US TARIFF CHANGES AND BULGARIA'S PRESENCE IN GLOBAL VALUE CHAINS

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Abstract. With the introduction of new tariffs and restrictions in international trade, global value chains are undergoing a transformation. Traditionally, small and open economies such as Bulgaria's are actively involved in these chains, which tie their economic dynamics to their survival. The introduction of new tariffs on goods imported into the United States has led to an escalation of reciprocal actions and an expansion of the scope of customs restrictions in mutual trade. All this requires consideration of the impact on the functioning and future of value chains and, more generally, on trade in intermediate goods. While the broader EU–US trade framework provides context, the analysis focuses mainly on Bulgaria's role as a small open economy integrated into European GVCs.

This article proposes a new methodology to assess the effects of the introduction of tariffs on trade in intermediate goods. It develops the concept of indirect exports and evaluates the effect of the new US tariffs on indirect exports of Bulgarian goods that are processed and then exported to the US. The methodology is based on an analysis of export-significant commodity items and assesses the exports of goods with Bulgarian content from Bulgaria's largest trading partners. Conclusions are drawn about the impact of the new US tariffs on participation in value chains.

The results show that indirect effects range between a reduction of 1.79% of Bulgaria's total goods exports and 0.74% of GDP, using the average value approach, and a decrease of 0.49% of total exports and 0.20% of GDP under refined commodity level assessment. These moderate losses place Bulgaria among the EU countries with relatively lower adverse effects compared to more highly exposed economies.

Introduction

The emergence of global value chains is a significant factor in Bulgaria's foreign economic relations. Participation in global value chains (GVCs) enables the country to realise its production potential and actively participate in the EU Single Market.

The crises of recent years have led to changes in the behaviour of GVCs, which are a major factor in the fragmentation of the global economy. In practice, these processes are slowing down globalisation by changing its forms of manifestation and trade patterns. The dynamics of trade flows and the growing protectionism in international trade are a challenge to the high degree of openness of the Bulgarian economy and its participation in GVCs.

The purpose of this article is to propose and approve a methodology for assessing the effects of the changed US import tariffs on the value chains created through trade in intermediate goods with the importer. This is also necessitated by the specific nature of Bulgaria's foreign trade with the US – a high relative share of intermediate goods in exports (consumer goods account for only 33% of total exports, with the rest being for further processing), instability of the commodity structure, and fragmentation of exports into small volumes. The methodology is universal and applicable to all US foreign trade partners with a fragmented export profile and a significant share of intermediate goods.

The new feature of the proposed and tested methodology is the development of two assessment variants. The first assumes that the export of capital goods, materials, and raw materials will be used to produce goods intended for export to the US. The estimate is adjusted for imposed tariffs and elasticity coefficients in the US markets. The second variant assesses the export of goods with value produced in Bulgaria, their import intensity, and the share of the Bulgarian trading partner. The methodology is applied to the structure of Bulgarian exports with an emphasis on intermediate goods and their role in global value chains. Combining aggregated simulations and positional analysis allows the assessment of indirect effects of customs changes. The inclusion of price elasticity and import intensity in the calculations provides a more realistic range of impact, especially in the context of a fragmented export structure. This approach is applicable both to Bulgaria and to other small open economies involved in intermediate stages of production chains, making it a particularly relevant tool for impact assessment in a dynamic and changing global trade environment.

Literature review

The emergence of global value chains, observed since the mid-1980s, is a result of technological developments and opportunities for the functional and geographical distribution of production (Baldwin, 2006). Trade in parts and components is also linked to investment flows and technologies that give rise to new forms of production coordination, specialisation, and reduced management costs (Baldwin, 2012).

Bulgaria's membership in the EU has led to the adaptation of foreign economic relations and the integration of the national economy into European GVCs (Panusheff, 2017). Participation in GVCs is associated with changes in the organisation of production, specialisation, and the redirection of employment in foreign-orientated sectors, which is characteristic of countries such as Bulgaria (Panusheff et al., 2020). This also determines the attention in this article to the effects on value-added trade.

The growing regional nature of GVCs increases the potential for transmission of shocks between countries, including changes in trade conditions. This requires restructuring of the domestic market, which amplifies effects on value-added trade and the resilience of chains (Cigna et al., 2022). Additionally, GVCs expand the possibilities of diversification of resource supply and increase trade costs, making them the subject of trade policy (Jaax et al., 2023).

The introduction of new approaches to bilateral trade by the US administration is a reason to seek new forms of industrial policy and economic security to achieve certain national goals, which change the functioning of GVCs at the cost of export restrictions and import tariffs (Bown, 2025). As a result, companies are relocating production to avoid trade barriers and restructuring their supply chains to countries that serve as intermediaries between geopolitical rivals (Baldwin & Ruta, 2025). In this sense, the article proposes an approach to assess the impact of changes in US import tariffs on exports of goods for further processing involved in GVCs.

Background data

The presence of European GVCs in the US market is considerable, given the substantial volume of added value they bring to the creation of goods for the US market and the country's exports. This has led to an increase in trade in intermediate goods in the EU, and Bulgaria is among the countries with a high relative share (Figure 1), with Ireland having the largest exports, and Cyprus the smallest.
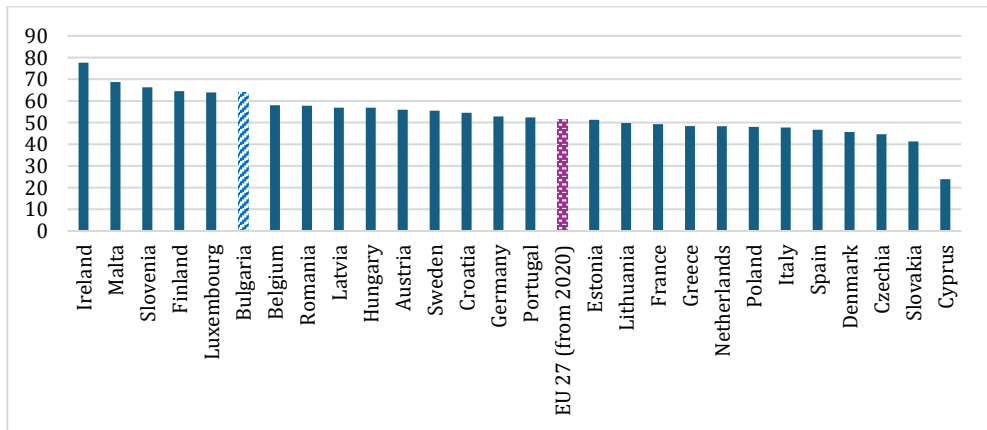
Source: Eurostat. Intermediate goods trade.

Figure 1. Exports of intermediate goods to the EU

Therefore, the creation of a framework for customs restrictions makes it possible to assess the effects of this trade, which is a significant factor for the Bulgarian economy. For the purposes of this study, the effects on goods that contain Bulgarian components and are exported to the United States from other countries are analysed.

Studies of several EU countries that produce more intermediate goods, including studies such as those by Hassan (2025) and Serrano (2025), apply estimates of indirect losses from the introduction of new tariffs, especially in sectors such as machinery and automotives. However, these estimates often have significantly greater latitude in assumptions, which is why, in most cases, indirect effects are estimated to be more significant than direct ones. Schneider and Sellner (2025), in turn, apply a global *input-output* model to estimate the impact on EU industries, providing quantitative estimates of transmission effects in different sectors.

The International Monetary Fund (Eugster et al., 2022) develops a structural framework with four tariff measures that capture both the direct and indirect exposure of countries to GVCs. Analyses such as those by CEPR demonstrate how sharp tariff increases in 2025 could trigger significant reorganisations of production structures and alter international trade flows (Conteduca et al., 2025).

Studies such as those of Koopman, Wang & Wei (Koopman, Wang & Wei, 2014) show that a significant part of countries' gross exports consists of intermediate goods and components that participate in complex value-added chains. This highlights the need for methodologies that account for indirect effects and transmission channels when evaluating trade policies. In addition, Koopman, Wang & Wei develop an analytical approach to decompose gross exports into value-added and double counting[1],

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[1] i.e. repeated reporting of the same value at different stages of the production process.

highlighting the role of intermediate goods in global chains. Their methodology is particularly relevant for estimating indirect effects in countries with high levels of participation in GVCs.

There are a number of reasons to assess the indirect effects of the tariffs on Bulgaria specifically. First, this stems from the structure of Bulgarian exports by type of use (Figure 2), which shows that consumer goods represent only 33% of the country's total exports, which means that a significant portion of Bulgarian exports are intended for further processing. Capital goods account for 23% of exports, raw materials for 11%, and materials for 25%.
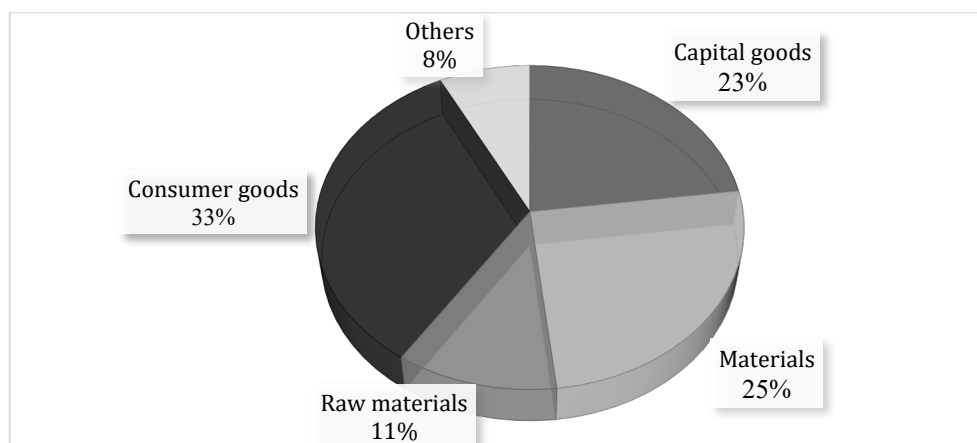
Source: Own calculations with a transition key
between CN and BEC based on Trade Map data[2].

Figure 2. Structure of Bulgarian exports by type of use, as of 2024 (%)

Unlike other countries, such as Slovakia, where intermediate goods are concentrated in a single sector – automotive manufacturing – Bulgarian goods for further processing are diversified across several industries, which, when incorporated into a final product, can be exported, including to the US. In this sense, the assessment of the effects of the introduction of tariffs should include not only one or two sectors, but a wider range covering goods with potential for final export to the US or participating as a component in goods for export to the US.

Additional research confirms that tariff changes lead to structural transformations in

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[2] The conversion from CN (Combined Nomenclature) to BEC (Broad Economic Categories) has been carried out by applying World Bank's HS 1988/92 "Stages of Processing" methodology (WITS Product Metadata). This procedure groups tariff lines into consumer goods, intermediate goods, capital goods, and raw materials, enabling analysis of tariff escalation along the production chain. While this approach ensures comparability across countries, it involves aggregation that may obscure product-level heterogeneity and sector-specific nuances https://wits.worldbank.org/Product-Metadata.aspx?lang=en

global value chains. A UNCTAD report (UNCTAD, 2025) highlights that the introduction of new tariffs leads to a redirection of production and logistics flows, especially in sectors with a high degree of international integration. This creates a need for assessments that capture not only direct but also transmission effects on intermediate suppliers. An analysis by the International Trade Council (2025) examines policy scenarios of a return to protectionism in the US, showing how this leads to chain reorganisation and trade diversions. These scenarios are particularly relevant for countries like Bulgaria, which participate in the GVCs through intermediate components.

Pal, for his part, proposes a dynamic model that demonstrates how tariffs affect inflation, trade balance, and consumption through nonlinear effects over time (Pal, 2025). This confirms the need for methodologies that are not limited to static assessments but take into account market reactions. On the other hand, BDO Global's accounting perspective shows that unstable customs policies lead to difficulties in asset valuation, trade flow forecasting, and risk management (BDO Global, 2025).

This points to the need for flexible analytical tools that can adapt to different scenarios. In this context, the proposed methodology offers a novel approach by combining aggregate simulations and position-level analysis, taking into account import intensity, price elasticity, and specific tariffs. Unlike the existing approaches considered, it defines a range of effects through two variants and is applicable to economies with a fragmented export profile, such as Bulgaria.
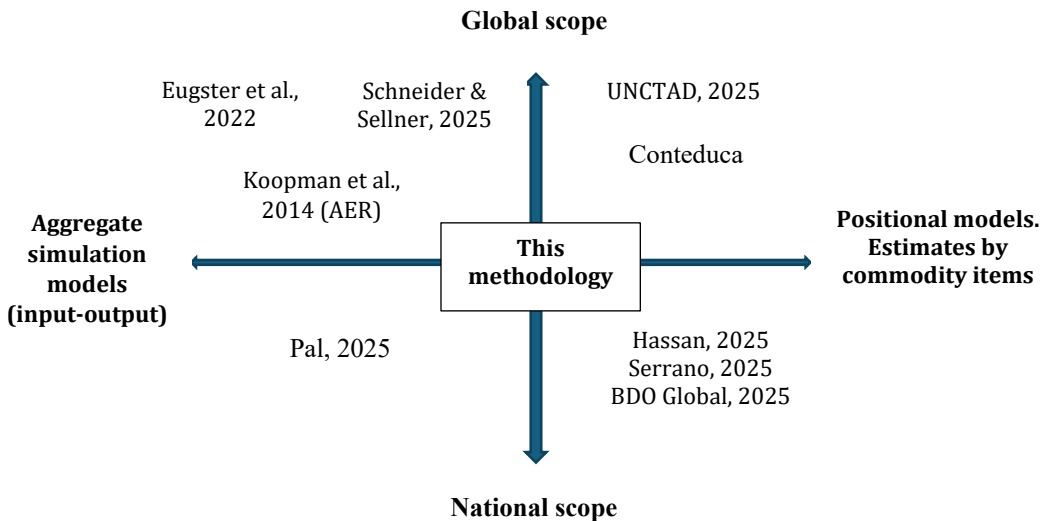
Source: Author's interpretation based on methodological characteristics and scope of the analyses, models, and assessments discussed.

Figure 3. Positioning of the proposed methodology relative to existing approaches

Figure 3 presents the positioning of this methodology relative to different approaches in the literature. The horizontal axis reflects the degree of aggregation, from aggregated simulation models to estimates for specific commodity items. The vertical axis shows the geographical scope, from global to national focus. The proposed methodology occupies a central position, combining elements of macro-level simulations and detailed commodity analysis, which makes it fully applicable in the context of countries with a fragmented export profile.

Some of the approaches in the literature offer aggregated simulation models or sector-specific estimates, but rarely combine import intensity and price elasticity in the context of a fragmented economy. In this sense, the proposed methodology is positioned as a hybrid approach that combines quantitative estimation with a more positional analysis, suitable for small open economies like Bulgaria.

Methodology assessing the effects of tariffs on goods containing value created in Bulgaria

Due to the lack of a unified methodology that would establish the relationship between the export of raw materials and materials, processing, and inputs into production in other countries and their subsequent export, it is necessary to develop a specific methodology for assessing these effects.

The methodology includes two assessment variants that form the range of the likely indirect effect of the introduction of tariffs:

➢ *Variant 1* – an average approach based on assumptions of the average values of the main indicators**.** Under this variant, calculations are performed on all exports of capital goods, intermediate goods and raw materials from Bulgaria, using average values for the tariffs imposed on the main foreign trade partners and an average reaction of the US markets. The purpose of this assessment is to establish a maximum upper limit of the expected indirect effects. In general, average values of import intensity, US share, tariff rates, and elasticity are applied to the total exports of capital goods, intermediate goods and raw materials. The indirect export effect is derived using the following estimation equation:

$$\Delta ExportsBG = ExportsBG \times II \times USshare \times (1 - TR) \times PE)$$

Whereas:

ExportsBG – value of Bulgarian exports of capital goods, intermediate goods and raw materials;

II (Import Intensity) – share of imports embodied in exports of the partner country (that is, how much of Bulgaria's exports are reexported after processing);

US share – relative share of the partner's exports directed to the US market;

TR (Tariff Rate) – average new tariff imposed on exports to the US (expressed as a percentage);

PE (Price Elasticity) – responsiveness of US demand to price changes for the relevant goods;

ΔExportsBG – expected reduction in Bulgarian exports related to US processing.

Under this variant, calculations are performed on all exports of capital goods, materials, and raw materials from Bulgaria, using average values for the tariffs imposed on the main foreign trade partners and an average reaction in the US markets. The purpose of this assessment is to establish a maximum upper limit of the expected indirect effects.

➤   Variant 2 – a refined approach based on a detailed analysis of the important export commodity items. In this variant, the leading export goods from Bulgaria are analysed item by item in the groups of capital goods, intermediate goods, and raw materials. For each commodity, the participation in processing and subsequent export to the US is assumed. Partner-specific values of import intensity, US share, tariff rates, and elasticity are applied, allowing for a more precise lower-bound estimate of the indirect effects. The indirect export effect is derived using the following estimation equation:

$$\Delta Exports_{BG,i} = Exports_{BG,i} \times II_{,i} \times USshare_{,i} \times (1 - TR_{,i}) \times PE_{,i}$$

Whereas:

ExportsBG, i – value of Bulgarian exports of commodity i (capital goods, intermediate goods, or raw materials);

IIi (Import Intensity) – share of imports embodied in exports of the partner country for commodity *i*;

USshare, i – relative share of the partner's exports of commodity i directed to the US market;

TRi (Tariff Rate) – tariff rate imposed on commodity i in exports to the US;

PEi (Price Elasticity) – responsiveness of US demand to price changes for commodity *i*;

ΔExportsBG, i – expected reduction in Bulgarian exports related to processing for the US, aggregated across all commodities *i*.

Under this variant, the leading export goods from Bulgaria, respectively, in the groups of capital goods, materials, and raw materials, are analysed by item, and an assumption is made about their participation in processing and subsequent export to the US. A

summary is prepared of the leading trading partners of Bulgaria, their import capacity, and the US share in the exports of each of the Bulgarian trading partners. The assessment defines a lower limit of the expected indirect effects.

The advantages of the chosen methodology are the following:

- assessment factors in only exports that are substantial in volume and those that lead to subsequent exports from the intermediate country;

- assumptions regarding the portion of Bulgarian goods that are subsequently exported to the US are adjusted using the import intensity indicators for exports from the country concerned;

- exports from the intermediate country to the US are not assessed in their entirety, but by taking into account the price elasticity of the relevant goods in the US market and the elasticity of domestic demand in the US;

- specific tariffs for individual goods are also considered.

The methodology developed is based on the following *limitations*: indirect effects are measured only for groups of goods accounting for more than 1% of Bulgaria's exports (direct exports to the US are also excluded), which is why only countries with significant export volumes are included in the assessment. Given these limitations, the assessment can be regarded conservative.

The methodology combines the advantages of macrostructural *input-output* approaches and more detailed positional analyses. It defines upper and lower limits through the two assessment variants, considering import intensity and price elasticity in the markets, and is applicable to countries with a fragmented commodity structure. This ensures a balance between the aggregate simulations applied by Schneider & Sellner and the more structural measures proposed by the IMF, making the estimates more realistic in the context of small open economies with a significant share of intermediate goods in exports.

The impact of the change in exported quantities is reflected in GDP through the change in the value of exports minus the imports required for their realisation. Various studies indicate an import intensity of the Bulgarian economy of around 0.4. Accordingly, the GDP effect is calculated as:

$$\Delta GDP = \Delta ExportsBG - IE.I_1$$

Whereas:

IE – import intensity of exports (approx. 0.4 for Bulgaria);

I – value of imports.

1. Evaluation of effects under Variant 1

The indicators in Table 1 are used to perform the assessment.

Table 1. Data and average values of reduction in Bulgarian exports tied to processing for the US

Amount of exports of raw materials, materials and capital goods from Bulgaria (million euros)	Average import intensity of Bulgaria's leading trading partners (%)	Average share of exports to the US among Bulgaria's main trading partners (%)	Average new tariff for trading partners (%)	Decrease in the partner's value of exports to the US (%)	Bulgarian exports tied to processing for the US before the change in tariffs (thousand euros)	Decrease in Bulgarian exports related to processing for the US (thousand euros)
25 442 424	29.90	19.90	26.70	50.55	7 607 285	767 773

Source: Own calculations based on TradeMap data.

The average import intensity of the countries, to which Bulgaria exports raw materials, capital goods and materials, is 29.9%, which means that nearly one-third of the export of Bulgarian imported goods from the mentioned groups would participate in the country's exports, but only 19.9% of the value of the total exports of these countries is to the US before the introduction of the tariffs. For both Bulgaria and the countries importing Bulgarian goods, tariffs affect exports; therefore, the volume of their exports to the US is revalued with the average new tariffs, which are about 26.7%, since the group of the country's trading partners also includes those with tariffs other than 20%. The export potential of these countries to the United States considers the effect of tariffs using the price elasticity and domestic demand indicators. This results in a total indirect effect for Bulgarian indirect exports to countries importing Bulgarian goods in the form of a reduction in these countries' exports to the US by EUR 767.77 million, representing 1.79% of Bulgaria's total goods exports and 0.74% of GDP, respectively.

2. Assessment of indirect effects under Variant 2

This assessment measures the extent to which Bulgarian goods participate in certain commodity items in processing for export to the US from other countries, including EU member states. The sample includes only raw materials, supplies, and capital goods that form more than 1% of exports of each commodity. In this way, an average of about 60% of each commodity group is covered according to its use.

For each of the goods considered, the leading trading partners of Bulgaria in terms of exports were examined. After decomposition, the data were aggregated by country to calculate the effect by country. Data were used on the expected new tariffs for the

respective countries, the import intensity of each country (where data is missing, average values were used), and hence the expected reduction in the respective country's trade in the US market.

Table 2. Summary data by country on the reduction
of Bulgarian exports tied to processing for the US

	Bulgarian exports tied to processing (thousand euros)	Import intensity of the trading partner (%)	Average share of exports per trading partner to the US (%)	Average new tariff per trading partner (%)	Decrease in the partner's value of exports to the US (%)	Bulgarian exports tied to processing for the US before the change in tariffs (thousand euros)	Decrease in Bulgarian exports related to processing for the US (thousand euros)
Bulgaria's leading trading partners **Total**	**8 539 058**	30.87	16.84	31.5	42.3	**313 923**	**129 000**

Source: Own calculations based on TradeMap data.

When calculating this second variant of the assessment, exports to Bulgaria's leading trading partners were used, which are 30. Among them, the largest is the export of the specified goods to Germany, about 3.3 billion euros, and to Italy – 1.3 billion euros. The inclusion of the remaining 28 countries in the assessment provides a higher degree of representativeness, as their exports add nearly 4.6 billion euros. Not only the volume of Bulgarian exports but also the tariffs that will be imposed on individual countries differ significantly. In this context, some of the intermediate goods that Bulgaria exports will be severely affected, for example, those exported to China, Hong Kong, Serbia, North Macedonia, etc. More favourable conditions will be created for intermediate Bulgarian goods exported to Turkey, the United Kingdom, and other countries, whose customs tariffs are expected to be 10% or be exempt from additional tariffs.

The methodology developed is based on the following limitations: indirect effects are considered only for groups of goods accounting for more than 1% of Bulgaria's exports (direct exports to the US are also excluded), which is why only countries with significant export volumes are included in the assessment. Given these limitations, the assessment can be regarded conservative.

The calculations show that the most significant loss will be incurred by Bulgarian exports to Germany of 28.7 million euros, China – 17.8 million euros, and Belgium – 10.1 million euros. In total, Bulgaria's exports to the 30 selected countries will lose 129 million euros, and when adding an estimate for the remaining countries, the total loss is 211.6 million euros.

Table 3. Variant 2 – Summary of data and values on the reduction
of Bulgarian exports tied to processing for the US

Groups of goods, size		Effect of reduction in classified goods from Bulgarian exports (thousand euros)	Full effect of the reduction in all goods exports from Bulgaria (thousand euros)
Capital	63%	129 000	211 623
Materials	58%		
Raw materials	63%		

Source: Own calculations based on TradeMap data.

According to this variant of a refined assessment, the effect of the tariffs introduced by the US administration, manifested through a decrease in Bulgarian exports, will lead to a decrease in total Bulgarian goods exports by 0.49%. The decline in exports will adversely affect GDP by 0.20%.

Conclusions and recommendations

The varying degrees of interdependence of European economies with those of the US result in different effects of tariffs on individual countries. The introduction of uniform tariffs creates a level playing field between the individual EU member states, but the losses of the individual countries vary. The most significant losses are expected for Ireland, whose exports to the US account for 53% of its exports to third countries (Cyprus 1.9%). For Bulgaria, it is 7%, which places the country among those with relatively lower adverse effects. In these conditions, maintaining a common approach by all countries and taking supranational rather than national measures is of fundamental importance for adhering to the principles of the single market. As the analysis shows, Bulgarian and European companies are meeting in the already changing US goods market and maintaining fair competition between them is an important factor in absorbing this external shock to European economies.

The data show that not only is the volume of exports important, but also in what goods they are concentrated. Countries whose exports are mainly in commodity groups for which no tariffs are imposed are in a more favourable position.

The structure of Bulgaria's commodity exports to the US is, on the one hand, highly fragmented and, on the other, unstable over time. Exports include more than 450 types of goods, of which the top 50 make up 77% of exports. The unstable structure is demonstrated by the fact that 29 of them have been present in the last three years and

account for 59% of the total, but if we look at a 10-year period, only 20 out of 60 commodity groups, or 33%, have been predominantly present throughout the entire period in Bulgaria's export list to the US, i.e. the "floating part" is 67%. This makes it difficult to assess the effects of the introduction of tariffs. The assessment excludes "nontraditional goods" that have not been present in exports in recent years.

The methodology for assessing the effects of introducing tariffs on goods containing value added produced in Bulgaria has been developed in two variants. The first variant assumes that all exports of capital goods, materials and raw materials from Bulgaria will, to varying degrees, be used in exports from intermediate countries to the United States. The average values for the tariffs imposed on the main trading partners are used and the assessment is adjusted by the elasticity coefficients of the US markets for these goods. The purpose of this assessment is to establish a maximum upper limit for the expected indirect effects. The second variant involves a detailed analysis of the commodity items that are significant for exports and an assessment of the exports of goods with Bulgarian content from Bulgaria's largest trading partners, their import capacity, and the share of the US in the exports of each of Bulgaria's trading partners. The assessment defines a lower limit for the expected indirect effects.

Based on these calculations, the effects on the Bulgarian economy appear to be moderate compared to the estimates published by other countries. Each country's assessment is based on its own methodology, so comparisons are conditional. However, the immediate direct effect places us among the countries with medium-high effects – between 0.3-0.5% of GDP. Bulgaria's participation in the European GVCs requires measures to be taken to support national international competitiveness for a sustainable presence in their activities.

Based on this assessment and review of the stated intentions of other EU countries, the following guidelines can be summarised:

- *Diversification of trade relations.* The practice of large companies forming global value chains is to target other countries and regions where sanctions have a lesser effect. *First*, it is more realistic to target Bulgarian goods to established companies and markets where these goods are already present. *Second*, support the EU's positions on agreements to facilitate mutual trade with third countries. *Third*, orientation towards countries with agreed low tariffs (Turkey) and support joint activities to redirect Bulgarian exports of goods, including intermediate goods.

- *Assessment of economic dynamics in EU countries that are the main trading partners, especially in the trade of goods for further processing.* Participation in European GVCs is a prerequisite for using their market strategy, combined with

the support of national governments. This will have a beneficial effect on demand and exports to that country.

The proposed methodology can be used as a basis for developing scenarios for industry adaptation and trade diversification in the context of changing global regulations. Its flexibility and analytical precision make it applicable to other countries with similar economic structures. The results show that indirect effects range between a reduction of 1.79% of Bulgaria's total goods exports and 0.74% of GDP under the average-value approach, and a decrease of 0.49% of total exports and 0.20% of GDP under the refined commodity-level assessment. The findings highlight Bulgaria's specific position within EU value chains, rather than the general dynamics of EU-US trade. This suggests that while Bulgaria is moderately affected, its exposure is lower compared to highly integrated economies.

Conflicts of Interest

The authors have no conflicts of interest to declare.

References

Panusheff, E. (2017). Vanshnoikonomicheskata orientatsiya na Balgariya v usloviyata na chlenstvo v Evropeyskiya suyuz i uchastie v globalnite stoynostni verigi. *Spisanie na BAN*, No. 3, 59–65. [Панушев, Е. (2017). Външноикономическата ориентация на България в условията на членство в Европейския съюз и участие в глобалните стойностни вериги. *Списание на БАН*, No. 3, 59–65] (*in Bulgarian*).

Panusheff, E., Hristova-Balkanska, I., Marinov, E., & Kostadinov, A. (2020). *Balgariya v postkrizisnata svetovna ikonomika*. Izdatelstvo na BAN „Prof. Marin Drinov". [Панушев, Е., Христова-Балканска, И., Маринов, Е., Костадинов, А. (2020). *България в посткризисната световна икономика*. Издателство на БАН „Проф. Марин Дринов"] (*in Bulgarian*).

Baldwin, R. (2006). *Globalisation: the great unbundling(s)*, *prepared for the Finnish Prime Minister's Office*. Economic Council of Finland (in the context of the EU Presidency 2006).

Baldwin, R. (2012). *Global supply chains: why they emerged, why they matter, and where they are going*. The Graduate Institute, Geneva, and CEPR, Discussion Paper No. 9103, August 2012.

Baldwin, R., & Ruta, M. (eds.). (2025). *The State of Globalisation*. CEPR/International Monetary Fund.

BDO Global. (2025). *The Effects of Volatile 2025 Tariffs: Accounting in Times of Uncertainty.* BDO International.

Bown, C. P. (2025). *How Export Restrictions Threaten Economic Security.* PIIE, WP 25-11, May 2025.

Cigna, S., Gunnella, V., & Quaglietti, L. (2022). Global value chains: measurement, trends and drivers. *ECB Occasional Paper*, Series No 289/January 2022.

Conteduca, F. P., Mancini, M., & Borin, A. (2025). *Roaring tariffs: The global impact of the 2025 US trade war.* VoxEU/CEPR.

Eugster, J., Jaumotte, F., MacDonald, M., & Piazza, R. (2022). The Effect of Tariffs in Global Value Chains. *IMF Working Paper*, No. WP/22/40. International Monetary Fund.

Hassan, S. M. (2025, April 5). *A Strike on the German Car Industry: A CGE Analysis of Trump's Recent Tariff Hike*. Available at SSRN: https://ssrn.com/abstract=5206530 or http://dx.doi.org/10.2139/ssrn.5206530

Jaax, A., Miroudot, S., & Van Lieshout, E. (2023). Deglobalisation? The Reorganisation of GVCs in a Changing World. *OECD Trade Policy Paper*, April 2023, n 272.

Koopman, R., Wang, Zhi, & Wei, Shang-Jin. (2014). Tracing Value-Added and Double Counting in Gross Exports. *American Economic Review*, 104 (2), 459–94.

Pal, H. (2025). Modelling the dynamic effects of tariffs on economic variables and trade policies. *Future Business Journal*, Vol. 11, 83. https://doi.org/10.1186/s43093-025-00507-9

Serrano, J. (2025). *Assessing the impact of US tariffs on the European automotive industry.* Rabobank Research. SUERF Policy Brief No 1231, August 2025. The European Money and Finance Forum.

Schneider, M., & Sellner, R. (2025). The impact of US tariffs on EU industries: results from a global input-output model. *OeNB Bulletin Q3/25*. Oesterreichische Nationalbank (OeNB)

Trade Council. (2025). *How Trade Tariffs Disrupt Global Value Chains.* International Trade Council.

UNCTAD. (2025). *Global Trade Update: The Role of Tariffs in Value Chain Disruption.* United Nations Conference on Trade and Development.

Eurostat. *Intermediate goods trade* [egi_tr2__custom_17614432].

International Trade Centre (ITC) UNCTAD/WTO. Available at https://www.trademap.org/

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