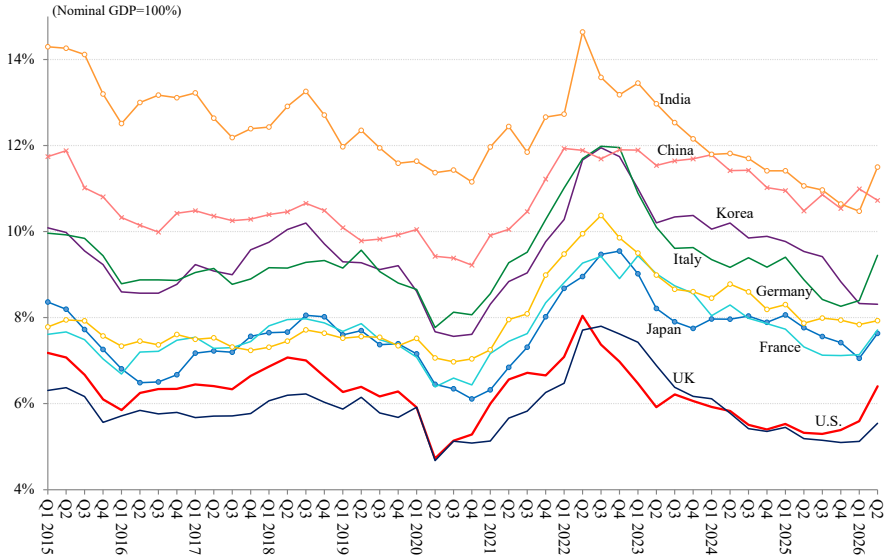
Energy Cost Monitoring (ECM)

Nomura Lab at Keio Economic Observatory (KEO), Keio University, Tokyo

ECM202610[1]
October 31, 2026
Koji Nomura and Sho Inaba

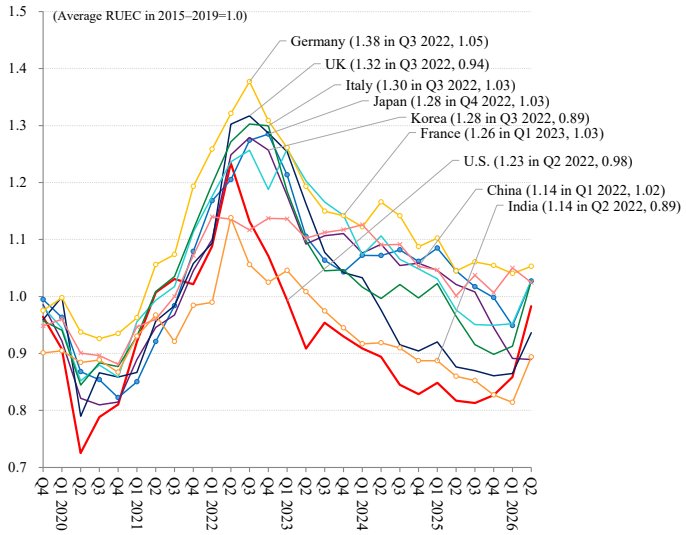
1 RUEC (Real Unit Energy Cost)

1.1 RUEC Levels



Unit: Share (GDP at current market prices in each period=100% in each country). Period: Q1 2015–Q2 2026. Notes: The prices are seasonally adjusted and include taxes and subsidies. The volumes are seasonally adjusted.

1.2 Post-Pandemic RUEC Indices

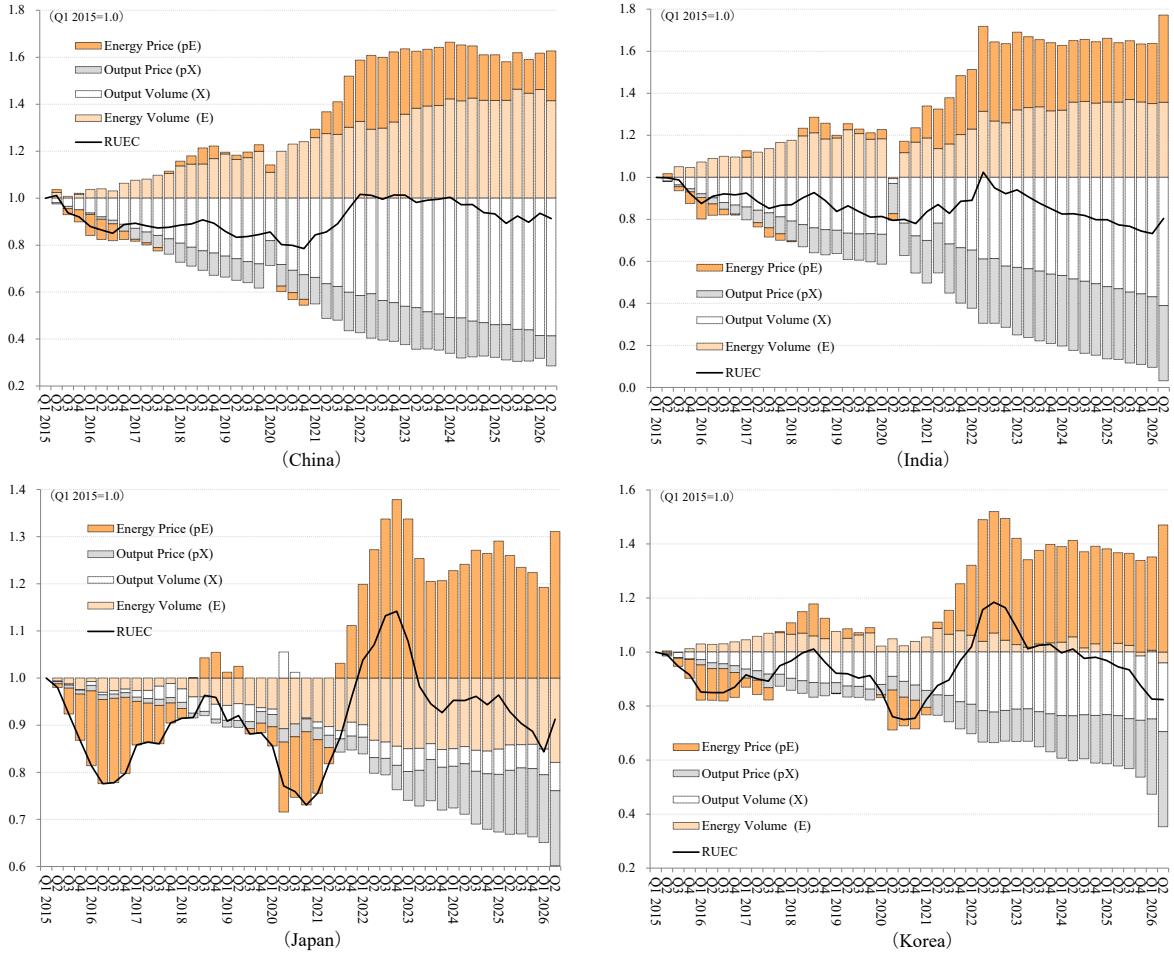


Unit: Index (average RUEC in 2015–2019=1.0 in each country). Period: Q4 2019–Q2 2026. Notes: The counts after the country name indicate the peaks in RUEC surges and the recovered level as of Q2 2026 relative to the pre-pandemic level. The prices are seasonally adjusted and include taxes and subsidies. The volumes are seasonally adjusted.

[1]ECM are based on purchaser prices that reflect taxes and subsidies. However, price conditions by type of consumer may not be fully captured, including exemptions and reductions granted to energy-intensive industries during periods of sharp price increases. Such differences are verified and adjusted in later years through reconciliation with national accounts, which involves a lag of several years.

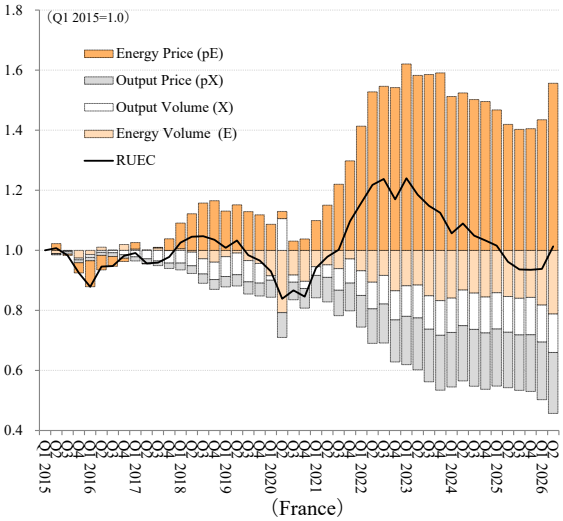
1.3 RUEC Decomposition

· Asia (China, India, Japan, and Korea)

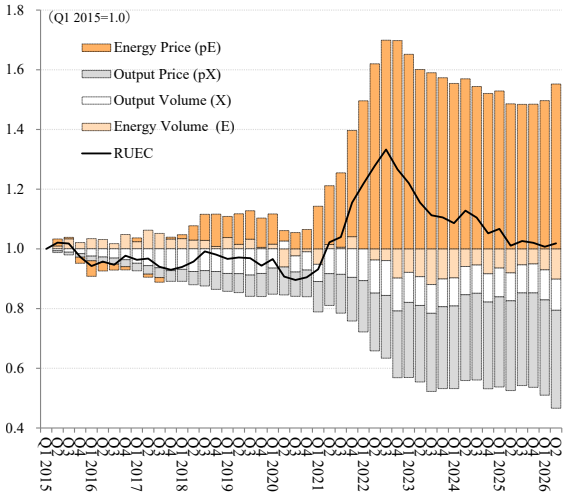


Unit: Index (RUEC in Q1 2015 = 1.0). Period: Q1 2015–Q2 2026.

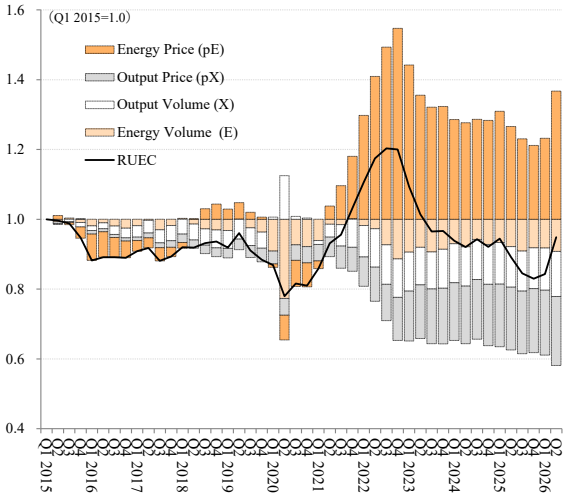
· EU (France, Germany, and Italy), the UK, and the U.S.



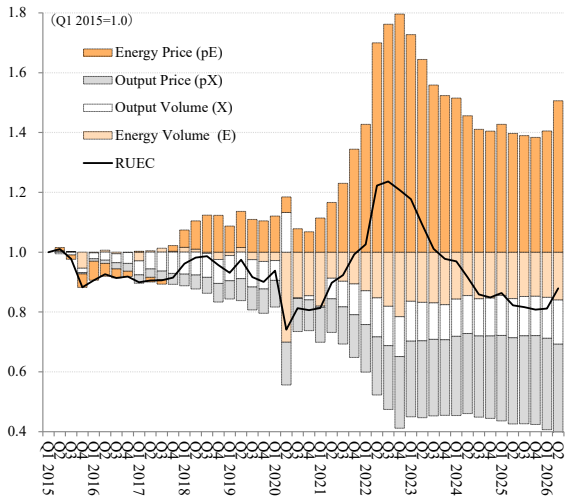
(France)



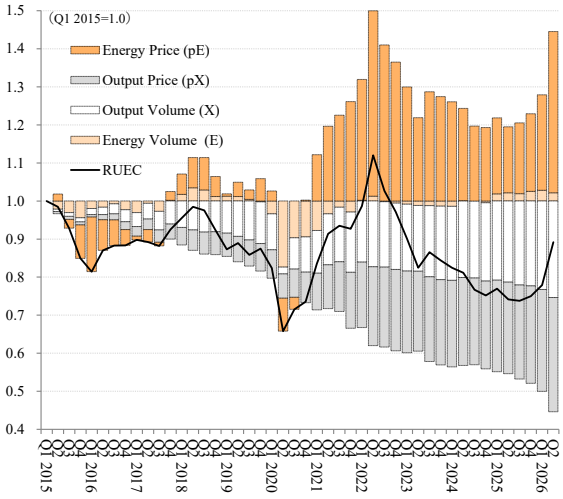
(Germany)



(Italy)



(the UK)

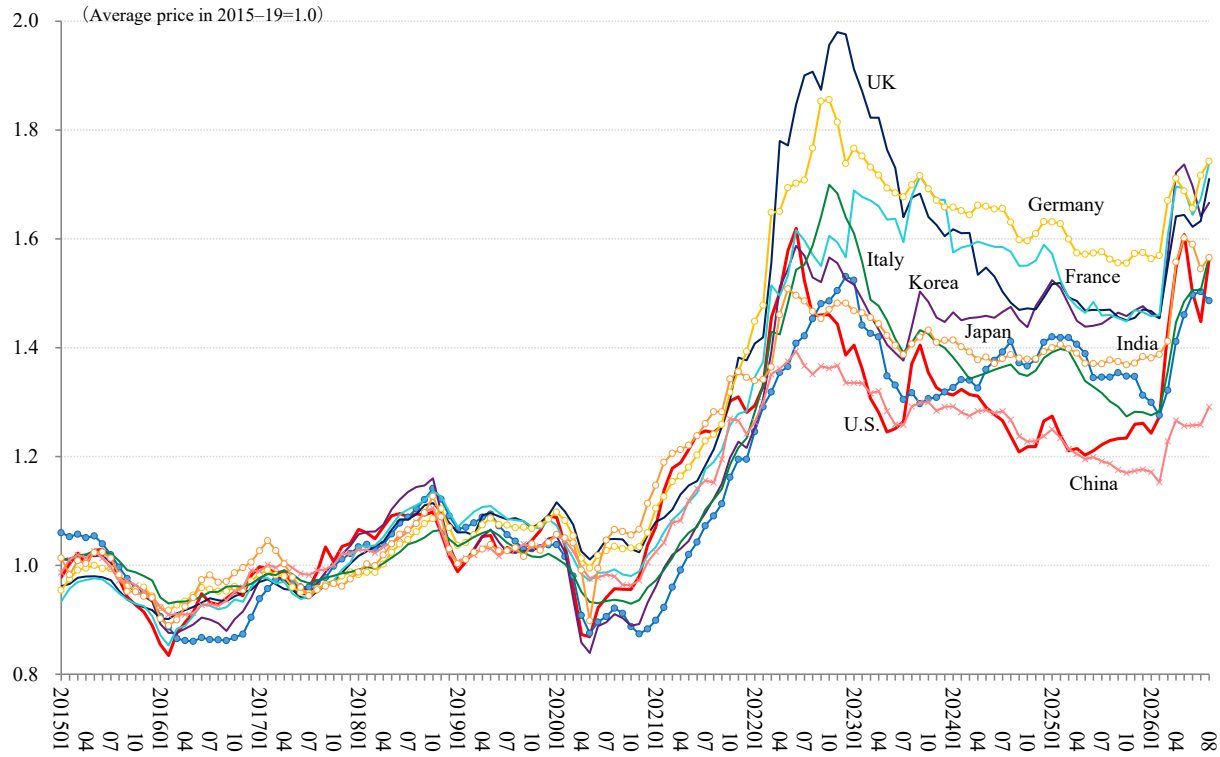


(the U.S.)

Unit: Index (RUEC in Q1 2015 = 1.0). Period: Q1 2015–Q2 2026.

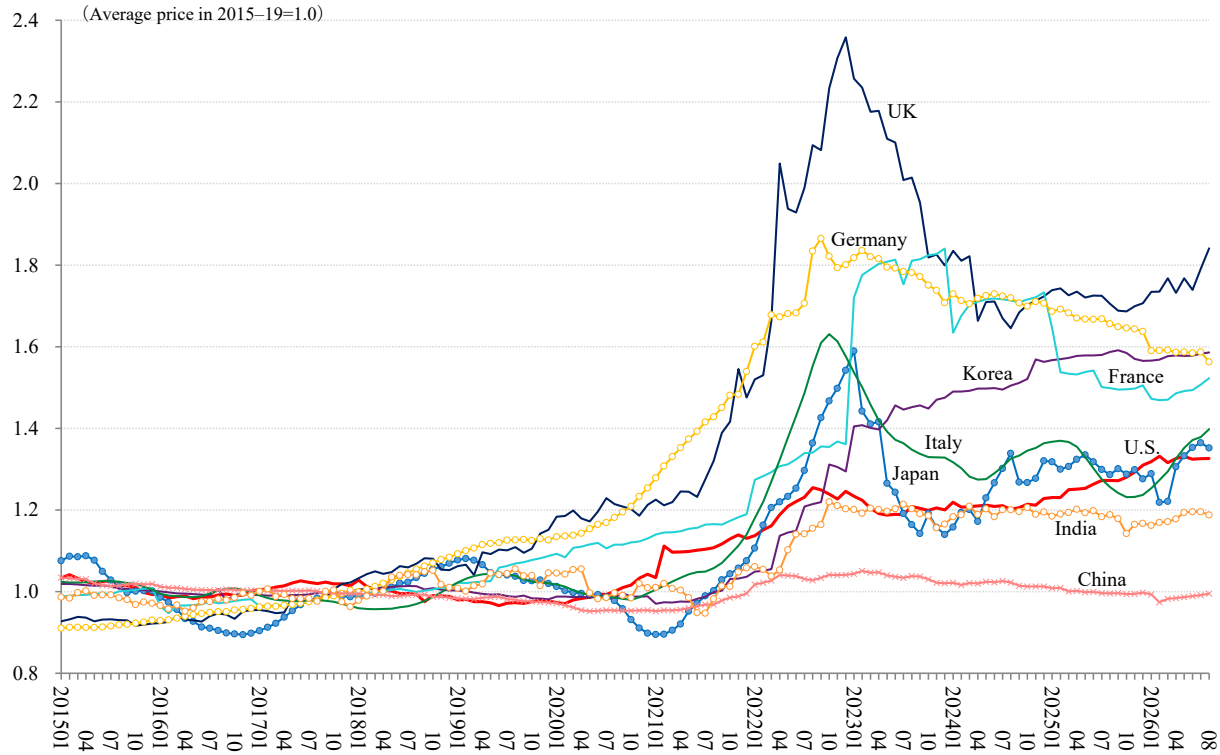
2 Energy Prices

2.1 Quality-adjusted Energy Prices for Final Use



Unit: Index (average price at local currency unit in 2015–19=1.0 in each country). Period: January 2015–August 2026. Notes: Quality-adjusted energy price is defined as the implicit Translog index. The prices are seasonally adjusted and include taxes and subsidies.

2.2 Electricity price

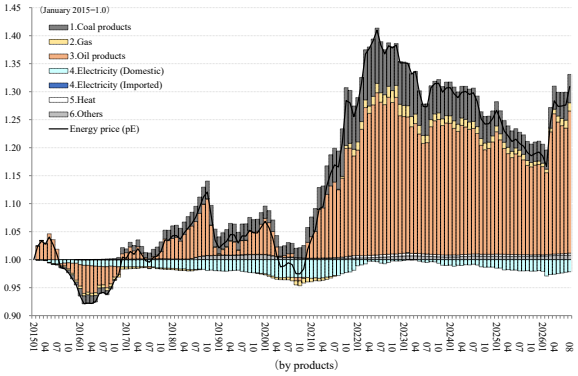


Unit: Index (average price at local currency unit in 2015–19=1.0 in each country). Period: January 2015–August 2026. Notes: Quality-adjusted energy price is defined as the implicit Translog index. The prices are seasonally adjusted and include taxes and subsidies.

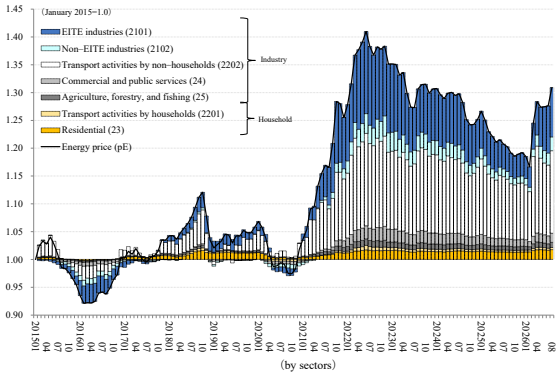
2.3 Sources of Energy Price Changes

· Asia (China, India, Japan, and Korea)

(China)

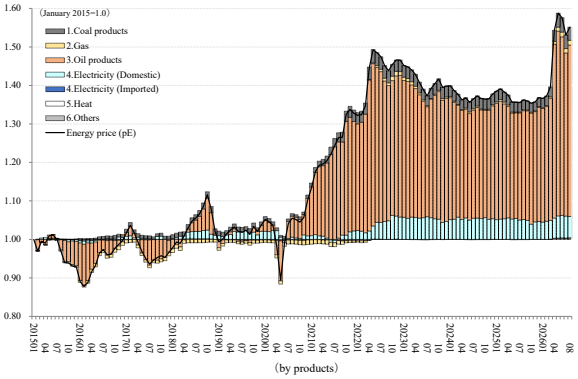


(by products)

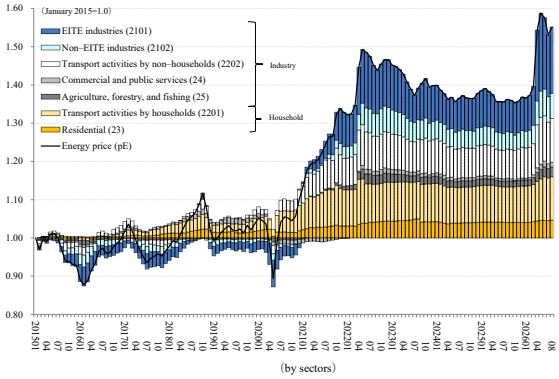


(by sectors)

(India)

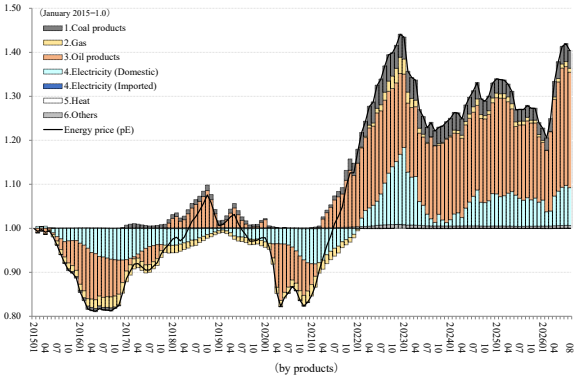


(by products)

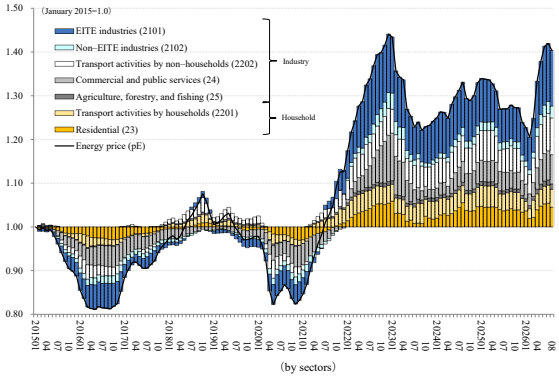


(by sectors)

(Japan)

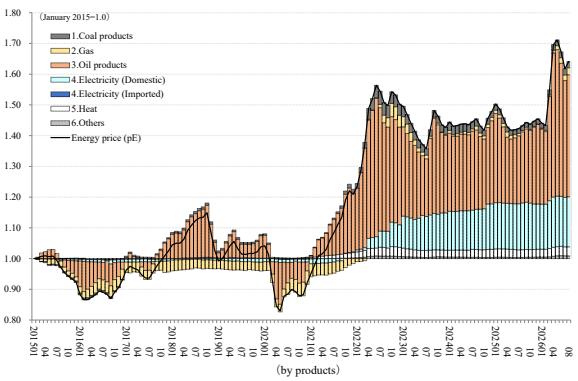


(by products)

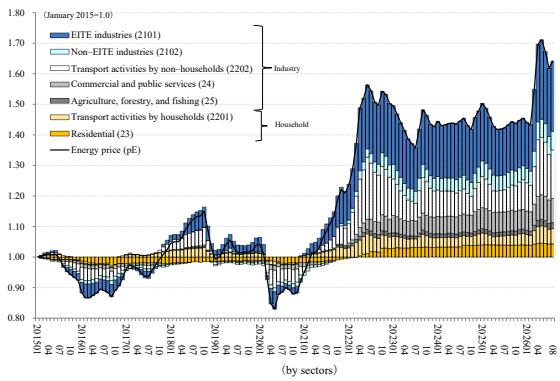


(by sectors)

(Korea)



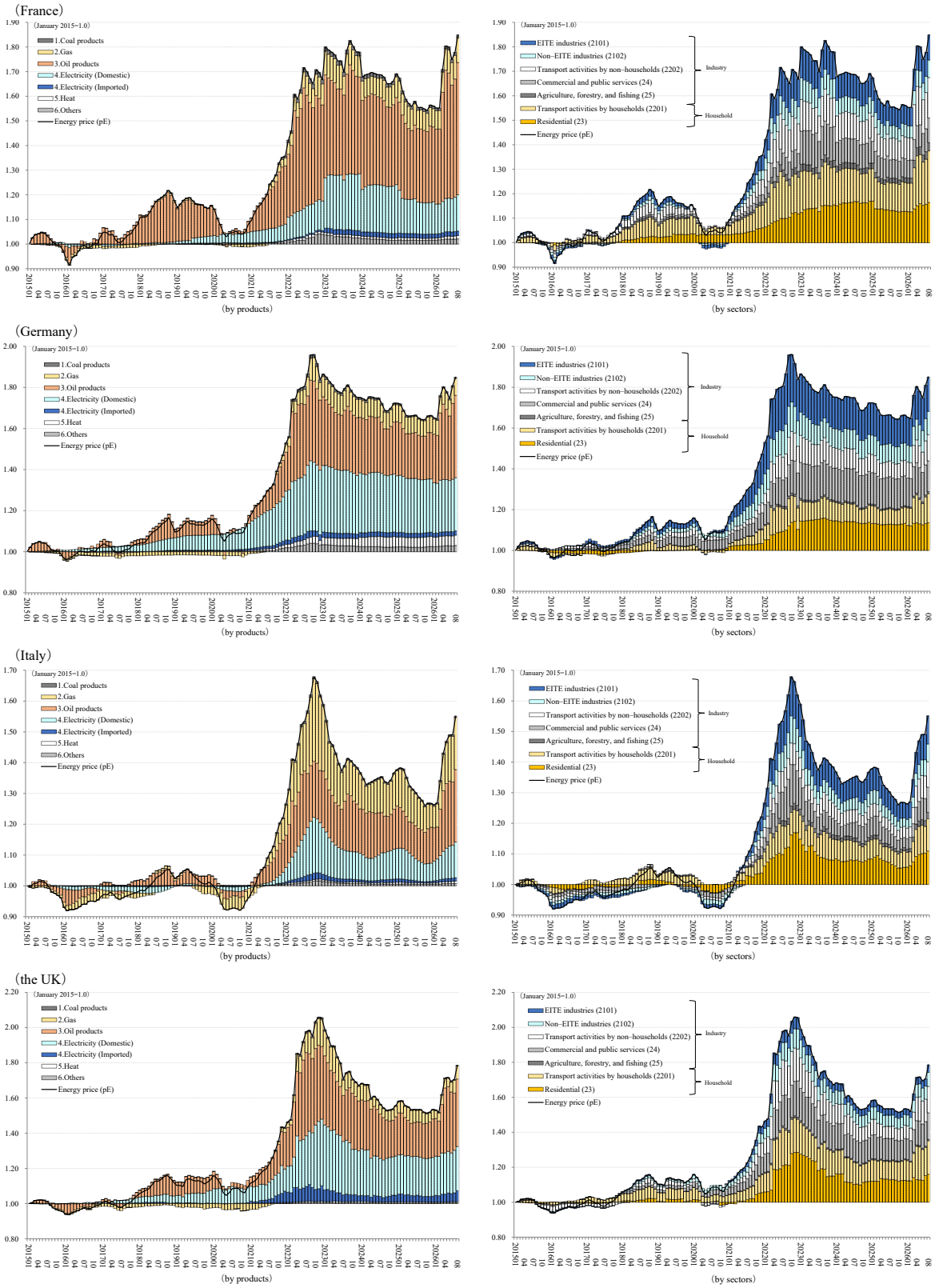
(by products)



(by sectors)

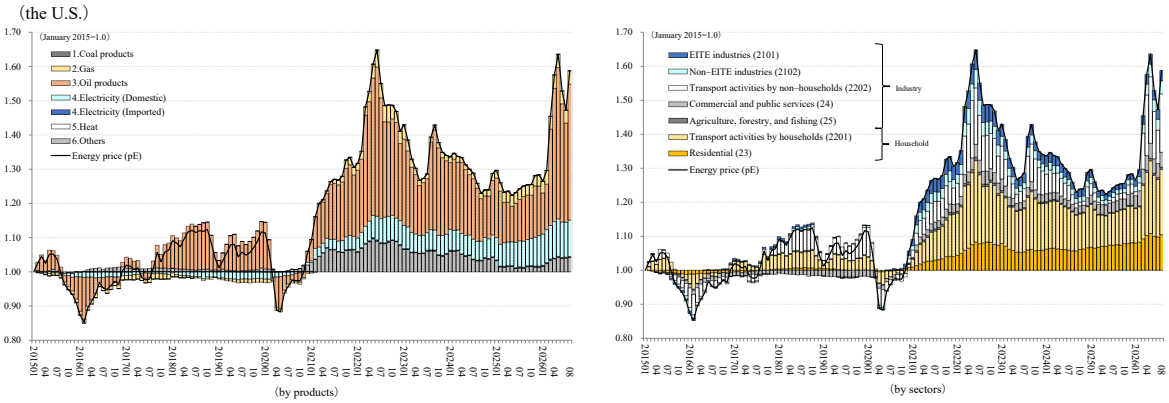
Unit: Index (price at local currency unit in January 2015=1.0 in each country). Period: January 2015–August 2026. Note: The prices are seasonally adjusted and include taxes and subsidies.

· EU (France, Germany, and Italy), the UK



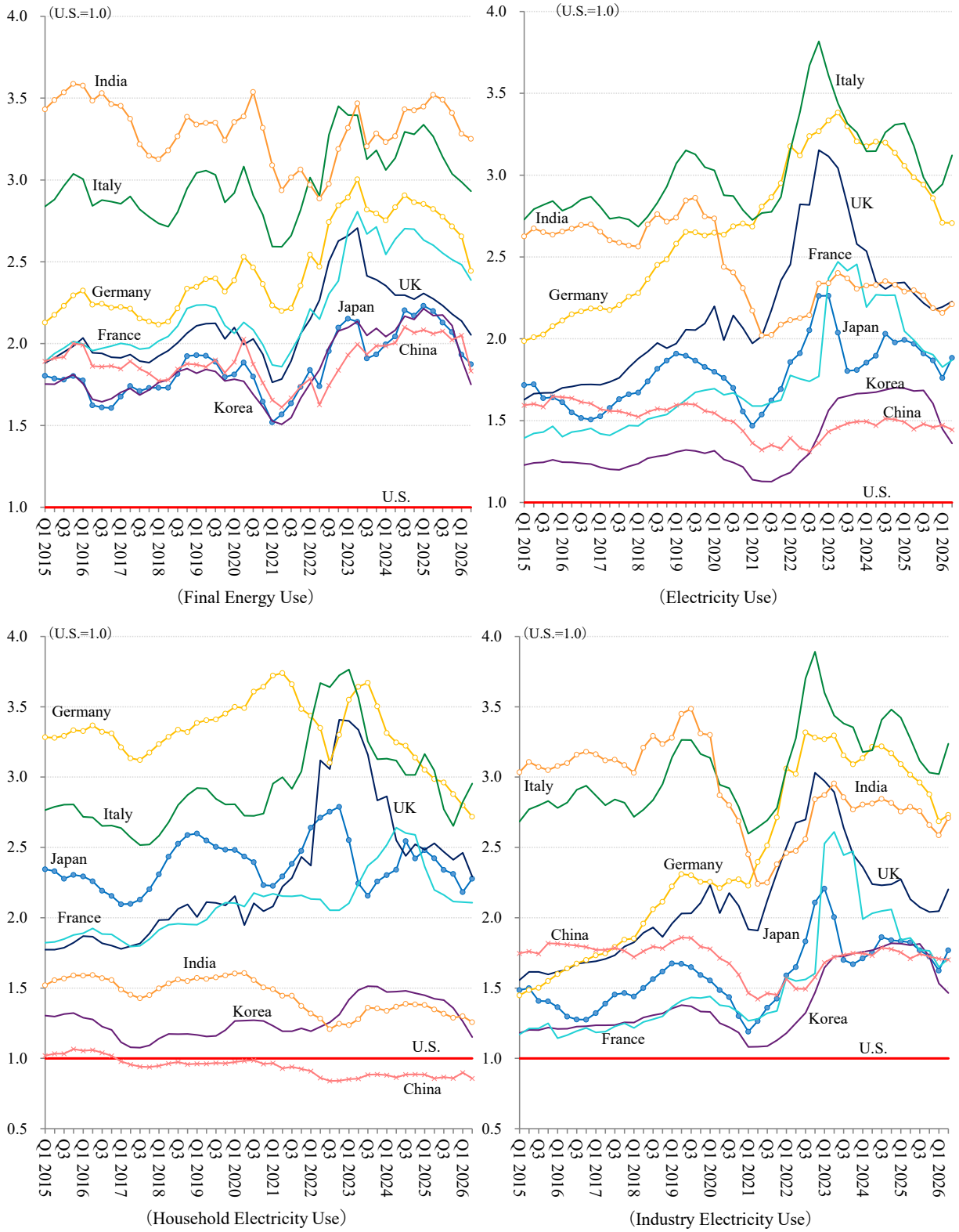
Unit: Index (price at local currency unit in January 2015=1.0 in each country). Period: January 2015–August 2026. Note: The prices are seasonally adjusted and include taxes and subsidies.

· the U.S.



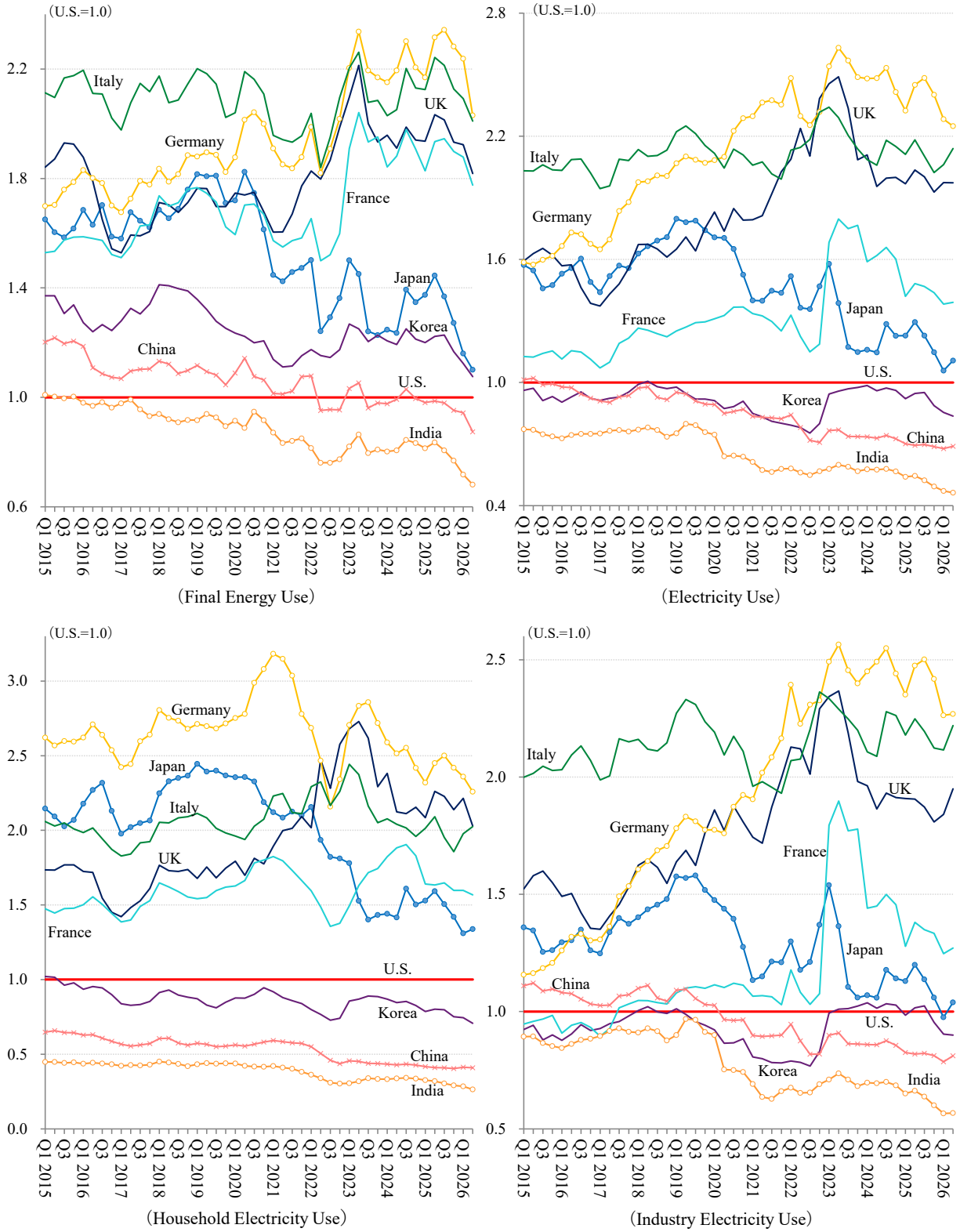
Unit: Index (price at local currency unit in January 2015=1.0 in each country). Period: January 2015–August 2026. Note: The prices are seasonally adjusted and include taxes and subsidies.

3 Real PLI



Unit: Index (the U.S. REP in each period=1.0). Period: Q1 2015–Q2 2026. Notes: The prices are seasonally adjusted and include taxes and subsidies.

4 Nominal PLI



Unit: Index (the U.S. REP in each period=1.0). Period: Q1 2015–Q2 2026. Notes: The prices are seasonally adjusted and include taxes and subsidies.

5 Nominal/Real PLI Matrix

(Nominal PLI)

Reference country \ Comparison country	CHN	IND	JPN	KOR	FRA	DEU	ITA	GBR	USA
China (CHN)	1.00	0.78	1.26	1.23	2.03	2.32	2.30	2.08	1.14
	1.00	0.85	1.50	1.18	1.46	1.60	1.89	1.54	0.89
	(0%)	(-9%)	(-17%)	(4%)	(33%)	(37%)	(20%)	(30%)	(25%)
India (IND)	1.28	1.00	1.62	1.58	2.61	2.98	2.95	2.67	1.47
	1.17	1.00	1.76	1.39	1.71	1.88	2.22	1.80	1.05
	(9%)	(0%)	(-8%)	(13%)	(42%)	(46%)	(29%)	(39%)	(34%)
Japan (JPN)	0.79	0.62	1.00	0.98	1.61	1.84	1.82	1.65	0.91
	0.67	0.57	1.00	0.79	0.97	1.07	1.26	1.03	0.60
	(17%)	(8%)	(0%)	(21%)	(51%)	(54%)	(37%)	(47%)	(42%)
Korea (KOR)	0.81	0.63	1.02	1.00	1.65	1.89	1.87	1.69	0.93
	0.85	0.72	1.27	1.00	1.23	1.36	1.60	1.30	0.76
	(-4%)	(-13%)	(-21%)	(0%)	(29%)	(33%)	(15%)	(26%)	(21%)
France (FRA)	0.49	0.38	0.62	0.61	1.00	1.14	1.13	1.02	0.56
	0.69	0.59	1.03	0.81	1.00	1.10	1.30	1.06	0.62
	(-34%)	(-43%)	(-51%)	(-30%)	(0%)	(4%)	(-14%)	(-4%)	(-9%)
Germany (DEU)	0.43	0.34	0.54	0.53	0.87	1.00	0.99	0.89	0.49
	0.63	0.53	0.93	0.74	0.91	1.00	1.18	0.96	0.56
	(-38%)	(-47%)	(-54%)	(-33%)	(-4%)	(0%)	(-18%)	(-7%)	(-13%)
Italy (ITA)	0.44	0.34	0.55	0.54	0.88	1.01	1.00	0.90	0.50
	0.53	0.45	0.79	0.63	0.77	0.85	1.00	0.81	0.47
	(-20%)	(-29%)	(-37%)	(-16%)	(14%)	(18%)	(0%)	(11%)	(5%)
UK (GBR)	0.48	0.37	0.61	0.59	0.98	1.12	1.11	1.00	0.55
	0.65	0.56	0.98	0.77	0.95	1.04	1.23	1.00	0.58
	(-30%)	(-40%)	(-48%)	(-26%)	(3%)	(7%)	(-11%)	(0%)	(-6%)
U.S. (USA)	0.87	0.68	1.10	1.08	1.78	2.03	2.01	1.82	1.00
	1.12	0.96	1.68	1.32	1.63	1.79	2.12	1.72	1.00
	(-25%)	(-34%)	(-42%)	(-21%)	(9%)	(12%)	(-5%)	(5%)	(0%)

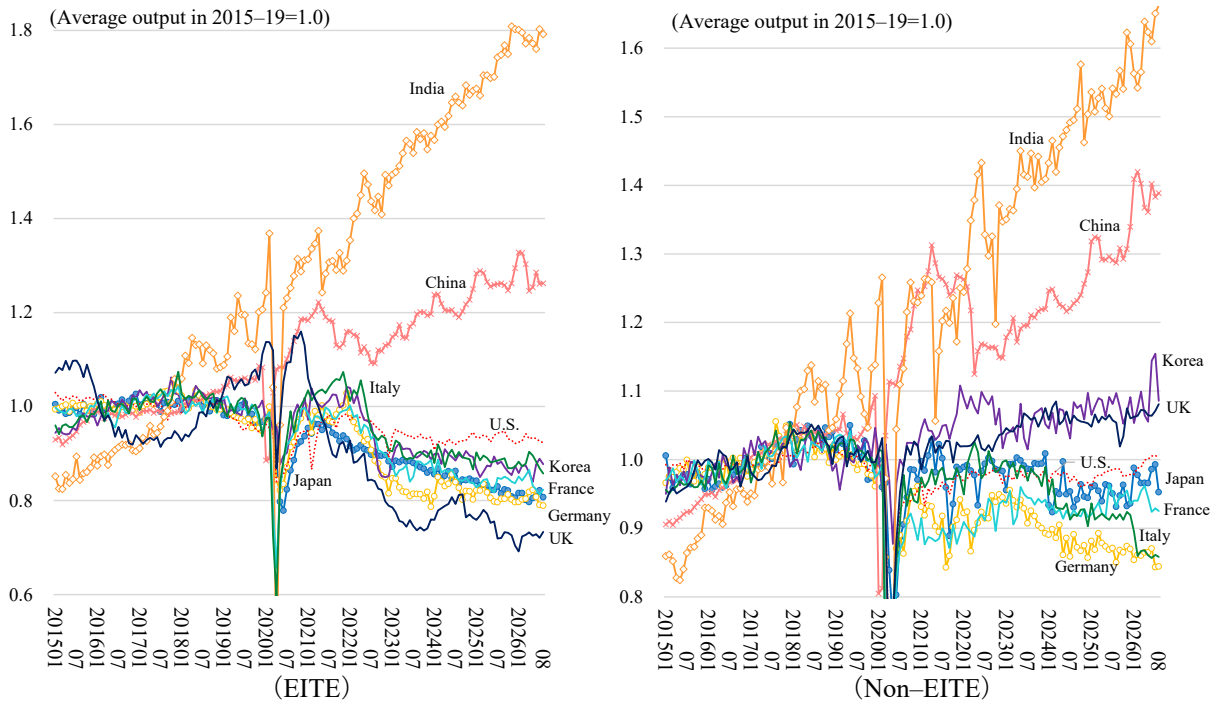
(Real PLI)

Reference country \ Comparison country	CHN	IND	JPN	KOR	FRA	DEU	ITA	GBR	USA
China (CHN)	1.00	1.77	1.02	0.95	1.30	1.33	1.60	1.12	0.55
	1.00	1.80	0.95	0.94	1.09	1.20	1.55	1.06	0.53
	(0%)	(-2%)	(8%)	(2%)	(18%)	(11%)	(3%)	(6%)	(2%)
India (IND)	0.56	1.00	0.58	0.54	0.73	0.75	0.90	0.63	0.31
	0.55	1.00	0.53	0.52	0.61	0.66	0.86	0.59	0.30
	(2%)	(0%)	(9%)	(3%)	(19%)	(12%)	(5%)	(7%)	(4%)
Japan (JPN)	0.98	1.73	1.00	0.93	1.27	1.30	1.56	1.10	0.53
	1.06	1.91	1.00	0.99	1.16	1.27	1.64	1.12	0.57
	(-8%)	(-10%)	(0%)	(-6%)	(10%)	(3%)	(-5%)	(-2%)	(-6%)
Korea (KOR)	1.05	1.86	1.07	1.00	1.36	1.40	1.67	1.17	0.57
	1.07	1.93	1.01	1.00	1.16	1.28	1.65	1.13	0.57
	(-2%)	(-4%)	(6%)	(0%)	(16%)	(9%)	(2%)	(4%)	(0%)
France (FRA)	0.77	1.36	0.78	0.73	1.00	1.02	1.23	0.86	0.42
	0.92	1.66	0.87	0.86	1.00	1.10	1.42	0.97	0.49
	(-18%)	(-20%)	(-10%)	(-16%)	(0%)	(-7%)	(-15%)	(-12%)	(-16%)
Germany (DEU)	0.75	1.33	0.77	0.72	0.98	1.00	1.20	0.84	0.41
	0.84	1.51	0.79	0.78	0.91	1.00	1.29	0.88	0.45
	(-11%)	(-13%)	(-3%)	(-9%)	(7%)	(0%)	(-7%)	(-5%)	(-9%)
Italy (ITA)	0.63	1.11	0.64	0.60	0.81	0.83	1.00	0.70	0.34
	0.65	1.17	0.61	0.61	0.71	0.78	1.00	0.68	0.35
	(-3%)	(-5%)	(4%)	(-2%)	(14%)	(7%)	(0%)	(3%)	(-1%)
UK (GBR)	0.89	1.58	0.91	0.85	1.16	1.19	1.43	1.00	0.49
	0.95	1.71	0.90	0.89	1.03	1.14	1.46	1.00	0.51
	(-6%)	(-8%)	(2%)	(-4%)	(12%)	(5%)	(-3%)	(0%)	(-4%)
U.S. (USA)	1.83	3.25	1.87	1.75	2.39	2.44	2.93	2.05	1.00
	1.87	3.38	1.77	1.76	2.04	2.24	2.89	1.98	1.00
	(-2%)	(-4%)	(6%)	(0%)	(16%)	(9%)	(1%)	(4%)	(0%)

Unit: Bilateral ratios, reference country = 1.0. Notes: For each cell, the upper figure refers to Q2 2026, the lower figure to the pre-pandemic average (2015–2019), and the value in parentheses shows the log-growth from the pre-pandemic average, computed to preserve transitivity in bilateral comparisons. Cells in blue indicate a relative narrowing of the gap of the comparison country vis-à-vis the reference country, whereas cells in red indicate a widening.

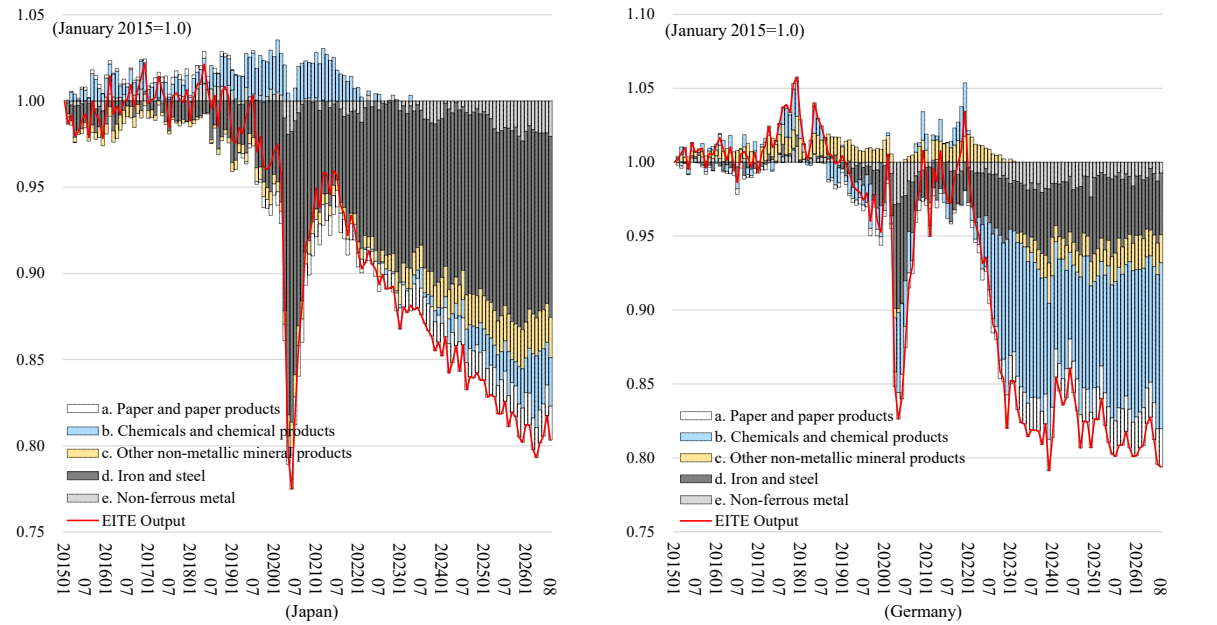
6 EITE Output

6.1 EITE Outputs

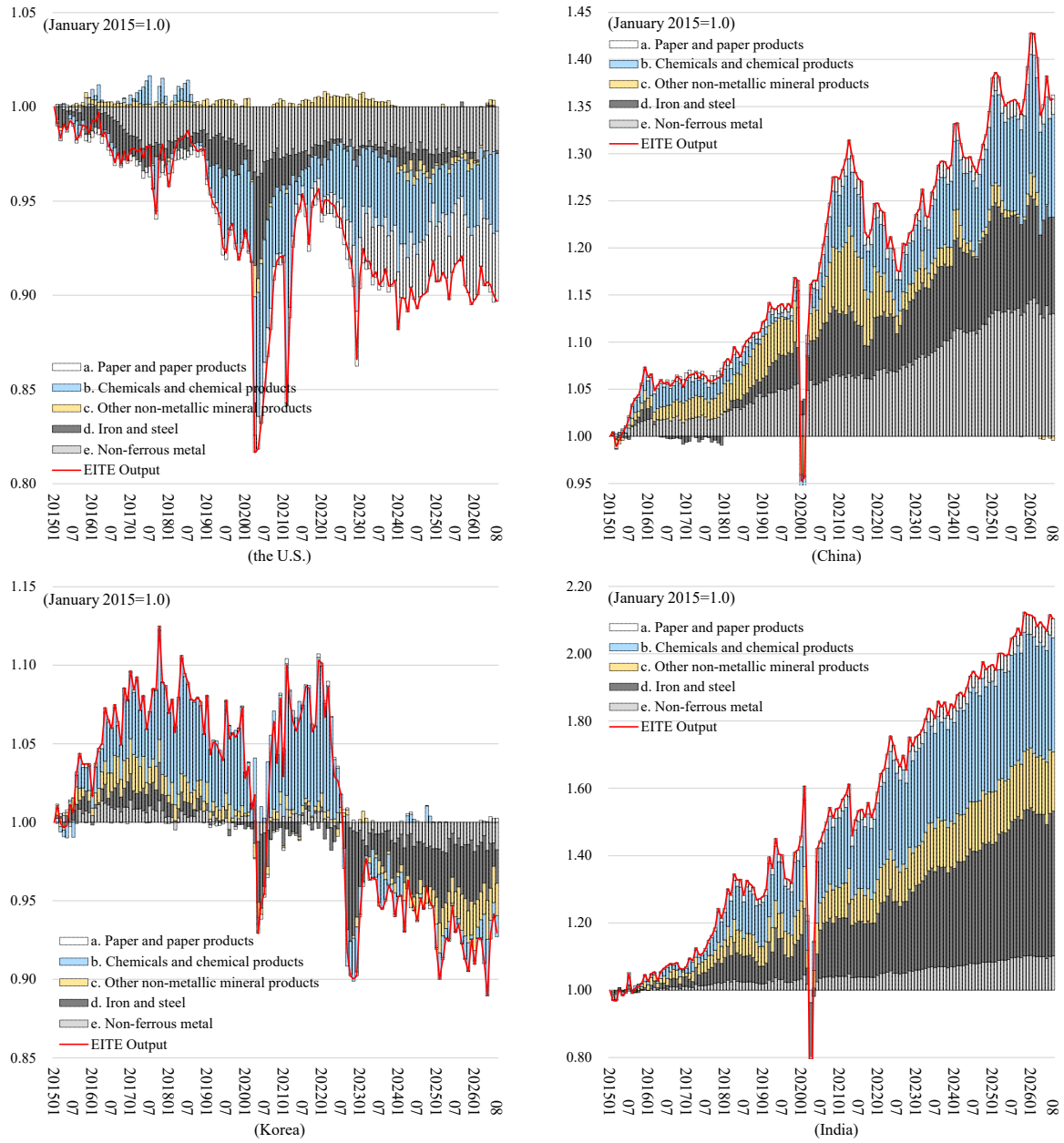


Unit: Index (average output in 2015–19=1.0). Period: January 2015–August 2026. Notes: EITE manufacturing are defined as Paper and paper products, Chemicals and chemical products (excluding pharmaceuticals), Other non-metallic mineral products, Iron and steel, and Non-ferrous metal. Non–EITE manufacturing are all other manufacturing industries

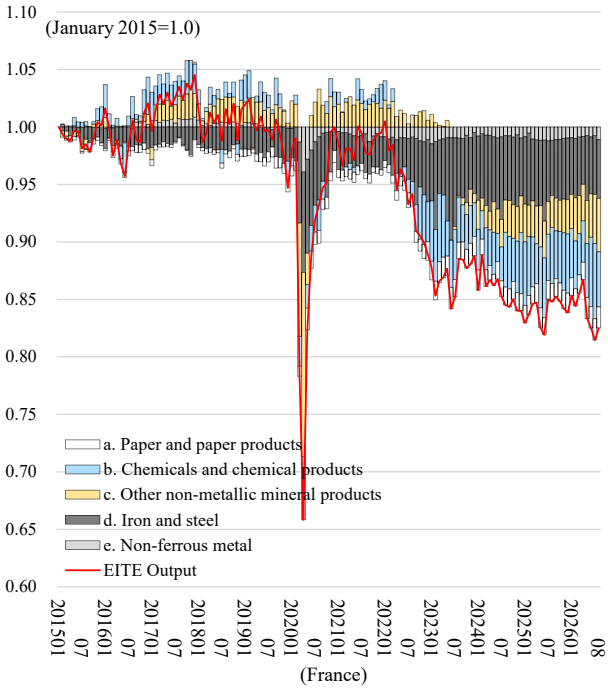
6.2 EITE Output Decomposition



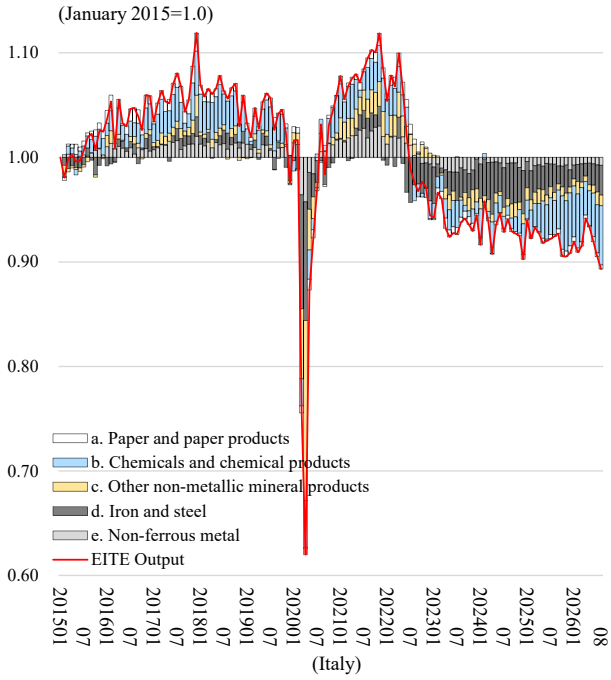
Unit: Index (output in January 2015=1.0). Period: January 2015–August 2026. Source: see section 6.1. Note: The industry contribution is based on the Translog index using the previous year's output value share.



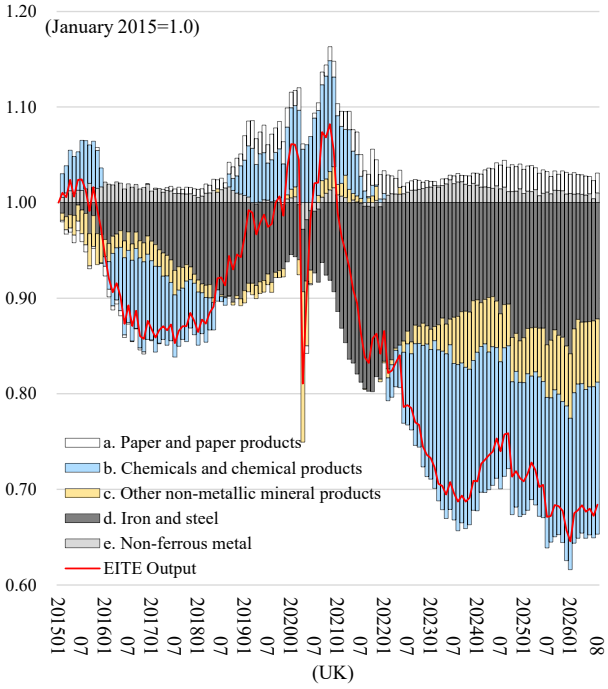
Unit: Index (output in January 2015=1.0). Period: January 2015–August 2026. Source: see section 6.1. Note: The industry contribution is based on the Translog index using the previous year's output value share.



(France)



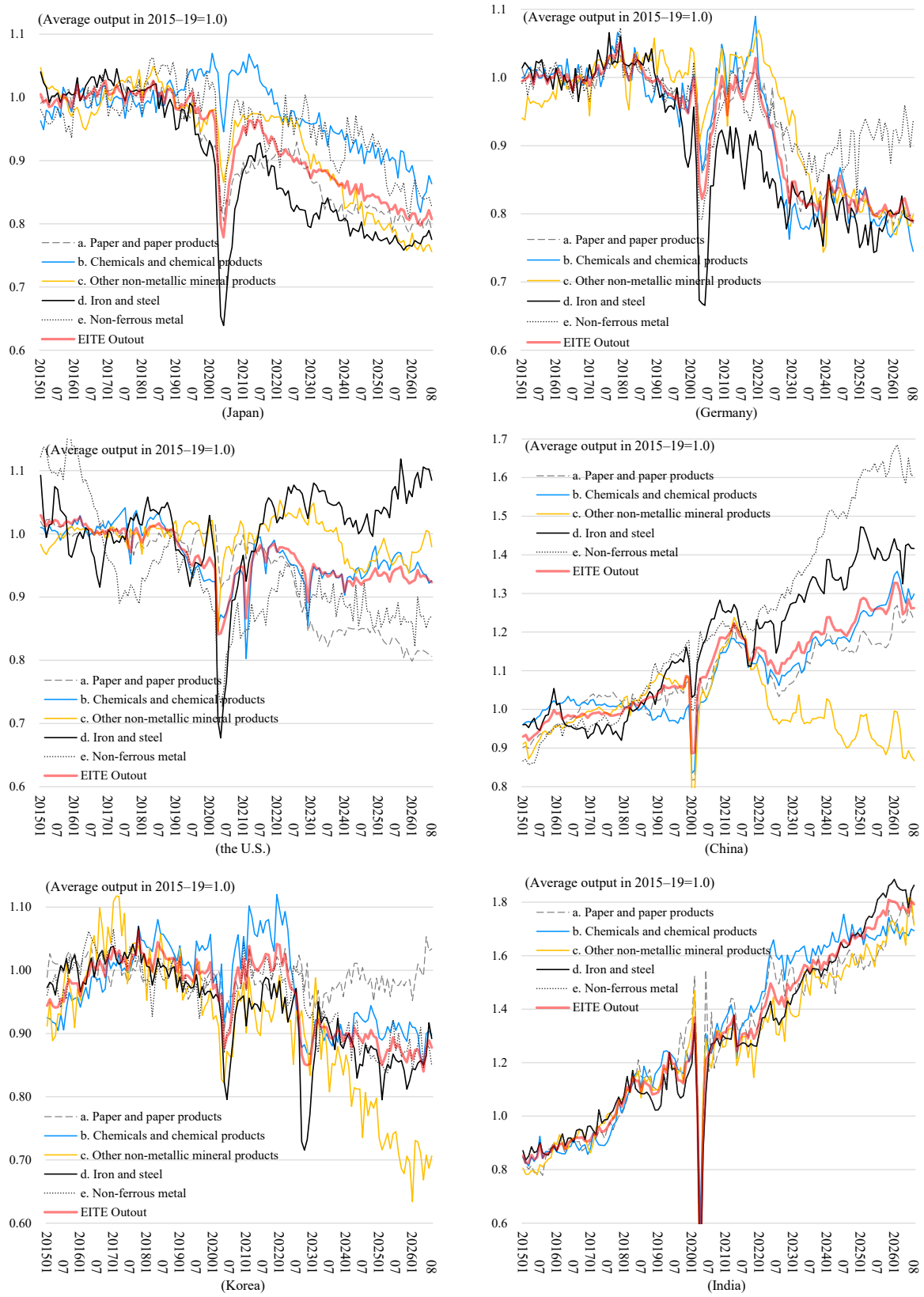
(Italy)



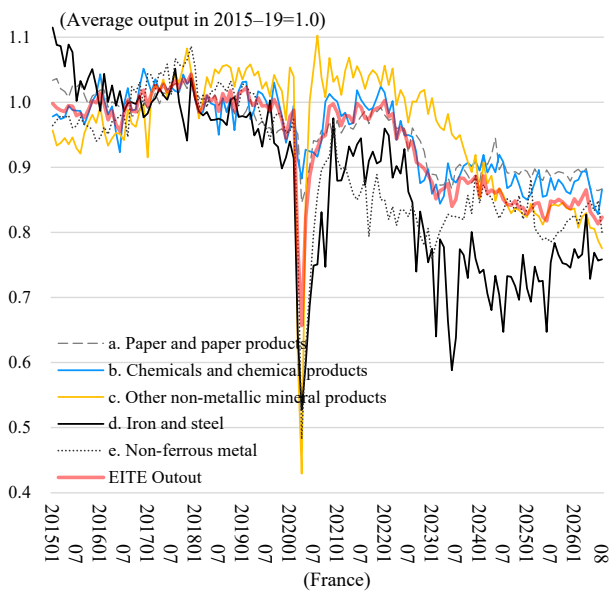
(UK)

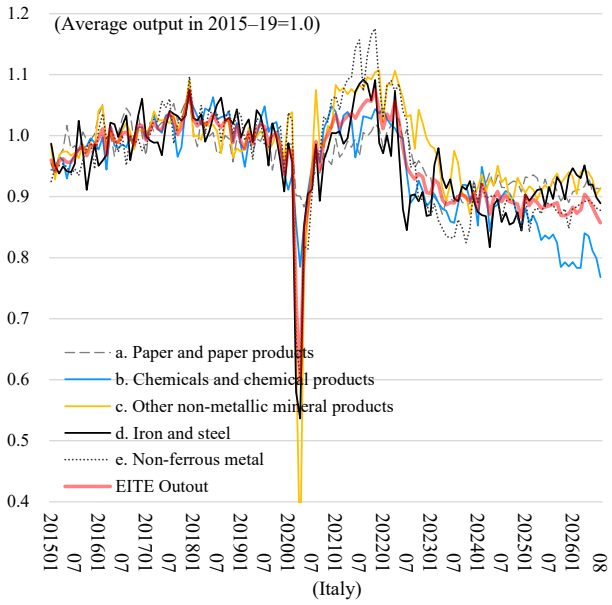
Unit: Index (output in January 2015=1.0). Period: January 2015–August 2026. Source: see section 6.1. Note: The industry contribution is based on the Translog index using the previous year's output value share.

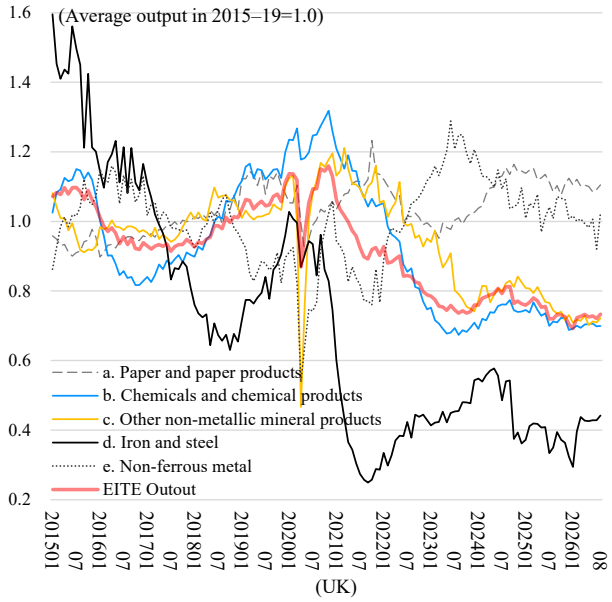
6.3 EITE Output Indices by Country



Unit: Index (average output in 2015–19=1.0). Period: January 2015–August 2026. Source: see section 6.1.

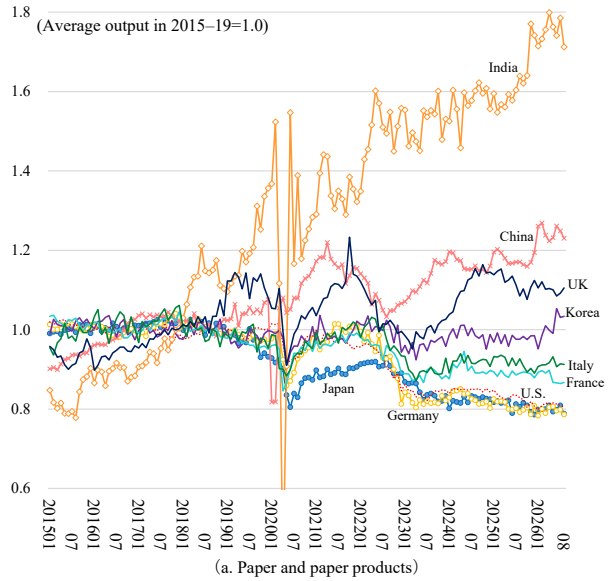




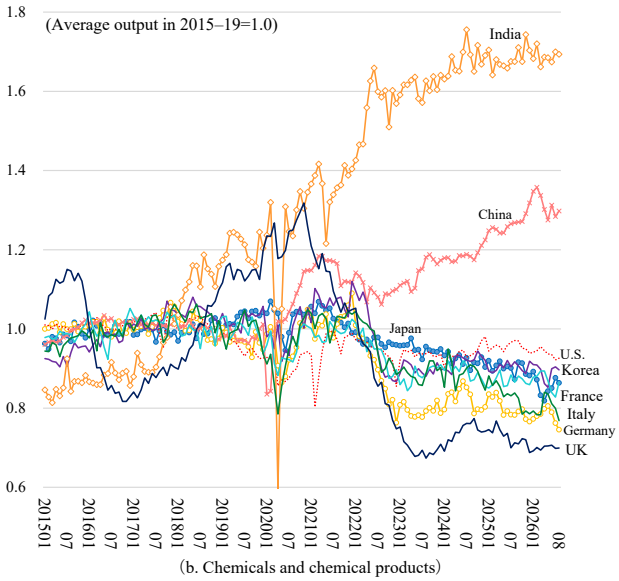


Unit: Index (average output in 2015–19=1.0). Period: January 2015–August 2026. Source: see section 6.1.

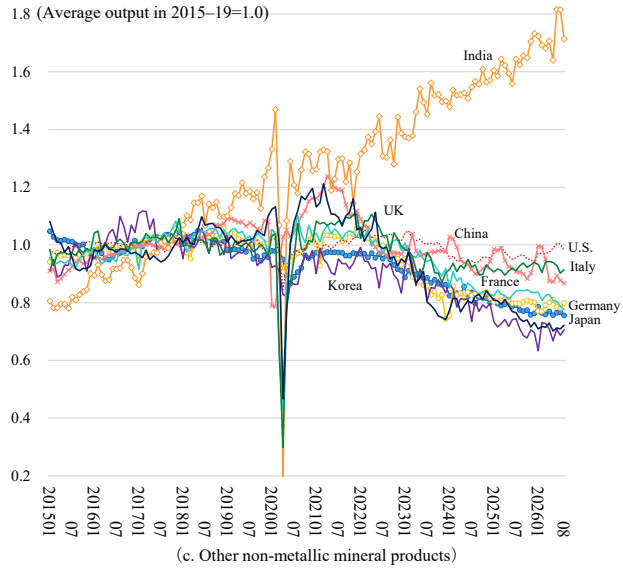
6.4 EITE Output Indices by Industry



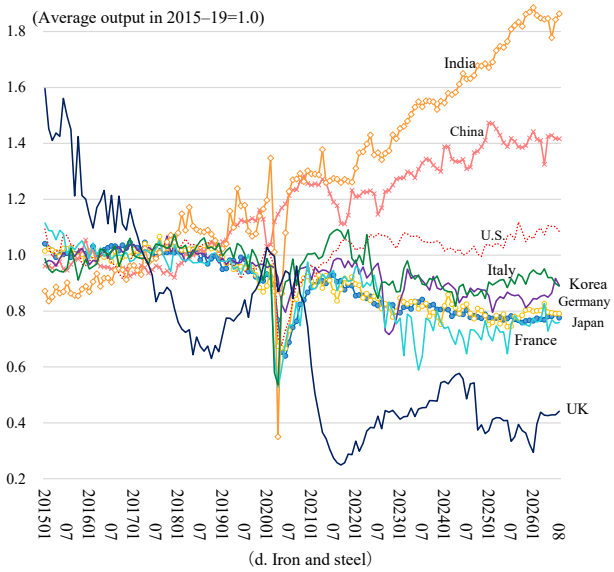
(a. Paper and paper products)



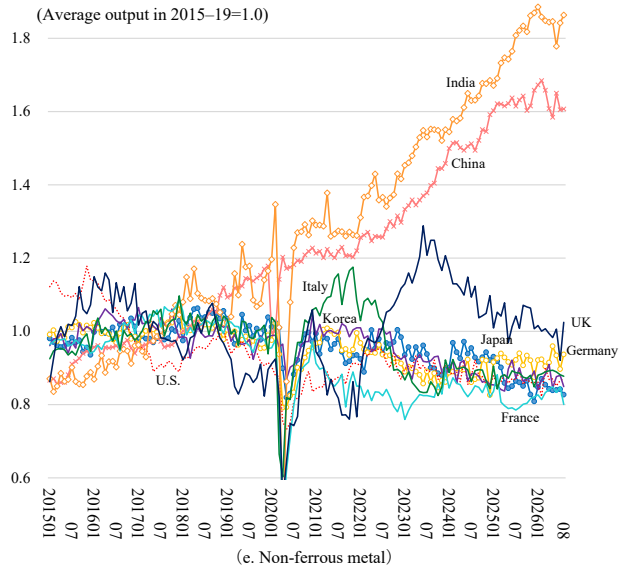
(b. Chemicals and chemical products)



(c. Other non-metallic mineral products)



(d. Iron and steel)

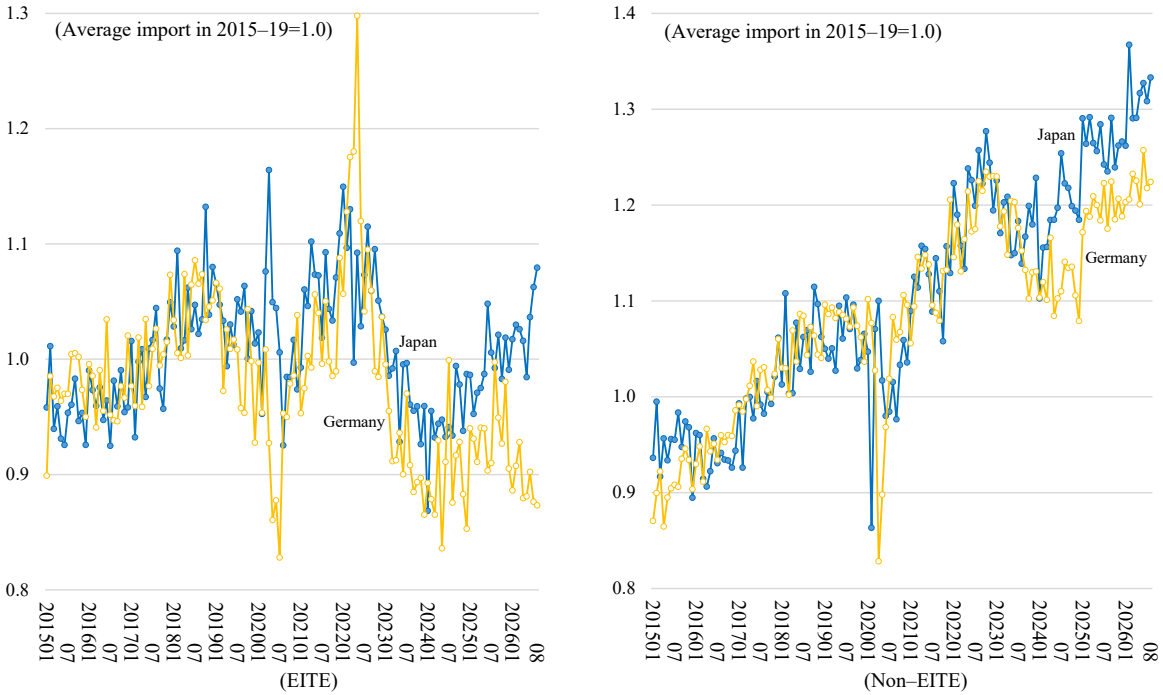


(e. Non-ferrous metal)

Unit: Index (average output in 2015–19=1.0). Period: January 2015–August 2026. Source: see section 6.1.

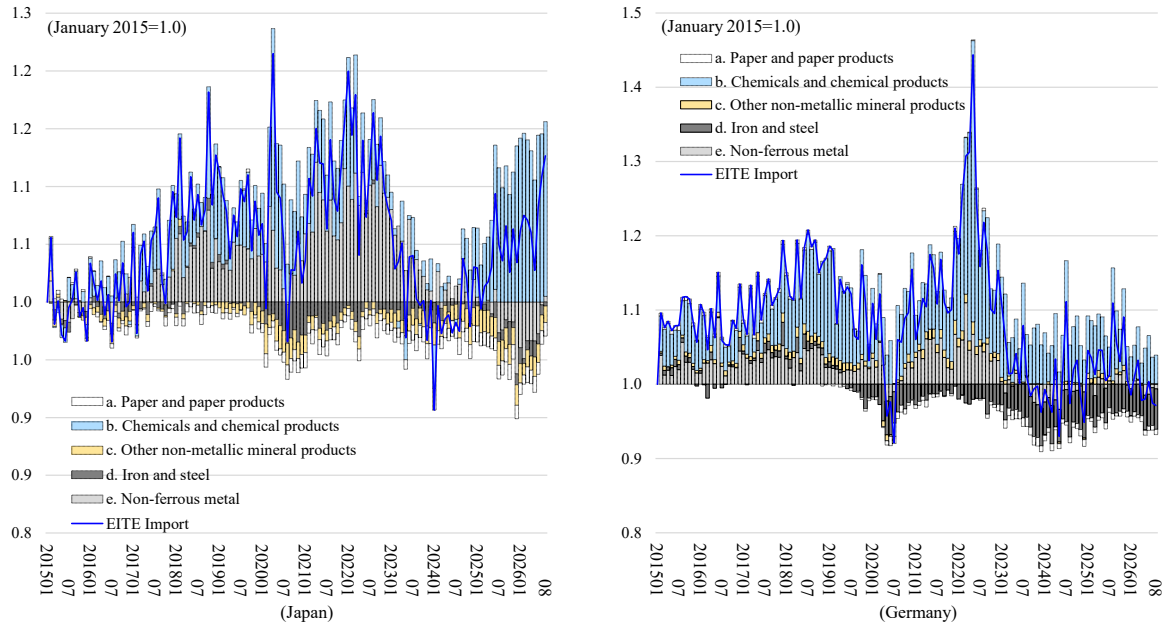
7. EITE Import

7.1 EITE Imports



Unit: Index (average import in 2015–19=1.0). Period: Period: January 2015–August 2026. Note: Import Indices is based on the Translog index using the previous year's import value share.

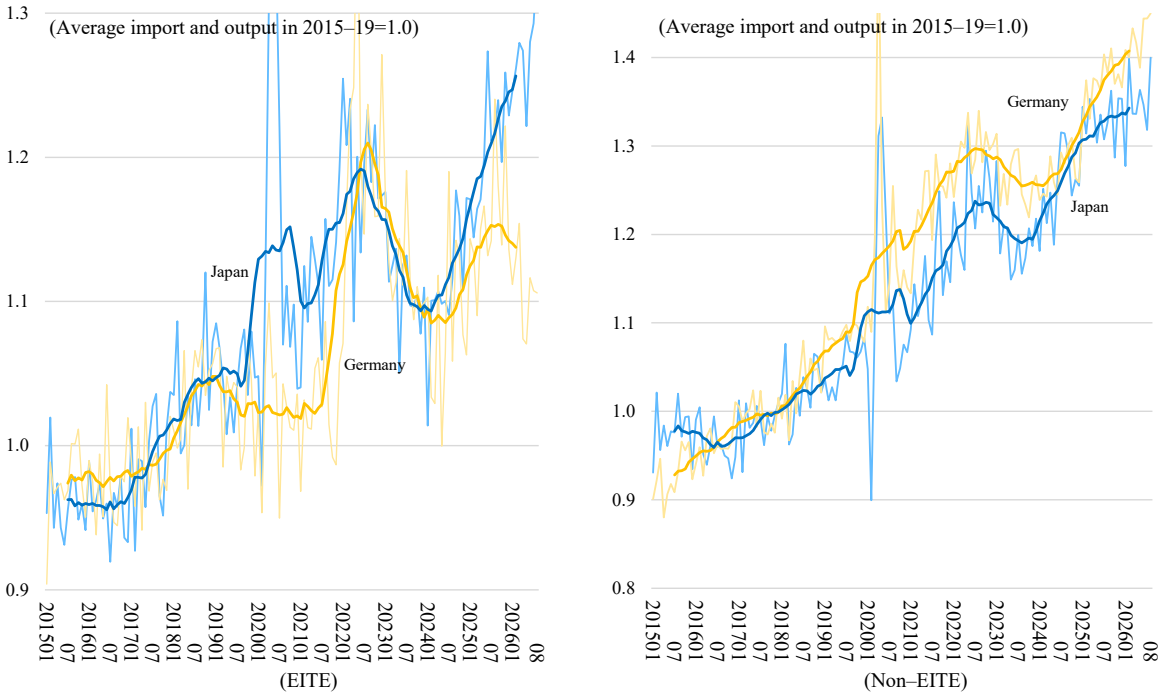
7.2 EITE Import Decomposition



Unit: Index (output in January 2015=1.0). Period: January 2015–August 2026. Note: Import Indices is based on the Translog index using the previous year's import value share.

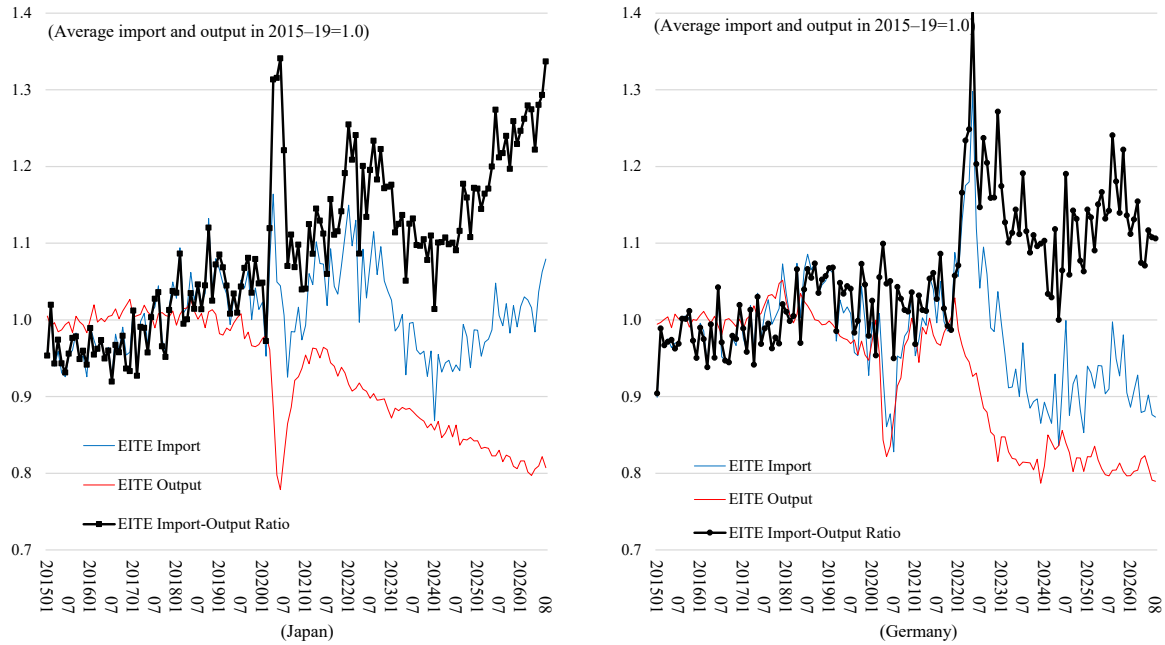
8. EITE Import-Output Ratio

8.1 EITE Import-Output Ratio



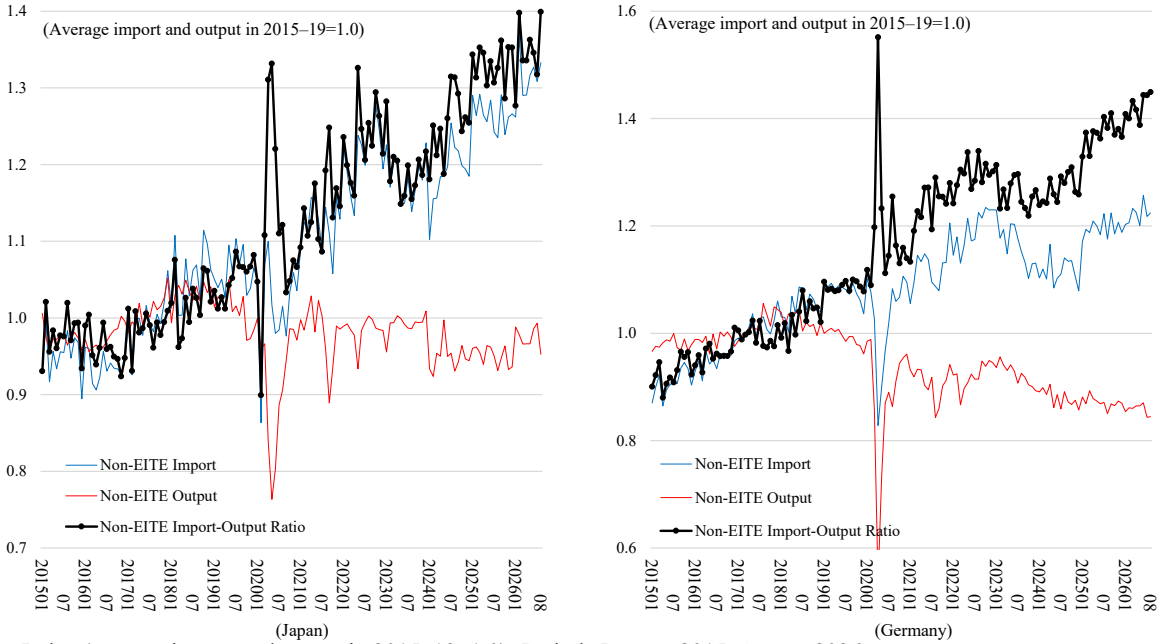
Unit: Index (average import and output in 2015–19=1.0). Period: January 2015–August 2026.

8.2 EITE Import, Output, and Import-Output Ratio



Unit: Index (average import and output in 2015–19=1.0). Period: January 2015–August 2026.

8.3 Non-EITE Import, Output, and Import-Output Ratio



Unit: Index (average import and output in 2015–19=1.0). Period: January 2015–August 2026.