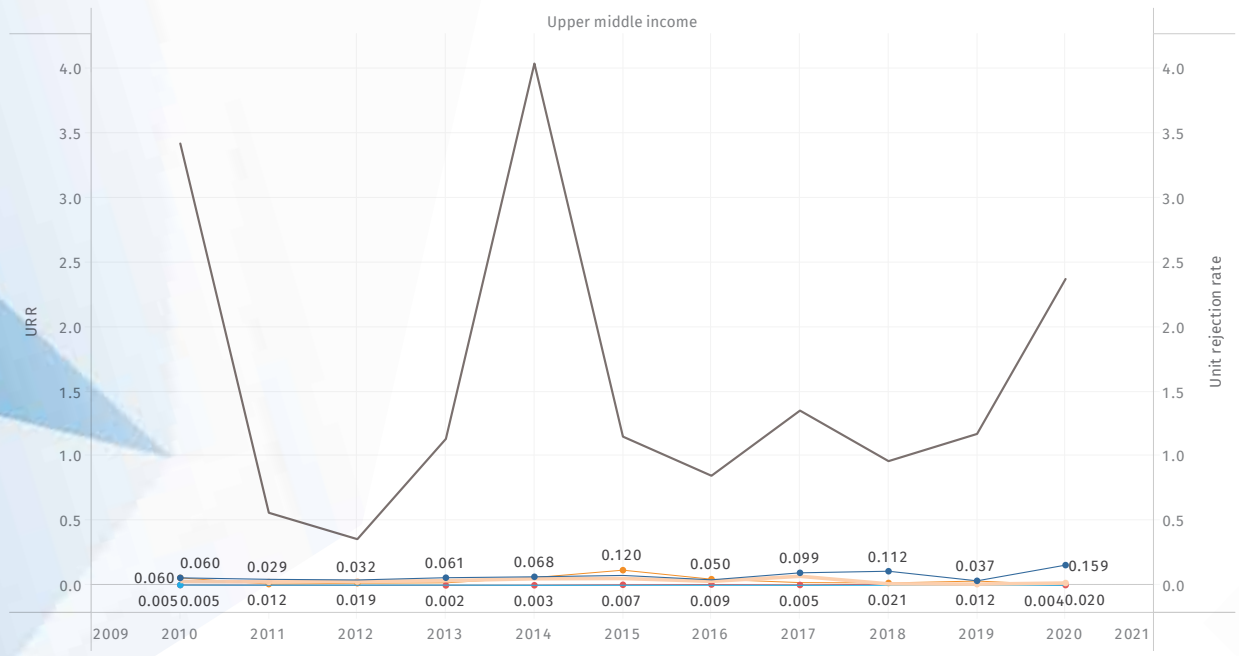
The Unit Rejection Rate (URR) is defined as the number of rejections per US$ 1 million of imports. The URR indicator accounts for changes in the volume of exports such that it provides a direct measure of the rate of non-compliance. The URR is shown for Vietnam, Thailand, the Philippines and Malaysia in Figure 12.

FIGURE 12: URR FOR HS 1-23 FOOD AND FEED EXPORTS TO THE 5 MARKETS, 2010 - 2020

Philippines



Malaysia

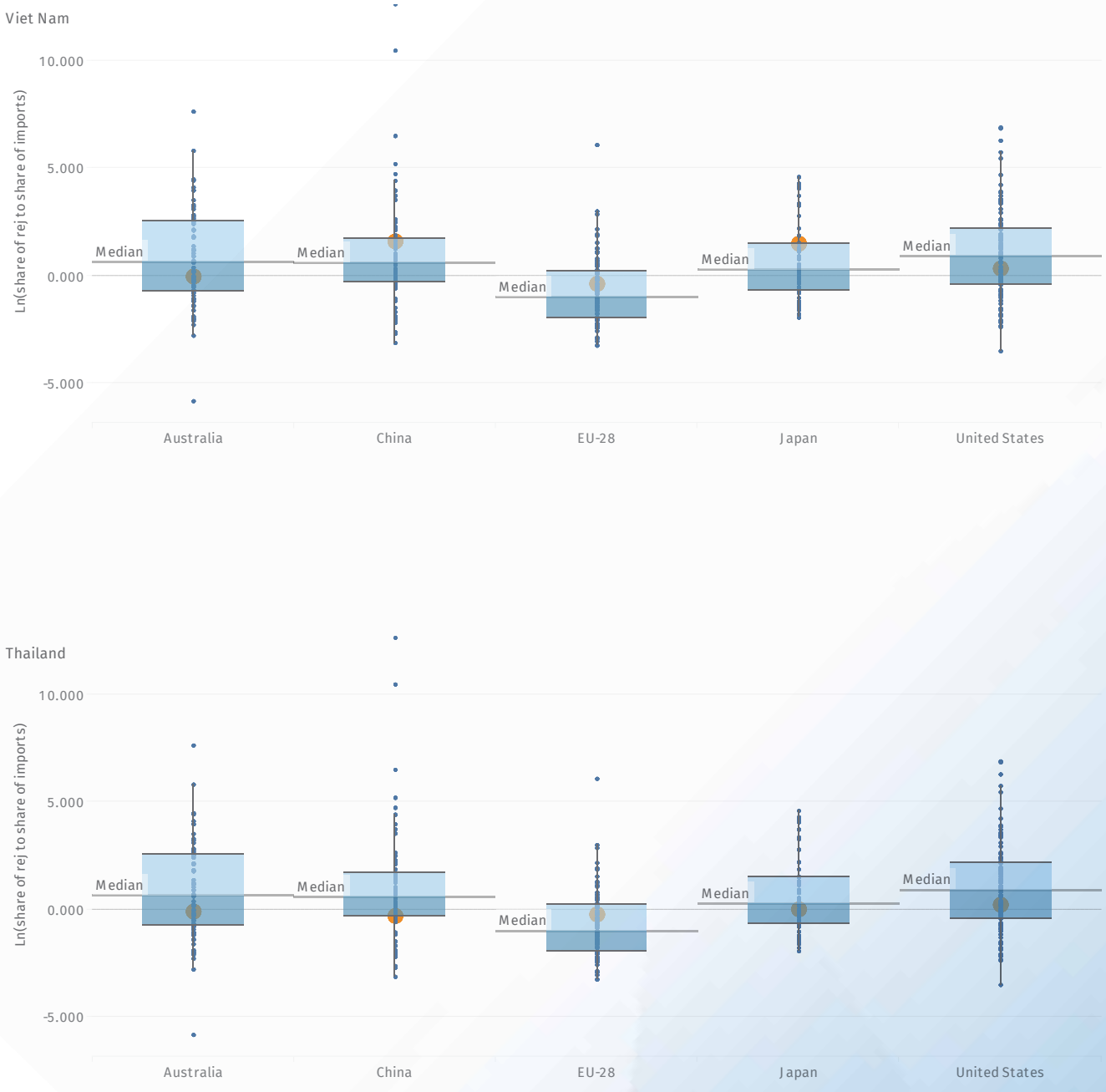


Per **Figure 12**, all four countries have URR which are well below the average URR for each World Bank income group to which the country belongs across the five markets studied. The Vietnamese URR for the five markets range from 0.02 to 0.2 which is similar to Malaysia's performance (although Malaysia belongs to the upper-middle income group). Meanwhile, Thailand and the Philippines's URR fluctuated between 0.01 and 1. In addition, it is important to note that the URR curves for the five markets of the four exporting countries have all mostly decreased or remained stable over the period 2010 - 2020. This implies that the rates of non-compliance have been decreasing overall. Finally, it can be seen that the URR curves for Vietnam and Malaysia are relatively unstable. In contrast, Thailand and the Philippines are stable in all five markets during the 2010 - 2020 decade. Vietnam should therefore continue to work on reducing and stabilizing its URR in each of the five markets.

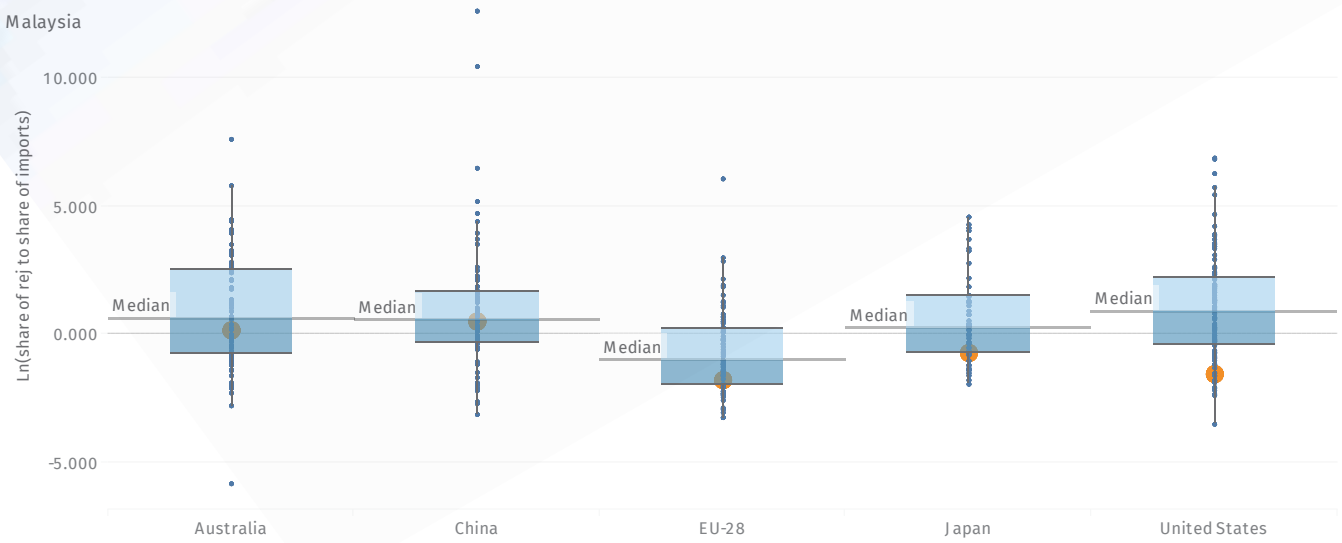
Relative rejection rate indicator:

The bar charts in **Figure 13** display the distribution of the Relative Rejection Rate (log ratio) across markets for the exporting countries (Vietnam, Thailand, the Philippines and Malaysia) for H1-23 food and feed export products in 2020. The Relative Rejection Rate (RRR) shown (log ratio) is the natural logarithm of the ratio of a country's share of total rejections to share of total imports. The indicator provides a convenient measure of the performance of countries relative to one another in a year or over a period of time. A higher RRR (log ratio) for a country implies poorer performance with regard to food safety and quality standards in that market relative to the other markets.

FIGURE 13: RRR FOR HS1-23 FOOD AND FEED EXPORTS FOR VIETNAM, THAILAND, THE PHILIPPINES AND MALAYSIA IN 2020



Malaysia



Philippines

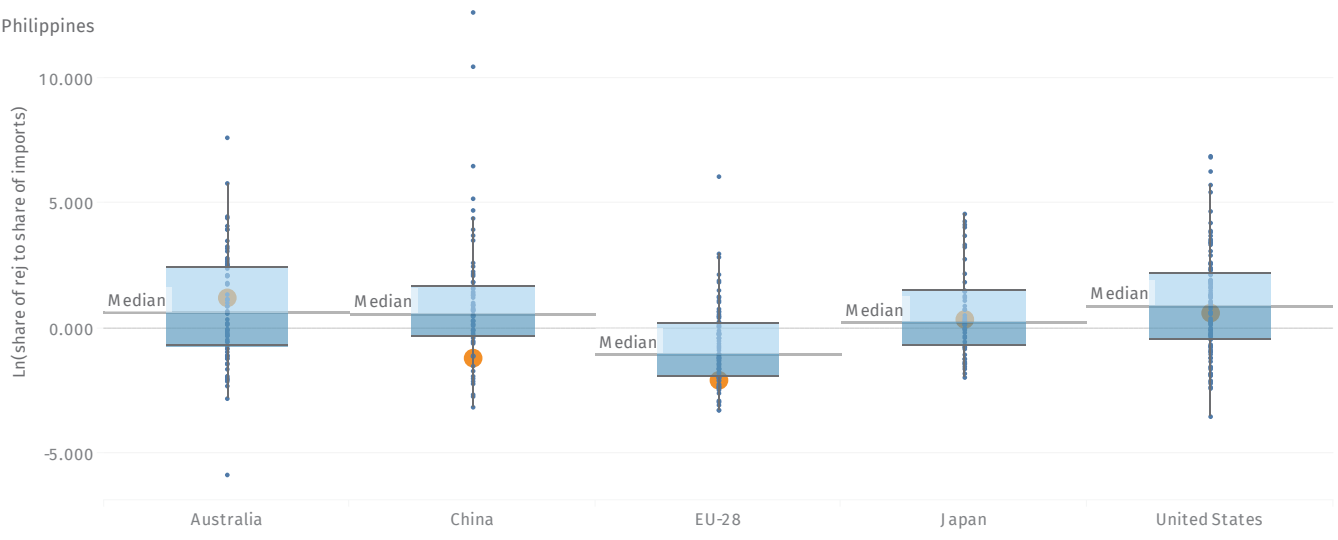


TABLE 7: RRR FOR HS1-23 FOOD AND FEED EXPORTS IN 2020

VIETNAM

Australia		China		EU-28		Japan		United States	
Median	Vietnam	Median	Vietnam	Median	Vietnam	Median	Vietnam	Median	Vietnam
0.598	**-0.042**	0.541	**1.588**	- 1.031	**-0.379**	0.223	**1.482**	0.858	**0.328**

THAILAND

Australia		China		EU-28		Japan		United States	
Median	Thailand	Median	Thailand	Median	Thailand	Median	Thailand	Median	Thailand
0.598	**-0.102**	0.541	**-0.304**	- 1.031	**-0.234**	0.223	**0.006**	0.858	**0.216**

PHILIPPINES

Australia		China		EU-28		Japan		United States	
Median	Philippines	Median	Philippines	Median	Philippines	Median	Philippines	Median	Philippines
0.598	**1.230**	0.541	**-1.174**	- 1.031	**-2.059**	0.223	**0.370**	0.858	**0.625**

MALAYSIA

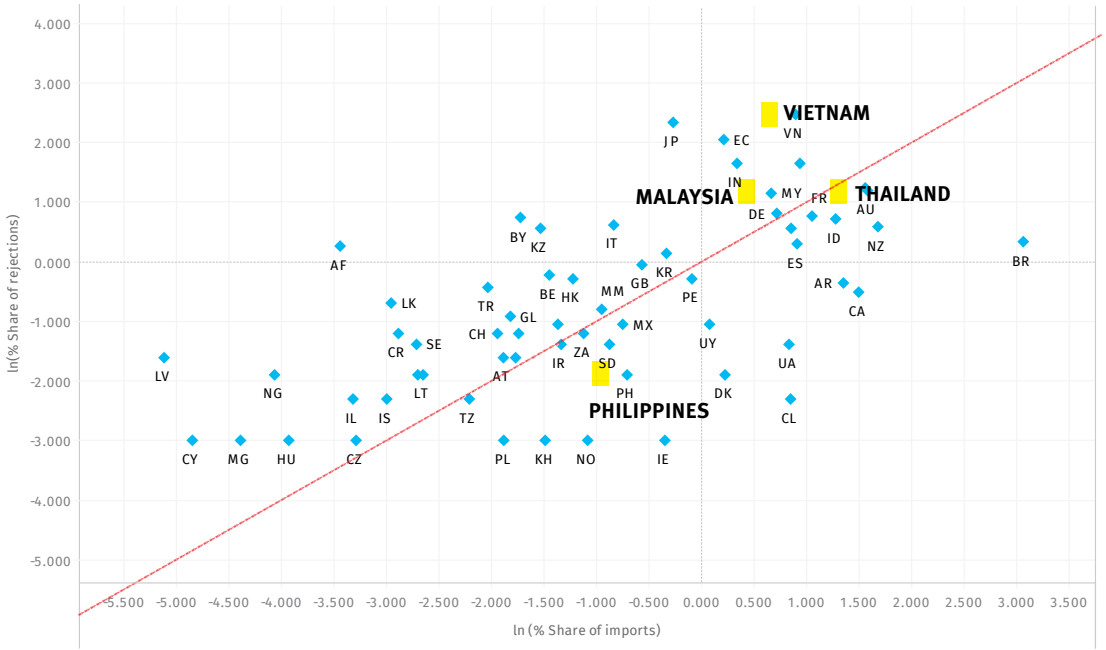
Australia		China		EU-28		Japan		United States	
Median	Malaysia	Median	Malaysia	Median	Malaysia	Median	Malaysia	Median	Malaysia
0.598	**0.154**	0.541	**0.500**	- 1.031	**-1.787**	0.223	**-0.729**	0.858	**-1.552**

In **Table 7**, the median of all RRR values for HS1-23 food and feed exports for all countries in each specific market in 2020 is provided to allow us to put the exporting country's performance in terms of food safety and quality standards into perspective. **Figure 13** shows that in the Australian market the Vietnamese RRR is lower than the median, which means it's performing on average better than other countries. However, Vietnam is still performing worse than Thailand but better than Malaysia. The Philippines has the worst performance in the Australian market compared to the other three countries and the rest of the countries in the world (based on the value of the median RRR = 0.598 and the Philippines's RRR = 1.230). In the Chinese market, Vietnam has performed quite poorly compared to other countries and especially compared to our selected three countries with an RRR of 1.588 (median RRR = 0.541). Vietnam definitely has to improve its RRR in the Chinese market and get it to at least the median RRR. It could learn from the Philippines which performed best out of the four countries with an RRR of -1.174. In the EU market, Vietnam's performance is satisfactory, but remains lower than the average performance of other countries. In that market, Malaysia enjoys the best performance with an RRR of -1.787. In the Japanese market, Vietnam performed poorly (RRR = 1.482) compared to other countries in that market (median RRR = 0.223) as well as compared to the other three countries. Finally, in the US market, Vietnam's performance (RRR = 0.328) is slightly better than that of the other countries in the world (median RRR = 0.858) and similar to the performance of the Philippines and Thailand while Malaysia once again performed admirably.

Relationship between the natural logarithm of share of rejections to the natural logarithm of share of imports:

The scatterplot in **Figure 14** presents the relationship between the natural logarithm of share of rejections to the natural logarithm of share of imports for the HS1-23 food and feed products for 2020 for a given market. In the scatterplot, exporting countries are identified using ISO two-letter abbreviation codes. In addition, the countries above the 45-degree line are considered worse performers {i.e., ln(share of rejections) is greater than ln(share of imports)} than those below the line, as their ln(share of rejections) is less than ln (share of imports).

FIGURE 14: RELATIONSHIP BETWEEN THE NATURAL LOGARITHM OF SHARE OF REJECTIONS TO THE NATURAL LOGARITHM OF SHARE OF IMPORTS IN 2020 - CHINESE MARKET



The scatterplot demonstrates that Vietnam performed better on average than the other countries for the EU-28 market in 2020, as its log of rejections is less than its log of share of imports. Vietnam performed about the same as Thailand but worse than Malaysia and the Philippines. It is in the Japanese market that Vietnam is the worst performer out of the four countries. For the Australian market, Vietnam and Malaysia have almost the same performance with the log of their shares of rejections almost being equal to that of their share of imports, while the Philippines performed slightly worse and Thailand being the best performer out of the four countries. For the US market, Thailand and the Philippines have a higher log of share of rejections than the log of share of imports, while Malaysia performed much better and was located above the line. Finally, for the Chinese market (as seen in **Figure 14**), the Philippines performed the best out of the four countries while as noted based on the previous indicators, Vietnam performed the worst.

Reasons for rejections – comparative analysis:

TABLE 8: FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF HS1-23 FOOD & FEED VIETNAMESE EXPORTS FOR 5 MARKETS IN 2020

VIETNAM	Australia		China		EU-28		Japan		US		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Additive	0	0%	148	14%	62	7%	67	8%	215	6%	492	7%
Adulteration / missing document	9	1%	84	8%	19	2%	27	3%	201	5%	340	5%
Bacterial contamination	133	23%	275	27%	175	21%	259	29%	744	19%	1,586	22%
Heavy metal	1	0%	29	3%	134	16%	0	0%	6	0%	170	2%
Hygienic condition / controls	0	0%	64	6%	32	4%	55	6%	1,177	30%	1,328	18%
Labeling	220	38%	167	16%	4	0%	0	0%	592	15%	983	14%
Mycotoxin	3	0%	9	1%	13	1%	9	1%	10	1%	44	1%
Other contaminants	16	3%	27	3%	40	5%	12	1%	184	5%	279	4%
Other microbiological contaminants	0	0%	128	13%	39	5%	0	0%	0	0%	167	2%
Others	5	1%	55	5%	90	11%	12	2%	8	0%	170	2%
Packaging	0	0%	15	1%	5	1%	0	0%	0	0%	20	0%
Pesticide residues	80	14%	16	2%	92	11%	97	11%	422	11%	707	10%
Veterinary drugs residues	177	20%	13	1%	130	16%	345	39%	329	8%	934	13%
Total	**644**	100%	**1030**	100%	**835**	100%	**883**	100%	**3,888**	100%	**7,280**	100%

TABLE 9: FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF HS1-23 FOOD & FEED THAI EXPORTS FOR 5 MARKETS IN 2020

THAILAND	Australia		China		EU-28		Japan		US		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Additive	0	0%	258	25%	86	10%	68	9%	195	6%	607	9%
Adulteration / missing document	40	7%	102	10%	69	8%	20	3%	529	15%	760	11%
Bacterial contamination	38	6%	219	21%	211	25%	283	38%	243	7%	994	15%
Heavy metal	2	1%	40	4%	57	7%	3	0%	0	0%	103	2%
Hygienic condition / controls	0	0%	105	10%	34	4%	242	32%	1,241	36%	1622	24%
Labeling	397	65%	147	14%	2	1%	39	5%	914	27%	1460	22%
Mycotoxin	15	2%	3	0%	10	1%	0	0%	3	0%	70	1%
Other contaminants	22	4%	6	1%	44	5%	21	3%	101	3%	195	3%
Other microbiological contaminants	0	0%	22	2%	49	6%	0	0%	0	0%	72	1%
Others	7	1%	98	10%	63	7%	12	2%	15	0%	195	3%
Packaging	0	0%	16	2%	8	1%	0	0%	0	0%	25	0%
Pesticide residues	70	11%	1	0%	203	24%	49	7%	157	5%	480	7%
Veterinary drugs residues	17	3%	8	1%	3	1%	10	1%	31	1%	69	1%
Total	**608**	100%	**1025**	100%	**839**	100%	**747**	100%	**3429**	100%	**6,648**	100%

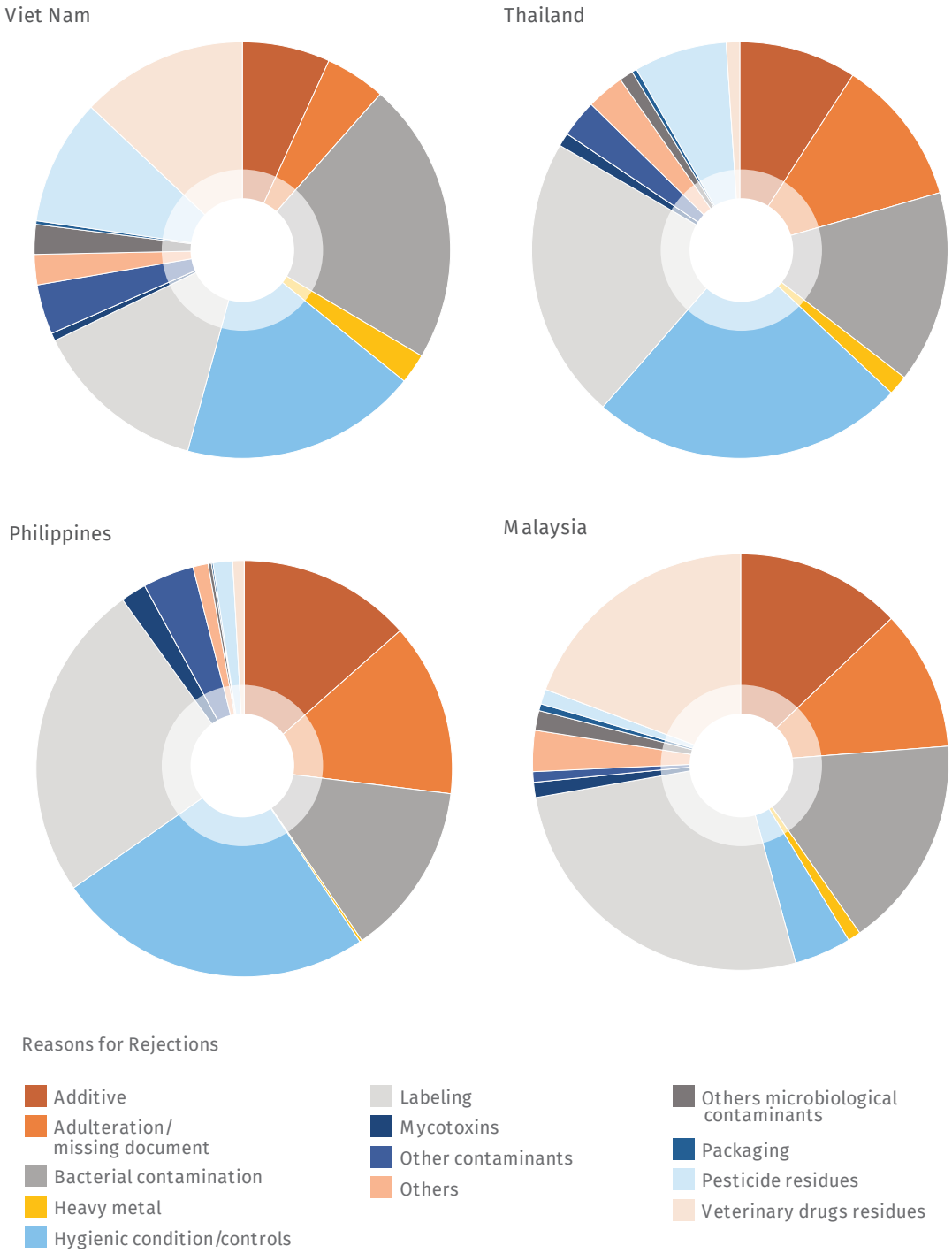
TABLE 10: FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF HS1-23 FOOD & FEED FILIPINO EXPORTS FOR 5 MARKETS IN 2020

PHILIPPINES	Australia		China		EU-28		Japan		US		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Additive	1	0%	50	34%	38	39%	30	16%	294	13%	413	13%
Adulteration / missing document	37	12%	26	17%	10	10%	5	3%	335	14%	413	13%
Bacterial contamination	5	2%	44	30%	2	2%	106	57%	257	11%	414	14%
Heavy metal	0	0%	1	1%	1	1%	3	2%	0	0%	6	0%
Hygienic condition / controls	0	0%	2	1%	8	8%	5	3%	741	32%	756	25%
Labeling	157	51%	7	5%	0	0%	0	0%	596	26%	760	25%
Mycotoxin	33	11%	0	0%	8	8%	3	2%	17	1%	61	2%
Other contaminants	64	21%	1	1%	11	11%	9	5%	37	2%	122	4%
Other microbiological contaminants	0	0%	5	3%	3	3%	0	0%	0	0%	8	0%
Others	0	0%	12	8%	15	15%	1	1%	8	0%	36	1%
Packaging	0	0%	1	1%	3	3%	0	0%	0	0%	4	0%
Pesticide residues	11	4%	0	0%	0	0%	24	13%	11	0%	46	2%
Veterinary drugs residues	0	0%	0	0%	0	0%	0	0%	27	1%	27	1%
Total	**308**	100%	**148**	100%	**99**	100%	**186**	100%	**2323**	100%	**3,064**	100%

TABLE 11: FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF HS1-23 FOOD & FEED MALAYSIAN EXPORTS FOR 5 MARKETS IN 2020

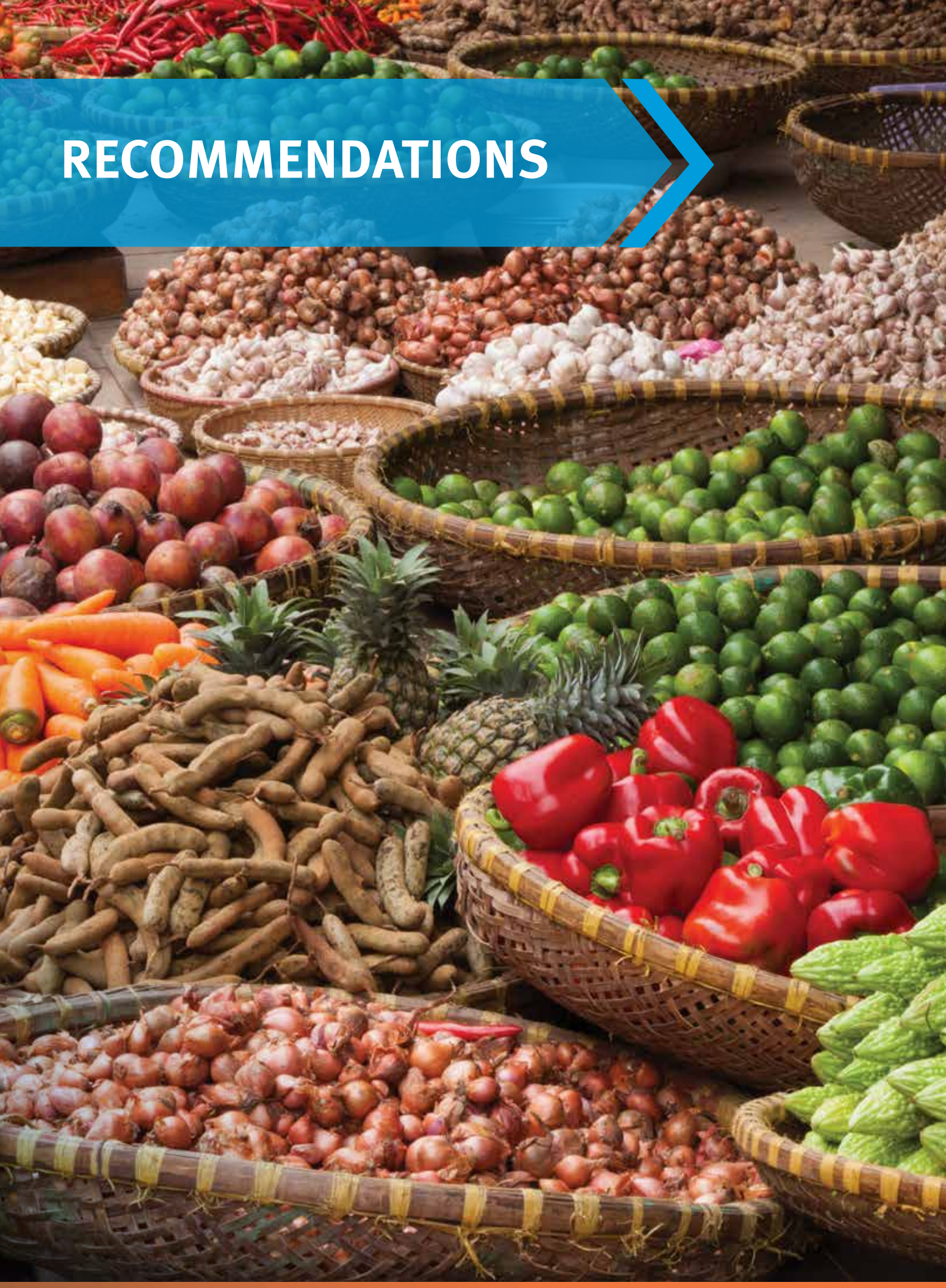
MALAYSIA	Australia		China		EU-28		Japan		US		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Additive	0	0%	341	27%	16	20%	20	32%	57	4%	434	13%
Adulteration / missing document	18	4%	179	14%	4	5%	0	0%	166	11%	367	11%
Bacterial contamination	26	6%	324	26%	8	1%	29	47%	171	11%	558	17%
Heavy metal	2	0%	25	2%	7	9%	0	0%	0	0%	34	1%
Hygienic condition / controls	0	0%	48	4%	1	1%	1	2%	99	6%	149	4%
Labeling	360	82%	174	14%	0	0%	0	0%	360	24%	894	27%
Mycotoxin	20	5%	15	1%	2	2%	3	5%	0	0%	40	1%
Other contaminants	3	1%	11	1%	4	5%	4	6%	5	0%	27	1%
Other microbiological contaminants	0	0%	49	4%	3	4%	0	0%	0	0%	52	2%
Others	0	0%	78	6%	14	17%	1	2%	14	1%	107	3%
Packaging	0	0%	18	1%	0	0%	0	0%	0	0%	18	1%
Pesticide residues	10	2%	0	0%	21	26%	4	6%	4	1%	39	1%
Veterinary drugs residues	0	0%	3	0%	1	1%	0	0%	647	42%	651	19%
Total	**439**	100%	**1265**	100%	**80**	100%	**62**	100%	**1523**	100%	**3,369**	100%

FIGURE 15: AGGREGATE FREQUENCY OF REASONS FOR REJECTION FOR HS1-23 FOOD AND FEED EXPORTS FOR VIETNAM, THAILAND, PHILIPPINES AND MALAYSIA IN 2020



According to **Tables 8-11** and **Figure 15**, the percentage of rejections due to labelling for the four countries is quite high (between 14 and 27% of total rejections). Vietnam has the lowest rate (14%) while Thailand, the Philippines and Malaysia each have between 23 and 27%. This issue is quite prominent when one looks at the American market. The four countries should therefore look at ways to improve their labeling processes so it may conform with the American food safety regulations. The number of rejections due to bacterial contamination is also high for all countries (between 14 and 22%). Vietnam has the highest rate at 22% compared to the other three countries. In particular, bacterial contamination seems to account for about a quarter of all rejections for each of the four countries. This should encourage Vietnam and the rest of the countries to make explicit and concerted efforts to reduce their border rejections which are due to bacterial contamination, especially in the Chinese market (one of the main exporting destination for their agricultural products). A fair number of rejections were also due to hygienic conditions/controls: 18% for Vietnam, 24% for Thailand, 25% for the Philippines while Malaysia seems to have overcome this issue as it accounts for only 4% of its total rejections.

RECOMMENDATIONS



Based on the analysis of the border rejection data for Vietnamese food and feed exports as well as consultation with national stakeholders, public and private institutions, and development agencies, several recommendations can be made:

Strengthen the Quality Infrastructure System:

- **Standards promotion and development:** In order to reduce the number of export rejections, it is imperative to increase the compliance of farmers with international environmental and food safety standards by:
  - Launching trainings, workshops, and coaching programs on standards, on the role of accredited conformity assessment activities and practical methodologies on how to implement standards. A large proportion of farmers in Vietnam lack knowledge about standards and the role of accreditation. In addition, competent assessment bodies should be compliant and have a competency framework for inspectors and clear mandates defined by the secondary legislation.
  - Introducing success stories to farmers and farmers' associations in order to stimulate their interest in taking an active part in the national work on drafting/adopting standards. Active participation in Technical Committees keeps them up to date with what happens to standards in their field and may encourage them to provide proposals for standards of domestic products.
- **Standards harmonization:** Using the SCA tool to find out the main export product groups which have had a high rate of rejection for Vietnam and evaluating the degree of harmonization between the current national standards with the international standards for those product groups.
- **National food safety surveillance system:** Strengthening the national food safety surveillance system and mobilizing all official controls in collaboration with all relevant stakeholders. Moreover, the effectiveness of control also depends on the competencies of government officials as well as farmers. Their expertise can be improved by providing trainings on food sanitary risk analysis and on learning how Good Manufacturing Practices (GMP) and Good Hygiene Practices (GHP) could be applied in various food chains. Knowledge of international standards, such as VietGAP, Global GAP, organic standards for primary production, ISO 22000, HACCP, SQF, IFS for processing enterprises, applying modern traceability technology such as QR code, blockchain, etc. should also be taught and promoted. Finally, the MARD's risk analysis activities should be linked with those carried out by the Ministry of Health (MOH) through the establishment of inter-ministerial risk analysis task forces.

» **Coordination among ministries:** Reviewing and improving the fragmented coordination between the various ministries involved in food safety and commercial exports, such as the MARD, the MOH, the MoIT and the relevant agencies and departments to learn about the characteristics of the current regulatory framework, structure, institutional arrangements, and implementation systems (both at the national and local levels). The issue is not that the authority is decentralized and shared among various ministries; it's rather the lack of coordination and communication between them. For instance, Maximum Residue Limits (MRLs) for pesticides are currently being set using different measures. Thus, there should be a coordinated roadmap and agenda regarding the implementation of the food safety system in Vietnam that each ministry can agree upon as to not duplicate efforts and provide conflicting information to producers, farmers, companies, etc.

» **Digital knowledge dissemination:** We should guarantee that there is a minimum level of knowledge among the government entities responsible for public health related to food safety. To fulfill this goal, the government could build an information system to centralize data stemming from the various national control centers, which would ensure the transparency and dissemination of information and would hopefully avoid the duplication of efforts, competencies and investment. A better harmonization should be actively sought between the MOH and the MARD and the two ministries could collaborate to provide risk assessment, particularly risk around the use of pesticides which could be achieved through the implementation of the pesticide residue monitoring program. They could also collaborate on amending and updating the regulations on pesticides management, food additives, processing aids, etc. Currently, the list of processing preservatives as well as plant protection list is updated every year but not on a regular basis. There is a lot of crucial information that needs to be updated more frequently. For instance, knowing the regulation on the use of specific pesticides on citrus fruits to be able to currently export to the EU market. Exporters and farmers need to know this information in a timely manner in order to adjust their procedures accordingly.

» **Plant protection and quarantine law:** There is a need to verify that good agricultural practices are being observed and to detect fraudulent practices, such as the use of veterinary drugs and prohibited pesticides. According to the Vietnamese Law on Plant Protection and Quarantine (41/2013/QH13), it appears that this is supervised by the MARD with support from other ministries. It'd be important to check how well the law is currently being implemented and to support the government in addressing any gaps found.

» **SOPs development:** Supporting the development of a system of Standard Operating Procedures (SOPs) with specific SOP for each product. For instance, SIAEP is currently developing SOPs for mangoes, which include providing guidance on regulation, MRLs, quality, residue, food safety and hygiene, etc. for mango for the different main markets.

» **Challenges of decentralization of food control activities:** In order to further enhance the value of Vietnamese agricultural products for export to trading partners, it is also necessary to strengthen the presence of food control operators in the field. There is currently a lack of available qualified agents, which limits being able to fully implement a decentralized system in charge of food safety control. A pilot program was implemented in 2017 in three locations: Ho Chi Minh, Danang, and Bac Ninh and was created by the Food Safety Management Authorities (FSMA) in each city. The FSMA is a public establishment, which has a higher degree of freedom than the directive committee and can apply new food management methods, for example, traceability of food using technology (QR code reader for consumers with smartphones) or promoting organic food items[37]. These local agents could achieve good results as they have a better understanding of the field, and can design appropriate solutions to adapt the compliance framework to the local region. However, the lack of workforce to cover all of Vietnam's 10,805 rural and urban communes remains a major obstacle to scaling up this type of solution. The other issue that in the long run challenging the informal economy via a local solution may end up costly and may not reach some of the collectors and wholesalers, who are extremely mobile and can get supplies from remote and uncontrolled production areas.

» **Traceability:** Focusing on implementing the concept of traceability, by improving transparency along the food chain in order to enhance the detection of the presence of unsafe food. This would also allow detection of issues, such as missing documents along the supply food chain. In 2011, the MARD issued circular number 74/2011/TT-BNNPTNT requiring one-step-back-one-step-forward traceability. But, as of 2021, it has yet to be properly implemented at a national level. In reality, modern food processing companies have implemented traceability to comply with their own management requirements. However, smallholders have not. Additionally, having an electric certificate would improve traceability as currently only hand-written tracking documents are required, which may be falsified.

» **Online data platform:** Supporting the government in setting up an online data repository which would be regularly updated and contain current regulations, import conditions, microbiological indictors and any other pertinent information necessary for food exporters of the main markets to which Vietnam export their food and feed products. This would address several issues that food exporters currently face. For instance, for the EU market, for the past two years, there's been an adjustment

[37] Pham, H. V., & Dinh, T.L. (2020) The Vietnam's food control system: Achievements and remaining issues. Food Control, 108, https://www.sciencedirect.com/science/article/abs/pii/S0956713519304517

to pesticide residue standards which Vietnamese enterprises had to learn about by themselves and adjust their testing practices accordingly. For the Japanese market, the standards can be updated as often as once or twice per year, which means enterprises have to proactively adjust to them quickly. Finally, there are differences between each import country's standards so a product could be rejected in the Australian market but accepted in the Japanese market. It becomes therefore quite challenging for Vietnamese producers to keep up with all this rapidly changing information without support. Currently, the Plant Protection Department is developing an online platform that details the ecosystem for enterprises and agencies to access and check information about the latest regulations, processes, especially the guidelines for compliance to award PUC, PHC, etc.

» **Pesticide residue monitoring plan:** The MARD could be supported to regularly monitor and publish the actual maximum residue limits of targeted countries for pesticides and food contaminants in order to ameliorate pesticide management. This information would need to be circulated to farmers in a timely fashion through various channels (workshops, digital platform, etc.). The MARD and other agencies could provide assistance in developing and applying effective plant protection technologies and control measures to ensure that high and constant quality of pesticides are available for effective plant protection. They could also introduce and maintain a risk-based pesticide residue monitoring plan, which covers all residues which are not authorized in the export markets and annually publish the monitoring results together with the supporting internal quality control data.

Enhance industry compliance, competitiveness and sustainability:

» **Digital tools:** Disseminating the existing trade-related digital tools such as the Vietnam National Trade Repository which provides accurate information on preferential tariffs, non-tariff measures (NTMs), rules of origins and other trade-related data and developing other digital tools to improve the various stakeholders' knowledge on food safety, NTMs, conformity assessment processes, and bodies, regulations, standards, etc. Indeed, based on a large-scale business survey of exporters in Vietnam conducted by the International Trade Centre, the 322 Vietnamese agricultural exporters interviewed cited the following challenges when dealing with NTMs: procedural obstacles or POs (58%), strict or complex NTMs (20%), and both NTMs and POs (21%). Specifically, some of the types of difficult NTMs listed were conformity assessment (47%), technical requirements (31%), rules of origin and related certificate of origin (8%), export related measures (6%), and quality control measures (4%)[38].

» **Plant protection technology:** In order to improve pesticide management, agri-trade exporters could collaborate with plant protection specialists at universities, government institutions, etc. to sponsor research projects to create and disseminate effective plant protection technology that results in pesticide residues complying with the targeted market requirements (preferably the strictest one), establish direct contact with the growers and set in contractual agreements the conditions in which they would purchase their products including adherence to the recommended plant protection technology. They can also employ well-trained experienced agronomists to advise the farmers on the proper and safe use of pesticides, how to implement risk-based pre-harvest pesticide residue control, and evaluate the residue levels taking into account the combined uncertainty of sampling and analysis.

» **Financial incentives:** Providing more fiscal and financial incentives to farmers to allow them to make investments to comply with international standards as a large proportion of farmers do not have the financial resources to upgrade their technology and improve their facilities in order to meet standards. SMEs could also be provided with financial incentives and capacity building support to increase compliance with food safety regulations, to encourage sustainable agricultures practices, and to promote the hiring of more women and vulnerable people.

» **Reasons for rejection:** As for the reasons for rejection, Vietnam has to concentrate its effort on reducing rejections caused by bacterial contamination (22% of the share of rejection), hygienic condition/controls (18%), veterinary drugs residues (14%) and labeling (14%). These four causes represent more than two thirds of the reasons for rejection.

» **Market focus:** A particular effort must be made on the US market because it represents 42% of the rejections. In addition, the American market is Vietnam's largest export market for food and feed products.

[38] International Trade Centre (2021). Viet Nam: Tackling the invisible barriers to trade - NTM Business Survey. https://ntmsurvey.intracen.org/ntm-survey-data/country-analysis/viet-nam/#menu1

It is also necessary to focus on the Japanese market which represents only 20% of the rejections, but these rejections are expensive for Vietnam (RRR is by far the highest of all five markets and was a lot worse than that of Thailand, the Philippines, and Malaysia). Finally, Vietnam should aim to reduce rejections in the Chinese market, a large export market with increasing requirements for compliance, as rejections have increased from 73 in 2015 to 236 in 2020 (the high number can also be justified by the high increase in the number of exports to the Chinese market).

» **Support on causes of rejections:** Supporting farmers, producers and SMEs who had rejections in the past by performing inspections to check how they've improved their procedures, tests, etc. to reduce the likelihood of facing future rejections of their products. The support could entail providing expertise, root cause analysis and capacity building trainings as well as funding to purchase equipment, ameliorate their facilities, etc.

» **Food safety risk assessment:** The main causes of border rejections are related to the food safety system in Vietnam. In order to address these causes, understanding the reasons for the failure of the system is vital: the first reason is related to the organization of the administrative apparatus in charge of food safety and in particular the issue of the lack of autonomy and impartiality of the expertise. In Vietnam, the assessment and management of risk are carried out by the company itself, whereas an independent, credible and unbiased scientific assessor is needed to perform this assessment. Even if the company were to carry out the assessment, it should be a risk assessment conducted in a structured manner in order to empower regulators and enable them to make informed decisions in regards to food safety. The second reason comes directly from the operationality of the Vietnamese regulatory system, which is characterized by a lack of technical means and human resources. There is a crucial need to train government officials, both at the national and local levels, in risk analysis. Furthermore, one can incorporate training programs in quality management into the educational portfolio of universities and professional agricultural schools. Inspectors could also be trained as they are directly responsible for ensuring that SPS controls are respected in retail markets[39].

[39] Pham, H. V., & Vivien, D. M. (2017). La sécurité des aliments au Vietnam - état des lieux pluridisciplinaire sur les enjeux au niveau de la production, de la distribution, des politiques publiques et des risques microbiologiques. The Gioi Eds, 218. https://hal.inrae.fr/hal-02789895/document

Promote a conducive policy environment and culture for quality:

» **Decree on goods and labels:** Review and develop effective legal policies, especially assessing a number of important laws, such as the Law on Food Safety, the Law on Product Quality, the Law on Standards and Regulations. The documents under the Special Law Decree 111/2021/ND-CP amending Decree 43/2017 on goods and labels should be specifically examined as this corresponded to one of the main reasons for rejections per our analysis.

» **Quality awareness campaigns:** Addressing the lack of awareness of the importance of quality and food safety among most fruit and vegetable producers by conducting informational campaigns on standards, regulations, and national quality infrastructure. These awareness campaigns should target the general public as well as the government institutions. Indeed, government institutions also need to be made aware of the benefits of developing a culture for quality and improving the national quality infrastructure in order to increase the competitiveness of Vietnamese food and feed products. In addition, inspectors shall promulgate regulatory requirements to farmers and food businesses as part of their inspection visits as they are the single source of knowledge for compliance.

» **Informational sessions to consumers and food service institutions:** As local consumers are increasingly demanding high quality food products, one way to convince farmers to comply with global standards is to demand that the agricultural products sold on the local markets comply with global standards similarly to products destined to be exported. Moreover, the government could promote certification, food safety, quality management and SPS management practices to consumers' associations and institutions that provide food in different settings, such as catering companies, kindergartens, schools, nursing homes, etc.

ANNEX:
Contextualizing trade-related standards

Technical regulations and standards are increasingly prevalent and continuously evolving in the international trade of food and nonfood (industrial) products. Moreover, there is evidence that many developing countries face challenges in complying with the safety and quality requirements that these regulations and standards lay down. Since 2008, UNIDO has regularly collected evidence about trade-related challenges and their evolution over time, particularly in the area of compliance with (quality, certification, labeling, etc.) requirements set by international markets.

In their efforts to improve compliance, the challenge for national governments and donors is to allocate scarce financial and technical resources amongst a plethora of capacity building needs. There is, therefore, a need to identify where the most acute compliance challenges are faced—in a trade context this means identifying the products and markets with the highest rates of non-compliance—thus recording rejections. In this context, the Standards Compliance Analytics (SCA) tool can be used to facilitate the use of rejection data to identify the key compliance challenges faced by exporting countries and thereby enhance targeting of investments in building relevant compliance capacities. In addition, the SCA tool supports the assessment of the overall impact of rejection on export performance of countries of origin and estimates their compliance capacity by interpreting rejection trends together with additional key development, production and trade-related indicators. Lastly, the SCA tool provides the possibility to compare countries' trade compliance performance in different markets and related to specific product groups.

Finally, information on rejection can inform the policy and technical assistance to navigate and focus efforts in addressing compliance issues in a more effective and focused manner. Deeper understanding of trade compliance challenges contributes to better preparedness of exporting countries to comply with export market requirements and eventually less rejection in the long term. As a result, the economic losses due to rejection would be avoided while reputational risks due to large scale rejections can be averted.

The SCA tool compiles data from several data sources to cover five major markets including:

» **China**: The Chinese rejection data records for agri-food products are published by the General Administration of Customs (GAC). The data includes records of rejected consignments under HS codes 1 to 24 that do not meet Chinese regulatory requirements.

» **United States:** The US food and feed border rejection data is obtained from the US Food and Drug Administration's (USFDA) Operational and Administrative System for Import Support (OASIS), an automated system for processing and making admissibility determinations for shipments of imported products that come under the jurisdiction of the USFDA. The USFDA's website also contains a description of the variables in the rejection data (Import Refusal Report). The data initially contains both food, feed, and non-food rejections. However, the non-food rejections are excluded as the current focus is the analysis of food and feed rejections.

» **Australia:** The Australian food and feed border rejection data is obtained from the Australian Department of Agriculture, Water and the Environment. The data includes label and visual rejections, among other rejections. Imported food is inspected through a program known as the Imported Food Inspection Scheme (IFIS). The scheme inspects imported food to check if it meets Australian requirements for public health and safety and if it's compliant with Australia's food standards. A risk-based approach is taken when regulating imported food. Specifically, when a consignment of imported food has been referred for inspection, the inspection will involve a visual and label assessment and may also include sampling the food for the application of analytical tests. Under the IFIS, the Minister classifies food as either risk food or surveillance food. Risk food is food that has been assessed by the Food Standards Australia New Zealand (FSANZ) as posing a medium to high risk to public health, thereby requiring stricter border controls. Surveillance food is considered to pose a low risk to human health and safety.

» **Japan:** The Japanese food and feed border rejection data is obtained from the Japan's Ministry of Health, Labor and Welfare (MHLW). The MHLW tracks and controls import consignments that violate the Food Sanitation Law to secure the "safety of diet" of Japanese people.

» **European Union:** The food and feed border rejection data is obtained directly from the officials responsible for the EU's Rapid Alert System for Food and Feed (RASFF). RASFF provides a platform for the exchange of information between EU Member States on measures taken in response to food and feed products that pose an immediate risk to human health, both in the EU internal market and with respect to imports from Third Countries. The data initially contains both food, feed, and non-food (food contact material) rejections. However, the non-food rejections are excluded as the current focus is the analysis of food and feed rejections.

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