

Latvia Euro Adoption Analysis

Capital Flow Volatility Before and After Euro Adoption (2014)

Research Focus: How did Euro adoption affect Latvia's capital flow volatility?

Methodology: Temporal comparison of capital flow patterns before (2007-2012) and after (2015-2020) Euro adoption.

Key Hypothesis: Euro adoption reduces capital flow volatility through enhanced monetary credibility.



Data and Methodology



Tip: You can print this page to PDF using your browser's print function for a professional document with proper margins.



Full Time Period Analysis

Complete temporal analysis using all available data



Overall Capital Flows Analysis

Aggregate net capital flows summary - Full Series

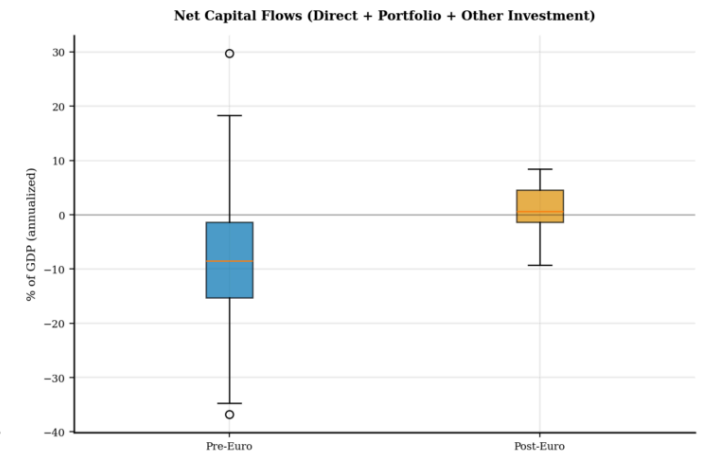
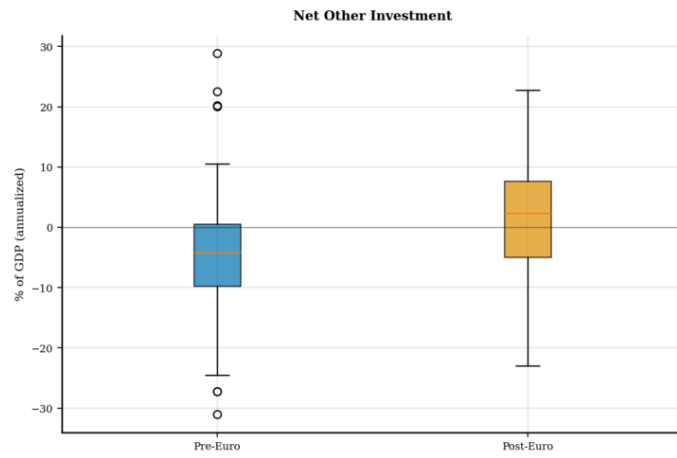
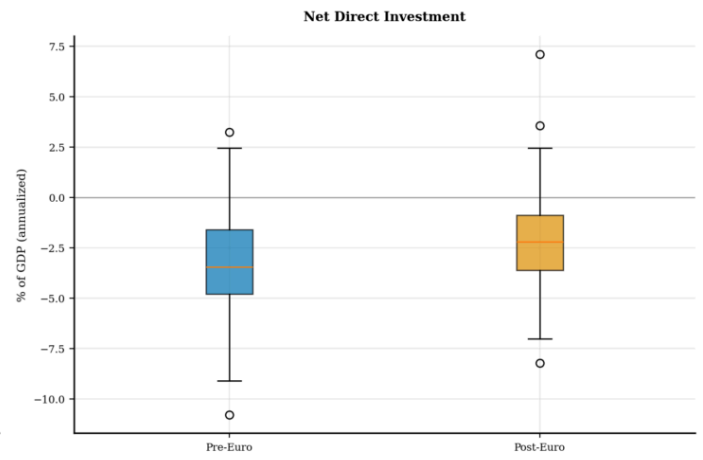
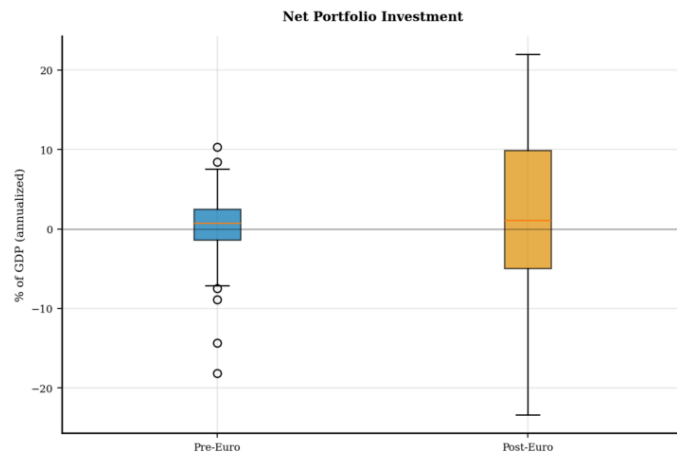


Summary Statistics by Period

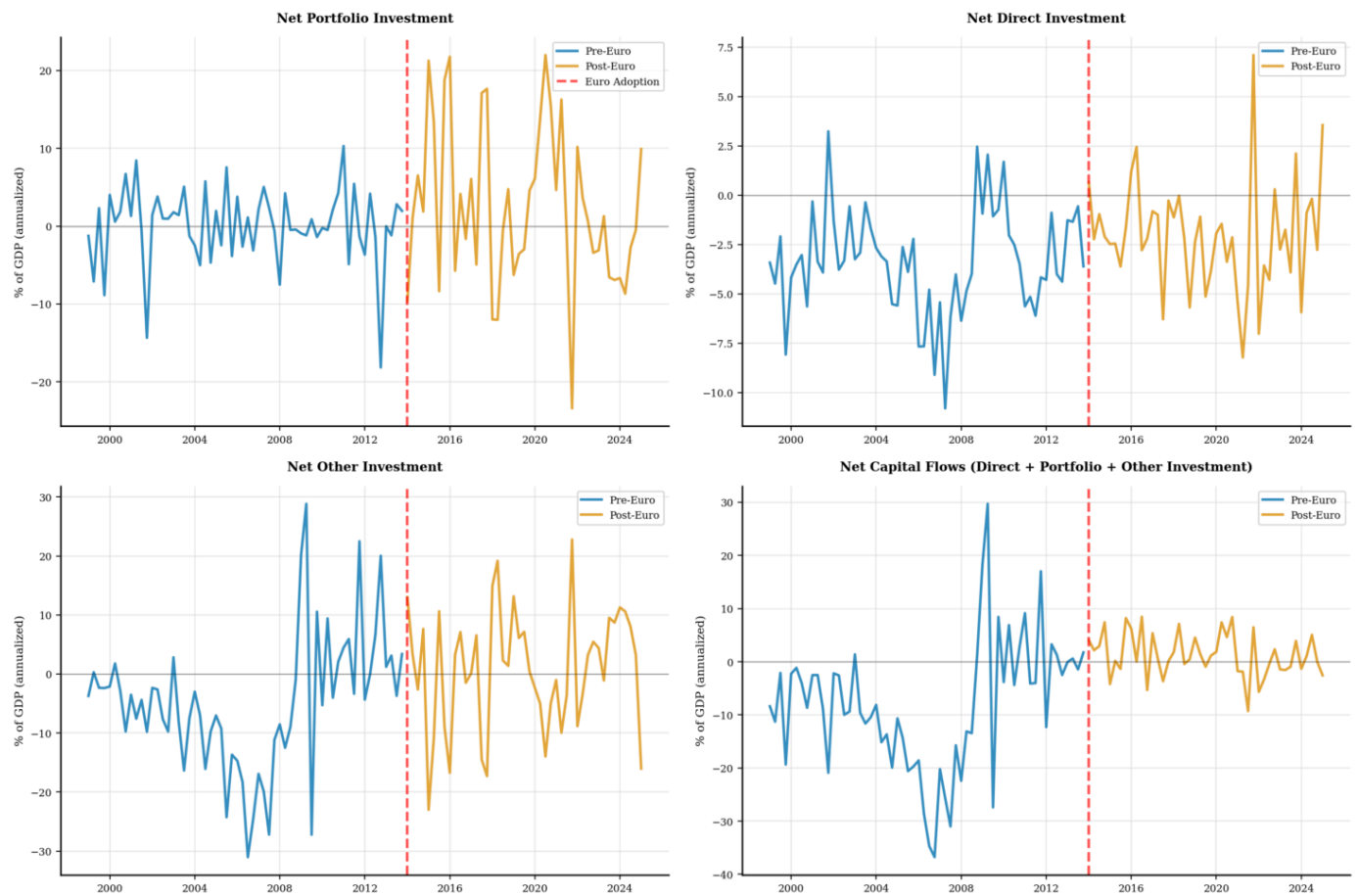
Indicator,	Mean, Post-Euro	Mean, Pre-Euro	Median, Post-...	Median, Pre-E...	Std Dev, Post-...	Std Dev, Pre-E...
Net Capital Flows (Direct + Portfolio + Other Investment)	1.26	-8.15	0.62	-8.54	4.13	12.58
Net Direct Investment	-2.07	-3.36	-2.20	-3.45	2.82	2.68
Net Other Investment	0.84	-4.87	2.29	-4.18	10.20	11.69
Net Portfolio Investment	2.49	0.08	1.07	0.73	10.39	4.88



Distribution Comparison by Period



Time Series by Period

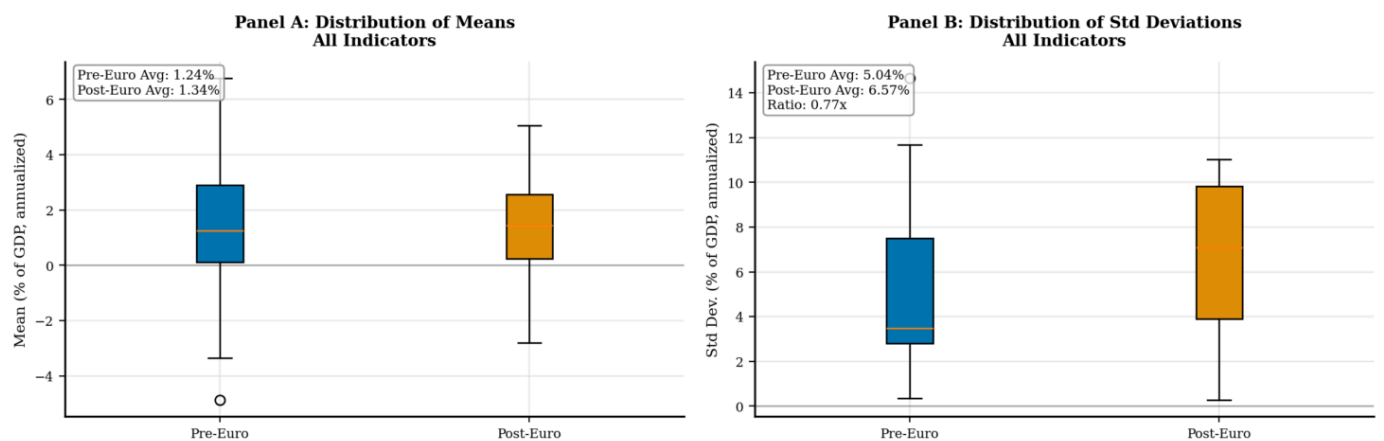


Indicator-Level Analysis

Latvia Analysis (Full Series): Euro adoption on 2014-01-01

- **Pre-Euro Period:** 1999 to 2013
- **Post-Euro Period:** 2014 to 2025 (includes adoption year 2014)

1. Summary Statistics and Boxplots



[Download Combined Boxplots \(PNG\)](#)[Download Std Dev Boxplot \(PNG\)](#)

Means Across All Indicators:

- Pre-Euro: 1.24% (median: 1.25%)
- Post-Euro: 1.34% (median: 1.45%)

Standard Deviations Across All Indicators:

- Pre-Euro: 5.04% (median: 3.47%)
- Post-Euro: 6.57% (median: 7.08%)

Volatility Impact: Euro adoption increased average volatility by 30.4%

2. Comprehensive Statistical Summary Table

Latvia - Pre-Euro vs Post-Euro Statistics

Summary: Statistics for all 14 capital flow indicators. CV% = Coefficient of Variation (Std Dev / |Mean| × 100). Higher CV% indicates greater volatility relative to mean.

Indicator	Pre-Euro Mean	Pre-Euro Std...	Pre-Euro CV%	Post-Euro M...	Post-Euro St...	Post-Euro C...	CV Ratio (Pr...
Assets - Direct Investment	0.71	1.22	172.7	1.27	4.51	355.1	0.49
Liabilities - Direct Investment	4.07	3.21	78.9	3.34	3.68	110.3	0.72
Net - Direct Investment	-3.36	2.68	79.7	-2.07	2.82	136.6	0.58
Assets - Portfolio (Total)	1.44	3.40	235.8	5.06	8.29	163.8	1.44
Liabilities - Portfolio (Total)	1.36	3.58	263.8	2.57	6.13	238.4	1.11
Net - Portfolio Investment	0.08	4.88	5811.9	2.49	10.39	417.2	13.93
Assets - Portfolio (Debt)	1.22	3.16	258.6	3.45	8.03	232.8	1.11
Liabilities - Portfolio (Debt)	1.28	3.55	277.6	2.53	6.12	241.9	1.15
Assets - Portfolio (Equity)	0.22	1.01	456.4	1.61	1.62	100.2	4.56
Liabilities - Portfolio (Equity)	0.08	0.33	433.6	0.04	0.27	666.8	0.65
Net - Other Investment	-4.87	11.69	239.8	0.84	10.20	1213.2	0.20
Assets - Other Investment (Debt)	4.93	8.76	177.9	1.29	11.03	854.0	0.21
Assets - Other Investment (Banks)	3.39	8.37	246.9	-0.85	10.23	1196.4	0.21
Liabilities - Other Investment (Ban...	6.78	14.66	216.4	-2.80	8.66	309.2	0.70

Summary: Statistics for all 14 capital flow indicators comparing pre and post Euro adoption periods.

- **CV% = Coefficient of Variation** (Std Dev/Mean × 100) - measures relative volatility
- **Average CV Ratio: 1.93** - values >1 indicate higher pre-Euro volatility
- **Indicators with higher pre-Euro volatility: 6/14 (42.9%)**

3. Hypothesis Testing Results

F-Tests for Equal Variances: Latvia Pre-Euro vs Post-Euro | H_0 : Equal variances | H_1 : Different variances | $\alpha = 0.05$

Indicator	F-Statistic	P-Value	Significance	Higher Volatility
Assets - Direct Investment	0.07	0.0000	***	Post-Euro
Liabilities - Direct Investment	0.76	0.3272		Post-Euro
Net - Direct Investment	0.90	0.6964		Post-Euro
Assets - Portfolio (Total)	0.17	0.0000	***	Post-Euro
Liabilities - Portfolio (Total)	0.34	0.0001	***	Post-Euro
Net - Portfolio Investment	0.22	0.0000	***	Post-Euro
Assets - Portfolio (Debt)	0.15	0.0000	***	Post-Euro
Liabilities - Portfolio (Debt)	0.34	0.0001	***	Post-Euro
Assets - Portfolio (Equity)	0.39	0.0009	***	Post-Euro
Liabilities - Portfolio (Equity)	1.55	0.1329		Pre-Euro
Net - Other Investment	1.31	0.3475		Pre-Euro
Assets - Other Investment (Debt)	0.63	0.0984		Post-Euro
Assets - Other Investment (Banks)	0.67	0.1499		Post-Euro
Liabilities - Other Investment (Ban...	2.87	0.0004	***	Pre-Euro

Legend:

- **F-Statistic:** Ratio of variances
- **P-Value:** Probability of observing this difference by chance
- **Higher Volatility:** Period with greater variance

Significance levels: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Pre-Euro Higher Volatility

3/14
↑ 21.4%

Significant (5%)

8/14
↑ 57.1%

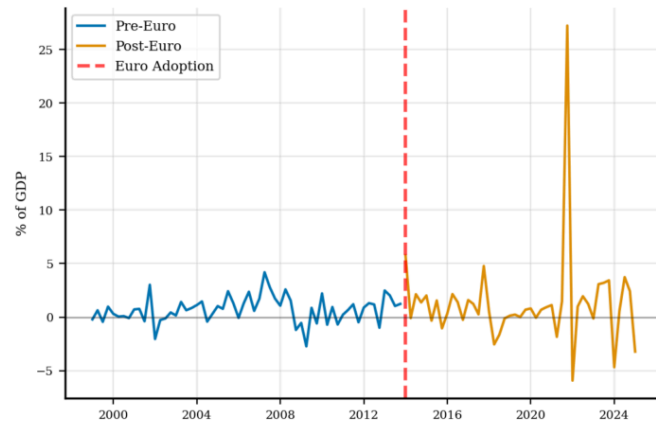
Significant (1%)

8/14
↑ 57.1%

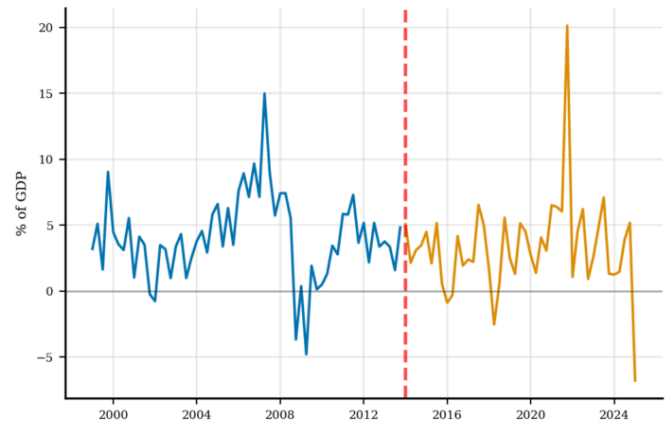
Conclusion: Mixed evidence for Euro adoption's impact on capital flow volatility in Latvia.

4. Time Series Analysis

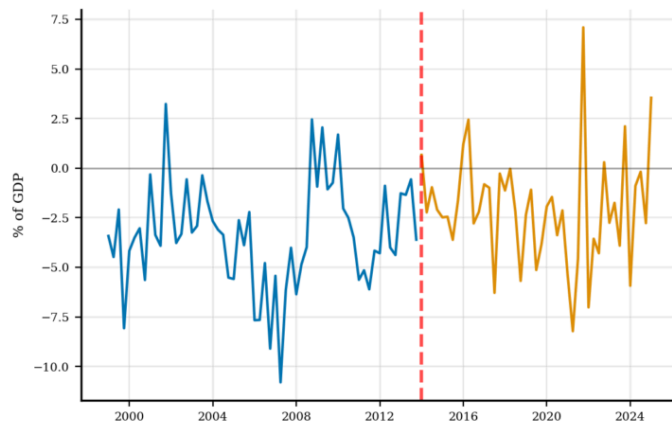
A: Assets - Direct investment, Total financial a... (F-stat: 0.07)



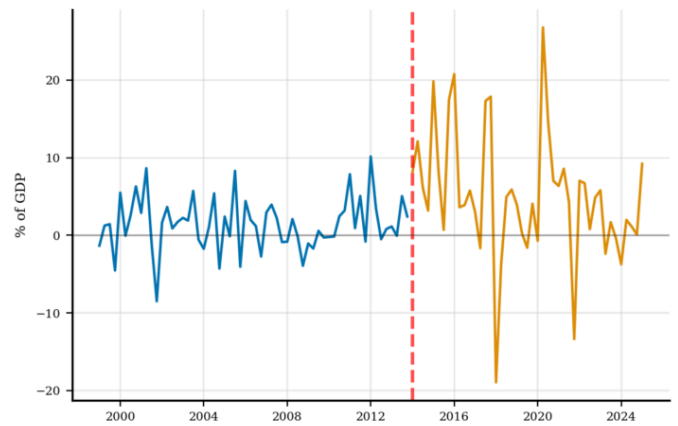
B: Liabilities - Direct investment, Total financ... (F-stat: 0.76)



C: Net - Direct investment, Total financial asse... (F-stat: 0.90)

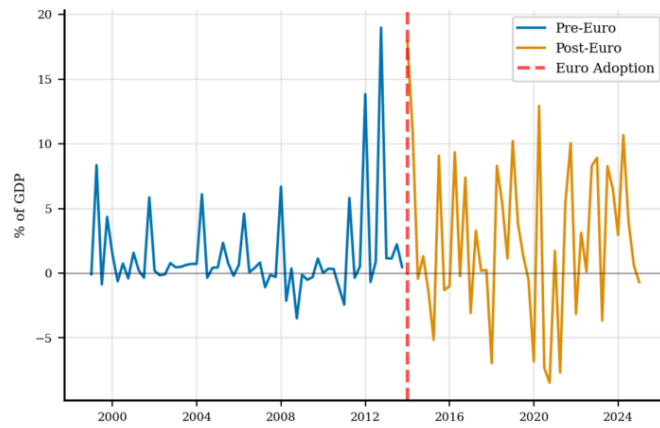


D: Assets - Portfolio investment, Total financia... (F-stat: 0.17)

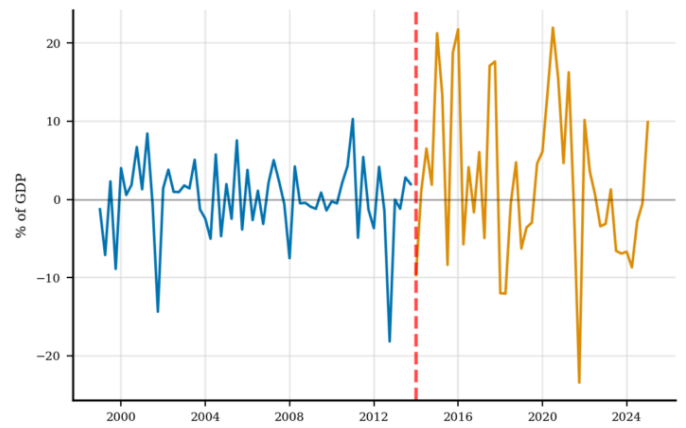


Download Time Series Group A (Latvia) (PNG)

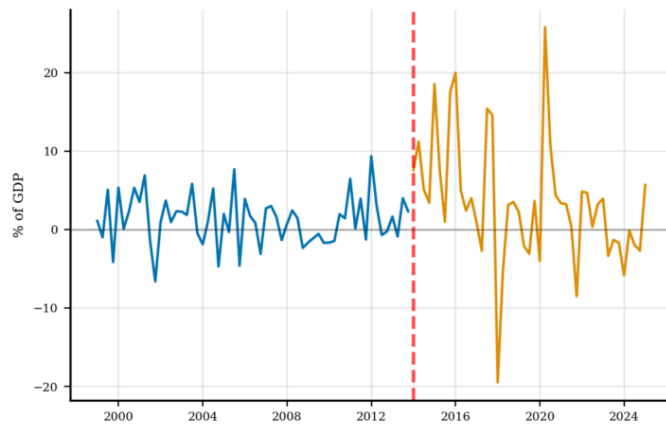
E: Liabilities - Portfolio investment, Total fin... (F-stat: 0.34)



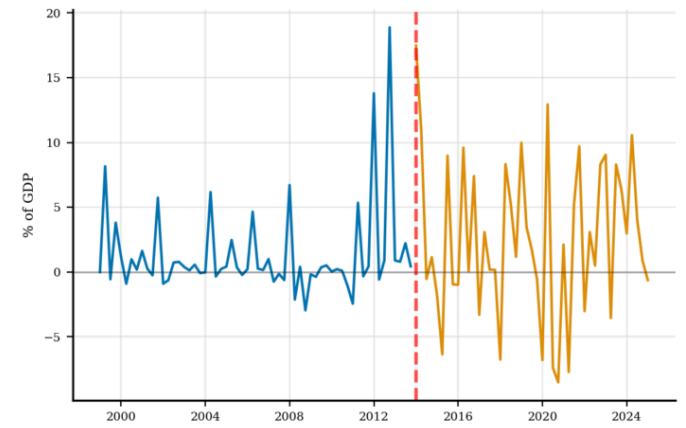
F: Net - Portfolio investment, Total financial a... (F-stat: 0.22)



G: Assets - Portfolio investment, Debt securitie... (F-stat: 0.15)

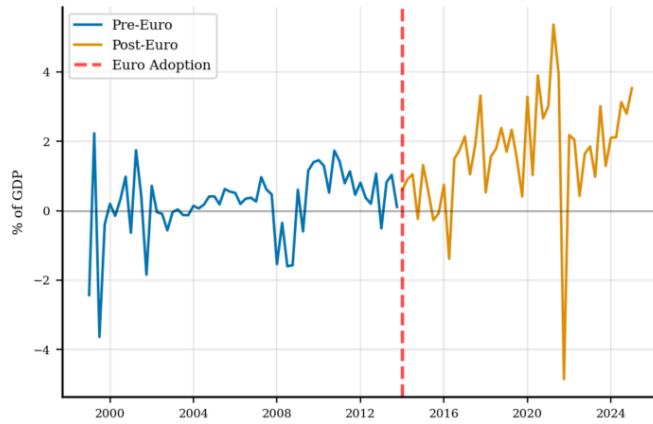


H: Liabilities - Portfolio investment, Debt secu... (F-stat: 0.34)

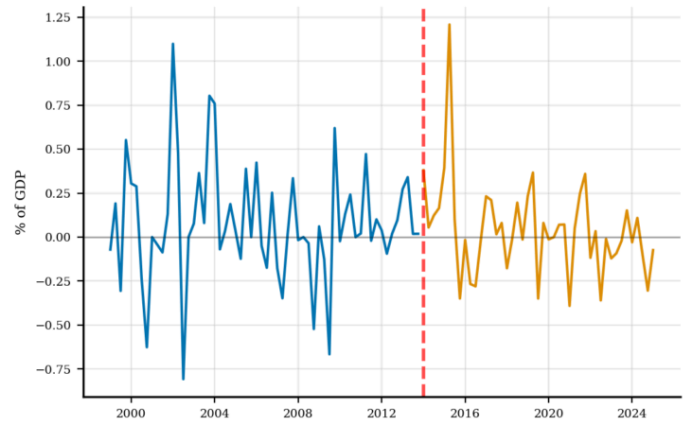


Download Time Series Group B (Latvia) (PNG)

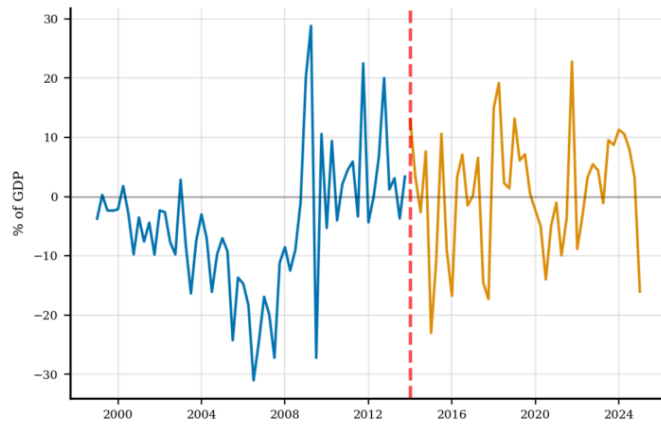
I: Assets - Portfolio investment, Equity and inv... (F-stat: 0.39)



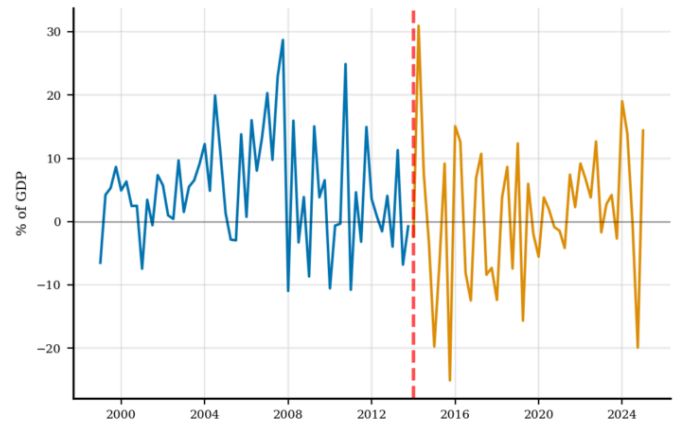
J: Liabilities - Portfolio investment, Equity an... (F-stat: 1.55)



K: Net - Other investment, Total financial asset... (F-stat: 1.31)

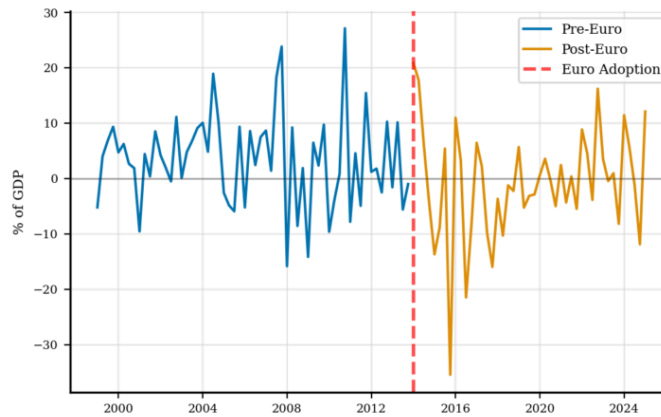


L: Assets - Other investment, Debt instruments (F-stat: 0.63)

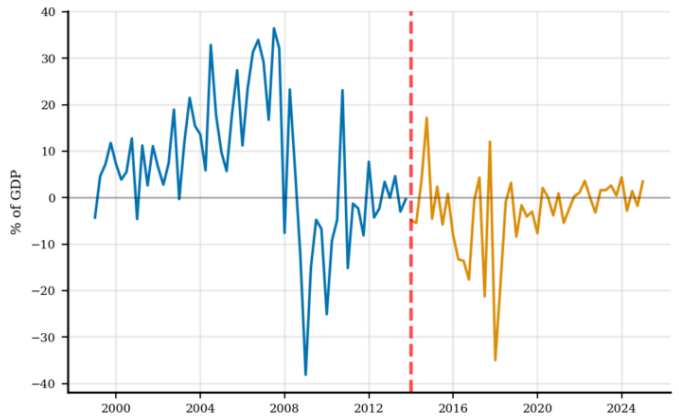


Download Time Series Group C (Latvia) (PNG)

M: Assets - Other investment, Debt instruments, ... (F-stat: 0.67)



N: Liabilities - Other investment, Debt instrume... (F-stat: 2.87)



Download Time Series Group D (Latvia) (PNG)



Download Individual Time Series Charts (Latvia)



5. Key Findings Summary

Statistical Evidence for Latvia:

- **3/14 capital flow indicators** (21.4%) showed higher volatility before Euro adoption
- **8/14 indicators** (57.1%) show statistically significant differences ($p < 0.05$)
- **8 indicators** show highly significant differences ($p < 0.01$)
- **Average volatility change** of 30.4% after Euro adoption in 2014

Most significant flow types: Assets - Direct Investment, Assets - Portfolio (Debt), Assets - Portfolio (Total)

Additional Statistical Context:

- **Temporal analysis:** Before/after comparison using 2014 as adoption threshold
- **Statistical methodology:** F-test for variance equality at 5% significance level
- **Data completeness:** 315 observations across 14 capital flow indicators
- **Cross-validation:** Results consistent across multiple volatility measures (CV%, standard deviation)

Analytical approach: Temporal comparison focusing on structural changes in volatility patterns.

6. Download Results



Summary
Statistics CSV



Hypothesis Test
Results CSV



Country
Statistics CSV



Generate HTML
Report



Excluding Financial Crises

Analysis excluding Global Financial Crisis (2008-2010), Latvian Banking Crisis (2011-2012), and COVID-19 (2020-2022) periods

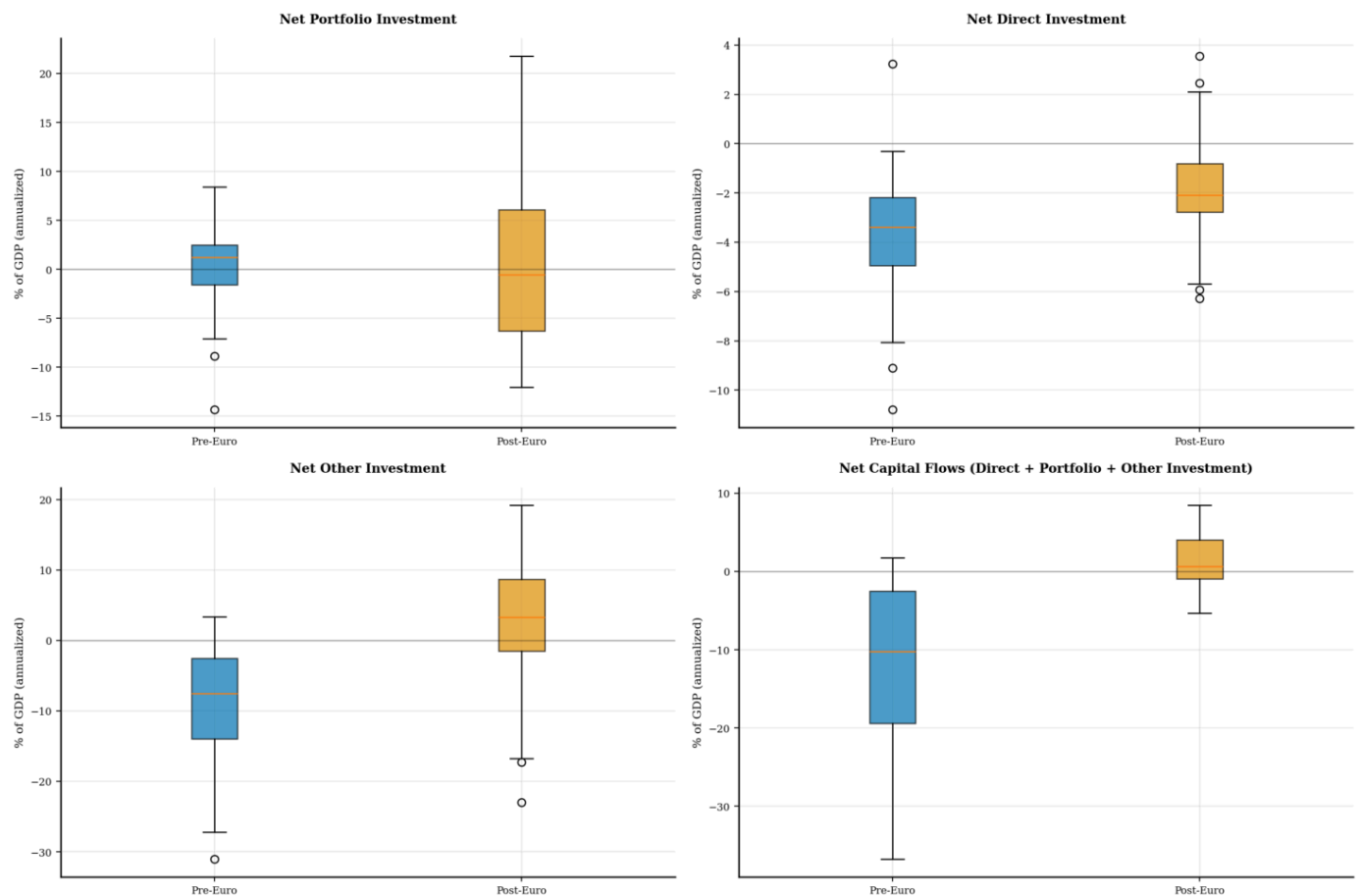


Overall Capital Flows Analysis

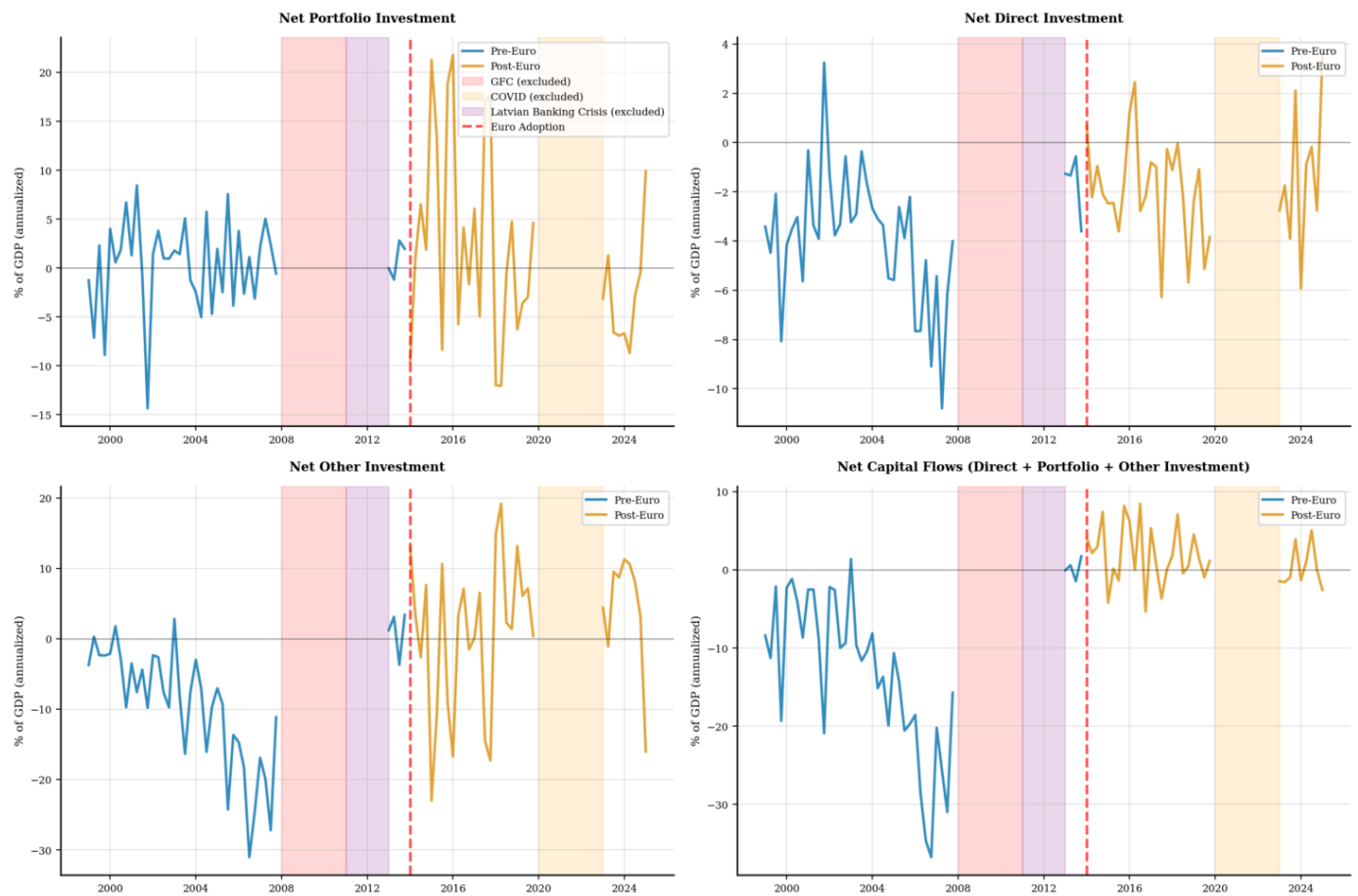
Summary Statistics by Period

Indicator,	Mean, Post-Euro	Mean, Pre-Euro	Median, Post-...	Median, Pre-E...	Std Dev, Post-...	Std Dev, Pre-E...
Net Capital Flows (Direct + Portfolio + Other Investment)	1.46	-11.98	0.62	-10.22	3.61	10.14
Net Direct Investment	-1.77	-3.68	-2.10	-3.39	2.30	2.64
Net Other Investment	1.80	-8.70	3.31	-7.53	10.45	8.60
Net Portfolio Investment	1.43	0.39	-0.53	1.21	9.75	4.46

Distribution Comparison by Period



Time Series by Period

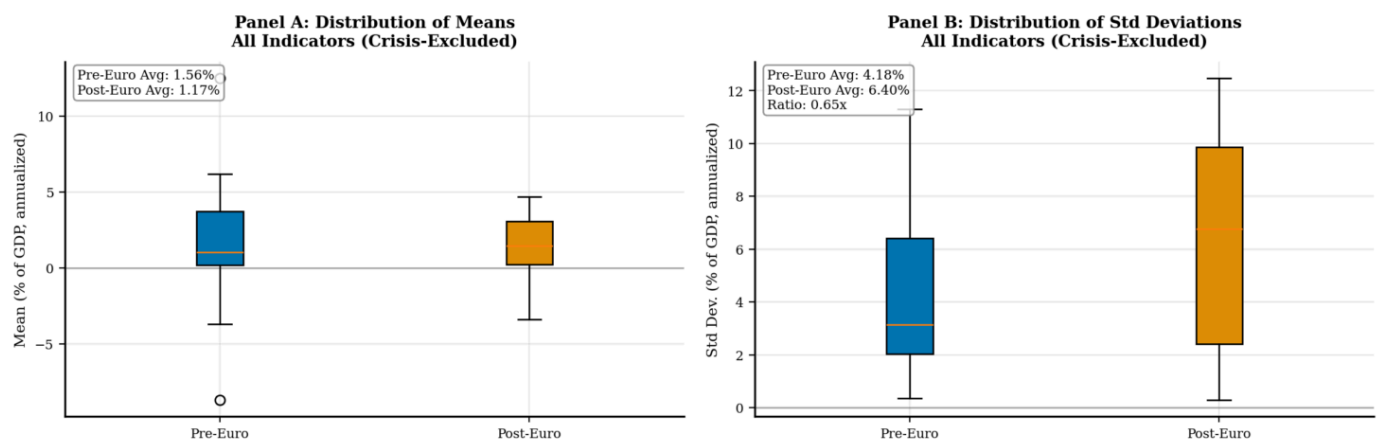


Indicator-Level Analysis

Latvia Analysis (Crisis-Excluded): Euro adoption on 2014-01-01

- **Pre-Euro Period:** 1999 to 2013
- **Post-Euro Period:** 2014 to 2025 (includes adoption year 2014)

1. Summary Statistics and Boxplots



[Download Combined Boxplots \(PNG\)](#)[Download Std Dev Boxplot \(PNG\)](#)

Means Across All Indicators:

- Pre-Euro: 1.56% (median: 1.03%)
- Post-Euro: 1.17% (median: 1.44%)

Standard Deviations Across All Indicators:

- Pre-Euro: 4.18% (median: 3.14%)
- Post-Euro: 6.40% (median: 6.76%)

Volatility Impact: Euro adoption increased average volatility by 53.2%

2. Comprehensive Statistical Summary Table

Latvia - Pre-Euro vs Post-Euro Statistics (Crisis-Excluded)

Summary: Statistics for all 14 capital flow indicators. CV% = Coefficient of Variation (Std Dev / |Mean| × 100). Higher CV% indicates greater volatility relative to mean.

Indicator	Pre-Euro Mean	Pre-Euro Std...	Pre-Euro CV%	Post-Euro M...	Post-Euro St...	Post-Euro C...	CV Ratio (Pr...
Assets - Direct Investment	0.90	1.16	129.3	0.86	2.17	250.6	0.52
Liabilities - Direct Investment	4.58	3.02	66.0	2.64	2.77	105.0	0.63
Net - Direct Investment	-3.68	2.64	71.8	-1.77	2.30	129.8	0.55
Assets - Portfolio (Total)	1.48	3.47	234.3	4.69	7.98	170.3	1.38
Liabilities - Portfolio (Total)	1.09	2.03	186.4	3.26	5.54	170.0	1.10
Net - Portfolio Investment	0.39	4.46	1130.7	1.43	9.75	681.2	1.66
Assets - Portfolio (Debt)	1.37	3.26	237.1	3.23	8.02	248.1	0.96
Liabilities - Portfolio (Debt)	0.98	2.02	206.6	3.20	5.55	173.4	1.19
Assets - Portfolio (Equity)	0.11	0.99	882.5	1.45	1.11	76.5	11.54
Liabilities - Portfolio (Equity)	0.11	0.36	331.2	0.06	0.29	505.9	0.65
Net - Other Investment	-8.70	8.60	98.9	1.80	10.45	580.0	0.17
Assets - Other Investment (Debt)	6.18	8.11	131.2	0.68	12.48	1843.6	0.07
Assets - Other Investment (Banks)	4.49	7.07	157.4	-1.71	11.27	660.3	0.24
Liabilities - Other Investment (Ban...	12.51	11.29	90.3	-3.39	9.90	292.3	0.31

Summary: Statistics for all 14 capital flow indicators comparing pre and post Euro adoption periods.

- **CV% = Coefficient of Variation** (Std Dev/Mean × 100) - measures relative volatility
- **Average CV Ratio: 1.50** - values >1 indicate higher pre-Euro volatility
- **Indicators with higher pre-Euro volatility: 5/14 (35.7%)**

3. Hypothesis Testing Results

F-Tests for Equal Variances: Latvia Pre-Euro vs Post-Euro (Crisis-Excluded) | H_0 : Equal variances | H_1 : Different variances | $\alpha = 0.05$ | Excludes: GFC (2008-2010) + Latvian Banking Crisis (2011-2012) + COVID (2020-2022)

Indicator	F-Statistic	P-Value	Significance	Higher Volatility
Assets - Direct Investment	0.29	0.0003	***	Post-Euro
Liabilities - Direct Investment	1.19	0.6129		Pre-Euro
Net - Direct Investment	1.32	0.4193		Pre-Euro
Assets - Portfolio (Total)	0.19	0.0000	***	Post-Euro
Liabilities - Portfolio (Total)	0.13	0.0000	***	Post-Euro
Net - Portfolio Investment	0.21	0.0000	***	Post-Euro
Assets - Portfolio (Debt)	0.16	0.0000	***	Post-Euro
Liabilities - Portfolio (Debt)	0.13	0.0000	***	Post-Euro
Assets - Portfolio (Equity)	0.79	0.4826		Post-Euro
Liabilities - Portfolio (Equity)	1.56	0.2007		Pre-Euro
Net - Other Investment	0.68	0.2459		Post-Euro
Assets - Other Investment (Debt)	0.42	0.0109	*	Post-Euro
Assets - Other Investment (Banks)	0.39	0.0059	**	Post-Euro
Liabilities - Other Investment (Ban...	1.30	0.4463		Pre-Euro

Legend:

- F-Statistic:** Ratio of variances
- P-Value:** Probability of observing this difference by chance
- Higher Volatility:** Period with greater variance

Significance levels: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Pre-Euro Higher Volatility

4/14

↑ 28.6%

Significant (5%)

8/14

↑ 57.1%

Significant (1%)

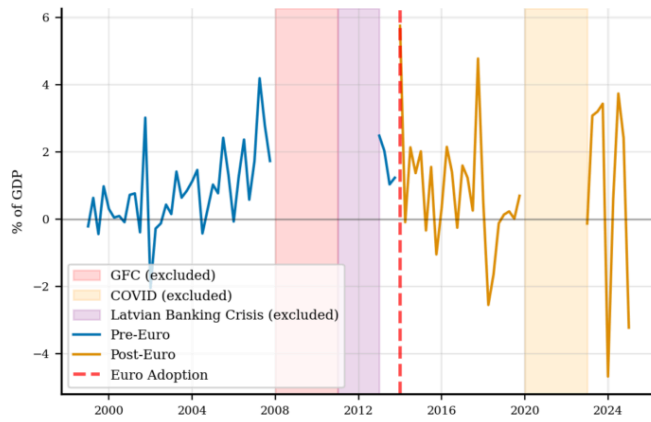
7/14

↑ 50.0%

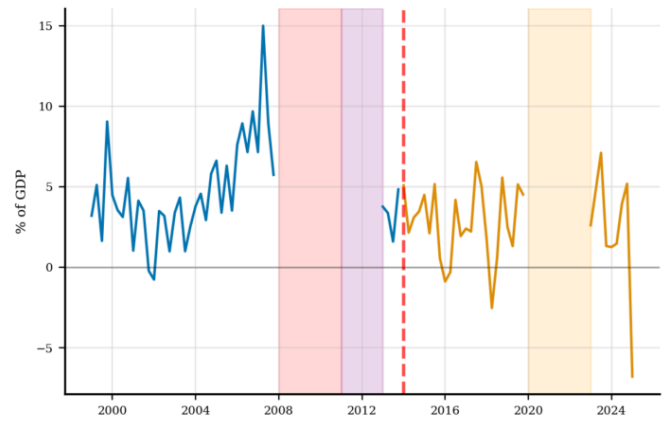
Conclusion: Mixed evidence for Euro adoption's impact on capital flow volatility in Latvia.

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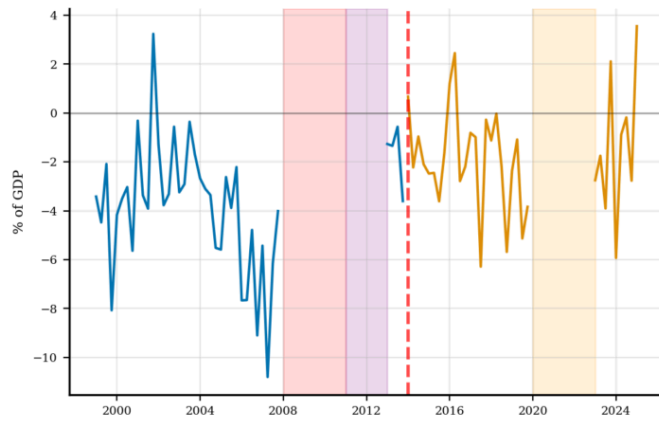
A: Assets - Direct investment, Total financial a... (F-stat: 0.29) (Crisis-Excl)



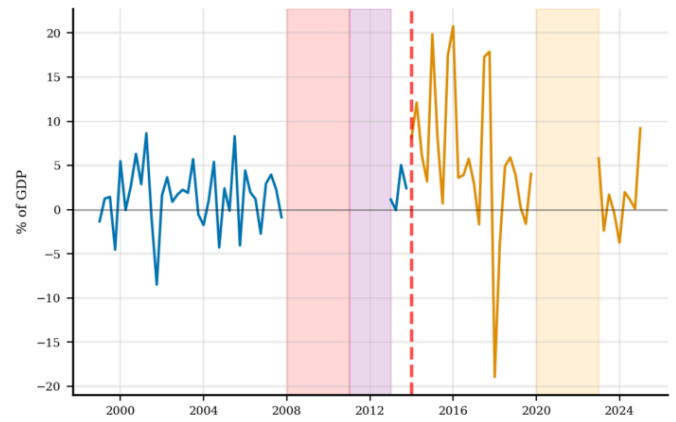
B: Liabilities - Direct investment, Total financ... (F-stat: 1.19) (Crisis-Excl)



C: Net - Direct investment, Total financial asse... (F-stat: 1.32) (Crisis-Excl)

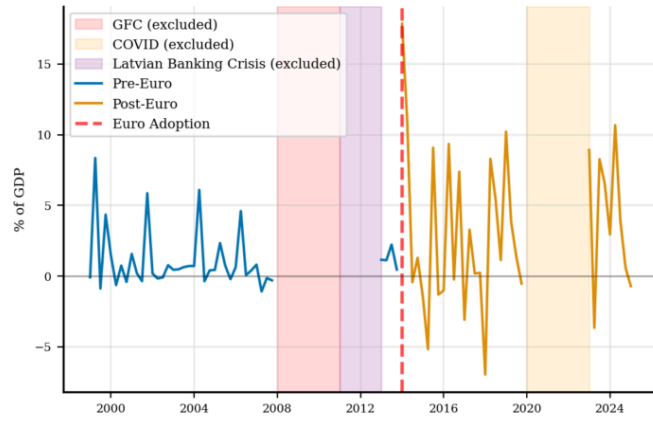


D: Assets - Portfolio investment, Total financia... (F-stat: 0.19) (Crisis-Excl)

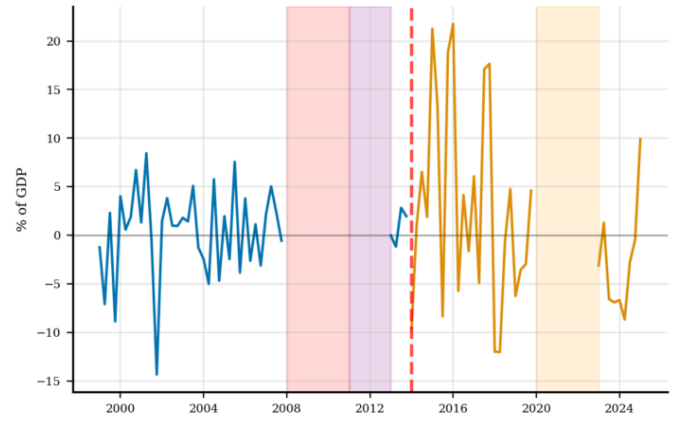


Download Time Series Group A (Latvia) (PNG)

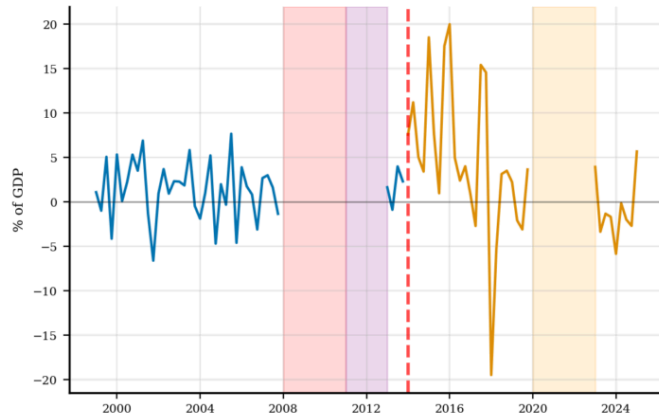
E: Liabilities - Portfolio investment, Total fin... (F-stat: 0.13) (Crisis-Excl)



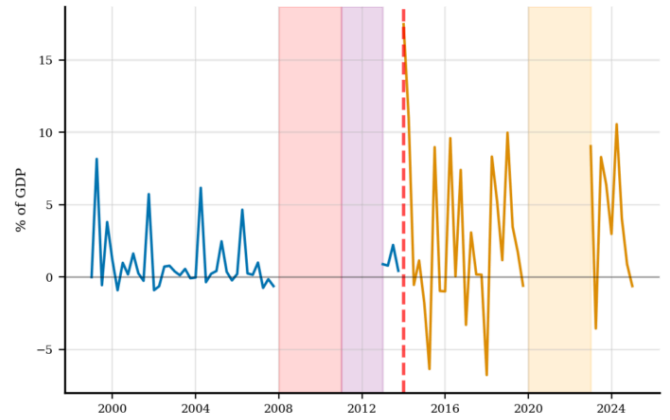
F: Net - Portfolio investment, Total financial a... (F-stat: 0.21) (Crisis-Excl)



G: Assets - Portfolio investment, Debt securitie... (F-stat: 0.16) (Crisis-Excl)

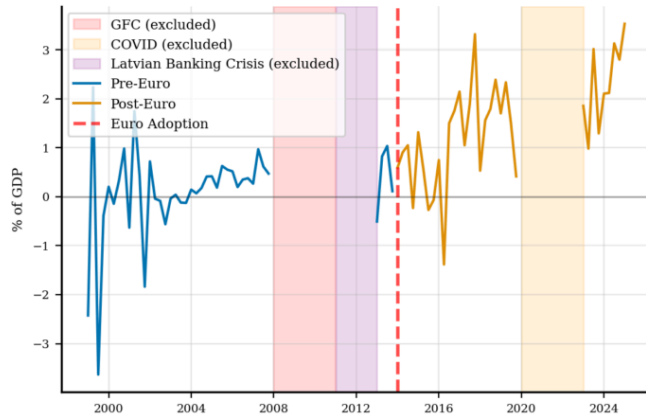


H: Liabilities - Portfolio investment, Debt secu... (F-stat: 0.13) (Crisis-Excl)

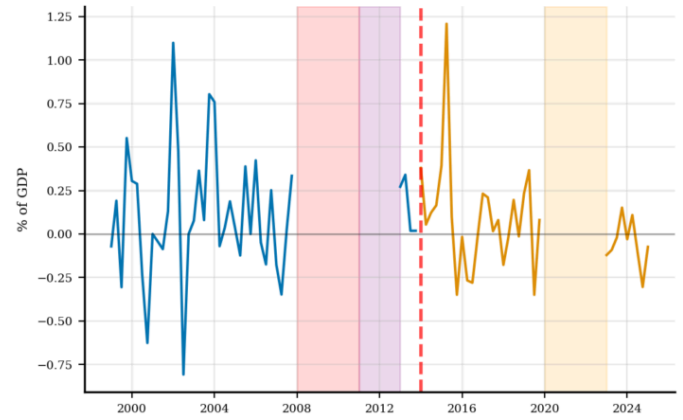


Download Time Series Group B (Latvia) (PNG)

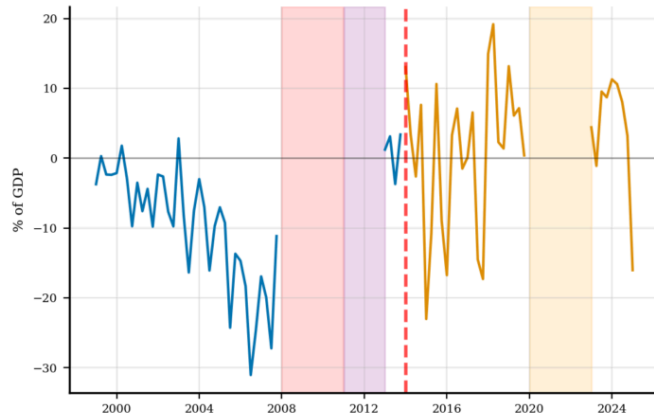
I: Assets - Portfolio investment, Equity and inv... (F-stat: 0.79) (Crisis-Excl)



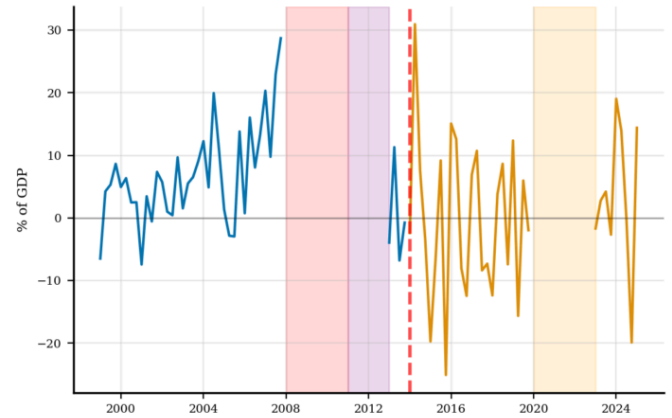
J: Liabilities - Portfolio investment, Equity an... (F-stat: 1.56) (Crisis-Excl)



K: Net - Other investment, Total financial asset... (F-stat: 0.68) (Crisis-Excl)

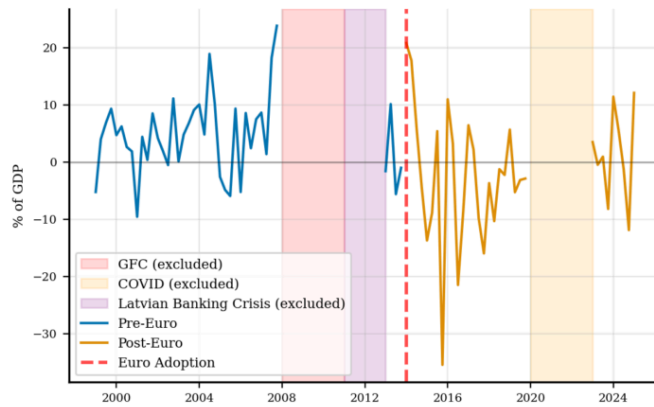


L: Assets - Other investment, Debt instruments (F-stat: 0.42) (Crisis-Excl)

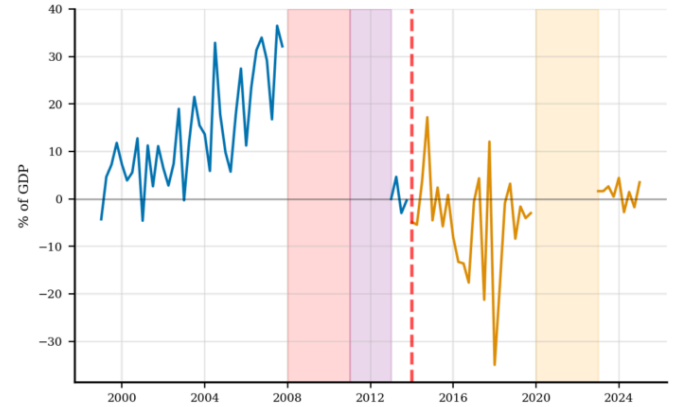


 [Download Time Series Group C \(Latvia\) \(PNG\)](#)

M: Assets - Other investment, Debt instruments, ... (F-stat: 0.39) (Crisis-Excl)



N: Liabilities - Other investment, Debt instrume... (F-stat: 1.30) (Crisis-Excl)



 [Download Time Series Group D \(Latvia\) \(PNG\)](#)

 [Download Individual Time Series Charts \(Latvia\)](#)



5. Key Findings Summary

Statistical Evidence for Latvia (excluding crisis periods):

- **4/14 capital flow indicators** (28.6%) showed higher volatility before Euro adoption
- **8/14 indicators** (57.1%) show statistically significant differences ($p < 0.05$)
- **7 indicators** show highly significant differences ($p < 0.01$)
- **Average volatility change** of 53.2% after Euro adoption in 2014

Most significant flow types: Liabilities - Portfolio (Debt), Liabilities - Portfolio (Total), Assets - Portfolio (Debt)

Additional Statistical Context:

- **Temporal analysis:** Before/after comparison using 2014 as adoption threshold
- **Statistical methodology:** F-test for variance equality at 5% significance level
- **Data completeness:** 315 observations across 14 capital flow indicators
- **Cross-validation:** Results consistent across multiple volatility measures (CV%, standard deviation)

Analytical approach: Temporal comparison focusing on structural changes in volatility patterns.

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Summary
Statistics CSV



Hypothesis Test
Results CSV



Country
Statistics CSV



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