



International Economics

Strategic Analysis For Growth & Development



The Impact of the EU-Vietnam Free Trade Agreement on the UK Economy

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Impacts on the United Kingdom of the EU-Vietnam FTA

EXECUTIVE SUMMARY

This study models the **impacts of the European Union (EU) - Vietnam Free Trade Agreement (EVFTA) on the United Kingdom (UK) and Vietnam**. Whilst the agreement has not yet been signed, the study has been conducted on the assumption that the agreement will enter into force by **late 2019**.¹

A recursive dynamic **Computable General Equilibrium (CGE)** model has been used to estimate the economic impact of the EVFTA on the UK and Vietnam, compared to a baseline scenario. Such a model is ideally suited to **estimate the impacts of a trade agreement** on national income, trade flows, real wages, consumer prices, and sectoral trade and output. CGE modelling results provide a sense of direction and magnitude of a policy impact and should not be interpreted as a precise prediction or forecast. For modelling purposes, it is assumed that the UK and Vietnam continue to trade on the EVFTA terms following the UK's exit from the EU.



Key Findings of the Study

By **2030**, the EVFTA will increase the UK's annual Gross Domestic Product (GDP) by **£391 million (or 0.01 %)** and will increase Vietnam's annual GDP by **£1.6 billion (or 1.2 %)** compared to the baseline where the EVFTA is not implemented



The UK's overall **national welfare**² will increase by **£293 million**



The agreement will boost bilateral trade. By **2030**, UK exports to Vietnam **will increase by an estimated 60% (or £486 million)** compared to the baseline where the agreement is not implemented. Similarly, UK imports from Vietnam will **increase by 33 per cent (£1.7 billion)**. Much of the increase in bilateral trade will result from goods and services being diverted from other trading partners. For the UK, as for Vietnam, however, **total trade activity will increase only marginally** as a result of the agreement.



The increase of bilateral trade is **expected to divert trade away from other destinations**, due to the increase in competitiveness arising from the reduction of tariffs. Thus, despite the increase in bilateral trade, **overall trade will only increase marginally in both Vietnam and the United Kingdom**.

¹ Zahradil, J. (2018). EU-Vietnam Free Trade Agreement (EVFTA). Legislative Train Schedule – European Parliament, December 14. Source: <http://www.europarl.europa.eu/legislative-train/theme-a-balanced-and-progressive-trade-policy-to-harness-globalisation/file-eu-vietnam-fta>

² National welfare is a measure of how well-off households are after the policy change. Equivalent variation considers changes in prices and incomes following tariff reduction. Changes in national savings and Government

In terms of sector-specific impacts, the largest increase in UK exports to Vietnam is in **air transport (£81 million)** and in **financial services (£107 million)**³. Bilateral exports from Vietnam of **apparel (£526 million, or 78 % increase)**, **leather (£460 million, or 94% increase)** and **motor vehicles and transport equipment (£400 million, or 17% increase)** are also likely to grow.

UK Exports to Vietnam



Vietnam's Exports to the UK



Most of the gains for the UK are driven by the following



Changes in EU / Vietnam's **tariffs**.



Lower regulatory barriers to trade that will in turn facilitate increased market access.



Increase in investment, although this flow will be predominantly from the EU to Vietnam.

The analysis models the impact of the EVFTA commitments on **tariffs and the elimination of regulatory barriers to trade in goods and services trade**. Other measures included in the agreement aiming to facilitate trade could not be taken into account as the CGE modelling framework and database does not have the necessary structural features – this is the case for the movement of skilled workers (Mode 4 services trade), government procurement, and the complex issues surrounding intellectual property and data flows. The results may be considered conservative estimates of the expected and likely outcome from the agreement.



³ Air transport includes flights, aircraft repair and maintenance, selling and marketing, computer reservation services, ground handling services and airport operation services.

Contents

ABBREVIATIONS	1
1 Introduction	3
2 Understanding the European Union - Vietnam Free Trade Agreement	6
3 Methodology, data and scenarios.....	8
Computable General Equilibrium model.....	8
Scenarios.....	10
The baseline.....	11
Non-tariff measures	12
Services.....	15
4 Results	17
Overview of the Simulation Results	17
Consumer welfare	17
Gross Domestic Product (GDP)	20
Trade.....	20
Output	22
Real wages	23
5 Summary.....	24
Appendix.....	25
References	27

ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
AVE	Ad Valorem Equivalent
CEPII	Centre d'Etudes Prospectives et d'Informations Internationales
CETA	Comprehensive Economic and Trade Agreement
CGE	Computable General Equilibrium
CPTPP	Comprehensive and Progressive Trans-Pacific Partnership
ENT	Economic Needs Test
EPA	Economic Partnership Agreement
EU	European Union
EV	Equivalent Variation
EVFTA	EU-Vietnam Free Trade Agreement
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GTAP	Global Trade Analysis Project
IADB	Inter-American Development Bank
IMF	International Monetary Fund
ITC	International Trade Centre
MFN	Most Favoured Nation
NTB	Non-Tariff Barrier
NTM	Non-Tariff Measure
ROO	Rules of Origin
SPS	Sanitary and Phytosanitary
STRI	Service Trade Restrictiveness Index
TBT	Technical Barriers to Trade
TRQ	Tariff Rate Quotas

UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNSD	United Nations Statistics Division
WTO	World Trade Organisation

1 Introduction

This study examines the macroeconomic and sectoral impacts of the EVFTA on the UK and Vietnam. Whilst the two sides have agreed a text, the FTA itself has not yet been signed nor ratified. This is likely to occur in the first half of 2019, with the agreement entering into force by late 2019.¹ The analysis focuses on the impact of the UK's participation in the EVFTA; it does not analyse the trade relations between the UK and the EU27 following the UK's withdrawal from the EU. For modelling purposes these relations are assumed to continue on a status quo basis. Benefits deriving from liberalisation between Vietnam and all EU members (the UK and remaining 27 EU members) are taken into account.

This study simulates the impact of the EVFTA on the UK and Vietnam compared to a baseline where the agreement is not implemented (i.e. the UK and Vietnam trade under the WTO's Most Favoured Nation [MFN] rules).

The analysis accounts for EVFTA commitments on tariffs and the elimination of regulatory barriers to trade in goods and services trade. Other measures included in the agreement aiming to facilitate trade could not be taken into account as the CGE modelling framework and database does not have the necessary structural features – this is the case for the movement of skilled workers (Mode 4 services trade), government procurement, and the complex issues surrounding intellectual property and data flows.

It is not possible for the economic analysis presented in this report to fully capture all aspects of the comprehensiveness and complexity of the EVFTA. In addition, the analysis involves a degree of subjectivity on the extent of liberalisation offered as a result of the agreement.

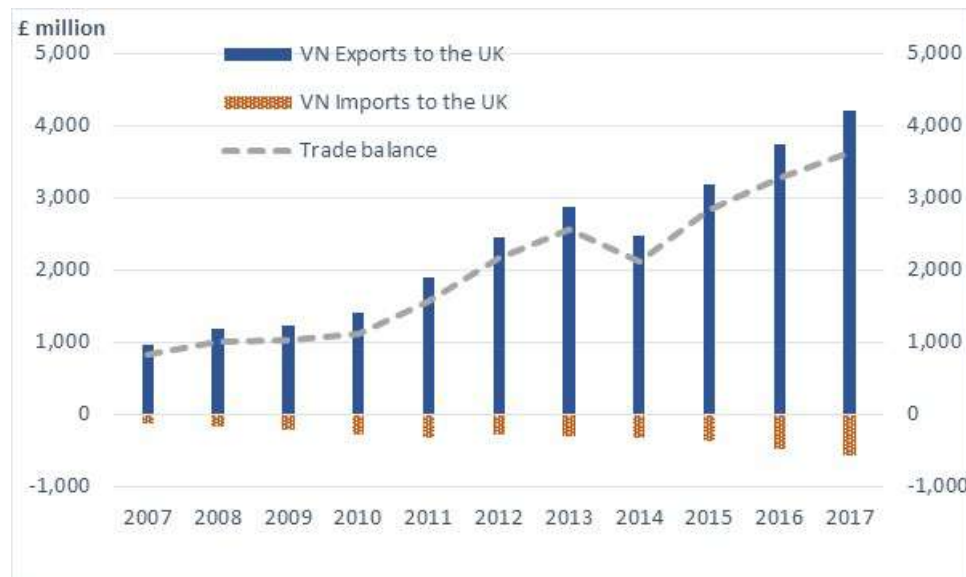
Currently, the EU is Vietnam's main trading partner, importing around £40 billion (representing just under 20 per cent of Vietnam's global exports) in goods and services from Vietnam in 2017.² Most of Vietnam's exports in goods and services to the EU are demanded by Germany (22 per cent of total exports to the EU), the Netherlands (13 per cent), the UK (11 per cent) and France (11 per cent). In comparison, 5 per cent of Vietnam's total imports in goods and services came from the EU.

¹ Zahradil, J. (2018). EU-Vietnam Free Trade Agreement (EVFTA). Legislative Train Schedule – European Parliament, December 14. Source: <http://www.europarl.europa.eu/legislative-train/theme-a-balanced-and-progressive-trade-policy-to-harness-globalisation/file-eu-vietnam-fta>

² UNSD Comtrade data.

Since the EVFTA negotiations began in 2012, Vietnam’s exports in trade in goods to the EU have grown by 14.4 per cent, and its imports by 11.5 per cent. Vietnam has a growing bilateral trade surplus in goods with the EU (see Figure 1).

Figure 1 – Vietnam-UK Trade in Goods, 2007-2017³



Source: Authors’ calculations on the basis of ITC TradeMap. Note: Data used reflects the UK’s submissions.

Trade between the UK and Vietnam has also grown significantly: between 2007 and 2017, UK exports to Vietnam increased by 15.8 per cent annually to produce a quadrupling in volume (from £134 million to £579 million). This growth is experienced mainly in pharmaceutical products, paper and paperboard for recycling, and electronic machinery. A similar pattern has been experienced in terms of Vietnamese exports to the UK, which increased from £949 million in 2007 to £4.2 billion in 2017. The main contributor to this latter growth has been imports of electrical machinery.

Previous studies financed by the European Commission⁴ have indicated that Vietnam is likely to be the major beneficiary of the agreement, primarily by virtue of an expected increase in seafood products, textiles, apparel and footwear exports, despite the fact that current (pre-FTA) EU tariffs on imports from Vietnam are not high by international standards (5.1 per cent on average) and trade volumes are significant. On the EU side, the gains are modest, derived mainly from better access to the services sector (transport, banking and insurance) and through increased investment in sectors such as retail.

³ Equivalent data on services trade is not available on a consistent annual basis between 2007 to 2017.

⁴ See Baker, P., Vanzetti, D. and Huong, P.T.L. (2014). Sustainable Impact Assessment: EU-Vietnam FTA. MUTRAP; and Baker, P., Vanzetti, D., Huong, P. T. L., Thang, T. C., Thuy, N. T. X., & Duong, N. A. (2017). Impact Assessment EU-Vietnam FTA. MUTRAP.

Additionally, one notable observation is that, whilst bilateral trade is estimated to increase greatly, national trade does not. For the UK, this means some of its imports from Vietnam may be diverted away from other countries, due to the increase in competitiveness of Vietnamese products arising from the preferential market access obtained through the agreement.⁵

While previous studies focused on the EU market as a whole, the present study is the first to focus specifically on the impact of the FTA on UK-Vietnam bilateral trade relations.

The next sections of this report describe the content of the EVFTA, followed by a description of the analytical methodology, the simulation results, and summary conclusions.

⁵ *Ibid.*

2 Understanding the European Union - Vietnam Free Trade Agreement

The EVFTA will eliminate over 99 per cent of all tariffs relating to trade in goods and partly remove the remainder by means of Tariff Rate Quotas (TRQs). Almost half of the duties on Vietnamese imports from the EU will be eliminated at the time of the entry into force of the agreement,⁶ with the remainder gradually removed over a 10-year period. In comparison, 81 per cent of duties on European imports from Vietnam will be eliminated at entry into force, with the remainder progressively eliminated over a 7-year period.

The EU will maintain quotas on sensitive agricultural products, such as rice, sweet corn, garlic, mushrooms, eggs, sugar and high-sugar-containing products, manioc and other modified starches, ethanol, surimi and canned tuna. The elimination of duties on imports of some Vietnamese products (for instance in the textile, apparel and footwear sectors) will be subject to transition periods of up to 7 years.

The rules of origin (ROO) provisions are stringent, with goods qualifying for ROO status only if processed in Vietnam. In the apparel sector, a double transformation rule will be required whereby fabrics used in apparel production must be sourced domestically or from the EU, South Korea, or another partner with whom the EU has a trade agreement (allowing, therefore cumulation).

With respect to non-tariff measures (NTMs), the EU and Vietnam have agreed to go beyond the rules set out in the WTO Technical Barriers to Trade (TBT) Agreement. Thus, Vietnam has committed to increasing the use of international standards when drafting its regulations. The agreement also contains a chapter on sanitary and phytosanitary (SPS) measures intended to facilitate trade in plant and animal products. Importantly, Vietnam will recognise the EU as a single entity for the purposes of authorising animal and plant exports.⁷

The EVFTA is ambitious in relation to trade in services, having gone beyond Vietnam's WTO and other FTA commitments in several respects.⁸ Vietnam has committed to improve substantially EU companies' access to a range of service sectors, including

⁶ Vietnam has a total of 9,560 tariff lines, of which 4,639 are immediately brought down to duty-free status at the time of the entry into force. Some discrepancy exists with the information provided by DG Trade, which indicates that the percentage of tariff lines liberalised by Vietnam with the entry into force of the agreement is 65%. See DG Trade (2018). EU-Vietnam Trade Agreement – memo. 17 October.

⁷ *Ibid.*

⁸ See EU Commission (2016). 'Guide to the EU-Vietnam Free Trade Agreement', DG Trade, Tradoc 154622, p. 25. Available at: http://trade.ec.europa.eu/doclib/docs/2016/june/tradoc_154622.pdf

business services, environmental services, postal and courier services, financial services and maritime transport. The agreement will also improve market access to sectors and sub-sectors not included in the WTO schedule, such as building cleaning services, packaging services, and trade fairs and exhibition services.

Some of the key highlights are:

- Liberalisation of cross-border Higher Education services to European suppliers.
- Removal, after five years, of the Economic Needs Test (ENT) before opening an outlet in Vietnam.
- In financial services, increased market access has been achieved, including national treatment of cross-border financial data processing and advisory, intermediation and other securities-related services.

3 Methodology, data and scenarios

The current study has been drafted on the basis of results obtained through a CGE model, as developed by the Global Trade Analysis Project (GTAP).

Computable General Equilibrium model

Modern economies are highly integrated and changes in one single market have consequences for, potentially, all other markets. General equilibrium models are used to assess the range of feedback effects that result across markets. The GTAP model is widely used because it can provide insights into an array of macro-economic questions, such as:

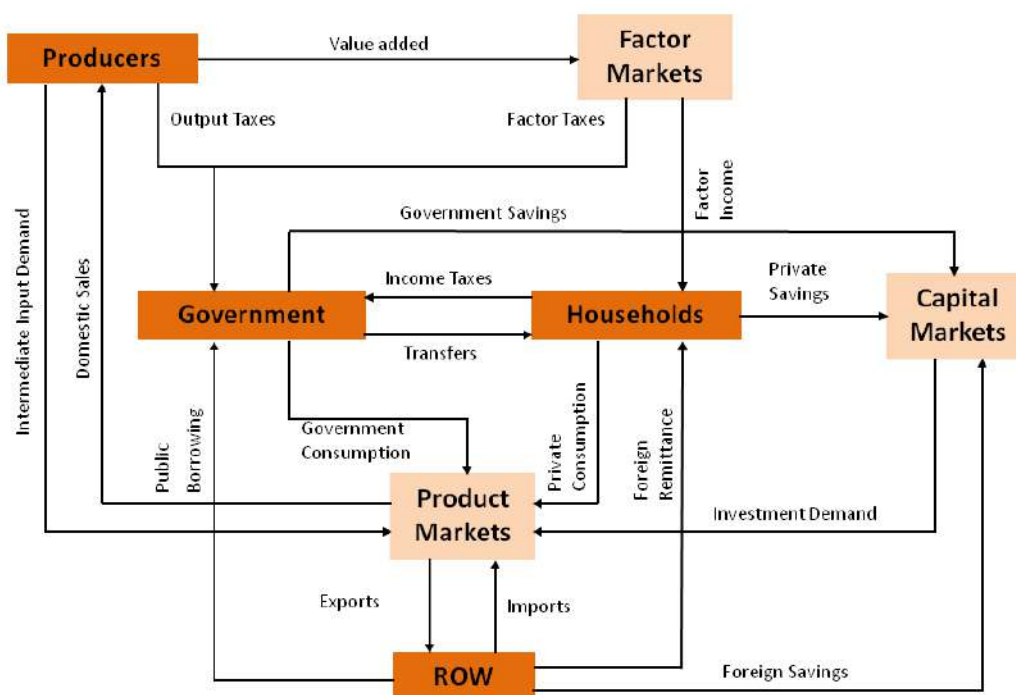
- How does a trade or investment agreement affect real GDP?
- What happens to a country's trade balance and its terms of trade?
- How is the labour market affected?
- Do consumers benefit?
- Which industries are affected and how?

The standard GTAP model is a static, multiregional, multi-sector, CGE model that assumes perfect competition and constant returns to scale.⁹ Bilateral trade is handled via the so-called Armington assumption that differentiates imports by source. GTAP constructs 'input-output' tables which reflect the links between sectors. GTAP is ideally suited to the analysis of FTAs involving the preferential liberalisation of bilateral tariffs and non-tariff barriers (NTBs) that are likely to have international trade and inter-sectoral effects. The input-output tables capture the indirect inter-sectoral effects, whilst the bilateral trade flows capture the linkages between countries (See Figure 2 for an illustration of the interactions captured by a CGE model).

A shock or policy change in any sector has effects throughout the whole economy. Tariff support for one sector, such as textiles, tends to have negative effects on downstream sectors (apparel) by raising input costs and prices. Changes in policies in sectors such as motor vehicles tend to have relatively important economy-wide effects, because many vehicles are inputs into production and many consumers purchase the product. Support in one market often has a negative effect on others because each sector competes with the others for factor inputs, capital, labour and land and natural resources. CGE models aim to capture these effects.

⁹ A useful introduction to the use of GTAP can be found in Burfisher, M. (2011) Introduction to Computable General Equilibrium Models. Cambridge University Press, and Hertel, T. W. Tsigas, M. E. 1997 Hertel Thomas W. Global Trade Analysis: Modelling and Applications

Figure 2 - CGE Model Illustration



Source: Inter-American Development Bank

In this application, the latest available version of the GTAP database is used (version 10).¹⁰ This version of GTAP was used as it has more up-to-date tariff data and updated input-output tables for some countries. This has base quantity and policy data from 2014, although many of the input-output tables linking the sectors are from previous periods.

The model has been updated to take GDP growth into account, expanding trade flows and changes in tariffs due to the various free trade agreements that the EU, Vietnam, and other countries have signed up to. Although GDP growth is considered, readers are reminded that CGE modelling results provide a sense of direction and magnitude of a policy impact and should not be interpreted as a precise prediction or forecast.

¹⁰ For the purposes of this analysis a pre-release version of the GTAP database was used. GTAP version 10 is expected to be released publicly in mid-2019.

Additional elements to consider are:

The Database	Imperfect Substitution	Closure
<p>The GTAP database has 141 countries or regions and 57 sectors. The full model cannot be run with this number of countries, so both countries and sectors are aggregated. Countries are aggregated into 20 regions and 36 sectors. Regional aggregation separates the UK from the EU. The regional and sectoral aggregation is shown in Appendix tables A1 and A2.</p>	<p>GTAP's imperfect substitution feature makes it well-suited for examining bilateral tariff and non-tariff changes that differ from country to country because importers will most likely switch sources when relative prices change. By examining tariff changes at an industry level, it is possible to make a reasonable estimate as to their likely effects on the industry's prices and production, consumption and trade.</p>	<p>In the modelling, we assume the standard long run closure. This means that real wages adjust to clear the labour market, the trade deficit may vary and that capital moves between countries. In the negotiations, Vietnam expressed concern about any macro-economic fall-out arising from a possible increase in its trade deficit with the world. For this reason, we target a stable trade balance in Vietnam and other developing countries as a country policy choice.</p>
Limitations		
<p>Limitations of CGE modelling should be kept in mind and results interpreted with care. Our estimates are projections not forecasts. The model does not include bilateral investment flows and does not capture the extent to which the EVFTA provides EU Member States with an advantage over other countries in investing in Vietnam. We have not tried to model changes in ROO or utilisation rates. There is also uncertainty about Non-Tariff Measures (NTMs) and the extent to which they might be removed. Despite these limitations, we believe the results are robust and provide a useful guide to likely economic impacts.</p>		

Scenarios

To explore the likely impact of the EVFTA on the UK, we run one scenario (Table 1) in addition to a baseline to 2030.

Table 1 - Alternative scenarios

Simulation 1	Baseline to 2030 without the EVFTA.
Simulation 2	Baseline to 2030 with the EVFTA. The EVFTA comes into effect, liberalising trade between the EU and Vietnam in 2020. The UK and Vietnam continue to trade on the terms set out in the EVFTA, following the UK's exit from the EU.

Simulation 1 shows the business-as-usual baseline without the impacts of the EVFTA. This exercise takes account of the reduction in tariffs following the implementation of the EU-Canada Comprehensive and Economic Partnership Agreement (CETA), the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP), the EU-Singapore

FTA, and many other FTAs that have or will come into force over the period.¹¹ It shows that most economies continue to grow and expand, although the effects of tariff changes are of secondary importance to underlying growth, which is driven in turn by increases in capital, labour and productivity.

Simulation 2 illustrates the impact on the economy taking into consideration the EVFTA, with Vietnam and the EU, including the UK, reducing tariffs on bilateral trade. Here we assume that third countries, such as the United States, would maintain their current tariffs. The aforementioned trade agreements have also been taken into account in this simulation.

The baseline

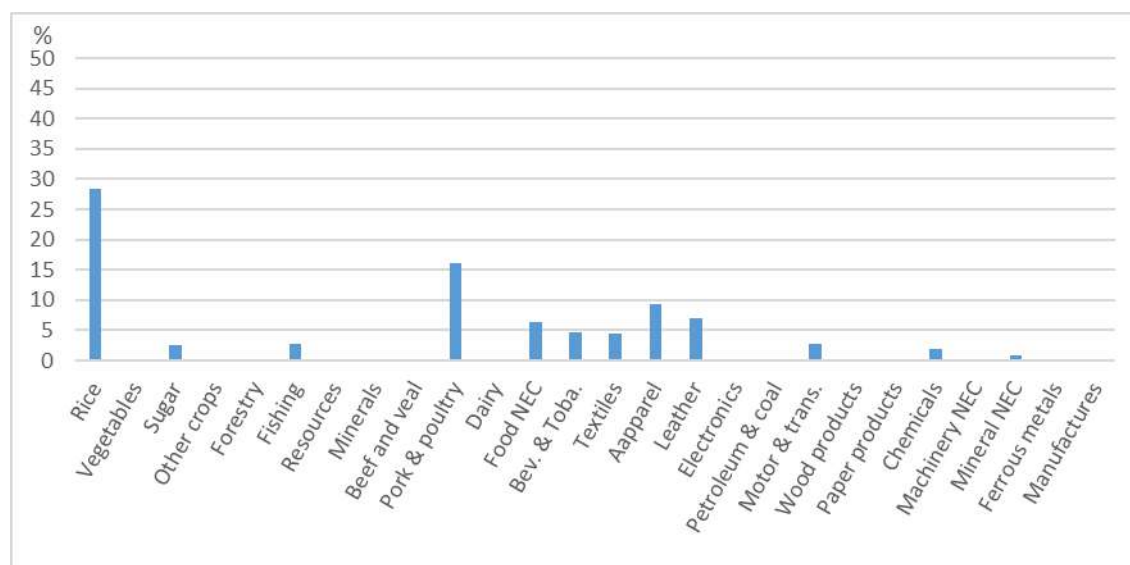
As stated in the EVFTA, tariff changes are to be implemented over several years. During that period, other trade agreements will enter into force, such as the CPTPP, the CETA between Canada and the EU, and the EU-Singapore FTA. Also, the countries party to the agreement are forecasted to grow, regardless of whether they are party to the EVFTA. For example, during the period 2020 - 2030, the Vietnamese economy is expected to expand by 50 per cent, at an average annual rate of 4.3 per cent, whilst the UK is expected to grow by 28 per cent during that period, an annual rate of 2.5 per cent. These changes are taken into account in our modelling.

By modelling the baseline, we can compare the additional impact of the policy change at a given point in time.

In terms of tariff barriers applied by the UK and which affect Vietnamese exporters, the general picture is that the UK has high (weighted) tariffs on agricultural products, such as dairy products, processed rice, sugar, wheat, beverages and tobacco products. There are also high tariffs on some industrial products, such as textiles and apparel.

¹¹ FTAs included are Korea-US FTA (KORUS), African Growth Opportunity Act (AGOA), Caribbean Forum of African, Caribbean and Pacific States (CARIFORUM), Association of Southeast Asian Nations (ASEAN) FTA, ASEAN Australian New Zealand FTA (AANZFTA), ASEAN China FTA (ACFTA), ASEAN Korea FTA (AKFTA), ASEAN India FTA (AIFTA), ASEAN Japan FTA (AJFTA), Japan-Vietnam Economic Partnership Agreement (JVEPA), and EU-Korea FTA (EUKFTA).

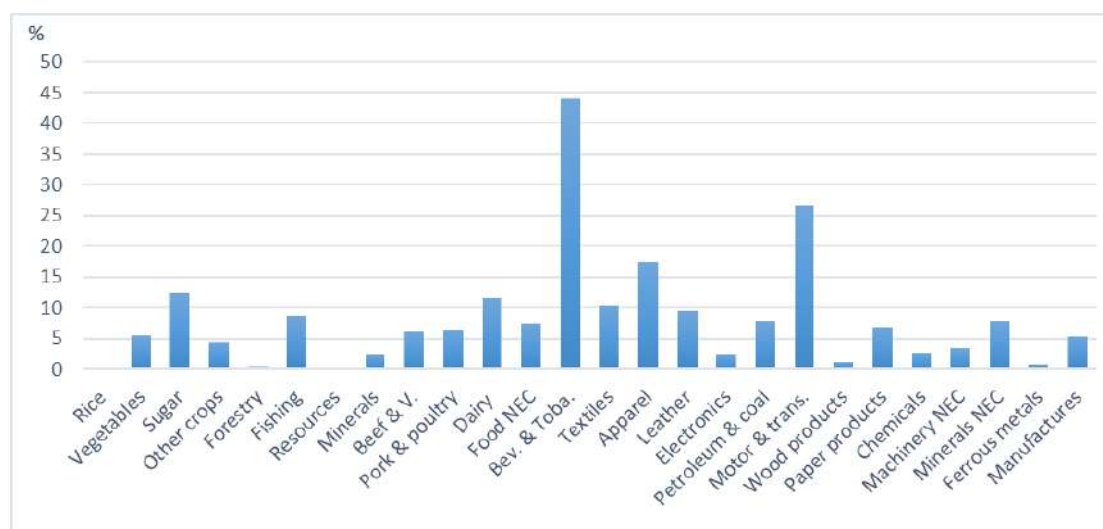
Figure 3 – UK base tariffs on imports from Vietnam



Source: GTAP database. Trade weighted (trade weighted data 2014). A tariff equal to zero indicates that there are no imports on that product.

On the EU export side, Vietnam currently imposes substantial tariffs on processed agricultural products, apparel, leather, motor vehicles and a range of manufactured goods. These tariffs are to some extent reduced with the agreement’s entry into force (assumed in 2020), with the remainder being phased out over 10 years.

Figure 4 - Vietnam base tariffs on imports from United Kingdom



Source: GTAP database. Trade weighted. A tariff equal to zero indicates that there are no imports on that product.

Non-tariff measures

Tariff barriers, however, are not the only influence upon trade. Non-tariff barriers (NTBs), and, more generally, NTMs, including technical regulations, standards,

conformity assessment procedures, and SPS measures shape the level and direction of trade. In the case of the EVFTA, Vietnam's standards are more closely aligned with EU standards, or become recognised as such.

Regulators might impose these measures for several reasons: to reflect national consumer preferences, to ensure consumer safety, to protect the environment, to safeguard industry interests, to reflect geographic and climatic conditions, and so on.

Box 1 - Defining NTMs

UNCTAD (2015) defines NTMs as 'policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both.'¹² Such policy measures can take the form of 'technical measures, such as sanitary or environmental protection measures, as well as others traditionally used as instruments of commercial policy, e.g. quotas, price control, exports restrictions, or contingent trade protective measures, and also other behind-the-border measures, such as competition, trade-related investment measures, government procurement or distribution restrictions.'¹³ NTBs represent a sub-set of NTMs characterised by protectionist intent and a negative impact on trade. Some NTMs, typically SPS and TBT measures, are quite legitimate in protecting health, safety and the environment, but even these may be used in a protectionist manner. The WTO's TBT and SPS agreements, which, though not making explicit reference to NTBs, forbid Members from adopting measures that could be considered more trade restrictive than necessary.¹⁴

While regulations are necessary, the costs of such regulations can be reduced through regulatory convergence. If two countries impose the same set of SPS and TBT requirements, which hold for foreign and domestic producers, trade costs are minimal.

Our approach to gauging the impact of reduced NTMs involves (1) measuring the similarity in regulations between countries, and (2) the existing trade flows between them. Thus, if two countries have broadly similar SPS measures, for example, these SPS measures can be assumed not to inhibit trade between them. For example, if both countries have the same maximum residue limits on antibiotic levels in meat, it can be assumed that this is not likely to be a barrier to trade. If one country has stricter limits, as the EU does in this example, this is likely to be a barrier and there is scope for further trade if the regulations are brought into line. The trade effects of such harmonisation of regulations can be econometrically estimated using a gravity model.

¹² UNCTAD (2015). International Classification of Non-Tariff Measures – 2012 Version. United Nations, UNCTAD/DITC/TAB/2012/2/Rev.1, New York and Geneva.

¹³ *Ibid.*

¹⁴ See Article 5.6 of the SPS Agreement and Article 2.2 of the TBT Agreement.

Our model uses the UNCTAD NTM database to estimate the baseline NTMs. For each product and country-pair, the regulatory pattern of NTMs is compared. NTMs are divided into overlapping measures, which are applied by the importing as well as the exporting country, and non-overlapping measures that are applied by either the importer or the exporter. The next step is to estimate whether overlapping measures have a lesser cost impact than non-overlapping measures, and from this it is possible to econometrically estimate the scope for further regulatory convergence. Using this approach, it is possible to obtain estimates of the potential price impacts of regulatory convergence achieved by the EVFTA.¹⁵ These price impacts reflect lower production costs for businesses. In our modelling, we are not eliminating NTMs but attempting to estimate the impact of convergence.

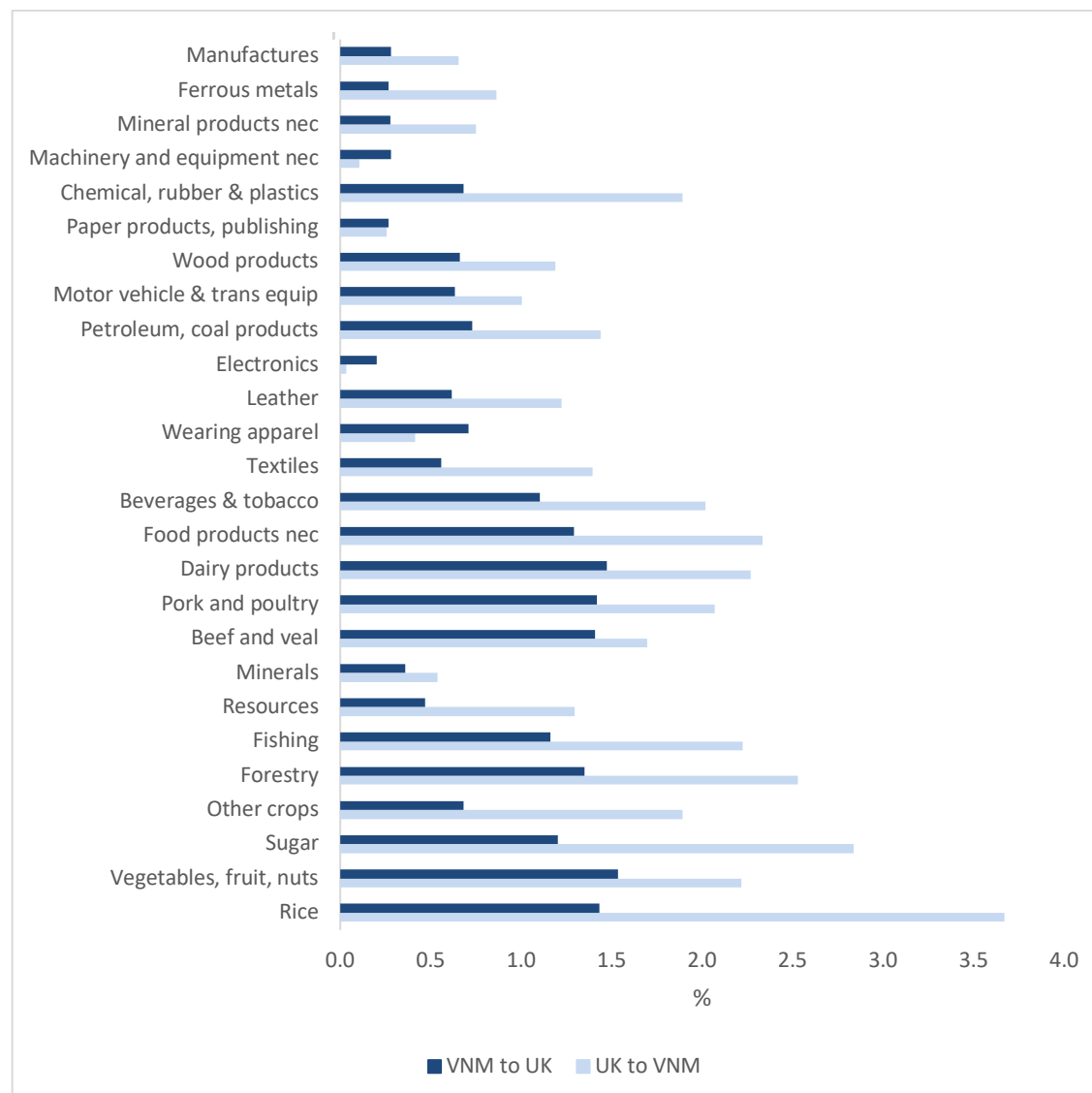
Figure 5 shows the estimated cost reductions available from convergence of Vietnam regulations to international levels when applied to UK exports. The greatest cost reductions are seen on raw and processed agricultural products, with much smaller gains (0.6 per cent) on manufactured goods. However, the trade in the manufactured goods sector is much greater, so the potential gains in absolute terms are likely to be greater in this sector.

The cost reductions are modelled as a productivity improvement that lowers the cost of importing from one country to another. The importing country gains the most from the productivity gains, but the exporter also gains from terms of trade effects.

The cost reductions presented in Figure 5 are based on the authors interpretation of the EVFTA text and judgement on the additional market access offered under the agreement. The assumptions around the extent to which regulatory barriers to goods trade between the EU and Vietnam converge as a result of the agreement are subject to a degree of uncertainty.

¹⁵ The database for Vietnam and other ASEAN countries is described in Ing, L. Y. *et al* (2016). Non-tariff measures in ASEAN. ERI-UNCTAD, and the methodology for calculating the price impacts is described in Cadot, O., Asprilla, A., Gourdon, J., Knebel C. and Peters, R. (2015). Deep regional integration and non-tariff measures: A methodology for data analysis. UNCTAD and detailed further in Knebel, C. and Peters, R. (2018). Non-tariff measures and the impact of regulatory convergence in ASEAN. UNCTAD.

Figure 5 - Estimated cost reductions to UK and Vietnamese businesses from reducing non-tariff measures



Source: Authors’ calculations on the basis of UNCTAD’s NTM database.

Services

We assume for modelling purposes, that the barriers to trade in services applied by the UK are similar to those of the EU, even if Member Countries can in practice vary these measures. By reviewing the EVFTA text, taking into account diagnostic work on Vietnamese laws and compatibilities with the agreement, and considering the Service Trade Restrictiveness Index (STRI), we assess the extent to which market access is likely to improve in the services sector. The table below sets out the assumption used in the CGE modelling.

For modelling purposes, the reduction in trade in services restrictiveness is modelled in GTAP as a reduction in the cost of providing services in Vietnam and the UK, as

uncertainty and regulatory barriers are removed or streamlined. The ad valorem equivalent (AVE) cost reductions in each direction are shown in

Table 2. These estimates are provided by the World Bank (Jafari and Tarr (2014)). It should be noted that each EU Member State has a separate schedule of commitments, while there are common horizontal commitments. The AVEs calculated by the World Bank and used in this study refer to an average for France and Germany and as such, would not necessarily represent the whole of the EU, which shows great variation in the degree of openness.

The cost reductions associated with the reduction in service regulatory barriers to trade (Table 2) are based on the authors interpretation of the EVFTA text and judgement on the additional market access offered under the agreement. The assumptions are therefore subject to a degree of uncertainty.

Table 2 – AVE cost reduction reflecting the degree of liberalisation in services (AVE percentage production cost reduction)

	EU to Vietnam per cent	Vietnam to EU per cent
Sea transport	50	20
Air transport	72	20
Other transport	70	28
Communication	75	2
Retail & wholesale trade	50	6
Finance & insurance	25	16
Recreation and other services	25	0
Business services not classified elsewhere	25	48

Source: World Bank (Jafari and Tarr (2014)); authors estimations

The reduction of service regulatory barriers to trade are often expressed as an AVE or tariff equivalent. However, in this study it is expressed in the form of a 'productivity shift'. In other words, a reduction in regulatory barriers is reflected as a reduction in production cost to businesses.

The degree of service liberalisation is greater in Vietnam than in the EU. For example, the production cost for UK businesses exporting financial and insurance services is expected to undergo a 25 per cent reduction. The main barriers to providing services to Vietnam are in transport and communications. The barriers in the other direction are more modest, with the exception of business services. Overall, we expect the cost reduction presented in table 2 to be the upper end scale of the impacts.

4 Results

In this section, we first summarise the overall key results for the UK and Vietnam. Thereafter we look at welfare (a measure of national income for the UK and its FTA partners). Finally, we examine the evolution of trade flows and the changes arising in trade and output by sector. The impacts are dependent on the baseline trade flows, the size of the change in the tariffs, NTMs, and changes in relative tariffs between two competing economies in the same market.

Overview of the Simulation Results

The table below summarises the results of the scenarios where the EVFTA comes into effect. Values are in current (2018) prices. As mentioned above, the UK and Vietnam continue to trade on the terms set out in the EVFTA following the UK's exit from the EU. The results are compared against a baseline in which the EVFTA is not implemented.

Table 3 Summary of main long run results

	UK		Vietnam	
	Monetised impacts (£ million)	Percentage change (%)		Percentage change (%)
Consumer welfare	£293	-	£4,832	-
GDP real change	£391	0.01	£1,615	1.20
UK exports to Vietnam	£486	60.00	N/A*	N/A*
UK imports from Vietnam	£1,720	33.00	N/A*	N/A*
Total exports	£351	0.09	£4,034	2.14
Total imports	£116	0.01	£3,870	1.59
Real wage of labour	-	0.02	-	2.90

*Note: The UK's exports to Vietnam and Vietnam's imports from the UK represent the same indicator. The same is true for UK imports from Vietnam and Vietnamese exports to the UK.

Consumer welfare

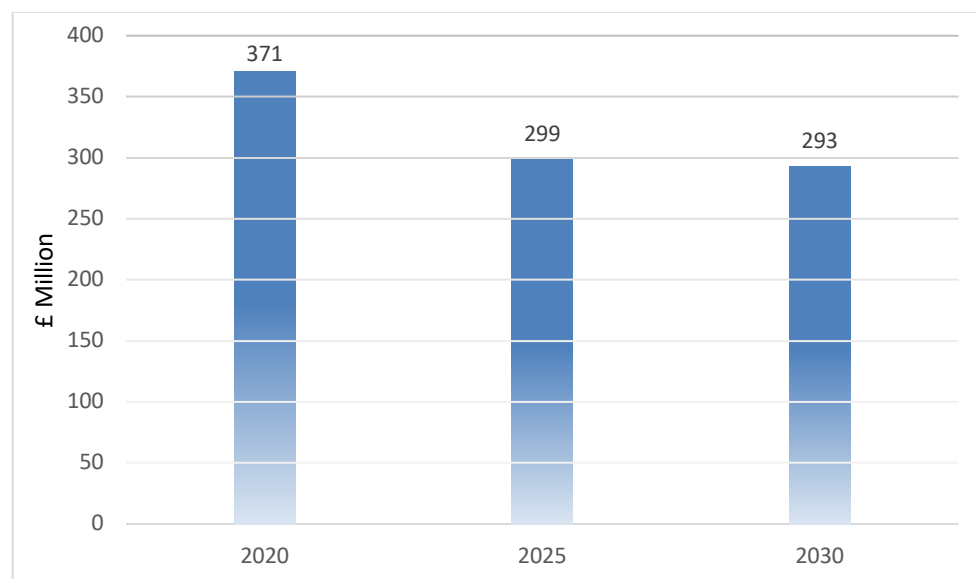
The EVFTA is estimated to bring national welfare gains for the United Kingdom.¹⁶ The annual gains (Figure 6) relative to the baseline are £371 million in 2020, £299 million

¹⁶ As highlighted by Ciuriak (2018), "equivalent variation" (EV) is the preferred measure used to assess the impacts on consumers when prices fall due trade liberalisation. EV is defined as the lump sum payment to consumers that leaves them as well-off without the trade agreement as with it. In other words, it is the answer to the question: "How much income do consumers need to be compensated in lieu of the [Agreement]?" EV takes into account changes in prices and changes in incomes in determining the amount of consumer benefits from a policy change. As EV is based on consumer preferences, it also takes into account quality changes in goods and services. See: Ciuriak Consulting (2018). The Impact of the EU-Canada Comprehensive and Economic Trade Agreement on the UK. UK Department of International Trade, Ref: DN295137, p. 16. Nevertheless, it is also worth highlighting that GTAP also accounts for saving and Government expenditure via an aggregated utility function.

in 2025 and £293 million in 2030, by which time most of the tariff cuts will have been implemented. In each case, the change in GDP is equivalent to £293 million, or 0.01 per cent. The gains decline in later years due to greater tariff reductions by 2025 and 2030. The tariffs cuts have adverse effects because of negative terms of trade effects. In other words, UK imports are more expensive relative to UK exports, especially in relation to motor vehicles, chemicals, rubber and plastics, manufactured goods, air transport, financial services and other business services. There are also negative allocative efficiency effects, meaning that distortions are added to the economy, not removed. This is because tariffs are reduced bilaterally, on selected goods. Uniform tariff reductions on imports from all countries would reduce distortions, but this does not occur here.

The UK is expected to gain from improved access for its services, but these are assumed to be similar in each of the three years as regulatory barriers to trade are harmonised upon on entry into force of the agreement.

Figure 6 - Change in welfare in the United Kingdom relative to the baseline



Source: GTAP simulations. 2017 constant £.

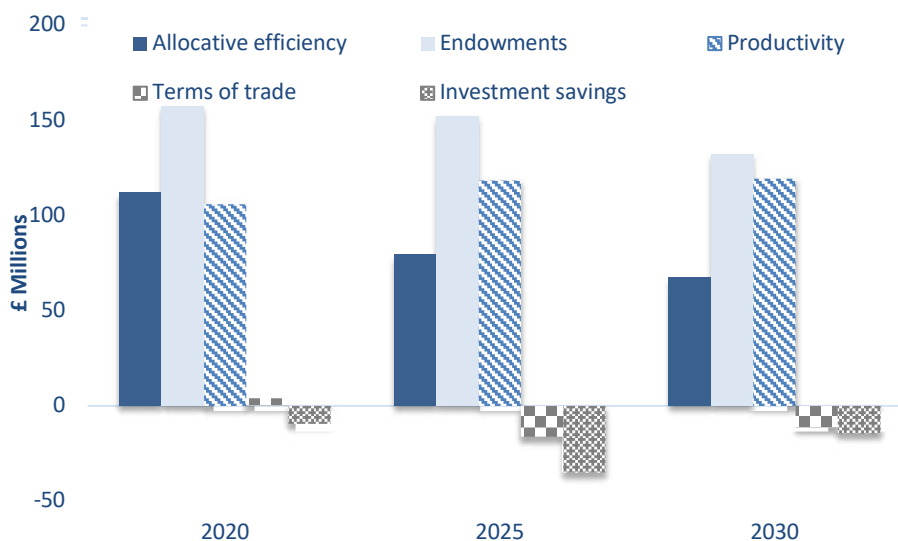
The consumer welfare gains are derived from several sources (Figure 7):

- **Allocative efficiency** gains stem from using resources (capital and labour) more efficiently across the economy. For the UK, lower tariffs under the EVFTA bring positive allocative efficiency impacts, which diminish gradually in accordance with tariff elimination phases.
- **Terms of trade** refers to the changes in import and export prices. Globally, the terms of trade must sum to zero because an increase in export prices in one country represents an increase in import prices in another. A country's terms

of trade improve if the price of the goods and services it imports becomes lower relative to the goods and services it exports. The EVFTA impacts on the UK's terms of trade are overall negative/neutral. The impact becomes more negative as tariff cuts deepen.

- A third factor is the change in the **use of capital, labour, land and other factors of production** (referred to as endowments in Figure 7). Our simulations allow for the movement of capital between the world regions which is in turn driven by the demand for capital intensive products. The movement of capital is an important factor for welfare increases in the UK, but there is also an increase in the cost of capital which contributes negatively to the welfare change.
- A fourth factor is changes in **productivity** which reflect some convergence on regulatory NTMs under the EVFTA.
- Our welfare measure includes **savings**, which is regarded as a substitute for consumption. A rise in consumption at the expense of savings needs to be accounted for. Savings is determined by the need to offset changes in the current account, that is, to pay for imports.

Figure 7 - Contributions to the United Kingdom welfare changes



Source: GTAP simulations.

Vietnam's welfare is estimated to increase by £4.8 billion as a result of the EVFTA and is expected to rise further over time as the tariff cuts deepen. Most of the gains to Vietnam are driven by improvements in its term of trade, which reflect the rise in the price of its exports, arising from the improved access to European markets for fish, apparel, leather goods, and motor vehicle parts and components, and various lightly transformed manufactured goods.

Gross Domestic Product (GDP)

Unlike welfare, which takes a consumer perspective, GDP is a measure of output. The overall impacts on real GDP are positive for all three regions (UK, Vietnam and the EU27). Real GDP in Vietnam is anticipated to increase between 2.1 and 2.7 per cent, roughly equivalent to £2.4 to £3.1 billion relative to the baseline. The scale of this impact reflects Vietnam's preferential market access to the whole of the EU. In the UK, the change in real GDP is around 0.01 per cent or about £474 million in 2020. This gain declines to around £400 million in 2030, reflecting the deeper tariff cuts at the end transition, in Vietnam's tariff schedule, towards the end of the implementation period.

Tariff cuts will lead to positive and negative changes in sectoral output in the UK but make a differing contribution to GDP overall. Tariffs cuts have small positive effects initially, but this turns negative as tariff cuts on a bilateral basis add to distortions in the economy, diverting goods and services from more efficient producers worldwide and encouraging specialisation in sectors that may not reflect best comparative advantage. In addition, tariff revenue is lost. The contribution to GDP of removing NTMs on goods is relatively constant and positive, ranging from 25 to 30 per cent of total gains, or around £120 million. Our modelling of NTM reductions on bilateral goods trade is conservative, reflecting the scope for convergence of standards, as opposed to the complete elimination of NTMs.

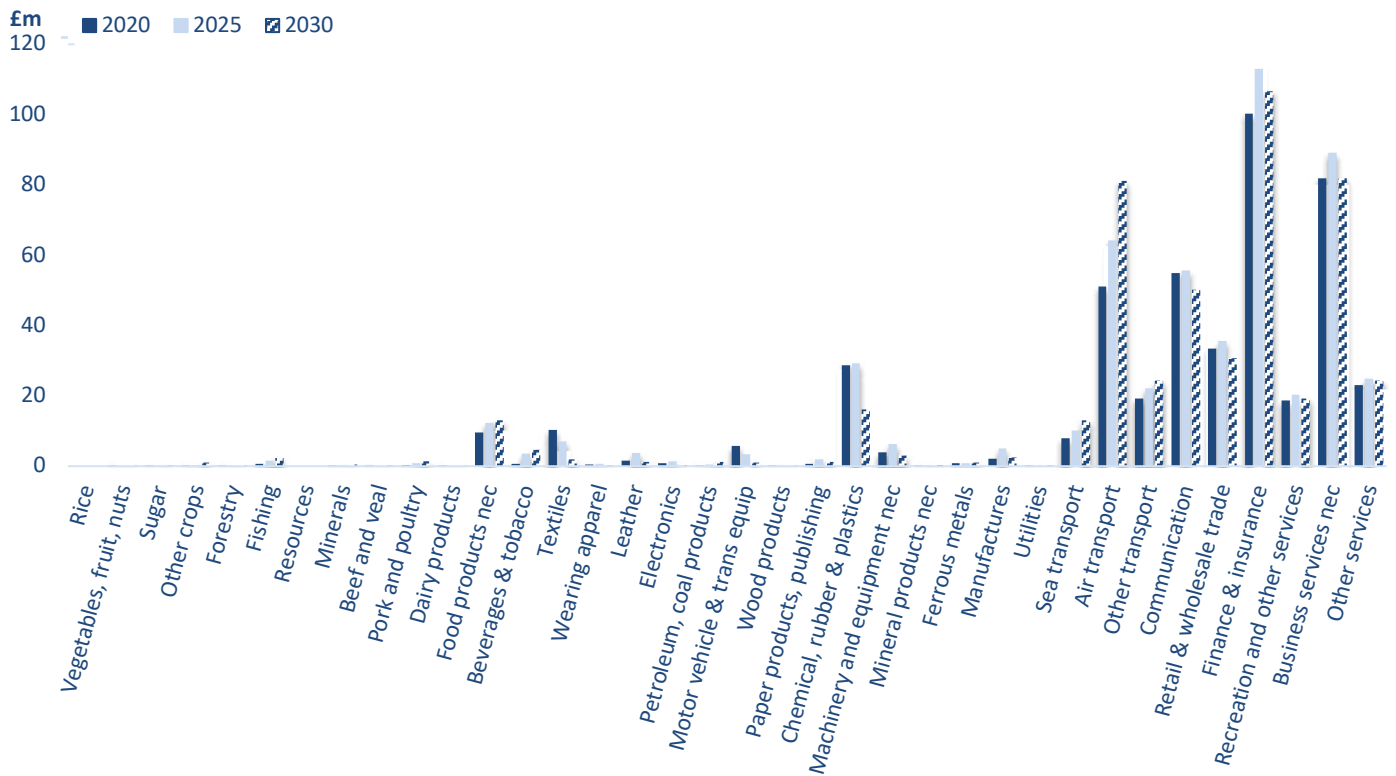
Changes in EU27 GDP are similar in relative terms, but as expected, are greater in absolute terms: nominal changes are expected to be around £2.6 to £2.9 billion in the long run, reflecting the size of the EU27 economy.

Trade

We estimate that bilateral exports from the UK to Vietnam will increase by 60 per cent (£486 million) by 2030, compared with the baseline in that year, and that the UK's imports from Vietnam will increase by 33 per cent (£1.7 billion) by the same time. In comparison, total UK exports to and imports from all trading partners will increase by only £351 million (equivalent to 0.09 per cent) and £116 million (equivalent to 0.01 per cent), respectively, by 2030, indicating that changes in UK/Vietnamese trade will reflect a substantial amount of trade diversion.

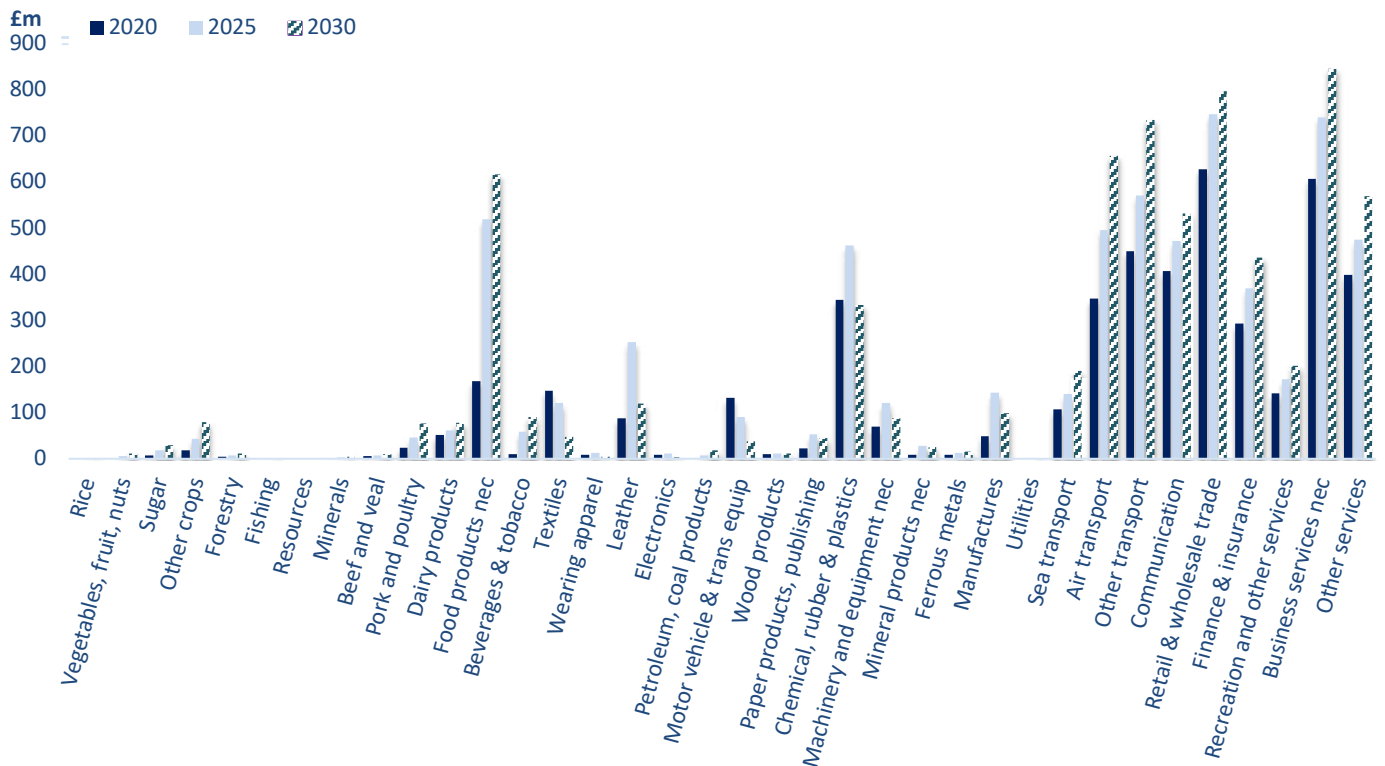
Vietnam's total (national) exports of goods and services are expected to increase by £3.1 to £5 billion (equivalent to 1.5 per cent to 2.6 per cent) by 2030, whilst imports will increase by £3.3 to £5.1 billion (equivalent to 1.3 per cent to 2 per cent). Exports show a significantly greater increase in the service sector than in almost all commodity sectors, reflecting the higher impact of the shocks and the initial trade flows.

Figure 8 - Changes in UK exports to Vietnam relative to baseline



Source: GTAP simulations.

Figure 9 - Changes in EU27 exports to Vietnam relative to baseline



Source: GTAP simulations.

UK exports to Vietnam increase by £459 million in 2020 (short-run), £514 million by 2025 (medium-run) and £482 million by 2030 (long-run) compared to the agreement not being in place. The elimination of tariffs between the UK and Vietnam increases UK exports to Vietnam from £457 million in 2020 to £511 million in 2025. However, this positive impact is marginally offset by Vietnam diverting its imports away from the UK and instead importing from countries within the CPTPP. This impact of trade diversion is captured as the CPTPP is modelled within the baseline.

Whilst most of the exports from the UK will have been created by trade, some three quarters of UK imports from Vietnam will have been diverted from other sources and destinations. Overall, however, national trade will increase in both Vietnam and the United Kingdom, although to a more limited extent in the case of the UK.

Output

Sectors undergoing export expansion will experience output growth relative to the baseline and *vice versa*. The leather and wearing apparel sectors both in the UK and in the EU27 will contract whereas almost all other sectors marginally develop (Table 4). By contrast, these sectors in Vietnam will expand significantly, by up to 25 per cent.

Table 4 - Change in UK output, selected sectors

	2020	2025	2030
	per cent	per cent	per cent
Wearing apparel	-0.32	-0.99	-0.82
Leather	-2.15	-3.27	-2.28

Source: GTAP simulations. Other sectors less than |0.5 per cent|.

Table 5 - Change in Vietnam output, selected sectors

	2020	2025	2030
	per cent	per cent	per cent
Other crops	-1.77	-2.35	-1.75
Forestry	-2.41	-2.96	-1.73
Textiles	0.59	3.75	4.06
Wearing apparel	2.21	9.74	9.77
Leather	17.91	28.95	27.82
Electronics	-3.56	-5.16	-4.19
Motor vehicle & trans equip	-1.95	-3.65	-3.01
Wood products	-2.96	-4.16	-2.47
Paper products, publishing	-1.04	-1.59	-1.15
Chemical, rubber & plastics	-1.17	-1.8	-1.36
Machinery and equipment nec	-4.15	-6.16	-4.64
Mineral products nec	-1.07	-1.56	-1.03
Ferrous metals	-3.98	-5.31	-4.05
Manufactures	-2.46	-4.06	-3.09
Sea transport	0.85	-0.3	-1.15
Air transport	-5.21	-6.12	-6.89
Other transport	-4.7	-5.73	-6.82
Communication	-8.69	-8.31	-7.65
Finance & insurance	-2.2	-2.97	-2.35
Recreation and other services	-1.15	-1.33	-1.12
Business services nec	7.41	6.34	5.9

nec: not elsewhere classified

Source: GTAP simulations. Other sectors less than |1 per cent|.

Real wages

Our simulations assume that labour can be moved readily between sectors but not between regions over the medium-term. In addition, the amount of labour, which is classified into five main types (technical, managerial, clerical, unskilled and services) is fixed in any particular year. Wage rates, in contrast, are assumed to be flexible in order to balance the labour market. Higher trade volumes arising from trade liberalisation under the EVFTA leads only to a slight increase (0.03 per cent) in UK wages, whilst the differences in real wage rates among labour groups is small.

The increase in wages in Vietnam is found to be much higher at 3-4 per cent, and differs slightly among groups, with unskilled workers experiencing only 2 per cent gains.

5 Summary

The EU, on behalf of its Member States, including the UK, negotiated the EVFTA to assist the development of Vietnam and provide additional avenues for trade and investment. The UK, as with other EU members, will benefit from additional market access for its exports and from cheaper imports in some sectors, although it will lose some tariff revenue that was previously collected.

The agreement is certainly beneficial for Vietnam. However, future EU agreements with other ASEAN countries may lessen these benefits due to preference erosion (and the erosion of competitiveness). The gains to the UK are, on the other hand, relatively modest. There will certainly be an increase in bilateral trade flows, but the change at a national level will be slight owing to trade diversion, particularly on the import side.

Trade is certainly important in enhancing productivity. Imports of industrial products and services embody more advanced technology that improves productivity and allows exporting firms to be more competitive. Vietnam has more to gain than the UK in this respect as a result of differences in technology.

The UK services industry is expected to benefit most from the agreement. Financial services, for example, are expected to grow by an additional £100 million as a result of the implementation of the FTA. Air transportation could also see exports increase by £50 to £80 million, whilst professional business services might see exports rise by between £80 and 90 million.

The analysis presented here shows a significant impact on trade in selected products. Certain sectors will experience an increase in imports, but the changes in production are minimal, especially when considering the growth in output over the implementation period. Some sectors may grow more slowly than otherwise, but there are no contractions relative to previous years, at least at the sectoral level. Nonetheless, some firms producing more narrowly defined goods, such as shirts or footwear, may need to diversify into other products and focus their efforts on becoming more competitive in the face of increased Vietnamese exports.

Appendix

Table A1 Regional aggregation

Label	Label	Description
1	eu27	European Union
2	gbr	United Kingdom
3	usa	United States of America
4	jpn	Japan
5	china	China
6	aus	Australia
7	can	Canada
8	odv	Other developed countries
9	kor	Korea
10	ind	India
11	vnm	Vietnam
12	idn	Indonesia
13	mys	Malaysia
14	phl	Philippines
15	tha	Thailand
16	sgp	Singapore
17	xas	Rest of ASEAN
18	lam	Latin America
19	afr	Africa
20	row	Rest of the World

Table A2 Sectoral aggregation

Label	Description	Label	Description
rce	Rice	mvt	Motor vehicle & trans equip
vfn	Vegetables, fruit, nuts	lum	Wood products
sug	Sugar	ppp	Paper products, publishing
crps	Other crops	crp	Chemical, rubber & plastics
frs	Forestry	ome	Machinery and equipment nec
fsh	Fishing	nmm	Mineral products nec
res	Resources	i_s	Ferrous metals
omn	Minerals	man	Manufactures
bv	Beef and veal	utl	Utilities
pp	Pork and poultry	wtp	Sea transport
dry	Dairy products	atp	Air transport
ofd	Food products nec	otp	Other transport
b_t	Beverages & tobacco	cmn	Communication
txt	Textiles	trd	Retail & wholesale trade
wap	Wearing apparel	fi	Finance & insurance
lea	Leather	ros	Recreation and other services
ele	Electronics	obs	Business services nec
p_c	Petroleum, coal products	svc	Other services

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