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HOẠT ĐỘNG XUẤT KHẨU SẮT THÉP CỦA VIỆT NAM SANG CÁC NƯỚC ASEAN TRONG KHUÔN KHỔ THỰC HIỆN ATIGA: CƠ HỘI VÀ THÁCH THỨC

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Tóm tắt

Sắt thép là một trong những mặt hàng xuất khẩu chủ lực của Việt Nam sang các nước đối tác trong khu vực ASEAN. Trước khi Hiệp định Thương mại Hàng hóa ASEAN (ATIGA) được ký kết, xuất khẩu sắt thép của Việt Nam sang các nước ASEAN còn rất khiêm tốn, chỉ với một số nhóm sản phẩm nổi bật. Tuy nhiên, sau khi ATIGA chính thức có hiệu lực, ngành công nghiệp sắt thép của Việt Nam đã chứng kiến sự tăng trưởng đáng kể, với khối lượng xuất khẩu gia tăng mạnh mẽ. Nghiên cứu này áp dụng phương pháp định tính để đánh giá tác động của ATIGA đến hoạt động xuất khẩu sắt thép của Việt Nam sang 9 nước đối tác thuộc ASEAN: Brunei, Malaysia, Indonesia, Thái Lan, Philippines, Singapore, Lào, Myanmar và Campuchia. Ngoài ra, nghiên cứu cũng xem xét các cơ hội, thách thức cũng như những xu hướng mà ngành sắt thép Việt Nam đang phải đối mặt trong hoạt động xuất khẩu. Dựa trên phân tích này, nhóm nghiên cứu đề xuất một số giải pháp nhằm thúc đẩy xuất khẩu các sản phẩm sắt thép của Việt Nam sang thị trường ASEAN dưới tác động của ATIGA.

Từ khóa: ATIGA, Vietnam, ASEAN, xuất khẩu sắt – thép.

VIETNAM'S STEEL AND IRON EXPORT TO ASEAN COUNTRIES UNDER ATIGA IMPLEMENTATION: OPPORTUNITIES AND CHALLENGES

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Abstract

Iron and steel are among Vietnam's key export commodities to partner countries within the ASEAN region. Prior to the implementation of the ASEAN Trade in Goods Agreement (ATIGA), Vietnam's iron and steel exports to ASEAN countries were relatively modest, with only a few notable product categories. However, following the application of ATIGA, Vietnam's steel and iron industry has experienced significant growth, with a marked increase in export volumes. This paper employs a qualitative approach to evaluate the impact of ATIGA on Vietnam's iron and steel export activities to nine ASEAN partner countries: Brunei, Malaysia, Indonesia, Thailand, the Philippines, Singapore, Laos, Myanmar, and Cambodia. Additionally, the study examines the opportunities, and challenges as well as expected trends that Vietnam's iron and steel industry faces in its export endeavors. Based on this analysis, the authors propose a series of recommendations aimed at enhancing the export of iron and steel products from Vietnam to ASEAN markets under the influence of ATIGA.

Keywords: ATIGA, Vietnam, ASEAN, iron-steel export

INTRODUCTION

Export is one of the three key drivers of Vietnam economic growth, and as such, is receiving special attention from the government (Nguyen, 2023). In March 2024, the trade balance for goods recorded a surplus of 2.78 billion USD, bringing the surplus for the first quarter of 2024 to 7.8 billion USD (Vietnam Customs, 2024). In the first quarter of 2023 and 2024, Steel and Iron was one of the 10 largest export commodity groups of Vietnam, reaching a total export volume of 813 thousand tons to ASEAN (Vietnam Customs, 2024).

The ASEAN Trade in Goods Agreement (ATIGA) is one of the most significant trade agreements within the ASEAN framework, marking a pivotal transformation in the trade relationship between Vietnam and the member countries of the Association. After the implementation of ATIGA, Vietnam had largely completed the elimination of tariffs within ASEAN by 2015, with only 7% of tariff lines remaining flexible until 2018 (Le, 2022). Conversely, Vietnam also benefited from similar concessions. Steel and Iron, benefiting from reduced tariffs and streamlined trade regulations, have seen a notable increase in demand in the ASEAN market.

This study aims to explore the opportunities and challenges that the Vietnamese Steel and Iron industry encounters when exporting to ASEAN partner countries. The research also provides recommendations for enhancing Vietnam's iron and steel export competitiveness under the framework of ATIGA.

1. Research overview and research methodology

1.1. Literature review

1.1.1. Previous studies of Vietnam's exportation to ASEAN countries under ATIGA

Several studies have examined Vietnam's export performance under ATIGA, employing various methodologies to assess its impact.

Nguyen and Hayakawa (2023) investigate the effects of ASEAN Trade in Goods Agreement (ATIGA) tariffs on non-tariff measures (NTMs) in Vietnam from 2012 to 2018. In

this study, the authors evaluate the impact of 6 measures on Vietnam's export under ATIGA via the OLS regression model. The findings revealed that when ATIGA tariffs decrease, the pre-shipment inspection, non-automatic licensing, and finance measures are more likely to be eliminated for products in which Vietnam has high export competitiveness.

Nguyen, Ngo and Vu (2024) applied a gravity model to estimate the impact of the ASEAN Trade in Goods Agreement (ATIGA) on Vietnam's pangasius export to the ASEAN market. The study, drawing on both quantitative and qualitative data, offers several policy recommendations aimed at boosting Vietnam's pangasius exports to the ASEAN market moving forward.

Similarly, Tran (2017) employed the gravity model to investigate and analyze the determinants of Vietnam's exports to ASEAN nations over a period of nineteen years, from 1997 to 2015. The result shows that ATIGA has different impacts on different product groups in which the export value of primary products is influenced much more than manufactured products. The outcome reflects that influences of free trade often are two-sided. On one hand, the reduction of import tariffs or duties reduces investment costs, enhancing the competitiveness of Vietnamese goods in regional markets. On the other hand, if the domestic economy is not sufficiently strong or competitive, several sectors may struggle to compete, even within the domestic market.

1.1.2. Previous studies of Vietnam's steel and iron export

Nguyen and Do (2014) examined the effects of ASEAN+3 Free Trade Agreements (FTAs) on Vietnam's iron and steel trade flows, evaluating the impact of 7 independent variables on Vietnam's iron and steel export, in which FTAs are the dummy variables measuring the impacts of FTA membership on the export flows from Vietnam. The findings reveal that the only AKFTA, AFTA, and VJFPA have significantly boosted Vietnam export flow. Meanwhile, AFTA, with a coefficient of 0.986 and a significance level of 15 percent, shows a relative impact on Vietnam's export of iron and steel within the ASEAN region.

Kawabata (2016) aimed to highlight the attainments and challenges of the Vietnamese iron and steel industry in transition to a market economy. He found out that the major destination of semi-products and steel mill products exports is ASEAN economies. The study regarded steel exports from Vietnam as a natural result of industrial development. Their volume is not large and is not an outlet for overproduced steel.

Dang, Yawei and Abdullah (2024) investigated the effects of the US-China trade war on Vietnamese exports, including steel and iron, to the United States, which has long been a major market for Vietnam. Using Difference-in-Differences (DiD) regressions, they analyzed key export sectors by comparing treated and control groups at the 6-digit HS level. The findings showed that the trade war, marked by higher U.S. tariffs on Chinese goods, resulted in a 14% increase in Vietnamese exports to the U.S. in sectors like machinery, mechanical appliances, textiles, garments, plastics, and iron or steel products.

1.1.3. Research gap

Despite numerous studies exploring the impact of ATIGAs on Vietnamese exports, there is a noticeable lack of research on its effects on Vietnam's raw material industry, a major export

sector. In addition, while the Vietnamese iron and steel industry has been the subject of several studies, these typically concentrate on its development under older FTAs, neglecting newer agreements among ASEAN countries, specifically ATIGA, an evolution of AFTA, designed to provide a more comprehensive and detailed framework for trade in goods. To address this, this paper will investigate the influence of ATIGA on Vietnam's iron and steel exports to ASEAN countries.

1.2. Research methodology

The authors deploy a qualitative research approach, incorporating investigation and analysis of secondary data from both domestic and international reports, including those from TradeMap, WITS, World Bank, General Department of Customs, VCCI, VIA, etc. The paper has drawn significant conclusions regarding the opportunities and challenges for Vietnamese Steel and Iron export to ASEAN countries under the effect of ATIGA by comparing Vietnam's Steel and Iron export trends to these nations before and after this FTA was signed. Additionally, it also offers recommendations for the Vietnamese government and local enterprises to fully leverage the benefits of ATIGA.

2. ASEAN Trade in Goods Agreement

2.1. Overview of ATIGA

2.1.1. History and background

The ASEAN Trade in Goods Agreement (ATIGA) is the successor to the Common Effective Preferential Tariff (CEPT) scheme, which was part of the ASEAN Free Trade Area (AFTA) established in 1992. The CEPT aimed to reduce tariffs and promote trade among ASEAN countries. However, to achieve ASEAN Economic Community's goal of developing a unified market and manufacturing base with free trade by 2015, a more integrated and comprehensive strategy would be needed (ASEAN Secretariat, 2020).

In August 2007, the ASEAN Economic Ministers decided to enhance the CEPT-AFTA into a more robust agreement. This led to the creation of the ATIGA, which was signed in February 2009 and came into force officially on May 17, 2010 (ASEAN Secretariat, 2020), becoming ASEAN's "first comprehensive agreement" that governs all intra-regional trade in goods (General Department of Vietnam Customs, 2024).

2.1.2. Members

The ASEAN Trade in Goods Agreement (ATIGA) primarily involves the ASEAN Member States, which include Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. These countries are the main partners in the agreement, working together to facilitate the free flow of goods within the region (ASEAN Secretariat, 2020).

2.1.3. Main content

The ASEAN Trade in Goods Agreement (ATIGA) encompasses several key provisions aimed at fostering economic integration and enhancing trade efficiency within the region.

These provisions include the elimination of import duties, adherence to non-tariff measures, compliance with rules of origin, and efforts to modernize trade facilitation processes.

2.2. Commitments related to Steel and Iron

2.2.1. Tariff commitments

The commitments under the ATIGA provide a detailed framework for the elimination of import duties on goods traded between ASEAN Member States, including steel and iron products. "Each Member States shall reduce and/or eliminate import duties on originating goods of the other Member States in accordance with the following modalities: Import duties on the products listed in Schedule A of each Member State's tariff liberalization schedule shall be eliminated by 2010 for ASEAN-6 and 2015 for CLMV, in accordance with the schedule set out therein" (Vietnam Chamber of Commerce and Industry, 2016).

Specifically,

- For ASEAN-6: Import taxes of at least 80% tariff line are eliminated by 1st January, 2009 and on all products traded between the Member States by 2010.

- For CLMV (Cambodia, Laos, Myanmar, and Vietnam): Import taxes on all products traded between the Member States are eradicated by 2015. Import duties on some CLMV products must be eliminated by 2018, (not surpassing 7% of tariff lines) (Vietnam Chamber of Commerce and Industry, 2016).

Steel and Iron product group (HS 72) was listed in Schedule A of Member State's tariff liberalization schedule, hence, this product group benefits from the decrease in import tax, ranging from 10-15% to 0% by 2010 for ASEAN-6 countries and by 2015 for CLMV countries (Vietnam Chamber of Commerce and Industry, 2016).

2.2.2. Non-tariff commitments

Non-tariff commitments are agreements or promises made by countries in trade negotiations to limit or regulate their use of non-tariff measures. These commitments are typically part of trade agreements (bilateral, regional, or multilateral) and aim to reduce or eliminate the negative effects of NTMs on trade.

Rules of Origin

According to Annex 3 regarding Product Specific Rules – HS 2017, published on asean.org on December 11, 2020, to qualify for the preferential tariffs under ATIGA, Steel and Iron products must originate from the ASEAN region. Vietnam's steel and iron products must obtain a Certificate of Origin to enjoy these tariff preferences, ensuring that the goods meet the stipulated rules of origin, in accordance with the commitment, which indicated:

If a good imported into the territory of a Member State from another Member State meets the origin requirements under any of the following situations, it is considered as an originating good:

(a) a good obtained or manufactured entirely in the exporting Member State.

(b) a good that was not entirely obtained or manufactured in the exporting Member State, as long as the said goods are qualified (Vietnam Chamber of Commerce and Industry, 2016).

Goods are considered to have originated in the Member State where they have been worked or processed:

(a) If the commodities have a regional value content of at least 40% (hence referred to as “ASEAN Value Content” or the “Regional Value Content (RVC)”)

(b) If all non-originating materials utilized in the goods' manufacture have experienced a change in the Harmonized System's tariff classification (hereinafter referred to as "CTC") at the four-digit level (Vietnam Chamber of Commerce and Industry, 2016).

Steel and iron products must comply with a regional value content of not less than 40%, otherwise it cannot be deemed as originating good from Member States

Trade facilitation

Vietnam and other Member States undertake to conduct independent and cooperative assessments on the implementation of the trade facilitation measures outlined in this Agreement and the ASEAN Trade Facilitation Work Programme once every two years in order to ensure the successful implementation of trade facilitation measures. Member states shall come to an agreement on an ASEAN Trade Facilitation Framework within six months of the Agreement's entry into force. This framework will act as a guide for future improvements to trade facilitation within ASEAN (Nguyen et al., 2022). As a result, customs procedures have been integrated to expedite the import and export of iron and steel products.

Member States shall take the necessary actions to establish and operate their respective National Single Windows and the ASEAN Single Window in compliance with the provisions of the Agreement to Establish and Implement the ASEAN Single Window and the Protocol to Establish and Implement the ASEAN Single Window. By facilitating the electronic exchange of trade-related papers between Member States, the ASEAN Single Window helps to speed up commerce and minimize delays (Vietnam Chamber of Commerce and Industry, 2016).

Customs

It is the duty of every Member State to guarantee that, among other things, its expedited goods clearance procedures and customs practices are transparent, predictable, consistent, and supportive of commerce. To the extent permitted by their respective customs legislation, member states' customs procedures adhere to the norms and recommended practices of the World Customs Organization and other international organizations (Vietnam Chamber of Commerce and Industry, 2016).

To facilitate commerce, the customs authorities of each Member State will evaluate and streamline their processes. Customs inspections will now be restricted to what is required to uphold their rules. Additionally, Member States may cooperate with one another on customs-related matters as permitted by law (Nguyen et al., 2022).

As steel and iron are bulk goods that are often imported in large quantities, delays in customs clearance can increase storage costs, delay delivery to manufacturers and construction sites, leading to additional financial burdens for importers. The commitment to streamline procedures reduces these delays, lowering overall costs and increasing the speed of trade.

Removal of quantitative restrictions

Member States of ATIGA commit to take down quantitative restrictions on the import or export of steel and iron products within the ASEAN region, in alignment with the General Agreement on Tariffs and Trade (GATT) Article XI. This includes bans, quotas, or other measures that limit the volume of trade and this can assure the unrestricted trade flows within the ASEAN region, which can lead to increased export opportunities for steel and iron products.

"Each Member State undertakes not to adopt or maintain any prohibition or quantitative restriction on the importation of any goods of the other Member States or on the exportation of any goods destined for the territory of the other Member States, except in accordance with its WTO rights and obligations or other provisions in this Agreement. To this end, Article XI of GATT 1994, shall be incorporated into and form part of this Agreement, mutatis mutandis." (Vietnam Chamber of Commerce and Industry, 2016).

3. ATIGA and Vietnam Steel and Iron Industry

3.1. Export Situation of Steel and Iron Before the Implementation of the ATIGA

3.1.1. Export Situation

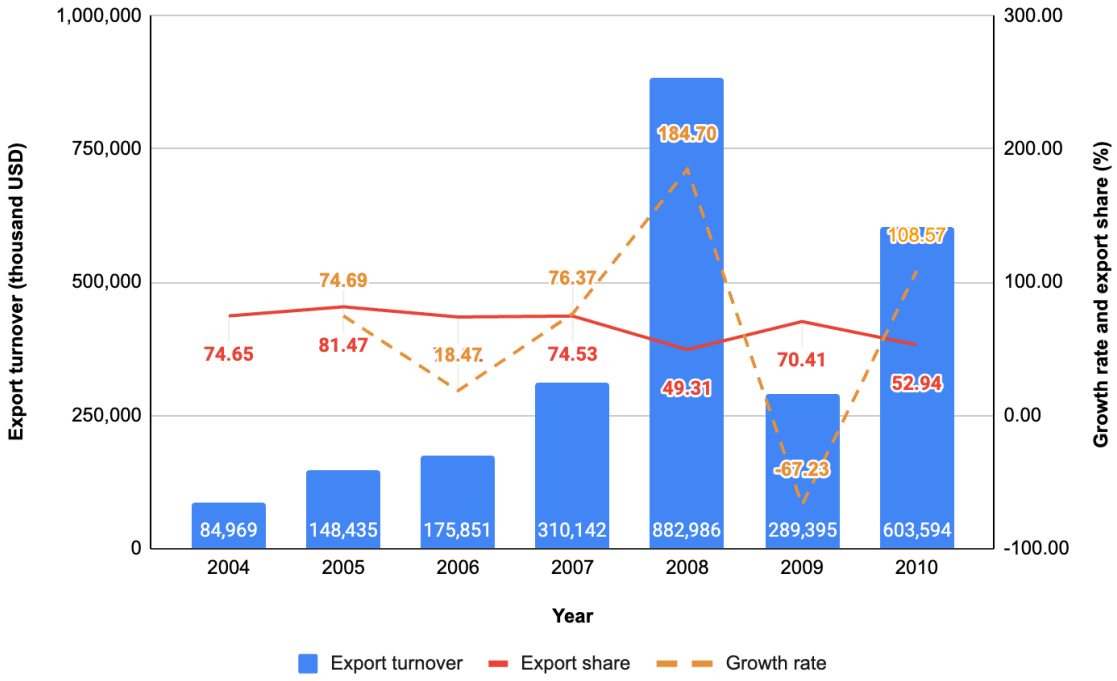

Figure 1: Export turnover, growth rate and percentage of Steel and Iron export to ASEAN countries from 2004 to 2010

Source: Author's calculation from TradeMap

During 2004 and 2007, the amount of revenue gained from exporting Steel and Iron to ASEAN countries remained relatively low. However, those revenues accounted significantly (at approximately 76,12%) compared to the overall Steel and Iron exportation of Viet Nam to

the whole world, indicating that, during this period, ASEAN was the main Steel and Iron exporting partner of Viet Nam. As these economies expanded, the need for infrastructure development surged, leading to heightened imports of steel from Vietnam.

In 2008, according to Decree No. 16/2008/QD-BCT, dated July 03, 2008 on the Application of Provisional regulations on Automatic export licensing for Iron and Steel, The Ministry of Industry and Trade has decided on the temporary automatic export licensing for iron and steel (Vietnam Business Forum, 2008). Automatic export licensing simplifies the licensing process, where Iron and Steel exporters could obtain an export license more easily, through an automatic approval process, rather than going through complicated manual approvals. As a result, the growth rate of export turnover increased sharply.

However, just 5 months later, The Ministry of Industry and Trade issued a Decision on temporary stopping to apply the automatic export licensing on steel and iron in Decree No.30/2008/QĐ- BCT, dated August 22, 2008 (Ministry of Industry and Trade, 2008).

In 2010, Vietnam's exportation of iron and steel to ASEAN countries significantly recovered, reflecting the country's increasing integration into regional trade networks as in this year, **ATIGA policy came into effect in September**. Steel and Iron was among the top export turnover segment of Viet Nam exportation in this year (TradeMap, 2010), growth rate reached over 100%.

3.1.2. Comparative analysis of Vietnam's exported steel and iron among leading ASEAN exporters

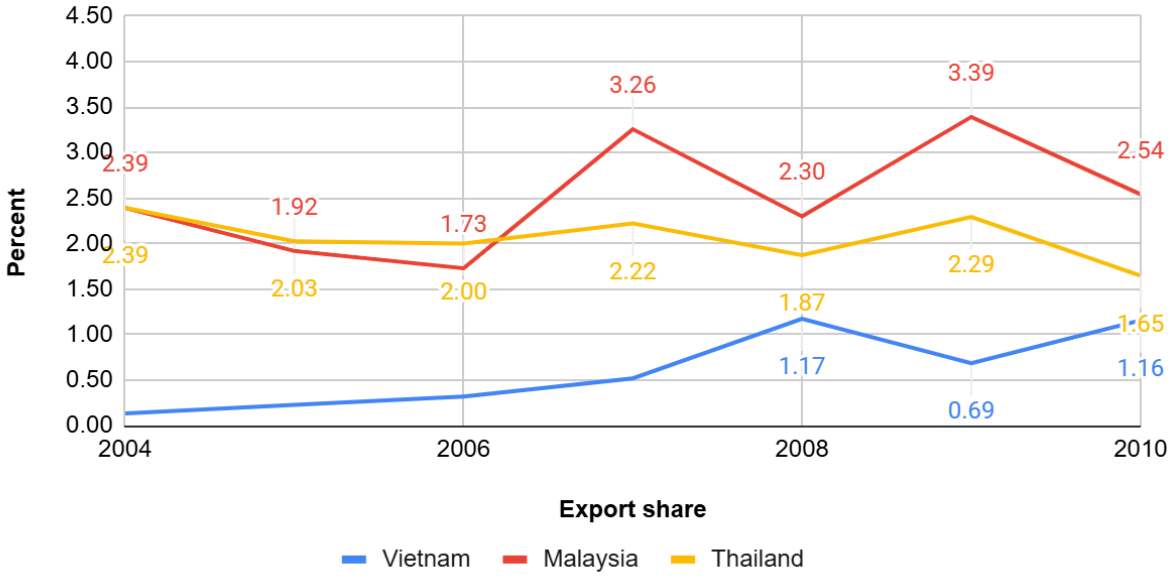

Figure 2: Vietnam, Malaysia, and Thailand's exported steel and iron market share within ASEAN: 2004 - 2010

Source: Author's calculation from TradeMap

Before the implementation of ATIGA, Vietnam's steel export share within ASEAN was relatively modest compared to other leading exporters: Thailand and Malaysia. Starting at 0.13% in 2004 and rising to 1.16% by 2010, Vietnam lagged behind Thailand and Malaysia, which maintained stable shares above 2%, highlighting their stronger roles as exporters within

the region. The challenges Vietnam faced during this period were primarily due to high production costs driven by dependence on imported raw materials and outdated technology. In contrast, Thailand and Malaysia benefited from better access to domestic raw materials and more advanced production techniques, allowing them to maintain lower production costs and offer higher-quality steel products (Navawongse, n.d.).

3.1.3. Assessment of the export situation before ATIGA

On the one hand, before the implementation of ATIGA, the export turnover of Iron and Steel from Vietnam to ASEAN countries was relatively low with only some outstanding product categories. There are several reasons contributing to this low rate:

First, it is undeniable that the Global Financial Crisis happening during 2007 and 2008 has severely impacted the overall economic situation of Vietnam, then leading to the downturn of domestic Steel and Iron companies. This sharp fall in both supply and demand has restricted the developing potential for the exportation of Iron and Steel.

Second, the Vietnamese steel industry was still quite young, having been established in the 1960s, with the first batch of pig iron produced in 1963 (VCCI, 2010). From 1975 to the early 2000s, the Vietnamese steel industry developed very slowly, largely relying on steel imports from Eastern European countries and the former Soviet Union. This lack of the necessary infrastructure and production capacity to meet regional demand effectively limited the volume and quality of exports, making it difficult to compete with more established producers in the region, for example, China.

Last, exporting Steel and Iron to many ASEAN country members faced many trade barriers. For example, Thailand had relatively high tariffs on imported steel products to protect its domestic steel industry. This made Vietnamese steel less competitive in Thailand due to increased costs. Also, Thailand enforced strict technical standards and quality certifications for steel imports, which posed challenges for Vietnamese exporters in meeting these requirements.

On the other hand, the effect of temporary automatic export licensing in just 5 months in 2008 has proved to be effective with almost 200% growth rate in that year despite the complex global situation.

3.2. Export Situation of Steel and Iron After the Implementation of the ATIGA

3.2.1. Export Situation

Figure 3: Export turnover, growth rate and percentage of Steel and Iron export to ASEAN countries from 2011 to 2023

Source: Author's calculation based on TradeMap

In 2011, just six months after the ASEAN Trade in Goods Agreement (ATIGA) came into effect, Vietnam's steel and iron exports to ASEAN countries experienced substantial growth. According to Pham Chi Cuong, Chairman of the Vietnam Steel Association (VSA), the export value of steel and iron to ASEAN countries saw a remarkable increase in growth rate of export of nearly **89.04%** compared to 2010 (Dang, 2011).

During 2015 to 2016, the growth rate even dropped below 0% for two consecutive years. According to the General Department of Vietnam Customs, this decline was due to several factors. Economic and political instabilities in certain regions affected global trade and Vietnam's export performance. Additionally, the Vietnamese steel and iron industry faced numerous trade protection lawsuits from some ASEAN countries, which significantly contributed to this decline (The, 2017).

In 2020, the global steel and iron market was significantly impacted by the COVID-19 pandemic, with supply chains disrupted due to social distancing. Also in this year, ASEAN Member States had successfully eliminated tariffs on 98.6% of tariff lines, meaning that the vast majority of goods traded within ASEAN are now duty-free, including steel and iron products (ASEAN Secretariat, n.d). The result is, the Vietnamese steel and iron industry still performed relatively well with about 2.3 million USD export value to ASEAN countries.

3.2.2. Comparative analysis of Vietnam's exported steel and iron among leading ASEAN exporters

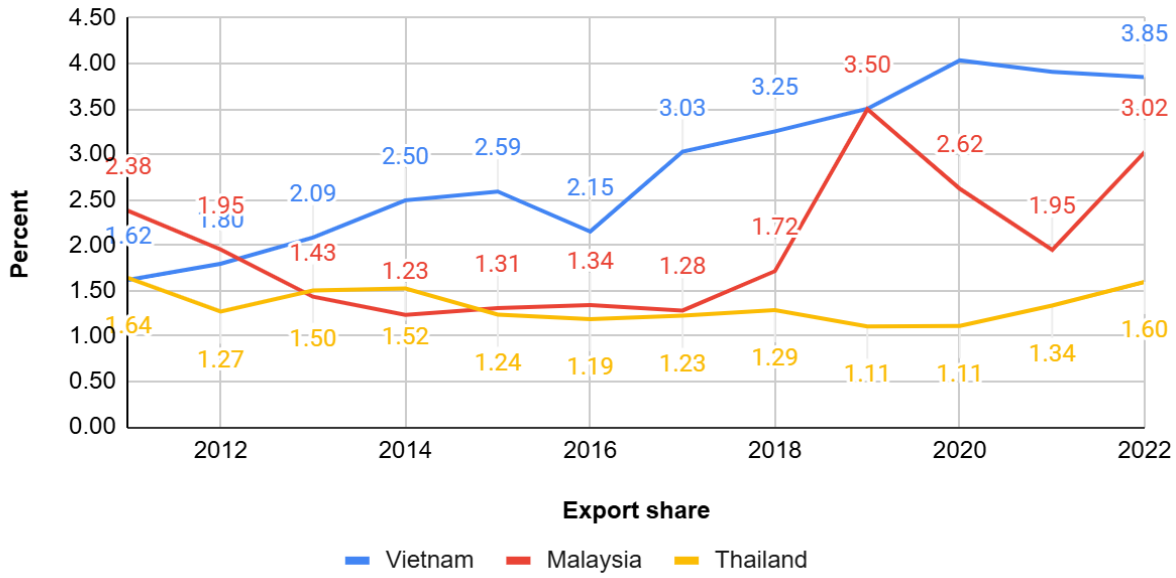

Figure 4: Vietnam, Malaysia, and Thailand's exported steel and iron market share within ASEAN: 2011 - 2022

Source: Author's calculation from TradeMap

After the implementation of ATIGA in 2010, Vietnam's export share growth became more prominent, peaking at 4.03% in 2021. This rise allowed Vietnam to surpass Thailand, which maintained a stable share ranging from 1.11% to 1.64%. Vietnam's improved performance also allowed it to surpass Malaysia, whose export share declined to 1.95% in 2021 after reaching 3.50% in 2019.

The data reveals an interesting trend: despite having more advanced technology, Thailand and Malaysia steel export shares within ASEAN declined instead of growing. This is partly due to market saturation, as both countries had already obtained substantial shares before ATIGA, which limited further growth potential. Additionally, in Malaysia's case, export efforts have focused more on China than ASEAN (SEASI, 2022). In contrast, Vietnam has fully utilized ATIGA's benefits, which provided it with tariff reductions and improved market access that were especially favorable for Vietnam's steel and iron sector. This allowed Vietnam to expand its presence within ASEAN more effectively than other countries.

3.2.3. Assessment of the export situation after ATIGA

On the one hand, Vietnam's steel and iron industry has experienced significant changes due to the ASEAN Trade in Goods Agreement (ATIGA), which reduced tariffs to nearly 0% on most goods traded within ASEAN. This agreement has provided access to a unified market of approximately 6 00 million consumers with a combined GDP of nearly USD 3 trillion (Ma & Pham, 2019). The reduction in tariffs has led to lower input costs for raw materials and machinery, improving the competitive edge of Vietnamese businesses.

On the other hand, the industry still faces several challenges. Increased competition from other ASEAN countries with similar conditions, such as Thailand and Indonesia, has intensified. Additionally, trade defense measures, including anti-dumping duties imposed by some ASEAN countries, have complicated the export environment. According to the Vietnam

Steel Association (VSA), the Vietnamese steel and iron industry is currently at the top of the list for trade defense lawsuits and is expected to continue increasing in the near future. Specifically, during the period from 2004 to 2022, steel and iron exports from Vietnam have been subject to nearly 70 trade defense cases filed by countries around the world. High production costs due to expensive raw materials and less advanced technology also impact competitiveness.

4. Discussion

4.1. Opportunities

4.1.1. Firstly, ATIGA enables Vietnam to gain a competitive advantage over non-ASEAN countries exporting steel and iron to ASEAN countries.

With tariff benefits, Vietnamese steel and iron product lines have built a competitive advantage over other trade nations such as South Korea, Japan, and India which do not benefit from the same trade concessions. This preferential treatment helps enhance Vietnam's market position and encourages increased trade within the ASEAN bloc. (Vietnam Chamber of Commerce and Industry, 2016).

4.1.2. Secondly, Vietnam's Steel exportation can potentially further increase market share.

China is one of the biggest steel exporters to ASEAN markets, directly competing with Vietnam. However, in 2024, China is reducing its steel output to lower carbon emissions (Zong et al., 2024). This reduction could lead to a decrease in China's export volume to ASEAN countries, creating an opportunity for Vietnam to increase its market share in the region.

Vietnam is well-positioned to capitalize on this shift, as it has been establishing itself as a self-sufficient and export-driven steel producer. In 2023, the country led Southeast Asia in crude steel production capacity, reaching 8.5 million tons, ranking 12th globally and accounting for 34% of the region's total output. Among its Southeast Asian competitors, Thailand's capacity is lower, at 4-5 million tons, with a focus on downstream products, while Indonesia's capacity, around 6-7 million tons, surpasses Thailand but falls short of Vietnam. According to Speeda, a key competitive edge for Vietnam over other regional exporters and will potentially outrival them is the development of integrated blast oxygen furnace (BOF) capacity, which has strengthened its leadership in regional crude steel production. This positions Vietnam to not only outpace regional competitors but also take advantage of the reduced competition from China in the ASEAN market.

4.1.3. Thirdly, the growing demand for steel and iron in ASEAN countries presents a significant opportunity for Vietnam's export sector.

According to the Southeast Asian Iron and Steel Institute (SEAISI), the demand for steel in the region is expected to rise by 3.7% annually to 76.5 million tons in 2024. Recent trade data shows this increasing demand: Cambodia ranked third in Vietnam steel's import, with $182.8 million in exports recorded in the first quarter of 2024. Furthermore, Vietnamese steel exports into Singapore increased significantly, with over 42,000 tons valued at $23 million in March 2024, a 24,000% increase in volume and 7,456% in value compared to the same period last year (Cam, 2024). Exports to Malaysia also increased dramatically, reaching 120,000 tons in

January 2024, a dramatic 625% increase from the previous year. Under ATIGA, Vietnam's increasing prominence as a major supplier. As construction activities stabilize and expand, Vietnam is well-positioned to capitalize on the region's evolving market needs and further strengthen its position as a crucial steel exporter (Yermolenko, 2024).

4.2. Challenges

4.2.1. Increased competition

Despite having a competitive advantage over non-ASEAN nations, Vietnam's steel and iron industry faces significant challenges under ATIGA, particularly with the reduction of tariffs to 0% in 2021. The industry must deal with strong competition from ASEAN countries like Thailand and Indonesia, which are increasingly updating their production capabilities, efficient supply chains, and economies of scale that allow them to offer competitive prices and high-quality products. Even before the elimination of tariffs, these foreign products have been increasingly available in many ASEAN markets including Vietnam through various channels, and the competition is expected to intensify as tariffs are removed (Ma & Pham, 2019).

4.2.2. Rising anti-dumping and trade remedy measures against steel and iron from Vietnam

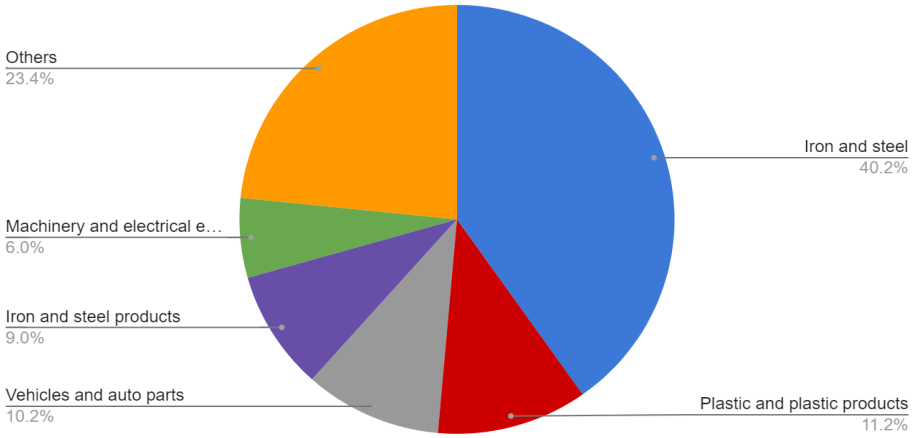

Figure 5: Percentage of product categories from Vietnam subject to trade defense measures

Source: WTO Secretariat

According to the Vietnam Steel Association (VSA), the Vietnamese steel and iron industry is currently at the top of the list for trade defense lawsuits and is expected to continue increasing in the near future. Specifically, during the period from 2004 to 2022, steel and iron exports from Vietnam have been subject to nearly 70 trade defense cases filed by countries around the world.

There are several reasons for this situation. First, the impact of the US-China trade tensions has led many companies to use false origins, or engage in trade fraud. This negatively affects the image of Vietnamese steel products in international markets, including ASEAN countries. Such actions not only damage the reputation of Vietnamese businesses but also increase the likelihood of Vietnamese steel and iron products to be included in those investigations, thereby reducing the export potential of these products.

The second reason is that ATIGA, which aims to promote trade liberalization, has inadvertently led to the misuse of trade remedy measures to protect domestic industries. This

trend, combined with global overcapacity in the steel sector, has driven ASEAN countries to increasingly apply trade remedy measures.

4.2.3. Limited production capacity

Technological limitations

Except for a few recently established steel and iron production companies with advanced technology and high production capacity, such as Hung Nghiep Formosa and Dung Quat, most steel and iron manufacturing facilities in Vietnam are small-scale (producing less than 0.5 million tons per year) and use outdated, non-integrated technology. These facilities consume a lot of energy, have low competitiveness, and contribute to environmental pollution (Thuy, 2023)

Highlighting the issue of limited production capacity, the production of hot-rolled coil (HRC) is currently only 8 million tons per year, which cannot even meet the domestic demand of 10 million tons, let alone export demand. This shortage is particularly significant for ASEAN markets, where HRC is a crucial export product (Thuy, 2023).

Imported raw materials dependence

According to the Ministry of Industry and Trade, in 2022, Vietnam had to import significant quantities of raw materials for steel production, including about 18 million tons of iron ore for blast furnaces, 6-6.5 million tons of scrap steel for electric furnaces, approximately 6.5 million tons of coking coal, and around 10,000 tons of graphite electrodes. Given that the prices of these raw materials were considerably high, these imports directly increased the price of finished steel and iron products, which made Vietnam's steel and iron products less competitive in comparison to other exporters like China and regional competitors such as Thailand (Resta, 2022).

In fact, the Vietnamese steel and iron industry is fundamentally dependent on imported raw materials such as iron ore, scrap steel, coking coal, and graphite electrodes (Resta, 2022). Therefore, fluctuations in the prices of these raw materials will directly cause the price of finished steel and iron products to also adjust according to global market trends.

4.2.4. Rules of origin complexity

Products must have at least 40% regional value content as Vietnam has to export a huge quantity of raw materials from other countries, including non-ASEAN countries. Besides, in order to acquire Certificate of Origin, exporters have to undergo a very thorough examination of their documents in a period of 12 days. The ATIGA has encouraged Vietnamese businesses to expand their reach to international consumers through tax benefits, but it also presents challenges that demand a solid grasp of the related rules and regulations (Vietnam Briefing, 2021).

4.2.5. Low level of binding obligations among ASEAN member countries

The binding nature of ASEAN agreements is strengthened by mechanisms for dispute resolution and enforcement. The ASEAN Dispute Settlement Mechanism (DSM) is in place to resolve conflicts arising from the interpretation or application of the agreements. However, enforcement can sometimes be challenging due to the principle of non-interference and the

consensus-driven nature of ASEAN. This means that while obligations are legally binding, actual enforcement often depends on negotiations and the willingness of member states to resolve disputes amicably (ASEAN Secretariat). This can lead to delays or inconsistencies in how trade rules are applied, potentially affecting the smooth exportation of Vietnamese steel and iron.

4.3. Expected trends in the future

The Carbon Border Adjustment Mechanism (CBAM), which is set to reshape global trade by imposing carbon-related costs on high-emission imports into the European Union, is expected to have broader implications for global trade patterns. Currently, CBAM directly impacts four key industries in Vietnam: iron and steel, cement, fertilizer, and aluminum (Truong, 2024).

Although CBAM currently targets imports into the EU, it signals a larger global shift toward prioritizing sustainability in trade. This could lead to several expected trends that may influence Vietnam's steel and iron export industry within ASEAN under the ATIGA:

4.3.1. Potential Spread of Carbon Pricing Mechanisms

Although ASEAN countries currently do not impose carbon tariffs or similar adjustment mechanisms, the global push for environmental sustainability, led by initiatives like CBAM, may prompt ASEAN members to explore their own carbon pricing mechanisms. If ASEAN countries, particularly major steel importers like Thailand, Indonesia, or Malaysia, adopt similar mechanisms, it would impact the competitiveness of Vietnam's steel and iron exports (Earthene, 2024).

Vietnam's steel and iron producers may face pressure to reduce emissions or adopt greener technologies to remain competitive if other ASEAN countries introduce carbon pricing or carbon-related import tariffs. Compliance with new regulations could increase production costs for Vietnamese exporters.

4.3.2. Pressure for Harmonized Regional Environmental Standards

As CBAM pushes global trade toward sustainability, ASEAN countries may face pressure to harmonize environmental standards to maintain competitive regional trade under ATIGA. If some ASEAN countries begin to adopt CBAM-like measures or environmental tariffs, others may need to align their policies to ensure a level playing field for intra-ASEAN trade.

However, CBAM introduces an additional layer of complexity to the free trade dynamics under ATIGA. While ATIGA promotes the reduction of tariffs and barriers to trade among ASEAN members, carbon adjustment mechanisms could be viewed as new forms of trade barriers if implemented within ASEAN.

Vietnam and other ASEAN countries might need to adapt their trade policies to balance the need for environmental sustainability with the commitment to economic integration. This could lead to discussions on how to incorporate environmental standards into ATIGA's framework without undermining its core goals.

4.3.3. Increased Cost of Compliance

As CBAM introduces a new compliance requirement for exporters to the EU (European Commission, 2024), other markets, including those in ASEAN, may gradually adopt similar measures. Vietnam's steel and iron producers will need to account for the additional administrative and financial costs of reporting and verifying their carbon emissions to meet CBAM-related requirements. These costs could be passed down the supply chain, potentially making Vietnam's exports less competitive in ASEAN markets.

If Vietnam's steel and iron producers face higher costs due to CBAM compliance, there could be trade diversion within ASEAN. Countries with lower compliance costs or fewer environmental regulations might become more attractive destinations for steel imports, altering trade patterns within the region.

5. Recommendations

5.1. To the Government

With a view to enhancing the export potential of Vietnam's iron and steel industry and addressing its current challenges, it would be advisable for the authorities to adopt a multifaceted strategy:

5.1.1. Firstly, Vietnam's steel and iron industry could overcome anti-dumping and other trade remedies by:

Intensifying the economic transformation process to be recognized as a totally market economy

The U.S. Department of Commerce acknowledged that Vietnam's economy has witnessed many positive changes, but in its publication released on August 2, it still has not recognized Vietnam as a market economy (Ngoc, 2024). When a country has not been seen as a market economy, the domestic exporters would encounter various challenges in anti-dumping investigations.

Up to now, many Vietnamese enterprises have suffered significant disadvantages in anti-dumping investigations because all data on prices and production costs in Vietnam have been rejected by the investigating authorities of the importing countries. In the steel and iron industry, back to 2019, Aluminum Zinc Coated Steel from Vietnam exported to Indonesia was concluded to be sold at a dumping price, causing damage to the domestic industry (Vietnam Chamber of Commerce and Industry, 2024).

Develop a warning system

Along with strong growth in export activities, iron and steel is one of the products most frequently investigated for trade remedies by foreign countries (Manh, 2022). That is the reason why the government should also develop an early warning system for anti-dumping to provide steel and iron businesses with a tool to access useful information, enabling them to forecast the risk of anti-dumping cases, proactively respond to such cases, minimize the damage caused by anti-dumping cases, and update information on target export markets (Tran, 2024).

5.1.2. Secondly, the government could increase the competitiveness of steel, iron industry by:

Introducing preferential credit packages to support iron and steel trade activities

Vietnam's Steel and Iron industry largely depends on imported raw materials such as iron ore, scrap steel, coking coal, and graphite electrodes. Therefore, fluctuations in the prices of these input materials will cause domestic steel and iron prices to adjust according to global market trends (Hoang, 2022). Therefore, regarding loan support, the Ministry of Industry and Trade proposes that the State Bank direct and encourage commercial banks to implement preferential credit packages to support production and investment in the iron and steel sector (Bộ Xây dựng, 2024). For example, Agribank is currently implementing a substantial credit package worth 20 trillion VND called "Accompanying Import-Export Enterprises" across most of its branches. This package offers a lending interest rate 2.4% lower per year than regular loans of the same term and includes a waiver of all service fees until mid-2025 (State Bank of Viet Nam, 2024). Other banks can certainly refer to Agribank preferential rates to introduce competitive credit packages for steel export businesses. The Vietnam Steel Association (VSA) has also recommended that the Ministry of Finance adjust the VAT on steel products from 10% to 8% (Nguyen, 2023).

Furthermore, the uncompetitiveness of Vietnam steel and iron industry compared to other countries is partly due to factories with small capacities, outdated equipment, high energy consumption, and environmental risks. Hence, the industry recommends that the government should provide financial support to encourage iron and steel producers to upgrade production techniques, reducing energy consumption and carbon emissions, while gradually eliminating inefficient and outdated production capacities (Vu, 2024).

Offer tax incentive packages or credits to support businesses in transitioning to greener production technologies.

With the preparation for CBAM, The Ministry of Industry and Trade in 2024 has advised the Vietnamese government to introduce tax credits specifically for companies investing in green technologies. This would lower the financial burden on businesses transitioning to more sustainable practices, encouraging innovation in low-carbon production. Besides, offering accelerated depreciation on investments in energy-efficient machinery can incentivize manufacturers to upgrade their equipment. This would allow companies to recover costs more quickly, making green technologies more financially viable (Truong, 2024).

5.1.3. Thirdly, the authorities could solve the problem of limited production capacity by:

Facilitating exporters' access to market research and intelligence

By establishing a centralized platform that provides comprehensive market data, trends, and forecasts, the government can help exporters make informed decisions about expanding their production capabilities. This platform could offer insights into global demand, emerging markets, and competitive dynamics, enabling businesses to identify new opportunities and optimize their production strategies. For example, The World Steel Association forecasts that global steel demand will increase by 1.9% in 2024, reaching 1.8 billion tons, creating opportunities for Vietnamese steel exports (Vietnam Industry Research and Consultancy,

2024). Therefore, Vietnamese steel manufacturing enterprises should seize every possible chance to strengthen their resources and boost production and exports during this time.

Attracting foreign direct investment (FDI) for technology transfer

To tackle the issue of limited steel and iron production capacity, the government should focus on attracting foreign direct investment (FDI) aimed at technology transfer. Such foreign investments would introduce cutting-edge technologies, modern manufacturing processes, and valuable expertise that can help domestic producers enhance their capabilities and operational efficiency. This approach would strengthen production capacity and improve product quality. However, in attracting FDI, we should not encourage investment in conventional steel sectors that Vietnam can already produce. For foreign investments, we should encourage these in areas we have not yet developed, such as alloy steel and high-quality steel used for mechanical manufacturing and other technical industries (Chung, 2017).

5.1.4. Lastly, to prepare for the scenario of CBAM-like mechanism within ASEAN countries, the government can:

Develop standardized carbon reporting systems in line with international regulations

To effectively respond to the challenges posed by the emergence of CBAM, the Vietnamese government should prioritize the development of standardized carbon reporting systems. The reporting framework must comply with global regulations, such as those set by the International Organization for Standardization (ISO) and the Greenhouse Gas Protocol. This will enhance the credibility of Vietnam's emissions data and facilitate smoother trade with partners implementing CBAM. After that, authority should establish detailed guidelines for measuring and reporting carbon emissions across various stages of the steel and iron production process. This includes direct emissions from production and indirect emissions from energy consumption and raw material sourcing.

5.2. To the Enterprises

5.2.1. Ensuring compliance with Rules of Origin requirements

To avoid obstacles relating to rules of origin, Vietnamese enterprises should clearly comprehend Circular No. 22/2016/TT-BCT, No. 19/2020/TT-BCT, and No. 10/2022/TT-BCT. "These circulars outline the essential procedures, requirements, and documentation needed to determine the origin of goods and claim tax incentives within the ASEAN region. By referring to these circulars, stakeholders can gain a better understanding of Vietnam's implementation of the ROO and identify any significant changes or updates in the process." (Nguyen, 2023).

5.2.2. Investing in R&D to increase productivity and efficiency

Enterprises should prioritize investment in research and development (R&D) and adopt updated technology to raise production standards, diversify product lines and increase production capacity. By adhering to international standards, such as those set by ISO or the American Society for Testing and Materials (ASTM), companies can enhance product quality and mass-produce specialized items like high-strength or corrosion-resistant steel, which are in high demand across ASEAN's infrastructure and industrial sectors (VietnamPlus, 2024).

Product diversification is essential for Vietnam's steel industry, as offering a broader range of specialized steel products can fill gaps in the market and strengthen the country's competitive position in Southeast Asia (VietnamPlus, 2024). Vietnamese steel companies should also invest in developing and commercializing potential steel products that have not yet generated significant monetary benefits. This includes focusing on niche markets, such as advanced alloys or eco-friendly steel, which may currently have limited demand but are expected to grow as industries evolve and sustainability concerns rise. By proactively developing these products and promoting their unique advantages, companies can create new revenue streams and position themselves as innovators in the ASEAN market.

For local steel enterprises, investing in technological modernization and integrating production processes is crucial. These companies should consider forming strategic partnerships or consortiums with larger firms like Hung Nghiep Formosa and Dung Quat, or with international technology providers, to access advanced technology and best practices. Such collaborations would enable them to adopt energy-efficient and environmentally friendly production methods, such as electric arc furnaces or other green steel technologies, improving competitiveness and sustainability in the regional market.

5.2.3. Targeting key growth sectors

Focusing on infrastructure projects and tapping into growing industrial sectors such as automotive, electronics, and machinery manufacturing is crucial as it can stimulate the demand for construction materials, including steel and iron. Many ASEAN countries are heavily investing in infrastructure, with governments optimistic about achieving their economic growth targets due to strong private consumption. According to the Southeast Asia Iron and Steel Institute (SEAISI), this steady development and stabilization of construction activities will drive increased steel consumption across the region (Cam, 2024). Vietnamese enterprises should prioritize supplying steel and iron to these projects to boost visibility and market share as well as capitalizing on such prominent market opportunities.

5.2.4. Adopting appropriate strategies to tackle with CBAM

Vietnamese steel and iron businesses need to implement necessary strategies before the European Union enforces carbon emission taxes. Firstly, it is essential for these companies to equip their workforce with the necessary skills to navigate common standards, adapt to new procedures, and understand the mechanisms of countries that are adopting relevant policies. Secondly, they should implement sustainable practices into the manufacturing process to ensure less carbon emission is released. Moreover, they should engage actively with the Vietnamese government's initiatives to establish a domestic carbon trading market and an associated carbon pricing system. If Vietnam successfully sets up these frameworks, they will serve as a vital basis for exempting exported products from the obligations under the Carbon Border Adjustment Mechanism (CBAM). Lastly, businesses should carefully monitor when negotiating export agreements about CBAM obligations to prevent any misunderstandings that might lead to breaches of contract (Phan, 2024).

CONCLUSION

The research assesses the opportunities and challenges facing Vietnam's steel and iron exportation to ASEAN countries since the implementation of ATIGA. This agreement has removed tariffs, creating a favorable environment for gaining competitive advantages over non-ASEAN countries. However, Vietnamese businesses must navigate competition from other ASEAN nations, trade remedies, and complex rules of origin.

To maximize the benefits of ATIGA, Vietnam should address these challenges through government initiatives such as preferential credit packages to support trade activities and attract foreign direct investment (FDI) for technology transfer. Additionally, businesses must invest in research and development (R&D) to enhance productivity in key growth sectors.

With the expected trends of CBAM in mind, the industry must also adapt to emerging carbon regulations that may influence trade dynamics. By aligning their practices with global sustainability standards, Vietnam can better position themselves in the ASEAN market. Through these collaborative efforts, Vietnam's steel and iron industry can seize the opportunities presented by ATIGA and achieve sustainable growth while navigating the evolving landscape of international trade.

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