62_Gabon

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1 How have imports of goods, services, and primary income evolved relative to exports of goods, services, and primary income in Gabon between 1980 and 2015?

1.1 Abstract

Using World Bank World Development Indicators (WDI) data, this study examines how imports of goods, services, and primary income have evolved relative to exports of the same in Gabon between 1980 and 2015. These indicators provide insight into Gabon's trade balance, economic openness, and integration into global markets. Over the period, both imports and exports increased significantly on average, albeit with slight year-to-year volatility reflecting changes in global commodity prices, domestic economic conditions, and regional trade dynamics. Exports consistently exceeded imports for most years, often by a noticeable margin, highlighting Gabon's status as a net exporter of goods and services. These trends illustrate not only the growth of Gabon's international economic engagement but also the stability of its export-oriented sectors relative to import demand.

1.2 1. Question

How have imports of goods, services, and primary income evolved relative to exports of goods, services, and primary income in Gabon between 1980 and 2015?

- **Imports proxy**: Imports of goods, services, and primary income (BoP, current USD)
- **Exports proxy**: Exports of goods, services, and primary income (BoP, current USD)

1.3 2. Data

- **Source**: World Bank World Development Indicators (WDI)
- **Indicators**:
  - Imports of goods, services, and primary income (current USD)
  - Exports of goods, services, and primary income (current USD)
- **Coverage**: Gabon, 1980–2015
- **Notes**: National-level data only

1.4 3. Method

1. Filtered the WDI dataset for Gabon and selected the relevant import and export indicators.
2. **Extracted relevant columns**: Year, Indicator Name, and Value.
3. Pivoted the dataset to create a chronological comparison of imports versus exports.

4. Produced a dual-line time series plot to visualize magnitude, volatility, and the relative balance between imports and exports.

(Analysis is descriptive; no causal inference applied.)

1.5 4. Results

- **Imports**: Increased steadily over the period with slight volatility, reflecting Gabon's growing demand for foreign goods, services, and capital flows.
- **Exports**: Also grew significantly, consistently exceeding imports for most years, indicating Gabon's net exporter position and reliance on key export sectors.
- **Comparison**: Despite minor year-to-year fluctuations, exports remained dominant, emphasizing Gabon's sustained external trade surplus and the relative stability of its export-oriented economic structure.

(Figure 1. Gabon: Imports vs. Exports of Goods, Services, and Primary Income, 1980–2015)

(Table 1. Pivoted dataset summary)

1.6 5. Interpretation

- The consistent export surplus reflects Gabon's specialization in exportable commodities and services, likely linked to oil, timber, and other primary sectors.
- Volatility in both imports and exports corresponds to global price shocks, commodity market fluctuations, and regional economic developments.
- These trends highlight Gabon's gradual integration into global markets while maintaining an overall positive trade balance.
- Understanding these dynamics provides insights into trade dependency, external vulnerability, and the scope for diversifying economic activity beyond primary exports.

1.7 6. Limitations

- Data are aggregate national estimates and may mask sectoral or regional disparities within Gabon.
- Descriptive analysis does not attribute changes to specific policy decisions, global market events, or domestic structural reforms.
- Volatility may be underestimated due to annual aggregation of highly fluctuating sectoral flows.

1.8 7. Next Steps / Extensions

- Examine the role of specific export sectors (oil, mining, timber) in driving the trade surplus.
- Disaggregate imports and exports by type of goods and services to analyze composition trends.
- Compare Gabon's trade balance trajectory with other Central African economies to contextualize regional integration.
- Explore correlations between trade surpluses, foreign direct investment, and macroeconomic stability to understand the broader implications for economic policy.

[1]:

```python
# How have imports of goods, services, and primary income evolved relative to␣
  ↪exports of goods, services, and primary income in Gabon between 1980 and␣
  ↪2015?

import pandas as pd
import matplotlib.pyplot as plt
import os

# Folders
data_raw_folder = "data_raw/"
data_clean_folder = "data_clean/"
figures_folder = "figures/"

# Load CSV
filename = "external-debt_gab_filtered.csv"  # Filtered dataset with only␣
  ↪relevant rows
df = pd.read_csv(os.path.join(data_raw_folder, filename))

# Keep only needed columns
df = df[["Year", "Indicator Name", "Value"]]

# Convert Year and Value to numeric, drop invalid rows
df["Year"] = pd.to_numeric(df["Year"], errors="coerce")
df["Value"] = pd.to_numeric(df["Value"], errors="coerce")
df = df.dropna(subset=["Year", "Value"])

# Pivot indicators into separate columns
df_pivot = df.pivot(index="Year", columns="Indicator Name", values="Value").
  ↪reset_index()
df_pivot = df_pivot.sort_values("Year")

print("Pivoted Gabon dataset:")
display(df_pivot)

# Interpolate missing values for smooth plotting (optional)
df_plot = df_pivot.interpolate(method='linear')

# Plot the indicators
plt.figure(figsize=(10,6))
plt.plot(df_plot["Year"], df_plot["Imports of goods, services and primary␣
  ↪income (BoP, current US$)"],
         marker='o', linestyle='-', label="Imports of goods, services and␣
  ↪primary income (BoP, current US$)")
plt.plot(df_plot["Year"], df_plot["Exports of goods, services and primary␣
  ↪income (BoP, current US$)"],
```

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```
        marker='o', linestyle='-', label="Exports of goods, services and␣
  ↪primary income (BoP, current US$)")

plt.title("Gabon: Imports vs Exports of goods, services and primary income␣
  ↪(BoP, current US$) (1980-2015)")
plt.xlabel("Year")
plt.ylabel("Number (BoP, current US$)")
plt.legend()
plt.grid(True)
plt.tight_layout()
plt.savefig(os.path.join(figures_folder,␣
  ↪"gabon_imports_vs_exports_of_goods_services_and_primary_income.png"))
plt.show()

# Save cleaned CSV
df_pivot.to_csv(os.path.join(data_clean_folder,␣
  ↪"gabon_imports_vs_exports_of_goods_services_and_primary_income"),␣
  ↪index=False)
```

Pivoted Gabon dataset:

```
Indicator Name  Year  \
0               1980
1               1981
2               1982
3               1983
4               1984
5               1985
6               1986
7               1987
8               1988
9               1989
10              1990
11              1991
12              1992
13              1993
14              1994
15              1995
16              1996
17              1997
18              1998
19              1999
20              2000
21              2001
22              2002
23              2003
24              2004
25              2005
```

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26             2007
27             2008
28             2009
29             2010
30             2011
31             2012
32             2013
33             2014
34             2015

Indicator Name  Exports of goods, services and primary income (BoP, current US$)␣
    ↪ \
0                                                      2433884334
1                                                      2533015569
2                                                      2350655210
3                                                      2244177962
4                                                      2203353502
5                                                      2119093001
6                                                      1215861456
7                                                      1417165341
8                                                      1423678146
9                                                      1933993570
10                                                     2750410751
11                                                     2579873010
12                                                     2654030076
13                                                     2669491150
14                                                     2596699940
15                                                     2978480794
16                                                     3608871527
17                                                     3303503818
18                                                     2183776803
19                                                     2859456687
20                                                     3541297780
21                                                     2808421359
22                                                     2650855481
23                                                     3392670226
24                                                     4236797956
25                                                     5638895999
26                                                     7120435056
27                                                     9281095980
28                                                     6867811011
29                                                     9442190173
30                                                    10660911362
31                                                    10164625218
32                                                     9670499631
33                                                     8557981460
34                                                     5501128936
```
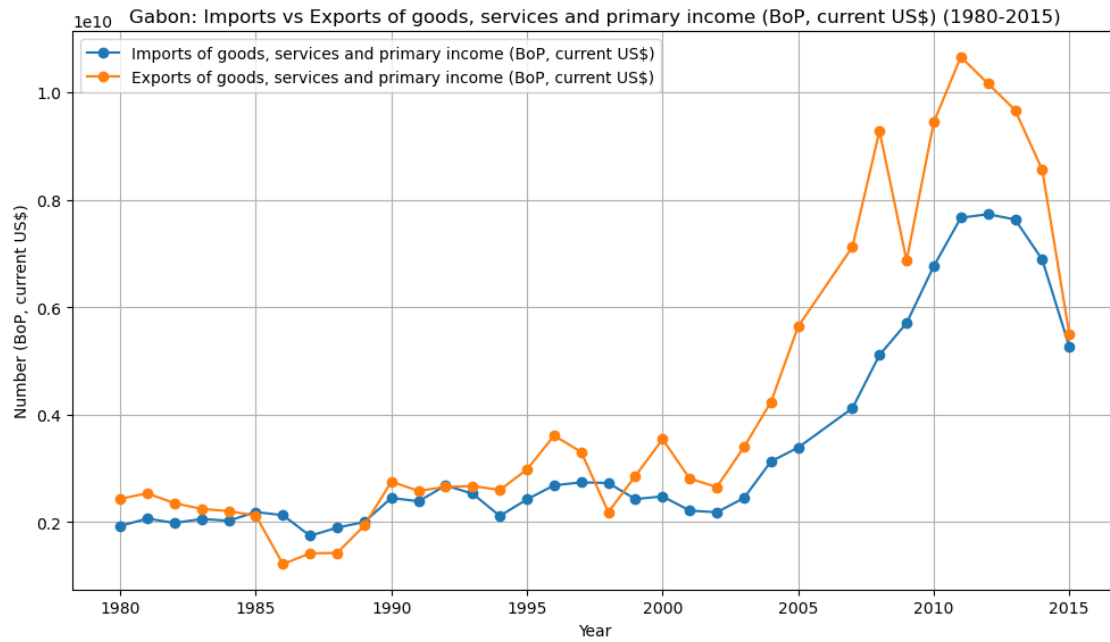
Indicator Name	Imports of goods, services and primary income (BoP, current US$)
0	1925979062
1	2064575134
2	1982068188
3	2056756378
4	2023541621
5	2185846779
6	2126472556
7	1742882782
8	1894924879
9	2000230091
10	2448388589
11	2385265936
12	2680098129
13	2526110623
14	2113274634
15	2421527554
16	2683330034
17	2737738308
18	2725878740
19	2426128156
20	2477238446
21	2212732325
22	2181681113
23	2445767778
24	3128460200
25	3386896487
26	4117842744
27	5109302740
28	5703766007
29	6762655203
30	7665284459
31	7731214900
32	7633207259
33	6887457550
34	5264760492

Gabon: Imports vs Exports of goods, services and primary income (BoP, current US$) (1980-2015)

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