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Import Export Trade Analysis
Australia, US, Canada
Rishabh Rawat

 I selected this topic to create interactive Tableau dashboards that focus on potential commodities, year, trade amount and quantity in USA, Canada and Australia. I seek the answers for the following questions-

Q1) Which commodities are traded the most?

Q2) What are the imports and export trends in all 3 countries?

Q3) What commodity catagories are traded the most?

Q4) What are the top traded commodity categories in terms of quantity?

Q5) Identify the total trade by country?

The dataset contains 59090 observations of 10 variables.

Country or Area: There were three countries – Australia, Canada, and the USA

Year: The Year variable ranged from 1988 to 2016

Commodity Code: The commodity code was unique for each commodity. Example: 10111 for Horses, live pure bred

Commodity: The commodity variable contained various trade commodities that belonged to each of the 12 categories.

Flow: This indicates flow of trade. They are Export, Import, Re-Import, and Re-Export.

Trade USD: The trade value in US Dollars

Weight: The total weight of the traded commodity in Kgs

Quantity Name: Quantity name of the traded commodity

Quantity: The total quantity of the traded commodity

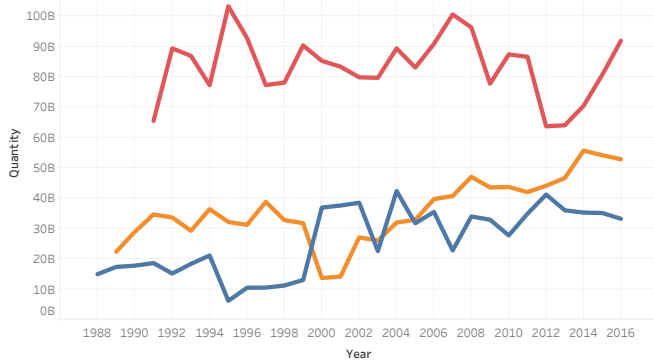**Category**: There were 12 unique categories in the data.

Process-

I downloaded the dataset from the web and performed some exploratory data analysis on it.

I converted the raw data consisting of hyphens,commas, and abbrevations to a clean and readable form by creating their aliases.
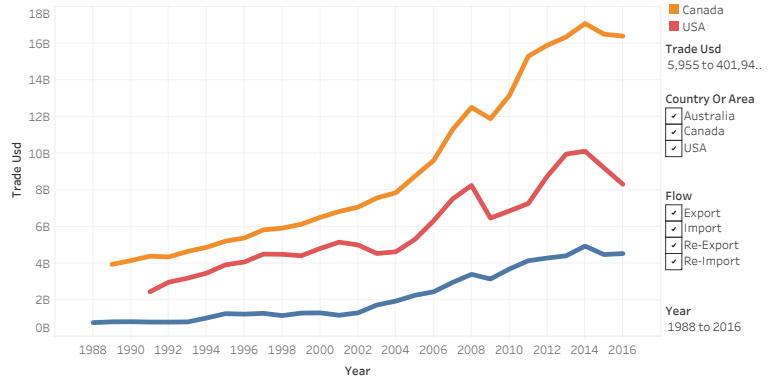
Removed all NA values and 0 values

LINK- https://www.kaggle.com/datasets/unitednations/global-commodity-trade-statistics

Exports

Imports

Country Or Area
- Australia
- Canada
- USA

Trade Usd
5,955 to 401,94..

Country Or Area
- ✔ Australia
- ✔ Canada
- ✔ USA

Flow
- ✔ Export
- ✔ Import
- ✔ Re-Export
- ✔ Re-Import

Year
1988 to 2016

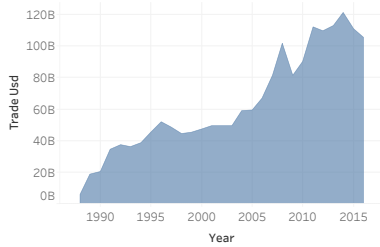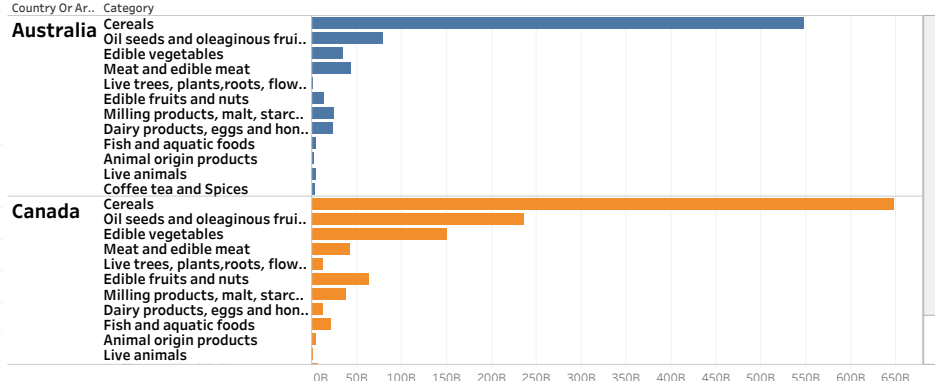## Trade over the years

The trade between the three countries has substantially increased in the last years from 6 Billion USD in 1988 to 105 Billion USD in 2016


Top Categories (Quantity)

Country Or Ar..	Category

Australia
- Cereals
- Oil seeds and oleaginous frui..
- Edible vegetables
- Meat and edible meat
- Live trees, plants,roots, flow..
- Edible fruits and nuts
- Milling products, malt, starc..
- Dairy products, eggs and hon..
- Fish and aquatic foods
- Animal origin products
- Live animals
- Coffee tea and Spices

Canada
- Cereals
- Oil seeds and oleaginous frui..
- Edible vegetables
- Meat and edible meat
- Live trees, plants,roots, flow..
- Edible fruits and nuts
- Milling products, malt, starc..
- Dairy products, eggs and hon..
- Fish and aquatic foods
- Animal origin products
- Live animals

Most Traded Commodities

Q1) Which commodities are traded the most?

The wheat is the most traded commodity is Wheat (315 Billion USD) followed by Maize (197 Billion USD).I have used heat map (or heatmap) **to visualize magnitude of traded commodity as color in two dimensions**. The variation in color may be by hue or intensity.
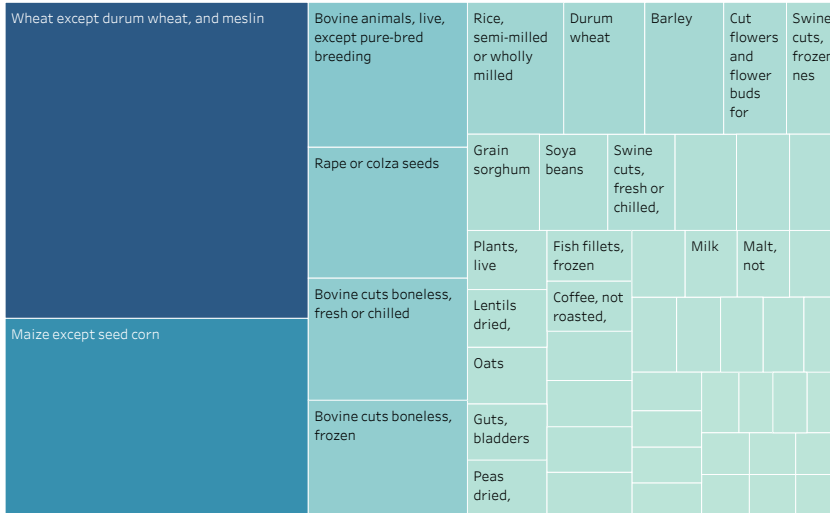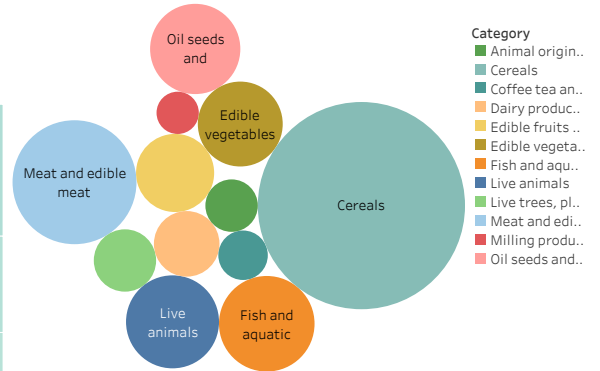

Commodities 12 Catagories

Most Traded Commodities

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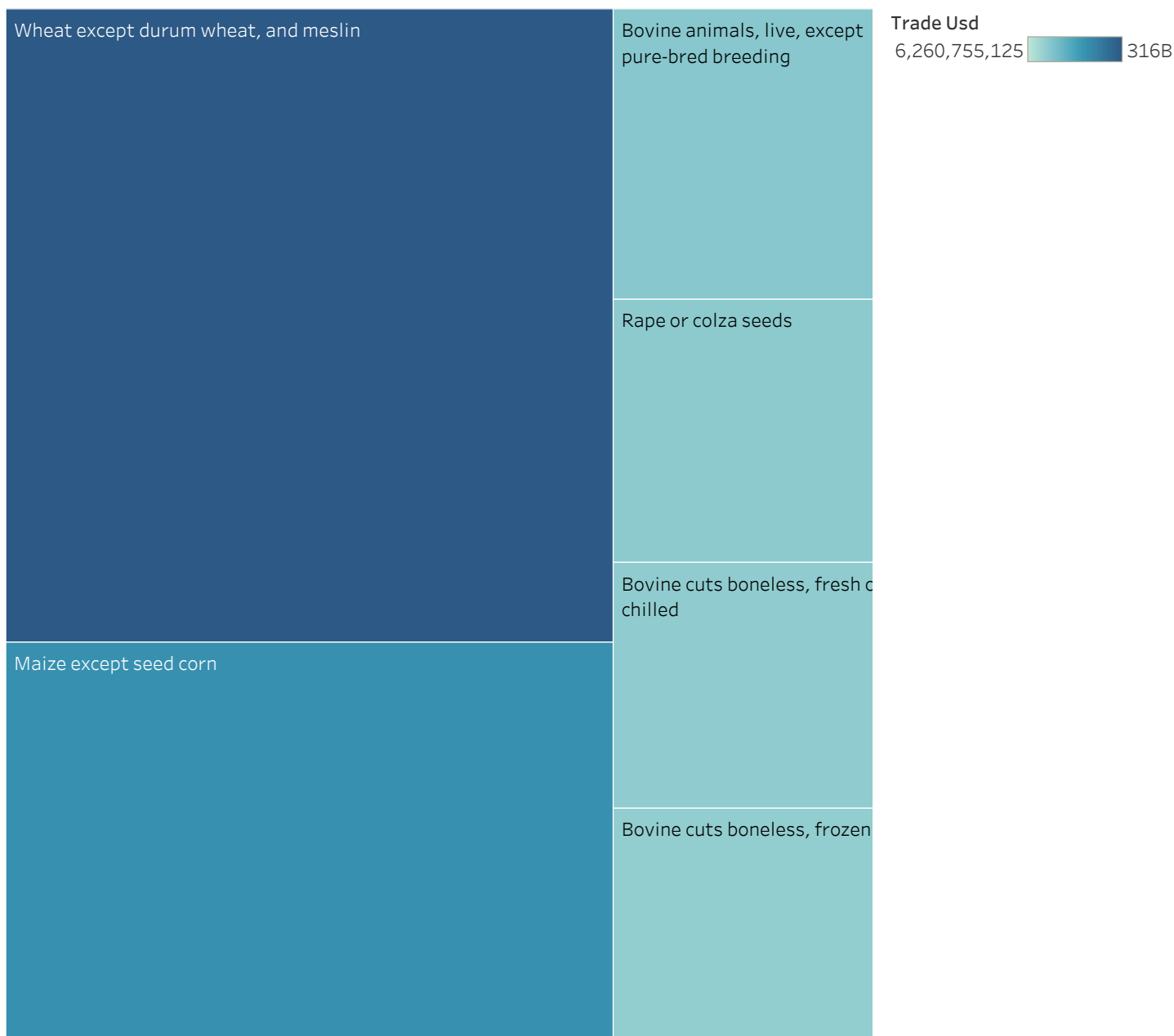
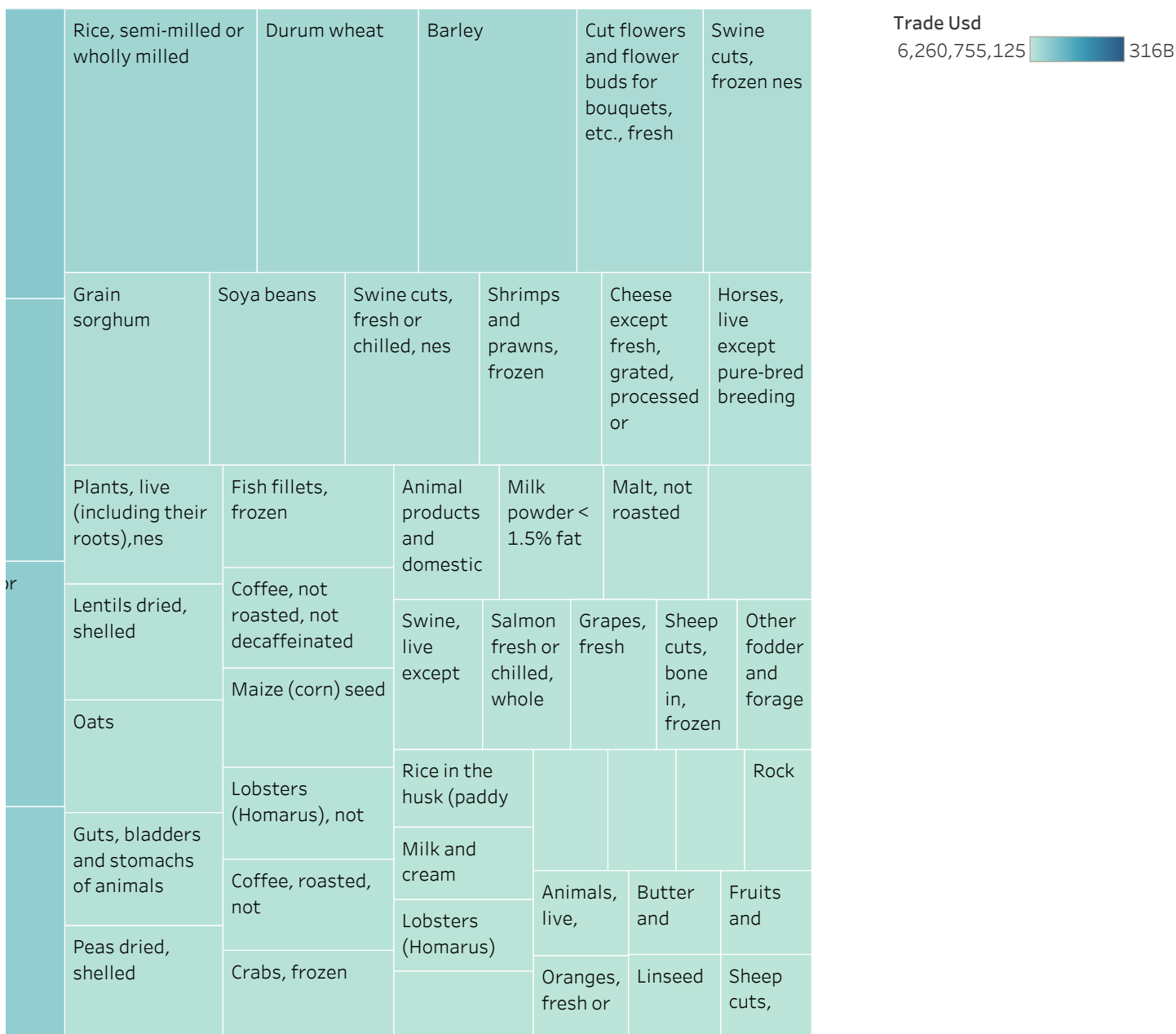| Wheat except durum wheat, and meslin | Bovine animals, live, except pure-bred breeding |
	Rape or colza seeds
	Bovine cuts boneless, fresh or chilled
Maize except seed corn	Bovine cuts boneless, frozen

Trade Usd
6,260,755,125 — 316B

Commodity. Color shows sum of Trade Usd. Size shows sum of Trade Usd. The marks are labeled by Commodity. The view is filtered on sum of Trade Usd, which ranges from 6,188,662,136 to 315,619,860,334.

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Trade Usd
6,260,755,125 _____ 316B

Rice, semi-milled or wholly milled	Durum wheat	Barley	Cut flowers and flower buds for bouquets, etc., fresh	Swine cuts, frozen nes
Grain sorghum	Soya beans	Swine cuts, fresh or chilled, nes	Shrimps and prawns, frozen	Cheese except fresh, grated, processed or	Horses, live except pure-bred breeding

Plants, live (including their roots),nes — Fish fillets, frozen — Animal products and domestic — Milk powder < 1.5% fat — Malt, not roasted

Lentils dried, shelled — Coffee, not roasted, not decaffeinated — Swine, live except — Salmon fresh or chilled, whole — Grapes, fresh — Sheep cuts, bone in, frozen — Other fodder and forage

Maize (corn) seed

Oats

Guts, bladders and stomachs of animals — Lobsters (Homarus), not — Rice in the husk (paddy — Rock

Milk and cream

Coffee, roasted, not — Animals, live, — Butter and — Fruits and

Lobsters (Homarus)

Peas dried, shelled — Crabs, frozen — Oranges, fresh or — Linseed — Sheep cuts,

Commodity. Color shows sum of Trade Usd. Size shows sum of Trade Usd. The marks are labeled by Commodity. The view is filtered on sum of Trade Usd, which ranges from 6,188,662,136 to 315,619,860,334.

Trade by Countries

## Identify the total trade by country?

- From 1988 to 2016, the USA has been the largest exporter, importer, and re-exporter of commodities. Whereas Canada has been the largest re-importer of commodities.
- The USA has never re-imported commodities throughout these years.
- Australia hasn't re-exported commodities since the year 2000.
- Canada began re-exporting commodities from the year 2000.
- In the year 2016, Canada was the largest re-exporter of commodities. Canada dominates the re-import trade business.

Country Or Area

Australia	
Canada	
USA	

Flow
- Export
- Import
- Re-Export
- Re-Import
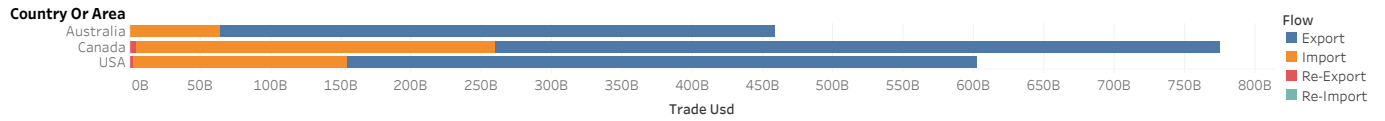
Sum of Trade Usd for each Country Or Area. Color shows details about Flow. The view is filtered on Country Or Area and Flow. The Country Or Area filter keeps Australia, Canada and USA. The Flow filter keeps Export, Import, Re-Export and Re-Import.
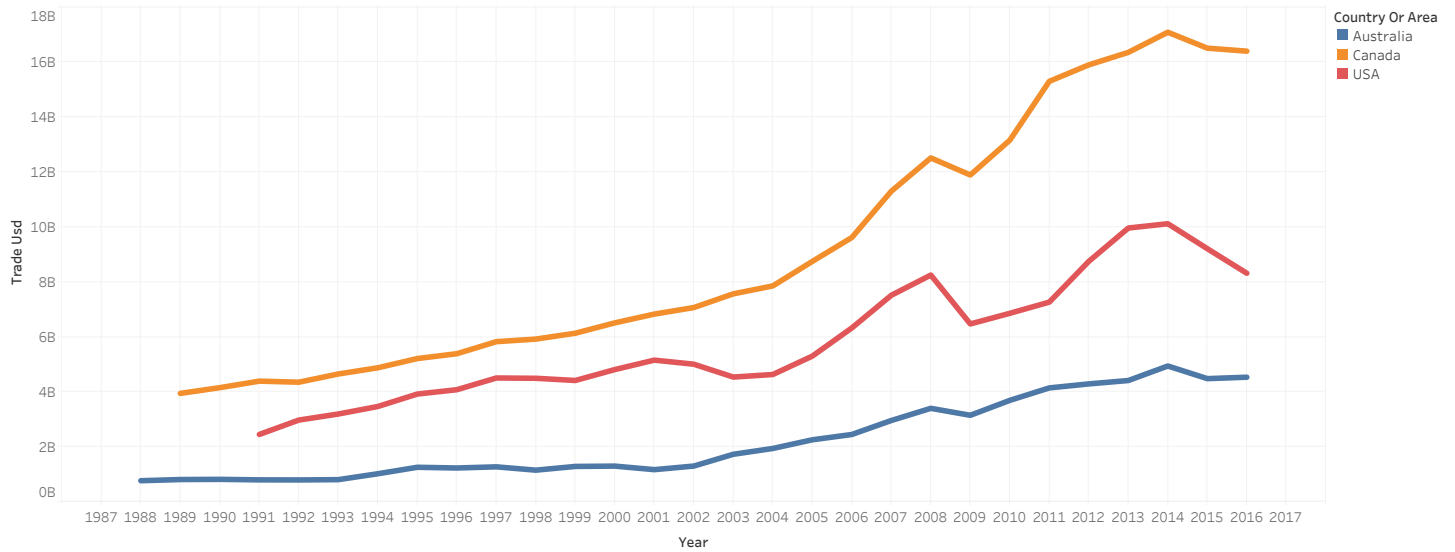
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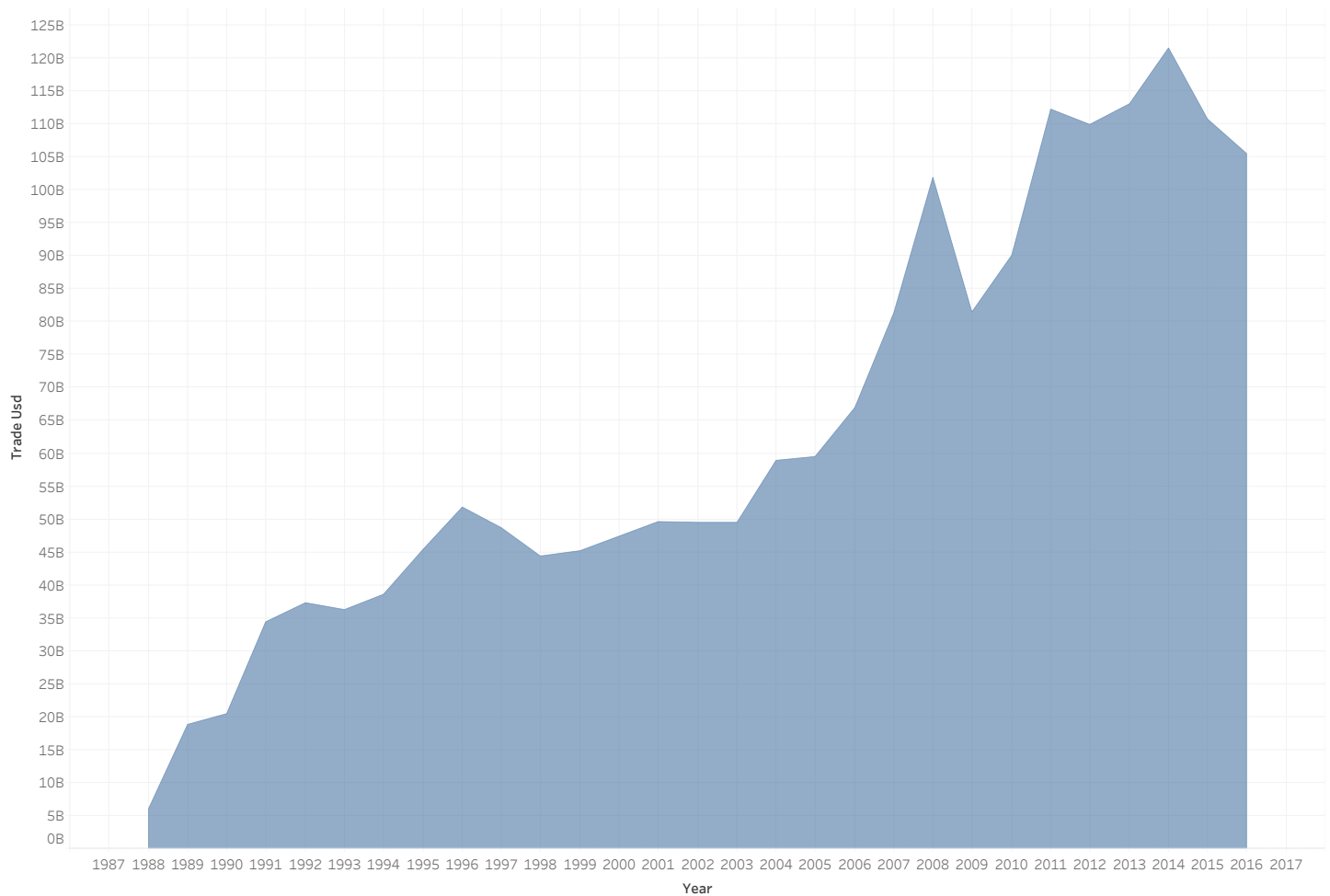
The plot of sum of Trade Usd for Year. The view is filtered on sum of Trade Usd and Year. The sum of Trade Usd filter ranges from 6,000,198,939 to 121,479,990,183. The Year filter ranges from 1988 to 2016.

Imports

Imports of US, Canada and Australia from 1988 to 2016
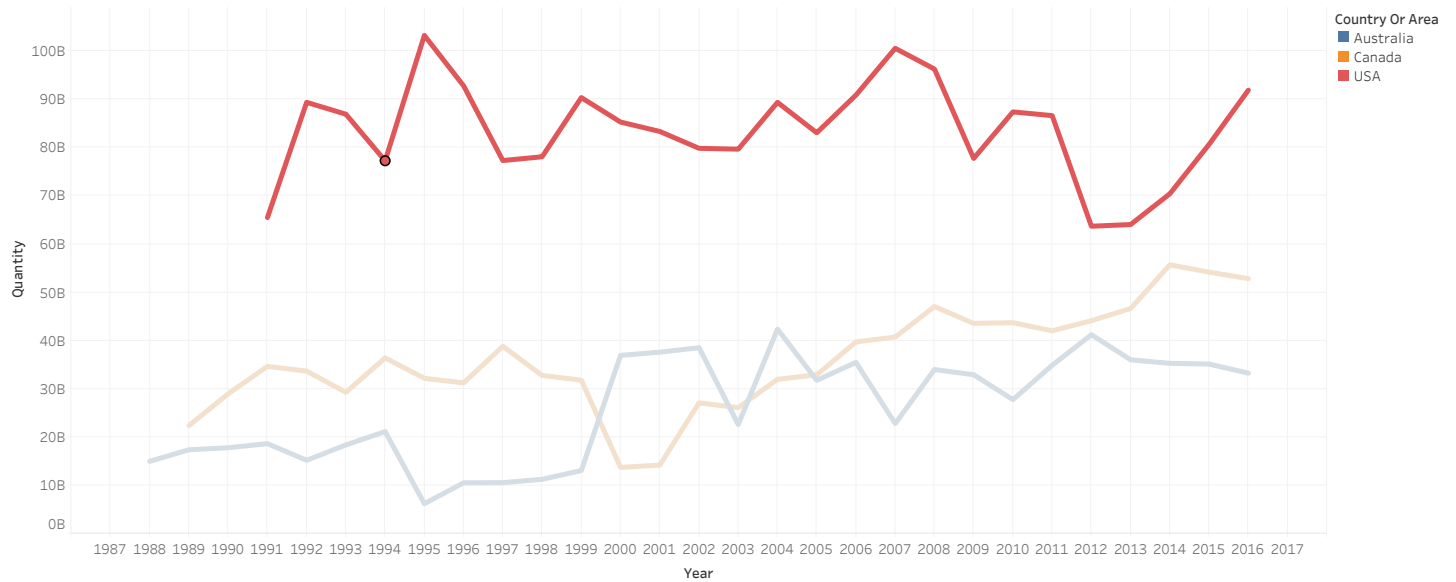## Which country has the highest imports?

The import data collected from 1988 to 2016 indicates:
Canada dominates the import trade among the three countries and imports the maximum commodies.
The US is the second biggest importer among the three nations.
Line chart is used to **graphically represent import trade historical price action that connects a series of data points with a continuous line**.

Exports

Exports of US, Canada and Australia from 1988 to 2016
Which country has the highest exports?

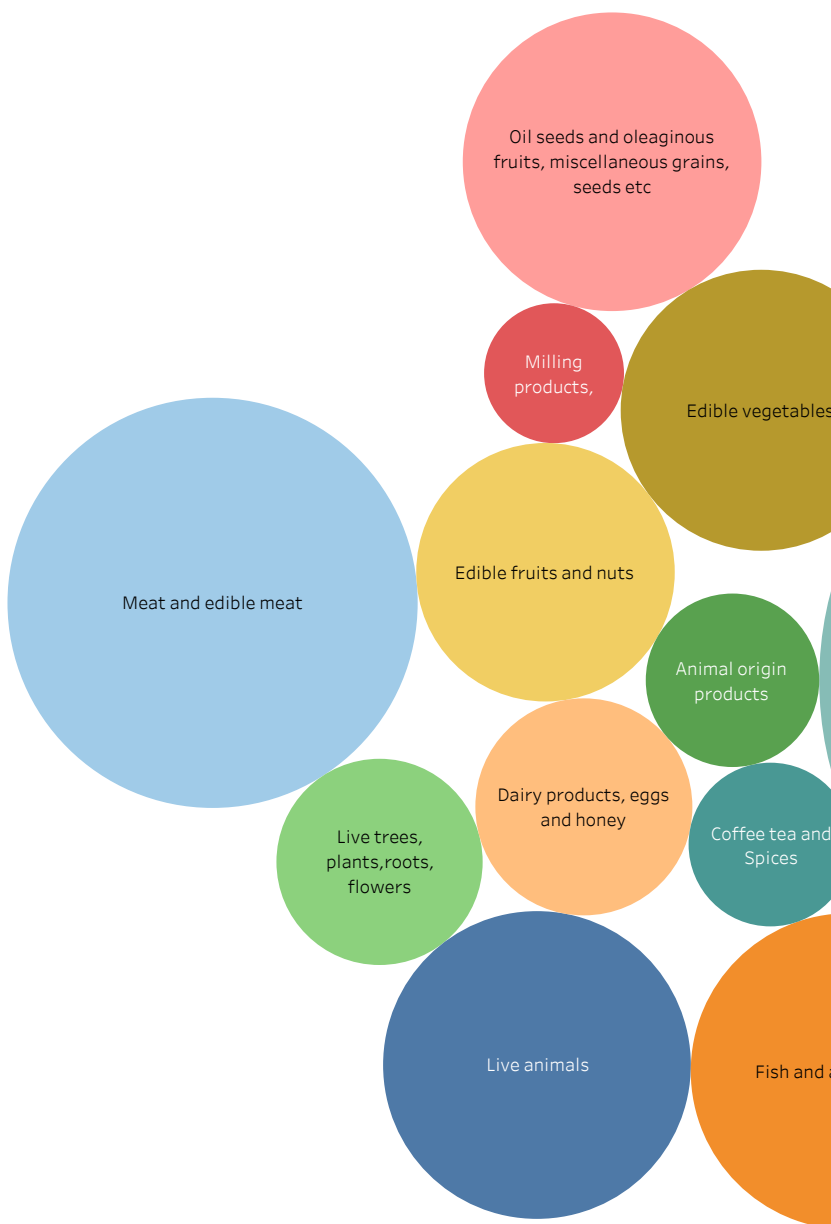**The export data collected from 1988 to 2016 indicates:**
The USA dominates the export trade among the three countries
Line chart is used to **graphically represent export trade historical price action that connects a series of data points with a continuous line**.

Commodities 12 Catagories

Category
- Animal origin products
- Cereals
- Coffee tea and Spices
- Dairy products, eggs and honey
- Edible fruits and nuts
- Edible vegetables
- Fish and aquatic foods
- Live animals
- Live trees, plants,roots, flowers
- Meat and edible meat
- Milling products, malt, starches, inulin and wheat
- Oil seeds and oleaginous fruits, miscellaneous grains, seeds etc

Oil seeds and oleaginous fruits, miscellaneous grains, seeds etc

Milling products,

Edible vegetables

Meat and edible meat

Edible fruits and nuts

Animal origin products

Dairy products, eggs and honey

Live trees, plants,roots, flowers

Coffee tea and Spices

Live animals

Fish and a
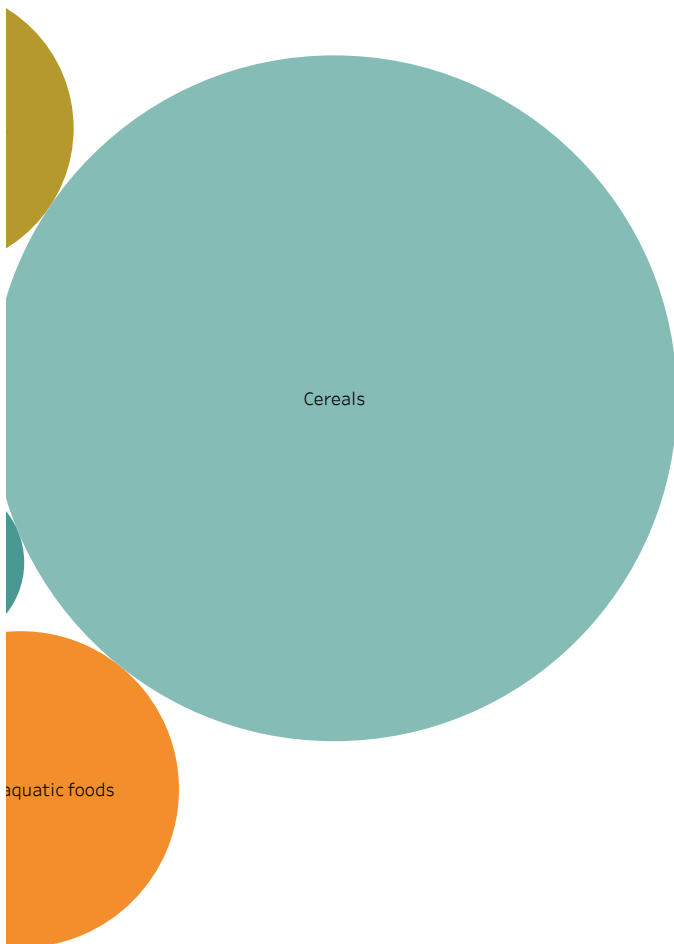
Which catagory is most traded?

Cereals are most traded followed by meat.
I have used Packed bubble chart which is **a variation of scatter plot in which commodity data point are replaced with bubbles**. With the size of the bubble indicating the volume of commodity catagory traded. Other measure can be illustrated using color to enable deeper comparisons.

Commodities 12 Catagories
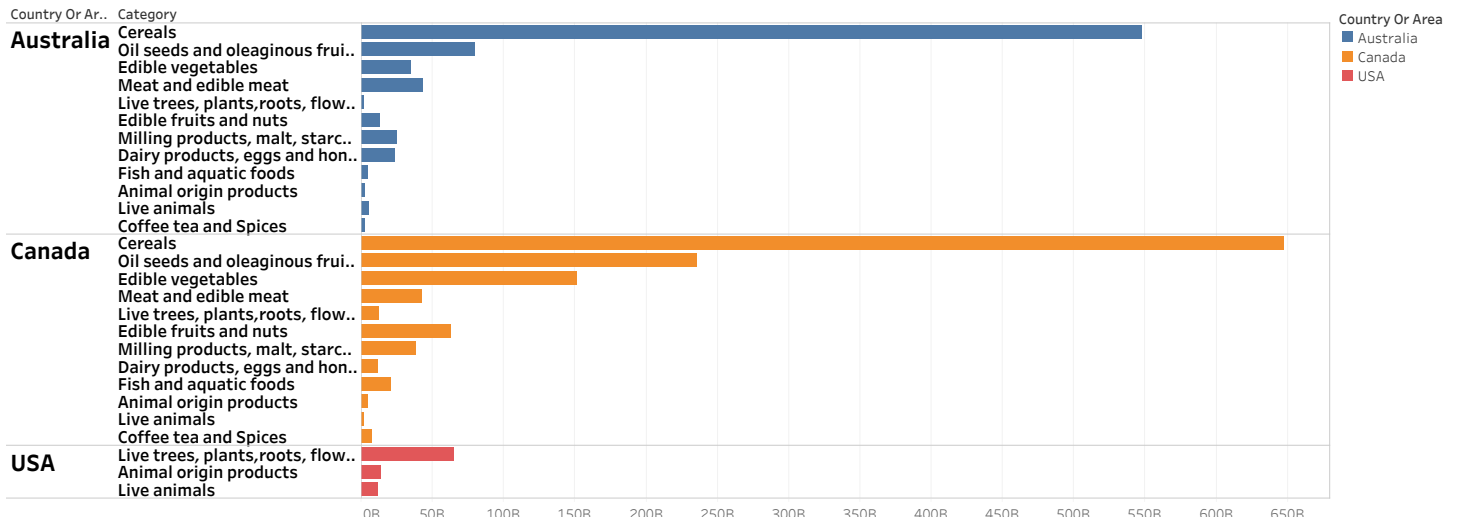
Cereals

aquatic foods

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Top Categories (Quantity)

Country Or Ar..	Category

Australia
- Cereals
- Oil seeds and oleaginous frui..
- Edible vegetables
- Meat and edible meat
- Live trees, plants,roots, flow..
- Edible fruits and nuts
- Milling products, malt, starc..
- Dairy products, eggs and hon..
- Fish and aquatic foods
- Animal origin products
- Live animals
- Coffee tea and Spices

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- Cereals
- Oil seeds and oleaginous frui..
- Edible vegetables
- Meat and edible meat
- Live trees, plants,roots, flow..
- Edible fruits and nuts
- Milling products, malt, starc..
- Dairy products, eggs and hon..
- Fish and aquatic foods
- Animal origin products
- Live animals
- Coffee tea and Spices

USA
- Live trees, plants,roots, flow..
- Animal origin products
- Live animals

Country Or Area
- Australia
- Canada
- USA

0B 50B 100B 150B 200B 250B 300B 350B 400B 450B 500B 550B 600B 650B

Top Categories per Country based on Quantity

What are the top traded commodity categories in terms of quantity?

Action: Select the Country and the Flow of trade from the filter tabs. Adjust the Year range as desired.

Observation:
1) There are 12 categories in the given data. Each category has a list commodities.
2) The trade value in billions of US Dollars has been labeled for each category.

Insights:
1) Per the country and the flow of trade, we can observe the ranking of categories based on demand
Example: When we select Australia and Export from the filter tabs, we can observe the top categories.

Story 1

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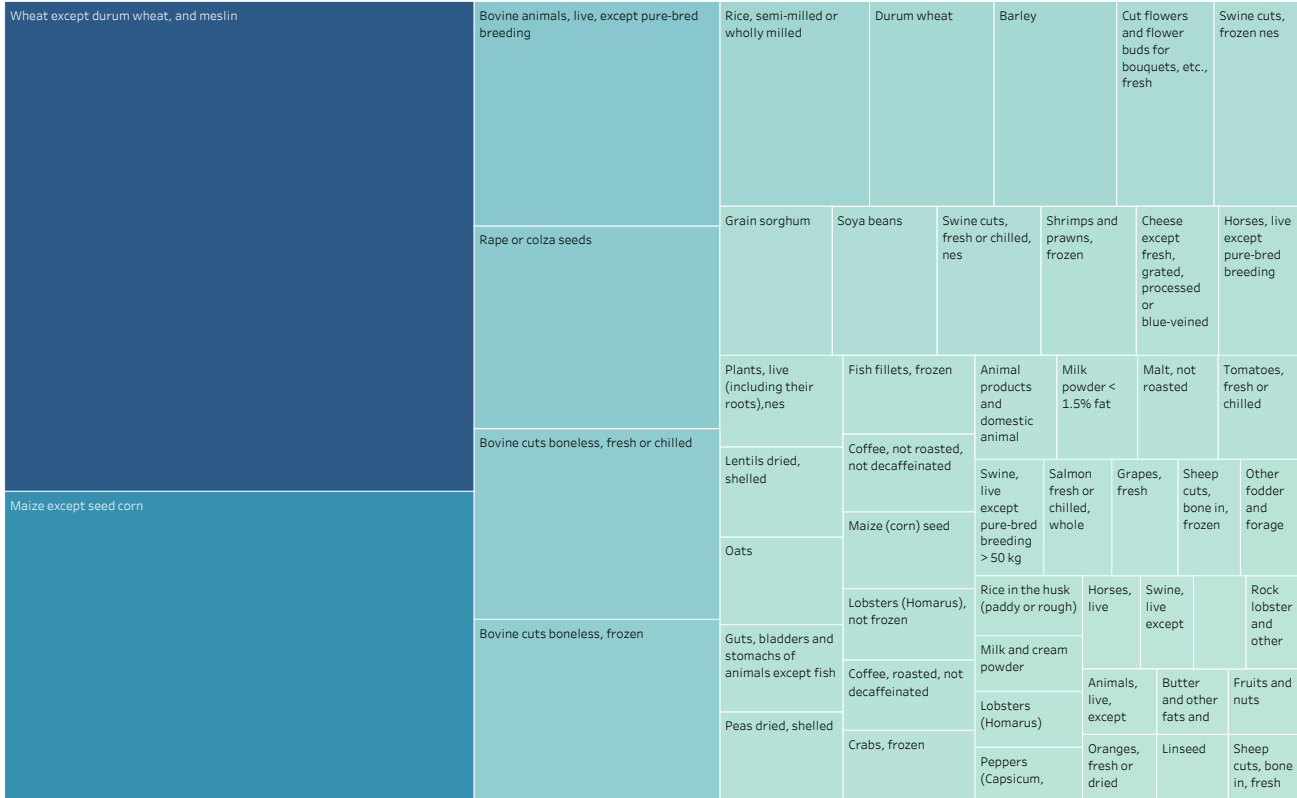**I converted the raw data consisting of hyphens,commas, and abbrevations to a clean and readable form by creating their aliases.**
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Story 1

Wheat except durum wheat, and meslin

Maize except seed corn

Bovine animals, live, except pure-bred breeding

Rape or colza seeds

Bovine cuts boneless, fresh or chilled

Bovine cuts boneless, frozen

Rice, semi-milled or wholly milled

Durum wheat

Barley

Cut flowers and flower buds for bouquets, etc., fresh

Swine cuts, frozen nes

Grain sorghum

Soya beans

Swine cuts, fresh or chilled, nes

Shrimps and prawns, frozen

Cheese except fresh, grated, processed or blue-veined

Horses, live except pure-bred breeding

Plants, live (including their roots),nes

Lentils dried, shelled

Oats

Guts, bladders and stomachs of animals except fish

Peas dried, shelled

Fish fillets, frozen

Coffee, not roasted, not decaffeinated

Maize (corn) seed

Lobsters (Homarus), not frozen

Coffee, roasted, not decaffeinated

Crabs, frozen

Animal products and domestic animal

Swine, live except pure-bred breeding > 50 kg

Rice in the husk (paddy or rough)

Milk and cream powder

Lobsters (Homarus)

Peppers (Capsicum,

Milk powder < 1.5% fat

Salmon fresh or chilled, whole

Horses, live

Animals, live, except

Oranges, fresh or dried

Malt, not roasted

Grapes, fresh

Swine, live except

Butter and other fats and

Linseed

Tomatoes, fresh or chilled

Sheep cuts, bone in, frozen

Other fodder and forage

Rock lobster and other

Fruits and nuts

Sheep cuts, bone in, fresh

Trade Usd
6,188,662,136 t..
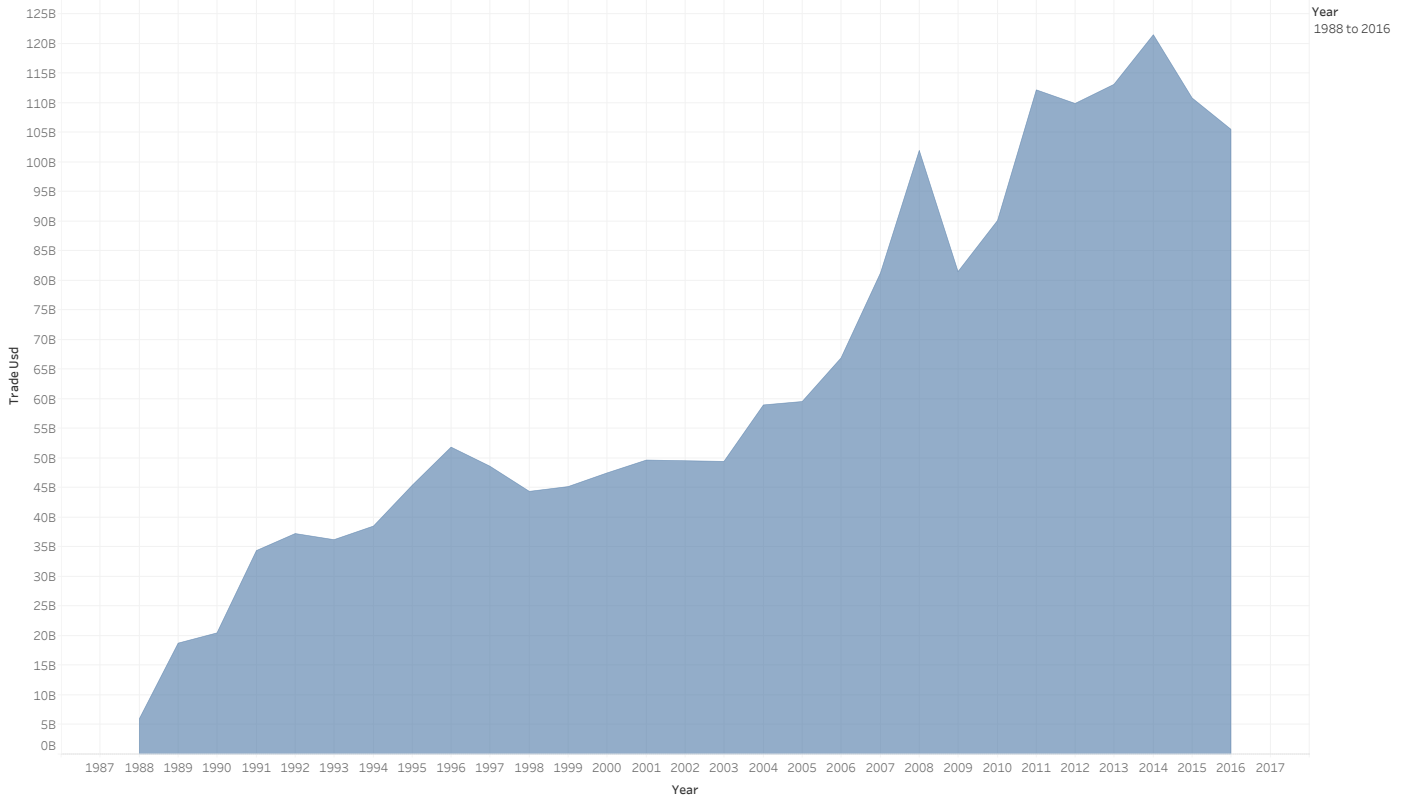
Trade Usd
6B   316B

Story 1

Trade Usd
To Null

Category
- Animal origin..
- Cereals
- Coffee tea an..
- Dairy produc..
- Edible fruits ..
- Edible vegeta..
- Fish and aqu..
- Live animals
- Live trees, pl..
- Meat and edi..
- Milling produ..
- Oil seeds and..

Oil seeds and oleaginous fruits, miscellaneous grains, seeds etc

Milling products,

Edible vegetables

Meat and edible meat

Edible fruits and nuts

Animal origin products

Cereals

Live trees, plants,roots, flowers

Dairy products, eggs and honey

Coffee tea and Spices

Live animals

Fish and aquatic foods

Story 1

Country Or Area

Flow
- ✔ Export
- ✔ Import
- ✔ Re-Export
- ✔ Re-Import

Country Or Area
- ✔ Australia
- ✔ Canada
- ✔ USA

Flow
- ■ Export
- ■ Import
- ■ Re-Export
- ■ Re-Import

Story 1

Year
1988 to 2016

- Y-axis: Trade Usd (0B to 125B)
- X-axis: Year (1987 to 2017)

Story 1

Story 1

Country Or Area
- Australia
- Canada
- USA

Story 1

Country Or Ar..	Category
Australia	Cereals
	Oil seeds and oleaginous frui..
	Edible vegetables
	Meat and edible meat
	Live trees, plants,roots, flow..
	Edible fruits and nuts
	Milling products, malt, starc..
	Dairy products, eggs and hon..
	Fish and aquatic foods
	Animal origin products
	Live animals
	Coffee tea and Spices
Canada	Cereals
	Oil seeds and oleaginous frui..
	Edible vegetables
	Meat and edible meat
	Live trees, plants,roots, flow..
	Edible fruits and nuts
	Milling products, malt, starc..
	Dairy products, eggs and hon..
	Fish and aquatic foods
	Animal origin products
	Live animals
	Coffee tea and Spices
USA	Live trees, plants,roots, flow..
	Animal origin products
	Live animals

Axis: 0B 50B 100B 150B 200B 250B 300B 350B 400B 450B 500B 550B 600B 650B

Trade Usd
5,955 to 401,94..

Country Or Area
- ✓ Australia
- ✓ Canada
- ✓ USA

Flow
- ✓ Export
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Country Or Area
- ■ Australia
- ■ Canada
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