

Monetary Policy Factors in a Currency Union

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Motivation

- When identifying monetary policy dimensions in a currency union, should we care about national heterogeneities?
- Dimensions are factors estimated from high-frequency asset price changes around ECB press conferences

10-Year Government Bond Yields

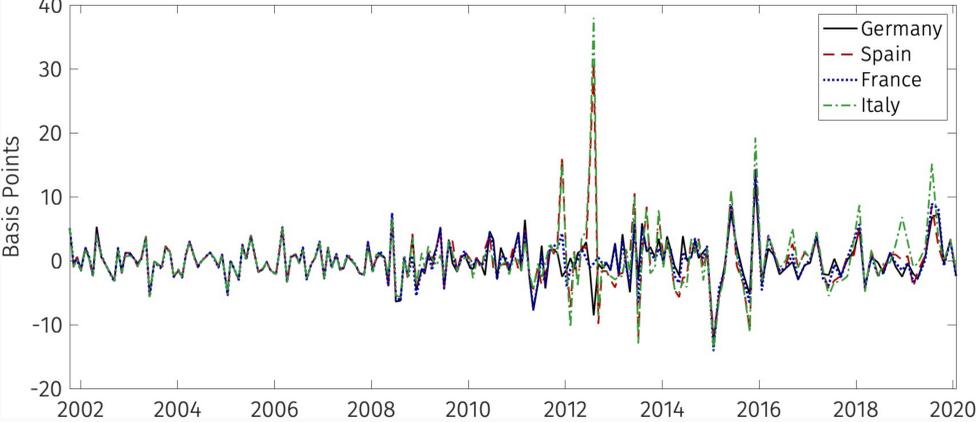


Figure 1. Changes around ECB press conferences

Main Contribution

- Identification of a new monetary policy factor, the “spread factor”, that represents the monetary policy transmission through government bond yield spreads
- Contribution of ECB policies to EU convergence is more relevant under this novel identification strategy

Factor Model

$$X = F\Lambda + \varepsilon$$

Monetary policy factors ← Factor loadings
Asset price changes ← Residuals

Method 1. Previous literature

$$X_1 = [OIS_{1m} \ OIS_{3m} \ OIS_{6m} \ OIS_{1y} \ OIS_{2y} \ OIS_{5y} \ OIS_{10y}]$$

⇒ 3 Factors = {Target, Path, Curvature}

Method 2. Novel approach

$$X_2 = [X_1 \ DE_{10y} \ ES_{10y} \ FR_{10y} \ IT_{10y}]$$

⇒ 4 Factors = {Target, Path, Curvature, Spread}

Monetary policy factors

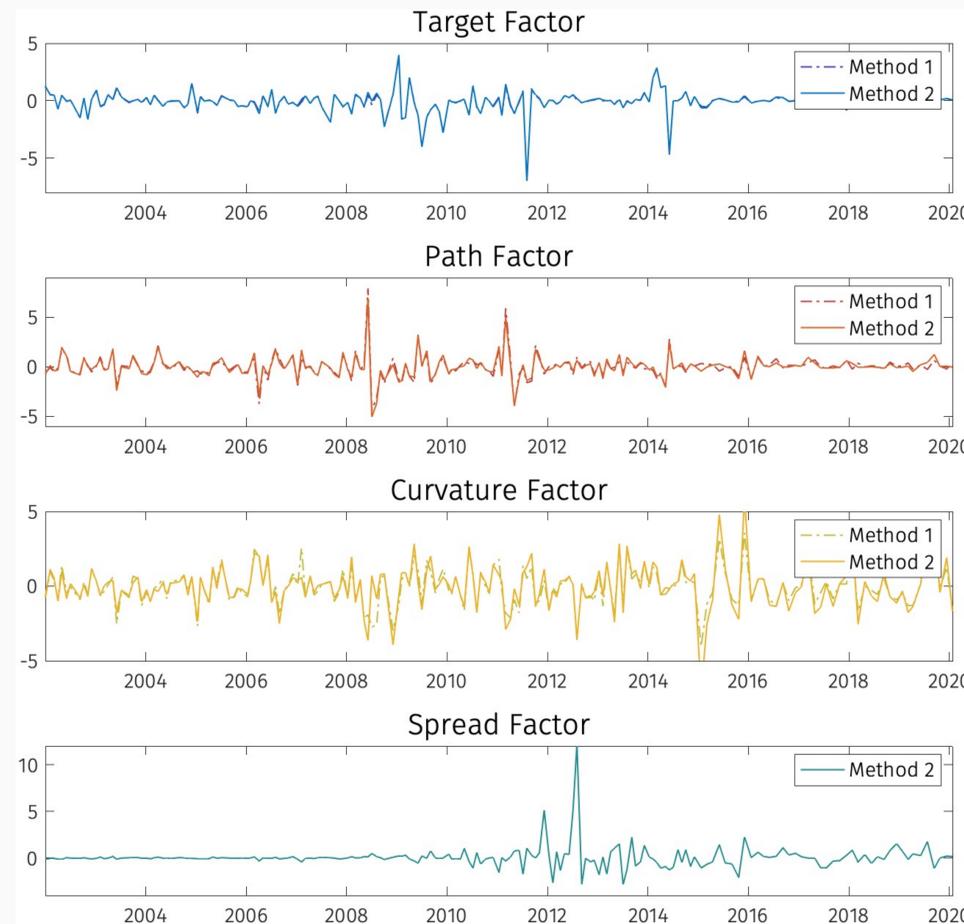


Figure 2. Monetary policy factors under methods 1 and 2

	OIS1M	OIS3M	OIS6M	OIS1Y	OIS2Y	OIS5Y	OIS10Y	DE10Y	ES10Y	FR10Y	IT10Y
Target	1.00	0.70	0.60	0.50	0.40	0.30	0.20	0.18	0.12	0.17	0.13
Path	0.00	-0.28	-0.21	-0.09	0.12	0.51	1.00	1.06	0.59	1.08	0.57
Curvature	0.00	0.69	0.86	0.96	1.00	0.95	0.78	0.73	0.46	0.71	0.40
Spread	-0.01	-0.03	-0.03	-0.04	-0.06	-0.10	-0.12	-0.16	0.96	0.15	1.00

Table 1. Monetary policy factor loadings under method 2

Why is the Spread Factor relevant?

i) Relevant to explain high-frequency changes

Assets	Target	Path	Curvature	Spread
10y Italy Spread	0.00	0.00	0.00	0.97
10y Spain Spread	0.00	0.01	0.00	0.95
10y France Spread	0.00	0.01	0.00	0.56
STOXX50 Index	0.00	0.02	0.02	0.30
SX7E Index	0.00	0.00	0.01	0.45

Table 2. Variance Decompositions - R² values of $\Delta y_t = \alpha + \beta F_t^j + \varepsilon_t$

Why is the Spread Factor relevant?

ii) Relevant to explain monthly yield spreads

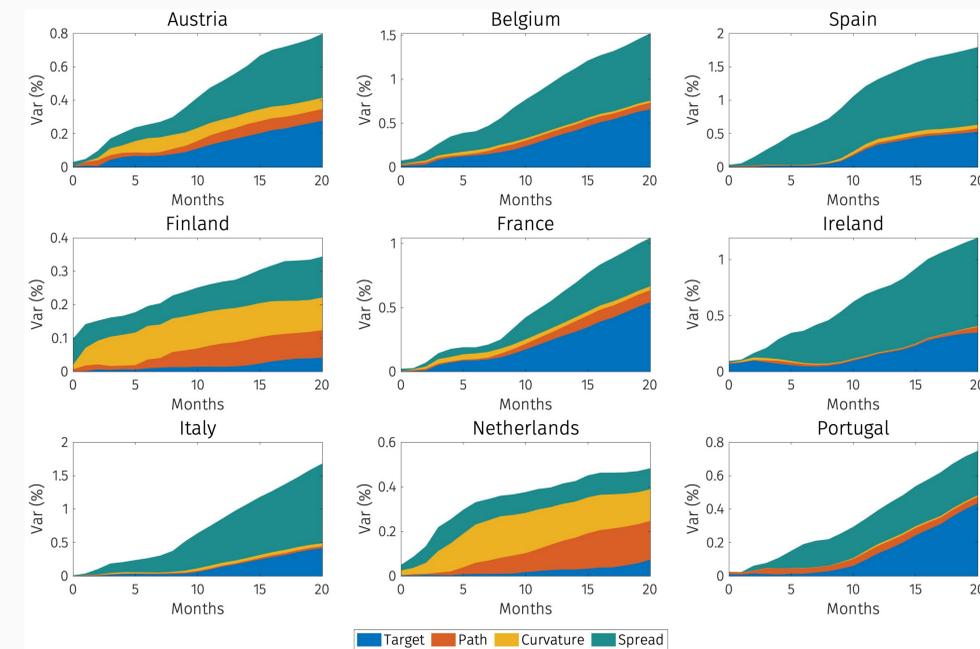


Figure 3. Forecast Error Variance Decompositions

iii) Relevant to explain ECB contribution to decreasing labour market dispersion and stock market volatility

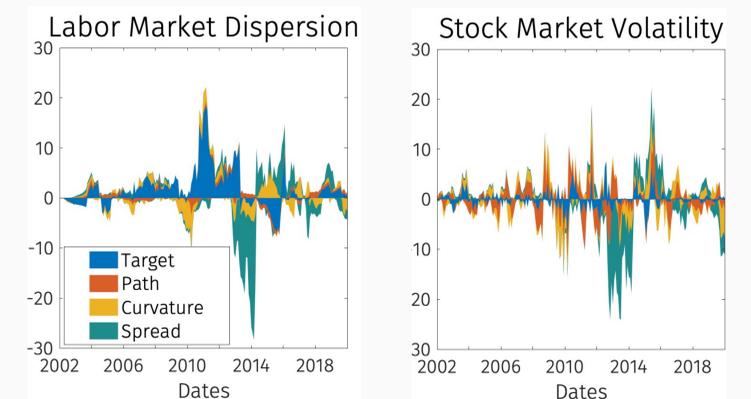


Figure 4. Historical Decompositions

Conclusion

- Newly identified Spread Factor necessary to accurately describe ECB policies and their effects
- Especially for actions that decreased yield spreads, labour market dispersion and stock market volatility