



Canada's top export markets and opportunities to 2035

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Executive summary

What drives two countries to trade with one another? Turns out, it boils down to three fundamental factors—economic size, geographic distance and cultural ties and institutions. Countries are more likely to engage in international trade if:

- their economies are large;
- they have geographic proximity; and
- they have similar institutional norms and cultural ties that support effective business relationships.

The relevance of these factors varies based on what's being traded. For instance, geographic proximity matters more for goods exports, compared to services exports.

This Export Development Canada report presents a theory-backed, data-driven framework for identifying Canada's top export markets and opportunities for goods and services exporters. Our model finds that:

- Canada's goods exports could reach US\$1.2 trillion by 2035.
- Canada's services exports could reach more than US\$272 billion by 2035.

These estimates should be interpreted as benchmarks, rather than ceilings. They reflect what Canada could export based on underlying structural conditions—not short-term constraints.

Gaps between current exports and modelled potential, therefore, point to areas of opportunity, but they aren't strict targets. In practice, exporters will also consider costs, risks and strategic objectives, meaning diversification may extend beyond the largest modelled gaps.

The [United States remains Canada's largest export market](#), given the strong gravitational pull and key underlying structural elements (economic size and geographical proximity) that are impossible to undo.

This standing isn't expected to change, however, the export potential estimates for the U.S. should be interpreted with caution as the model doesn't incorporate the more recent trade policy uncertainty. Future iterations of the model may result in downward revisions.

Beyond the U.S., our model highlights several underexplored markets for Canadian goods and services exports:

1. Several [European markets offer sizable potential for Canadian exporters](#). For goods, the export potential could reach US\$104 billion in 2035, while services could amount to more than US\$41 billion.
2. [Markets in the Asia-Pacific also feature prominently](#), given the growing middle class and rising incomes. Canada's goods exports could reach more than US\$73 billion in this region by 2035, while services could net US\$32 billion in exports.
3. [Select markets in South and Central America](#), as well as the Middle East and Africa, round out the top markets holding high export potential. These include Brazil, Colombia, Chile, Peru, the United Arab Emirates (UAE), Saudi Arabia, South Africa and Nigeria.

1. What drives countries to trade with one another?

Think about how people choose where to shop. Large shopping centres attract more customers because they bring together many products and services in one place. Their size creates activity, making them common destinations for buying and selling. Smaller neighbourhood shops, by contrast, play an important role locally, serving nearby customers well, but they tend to draw from a much smaller area.

Distance plays an important role in these choices. A large centre located far away may still be appealing, but the time and effort required reduce how often people make the trip. Size increases attraction, but distance weakens it. Language and culture matter, as well. People are more likely to return to places where communication is easy, customs are familiar and interactions feel straightforward. Visiting places where language or cultural norms differ remains possible, but it usually happens less often and with more consideration.

International trade follows the same logic. Economists describe this pattern through the gravity model of trade. Like gravitational pull between two objects, which grows with mass and declines with distance, trade between two economies tends to be stronger when those economies are larger and the frictions between them are lower.

1.1 Key drivers of global trade beyond size and distance

Modern international trade theory points to a broader set of forces that shape trade patterns, with their importance varying by what's being traded:

- **Economic size:** Large markets with rising incomes and expanding consumer demand attract more exports. A rising middle class in Southeast Asia, for example, is generating strong demand for Canadian goods and expertise.
- **Geographic distance:** Physical separation still constrains goods that must be shipped. For digitally delivered services, however, distance plays a much smaller role.
- **Cultural ties and institutions:** Shared languages, diaspora networks, historical connections and business practices, alongside legal traditions, geopolitical alignment and trade agreements, lower the cost of doing business across borders. Stable institutions support effective business relationships, while trade agreements provide a clear and reliable framework for cross-border activity.

The factors described above not only explain trade patterns, but they also provide a useful way to think about where constraints are strongest in practice. Some frictions, like geographic distance, are largely fixed, while others—particularly those related to cultural ties and institutions—can be reduced over time. This distinction is especially important for services, where trade outcomes depend less on physical transport and more on relationships, information and regulatory conditions.

To illustrate this, Table 1 summarizes how these forces influence trade in practical terms and highlights areas where Canadian firms and EDC can act to support export growth.

Table 1. Interpreting key trade drivers and implications for Canadian exports

Factor (sign in gravity results)	What it means in practice	What firms and EDC can do
Distance (-)	Trade declines with distance, especially for goods.	Reduce effective distance: • Build local presence (partners, offices, affiliates) • Combine remote and on-site delivery • Strengthen logistics and after-sales support
Economic size (+)	Larger economies with rising incomes create stronger demand.	Focus on demand growth: • Target markets with rising incomes • Prioritize fast-growing segments • Focus on large buyers and procurement channel
Cultural ties (+)	Shared language, networks and business practices make trade relationships easier to establish and maintain.	Leverage networks: • Use diaspora networks for market entry • Hire locally or build bilingual teams • Develop in-market partnerships
Institutional alignment (+)	Compatible legal and regulatory systems reduce uncertainty and make cross border activity easier.	Reduce regulatory friction: • Invest in compliance and certification • Align with local standards • Work with local legal partners
Trade agreements (+)	Agreements reduce barriers and provide clearer rules for market access.	Lower entry barriers: • Use agreements to reduce tariffs and regulatory constraints • Prioritize markets with clearer access conditions

1.2 How goods and services trade differ

These forces operate differently for goods and services. Treating them as a single category obscures important nuances in how international trade flows are shaped.

For physical exports, which includes manufactured products, agricultural commodities, energy and machinery, distance remains a dominant constraint.

A 1% increase in the distance between Canada and a trading partner is associated with roughly a 0.7% reduction in goods exports.

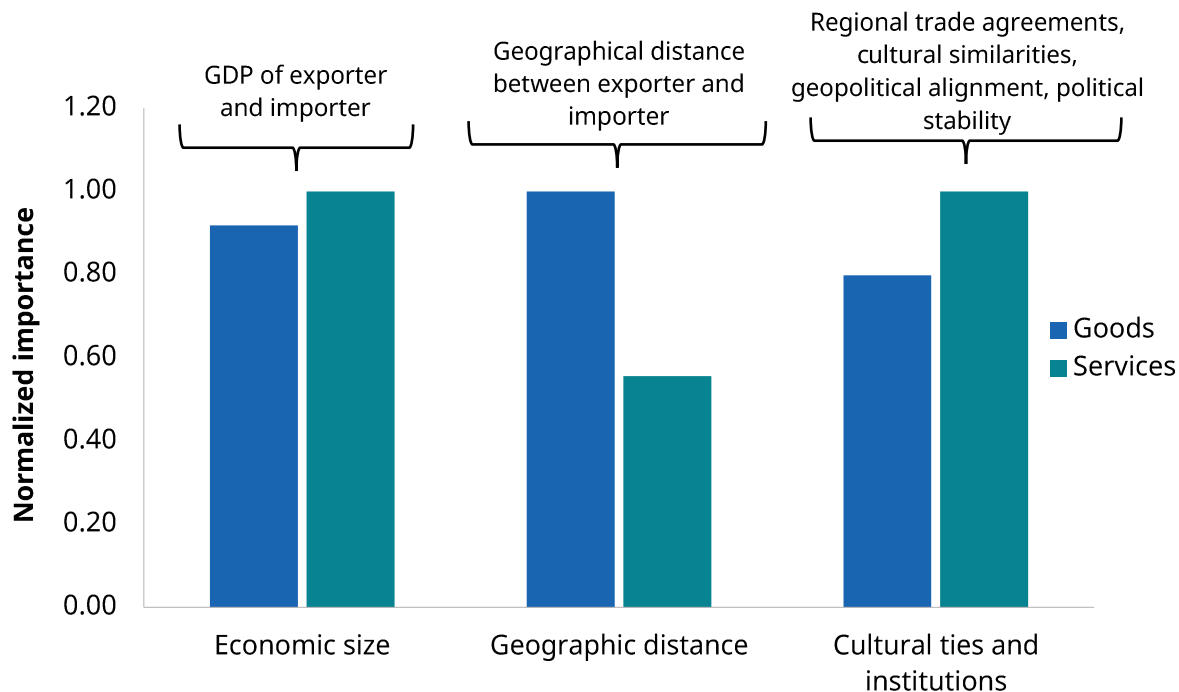
While shared borders, common languages, institutional ties and trade agreements can ease some frictions, the cost of transporting goods across long distances continues to shape trade outcomes. These factors matter because they lower the cost and uncertainty of cross-border activity. Clear rules, predictable regulations and established commercial relationships make it easier for exporters to operate in international markets, even though physical distance itself remains unchanged.

Services follow a different pattern. When exporting financial advice, software, engineering expertise, or professional consulting, there's no physical product to ship.

While distance remains a factor, its influence is clearly weaker than for goods. This shift means that the main barriers for services are less about physical distance and more about regulation, reputation and the ability to build and maintain strong business relationships.

Figure 1 reflects this pattern. Across total services exports, cultural ties and institutional compatibility, including common languages, shared legal systems, political stability and well-developed business relationships, carries significantly more weight than geographic separation. These features shape how easily firms can establish relationships and deliver services across borders.

Figure 1. Differences in how key factors drive goods versus services exports



Source: EDC Economics

1.3 Services exports vary by sector

Looking beneath the aggregate flows of services exports reveals a more nuanced picture. Service sectors don't all behave in the same way, and the chart below illustrates how the relative importance of economic size, geographic distance and institutional factors varies across 12 service categories.

Geographic distance remains a strong force in some services sectors. In telecommunications and information technology (IT), distance emerges as the most influential driver, outweighing both institutional factors and economic size.

A similar pattern appears in travel, where proximity is central by nature of the service, as well as in manufacturing-related services, maintenance and repair, construction and transport. In these activities, physical co-ordination, on-site presence, or logistical complexity keeps geography relevant, even when parts of the service could, in principle, be delivered remotely.

The clearest break from this pattern appears in financial services. Here, cultural ties and institutions play their strongest role across all sectors, while geographic distance becomes a secondary consideration. Financial activity depends heavily on legal enforceability, regulatory alignment and counterparty confidence. Cross-border financial relationships can extend over large distances, but only where the institutional environment on both sides provides the predictability and security required for long-term commitments. In this context, institutional conditions, rather than proximity, emerge as the primary factors shaping cross-border activity.

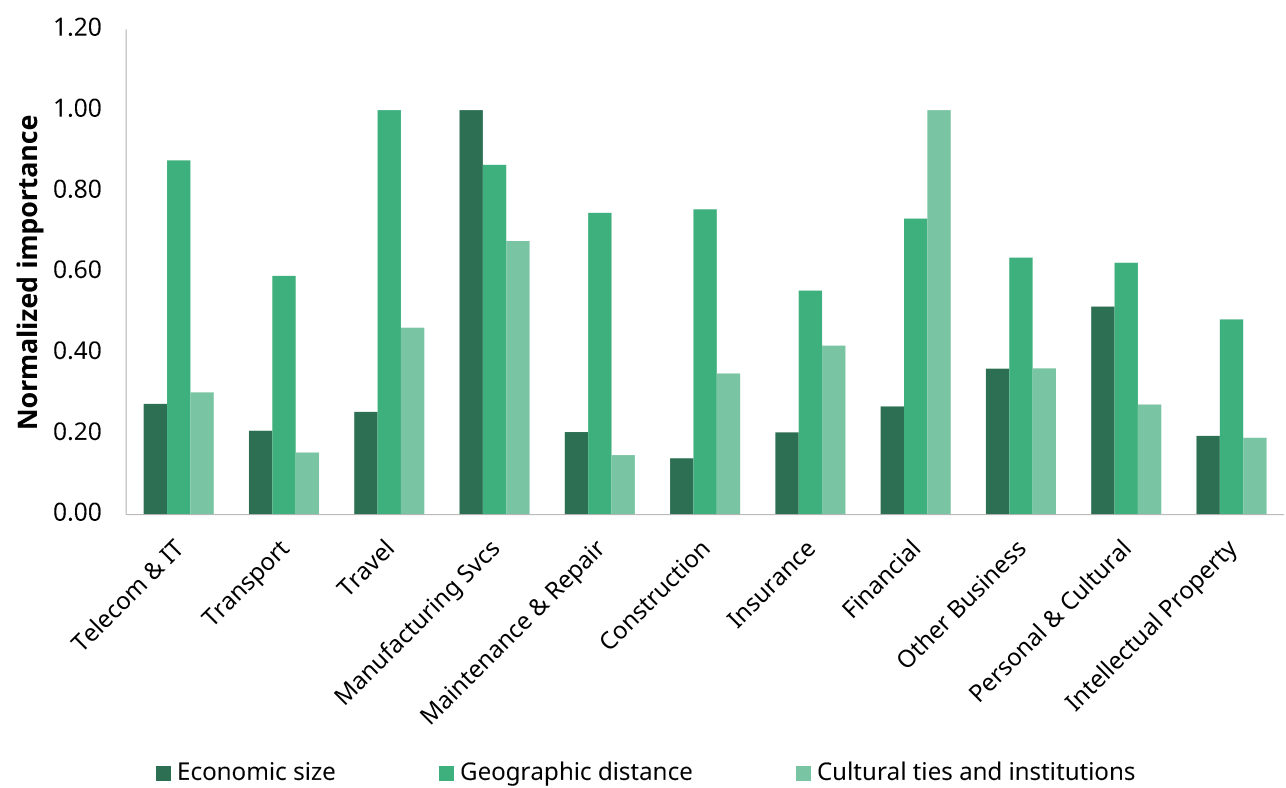
Insurance and personal and cultural services show more balanced profiles, with institutions and distance both playing moderate roles. These sectors combine elements of regulatory alignment with some degree of proximity-dependence, reflecting the mixed nature of their delivery channels and the local market knowledge they often require.

Manufacturing services stand apart as the only sector where economic size reaches its maximum value across the analysis. This reflects the fact that industrial processing and transformation services linked to global value chains track closely with the productive capacity of trading partners. Where large industrial economies manufacture more, they also generate more demand for the surrounding service activity. Economic size, rather than institutional proximity or geographic distance, is the primary organizing force in this sector.

The sector-level breakdown makes clear that [services trade doesn't follow a uniform logic](#). Institutional factors dominate where services are knowledge-intensive and contractually complex. Distance reasserts itself where delivery depends on physical co-ordination, or on-site presence.

Economic size shapes outcomes where services are tightly coupled with industrial production. The gravity model doesn't flatten the world—it maps it—and for services, that map looks quite different, depending on what's being traded.

Figure 2. Relative importance of key drivers of services exports across subsectors



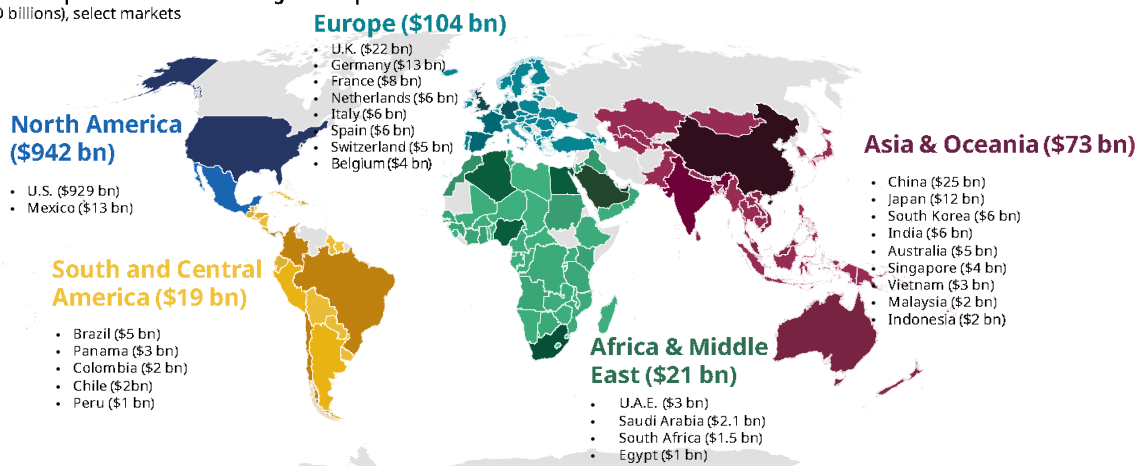
Source: EDC Economics

2. Top Canadian goods export markets to 2035

By combining the gravity framework with EDC's macroeconomic forecasts, our model identifies the markets with the strongest potential for Canadian goods exports by 2035. The figure below quantifies Canada's goods exports opportunities across every region in the globe.

By 2035: Large latent potential for Canadian goods exports in Europe and the Asia-pacific

Estimated potential for Canadian goods exports in 2035
(USD billions), select markets



Source: EDC Economics, Oxford Economics, UN Comtrade

*Based on data ending in 2024, these estimates will be revised once full-year 2025 data is available. The model does not incorporate sector-level dynamics that may affect potential growth. Estimates reflect structural export potential derived from underlying fundamentals, rather than short-term constraints. As such, identified gaps should be interpreted as indicators of opportunity, not as strict targets.

The United States remains, by far, Canada's largest goods export market, reflecting the depth of North American economic integration and the scale of existing trade flows. Its potential for Canadian goods exports reaches US\$929 billion by 2035. Note that the estimated potential incorporates data until 2024, which is the latest available global bilateral trade data. Future revisions of the model will incorporate 2025 data and this may impact the potential opportunity size in the U.S. Beyond the U.S., there are a diverse set of markets across Europe, Asia, Latin America and the Middle East that show sizable gaps between current exports and modelled potential. Among these markets, [goods opportunities are geographically diverse](#). Mexico and Germany emerge at similar levels, with adjusted potential of around US\$13 billion each.

These positions reflect different structural dynamics: Mexico's deep integration into North American supply chains and Germany's economic scale, combined with strong institutional conditions that support cross-border commercial relationships. France follows at about US\$8 billion, while Spain and Italy each approach US\$6 billion—levels that remain well above what current Canadian exports to these markets would suggest.

China ranks fourth among the non-U.S. markets, with an adjusted potential of US\$25 billion, compared with current exports of US\$21 billion. While the bilateral relationship is already large in absolute terms, the model implies a smaller gap than in many other markets. That's because a significant share of current goods exports is concentrated in a narrow set of commodities whose values are sensitive to price fluctuations. As the gravity framework benchmarks trade potential—based on underlying structural conditions rather than commodity price dynamics—estimated potential for China is conservative by design.

A similar pattern applies to the United Kingdom. With an adjusted potential of US\$17 billion, Canada's exports are already closer to what the model implies, leaving a smaller gap to potential and reflecting the scale and composition of existing exports.

Further down the ranking, India (US\$6 billion), Australia (US\$5 billion), Brazil (US\$5 billion) and Singapore (US\$4 billion) illustrate the range of longer-term goods opportunities beyond Canada's traditional export base. The Netherlands, Poland, Vietnam and the United Arab Emirates (UAE) also appear among the Top 20, pointing to a wide set of markets where combinations of economic size, distance and institutional alignment support higher levels of trade than are currently observed.

Some destinations stand out because of the gap between current exports and modelled potential—rather than their absolute scale. Spain, Singapore and Panama all show large differences between observed trade and what the gravity model would imply. In Spain's case, this suggests an export relationship that remains under-penetrated relative to structural fundamentals. For Singapore, Netherlands and Panama, the gaps are consistent with trade patterns commonly observed in regional logistics and transshipment hubs, where export volumes exceed what domestic market size alone would suggest.

Panama's position is further supported by geographic proximity and a free trade agreement with Canada.

India also appears among the Top 20, reflecting its [long-term growth trajectory and expanding consumer base](#), which continue to support rising import demand even where current trade volumes remain modest.

To learn how [Export Development Canada supports expansion into Europe](#), visit our market intelligence guide.

3. Top Canadian services export markets to 2035

[Services exports opportunities](#) are also geographically diverse. Across Europe, the Asia-Pacific and parts of the Gulf, institutional compatibility—rather than physical proximity—plays a central role in shaping services trade. Many of these markets show large gaps between current exports and modelled potential, pointing to relationships where underlying conditions are strong, but current exports remain comparatively low.

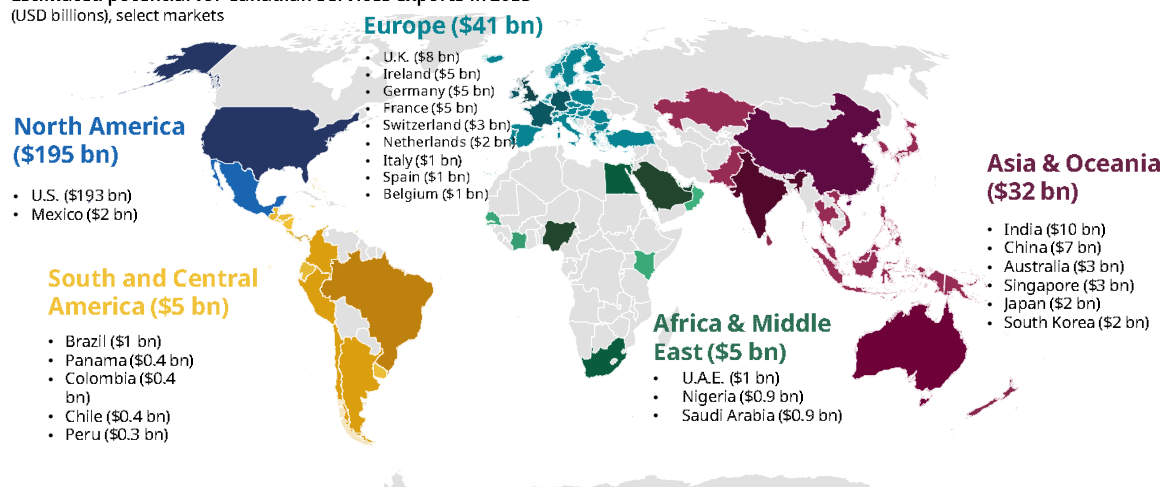
The United States stands apart in absolute terms. Canada's services exports to the U.S. amounted to US\$77 billion in 2023, while the model implies an adjusted potential of US\$193 billion by 2035. This gap is far larger than for any other market. Like goods, bilateral services exports data at a global level is lagged—so the model currently doesn't account for more recent trade policy announcements and uncertainty. As a result, the model's forecasted estimates are subject to evolving market conditions and should be interpreted in that context.

Outside the U.S., the top services export opportunities reflect the structural logic of the gravity model, where institutional alignment and economic scale matter more than physical distance. India, at around US\$10 billion, the United Kingdom at US\$8 billion and China at US\$7 billion, together with Ireland, Germany and France at US\$5 billion, form the core group of high-potential markets. These are followed by Australia, Switzerland, Singapore, Japan, South Korea, Mexico and the Netherlands.

These economies combine scale with regulatory frameworks, legal systems and business environments that support cross-border delivery of services. Belgium, Italy, Spain, United Arab Emirates, Nigeria and Saudi Arabia complete the Top 20, with several showing gaps that indicate current exports remain well below levels implied by their size and institutional characteristics.

By 2035: Large latent potential for Canadian services exports in Europe and the Asia-pacific

Estimated potential for Canadian services exports in 2035
(USD billions), select markets



Source: EDC Economics, Oxford Economics, IMF BITS
Based on data ending in 2023, thereafter forecasted. Estimates reflect structural export potential derived from underlying fundamentals, rather than short-term constraints. As such, identified gaps should be interpreted as indicators of opportunity, not as strict targets.

Some markets stand out for specific reasons. [China's potential for Canadian services exports](#) reflects the size of its economy, but the model indicates a smaller gap to current exports because services trade is shaped by structural institutional conditions, leading to conservative estimates—despite scope for future growth.

Nine European markets appear among the Top 20 destinations for Canadian services exports, more than any other region. Together, they represent an adjusted potential of US\$41 billion by 2035, compared with current exports of US\$22 billion, leaving a gap of nearly US\$19 billion, or about 45% of total modelled potential.

This gap is visible across nearly all European markets included in the model, from the United Kingdom and France at the higher end to Italy and Denmark at the lower end.

Germany and Ireland each show gaps equal to roughly half of their total potential, while Italy's gap reaches 64%, the largest among European peers. In most of these markets, other business services and information communication technology (ICT) account for the largest share of the gap. This highlights knowledge-intensive and digitally deliverable services where institutional compatibility plays a central role.

Singapore and Ireland rank highly, despite their small populations, reflecting their roles as global hubs for technology, finance and pharmaceuticals. Singapore also shows a large gap relative to current exports, pointing to broader opportunities across Southeast Asia.

The UAE also merits attention. Although current Canadian services exports remain small, its rapidly expanding and increasingly diversified economy, combined with strengthening institutions, suggest growing scope for future engagement, particularly in finance, professional services and education.

By contrast, much of the Middle East, North Africa and large parts of Sub-Saharan Africa remain absent from the upper rankings. This reflects the fact that key conditions for services trade, including regulatory alignment, institutional compatibility and business networks, aren't yet fully compatible between these markets. As these foundations strengthen over time, these regions are likely to rise more quickly in future assessments.

EDC's market insights and advisory services can help you assess these opportunities and plan your expansion strategy. [Explore the Export Help Hub](#) to learn more.

4. What this means for Canadian exporters

Taken together, our results point to a clear set of geographically diverse export opportunities. Four geographies stand out:

Europe

Germany, France, Spain, Italy and the Netherlands all show sizable gaps between current Canadian goods exports and modelled potential. These are markets where the core

conditions that support trade—economic scale, geographic accessibility and strong institutional alignment—are firmly in place.

The gaps identified by the model reflect the difference between what these structural fundamentals would typically generate and what’s currently observed, pointing to scope for deeper market penetration rather than the need to overcome basic access barriers.

Asia-Pacific

Singapore, Japan and Australia rank prominently in terms of potential for services exports. For these markets, the model points to institutional compatibility and economic scale as the main drivers, rather than geographic proximity. This is consistent with the broader finding that knowledge-intensive services face lower distance penalties than goods and can scale more readily across borders when legal frameworks, regulatory standards and professional norms are aligned.

Selective emerging and connector markets

A third group of promising markets emerges outside these two core regions. In goods, countries such as India, Brazil, Vietnam, Poland and the UAE appear among the top opportunities, reflecting a combination of economic scale, growing demand and improving institutional conditions. In services, markets such as Ireland, Switzerland and the UAE stand out as hubs where cross-border activity is supported by regulatory compatibility, established business environments, or regional gateway roles. In these cases, the model points to relationships that are structurally well positioned for growth, even where current export volumes remain relatively modest.

United States

The largest gap in absolute dollar terms between current exports and modelled potential remains with Canada’s closest partner. The gravitational pull between Canada and the U.S. is still strong, even as tariffs and other trade dynamics have introduced new complexity to the bilateral relationship in recent months. While future updates of our model will incorporate more recent data as they become available, the underlying structural tenets—especially geographical distance and economic size—are nearly impossible to undo. Beyond the geopolitical headlines, Canadian firms looking to scale globally need to weigh

the costs of entry across these markets. For some sectors, it may turn out that the U.S. holds higher potential for gains compared to other markets.

Canada's export outlook remains anchored in the U.S., but diversification opportunities are emerging across Europe, Asia-Pacific and select emerging markets. For exporters, success will depend on aligning strategy with sector dynamics—whether navigating supply chain constraints in goods or leveraging institutional alignment in services. Turning this potential into growth requires the right insights, relationships and tools to compete in global markets.

Conclusion

Canada has strong export opportunities across many markets, but they aren't evenly distributed. The gravity model shows that exports are shaped by a few key factors, including economic size, distance and institutional alignment, whose importance varies across goods, services and sectors.

For goods, geography still plays an important role. Proximity and strong logistics networks help explain the dominant role of the United States, while also shaping opportunities in Europe, Mexico and emerging markets. For services, distance is less binding. Instead, regulatory alignment, institutional compatibility and trusted relationships play a larger role in where Canadian firms can grow. The model points to two main takeaways for Canadian exporters and EDC:

1. There are significant gaps between current exports and what underlying fundamentals would suggest, particularly in Europe, the Asia-Pacific and selected emerging markets. These gaps represent real opportunities to deepen market penetration where access conditions are already favourable.
2. Not all opportunities should be pursued in the same way. Effective export strategies must be tailored to the specific constraints that matter in each market. This includes reducing logistical costs for goods, while prioritizing regulatory alignment, partnerships and credibility for services.

How EDC helps Canadian exporters grow in global markets

Expanding into new markets takes more than identifying opportunity. It requires information, connections and the right financial tools. [EDC supports Canadian exporters at every stage](#) of their growth journey.

Here's how we can help:

- **Market intelligence:** [Access insights and analysis](#) to identify high-potential export markets and assess risks
- **Financing solutions:** [Get support to manage cash flow](#), invest in growth and enter new markets
- **Risk management:** [Protect your business with solutions](#) that help manage payment risks
- **Business connections:** [Build relationships with international buyers](#) and partners
- **Export support:** [Connect with EDC advisors for guidance on market entry](#), regulations and strategy

A. Technical appendix

A.1 Overview and conceptual framework

The report uses a gravity model of trade to estimate and interpret bilateral trade flows for Canadian goods and services exports. The gravity model is a widely used empirical framework in international economics that explains trade patterns through a small number of structural factors. In its simplest form, the model predicts that trade between two countries increases with their economic size and declines with trade frictions such as geographic distance, policy barriers and institutional differences.

The gravity framework is well suited for identifying trade relationships where observed exports are systematically above or below levels implied by underlying economic and institutional fundamentals. In this context, the model provides a structural benchmark rather than a short-term forecast. This allows us to assess where Canada may have unrealized export potential across goods and services markets.

Separate gravity models are estimated for goods and services, reflecting differences in how distance, institutions and policy frameworks shape these two types of trade.

A.2 Data, sample and model variables

The models are estimated using a balanced panel of 160 countries for goods and 80 countries for services, between 1990–2024 and 1996–2023, respectively. Differences in coverage reflect data availability constraints, especially for bilateral services trade.

Export data are sourced from Comtrade, the International Monetary Fund (IMF) and World Trade Organization (WTO), while macroeconomic data come from Oxford Economics and EDC internal databases. Geographic, institutional and policy variables are primarily sourced from the Center for Prospective Studies and International Information (CEPII) and other standard international datasets. The dependent variable is the value of bilateral exports observed in year t .

The core explanatory variables reflect the key determinants highlighted by the gravity framework:

- **Economic size:** Exporter and importer gross domestic product (GDP) measure production capacity and market demand. GDP is expressed in real terms using purchasing power parity exchange rates to ensure comparability across countries.
- **Geographic distance:** Distance between the most populated cities of each country is used as a proxy for transportation costs, time and logistical complexity. Distance plays a dominant role for goods trade and a more limited role for services.
- **Contiguity:** A binary indicator equal to one if two countries share a common border, capturing lower transport and co-ordination costs.
- **Common official language:** A binary indicator capturing whether at least 9% of the population in both countries shares a common official language, reducing communication and transaction costs.
- **Regional trade agreements:** A binary variable indicating the presence of a bilateral or regional trade agreement, reflecting reduced policy barriers and more predictable trade rules.
- **World Trade Organization membership:** A binary indicator for WTO membership, capturing participation in multilateral trade rules and commitments.
- **Geopolitical distance:** A continuous measure based on similarity in United Nations voting patterns, capturing alignment of foreign policy and broader institutional compatibility.

To control unobserved heterogeneity, all specifications include exporter fixed effects, importer fixed effects and year fixed effects. These controls capture countries' specific characteristics and global shocks that aren't directly observable but materially affect trade flows.

The full list of variables used in the estimation is reported in Table 2 for goods, and in Tables 3a and 3b for services.

A.3 Structural gravity model and empirical specification

The model builds on the structural gravity framework, which explains bilateral exports as a function of economic size and trade costs, adjusted for multilateral resistance effects. In its structural form, exports between two countries are given by:

$$X_{ij,t} = \frac{Y_{i,t} E_{j,t}}{Y_t} \left(\frac{\tau_{ij,t}}{\Pi_{i,t} P_{j,t}} \right)^{1-\sigma}$$

Where $X_{ij,t}$ denotes bilateral exports, $Y_{i,t}$ represents output and $E_{j,t}$ denotes expenditure. Expenditure is linked to output through $E_{j,t} = \phi_{j,t} Y_{j,t}$, allowing for exogenous trade imbalances. When $\phi_{j,t} > 1$, aggregate spending exceeds production and the trade balance is negative.

The term $\tau_{ij,t}$ captures bilateral trade costs. The elasticity of substitution σ governs how sensitive trade flows are to changes in these trade costs.

The multilateral resistance terms place bilateral trade in a global context. They capture how easy or difficult it is for countries to trade, not just with each other, but with all their partners.

Inward multilateral resistance, denoted by $P_{j,t}$, captures how costly it is for an importing country j to buy goods or services from all trading partners.

Outward multilateral resistance, denoted by $\Pi_{i,t}$, reflects how difficult it is, on average, for an exporting country i to sell to global market on average. This means that trade between two countries is evaluated relative to all other available trading options, rather than in isolation.

The structural model can be reformulated into an econometric specification used in the regression. Taking logs and incorporating fixed effects leads to the estimating equation shown below:

$$\log(X_{ij}) = \alpha \log(GDP_i) + \beta \log(GDP_j) - \gamma \log(DIST_{ij}) + \delta Z_{ij} + \chi_i + \pi_j + \mu_t + \varepsilon_{ij}$$

Bilateral exports measured in U.S. dollars are explained by exporter and importer GDP, geographic distance ($DIST_{ij}$) and a set of additional bilateral and institutional factors summarized in Z_{ij} . Exporter fixed effects (χ_i) control for time-invariant, exporter-specific characteristics, while importer fixed effects (π_j) capture destination-specific factors. Year fixed effects (μ_t) account for common global shocks and time trends. The error term ε_{ij} reflects unobserved influences on bilateral trade flows.

A.4 Estimation method

The empirical specification is estimated using Poisson Pseudo Maximum Likelihood (PPML). PPML has become the standard approach in gravity modelling because it addresses two key challenges: Heteroskedasticity and zero trade flows. Unlike log-linear Ordinary Least Square (OLS) estimators, which can produce biased and inconsistent estimates under heteroskedasticity, PPML operates on the multiplicative form of the gravity equation and remains robust to distributional assumptions. PPML also accommodates zero trade observations without requiring arbitrary transformations, preserving the integrity of the data. Standard errors are clustered at the country-pair level to account for potential correlation within each pair of trading partners over time.

This specification aligns with the structural gravity framework and supports theory-consistent, counterfactual analysis. Estimation results are reported in Table 1 for goods and in Table 4 for services.

A.5 Interpretation and export potential

The primary output of the model is an estimate of bilateral export potential, defined as the level of exports implied by structural fundamentals given economic size, distance, institutional alignment and trade policy conditions. By comparing estimated potential with observed exports, the model identifies:

- markets where Canada is underrepresented, and
- markets where exports are already close to structural benchmarks

Importantly, export potential shouldn't be interpreted as a short-term target. It reflects long-run, structural capacity, abstracting from commodity price cycles, temporary shocks and firm-level constraints.

A.6 Forecasting and scenario analysis

To assess future opportunities, model estimates are combined with EDC's macroeconomic projections to forecast Canada's exports over the period 2024 to 2035. GDP paths for exporters and importers are updated using baseline, downside and upside scenarios. This approach ensures that changes in potential exports reflect expected economic growth, while remaining anchored in the stable structural relationships captured by the gravity model.

A.7 Market of opportunity (MOO) assessment

The MOO tool translates gravity model outputs into a forward-looking prioritization of destination markets by combining recent export performance, model-implied potential at the strategy horizon, destination import growth and a comparator-based achievability rule. These elements are integrated into a composite ranking, with optional expert overrides to incorporate qualitative judgment:

- **Baseline smoothing:** Five-year averages of actual exports and gravity-implied exports are used to establish a stable current baseline, reducing the influence of short-term volatility.
- **Model-implied opportunity:** Horizon-year export potential is used to compute both a proportional upside (potential ratio) and an absolute gap (potential difference).
- **Demand anchor:** Forecast total imports are used to capture destination market capacity growth and to benchmark Canada's current market share.
- **Achievable path:** A realistic target market share is set using the closest comparator above Canada, subject to a minimum threshold, to avoid mechanically generating negative growth and translated into a projected growth rate.

- **Adjusted potential:** When the gravity model signals expansion, its implied gap dominates; otherwise, growth is anchored to import expansion and comparator performance, yielding an adjusted export level and increment.
- **Ranking and overrides:** Separate rankings for adjusted level, growth and incremental value are combined using user-defined weights, with transparent override fields allowing expert input while preserving traceability.

A.8 Limitation

While the gravity model provides a robust structural benchmark, several limitations apply. The model doesn't fully capture market access barriers not reflected in trade agreements, or firm-level capacity constraints. Its reliance on historical relationships means that sudden changes in global trade patterns, or policy regimes, may not be immediately reflected.

For these reasons, the model is updated and reviewed annually, and its results are used as an input into broader strategic analysis rather than as standalone forecasts.

Table 2. Baseline goods gravity model variables, data sources and estimates

Variable	Source	Estimate
Log distance	CEPII	-0.733***
Log GDP (exporter)	OXFORD ECONOMICS	0.650***
Log GDP (importer)	OXFORD ECONOMICS	0.585***
Contiguity	CEPII	0.540***
Regional trade agreement	CEPII and WTO	0.277***
WTO membership	CEPII	0.333*
Common language	CEPII	0.225**

CEPII: Center for Prospective Studies and International Information.

WTO: World Trade Organization

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3a. Variables and data used in the sector-level services gravity equations

Variable	Source	Total Services	Telecommunications, computer and information services	Transport	Travel	Manufacturing services	Maintenance and repair services	Construction
Log distance	CEPII	✓	✓	✓	✓	✓	✓	✓
Log GDP (exporter)	OXFORD ECONOMICS	✓	✓	✓	✓		✓	✓
Log GDP (importer)	OXFORD ECONOMICS	✓	✓	✓	✓		✓	✓
Log manufacturing (importer)	OXFORD ECONOMICS					✓		
Log bilateral XR (exp-imp)	OXFORD ECONOMICS		✓		✓	✓	✓	✓
Log XR exporter vs USD (LCU/USD)	OXFORD ECONOMICS	✓			✓			
Contiguity	CEPII	✓		✓	✓	✓		✓
Common language (ethno)	CEPII	✓		✓	✓		✓	✓
Common legal origin	CEPII	✓	✓	✓	✓		✓	
Services RTA	CEPII and WTO	✓				✓	✓	✓
WTO membership	CEPII							
Political instability (exporter)	OXFORD ECONOMICS	✓		✓		✓		✓
Political instability (importer)	OXFORD ECONOMICS			✓			✓	
Tertiary education (importer)	World Bank Indicator							
Common religion	CEPII	✓	✓		✓			
Geopolitical distance	Bailey et al. (2017) Dataverse Voeten	✓	✓		✓			

Note: A checkmark indicates the variable enters the sector-specific PPML equation. CEPII: Center for Prospective Studies and International Information. WTO: World Trade Organization

Table 3b. Variables and data used in the sector-level services gravity equations

Variable	Source	Insurance and pension services	Financial services	Other business services	Personal, cultural and recreational services	Charges for the use of intellectual property	Government goods and services n.i.e.
Log distance	CEPII	✓	✓	✓	✓	✓	✓
Log GDP (exporter)	OXFORD ECONOMICS	✓	✓	✓			✓
Log GDP (importer)	OXFORD ECONOMICS	✓	✓	✓	✓	✓	✓
Log manufacturing (importer)	OXFORD ECONOMICS						
Log bilateral XR (exp-imp)	OXFORD ECONOMICS		✓	✓	✓		✓
Log XR exporter vs USD (LCU/USD)	OXFORD ECONOMICS			✓			
Contiguity	CEPII			✓			
Common language (ethno)	CEPII	✓	✓	✓	✓		
Common legal origin	CEPII	✓		✓	✓		
Services RTA	CEPII and WTO	✓	✓	✓	✓	✓	
WTO membership	CEPII					✓	✓
Political instability (exporter)	OXFORD ECONOMICS		✓		✓		
Political instability (importer)	OXFORD ECONOMICS	✓		✓	✓		✓
Tertiary education (importer)	World Bank Indicator				✓	✓	✓
Common religion	CEPII	✓	✓	✓	✓		✓
Geopolitical distance	Bailey et al. (2017) Dataverse Voeten	✓	✓		✓		

Note: A checkmark indicates the variable enters the sector-specific PPML equation. CEPII: Center for Prospective Studies and International Information. WTO: World Trade Organization

Table 4. Gravity model estimates for services exports

Variable	Total Services	Telecommunications, computer and information services	Transport	Travel	Manufacturing services	Maintenance and repair services	Construction	Insurance and pension services	Financial services	Other business services	Personal, cultural and recreational services	Charges for the use of intellectual property	Government goods and services n.i.e.
Log distance	-0.585***	-0.677***	-0.59***	-0.785***	-1.014***	-0.577***	-0.667***	-0.428***	-0.566***	-0.491***	-0.527***	-0.373***	-0.392***
Log GDP (exporter)	0.614***	0.846***	0.477***	0.157**		0.66***	0.255	0.69***	0.695***	1.108***		0.491	
Log GDP (importer)	0.731***	0.482**	0.529***	1.078***		0.331**	0.422**	0.297	0.604***	0.646***	1.248***	0.453**	0.656***
Log manufacturing (importer)					2.428***								
Log bilateral XR (exp-imp)		0.055*		-0.041***	0.391	0.027	0.068*		0.046*	0.04*	0.104		0.055
Log XR exporter vs USD (LCU/USD)	-0.086**		-0.054							0.142			
Contiguity	0.199*		0.28*	0.566***	0.28		0.406*				0.362*		
Common language (ethno)	0.276**		0.224*	0.502***		0.244*	0.243	0.389**	0.484***	0.27**	0.451**		
Common legal origin	0.187***	0.17*	0.127*	0.12		0.246**		0.182		0.335***	0.228*		
Services RTA	0.173**				0.837***	0.169	0.472**	0.529***	0.177	0.217**	0.257*	0.328**	
WTO membership												0.236	0.592**
Political instability (exporter)	-0.018*		-0.023*		-0.123***		-0.064		-0.246***		-0.151***		
Political instability (importer)			-0.032*		-0.064*		-0.037		0.021		-0.043		-0.082
Tertiary education (importer)											0.011***	0.006*	0.007
Common religion	0.643***	0.454*		0.674***				0.548	1.988***	1.178**	0.653***		0.78
Geopolitical distance	-0.014	-0.059*		-0.051*				-0.065	-0.109***		-0.086**		

Notes: *** p<0.01, ** p<0.05, * p<0.10. · p<0.10 (marginal significance, as reported).

Disclosure

Ce document est également disponible en français.

This document is intended as an overview only and doesn't provide specific advice. It should not be relied upon as such. No action or decision should be taken without conducting detailed independent research and obtaining professional advice relevant to the specific subject matter.

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