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Exchange Rate Movements and U.S. Trade with the European Union and Canada: An Empirical Analysis (2002–2015)

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ABSTRACT

The United States dollar (USD) occupies a central position in the international monetary system as the dominant reserve, invoicing, and settlement currency. Consequently, fluctuations in its value have important implications for international trade and economic performance. This study examines the relationship between movements in the U.S. Dollar Index (DXY) and U.S. merchandise trade with two major trading partners—the European Union and Canada—over the period 2002–2015, encompassing the 2008 Global Financial Crisis and its aftermath. Using quarterly data, a series of ordinary least squares (OLS) regression models are estimated to analyse the relationships between the DXY, bilateral exports and imports, the EUR/USD and USD/CAD exchange rates, and the U.S. terms of trade. The results indicate a significant negative association between the DXY and both U.S. exports and imports vis-à-vis the European Union and Canada, suggesting that periods of dollar depreciation coincided with stronger bilateral trade flows. The analysis also reveals a strong inverse relationship between the DXY and the EUR/USD exchange rate, a positive relationship between the DXY and USD/CAD, and a positive association between the DXY and the U.S. terms of trade. The findings highlight the close relationship between exchange-rate movements and U.S. trade performance and contribute partner-specific evidence to the broader literature on exchange rates and international trade.

KEYWORDS: *US Dollar Index; exchange rate depreciation; bilateral trade; terms of trade; OLS regression; international trade policy.*

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1. INTRODUCTION

The United States dollar (USD) occupies a central position in the international monetary system as the world's dominant reserve, invoicing, and settlement currency. Its widespread use in international trade, financial transactions, and official foreign-exchange reserves means that fluctuations in its value have implications extending well beyond the United States. Changes in the external value of the dollar can influence export competitiveness, import prices, trade balances, and broader patterns of international economic activity, making exchange-rate movements an important area of study in international trade and finance.

The relationship between exchange rates and trade performance has long attracted the attention of economists and policymakers. Conventional trade theory suggests that currency depreciation can improve export competitiveness, while appreciation may have the opposite effect. However, empirical evidence remains mixed, reflecting differences in economic structure, pricing behaviour, supply-chain integration, and broader macroeconomic conditions.

Since the early 2000s, the US dollar has experienced substantial fluctuations against major currencies, including a prolonged period of depreciation and a temporary appreciation during the 2008–09 Global Financial Crisis. These developments provide a useful setting for examining how changes in the value of the dollar are associated with trade performance. Given the importance of the European Union and Canada as major trading partners of the United States, analysing these bilateral relationships offers insight into the role of exchange-rate movements in shaping trade outcomes.

Against this background, the present study examines the relationship between movements in the U.S. Dollar Index (DXY) and U.S. merchandise trade with the European Union and Canada over the period 2002–2015. Using quarterly data and ordinary least squares (OLS) regression models, the study analyses the relationship between the DXY, bilateral exports and imports, the EUR/USD and USD/CAD exchange rates, and the U.S. terms of trade. The remainder of the paper is organised as follows. Section 2 reviews the relevant literature. Section 3 outlines the institutional background of the dollar's role in the international monetary system. Section 4 describes the data and methodology. Section 5 presents the empirical results. Section 6 discusses the findings, and Section 7 concludes with policy implications and limitations.

2. Literature Review

The relationship between exchange rates and international trade has long been a central topic in international economics. Magee (1973) argued that currency depreciation affects trade performance with a lag, an idea later formalised as the J-curve hypothesis, which suggests that trade balances may initially deteriorate before improving following depreciation. Empirical evidence on the J-curve has been mixed. Bahmani-Oskooee (1985) found support for the hypothesis in several developing countries, while Chiloane, Pretorius and Botha (2014) reported similar results for South Africa's manufacturing sector. In contrast, Moffett (1989) found limited evidence for the United States, noting that import volumes were relatively insensitive to exchange-rate movements, causing import expenditures to rise rather than fall following dollar depreciation.

The broader literature has likewise produced no clear consensus regarding the effects of currency depreciation on trade balances. Reviewing a large body of research on J-curve and S-curve effects, Bahmani-Oskooee and Hegerty (2010) highlighted substantial variation across countries, sample periods, and estimation techniques, suggesting that the relationship between exchange rates and trade performance is highly context-dependent. These findings indicate that exchange-rate movements alone are often insufficient to explain changes in trade outcomes, which are also influenced by broader economic and institutional factors.

More recently, attention has shifted toward the international role of the US dollar in shaping global trade dynamics. House, Proebsting and Tesar (2020) found that depreciation of the trade-weighted exchange rate is associated with stronger export activity and improved economic performance across U.S. states. Gopinath et al. (2020) further argue that the US dollar exerts a dominant influence on global trade prices and volumes, a framework they term the *dominant currency paradigm*. Their findings suggest that measures of the dollar's overall value, such as the U.S. Dollar Index (DXY), may be more informative than bilateral exchange rates alone in explaining trade outcomes. Despite this growing literature, relatively few studies have examined the relationship between the DXY and bilateral U.S. trade with major advanced-economy partners. Accordingly, the present study investigates the association between movements in the DXY and U.S. trade with the European Union and Canada over the period 2002–2015.

3. Institutional Background: The US Dollar in the International Monetary System

3.1. The Bretton Woods System

The international role of the US dollar has its origins in the Bretton Woods Agreement of 1944, which established a post-war monetary system based on fixed but adjustable exchange rates. Under this arrangement, participating currencies were pegged to the US dollar, while the dollar itself was convertible into gold. The agreement was supported by the creation of the International Monetary Fund (IMF), which was tasked with promoting exchange-rate stability and international monetary cooperation. Although the Bretton Woods system formally collapsed in the early 1970s, it established the institutional foundations for the dollar's subsequent dominance in the global monetary system.

3.2. The Dollar as Global Reserve Currency

The US dollar remains the world's principal reserve currency, accounting for a substantial share of official foreign-exchange reserves held by central banks. This position reflects the size, liquidity, and perceived safety of US financial markets, particularly the market for US Treasury securities. The dollar is also widely regarded as a safe-haven currency, with demand for dollar-denominated assets typically increasing during periods of financial uncertainty, thereby reinforcing its central role in international finance.

3.3. The Dollar in International Trade

Beyond its reserve-currency function, the dollar serves as the dominant invoicing and settlement currency in international trade. A large proportion of cross-border transactions are denominated in dollars, including transactions in which neither trading partner is the United States. The dollar's prominence is further reinforced by its widespread use in the pricing of internationally traded commodities and by exchange-rate arrangements that many countries

maintain, formally or informally, with reference to the dollar. As a result, fluctuations in the value of the dollar have implications that extend beyond the United States and influence trade relationships throughout the global economy

3.4. The U.S. Dollar Index (DXY)

The U.S. Dollar Index (DXY) measures the value of the US dollar relative to a basket of major trading-partner currencies. The index is weighted heavily toward the euro, with smaller weights assigned to the Japanese yen, British pound, Canadian dollar, Swedish krona, and Swiss franc. An increase in the DXY indicates an appreciation of the dollar against the basket, while a decline indicates depreciation. Given its broad coverage of major currencies, the DXY provides a useful measure of the dollar's external value and is therefore employed as the principal exchange-rate indicator in this study.

4. Data and Methodology

This study examines the relationship between movements in the U.S. Dollar Index (DXY) and selected exchange-rate and trade indicators over 2002Q1–2015Q4. Specifically, the analysis considers the association between the DXY and (i) the EUR/USD and USD/CAD exchange rates, (ii) U.S. exports to and imports from the European Union and Canada, and (iii) the U.S. terms of trade. Quarterly observations (T = 56) were compiled from publicly available sources, including the Federal Reserve Economic Data (FRED) database, the U.S. Census Bureau, the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), the World Bank, and financial market databases. Each relationship is estimated using a single-equation ordinary least squares (OLS) regression of the general form:

$$Y_t = \alpha + \beta X_t + \varepsilon_t$$

where Y_t and X_t denote the relevant dependent and independent variables and t indexes the quarter. Model estimation was conducted using Microsoft Excel with the XLSTAT add-in. For each specification, coefficient estimates, standard errors, t-statistics, p-values, goodness-of-fit measures, and Durbin–Watson statistics are reported. The analysis is intended to identify empirical associations between exchange-rate movements and trade-related variables rather than establish causal relationships.

5. Empirical Results

5.1. Time Trends in the DXY and Bilateral Exchange Rates

Three preliminary models trace the trend behaviour of the DXY and the two bilateral exchange rates over the sample period, each regressed on a sequential quarterly time index t (t = 1, …, 56). These are re-estimated for this revision directly from the quarterly series in the author's data file: the original workbook's chart trendlines had been fitted against the underlying calendar-date serial numbers rather than a sequential quarter index, which reproduces the same trend direction but with coefficients that are not directly interpretable on a "per quarter" basis; the equations below correct this.

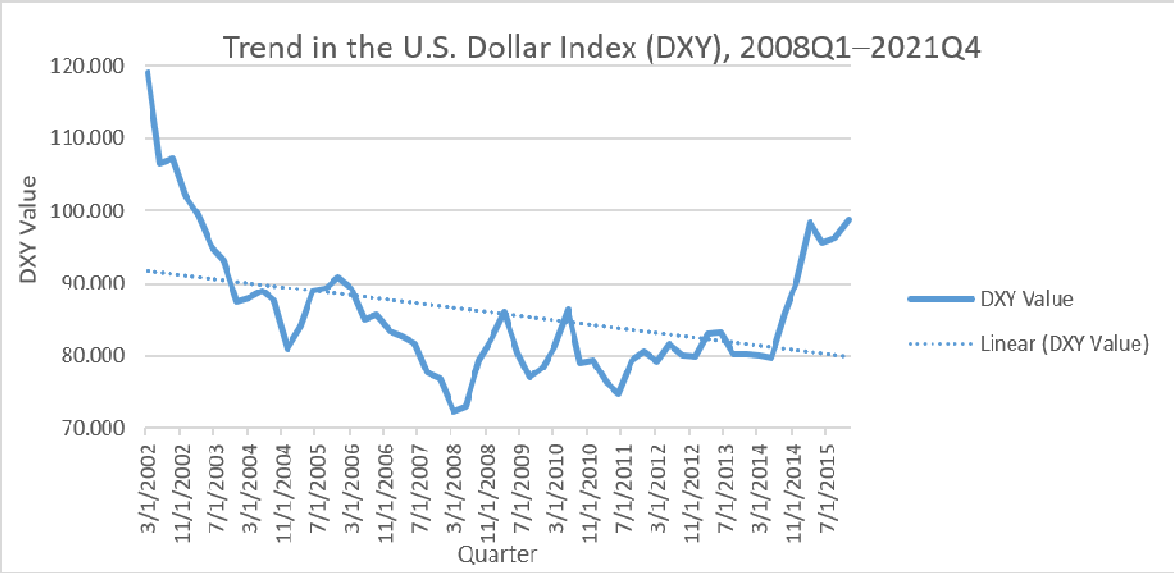
Model 1a: DXY = f(t)

As reported in Table 1 and illustrated in Figure 1, the DXY exhibits a statistically significant downward trend over the sample period. The estimated coefficient indicates that the trade-weighted value of the US dollar declined by approximately 0.216 index points per quarter on average. Although the overall trend is negative, the series experienced notable short-term fluctuations, particularly during the 2008–09 Global Financial Crisis when the US dollar temporarily appreciated as investors sought safe-haven assets. Nevertheless, the broader pattern remained one of gradual dollar depreciation.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	92.013	2.330	39.482	< 0.001
t (quarter index)	-0.2158	0.0711	-3.034	0.004

N = 56; R^2 = 0.146; Adjusted R^2 = 0.130; F(1, 54) = 9.21, p = 0.004; Durbin–Watson = 0.198.

Figure 1 : Time trend of DXY value



Source: Author's own calculation

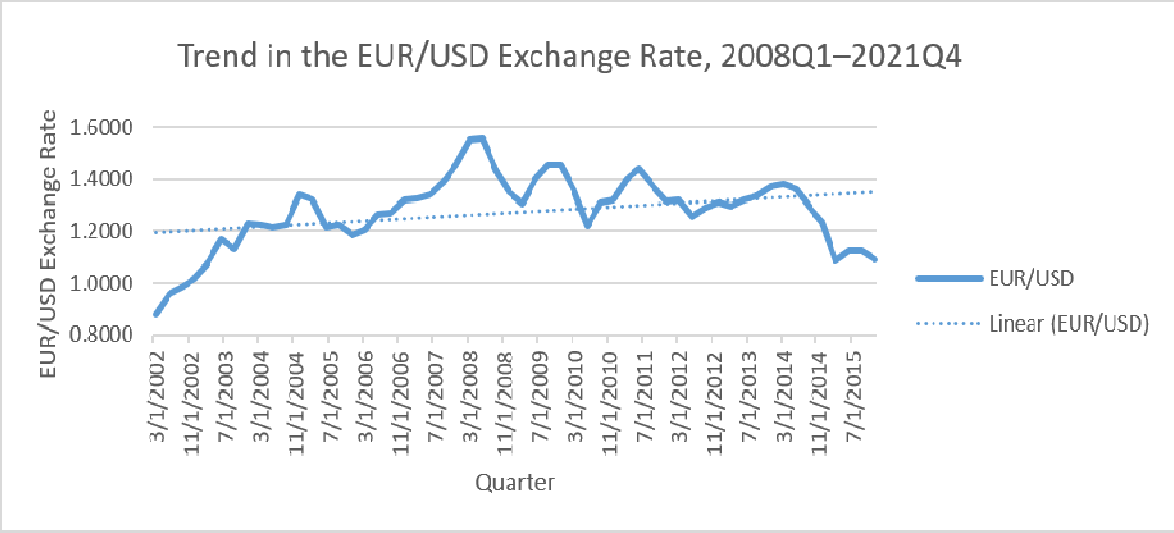
Model 1b: EUR/USD = f(t)

The results presented in Table 2 and Figure 2 indicate a statistically significant positive trend in the EUR/USD exchange rate. The estimated coefficient suggests that the euro appreciated by approximately 0.0028 US dollars per quarter against the US dollar over the sample period. This trend is consistent with the broader decline observed in the DXY. However, the appreciation of the euro was temporarily interrupted during the 2008–09 Global Financial Crisis, when heightened demand for the US dollar strengthened the dollar relative to the euro.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	1.1942	0.0360	33.144	< 0.001
t (quarter index)	0.002833	0.001100	2.576	0.013

N = 56; R^2 = 0.110; Adjusted R^2 = 0.093; F(1, 54) = 6.64, p = 0.013; Durbin–Watson = 0.222.

Figure 2 : Time trend of EUR/USD exchange rate



Source: Author's own calculation

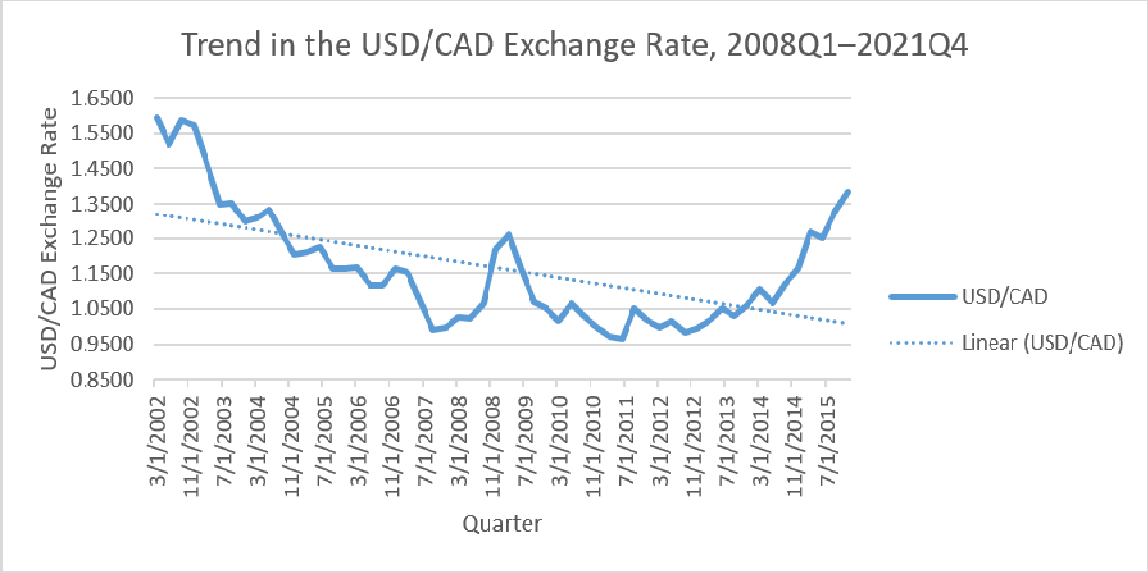
Model 1c: USD/CAD = f(t)

As shown in Table 3 and Figure 3, the USD/CAD exchange rate displays a statistically significant negative trend over the sample period. The estimated coefficient indicates a decline of approximately 0.0057 points per quarter, implying a gradual appreciation of the Canadian dollar relative to the US dollar. While the US dollar strengthened temporarily during the 2008–09 Global Financial Crisis, the longer-run movement remained downward, indicating a relative weakening of the US dollar against the Canadian dollar over the study period.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	1.3268	0.0379	35.013	< 0.001
t (quarter index)	-0.005697	0.001157	-4.926	< 0.001

N = 56; R^2 = 0.310; Adjusted R^2 = 0.297; F(1, 54) = 24.26, p < 0.001; Durbin–Watson = 0.158.

Figure 3: Time trend of USD/CAD exchange rate



Source: Author's own calculation

Taken together, the results indicate a gradual decline in the external value of the US dollar over the sample period. The downward trend in the DXY is accompanied by corresponding movements in the bilateral exchange rates, with EUR/USD trending upward and USD/CAD trending downward. Although the bilateral exchange rates exhibit opposite directional trends due to differences in exchange-rate quotation conventions, both are consistent with a relative weakening of the US dollar. The temporary appreciation of the dollar during the 2008–09 Global Financial Crisis does not alter the broader long-run pattern evident across the three series.

5.2. DXY and U.S. Trade with the European Union

Models 2a–2c estimate the relationship between the DXY and, respectively, U.S. goods exports to the EU, U.S. goods imports from the EU, and the EUR/USD exchange rate. Figures in this subsection reproduce, to four decimal places, the XLSTAT output in the author's data file.

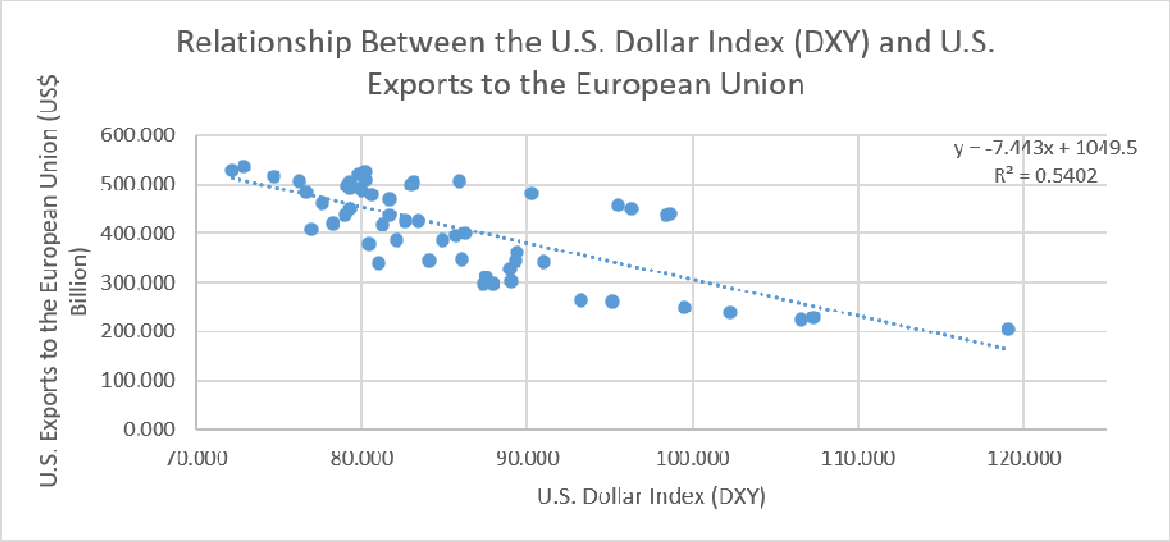
Model 2a: US Exports to the EU ($bn) = f(DXY)

As reported in Table 4 and illustrated in Figure 4, the DXY exhibits a significant negative relationship with U.S. exports to the European Union. The estimated coefficient indicates that a one-point increase in the DXY is associated with a decline of approximately US$7.44 billion in exports. This finding suggests that periods of dollar appreciation generally coincided with weaker U.S. export performance in the European market. The negative association is particularly evident during the 2008–09 Global Financial Crisis, when a sharp appreciation of the US dollar was accompanied by a substantial contraction in exports to the European Union.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	1049.4811	80.6823	13.008	< 0.001
DXY Value	-7.4430	0.9344	-7.966	< 0.001

N = 56; R^2 = 0.540; Adjusted R^2 = 0.532; F(1, 54) = 63.45, p < 0.001; Durbin–Watson = 0.111; Pearson r = -0.735.

Figure 4: Relationship Between the U.S. Dollar Index (DXY) and U.S. Exports to the European Union



Source: Author's own calculation

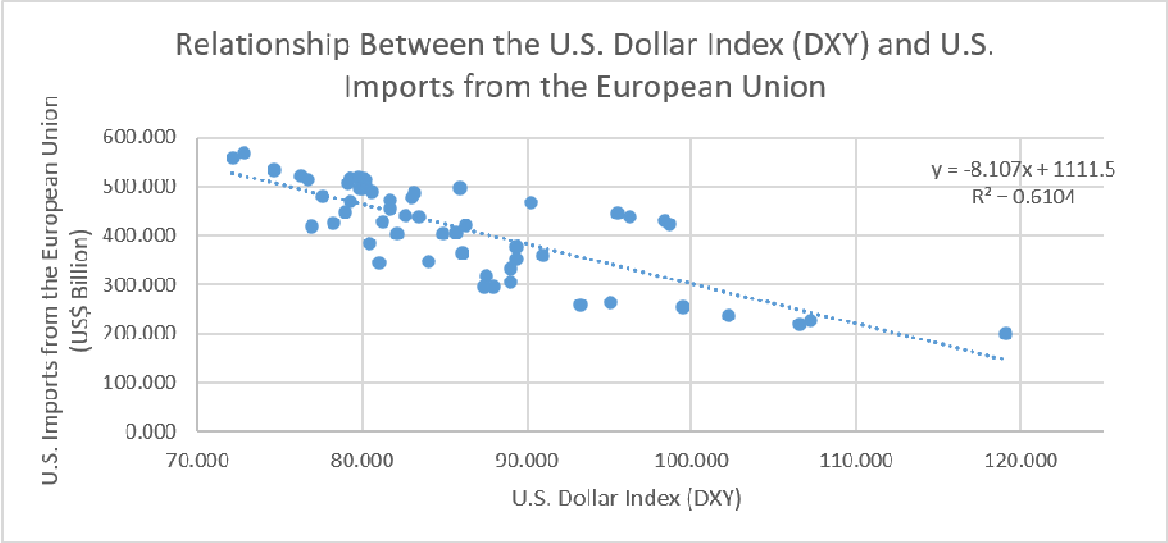
Model 2b: US Imports from the EU ($bn) = f(DXY)

The results presented in Table 5 and Figure 5 reveal a significant negative relationship between the DXY and U.S. imports from the European Union. The estimated coefficient suggests that a one-point increase in the DXY is associated with a reduction of approximately US$8.11 billion in imports. Contrary to the conventional expectation that a stronger dollar should stimulate imports by lowering the relative cost of foreign goods, imports declined as the dollar appreciated. This pattern indicates that broader macroeconomic conditions influenced trade flows during the sample period, particularly during the 2008–09 financial crisis when imports contracted sharply alongside the appreciation of the US dollar.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	1111.5283	76.1066	14.605	< 0.001
DXY Value	-8.1070	0.8814	-9.198	< 0.001

N = 56; R^2 = 0.610; Adjusted R^2 = 0.603; F(1, 54) = 84.60, p < 0.001; Durbin–Watson = 0.152; Pearson r = -0.781.

Figure 5: Relationship between US Goods Imports from EU and DXY Value



Source: Author's own calculation

Model 2c: DXY = f(EUR/USD)

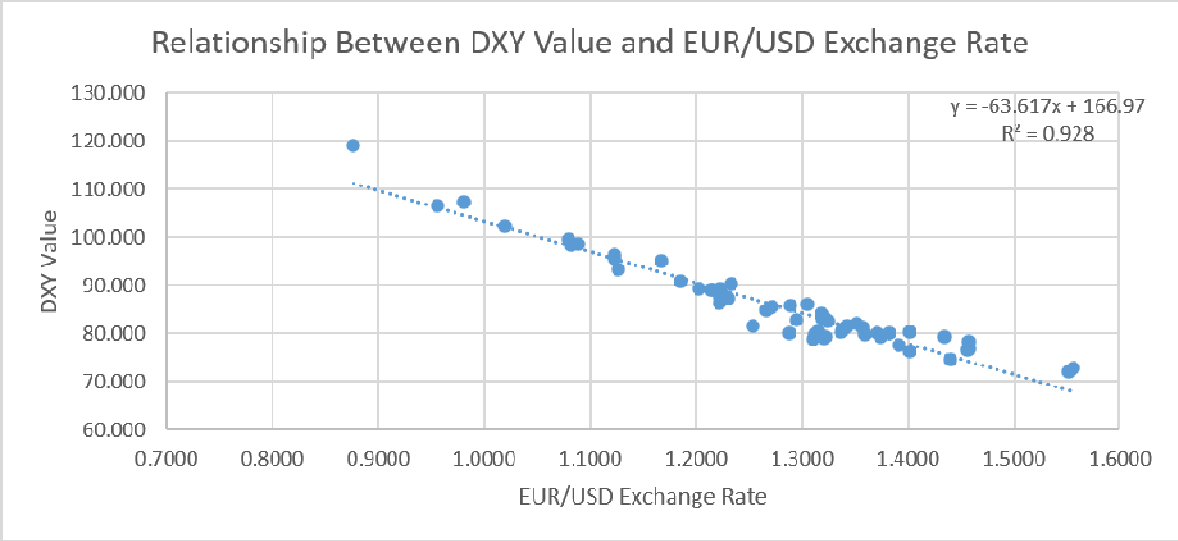
As shown in Table 6 and Figure 6, the DXY is strongly and negatively related to the EUR/USD exchange rate. The results indicate that periods of euro appreciation were generally associated with a decline in the trade-weighted value of the US dollar, while periods of euro depreciation coincided with a stronger dollar. This

inverse relationship reflects the dominant weight of the euro within the DXY basket and highlights the importance of euro-dollar movements in shaping fluctuations in the dollar index.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	166.968	3.092	54.002	< 0.001
EUR/USD	-63.6167	2.4110	-26.386	< 0.001

N = 56; R^2 = 0.928; Adjusted R^2 = 0.927; F(1, 54) = 696.25, p < 0.001; Durbin–Watson = 0.589; Pearson r = -0.963.

Figure 6: Relationship between DXY value and EUR/USD



Source: Author's own calculation

Taken together, the results suggest that movements in the trade-weighted value of the US dollar were closely associated with U.S.–EU trade flows during the sample period. Models 2a and 2b show that periods of dollar appreciation coincided with lower levels of both exports to and imports from the European Union. Model 2c provides an explanation for this relationship by demonstrating the strong inverse association between the DXY and the EUR/USD exchange rate. Given the dominant weight of the euro in the DXY basket, fluctuations in the dollar index largely reflect changes in the value of the US dollar relative to the euro, thereby linking movements in the DXY to U.S.–EU trade dynamics.

5.3. DXY and U.S. Trade with Canada

Models 3a–3c replicate this structure for the Canadian relationship.

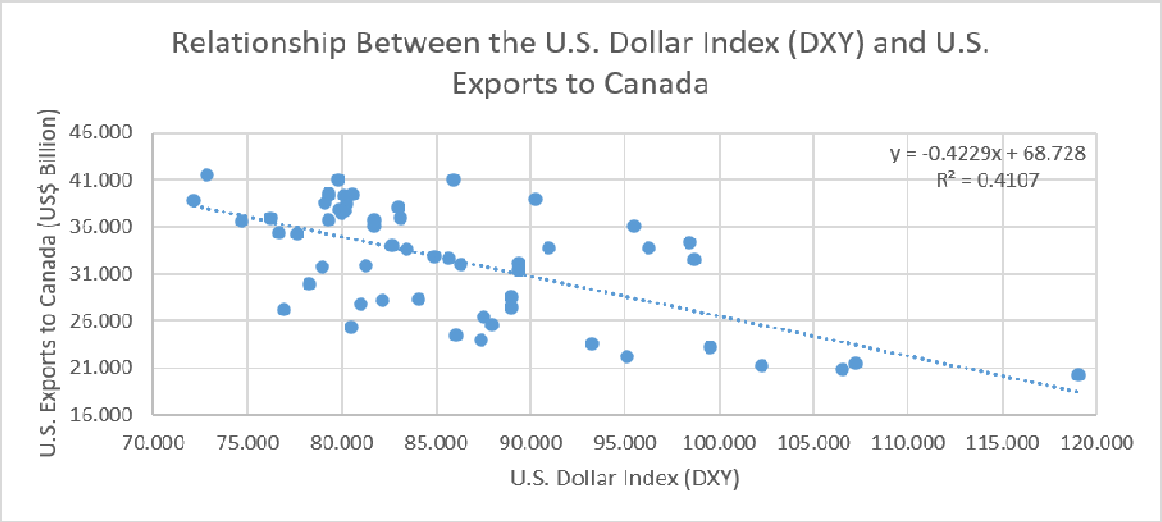
Model 3a: US Exports to Canada ($bn) = f(DXY)

As reported in Table 7 and illustrated in Figure 7, the DXY exhibits a significant negative relationship with U.S. exports to Canada. The estimated coefficient indicates that a one-point increase in the DXY is associated with a decline of approximately US$0.42 billion in exports. This finding suggests that periods of dollar appreciation generally coincided with weaker U.S. export performance in the Canadian market. The negative relationship is particularly evident during the 2008–09 Global Financial Crisis, when a sharp appreciation of the US dollar was accompanied by a substantial contraction in exports to Canada.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	68.7282	5.9529	11.545	< 0.001
DXY Value	-0.4229	0.0689	-6.134	< 0.001

N = 56; R^2 = 0.411; Adjusted R^2 = 0.400; F(1, 54) = 37.63, p < 0.001; Durbin–Watson = 0.279; Pearson r = -0.641.

Figure 7: Relationship Between the U.S. Dollar Index (DXY) and U.S. Exports to Canada



Source: Author's own calculation

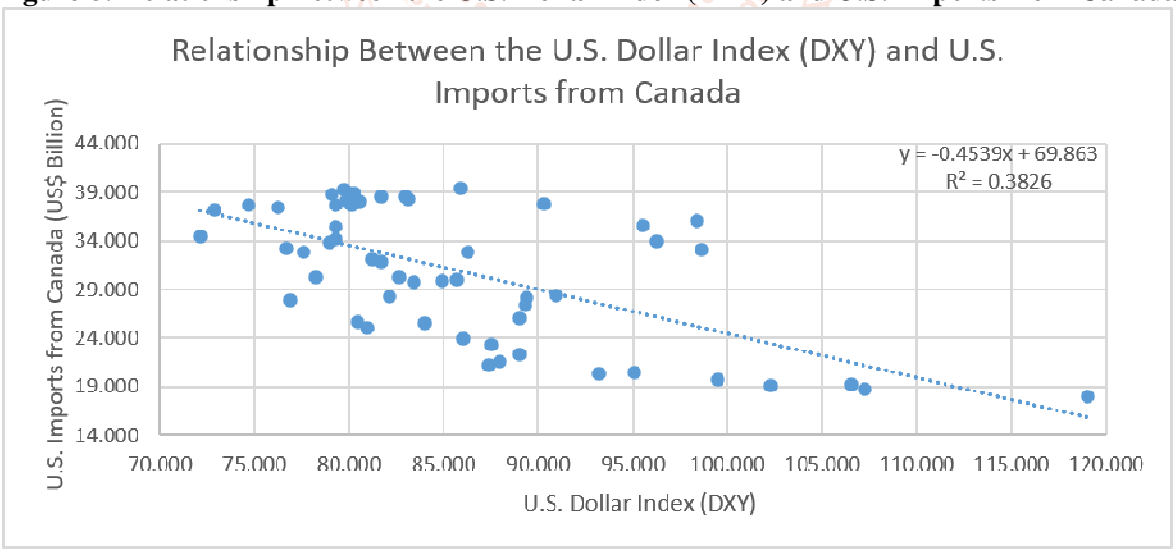
Model 3b: US Imports from Canada ($bn) = f(DXY)

The results presented in Table 8 and Figure 8 reveal a significant negative relationship between the DXY and U.S. imports from Canada. The estimated coefficient suggests that a one-point increase in the DXY is associated with a reduction of approximately US$0.45 billion in imports. Similar to the export model, imports declined as the dollar strengthened, indicating that bilateral trade flows were influenced by broader economic conditions in addition to exchange-rate movements. This pattern was particularly visible during the 2008–09 financial crisis, when imports from Canada contracted sharply alongside the appreciation of the US dollar.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	69.8629	6.7753	10.311	< 0.001
DXY Value	-0.4539	0.0785	-5.784	< 0.001

N = 56; R^2 = 0.383; Adjusted R^2 = 0.371; F(1, 54) = 33.46, p < 0.001; Durbin–Watson = 0.113; Pearson r = -0.619.

Figure 8: Relationship Between the U.S. Dollar Index (DXY) and U.S. Imports from Canada



Source: Author's own calculation

Model 3c: DXY = f(USD/CAD)

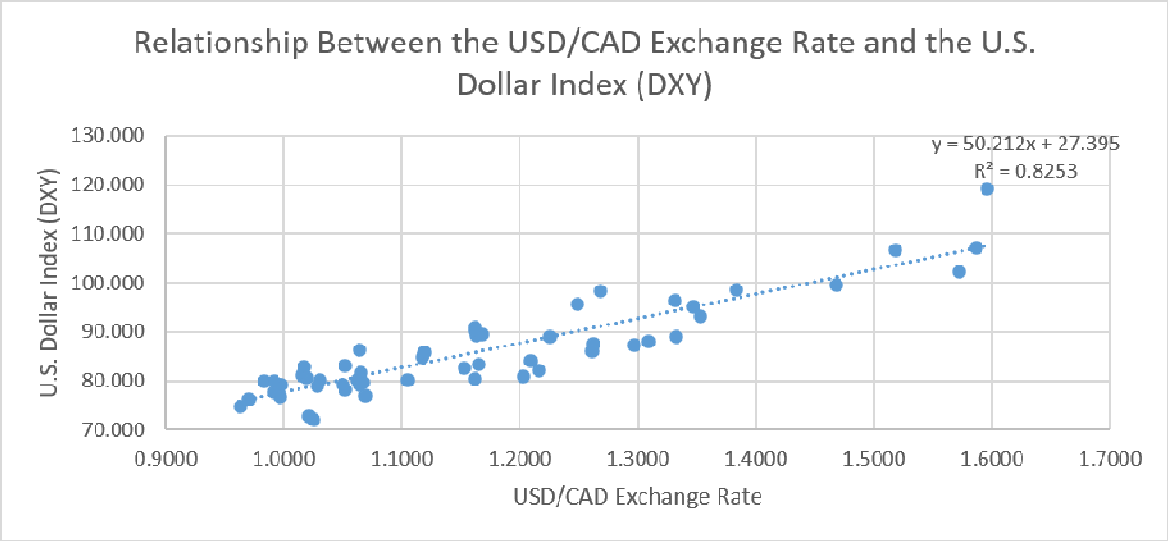
As shown in Table 9 and Figure 9, the DXY is positively and strongly related to the USD/CAD exchange rate. The results indicate that periods of appreciation of the US dollar against the Canadian dollar were generally accompanied by increases in the trade-weighted value of the US dollar. This positive relationship is consistent with the inclusion of the Canadian dollar within the broader DXY currency basket and suggests that movements in USD/CAD were broadly aligned with fluctuations in the overall value of the US dollar. The relationship was

particularly evident during the 2008–09 Global Financial Crisis, when both the DXY and USD/CAD rose sharply.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	27.3947	3.6969	7.410	< 0.001
USD/CAD	50.2123	3.1434	15.974	< 0.001

N = 56; R^2 = 0.825; Adjusted R^2 = 0.822; F(1, 54) = 255.16, p < 0.001; Durbin–Watson = 0.549; Pearson r = 0.908.

Figure 9: Relationship Between the USD/CAD Exchange Rate and the U.S. Dollar Index (DXY)



Source: Author's own calculation

Taken together, the results suggest that a stronger US dollar was associated with lower levels of both U.S. exports to and imports from Canada during the sample period. Models 3a and 3b indicate that bilateral trade flows tended to contract as the trade-weighted value of the US dollar increased. Model 3c complements these findings by showing that increases in the DXY were accompanied by an appreciation of the US dollar against the Canadian dollar, indicating that movements in the trade-weighted dollar were reflected in the bilateral exchange rate. These relationships were particularly evident during the 2008–09 Global Financial Crisis, when both the DXY and USD/CAD rose sharply while exports to and imports from Canada declined substantially.

5.4. DXY and Trade competitiveness

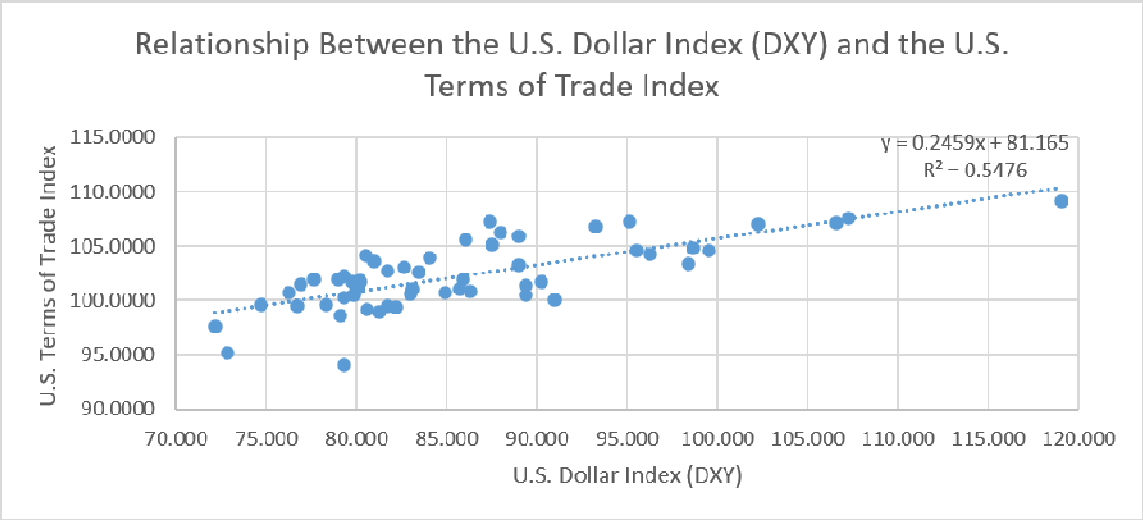
Model 4: US Terms of Trade Index = f(DXY)

As reported in Table 10 and illustrated in Figure 10, the DXY exhibits a significant positive relationship with the U.S. Terms of Trade Index. The estimated coefficient indicates that a one-point increase in the DXY is associated with an increase of approximately 0.25 points in the terms of trade index. This suggests that periods of dollar appreciation generally coincided with improvements in the United States' terms of trade. The relationship is particularly visible during the 2008–09 Global Financial Crisis, when both the DXY and the terms of trade index increased following the initial disruption of global trade and financial markets. Overall, the results indicate that movements in the external value of the US dollar were closely associated with changes in the relative price of U.S. exports and imports over the sample period.

Term	Coefficient	Std. Error	t-statistic	p-value
Constant	81.1647	2.6261	30.907	< 0.001
DXY Value	0.2459	0.0304	8.085	< 0.001

N = 56; R^2 = 0.548; Adjusted R^2 = 0.539; F(1, 54) = 65.38, p < 0.001; Durbin–Watson = 0.643; Pearson r = 0.740.

Figure 10: Relationship Between the U.S. Dollar Index (DXY) and the U.S. Terms of Trade Index



Source: Author's own calculation

Taken together, the results indicate that movements in the trade-weighted value of the US dollar were closely associated with key dimensions of U.S. external economic performance during the sample period. The trend analysis revealed a gradual long-run decline in the value of the dollar, despite a temporary appreciation during the 2008–09 Global Financial Crisis. Subsequent models showed that dollar appreciation was generally associated with lower trade flows with both the European Union and Canada, while also coinciding with improvements in the U.S. terms of trade. These findings suggest that fluctuations in the DXY were linked not only to bilateral exchange-rate dynamics but also to broader patterns of international trade and relative price movements.

6. Discussion

The results presented in Section 5 indicate that fluctuations in the trade-weighted value of the US dollar were closely associated with both bilateral trade flows and broader measures of external economic performance over the 2002–2015 period. The trend analysis revealed a gradual long-run decline in the value of the dollar against major currencies, despite a temporary appreciation during the 2008–09 Global Financial Crisis. This depreciation was accompanied by an upward trend in the EUR/USD exchange rate and a downward trend in the USD/CAD exchange rate, both consistent with a relative weakening of the US dollar over the sample period.

The bilateral trade models show a consistent negative relationship between the DXY and U.S. trade flows with both the European Union and Canada. Periods of dollar appreciation were associated with lower levels of both exports and imports, while dollar depreciation coincided with stronger trade activity. These findings are broadly consistent with the exchange-rate trade channel discussed in the literature reviewed in Section 2. However, the results do not suggest a simple improvement in the trade balance following dollar depreciation, since imports and exports tended to move in the same direction. This pattern indicates that broader macroeconomic conditions and trade-cycle effects may have influenced bilateral trade flows alongside exchange-rate movements.

The comparatively stronger fit of the EU models relative to the Canada models suggests that currency valuation explains a larger share of the variation in U.S.–EU trade than in U.S.–Canada trade, where geographic proximity, integrated North American supply chains, and preferential trade arrangements likely play a more substantial role, a pattern consistent with Bahmani-Oskooee and Hegerty's (2010) broader finding that the exchange-rate/trade relationship varies substantially across country pairs. In addition, the positive relationship between the DXY and the U.S. terms of trade suggests that periods of dollar appreciation coincided with improvements in the relative prices of U.S. exports and imports, highlighting the broader influence of exchange-rate movements beyond trade volumes alone.

Despite its depreciation against major currencies over much of the sample period, the US dollar retained its central position within the international monetary and trading system, continuing to function as the principal reserve, invoicing, and settlement currency. This underscores that movements in the external value of a currency and its international monetary status are analytically distinct phenomena.

7. Conclusion, Policy Implications, and Limitations

7.1. Conclusion and Policy Implications

This study examined the relationship between movements in the U.S. Dollar Index (DXY) and selected indicators of U.S. trade performance over the period 2002–2015 using quarterly data and OLS regression analysis. The results indicate a gradual decline in the external value of the US dollar over the sample period, notwithstanding a temporary appreciation during the 2008–09 Global Financial Crisis. Dollar appreciation was associated with lower levels of U.S. exports to and imports from both the European Union and Canada, while the DXY exhibited strong relationships with the EUR/USD and USD/CAD exchange rates. In addition, a positive association was observed between the DXY and the U.S. terms of trade, suggesting that movements in the external value of the dollar were linked not only to trade flows but also to relative price dynamics.

The findings suggest that exchange-rate movements remain an important component of U.S. trade performance, although they do not operate in isolation. The simultaneous movement of exports and imports indicates that broader macroeconomic conditions, demand factors, and structural characteristics of trading relationships also play significant roles. Consequently, policymakers seeking to strengthen export competitiveness or evaluate bilateral trade performance should view exchange-rate movements as one element within a wider set of economic determinants rather than as a sufficient explanation of trade outcomes on their own.

7.2. Limitations and Directions for Future Research

This study is subject to several limitations. First, the analysis relies on bivariate OLS models and therefore does not control for other factors that may influence trade performance, such as income growth, trade policy, or commodity price movements. Second, the low Durbin–Watson statistics observed in several models suggest the presence of serial correlation, indicating that the results should be interpreted as associations rather than causal relationships. Third, the analysis is limited to the European Union and Canada and focuses on the nominal U.S. Dollar Index, which may not fully capture exchange-rate dynamics across all trading partners. Future research could address these limitations by employing multivariate time-series frameworks, incorporating additional determinants of trade, and extending the analysis to a broader set of countries and more recent periods.

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