Introduction to Export Potential Map

Cecilia Heuser
Workshop on “Structural transformation towards a sustainable graduation from least developed country category”
Kathmandu, 19/04/2023
What is ITC?

ICTC works with local and regional institutions and business people to build trade capacity.

Our mission

To foster inclusive and sustainable growth and development through trade and international business development.
Trade and Market Intelligence section

Our areas of work

- Trade information and analysis tools as “GPG”
- Integrated solutions for Competitive Intelligence
- Country & regional diagnostics: business surveys and trade analysis
- Tailor made services and corporate support
- Capacity building and outreach
Trade information and analysis tools

Spot export opportunities for trade development

The Export Potential Map is a free tool that turns economic analysis into practical trade information using the ITC export potential methodology.

Using the Map’s customizable and shareable visualizations, you can spot:
1. products, markets and suppliers with (untapped) export potential
2. opportunities for export diversification

Contact us If you would like to develop a customized analysis or country-specific version of Export Potential Map, exploring for instance:
- employment impacts associated with export potential
- opportunities for building (regional) value chains
- export potential for services
- the selection of strategic products and partners for trade policy negotiations

Read more...

What is the export potential for Search a product or country... ?
Export potential assessment at ITC

• Trade advisors seek information on what products and markets to prioritize in trade development activities.

• Export potential assessments help identify promising:
  o markets,
  o products,
  o suppliers,
  o and also competitors.
What factors do you consider relevant for product and market selection for trade promotion?
Trade Map: information on exports & imports

### Products
- **Value**
- **Growth rates (value, volume)**
- **Trade Balance**
- **Concentration**
- **Global market share**
- **Average distance**

### Trade Balance
<table>
<thead>
<tr>
<th>HS6 Code</th>
<th>Description</th>
<th>Trade balance 2021 (USD Thousands)</th>
<th>Value growth rate 2021 (%)</th>
<th>Quantity growth rate 2021 (%)</th>
<th>Annual growth in value 2012-2021 (%)</th>
<th>Annual growth in quantity 2012-2021 (%)</th>
<th>Share in world exports (%)</th>
<th>Average distance from importing countries (km)</th>
<th>Concentration of importing countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL</td>
<td>All products</td>
<td>1,945,060</td>
<td>-19,872,499</td>
<td>19</td>
<td>82</td>
<td>3</td>
<td>0</td>
<td>142</td>
<td>2,382</td>
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<tr>
<td>120210</td>
<td>Single-been oil and its fractions, whether or not refined (excluding chemically modified and ...)</td>
<td>594,724</td>
<td>594,724</td>
<td>187</td>
<td>17</td>
<td>18.6</td>
<td>1</td>
<td>671</td>
<td></td>
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<tr>
<td>120310</td>
<td>Palm oil and its fractions, whether or not refined (excluding chemically modified and crude)</td>
<td>238,369</td>
<td>238,369</td>
<td>398</td>
<td>8</td>
<td>0.6</td>
<td>5</td>
<td>671</td>
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<tr>
<td>120610</td>
<td>Corns and other edible floor coverings, of wool or fine animal hair, worked, whether or ...</td>
<td>58,925</td>
<td>58,925</td>
<td>35</td>
<td>-4</td>
<td>0.8</td>
<td>4</td>
<td>10,129</td>
<td></td>
</tr>
<tr>
<td>120831</td>
<td>Cardamom, neither crushed nor ground</td>
<td>48,710</td>
<td>48,710</td>
<td>21</td>
<td>21</td>
<td>5.3</td>
<td>4</td>
<td>887</td>
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<tr>
<td>121010</td>
<td>Worsted fabrics of jute or of other textile bast fibres of heading 5503, uncut or cut</td>
<td>48,645</td>
<td>48,645</td>
<td>26</td>
<td>5</td>
<td>1</td>
<td>96</td>
<td></td>
<td></td>
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<tr>
<td>122008</td>
<td>Non-alcoholic beverages (excl. water, fruit or vegetable juices, milk and milk products)</td>
<td>42,762</td>
<td>42,762</td>
<td>52</td>
<td>6</td>
<td>1</td>
<td>6</td>
<td></td>
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<tr>
<td>123110</td>
<td>Sunflower-seed oil and its fractions, whether or not refined, but not chemically ...</td>
<td>36,148</td>
<td>36,148</td>
<td>798</td>
<td>12</td>
<td>1</td>
<td>1</td>
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<tr>
<td>123990</td>
<td>Articles of plastics and articles of other materials of heading 3901 to 3914, n.s. (excluding ...</td>
<td>28,632</td>
<td>28,632</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>124990</td>
<td>Other articles of base metal, whether or not finished, in intermediate packaging</td>
<td>30,355</td>
<td>30,355</td>
<td>3</td>
<td>4</td>
<td>64</td>
<td>-5</td>
<td>5</td>
<td>1,298</td>
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<tr>
<td>126990</td>
<td>Non-alcoholic beverages (excl. water, fruit or vegetable juices, milk and milk products)</td>
<td>22,562</td>
<td>22,562</td>
<td>44</td>
<td>50</td>
<td>-30</td>
<td>-2</td>
<td>0.7</td>
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<tr>
<td>126990</td>
<td>Articles of plastics and articles of other materials of heading 3901 to 3914, n.s. (excluding ...</td>
<td>20,845</td>
<td>20,845</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>127990</td>
<td>Other articles of base metal, whether or not finished, in intermediate packaging</td>
<td>16,774</td>
<td>16,774</td>
<td>-1</td>
<td>-7</td>
<td>-12</td>
<td>1</td>
<td>6.6</td>
<td>3</td>
</tr>
</tbody>
</table>
# Market Access Map: information on tariffs

## Compare Competitors

Compare tariffs and other market access indicators applicable to all countries when exporting in a given destination market.

### Aggregated market access indicators

For product 611012 - Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted; Of wool or fine animal hair; Of Kashmir (cashmere) goats
Imported to Germany

<table>
<thead>
<tr>
<th>Competitor</th>
<th>MFN tariffs</th>
<th>Effectively applied tariffs</th>
<th>Pref. Margin</th>
<th>Tariff year</th>
<th>NTLC in the HS6 code</th>
<th>HS Revision</th>
<th>Export value</th>
<th>Trade remedies</th>
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</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albania</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algeria</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Samoa</td>
<td>12%</td>
<td>12%</td>
<td>0%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andorra</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angola</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
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<tr>
<td>Anguilla</td>
<td>12%</td>
<td>12%</td>
<td>0%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antigua and Barbuda</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nepal</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>2022</td>
<td>4</td>
<td>HS22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tariff faced by Nepal**

**Tariffs faced by your competitors**
Example: what product(s) should Nepal prioritize?

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>'570110</td>
<td>Carpets and other textile floor coverings, of wool or fine animal hair, knotted, whether or ...</td>
<td>58320</td>
<td>58259</td>
<td>-2</td>
<td>-4</td>
<td>-4</td>
<td>9.8</td>
</tr>
<tr>
<td>'090831</td>
<td>Cardamoms, neither crushed nor ground</td>
<td>48710</td>
<td>45773</td>
<td>6</td>
<td>13</td>
<td>21</td>
<td>5.3</td>
</tr>
<tr>
<td>'531010</td>
<td>Woven fabrics of jute or of other textile bast fibres of heading 5303, unbleached</td>
<td>48645</td>
<td>48590</td>
<td>28</td>
<td>5</td>
<td>20.2</td>
<td></td>
</tr>
<tr>
<td>'220299</td>
<td>Non-alcoholic beverages (excl. water, fruit or vegetable juices, milk and beer)</td>
<td>42782</td>
<td>40131</td>
<td>-15</td>
<td>6</td>
<td>0.3</td>
<td></td>
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<tr>
<td>'392690</td>
<td>Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (excluding ...</td>
<td>28632</td>
<td>8040</td>
<td>-3</td>
<td>-5</td>
<td>6</td>
<td>0</td>
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<tr>
<td>'550921</td>
<td>Single yarn containing &gt;= 85% polyester staple fibres by weight (excluding sewing thread and ...</td>
<td>28335</td>
<td>26782</td>
<td>3</td>
<td>4</td>
<td>-5</td>
<td>3.4</td>
</tr>
<tr>
<td>'090240</td>
<td>Black fermented tea and partly fermented tea, whether or not flavoured, in immediate packings ...</td>
<td>22562</td>
<td>21902</td>
<td>44</td>
<td>50</td>
<td>-2</td>
<td>0.7</td>
</tr>
<tr>
<td>'230690</td>
<td>Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting ...</td>
<td>20949</td>
<td>14672</td>
<td>9</td>
<td>13</td>
<td>7</td>
<td>4.2</td>
</tr>
<tr>
<td>'550951</td>
<td>Yarn containing predominantly, but &lt;= 85% polyester staple fibres by weight, mixed principally ...</td>
<td>18991</td>
<td>16896</td>
<td>-22</td>
<td>-17</td>
<td>-12</td>
<td>4.4</td>
</tr>
<tr>
<td>'230910</td>
<td>Dog or cat food, put up for retail sale</td>
<td>17659</td>
<td>16808</td>
<td>18</td>
<td>19</td>
<td>13</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Based on 2021 mirror data (ITC Trade Map).
Export potential assessment: making sense of trade-related information

Unique ranking of most promising suppliers, products and markets for more targeted trade support interventions
Export potential assessment

Purpose
• Identify products, markets and suppliers with export potential
• Discover how much of this potential is unrealized (and why)

Characteristics
• Economic model that draws on trade, tariffs, GDP and geographic data
• Key components: Supply, demand, ease of trade

Indicators
• Export Potential Indicator (EPI): existing export products (existing or new markets)
• Product Diversification Indicator (PDI): new export products

Coverage in Export Potential Map
• 226 countries & territories
• 4000+ product groups based on the 6-digit level of the Harmonized System classification
Export potential in one slide

By 2027...

Demand x Supply x Ease =

... how much of the product will the importing country demand?

... how much of the product can the exporting country supply?

How easy is it currently for the exporting and the importing country to trade with each other?

Export Potential Indicator (EPI)

Actual exports

Unrealized export potential

... how much of the product can the exporting country export to the importing country?

... how much can exports of the product from the exporting country to the importing country grow?

https://exportpotential.intracen.org/en/
Export potential indicator (EPI)

For each exporter (i), importer (j) and product (k): 

\[ EPI_{ijk} = Supply_{ik} \times Demand_{ijk} \times Ease_{ij} \]

**Supply**
- Market share
- Expected growth of supply (relative GDP)
- Global tariff conditions for supplier (current)

**Demand**
- Imports
- Expected growth of demand (GDP, populations, sensitivity)
- Tariff conditions in target market (current and future)
- Distance sensitivity

**Ease**
- Existing bilateral trade relative to “hypothetical” trade
Live demo EPM: cardamom

Spot export opportunities for trade development

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1. products, markets and suppliers with (untapped) export potential
2. opportunities for export diversification

[Contact us](#) if you would like to develop a customized analysis or country-specific version of Export Potential Map, exploring for instance:

- employment impacts associated with export potential
- opportunities for building (regional) value chains
- export potential for services
- the selection of strategic products and partners for trade policy negotiations

Read more...

What is the export potential for [Search a product or country...](#)?
Untapped export potential in cardamom

Export potential

FOR EXPORTER
Nepal*

IN MARKET
World

PRODUCTS

Crops n.e.s.
Musical instruments & parts
Pulses
Vegetal residues & animal f...
Wool & animal hair (fabric)
Apparel
Beauty products & perfumes
Carpets
Chemicals
Ferrous metals
Flax, hemp and natural fabric...
Food products n.e.s.

Sub-sectors

Top 50

Export potential

Soya-bean oil (excl crude) & fractions

57%

Cardamoms

57%

0908Xc Cardamoms

Export potential $113 mn
Actual exports $44 mn
Unrealized potential remaining in individual countries $70 mn

For this product find

MARKETS
EXPORTERS

PRODUCT DIVERSIFICATION: FIND NEW OPPORTUNITIES

Share / Embed
Download
In what markets

Export potential

FOR EXPORTER
Nepal

IN PRODUCT
0908Xc Cardamoms

COUNTRIES

<table>
<thead>
<tr>
<th>East Asia</th>
<th>EU &amp; West Europe</th>
<th>Middle East</th>
<th>North America</th>
<th>Pacific</th>
<th>South Asia</th>
<th>Southeast Asia</th>
<th>Caribbean</th>
<th>East Europe &amp; Central Asia</th>
<th>Eastern Africa</th>
<th>Northern Africa</th>
<th>South &amp; Central America</th>
<th>Top 20</th>
</tr>
</thead>
</table>

GEO MAP

- India

PRODUCT DIVERSIFICATION: FIND NEW OPPORTUNITIES
Who are the competitors

Export potential

FOR PRODUCT
0908Xc Cardamoms

IN MARKET
World

COUNTRIES

SUB-REGIONS

Search a country...

- Eastern Africa
- EU & West Europe
- Middle East
- North America
- South & Central America
- South Asia
- Southeast Asia
- East Asia
- Pacific

Top 20

Reset

PRODUCT DIVERSIFICATION: FIND NEW OPPORTUNITIES
Who are the competitors in Germany

Export potential

FOR PRODUCT
0908Xc Cardamoms

IN MARKET
Germany

COUNTRIES

- Eastern Africa
- EU & West Europe
- Middle East
- North America
- South & Central America
- South Asia
- Southeast Asia
- East Asia
- Pacific

Top 20

PRODUCT DIVERSIFICATION: FIND NEW OPPORTUNITIES
More analysis of competitors in Germany
Export potential indicator (EPI)

For each exporter (i), importer (j) and product (k):

$$EPI_{ijk} = Supply_{ik} \times Demand_{ijk} \times Ease_{ij}$$

- **Supply**
  - Market share
  - Expected growth of supply (relative GDP)
  - Global tariff conditions for supplier (current)

- **Demand**
  - Imports
  - Expected growth of demand (GDP, populations, sensitivity)
  - Tariff conditions in target market (current and future)
  - Distance sensitivity

- **Ease**
  - Existing bilateral trade relative to “hypothetical” trade

- Not possible for NEW products
- EPI is only for products ALREADY exported
- For new products we use PDI
PDI: product diversification indicator

HOW TO IDENTIFY OPPORTUNITIES TO EXPORT NEW PRODUCTS

By 2027...

...how much of the product will the importing country demand?

How “close” is the exporting country to exporting the product?

How easy is it currently for the exporting and the importing country to trade with each other?

Demand x Density x Ease =

... which other products is the exporting country likely to be able to export to the importing country in large quantities?

Product Diversification Indicator (PDI)

→ A ranking of products, not a value (≠EPI)

“Close”

• Compare to countries with similar export baskets – are they exporting this product?
PDI: product diversification indicator

Export potential

FOR EXPORTER
Nepal*

IN MARKET
World

PRODUCTS

- Crops n.e.s.
- Musical instruments & parts
- Pulses
- Vegetal residues & animal f...
- Wool & animal hair (fabric)
- Apparel
- Beauty products & perfumes
- Carpets
- Chemicals
- Ferrous metals
- Flax, hemp and natural fabri...
- Top 50

SUB-SECTORS

Search a product by name/code...

- Soya-bean oil (excl crude) & fractions
- Palm oil (excl crude) & fractions
- Cardamoms
- Floor coverings of wool/fine animal hair, knotted
- Yarn, <85% polyester staples, with artificial staples
- Single yarn, >=85% polyester stapl...
- Cabled yarn, >=85% (m...
PDI: product diversification indicator
Limitations

This approach is a fully automated methodology to identify opportunities for export growth and diversification on a global scale.

As such, it cannot account for everything. For example, among other factors, it does not contemplate:

- Intangible/unmeasurable aspects
  - Synergies to existing development plans or export strategies
  - Possibilities of marketing and branding, attracting investments
- Cost of export promotion activities
- Very recent events like pests, export bans, large investments, etc.
- Developmental, social and environmental factors (deforestation, labour conditions, etc.)
- Misreported data by presumably reliable reporters
- Different products within a same HS code (e.g., mangoes and guavas)

Export potential assessments are the starting point in a decision-making process

To be complemented with further research and stakeholder consultations
Breakout session

Explore Nepal’s export potential for:

• Black tea (HS 090240)
• Gloves of wool/fine animal hair (HS 611691)
• Lentils (HS 071340)

Guiding questions:

• What is Nepal’s total export potential for the product?
• What about untapped potential? And actual exports?
• What are the top three markets in terms of export potential for the product?
• Who are the competitors in the market with the most export potential?

https://exportpotential.intracen.org/en/
Additional modules

• Employment generation and export potential
• Services
• Value chains
Before the break….

- ITC has recently launched the LDC Trade Tracker
  
  https://www.ldctrade.org/en/

- Other ITC tools
  
  https://marketanalysis.intracen.org/en
Thank you!

https://intracen.org/resources/publications/Nepal-LDC-graduation

For more information

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Cecilia Heuser, PhD.
Market Analyst
Trade and Market Intelligence section (TMI)
International Trade Centre
Bonus slides
Supply

\[ Supply_{ik} = Projected\ MS_{ik} \times GTD_{ik} \]

Projected Market Share: \( Projected\ MS_{ik} = \frac{x_{ik} \times \Delta GDP_i}{\sum_i(x_{ik} \times \Delta GDP_i)} \)

Intuition: Country \( i \)'s market share in product \( k \) if
- The GDP of \( i \) and all other exporters of \( k \) grows as expected
- The share of \( k \) in total exports of \( i \) and all other countries remains constant

Global Tariff Disadvantage Factor: \( GTD_{ik} = \left( \frac{1 + av.\text{tariff}_{ik}}{1 + av.\text{tariff}_{k}} \right)^{\sigma_k} \)

\( \sigma_k > 0: \) Substitution elasticity between suppliers of \( k \)

Intuition:
- \( i \) has a tariff disadvantage if \( av.\text{tariff}_{ik} > av.\text{tariff}_{k} \)
- Its “true” supply capacity for \( k \) is likely to be higher than what is revealed by exports data

Data treatment: Filter for re-exports (HS chapters 73, 84-90)
Demand

\[ Demand_{ijk} = \text{Projected } M_{jk} \times MTA_{ijk} \times \text{Distance factor}_{ijk} \]

Projected market imports:

\[ \text{Projected } M_{jk} = M_{jk} \times \left( \frac{\Delta GDP_j}{\Delta Pop_j} \right)^{E_{Mdc,GDP_j}} \times \Delta Pop_j \times \zeta_{dc} \times \text{Tariff reduction}_{jk} \]

Intuition: Country \( j \)’s imports of product \( k \) if

- Population and GDP grow as expected
- Demand responds according to revenue elasticities
  - Example: Demand for **luxury goods** increases more when GDP per capita is expected to grow

- Future tariff reductions that are already known are accounted for
  - If \( j \)’s tariffs on \( k \) are expected to fall, import potential will rise
Demand

\[ Demand_{ijk} = Projected\ M_{jk} \times MTA_{ijk} \times Distance\ factor_{ijk} \]

**Market Tariff Advantage Factor:**

\[ MTA_{ijk} = \left( \frac{1+\text{av.tariff}_{jk}}{1+\text{tariff}_{ijk}} \right)^{\sigma_k} \]

\( \sigma_k > 0 \): Substitution elasticity between suppliers of \( k \)

**Intuition:**

- \( i \) has a tariff advantage in market \( j \) if \( \text{tariff}_{ijk} < \text{av.tariff}_{jk} \)
- The higher the advantage, the larger the share of \( k \) that market \( j \) imports from \( i \) (instead of from other exporters)
- *Note: Forward-looking – accounts for scheduled tariff changes in trade agreements*

**Distance correction factor:**

\[ Distance\ factor_{ijk} = e^{-|\text{av.log distance}_{jk} - \text{log distance}_{ij}|} \]

**Intuition:**

- For some products, distance matters more than for others
- If \( i \) is close to \( j \), it will favour products for which proximity is an advantage, and vice versa
Ease of trade

Ease of trade:

\[
Ease_{ij} = \frac{x_{ij}}{\sum_k (Supply_{ik}^{Static} \times Demand_{ijk}^{Static})}
\]

Intuition:

• Similar to revealed comparative advantage (RCA):
  – RCA: a country exports more/less of a product than expected given its share in global trade and the share of the product in global trade
  – Ease of trade: a country trades more with a specific partner than expected given both countries’ share in global trade

• Compare actual trade from \(i\) to \(j\) to hypothetical trade if \(i\) had the same share in \(j\) as in world markets

• \(Ease_{ij} > 1\): \(i\) finds it easier to export to \(j\) than to world markets, which will augment its export potential to \(j\) for any product
To compute export potential and identify opportunities for export growth, we use data on trade flows from Trade Map that countries have reported.

We process these data before the export potential computations, for these reasons:

a) Comparability of export potential despite the use of different HS revisions across countries
b) Trade flows that are not relevant for export potential
c) Mistakes & missing data
d) Dealing with outliers
Export potential indicator (EPI)

- Export potential is forward-looking: includes expected GDP growth, population growth and tariff changes

\[ EPI_{ijk} = Supply_{ik} \times Demand_{ijk} \times Ease_{ij} \]

**Supply**
- Market share
- Expected growth of supply (relative GDP)
- Global tariff conditions for supplier (current)

**Demand**
- Imports
- Expected growth of demand (GDP, populations, sensitivity)
- Tariff conditions in target market (current and future)
- Distance sensitivity

**Ease**
- Existing bilateral trade relative to “hypothetical” trade
Export potential indicator (EPI)

- We can compute “static” export potential without these variables to distinguish the source of untapped export potential.
Sources of unrealized export potential

Static: unmeasurable trade frictions
- Lack of market research
- Difficulties to comply with regulation
- Mismatch between product characteristics and consumer requirements
- Difficulties to find buyers
- (...)

Dynamic: growth-based
- Expected GDP growth
- Expected population growth
- Expected tariff reduction

identify and address frictions

targeted investment