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Determinants and Research Gaps in Bilateral Trade Balance: A Systematic Literature Review

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Abstract. *This study aims to map the focus and evolution of research, identify the determinants, and uncover research gaps and opportunities in the study of bilateral trade balances. A Systematic Literature Review (SLR) approach was employed, restricted to articles published between 2015 and 2026 and based on the Scopus database, complemented by records identified through other methods (open-access repositories and preprint archives), following the PRISMA 2020 framework. The initial Scopus search yielded 246 records; after the PRISMA selection process, nine articles met the eligibility criteria, and five additional articles were identified through other methods, resulting in a final sample of fourteen articles. The data were analyzed descriptively and synthesized narratively around three research questions: the focus and evolution of the research, the determinants of bilateral trade balances, and research gaps and opportunities. The findings indicate that research has evolved from a focus on bilateral trade flows toward bilateral trade balances and more specific measures of the trade balance. The determinants identified include macroeconomic factors, prices and competitiveness, structural factors, trade policies, and external factors. Research gaps were identified in three main clusters: conceptual/measurement gaps, empirical/contextual gaps, and methodological gaps. In conclusion, the study of bilateral trade balances is multidimensional and is shaped by the economic characteristics of, and the trade relationships between, countries. This study provides a structured map of the field's evolution, determinants, and research opportunities to support future studies on bilateral trade balances.*

Keywords:

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Introduction

Bilateral trade is a complex form of economic relations between countries because it reflects not only the exchange of goods but also the interaction among domestic economic conditions, the characteristics of partner countries, trade policies, production structures, and changes in the international economic environment. Previous studies have shown that bilateral trade can be analyzed from various perspectives, including economic and environmental balance, trade flows, bilateral trade balances, regional integration, macroeconomic factors, and the short- and long-run dynamics of trade relations. Gao *et al.*, (2022) show that trade relations between two countries can generate imbalances in the distribution of economic benefits and environmental burdens; bilateral analysis therefore needs to take into account the specific position of each country in a trade relationship.

The bilateral trade balance is important because it describes the balance between exports and imports between two specific countries. A bilateral trade surplus or deficit indicates a country's relative position in its trade relations with a partner country. However, the literature shows that research on bilateral trade remains dispersed across various themes and does not always treat the bilateral trade balance as the main object of analysis. Some studies emphasize bilateral trade flows or the volume of trade, whereas others focus on specific economic factors, trade policies, regional integration, or trade structures. These differences in focus indicate that an increase in bilateral trade does not necessarily explain whether a country runs a surplus or a deficit with its trading partners. This is consistent with Salim *et al.* (2023), who found no evidence of the J-curve phenomenon in Indonesia–China bilateral trade, which strengthens the argument that an increase or decrease in trade activity is not always followed by an improvement in the trade balance position in the long run.

Previous research has shown that bilateral trade balances are also related to trade policies and structures. Onono *et al.*, (2024) examine the impact of regional integration and market liberalization on the bilateral trade balances of selected East African countries in the context of the African Continental Free Trade Area. Their study shows that changes in trade structures resulting from economic integration can affect each country differently because the effects depend on production capabilities, competitiveness, economic structure, and remaining trade barriers. Relative prices are also identified as a relevant factor in explaining changes in the bilateral trade balance, particularly because changes in prices and production costs can affect a country's competitiveness. The study further emphasizes the importance of connectivity, efficient trade procedures, lower trade costs, harmonized procedures, and reduced non-tariff barriers. These findings broaden the understanding that the determinants of bilateral trade balances derive not only from countries' internal economic conditions but also from changes in trade policy and the institutional environment. They also reinforce the need for a more comprehensive picture of the various groups of determinants that have emerged in the literature.

The literature also shows that macroeconomic indicators remain an important part of understanding the dynamics of international trade. Although Pistikou *et al.*,

(2025), do not treat the bilateral trade balance as the main dependent variable, they demonstrate the relationship among GDP, economic growth, the merchandise trade balance, and international trade activity. Their results show that GDP is a strong indicator in a number of countries, whereas the effects of economic growth and the trade balance are not always uniform. Alkofahi, (2026) shows that bilateral trade can be influenced by economic growth, foreign direct investment, inflation differentials, and crude oil prices within a framework of short-run and long-run relationships. Accordingly, one important problem in the study of bilateral trade balances is the absence of a mapping that systematically links the evolution of research focus to the variety of determinants used in different country contexts.

The relationship between this study and the existing literature can also be seen in the conceptual development of bilateral trade as an object of study. Abdi *et al.*, (2023) show that economic complexity, GDP, and geographical characteristics can affect bilateral trade flows, especially through countries' productive capacity and economic structure. However, research on bilateral trade flows does not directly explain whether an increase in trade results in a favorable trade balance or instead widens the deficit of one country. The distinction between bilateral trade flows and the bilateral trade balance is important because rising trade volumes do not necessarily reflect a balanced position of exports and imports. Meanwhile, Gocer *et al.*, (2025) offer a more specific conceptual development by questioning the adequacy of traditional bilateral trade balance measures that rely only on total exports and total imports. Their study distinguishes between production-related bilateral trade balances, which are associated with domestic exports, and non-production-related bilateral trade balances, which are associated with re-exports. Gocer *et al.*, (2025) also show that income, real exchange rates, trade policy uncertainty, and the COVID-19 pandemic can affect these different forms of the trade balance differently. This shows the need to map systematically how the focus of the literature has developed, which factors have been identified, and which parts of the literature still leave research gaps.

Based on these developments, three main clusters of research gaps can be identified in studies of the bilateral trade balance. The first is the conceptual/measurement gap, which relates to the difference in focus between bilateral trade flows and bilateral trade balances, as well as to differences in how trade balances are measured. Some studies emphasize bilateral trade volumes or flows, whereas others specifically analyze trade surplus and deficit positions. In addition, aggregate trade balance measures cannot always capture the structure of trade in detail, especially when trade involves both domestic exports and re-exports. These conceptual and measurement differences show that an increase in trade volume is not synonymous with a change in the trade balance position. The second is the empirical/contextual gap, which relates to country-pair heterogeneity, the characteristics of trading partners, and the influence of external shocks and trade policies. Previous research has examined diverse country pairs and regions, so the effects of the determinants may differ according to the economic structure, production capacity, demand patterns, and trade relations of each country pair. Changes in trade policy, regional integration, policy uncertainty, conflicts, and shocks such as pandemics can also produce different trade responses across countries. Findings on the determinants of bilateral trade balances therefore cannot be separated from the context of the relationship between the countries under study. The third is the methodological gap, which relates to differences in the analytical approaches used in bilateral trade research. Some studies use gravity models with cross-country panel data to explain trade patterns across many country pairs, whereas others apply dynamic time-series approaches, such as

ARDL and NARDL, to a single country pair. Differences in units of analysis, data structures, and methodological approaches lead to different perspectives on the determinants and dynamics of bilateral trade balances.

The Systematic Literature Review approach is used to organize and synthesize previous research systematically so that patterns in research focus, groups of determinants, methodological developments, and research gaps can be identified more clearly. The first objective of this study is to identify the focus and evolution of research on bilateral trade balances. The second objective is to map the factors identified in previous research as determinants of the bilateral trade balance. The third objective is to identify research gaps and opportunities that remain open for future studies.

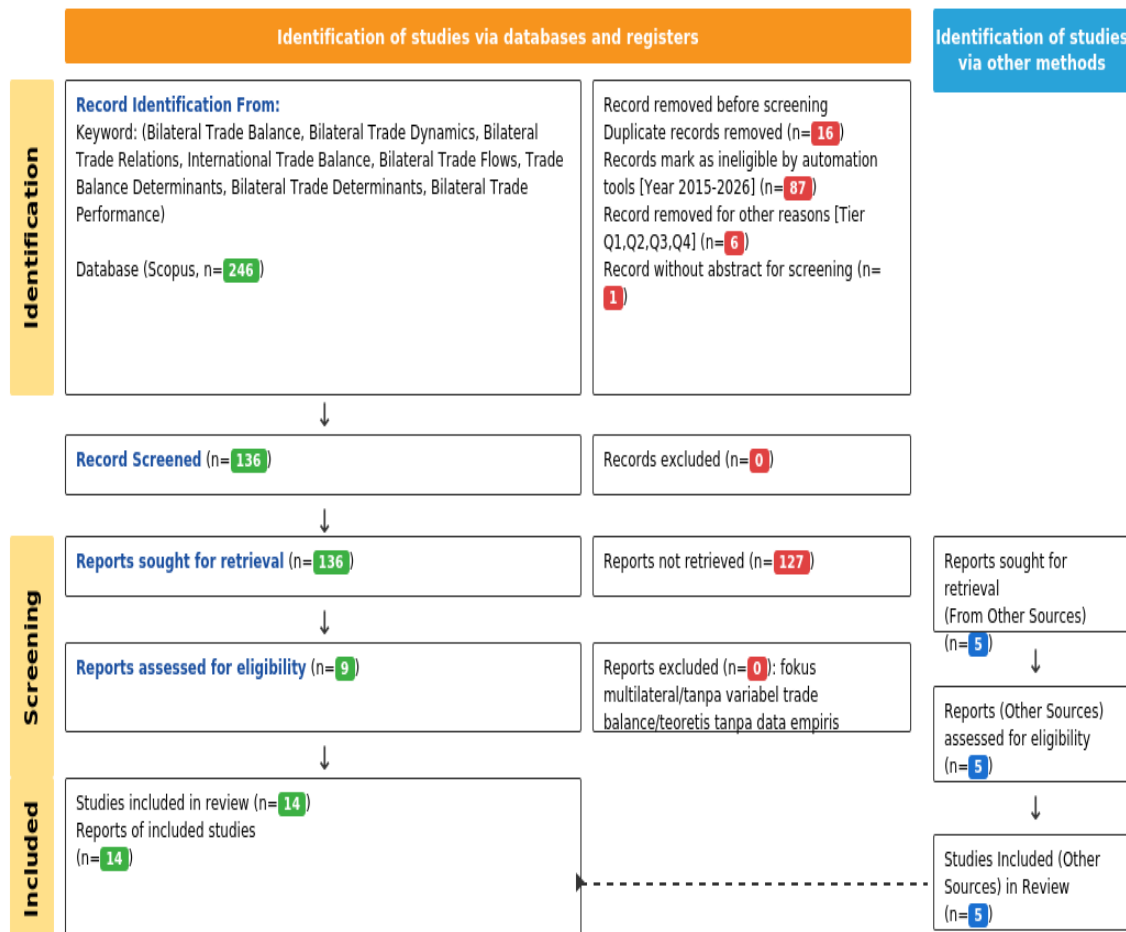
Research Methods

This study used a Systematic Literature Review (SLR) design to map the evolution of the literature, identify determinants, and uncover research gaps in studies of bilateral trade balances. This design was chosen because the object of the study is not limited to one country pair or one specific variable; rather, the study focuses on a systematic synthesis of previous studies that discuss bilateral trade and bilateral trade balances. The unit of analysis, or research sample, consisted of scientific articles obtained through a search of the Scopus database. The identification of articles used a combination of keywords directly related to the research topic, namely Bilateral Trade Balance, Bilateral Trade Dynamics, Bilateral Trade Relations, International Trade Balance, Bilateral Trade Flows, Trade Balance Determinants, Bilateral Trade Determinants, and Bilateral Trade Performance.

The research instruments consisted of a keyword search strategy, article selection criteria, a PRISMA flow diagram, and a data extraction sheet. The search strategy served as the main instrument for identifying articles related to the bilateral trade balance and its determinants. The PRISMA flow diagram was used to document each stage of article selection transparently, from identification to the final set of articles included in the review. The data extraction sheet was used to record key information from each selected article, such as the author and year of publication, the research focus, the object or country pair, the variables or determinants analyzed, the research method, the main results, the limitations, and the opportunities for further research. This information was then grouped according to its relevance to each research question. At the data collection stage, all articles from the initial search were examined for the relevance of their topic and the completeness of the information required for the analysis.

Data collection was carried out in several stages, following the selection results shown in the PRISMA diagram. The first stage was identification, in which the Scopus database was searched using all predetermined keyword combinations, yielding 246 records. The next stage was data cleaning, in which 16 duplicate records were removed. An initial screening by year range was then performed, in which 87 records were marked as ineligible by automation tools because they fell outside the 2015–2026 publication period. A further six records were removed for other reasons related to the source quality criteria, namely journal classification by quartile (Q1, Q2, Q3, and Q4), and one record was removed because it had no abstract for the screening process. After this stage, 136 records entered the screening process. No records were excluded at the screening stage, so all 136 proceeded to full-text retrieval. Of these, the full texts of 127 articles could not be retrieved at the reports-sought-for-retrieval stage, leaving only nine articles available for eligibility assessment. In the pathway of identification via other methods, searches of open-access repositories (such as DOAJ and institutional

repositories) and of preprint archives commonly used in economics (RePEc/IDEAS and SSRN) identified five additional records. Combining the nine articles from the database pathway with the five articles identified via other methods produced a final sample of 14 articles that met the eligibility criteria for further analysis. The 127 records whose full texts could not be retrieved through the database pathway therefore reflect limited institutional access to subscription journals rather than a failure of the search, because thematically relevant articles from the same period were still obtained and included through the pathway of identification via other methods.



Generate From Watase Uake Tools (dimodifikasi manual), based on Prisma 2020 Reporting

Figure 1. PRISMA 2020 flow diagram of the study selection process

Source: Generated using the Watase Uake tool and manually modified by the authors, based on the PRISMA 2020 statement (Page et al., 2021).

The articles that passed the selection were analyzed using descriptive analysis and narrative synthesis. Each article was read in depth, and information was extracted according to the categories specified in the data extraction sheet. To answer RQ1, the articles were grouped by research focus and by the evolution of the literature, particularly the shift from the analysis of bilateral trade flows to the analysis of bilateral trade balances. To answer RQ2, all variables and factors identified were grouped into economic, trade, policy, structural, and external factor categories. To answer RQ3, the limitations of each study were compared to identify gaps in terms of research object, variables, trade balance measurement, period, and

method of analysis. The synthesis also compared the methodological approaches used in previous studies, including gravity models, PPML, ARDL, NARDL, and other approaches used to explain bilateral trade relationships. This comparison is important because previous research has shown that trade outcomes and determinants can differ according to the characteristics of the country pair and the methods used.

Results and discussion

Based on the selection process documented in the PRISMA diagram, the initial search of the Scopus database yielded 246 records using the keywords Bilateral Trade Balance, Bilateral Trade Dynamics, Bilateral Trade Relations, International Trade Balance, Bilateral Trade Flows, Trade Balance Determinants, Bilateral Trade Determinants, and Bilateral Trade Performance. At the identification stage, 16 duplicate records were removed, 87 records fell outside the 2015–2026 publication period, six records did not meet the journal source criteria, and one record had no abstract for screening. A total of 136 records then entered the screening and full-text retrieval stages. Of these, 127 full texts could not be retrieved, whereas nine articles from the Scopus pathway were available and met the eligibility criteria. Additional searches of open-access repositories and preprint archives identified five further articles, resulting in an extraction matrix of 14 articles. The figure of 127 indicates a limitation in full-text retrieval, not substantive exclusion: the suitability of articles that have not been obtained cannot be judged without reading the full text. The synthesis is therefore limited to the 14 articles that were obtained and assessed. These findings should be read together with the description of the selection procedures and criteria in the Research Methods section.

The results for RQ1 show that research on bilateral trade has a diverse focus, ranging from the analysis of trade flows and trade balances to their relationship with broader economic phenomena. This diversity shows that bilateral trade is a multidimensional field of research that remains open to study across different country pairs, periods, and economic contexts. The synthesis for RQ2 shows that the determinants of bilateral trade and of the bilateral trade balance in the 14 articles can be grouped into macroeconomic factors, price and competitiveness factors, structural factors and trade characteristics, policy factors, and external factors. For RQ3, the research gaps are grouped into three clusters: conceptual and measurement gaps, namely the distinction between bilateral trade flows and bilateral trade balances and among aggregate, domestic-production-based, and re-export-based measures; empirical and contextual gaps, namely differences in country pairs, regions, sectors, and exposure to policies or external shocks; and methodological gaps, namely the difference in analytical purpose between cross-country-pair analysis and time-series analysis of specific pairs.

Table 1. Extraction Matrix of Fourteen Selected Articles

No	Author & Year	Research Focus	Country Pair	Variables / Key Determinants	Method	Findings	Limitations
1	Martínez-Zarzoso & Vollmer (2016)	Similarity of income distribution and bilateral trade flows	Cross-country (global panel)	Equality of income distribution, GDP, distance	Gravity model (panel)	Similarity in income distribution between countries is positively associated with the magnitude of bilateral trade flows	Focuses on trade volumes/flows rather than surplus–deficit positions (trade balance)
2	Maluck, Glanemann & Donner	Trade agreements and the interconnectedness	Multi-country (global)	Number and structure of trade agreements, network connectivity	Network analysis	Bilateral trade agreements shape an interconnected global	Does not directly analyze the trade balance

	(2018)	of the global trade network	network)			trade network	
3	Badinger & Clairfontaine (2019)	Trade balance dynamics and the exchange rate (J-curve)	Cross-country bilateral panel	Real exchange rate, trade costs, sector	Structural gravity model	The response of the trade balance to the exchange rate is heterogeneous across sectors and country pairs; the J-curve phenomenon is not universal	Sectoral aggregation may mask heterogeneity at more disaggregated product levels
4	Gao, Liu, Li, Liu & Xu (2022)	Economic–environmental balance in bilateral industrial trade	Australia–China	Economic value added, emissions/environmental burden	Bilateral input–output analysis	Bilateral trade generates an asymmetric distribution of economic benefits and environmental burdens between countries	Single country-pair study, which limits generalizability to other pairs
5	Abdi, Zaidi & Karim (2023)	Economic complexity and bilateral trade flows	Selected COMESA and East Asian countries	Economic complexity, GDP, geographical characteristics	Gravity model (panel, PPML)	Economic complexity increases bilateral trade flows through productive capacity	Does not explain the implications for the trade balance position (surplus/deficit)
6	Ongan, Karamelikli & Gocer (2023)	Bilateral trade balance performance in food commodities during the COVID-19 period	United States–Canada	Income, exchange rate, pandemic shock	Nonlinear ARDL (NARDL)	The US–Canada food trade balance responds asymmetrically to the exchange rate and to pandemic shocks	Sectoral coverage is limited to food commodities; single country pair
7	Onono, Omondi & Mwangangi (2024)	Effects of regional integration and market liberalization on bilateral trade balances	East African countries (AfCFTA)	Trade costs, connectivity, tariff/non-tariff barriers	Gravity model / panel data	The impact of regional integration on the trade balance varies according to each country's production capacity and competitiveness	Regional heterogeneity limits generalizability to other regions
8	Gocer, Ongan & Karamelikli (2025)	A new measure of the bilateral trade balance (production- vs. non-production-related) during the COVID-19 period	United States–Japan	Income, real exchange rate, trade policy uncertainty, COVID-19	Nonlinear ARDL (NARDL)	Trade balances based on domestic production and on re-exports respond differently to the same determinants; policy uncertainty has an asymmetric effect	Distinguishing domestic exports from re-exports requires disaggregated data that are not always available
9	Alkofahi (2026)	Short-run and long-run determinants of bilateral trade	Saudi Arabia–Jordan	Economic growth, FDI, inflation differential, crude oil prices	ARDL	Economic growth, FDI, inflation, and oil prices affect bilateral trade differently in the short run and the long run	Focuses on aggregate trade flows rather than a detailed decomposition of the trade balance (exports–imports)
10	Ariani & Amaliah (2023)	Effects of economic growth, inflation, and the exchange rate on the trade balance	Indonesia–China	Economic growth, inflation, rupiah–yuan exchange rate	Error Correction Model (ECM)	Economic growth and the exchange rate have a negative effect on the trade balance in the short run, whereas economic growth has a positive effect in the long run; inflation has no significant effect	Annual data for 2000–2021 with a limited number of observations; the trade balance is measured at the aggregate level
11	Bao, Le, Nguyen & Vu (2023)	The role of the US dollar in the bilateral trade balance with non-US partners	India–European Union	Dollar–rupee exchange rate, EU currency–rupee exchange rate, income	Nonlinear ARDL (NARDL)	Depreciation of the rupee against both the US dollar and the EU currency worsens, rather than improves, the India–EU trade balance; devaluation is ineffective	Aggregate quarterly data for 2000–2022; no testing at the sector/industry level

12	Salim, Pranol, Hariyanti, Fadillah, Khotimah & Firdaus (2023)	Re-examination of the J-curve phenomenon in bilateral trade	Indonesia–China	Rupiah–yuan exchange rate, GDP of Indonesia and China	ARDL and Nonlinear ARDL (NARDL)	No evidence of the J-curve phenomenon is found, either linearly or nonlinearly, in the Indonesia–China trade balance	Quarterly data for 2002–2017; the trade balance is measured at the aggregate level
13	Thia & Ong Lopez (2023)	The role of infrastructure quality in the trade balance in the context of tariff liberalization	Multi-country panel (2006–2017)	Infrastructure quality gap (roads and ports), bilateral tariff liberalization	Extended gravity model (panel)	Differences in infrastructure quality between countries contribute to trade imbalances, and these imbalances become more pronounced following tariff liberalization	Does not account for global value chain/re-export dynamics in measuring the trade balance
14	Jiang & Liu (2023)	Asymmetric effects of exchange rate changes on the bilateral trade balance	China with the United States, Japan, and the European Union	Bilateral real exchange rate (RMB), GDP of China and its trading partners	Nonlinear ARDL (NARDL)	The response of the trade balance to RMB appreciation/depreciation is asymmetric and differs in direction across trading partners: RMB appreciation has a stronger effect on the China–US balance, whereas RMB depreciation worsens the balance with the European Union and Japan	Covers only three major trading partners; quarterly data for 2000–2020

These differences in objects and approaches show that the results of bilateral trade research are strongly influenced by the characteristics of the country pairs and by the analytical design used. Bilateral trade analysis needs to consider both the characteristics of the relationship between the countries and the structure of trade represented in the model. There is thus still room for research that tests trade relations in different country pairs with different combinations of determinants and observation periods. The results for RQ2 and RQ3 show that the bilateral trade literature is diverse in its determinants, research objects, measurements, and methods of analysis. There is no consensus on the most dominant factors or the most appropriate approach for explaining the bilateral trade balance. This provides an opportunity for further research on specific country pairs that uses a combination of variables and analytical approaches suited to the characteristics of the trade relations under study.

The results of the Systematic Literature Review show that bilateral trade studies have evolved from the analysis of bilateral trade flows to the analysis of the bilateral trade balance. In the early stage, Martínez-Zarzoso and Vollmer (2016) emphasized the role of similarity in income distribution in bilateral trade flows, while Karlsson and Hedberg (2021) showed that conflicts can alter trade relations between countries. The perspective then broadened through Gao et al. (2022), who linked bilateral trade to economic value added and environmental impacts, and Abdi et al. (2023), who treated economic complexity as a productive characteristic related to trade. These developments show that bilateral trade studies no longer focus solely on the magnitude of trade flows but have begun to consider the structural characteristics and external factors that shape trade relations. Bilateral trade is influenced by various characteristics of the relationship between countries and can be analyzed within a trade framework that considers economic conditions and trade barriers. This perspective is enriched by Thia and Lopez (2023), who

show that differences in infrastructure quality between countries contribute to bilateral trade imbalances and that this effect becomes more pronounced after tariff liberalization.

Subsequent developments show a more specific shift toward bilateral trade balances. Ongan et al. (2023) directly analyzed the bilateral trade balance between the United States and Canada. In the Indonesian context, Ariani and Amaliah (2023) showed that the Indonesia–China trade balance is negatively affected by economic growth and the exchange rate in the short run, although economic growth has a positive effect in the long run. Onono et al. (2024) then extended the literature by considering regional integration, trade costs, connectivity, and trade barriers. Gocer et al. (2025) advanced it further by distinguishing between trade balances related to domestic production and balances derived from re-export activities. These developments show that research on the bilateral trade balance has not only expanded the range of factors analyzed but has also begun to pay attention to the economic structure and content underlying trade surpluses and deficits.

The results of the SLR thus show an evolution in research focus: from the analysis of the size of bilateral trade flows, to the analysis of the balance between exports and imports, and then to a more structural understanding of how trade surpluses and deficits are formed. The bilateral trade balance is increasingly understood not merely as the net outcome of exports and imports but as part of an economic relationship shaped by production characteristics, trade structures, policies, and economic linkages between countries.

The literature also shows increasing attention to the specific characteristics of country pairs as units of analysis. Trade relations between two countries can produce different patterns because they are shaped by economic characteristics, trade structures, and the relationship between the countries. Maluck et al. (2018) show that bilateral trade relations are part of an interconnected global trade network, so changes in the relationship between one pair of countries can be related to other trade relationships. These differences in characteristics show that no single uniform pattern explains bilateral trade relations and that bilateral trade analysis needs to consider the context of the country pair and the observation period. This reinforces the result of the synthesis that trade research has developed from simply measuring the magnitude of bilateral trade flows to understanding how bilateral trade balances are formed and how they change. The distinction is important because trade flows describe the magnitude of trade activity, whereas the trade balance describes the relative position of exports and imports in the trade relationship of a country pair.

The synthesis also shows that the determinants of bilateral trade are multidimensional. The factors found in the literature include macroeconomic factors, prices and competitiveness, structural factors, trade policy, demand and production characteristics, and external factors. This diversity suggests that bilateral trade is shaped by the interaction of various economic conditions and inter-country relationships rather than by a single group of factors. Economic factors also produce non-uniform outcomes across trade relationships. Differences in economic conditions, production structures, and trade relationships can generate different responses in each country pair, and the impact of trade relations can differ according to the characteristics of the agreement and the country pair analyzed. These findings reinforce the conclusion that the determinants of trade do not operate universally, so country-pair characteristics and the period of analysis need to be considered in bilateral trade research. Badinger and Clairfontaine (2019) show that the response of trade balances to exchange rate changes differs by sector

and country pair. This evidence of asymmetry is reinforced by Jiang and Liu (2023), who found that the appreciation and depreciation of the renminbi have different effects on China's trade balance with the United States, the European Union, and Japan.

The synthesis further shows that the bilateral trade balance results from the interaction between price factors and economic structure. Exchange rates and trade costs affect competitiveness, whereas production capacity, economic complexity, income distribution, and demand characteristics determine a country's trading capabilities and patterns. The determinants of the trade balance therefore cannot be separated from the economic characteristics of each country pair. The next group of determinants comprises trade policy factors and external factors. Trade policies, regional integration, and policy uncertainty can affect trade patterns between countries because they change the level of certainty, the barriers, and the costs of trade. Preferential trade agreements affect bilateral trade, and the depth and scope of the agreements can produce different impacts. These conditions reinforce the SLR result that policy changes, uncertainty, conflicts, and external disruptions need to be considered in understanding changes in bilateral trade. Trade determinants thus arise not only from normal economic conditions but also from changes in the policy and external environment.

The conceptual and measurement gap lies in the difference between bilateral trade flows and bilateral trade balances. An increase in trade flows does not necessarily imply an improvement in the trade balance position, because exports and imports can change simultaneously to different degrees. The literature that directly analyzes trade balances shows that responses to policy changes can also differ across countries; for example, changes in trade policy uncertainty have an asymmetric effect on the US–Japan trade balance. The use of aggregate measures can also oversimplify what is in reality a more complex trade structure, especially when trade based on domestic production and trade based on re-exports follow different patterns. Outcome variables therefore need to be stated clearly so that findings on the magnitude of trade are not equated with bilateral surplus or deficit positions. The empirical and contextual gaps relate to the heterogeneity of the objects of study. Differences in country pairs, regions, sectors, and economic characteristics limit the generalizability of results. The impact of trade agreements on bilateral trade needs to be interpreted in light of the characteristics of each bilateral pair and the scope of its agreements. The response to policy uncertainty can also differ according to the geopolitical proximity of the pair.

The methodological gaps are evident in the use of different approaches for different research questions. Structural gravity models applied to many country pairs help to examine the influence of distance, trade costs, and multilateral trade resistance; with an appropriate specification, PPML estimation can be applied to trade flow data that contain zero values and exhibit heteroscedasticity. This approach does not, however, automatically explain bilateral trade balance positions when the outcome variable is trade flows. The ARDL approach separates short-run responses from long-run relationships in the time series of a given country pair. NARDL adds the possibility of asymmetric responses to positive and negative exchange rate changes, which makes it useful for testing whether J-curve-like patterns appear in the bilateral relationship studied. This comparison relates to the debate on trade balance adjustment after exchange rate changes: the influence of relative prices can vary by period, sector, and trading partner. The choice of method needs to follow from the definition of the outcome (bilateral trade balance or bilateral trade flows), the scope of the data, and the objectives of the analysis; the results of different models cannot simply be equated.

The theoretical implication of this study is that the bilateral trade balance needs to be understood as a multidimensional phenomenon, not merely as a change in the value of exports and imports. The SLR distinguishes among bilateral trade flows, bilateral trade balances, trade structures, and the characteristics of relationships between countries, and it shows that the determinants of trade can be grouped into economic, structural, policy, and external factors. The theoretical contribution of this study is a mapping that connects research objects, determinants, country-pair characteristics, and analytical approaches in the study of bilateral trade balances.

The practical implication of this study is that the analysis of bilateral trade balances needs to be adapted to the characteristics of the trade relationship of each country pair. Policies that increase trade activity do not necessarily improve the trade balance position, because an increase in exports can coincide with an increase in imports. The impact of trade agreements on trade flows differs once the characteristics of the country pair are taken into account. External factors also need to be considered in policy formulation: the COVID-19 pandemic had a negative impact on bilateral trade flows, and the response was related to the government policies implemented during the pandemic. These policy implications are also consistent with the findings of Hoang et al. (2023), who concluded that currency devaluation is ineffective in improving a country's trade balance with its trading partners, so strengthening structural competitiveness should be prioritized over reliance on exchange rate adjustments alone. The results of the SLR can serve as a basis for subsequent empirical research in determining objects, variables, and methods of analysis. This approach allows research on the bilateral trade balance to be conducted in a more context-sensitive manner so that differences between country pairs are not overlooked.

Together, the three research questions produce an integrated picture of the evolution of bilateral trade balance studies. RQ1 shows a shift in focus from bilateral trade flows to bilateral trade balances and to trade measures that pay greater attention to economic structure. RQ2 shows that trade determinants are multidimensional and include economic, structural, policy, and external factors. RQ3 shows gaps in the focus of the research object, the characteristics of the country pair, the measurement of the trade balance, and the methodological approach. This pattern shows that bilateral trade studies have evolved from the question of how much trade occurs to the question of how the trade balance is formed and how it changes. A Systematic Literature Review not only summarizes previous research but can also be used to identify research patterns, limitations of knowledge, and opportunities for subsequent research. The contribution of this study thus lies in unifying a previously scattered literature into a mapping that connects research focus, determinants, country-pair characteristics, methods, and research gaps.

The novelty of this study lies in its integrated mapping of the evolution of research focus, the diversity of determinants, and the research gaps specifically related to the bilateral trade balance. The study clarifies the difference between factors related to bilateral trade flows and factors related to the bilateral trade balance position. This mapping provides a conceptual basis for subsequent empirical research to select country pairs, variables, trade balance measures, and methods of analysis according to the characteristics of the trade relations studied.

The main limitation of this study is that the full texts of 127 records from the Scopus pathway could not be obtained. The additional searches yielded five articles but did not substitute for an assessment of the unavailable records. In addition, the 14 selected articles differ in outcome variables, sectors, periods, country pairs, and

methods. The results are therefore a thematic mapping of the articles that could be assessed rather than a measure of the general magnitude of the effect of any determinant. Future research should retrieve the full texts not yet obtained and document the reasons for substantive exclusion once the eligibility assessment has been conducted.

Conclusions and Recommendations

The study of bilateral trade balances has evolved from research that initially focused on bilateral trade flows to research that more specifically analyzes the balance between exports and imports between countries. Based on the Systematic Literature Review of 14 selected articles, previous research has addressed bilateral trade flows, trade dynamics, trade imbalances, economic value added, regional integration, asymmetric responses to exchange rates, and more detailed measures of the bilateral trade balance. This development supports one main conclusion: an increase in bilateral trade volumes or flows does not necessarily reflect an improvement in a country's trade balance position with its partners, because the two are different dimensions that require different analytical frameworks.

This study also identifies three clusters of research gaps that remain open: conceptual/measurement gaps (the difference in focus between bilateral trade flows and the bilateral trade balance, as well as variations among aggregate, domestic-export, and re-export measures), empirical/contextual gaps (the diversity of country pairs studied and the influence of external shocks), and methodological gaps (the difference between the cross-country gravity model/PPML approach and the ARDL/NARDL time-series approach applied to a single country pair). The main contribution of this study is to connect the evolution of the literature, the diversity of determinants, and the three clusters of research gaps into one integrated mapping that can serve as a conceptual basis for future empirical research.

Based on these findings, future research is recommended to treat the bilateral trade balance explicitly as the main variable and to distinguish it clearly from bilateral trade flows from the modeling stage onward, given that the two concepts describe different dimensions of trade relations. In addition, macroeconomic, structural, policy, and external determinants should be tested in a more integrated manner within a single analytical framework, with the selection of variables tailored to the characteristics of the country pair so that the model describes trade conditions in a more context-sensitive way. This would also open opportunities for comparison across country pairs to determine whether certain determinants have a consistent pattern of influence or differ according to the economic structure of each country. In terms of measurement, future research could consider more disaggregated trade balance measures, such as distinguishing domestic exports from re-exports where data are available, so as not to oversimplify a complex trade structure. In terms of methods, a systematic comparison between the gravity model/PPML approach and the ARDL/NARDL time-series approach should be undertaken in follow-up studies to gain a more complete understanding of short-run, long-run, and possibly asymmetric responses to changes in trade determinants, given that the two approaches essentially answer different research questions. Finally, subsequent SLR research is advised to broaden the databases covered (e.g., by adding ScienceDirect or IDEAS/RePEc), the publication period, and the number of articles analyzed, so that the development of the bilateral trade balance literature can be mapped more broadly and representatively.

References

- Abdi, A. H., Zaidi, M. A. S., & Karim, Z. A. (2023). Economic Complexity and Bilateral Trade Flows in Selected Comesa and East Asia Countries. *Technological and Economic Development of Economy*, 29(3), 846–873.
- Alkofahi, K. (2026). Short-Run and Long-Run Determinants of Bilateral Trade Between Saudi Arabia and Jordan: An ARDL Approach. *Economies-MDPI*.
- Ariani, N., & Amaliah, I. (2023). Pengaruh Pertumbuhan Ekonomi, Inflasi, dan Nilai Tukar Terhadap Neraca. *Jurnal Riset Ilmu Ekonomi Dan Bisnis*, 3, 75–84. [@https://doi.org/10.29313/jrieb.v3i2.2882](https://doi.org/10.29313/jrieb.v3i2.2882)
- Badinger, H., & Clairfontaine, A. F. de. (2019). Trade balance dynamics and exchange rates: In search of the J - curve using a structural gravity approach. *Wileyonlinelibrary*, 1268–1293. <https://doi.org/10.1111/roie.12426>
- Gao, Q., Liu, B., Li, J., Liu, C., & Xu, Y. (2022). Environ-Economic Balance Analysis in Bilateral Industrial Trade: A Comparison Between Australia and China. *Technological and Economic Development of Economy*, 28(3), 676–693.
- Gocer, I., Ongan, S., & Karamelikli, H. (2025). The Necessity of New Versions of Bilateral Trade Balances and COVID-19: The Nonlinear ARDL Approach for the Nonlinear ARDL Approach for the USA and Japan. *Journals.Sagepub.Com/Home/Ftr*. <https://doi.org/10.1177/00157325231192180>
- Hoang, H., Bao, G., Le, H. P., Nguyen, B. H., & Vu, T. A. (2023). The US dollar and trade balance: New findings from the international trade of India with the European Union The US dollar and trade balance: New findings from the international trade of India with the European Union. *Cogent Business & Management*, 10(2). <https://doi.org/10.1080/23311975.2023.2235817>
- Jiang, W., & Liu, G. (2023). The asymmetric impact of exchange rate changes on bilateral trade balance: evidence from China and its trade partners. *Economic Research-Ekonomska Istraživanja*, 36(2). <https://doi.org/10.1080/1331677X.2022.2129408>
- Karlsson, L., & Hedberg, P. (2021). War and trade in the peaceful century: the impact of interstate wars on bilateral trade flows during the first wave of globalization, 1830–1913. *Economic History Review*, 3, 809–830. <https://doi.org/10.1111/ehr.13053>
- Maluck, J., Glanemann, N., & Donner, R. V. (2018). Bilateral Trade Agreements and the Interconnectedness of Global Trade. *Frontiers in Physics*, 6(November), 1–13. <https://doi.org/10.3389/fphy.2018.00134>
- Martinez-zarzoso, I., & Vollmer, S. (2016). Bilateral Trade Flows and Income Distribution Similarity. *PLOS ONE*, 1–12. <https://doi.org/10.1371/journal.pone.0128191>
- Ongan, S., Karamelikli, H., & Gocer, I. (2023). Food - based bilateral trade balance performances between the United States and Canada under COVID - 19. *Journal of Consumer Protection and Food Safety*, 18(3), 253–268. <https://doi.org/10.1007/s00003-023-01436-x>
- Onono, P., Omondi, F., & Mwangangi, A. (2024). Impacts of Regional Integration and Market Liberalization on Bilateral Trade Balances of Selected East African Countries: Potential Implications of the African Continental Free Trade Area. *Economies*, 1–20.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>

- Pistikou, V., Ketsetsidis, A., & Toumpalidou, S. A. (2025). Macroeconomic Determinants of Anti-Dumping Filings: Analyzing the Role of GDP, Growth Rate, and Merchandise Trade Balance in Reporting and Targeted Countries. 1–24.
- Salim, A., Pranolo, A., Hariyanti, N., Fadillah, D., Khotimah, H., & Firdaus, N. P. (2023). Revisiting the J-Curve of Indonesia-China Bilateral Trade. *Journal of Business and Information Systems*, 5(2). <https://doi.org/DOI:10.36067/jbis.v5i2.215>
- Thia, J. P., & Lopez, A. O. (2023). Infrastructure quality and trade liberalization ☆. *Structural Change and Economic Dynamics*, 66(April), 134–150. <https://doi.org/10.1016/j.strueco.2023.04.012>.