

Banking Crises and Exports Report

1. Dataset Description

1.1 Source: Banking Crises and Exports dataset (39,588 records).

1.2 Columns:

- exporter – Country identifier (\approx many unique exporters).
- year – Year of observation (1980–present).
- product – Exported product category (thousands of unique products).
- tradevalue – Export value (continuous, highly skewed, ranging from very small to very large).
- tradeshare – Export share in total trade.
- expgrowth – Export growth rate (positive/negative).
- BANK – Indicator for banking crisis (1 = crisis year, 0 = no crisis).
- TWIN – Indicator for twin crises (banking + currency crisis).
- GDPgr – Domestic GDP growth rate.

1.3 Data Quality:

- Missing values present in some numeric variables (e.g., tradeshare, expgrowth).
- Exporter and product identifiers are clean.
- Panel data structure with many years across multiple exporters.

2. Operations Performed

2.1 Data Cleaning & Exploration

- Checked and summarized missing/null values.
- Unique counts of exporters and products observed.
- Summarized numerical columns (mean, median, standard deviation, IQR)

2.2 Descriptive Analytics

- Exporter distribution (pie chart – Top 10 exporters).
- Product distribution (bar chart – Top 10 products).
- Trade Value distribution (histogram + boxplot).
- Export Growth distribution (histogram + boxplot).
- Trade Share distribution (histogram).

2.3 Relationship Analysis

- Year vs Trade Value (bubble chart with Export Growth as bubble size).
- Exporter vs Average Trade Share (bar chart – Top 10).
- Trade Value variations across products (boxplot).
- Average Trade Value in Banking Crises vs non-crisis years.
- Export Growth during Twin Crises vs non-crisis.
- GDP Growth vs Trade Value (scatter).
- Crisis frequency over time (bar chart).

3. Key Insights

3.1 Export Patterns

- Trade is highly concentrated: a few exporters dominate global trade shares.
- Export values are heavily skewed, with very high values for top exporters and products.

3.2 Product-Level Insights

- A small number of product categories account for a large portion of exports.
- Trade value variation across products suggests uneven industry dependence.

3.3 Crisis Impact on Trade

- Average trade value is **lower during banking crises (BANK=1)** compared to normal years.
- Export growth drops significantly during **twin crises (TWIN=1)**.
- Crisis frequency varies across decades, with spikes during global financial turmoil.

3.4 GDP & Trade Relationship

- A positive correlation exists between GDP growth and trade values.
- Countries in recession years tend to have weaker export performance.

3.5 Geographic/Exporter Trends

- Certain exporters (top 10) consistently dominate trade shares.
- Smaller exporters remain marginal contributors in global trade.

4. Recommendations

4.1 Crisis Management

- Establish financial buffers for exporters during banking crises to stabilize trade flows.
- Closely monitor twin crises, as they amplify negative impacts on exports.

4.2 Export Diversification

- Encourage diversification across products and markets to reduce dependency risks.
- Invest in sectors less vulnerable to financial crises.

4.3 Policy Implications

- Link banking sector reforms with trade promotion policies.
- Use early-warning systems for crises to mitigate trade shocks.

4.4 GDP & Trade Growth Alignment

- Strengthen domestic growth policies, as GDP growth and trade performance move together.
- Support exporters during recessions with targeted fiscal/credit policies.

4.5 Future Analytics Opportunities

- Build predictive models for trade downturns during crises.
- Conduct exporter-level clustering (trade value, growth, crisis exposure).
- Study causal links between financial development indicators (BANK, FL, RZ) and trade performance.