🛡️🌐 Case Study 5: Capital Controls and Exchange Rate Regime Analysis (Outlier-Adjusted)

📋 Section 1: Analysis Overview

📊 External Data Sources & Periods

Capital Controls Data (1999-2017):

- **Source:** Fernández et al. (2016) Capital Control Measures Database
- **Metric:** Overall Restrictions Index (0-1 scale)
- **Coverage:** Multiple countries, annual frequency
- **Data Limitation:** Available through 2017 only
- **Processing:** R script: "Testing Correlation - Financial Openness and Capital Flow Variation.qmd"

Exchange Rate Regime Data (1999-2019):

- **Source:** Ilzetzki, Reinhart, and Rogoff (2019) Classification
- **Categories:** Hard Peg, Crawling/Tight, Managed Float, Free Float, Freely Falling, Dual Market
- **Data Limitation:** Available through 2019 only
- **Processing:** R script: "Analyzing Data by Currency Regime.qmd"

🎯 Analytical Approach & Limitations

Methodology:

1. **Capital Controls Analysis (1999-2017):** Examine correlation between financial openness and capital flow volatility
2. **Regime Analysis (1999-2019):** Compare volatility across different exchange rate regimes
3. **Statistical Testing:** Apply F-tests for variance equality (similar to CS4 methodology)

Data Period Limitations:

- **Different time windows** due to external data availability constraints
- **Capital controls:** Limited to 2017 (database constraint)
- **Exchange rate regimes:** Extended through 2019 (classification updates)
- **Shorter periods** than other case studies (1999-2025)

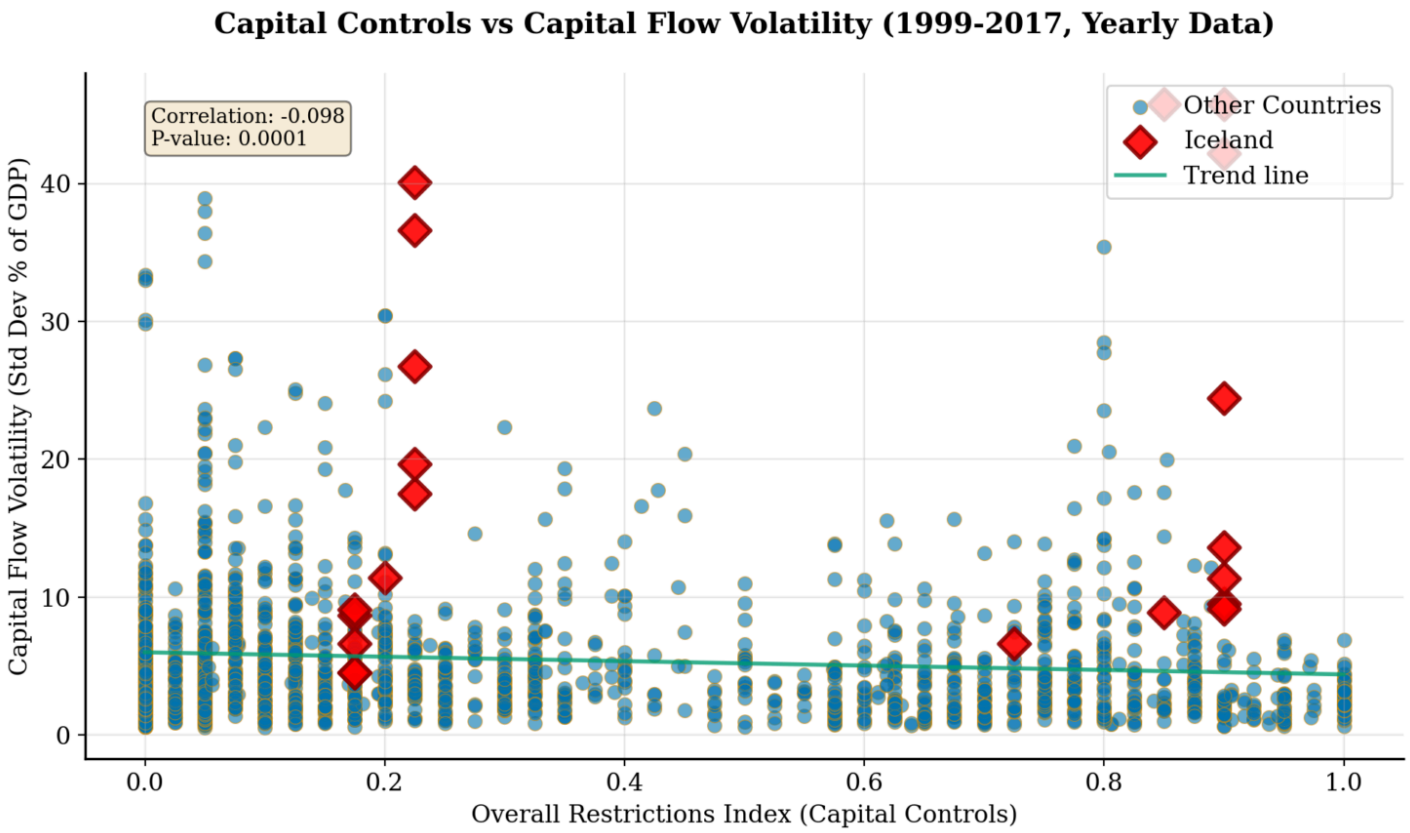
🔒 Section 2: Capital Controls Analysis (1999-2017)

Objective: Examine the relationship between capital controls (Overall Restrictions Index) and capital flow volatility

⏰ **Analysis Period:** 1999-2017 (limited by capital controls database availability)

📋 **Outlier-Adjusted Analysis:** This analysis uses 5% symmetric winsorization to assess the robustness of statistical findings to extreme values.

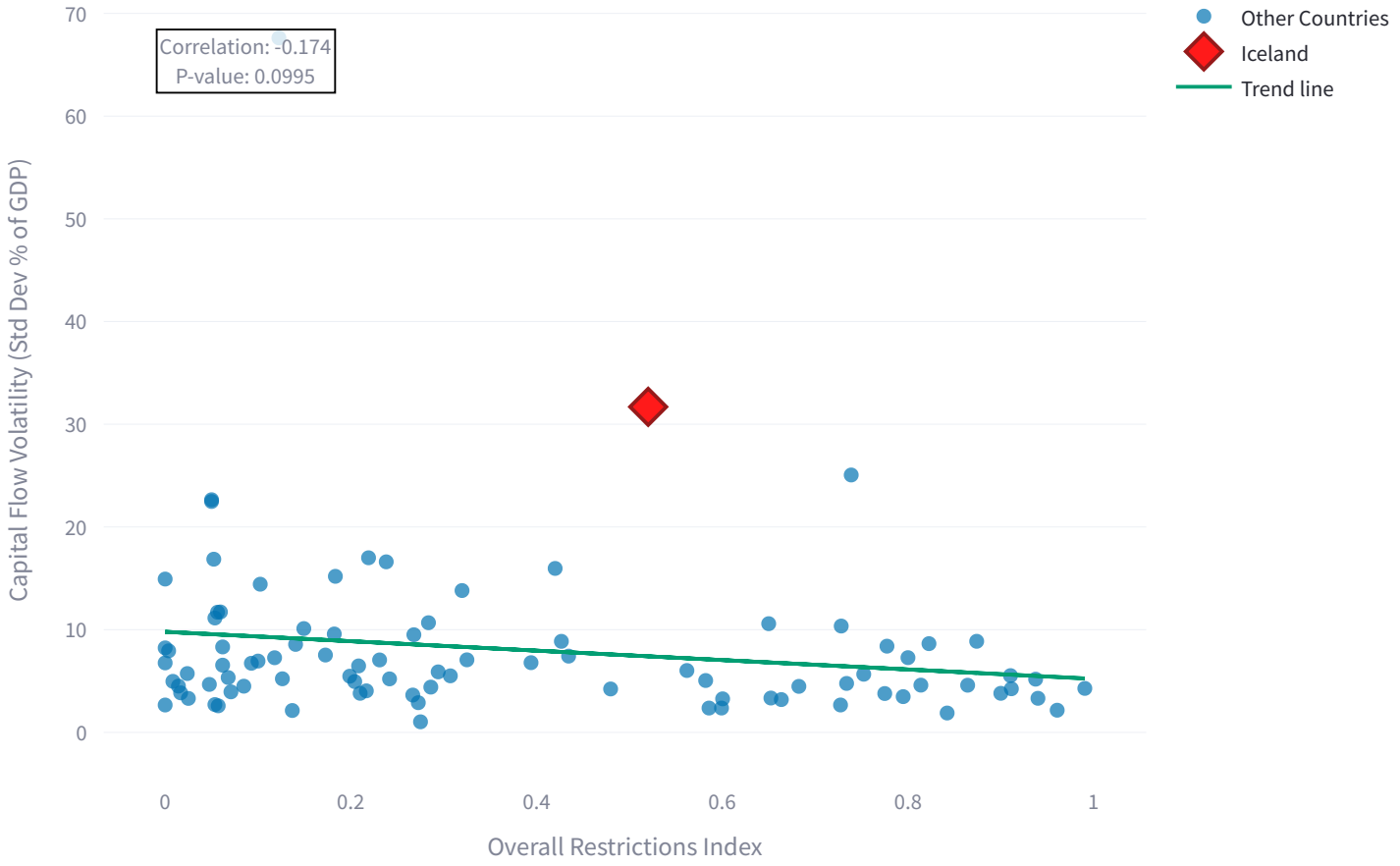
📈 Yearly Standard Deviations Analysis



Correlation: -0.098 | **P-value:** 0.0001

🌍 Country Aggregate Analysis

Country Aggregate: Capital Controls vs Capital Flow Volatility (1999-2017)



Correlation: -0.174 | **P-value:** 0.0995

Capital Controls Analysis Results

Key Findings:

- **Yearly Analysis:** Correlation = -0.098 (p = 0.0001)
- **Country Aggregate:** Correlation = -0.174 (p = 0.0995)

Statistical Interpretation:

- **Significant** relationship between capital controls and volatility at 5% level
- Negative correlation indicates that lower capital controls are associated with lower volatility
- Country-level aggregation confirms the yearly pattern

Methodological Notes:

- Correlation analysis captures association, not causation
- Heterogeneity across countries suggests varying institutional contexts
- Endogeneity considerations: controls may respond to volatility patterns
- Data uses winsorized values for robust statistical analysis

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💱 Section 3: Exchange Rate Regime Analysis (1999-2019)

Structure: Standard deviations and F-tests by exchange rate regime (EXACT CS4 Table 1 replication)

⏰ **Analysis Period:** 1999-2019 (extended coverage through regime classification updates)

📋 **Outlier-Adjusted Analysis:** This analysis uses 5% symmetric winsorization to assess the robustness of statistical findings to extreme values.

🎯 Table 1: Standard Deviation & F-test Results (All Indicators)

Data Period: 1999-2019 | **Note:** Analysis limited by exchange rate regime classification availability

Indicator/Period	Iceland	Hard Peg Weighted Avg	Hard Peg Simple Avg	Crawling/Tight Weighted Avg	Crawling/Tight Simple Avg	Managed Float Weighted Avg	Managed Float Simple Avg	Free Float Weighted Avg	Free Float Simple Avg	Freely Falling Weighted Avg	Freely Falling Simple Avg	Dual Market Weighted Avg	Dual Market Simple Avg
Net Capital Flows (Full)	21.9216	1.5709***	2.4443***	1.6679***	2.7074***	1.5199***	1.6542***	1.2431***	1.2561***	6.4177***	6.3095***	8.6826***	9.8183***
Net Capital Flows (Crisis-Excluded)	14.8052	1.4850***	2.1583***	1.6715***	2.6944***	1.3520***	1.5033***	1.2232***	1.2687***	6.3765***	6.6512***	8.6826**	9.8183*
Net Direct Investment (Full)	15.8180	1.2355***	2.8908***	0.7952***	2.6455***	1.0806***	1.1875***	0.8681***	1.0239***	1.3481***	1.9523***	1.8479***	2.9367***
Net Direct Investment (Crisis-Excluded)	10.6660	1.2872***	3.0300***	0.8180***	2.5107***	1.1400***	1.0913***	0.9101***	1.0668***	1.3016***	1.7733***	1.8479***	2.9367***
Net Portfolio Investment (Full)	26.8669	1.8972***	4.7815***	1.1866***	2.0576***	2.8811***	1.6722***	1.6786***	1.7382***	2.2972***	2.1897***	5.4021***	4.8766***
Net Portfolio Investment (Crisis-Excluded)	26.7467	1.9489***	4.8090***	1.1869***	2.2293***	2.7268***	1.6451***	1.6779***	1.6326***	2.3839***	2.2968***	5.4021***	4.8766***
Net Other Investment (Full)	27.1237	2.0349***	5.5531***	1.4448***	1.8084***	2.3143***	2.0180***	1.4692***	1.6881***	5.2223***	4.4777***	8.3700***	7.3079***
Net Other Investment (Crisis-Excluded)	24.6291	2.0933***	5.3316***	1.4441***	1.7904***	2.3593***	1.9610***	1.3767***	1.5767***	4.5499***	4.5969***	8.3700***	7.3079***

Interpretation: Standard deviations measure volatility levels. Stars indicate F-test significance for variance differences from Iceland: *** p<0.01, ** p<0.05, * p<0.10.

Color Coding:

- 🔴 **Red/Pink Background**: Iceland is MORE volatile than regime group (higher standard deviation)
- 🟢 **Green Background**: Iceland is LESS volatile than regime group (lower standard deviation)
- ⚪ **No Color**: No statistically significant difference

Data Period Note: Analysis covers 1999-2019, shorter than other case studies due to regime classification data constraints.

📈 Summary Insights

Exchange Rate Regimes

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Complete regime coverage: Hard Peg, Crawling/Tight, Managed Float, Free Float, Freely Falling, Dual Market

Time Periods

2

Full Period & Crisis-Excluded

Statistical Tests

F-tests

Variance equality testing (CS4 methodology)

📥 Export Results

📥 Download Master Exchange Rate Regime Table (CSV)