Empirical Estimates of China's Trade Elasticities (1978–2025)

Trade Elasticity Estimates

Table 1: China's Trade Elasticity Estimates

Parameter	Estimate	Period	Source	Notes
Export exchange rate elasticity (ε_x, *short-run*)	–0.3	1983–1997	Cerra & Dayal-Gulati (1999)	1% RMB appreciation reduced exports by ∼0.3%.
Export exchange rate elasticity (ε_x, *long-run*)	–3.13	1979–1995	Senhadji & Montenegro (1999)	Large long-run elasticity in IMF cross-country study.
Export exchange rate elasticity (ε_x, *long-run*)	–1.5 total –1.8 ordinary –1.3 processing	1994–2005	García-Herrero & Koivu (2007)	Elasticities rose post-WTO.
Export exchange rate elasticity (ε_x, *short-run*)	–0.65	1992–2006	Yao, Tian & Su (2013)	Inelastic short-run effect due to diversification.
Export exchange rate elasticity (ε_x, *long-run*)	–1.19 (≈–1.36 pre-2009 vs –0.31 post-2009)	1994–2023	Thorbecke (2025)	Diminished response post-2008 crisis.
Export income elasticity (μ_x, *long-run*)	3.6 → 4.3	1995–2006	Aziz & Li (2007)	Foreign demand effect increased post-WTO.
Export income elasticity (μ_x, *short-run*)	+2.34	1992–2006	Yao, Tian & Su (2013)	Adjusted for new varieties; short-run ∼2.3%.
Export income elasticity (μ_x, *long-run*)	1.0–1.5	1994–2010	Cheung et al. (2012)	Typical long-run estimates > 1.
Import exchange rate elasticity (ε_m, *long-run*)	+0.7	1983–1997	Cerra & Dayal-Gulati (1999)	1% RMB appreciation raised imports by ∼0.7%.
Import exchange rate elasticity (ε_m, *long-run*)	+1.4 (processing: 0–+0.9)	1994–2005	García-Herrero & Koivu (2007)	Overall +1.4; processing responsive post-2001.
Import exchange rate elasticity (ε_m, *short-run*)	0.0–+0.5	1990s–2000s	Cheung et al. (2012)	True elasticity positive when excluding processing trade.
Import income elasticity (μ_m, *long-run*)	0.7–2.3	1980s–2010s	Cheung et al. (2009)	Range of long-run estimates; most > 1.
Import income elasticity (μ_m, *long-run*)	≈1.1	2011–2019	IMF (2016)	Elasticity fell to ∼1.0 in 2010s.

References

1. **Cerra, V., & Dayal-Gulati, A. (1999).** *China's trade flows: Changing price sensitivities and the reform process* (IMF Working Paper No. 99/1). International Monetary Fund. Full Text PDF

2. **Senhadji, A. S., & Montenegro, C. E. (1999).** Time series analysis of export demand equations: A cross-country analysis. *IMF Staff Papers, 46*(3), 259–273. DOI: 10.2307/3867643 Permanent link (PDF)

3. **Shu, C., & Yip, R. (2006).** *Impact of exchange rate movements on the Mainland economy* (China Economic Issues No. 3/06). Hong Kong Monetary Authority. Full Text PDF

4. **Aziz, J., & Li, X. (2007).** *China's changing trade elasticities* (IMF Working Paper No. 07/266). International Monetary Fund. Full Text PDF

5. **Kang, J. S., & Liao, W. (2016).** *Chinese imports: What's behind the slowdown?* (IMF Working Paper No. 16/106). International Monetary Fund. Full Text PDF

6. **García-Herrero, A., & Koivu, T. (2007).** Can the Chinese trade surplus be reduced through exchange rate policy? *BOFIT Discussion Paper No. 6/2007.* DOI: 10.2139/ssrn.1001666 Publisher Link (SSRN Article Page)

7. **Yao, Z., Tian, F., & Su, Q. (2013).** Income and price elasticities of China's exports. *China & World Economy, 21*(1), 91–106. DOI: 10.1111/j.1749-124X.2013.12010.x Publisher Link (Wiley Online Library)

8. **Cheung, Y.-W., Chinn, M. D., & Qian, X. (2012).** Are Chinese trade flows different? *Journal of International Money and Finance, 31*(8), 2127–2146. DOI: 10.1016/j.jimonfin.2012.05.004 Publisher Link (ScienceDirect)

9. **Thorbecke, W., Chen, C., & Salike, N. (2025).** *The Diminishing Impact of Exchange Rates on China's Exports* (Discussion Paper No. 25010). Research Institute of Economy, Trade and Industry (RIETI). Permalink (RePEc)