



# Data Analysis - Portofolio Project Canada Immigration Citizenship

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# Objective Analysis

- Canada is a nice place to live
- However, immigration data from UN shows that there could be an imbalance of immigrants due to accumulation
- Population accumulation can cause economical and social consequences
- Immigration data needs to be explored and evaluated
- Recommendation for Canada immigration is needed urgently

# Data Gathering

Type	Coverage	OdName	AREA	AreaName	REG	RegName	DEV	DevName	198	198	198	19	19	19	19	198	198	198	199	199
Immigrants	Foreigners	Afghanistan	935	Asia	5501	Southern Asia	902	Developing regions	16	39	39	47	71	340	496	741	828	1076	1028	1378
Immigrants	Foreigners	Albania	908	Europe	925	Southern Europe	901	Developed regions	1	0	0	0	0	0	1	2	2	3	3	21
Immigrants	Foreigners	Algeria	903	Africa	912	Northern Africa	902	Developing regions	80	67	71	69	63	44	69	132	242	434	491	872
Immigrants	Foreigners	American Samoa	909	Oceania	957	Polynesia	902	Developing regions	0	1	0	0	0	0	0	1	0	1	2	0
Immigrants	Foreigners	Andorra	908	Europe	925	Southern Europe	901	Developed regions	0	0	0	0	0	0	2	0	0	0	3	0
Immigrants	Foreigners	Angola	903	Africa	911	Middle Africa	902	Developing regions	1	3	6	6	4	3	5	5	11	6	8	23
Immigrants	Foreigners	Antigua and Barbuda	904	Latin America and the Caribbean	915	Caribbean	902	Developing regions	0	0	0	0	42	52	51	61	34	51	31	59
Immigrants	Foreigners	Argentina	904	Latin America and the Caribbean	931	South America	902	Developing regions	368	426	626	241	237	196	213	519	374	538	678	763
Immigrants	Foreigners	Armenia	935	Asia	922	Western Asia	902	Developing regions	0	0	0	0	0	0	0	0	0	0	0	0
Immigrants	Foreigners	Australia	909	Oceania	927	Australia and New Zealand	901	Developed regions	702	639	484	317	317	319	356	467	410	553	620	640
Immigrants	Foreigners	Austria	908	Europe	926	Western Europe	901	Developed regions	234	238	201	117	127	165	196	265	198	227	158	189
Immigrants	Foreigners	Azerbaijan	935	Asia	922	Western Asia	902	Developing regions	0	0	0	0	0	0	0	0	0	0	0	0
Immigrants	Foreigners	Bahamas	904	Latin America and the Caribbean	915	Caribbean	902	Developing regions	26	23	38	12	21	28	23	18	22	32	18	29
Immigrants	Foreigners	Bahrain	935	Asia	922	Western Asia	902	Developing regions	0	2	1	1	1	3	0	2	10	9	6	9
Immigrants	Foreigners	Bangladesh	935	Asia	5501	Southern Asia	902	Developing regions	83	84	86	81	98	92	486	503	476	387	611	1115
Immigrants	Foreigners	Barbados	904	Latin America and the Caribbean	915	Caribbean	902	Developing regions	372	376	299	244	265	285	251	303	265	275	327	373
Immigrants	Foreigners	Belarus	908	Europe	923	Eastern Europe	901	Developed regions	0	0	0	0	0	0	0	0	0	0	0	0
Immigrants	Foreigners	Belgium	908	Europe	926	Western Europe	901	Developed regions	511	540	519	297	183	181	197	283	333	307	303	216
Immigrants	Foreigners	Belize	904	Latin America and the Caribbean	916	Central America	902	Developing regions	16	27	13	21	37	26	25	23	53	33	38	41
Immigrants	Foreigners	Benin	903	Africa	914	Western Africa	902	Developing regions	2	5	4	3	4	3	6	4	20	14	13	13
Immigrants	Foreigners	Bhutan	935	Asia	5501	Southern Asia	902	Developing regions	0	0	0	0	1	0	0	0	0	1	0	2
Immigrants	Foreigners	Bolivia (Plurinational State of)	904	Latin America and the Caribbean	931	South America	902	Developing regions	44	52	42	49	38	44	79	165	63	68	71	214
Immigrants	Foreigners	Bosnia and Herzegovina	908	Europe	925	Southern Europe	901	Developed regions	0	0	0	0	0	0	0	0	0	0	0	0
Immigrants	Foreigners	Botswana	903	Africa	913	Southern Africa	902	Developing regions	10	1	3	3	7	4	2	3	8	8	2	2
Immigrants	Foreigners	Brazil	904	Latin America and the Caribbean	931	South America	902	Developing regions	211	220	192	139	145	130	205	244	394	650	650	877
Immigrants	Foreigners	Brunei Darussalam	935	Asia	920	South-Eastern Asia	902	Developing regions	79	6	8	2	2	4	12	16	103	63	44	65
Immigrants	Foreigners	Bulgaria	908	Europe	923	Eastern Europe	901	Developed regions	24	20	12	33	11	24	33	52	43	85	172	611

- Data is obtained from Canada immigration
- Several columns are identified : Type, Coverage, OdName, Area, AreaName, REG, RegName, DEV, DevName, and Year (1980 – 2013)

# Data Preparation

- Important columns are selected

Column	Description
Coverage	Identify citizenship status as Immigrant or Foreigner
OdName	Name of country
AreaName	Name of continent
DevName	Identify countries' status as developed or developing country
Year	Year
NumOfImm	Number of Immigrants

# Data Preparation

- Several columns are being unpivotted

```
-- PART 1 : DATA PREPARATION

-- Drop Several Columns
alter table [Portofolio Project].[dbo].['Canada by Citizenship$']
Drop column F44, F45, F46, F47, F48, F49, F50, F51

alter table [Portofolio Project].[dbo].['Canada by Citizenship$']
Drop column AREA, REG, DEV, Type

alter table [Portofolio Project].[dbo].['Canada by Citizenship$']
Drop column type

select * from [Portofolio Project].[dbo].['Canada by Citizenship$']

-- Unpivot the year column

Create view canadav2 as
select Coverage, OdName, AreaName, RegName, DevName, Year, NumOfInm
from [Portofolio Project].[dbo].['Canada by Citizenship$']
unpivot (
    NumOfInm for year in ([1980], [1981], [1982], [1983], [1984], [1985], [1986], [1987], [1988], [1989], [1990], [1991], [1992], [1993],
    [1994], [1995], [1996], [1997], [1998], [1999], [2000], [2001], [2002], [2003], [2004], [2005], [2006], [2007], [2008], [2009], [2010], [2011],
    [2012], [2013]
)
) as inn

select * from canadav2
```

# Data Preparation

- Results are shown below :

	Coverage	OdName	AreaName	RegName	DevName	Year	NumOfImm
1	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1980	16
2	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1981	39
3	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1982	39
4	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1983	47
5	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1984	71
6	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1985	340
7	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1986	496
8	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1987	741
9	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1988	828
10	Foreigners	Afghanistan	Asia	Southern Asia	Developing regions	1989	1076



Descriptive Analysis

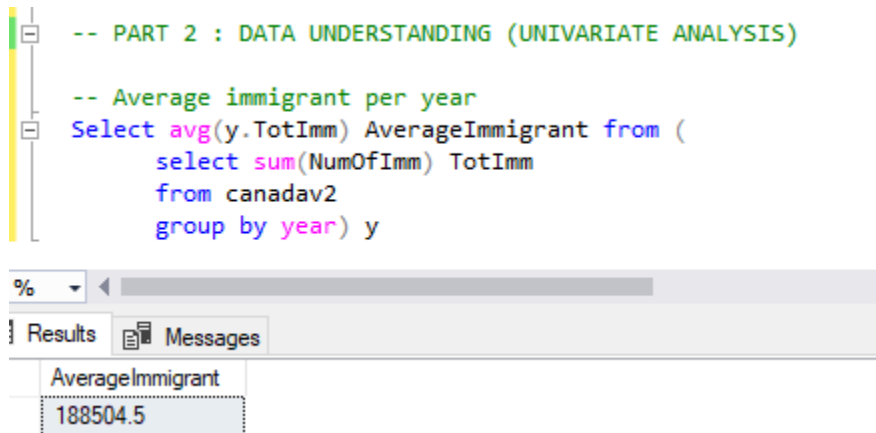
# Univariate Analysis

- How much average immigrant per year that migrates to Canada?

Conclusion = 188505 immigrant per year

```
-- PART 2 : DATA UNDERSTANDING (UNIVARIATE ANALYSIS)

-- Average immigrant per year
Select avg(y.TotImm) AverageImmigrant from (
    select sum(NumOfImm) TotImm
    from canadav2
    group by year) y
```



The screenshot shows a SQL query editor with a query window on the left and a results pane on the right. The query window contains a SQL query to calculate the average number of immigrants per year. The results pane shows a single row with the value 188504.5 for the column AverageImmigrant.

AverageImmigrant
188504.5



# Univariate Analysis

- Top 10 year that has the highest number of immigrants

Conclusion : Year 2010 has the highest number of immigrants which reach up to 276956 people

```
-- Top 10 year with Highest Immigrants
Select top 10 year, sum(NumOfImm) TotalOfImmigrants from canadav2
group by year
order by sum(NumOfImm) Desc
```

year	TotalOfImmigrants
2010	276956
2013	257537
2005	257457
2012	256222
2009	248768
2006	247057
2011	246194
2008	243047
2001	242643
2007	232405

# Univariate Analysis

- Total Immigrant per Continent

Conclusion : Canada has the highest number of immigrants from Asia which reaches up to 3317794 lives in the range of 1980 - 2014.

```
-- Total Immigrant per Continent
Select AreaName, sum(NumOfImm) TotalOfImmigrant from canadav2
group by AreaName
Order by sum(NumOfImm) Desc
```

AreaName	TotalOfImmigrant
Asia	3317794
Europe	1410947
Latin America and the Caribbean	765148
Africa	618948
Northem America	241142
Oceania	55174

# Univariate Analysis

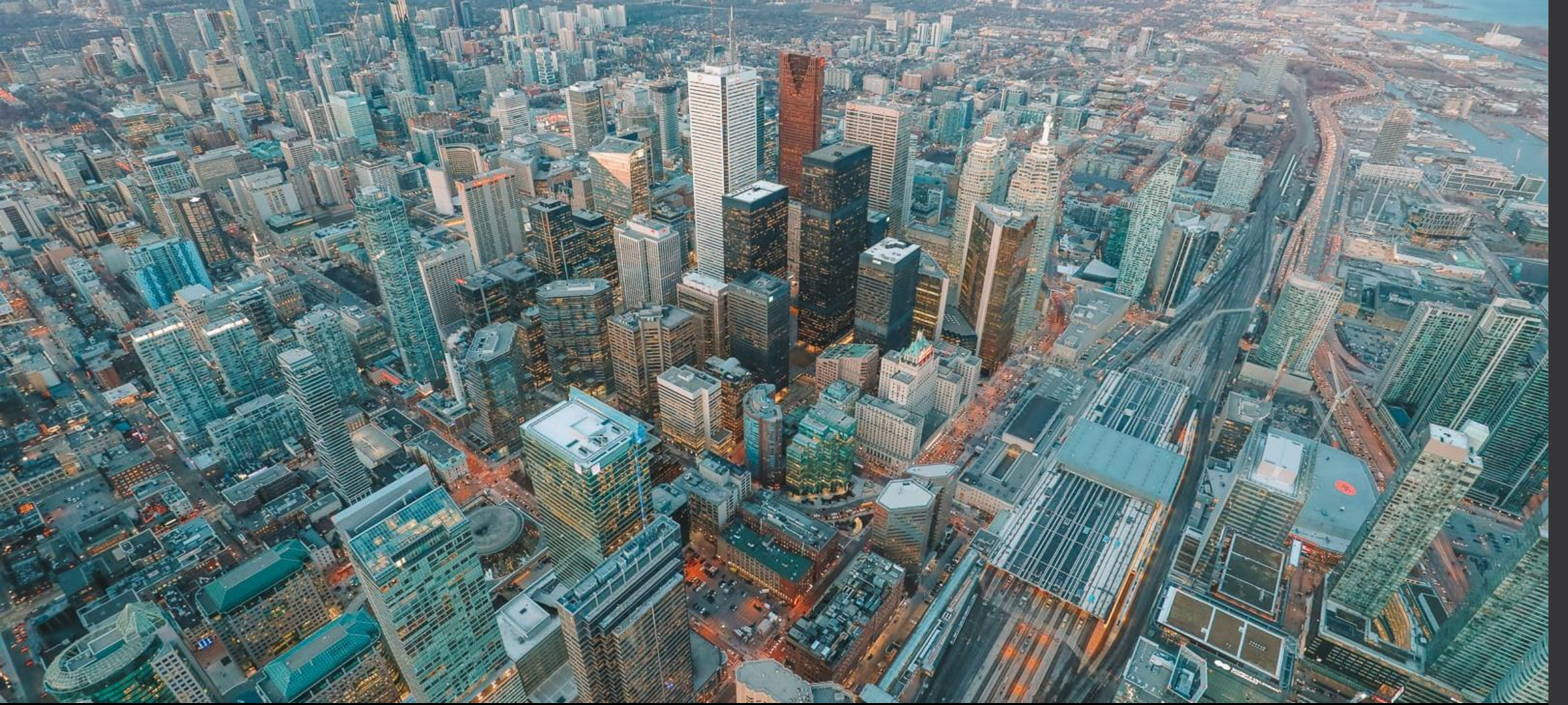
- Top 10 country that has the highest immigrants that migrates to Canada

Conclusion : Canada's immigrants has mostly originated from India which reaches up to 691904 lives in 1980 - 2014

```
-- Top 10 country which has the highest immigrants to Canada
Select top 10 OdName, sum(NumOfImm) TotalOfImmigrants from canadav2
group by OdName
order by sum(NumOfImm) Desc
```

OdName	TotalOfImmigrants
India	691904
China	659962
United Kingdom of Great Britain and Northern Ire...	551500
Philippines	511391
Pakistan	241600
United States of America	241122
Iran (Islamic Republic of)	175923
Sri Lanka	148358
Republic of Korea	142581
Poland	139241



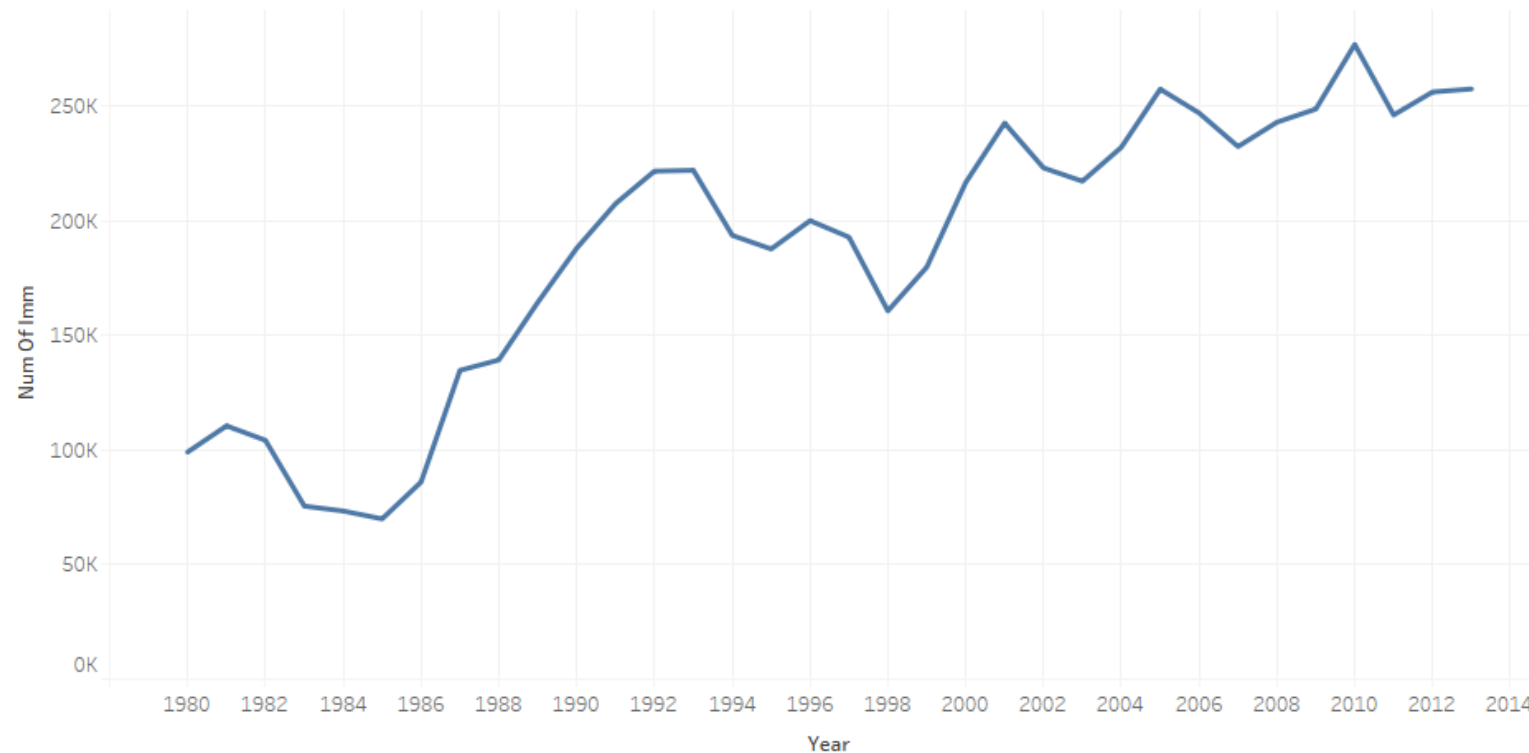


Visualization



# Total Immigrants Line Graph

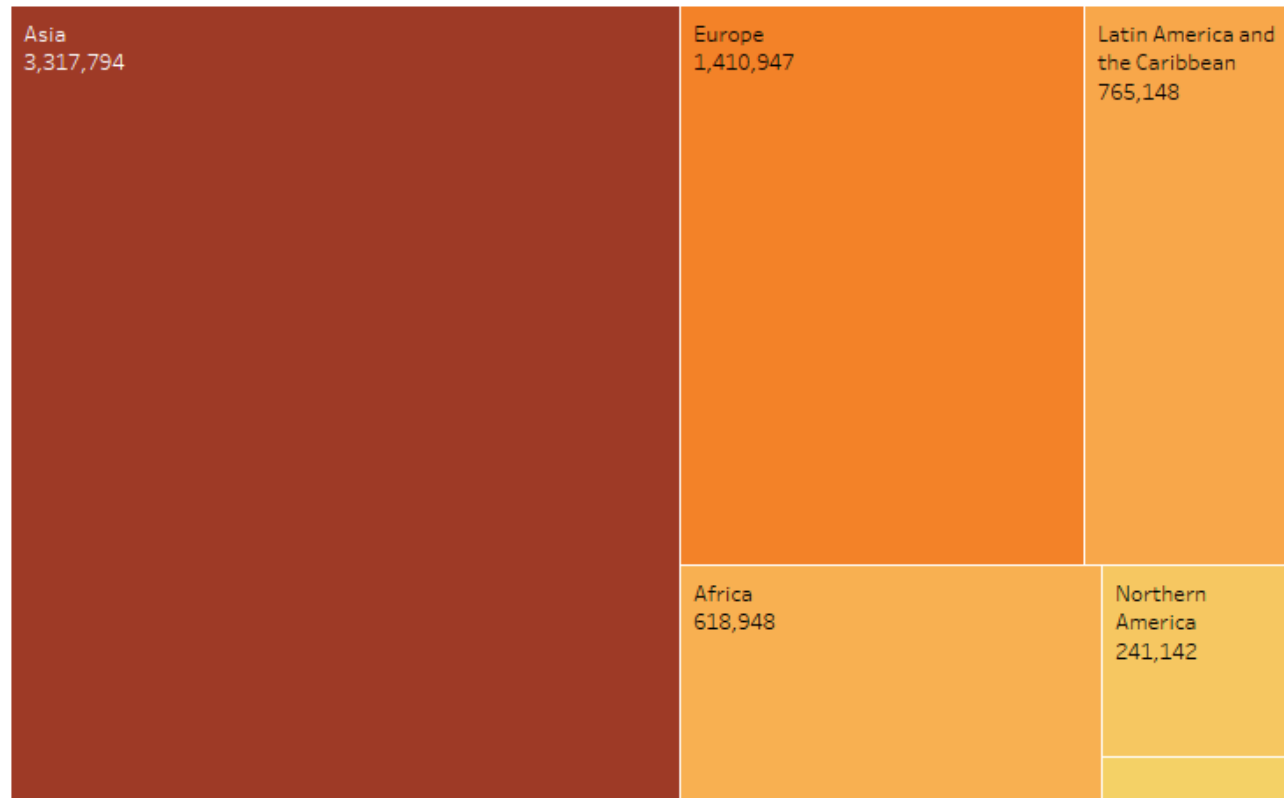
Total Immigrants



The Line graph shows that the total amount of immigrants tend to increase

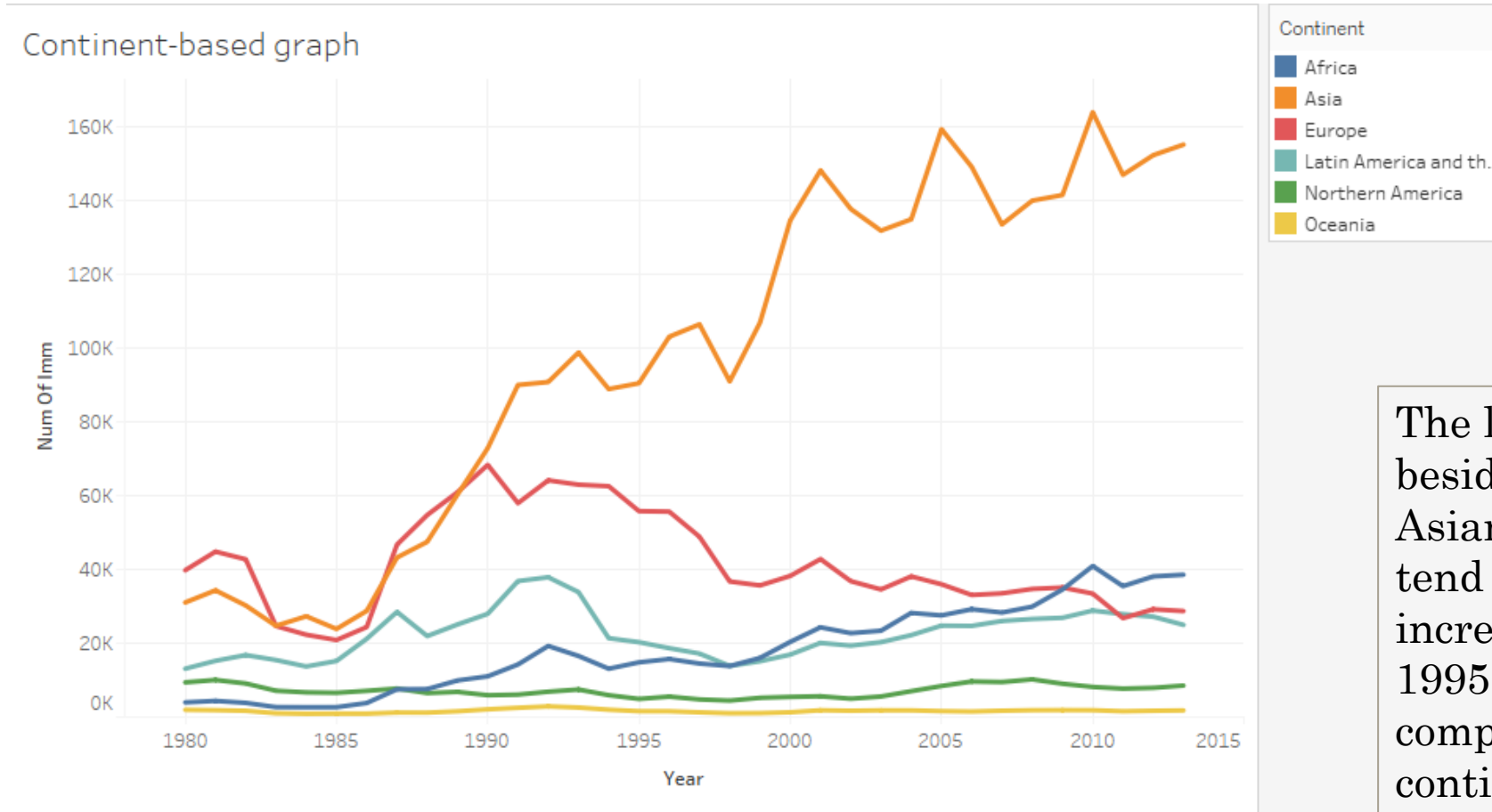
# Total Immigrants Tree Map

Tree Map



The tree map besides shows that the majority of immigrants are from Asia, which reaches up to 3,317,794 lives (1980 – 2014)

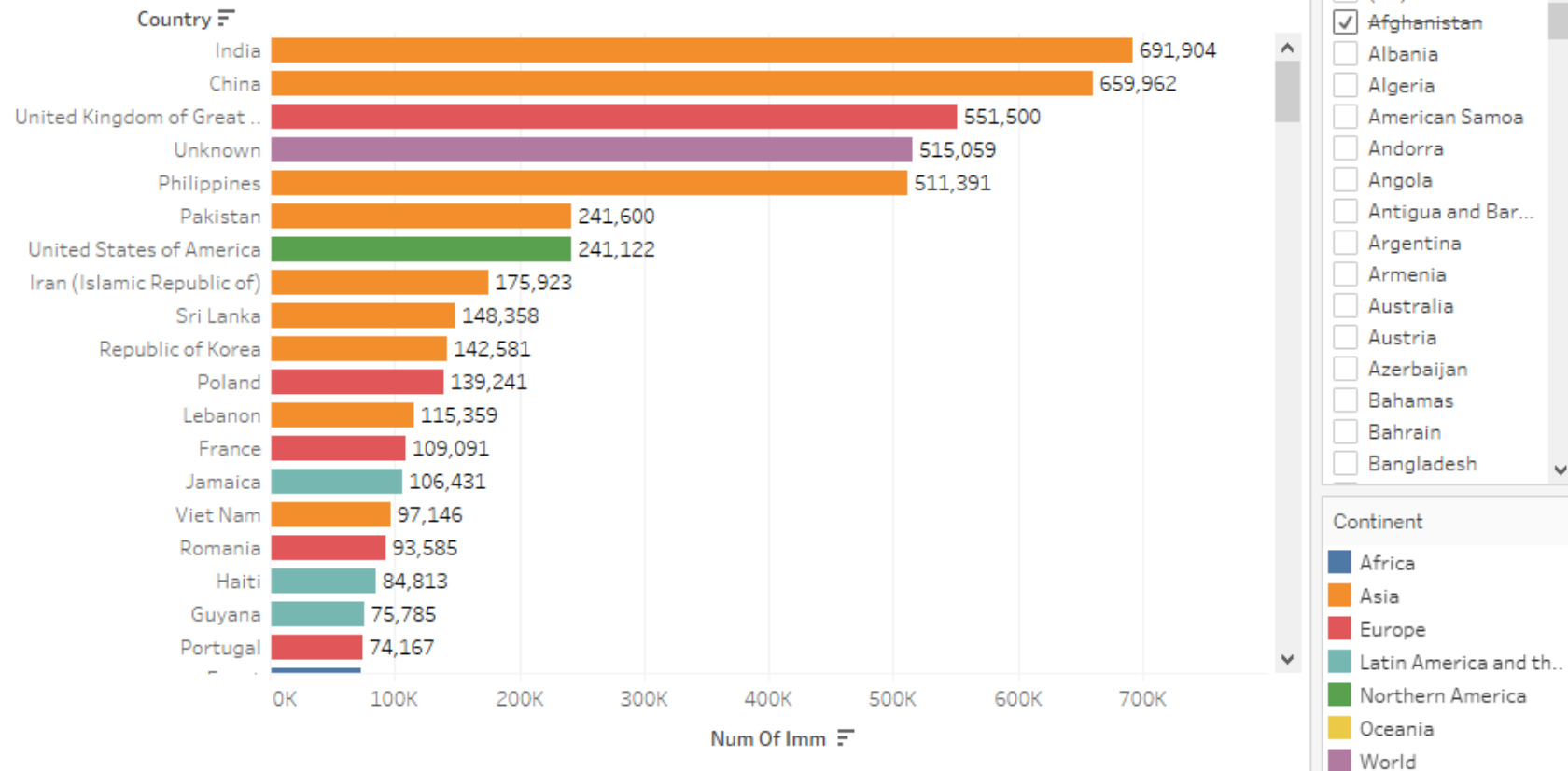
# Total Immigrants (Continent-based)



The line graph besides shows that Asian immigrants tend to keep increasing after 1995 when compared to other continents

# Country-Based Bar Chart

Country-based



The bar chart besides shows the highest amount of immigrants originates from India



# Dashboard

## Canada Immigration (1980 - 2014)

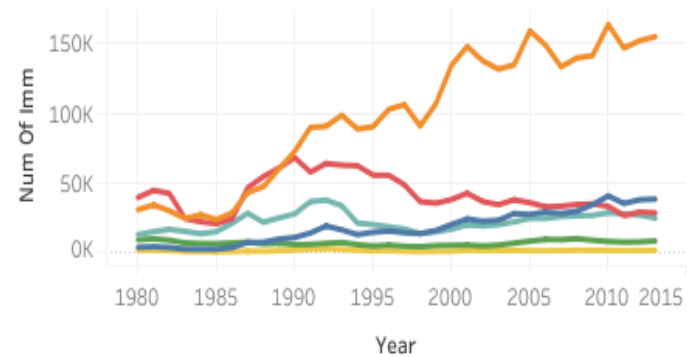
### Data Analysis

by Al Fattah Suyadi

#### Total Immigrants



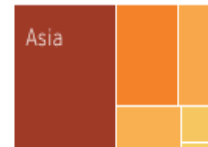
#### Continent-based graph



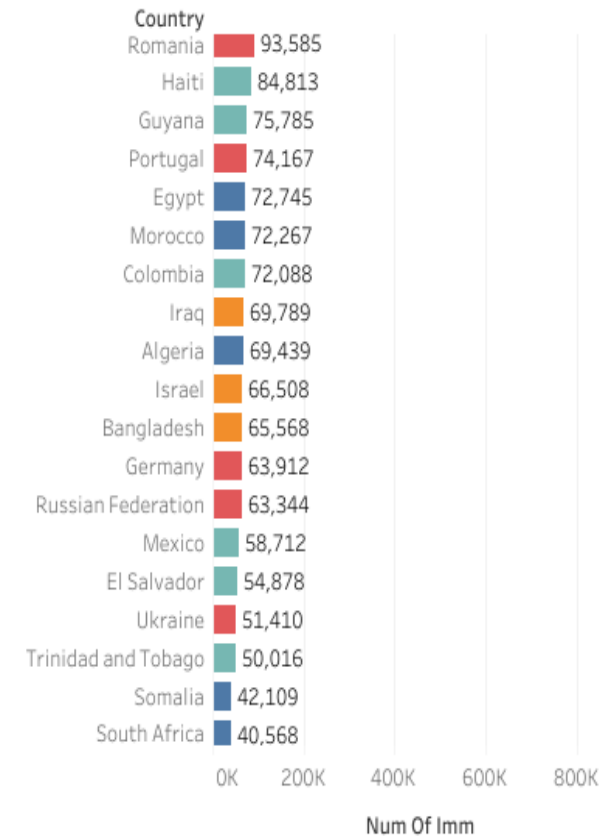
#### Region-based



#### Tree Map



#### Country-based



Link : [https://public.tableau.com/views/DataAnalystPortofolio01CanadaImmigration/Porto01CanadaImmigration?:language=en-US&publish=yes&:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/views/DataAnalystPortofolio01CanadaImmigration/Porto01CanadaImmigration?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link)

# Recommendation

1. Canada should limit the amount of immigrants from every country with certain quotas
2. Additional data is needed such as gender, religion, age, and job to obtain more reliable insights