A Report on “Globalisation, the Terms of Trade, and Argentina’s Expansion in the Long Nineteenth Century” by Francis (2017)

Reviewer 2

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I am wiser than this person; for it is likely that neither of us knows anything fine and good, but he thinks he knows something when he does not know it, whereas I, just as I do not know, do not think I know, either. I seem, then, to be wiser than him in this small way, at least: that what I do not know, I do not think I know, either.

Plato, *The Apology of Socrates*, 21d

To err is human. All human knowledge is fallible and therefore uncertain. It follows that we must distinguish sharply between truth and certainty. That to err is human means not only that we must constantly struggle against error, but also that, even when we have taken the greatest care, we cannot be completely certain that we have not made a mistake.

Karl Popper, 'Knowledge and the Shaping of Reality'

Overview

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Abstract Summary: This article resolves the paradox of Argentina's early export-led expansion despite apparent lack of price incentives by presenting a new estimate of the country's terms of trade, suggesting an improvement of at least 2,000 per cent from the 1780s to the early 1900s. This massive terms-of-trade boom provided the necessary price incentives for labor and capital to shift into the export sector, driving Argentina's expansion as a response to globalization rather than internal factors.

Key Methodology: Quantitative historical analysis using a newly constructed "part-proxy" net barter terms of trade (NBTT) index (chained geometric Laspeyres index) based on domestic Argentine export prices and proxy import prices from major trade partners.

Research Question: Why did Argentina experience rapid export-led growth during the long nineteenth century, particularly in the first half, despite historians previously finding a lack of price incentives?

Summary

Is It Credible?

This article tackles a prominent puzzle in Argentine economic history known as the Halperín Donghi paradox: why did the country experience rapid export-led expansion in the early nineteenth century despite an apparent lack of price incentives? Francis argues that this paradox is an illusion caused by methodological errors in previous scholarship, specifically the reliance on European prices as proxies for Argentine reality. By constructing a new "part-proxy" estimate of the terms of trade using domestic export prices, the article claims to demonstrate a massive boom that provided the necessary incentives for growth. The headline claim, presented in the abstract, is that the terms of trade "probably improved by at least 2,000 percent from the 1780s to the first decade of the twentieth century" (p. 1). This dramatic figure anchors the argument that Argentina's expansion was a rational response to globalization rather than solely the result of internal institutional factors.

The credibility of the article's central argument is high, though the specific magnitude of the headline claim requires careful scrutiny. The assertion of a "2,000 percent" improvement is not the direct output of the primary empirical analysis but rather a speculative adjustment. The author's constructed index, shown in the results, indicates an improvement of around 1,500 percent (p. 14). To reach the higher figure, the author adjusts for the convergence of import prices—the narrowing gap between prices in Europe and Argentina due to falling trade costs. While theoretically sound, the empirical basis for this specific adjustment appears fragile; it relies heavily on a single data point regarding the price of paper in the 1780s (p. 14, fn 66). Extrapolating a century-long, economy-wide trend from one commodity introduces significant uncertainty. Consequently, the "2,000 percent" figure should be viewed as an educated conjecture rather than a hard empirical finding.

However, this distinction does not undermine the article's broader contribution. Even if one relies solely on the more conservative empirical estimate of a 1,500 percent improvement, the revision to the historical record is profound. Previous estimates using European proxies suggested improvements of only 100 to 400 percent (p. 4). The discrepancy between the author's new estimate and the older literature is so vast that the core argument survives even if the headline number is imprecise. Whether the boom was 1,500 percent or 2,000 percent, the article successfully demonstrates that price incentives were far stronger than previously realized, effectively resolving the paradox of export-led growth without price signals.

The analysis is not without limitations, which the author discusses with commendable transparency. The "part-proxy" method improves upon the status quo by using domestic export prices, but the import price index remains a "crude" construction based on the export prices of Argentina's trading partners (p. 29). This assumes that the basket of goods Britain exported to the world was identical to what it sold to Argentina, which introduces unquantified error. Furthermore, the export index for the first forty years relies entirely on a single commodity—dried hides—and does not fully account for quality improvements, which might bias the estimated price increase upward (p. 15). Yet, by validating the hide price series against bull prices (p. 28) and openly acknowledging the "rough" nature of the estimates, the article maintains a high degree of scholarly integrity. The result is a compelling reevaluation of Argentina's economic history that shifts the explanatory weight from internal politics to global market forces.

The Bottom Line

This article credibly resolves the "Halperín Donghi paradox" by demonstrating that Argentina benefited from a massive terms-of-trade boom that previous historians missed due to flawed methodologies. While the headline claim of a "2,000 percent" improvement is a speculative adjustment based on thin evidence, the underlying empirical finding of a ~1,500 percent increase is robust enough to sustain the author's central argument. Readers should accept the qualitative shift in the narrative—that globalization provided powerful price incentives for expansion—while treating the precise magnitude of the boom as an upper-bound estimate subject to future refinement.

Potential Issues

Fragility of the headline quantitative claim: The article's most prominent quantitative claim—that Argentina's terms of trade "probably improved by at least 2,000 percent" (p. 1)—is not the direct result of its primary empirical analysis but rather a speculative adjustment based on limited evidence. The core "part-proxy" index constructed from the available data shows a lower, albeit still substantial, improvement of around 1,500 percent (p. 14). The larger 2,000 percent figure is derived by applying a hypothetical adjustment for import price convergence. The justification for this adjustment's key parameter, a 100 percent price differential for imports in the 1780s, rests on a single data point for a single commodity. A footnote reveals this thin empirical basis: "In the 1780s paper – the only imported good for which there is currently sufficient data – sold for around 100 per cent more in Buenos Aires than in Spain" (p. 14, fn 66). Extrapolating an economy-wide, century-long price adjustment from one good is a methodologically fragile exercise that introduces a high degree of uncertainty into the article's most significant finding.

Conflation of empirical estimate with speculative adjustment in headline claims: The article's abstract and introduction present the speculative, adjusted figure of a 2,000 percent improvement as the definitive finding that resolves the central paradox in the literature. The abstract states, "This paradox is resolved by a new estimate of Argentina's terms of trade. It suggests that they probably improved by at least 2,000 per cent" (p. 1). This framing conflates the article's primary empirical result (an estimated 1,500 percent improvement) with a secondary, hypothetical calculation. While the author is transparent about this distinction in the body of the text (p. 14), the rhetorical choice to lead with the larger, more speculative number in the abstract and conclusion may give a misleading impression of the certainty and directness of the study's core empirical finding.

Uncertainty in the import price index: The denominator of the terms-of-trade calculation, the import price index, is constructed from the aggregate export price indices of Argentina's main trading partners. This method introduces a potential source of error, as the basket of goods Argentina imported from a country like Britain (e.g., textiles) likely differed from the basket of goods Britain exported to the world as a whole. The author explicitly acknowledges this limitation, describing the proxy index as "crude because it assumes that the composition of Argentina's imports from each of the six countries was similar to the composition of their exports to all countries" and noting that a better index remains "an agenda for future research" (pp. 29–30). This methodological choice, while necessitated by data constraints, introduces an unquantified uncertainty into the precise magnitude of the terms-of-trade boom.

Potential upward bias from unmeasured quality improvements: The article's export price index does not systematically account for improvements in the quality of exported goods over the long nineteenth century. Such improvements, for example in hide preservation or wool classification, would register as price increases in the data but represent payments for a better product rather than a pure terms-of-trade gain. This omission may create a systematic upward bias in the estimated terms-of-trade improvement. The author acknowledges this issue, stating that "changes in quality are not always taken into account, especially for hides" and identifying it as an area for future research (p. 15). While the estimated boom is large, this unmeasured factor weakens the certainty surrounding its precise magnitude.

Reliance on a single commodity for the early export price index: The article's export price index for the crucial period from 1780 to 1821 is based entirely on the price of a single commodity: dried hides. The author acknowledges this limitation, noting that this accounts for "100 per cent of the index until 1822" (p. 25). The article justifies this by citing evidence that hides constituted over 90 percent of merchandise exports in the colonial era and validates the price series by comparing it to bull prices (pp. 25, 28). Nonetheless, this lack of diversification makes the index for the initial four decades of the analysis highly sensitive to any measurement error or unobserved quality changes in this single price series, introducing a degree of fragility at the very start of the long-term trend calculation.

Potential for artifact in volatility analysis: The article's secondary finding of decreasing terms-of-trade volatility over time may be influenced by a data artifact at the beginning of the series. The author notes that "hide prices for this decade [the 1810s] are reported as several-year averages" (p. 15, fn 67). Using averaged data mechanically reduces measured volatility, which could create an artificially smooth period at the start of the series and thus exaggerate the subsequent decline in volatility. The author acknowledges this, advising caution and arguing that "even if the 1810s are excluded from the picture, the impression of declining volatility remains" (p. 15, fn 67). However, the known data issue complicates the interpretation of the long-term trend in price stability.

Transparency of data construction: The article's export price series is constructed by splicing together data from numerous heterogeneous sources over ten distinct subperiods. The author states that the series were "spliced together using the geometric mean of their overlapping years" and provides a citation for the general method (p. 25). This process of chaining disparate sources is a standard but challenging feature of constructing long-run historical data, and it can potentially create artificial shifts in the index that reflect changes in data sources rather than genuine market movements. While the author is transparent about the sources used, the brief description of the splicing procedure may not be sufficient for full replication of this complex data construction.

Future Research

Construction of a domestic import price index: Future work should focus on replacing the "crude" proxy import index with one constructed from actual wholesale prices of imported goods in Buenos Aires, such as textiles and hardware. Collecting this data from merchant records or local newspapers would eliminate the reliance on foreign export indices and allow for a precise measurement of the import price convergence that the current article can only estimate speculatively.

Quality-adjusted export price indices: To address the potential upward bias in the terms-of-trade estimate, researchers could construct hedonic price indices for key exports like hides and wool. By controlling for changes in product characteristics—such as better preservation methods or breed-specific wool classification—future studies could isolate pure price inflation from value-added quality improvements, providing a more accurate measure of the incentives facing producers.

Regional terms of trade analysis: The current analysis is limited to Buenos Aires, yet the economic experience of the Interior provinces differed significantly. Future research could compile price series for regional centers like Tucumán or Córdoba to calculate provincial terms of trade. This would test the hypothesis that the arrival of railways in the 1870s extended the terms-of-trade boom inland, potentially explaining the delayed integration of the Interior into the export economy.

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