

A Report on “Accounting for Slavery:
State-Level Gross Domestic Product in
the United States, 1839–1899” by Francis
(2025)

Reviewer 2

February 04, 2026



isitcredible.com

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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

Citation: Francis, J. (2025). Accounting for Slavery: State-Level Gross Domestic Product in the United States, 1839–1899. Unpublished paper.

URL: https://github.com/joeFrancis505/Accounting_for_Slavery

Abstract Summary: This paper introduces new state-level GDP estimates for fifteen sectors in the US (1839–1899) to analyze slavery’s role in economic history, suggesting that while slavery was microeconomically inefficient, it was macroeconomically crucial for the nineteenth-century cotton export boom.

Key Methodology: Estimation of state-level Gross Domestic Product (GDP) from the output side for fifteen sectors (1839–1899) using national estimates (Gallman) and distributing them via census data, labor force series, and wage proxies.

Research Question: What was the role of slavery and its legacies in the economic history of the United States, particularly concerning regional GDP and the North-South divergence?

Editor's Note

Reviewer 2 has provided a critique that is simultaneously rigorous and vulnerable to a strong theoretical defense. The reviewer accepts the paper's most potent empirical weapon—the final 1860 census wealth data—and admits it effectively challenges Wright's narrative. This is the strategic anchor for any revisions. The reviewer's skepticism regarding the GDP estimates' sensitivity and the omission of capital destruction can be parried not by retreating, but by sharpening the theoretical distinctions between stocks and flows, and between short-term shocks and long-term structural trends.

The principal plan for revision could be to stand your ground on the validity of the estimates while refining the interpretation of the post-war decline. It may not be necessary to run a Monte Carlo simulation to satisfy the reviewer's demand for sensitivity analysis. Instead, the correspondence between the output-side GDP estimates and the census-based wealth data could be leveraged more explicitly. The reviewer has already conceded that the wealth data supports the conclusion that the South was wealthier than Wright supposed. It could be argued that because the GDP estimates (which rely on the "arbitrary" proxies the reviewer dislikes) correlate strongly with the independent wealth data (which the reviewer likes), the proxies are evidently performing well in the aggregate. The wealth data *is* the robustness check. Adding a paragraph or modifying the discussion around Table 3 to make this logic explicit could be beneficial; the convergence of these two independent measures validates the GDP methodology despite the necessary roughness of individual components like shelter or milk yields.

Regarding the Civil War and capital destruction, the reviewer argues the paper has ignored the "kinetic destruction" of the war in favor of labor and racism. The defense here lies in standard economic growth theory. Capital destruction represents a destruction of stocks, which typically leads to a temporary dip in flows (GDP) fol-

lowed by rapid catch-up growth as capital is rebuilt (the standard Solow recovery). However, the data shows a *persistence* of the gap up to 1899, long after fences and barns would have been repaired. It could be clarified that while capital destruction explains the immediate depth of the post-war trough (which could be acknowledged more clearly), it cannot explain the failure of the South to converge over the subsequent thirty-five years. That failure requires a structural explanation—specifically, the labor withdrawal and the “intertemporal externalities” of racism identified in the paper. By distinguishing between the *level effect* of the war (capital destruction) and the *growth trend* (labor and institutions), the reviewer’s point can be incorporated without ceding the main argument.

On the issue of cotton, the reviewer claims the paper minimized the sector by ignoring a 25 percent value-add from transport and merchandising. It would be useful to perform the arithmetic the reviewer suggests and incorporate it into the text or an expanded footnote. If cotton is 14 percent of GDP, increasing its value by 25 percent raises its share to roughly 17.5 percent. This higher bound can be conceded while pointing out that it does not qualitatively alter the conclusion: cotton was a significant sector, but not the singular, overwhelming engine of the entire economy that Wright’s “King Cotton” model implies. Acknowledging the markup could strengthen the paper’s credibility by showing a willingness to engage with the higher number, precisely because the higher number still supports the thesis.

Finally, the critique regarding the use of wages to proxy shelter services is a valid identification of a data limitation, but it is not fatal. It would be prudent to simply acknowledge this limitation in the text as a constraint of the historical record, noting that while imperfect, it captures the labor-value component of housing construction and maintenance in a labor-scarce economy. As for the rounding errors in Tables 1 and 4, these are minor housekeeping issues that should be corrected to maintain professional credibility.

Summary

Is It Credible?

This paper by Francis presents a significant and ambitious undertaking in American economic history: the construction of a new, granular dataset of state-level Gross Domestic Product (GDP) for the United States between 1839 and 1899. By estimating GDP from the output side for fifteen sectors, Francis seeks to overturn the “consensus view” established by scholars like Wright, which holds that slavery impoverished the South even before the Civil War. Instead, Francis argues that the antebellum South was “far wealthier than Wright supposes,” with a GDP per capita that was 87 percent of the national average in 1839 (pp. 9, 11). The paper further contends that the region’s precipitous postbellum decline was not merely a result of market conditions for cotton, but rather the result of a “normalization” of the labor force—as formerly enslaved women and children withdrew from the fields—and the “intertemporal externalities” of racism that trapped Black Southerners in low-productivity agriculture (pp. 14, 17).

The credibility of this paper rests primarily on the validity of its new estimates. The effort to move beyond the limitations of Easterlin’s older income estimates is commendable, and the author is transparent about the difficulties involved, acknowledging that parts of the process inevitably involve “Mickey Mouse Numbers” (p. 7). However, this transparency reveals a fundamental fragility in the research design. The construction of the GDP series relies on a chain of assumptions, proxies, and interpolations that the author himself describes as “arbitrary” or “rough approximations” (pp. 5, 7). For instance, the value of shelter for the enslaved is weighted at 10 percent of the free population without a cited empirical basis, and non-marketed milk production is set via an “arbitrary procedure” (pp. 5–6). While historical national accounting often requires such workarounds, the paper fails to provide ro-

bustness checks or sensitivity analyses. We are left wondering how sensitive the headline finding—that the South was nearly as wealthy as the North—is to these specific, unverified parameters. If the value of shelter or subsistence food production were estimated differently, the gap between the North and South might widen or narrow significantly, potentially altering the paper’s central refutation of Wright.

Furthermore, the paper’s interpretation of the South’s economic decline after 1865 suffers from a conspicuous omission: the direct economic destruction caused by the Civil War. The analysis attributes the initial drop in Southern GDP per capita largely to the withdrawal of labor by the formerly enslaved, stating that this “explains approximately half of the decline” (p. 14). The subsequent stagnation is then attributed to the “intertemporal externalities” of racism (p. 17). While these are undoubtedly vital factors, the paper essentially treats the Civil War as a labor shock while ignoring the massive destruction of physical capital—livestock, fences, barns, railroads, and the financial system—that occurred between the 1860 and 1870 censuses. By focusing almost exclusively on labor supply and social dynamics, the paper risks overstating the explanatory power of these mechanisms. It is difficult to accept a macroeconomic accounting of the postbellum South that does not explicitly control for the kinetic destruction of the region’s productive capacity.

The paper’s treatment of the cotton sector also warrants scrutiny. Francis argues that cotton was not the “overwhelming” engine of growth often assumed, calculating that it accounted for only about 14 percent of Southern GDP in 1859 (p. 12). This figure is used to suggest that the “King Cotton” narrative is exaggerated. However, this estimate appears to minimize the sector’s true economic footprint by excluding the value added during transport and merchandising. A footnote dismisses this additional value as “too small” to matter, yet the data provided within that same footnote suggests the markup between farm and export prices was nearly 25 percent (p. 13, fn. 8). Including these downstream activities would raise cotton’s contribution to nearly 18 percent of GDP. While this might not restore a monocausal “King Cotton”

theory, the author's dismissal of a 25 percent value-add as negligible has the effect of minimizing the sector's importance, which aligns with the argument that the South's wealth came from "activities in which the free population engaged" (p. 3).

Despite these issues, the paper makes a compelling contribution by challenging the methodology of previous scholars. Francis correctly identifies that Wright relied on preliminary rather than final 1860 census data, and the paper's demonstration that the final census figures show Southern wealth was higher than Wright's estimates suggest is a strong empirical point that survives the concerns about the new GDP estimates (p. 11). The argument that slavery was "micro-inefficient" yet "macro-necessary" for the specific aim of settling the Deep South offers a nuanced theoretical framework that bridges the gap between moral condemnation and economic reality (p. 3). The paper succeeds in reopening the debate on the profitability and efficiency of slavery, even if its specific quantitative conclusions regarding the post-war decline require more rigorous stress-testing against alternative explanations like capital destruction.

The Bottom Line

Francis provides a valuable, highly granular dataset that challenges the consensus view of an impoverished antebellum South, persuasively arguing that the region was wealthier than previously thought. However, the paper's explanation for the post-Civil War economic collapse is likely incomplete, as it focuses on labor force changes and racism while largely ignoring the war's destruction of physical capital. While the new GDP estimates are a significant step forward, their reliance on untested assumptions without sensitivity analysis suggests the precise magnitude of the findings should be treated with caution.

Potential Issues

Omission of the Civil War's direct economic impact: The paper's explanation for the South's postbellum economic decline focuses on structural factors, such as the withdrawal of labor by the formerly enslaved and the long-term effects of racism (pp. 14–15). However, the analysis does not appear to account for the direct and massive economic destruction caused by the Civil War itself. The war resulted in the widespread loss of physical capital, including farms, infrastructure, and livestock, as well as the collapse of the region's financial system. These factors would have severely reduced the South's productive capacity immediately after 1865. By focusing on the period from 1859 to 1879 and attributing the decline primarily to labor force changes and racism, the paper may be overlooking a critical initial shock and potentially overstating the explanatory power of its preferred mechanisms for the persistence of Southern poverty.

Lack of robustness checks for new GDP estimates: The paper's primary contribution is a new set of state-level GDP estimates for the 19th century. The construction of these estimates necessarily involves numerous assumptions, proxies, and interpolations, some of which the author explicitly describes as “arbitrary” (p. 5). For example, the value of shelter services for the enslaved is weighted at 10 percent of the free population's without empirical justification, and non-marketed milk production is based on an “arbitrary procedure” (pp. 5–6). Despite the provisional nature of these assumptions, the paper does not present sensitivity analyses to show how its main conclusions might change under plausible alternative specifications. This lack of robustness checks makes it difficult to assess the fragility of the findings, which depend entirely on the reliability of these new estimates. The author acknowledges the estimates are “rough approximations” and provides supplementary materials for others to build upon, but the absence of sensitivity analysis within the paper itself is a significant limitation (pp. 7, 9).

Methodological choices in GDP estimation: The construction of the GDP series relies on several methodological choices that may introduce systematic biases or limitations. A notable example is the estimation of shelter services, where the value is proxied using the daily wages of common laborers rather than a measure of rent (p. 6). This is a conceptually inexact proxy, as wages and rents are determined by different economic forces. The author uses a more appropriate rent-based index when calculating constant-price estimates, suggesting an awareness of better alternatives (p. 9, fn. 7). Other methodological choices also rely on strong assumptions, such as applying fixed animal feed deductions from a single 1848 source across the entire 1839–1899 period, using growth in the agricultural labor force as a proxy for farm improvements, and assuming a uniform occupational structure for enslaved domestic servants across all states (pp. 4–6). While many of these are standard workarounds in historical national accounting due to data limitations, their cumulative effect on the estimates’ reliability is uncertain.

Interpretation of cotton’s economic contribution: The paper argues against the “overwhelming importance” of cotton by showing it accounted for about 14 percent of Southern GDP in 1859 (p. 12). To support this, a footnote dismisses the value added to cotton after it left the farm, stating that the price margin between the farm and export point is “too small for cotton’s impact on GDP to be greatly increased” (p. 13, fn. 8). However, the data presented in the footnote (a farm price of 9.3 cents and an export price of 11.6 cents) indicates a 24.7% increase in value. Including this margin would raise cotton’s direct and indirect contribution to approximately 17.7% of Southern GDP. Describing a nearly 25% increase in the sector’s value as “too small” to matter is a subjective interpretation. While this revised figure may not support a monocausal “King Cotton” theory, the paper’s presentation results in a minimization of the commodity’s economic significance.

Presentation issues: The paper contains minor rounding discrepancies in two of its key tables. In Table 1, the sum of the sub-components for the “Services” sector in 1859

is \$1,749 million, while the stated total for the sector is \$1,748 million (p. 5). Similarly, in Table 4, the sum of the percentage shares for the “Services” sub-components in 1859 is 28.6%, while the stated total for the sector is 28.7% (p. 13). These minor issues do not affect the paper’s substantive conclusions but suggest a need for closer proofreading of the presented data.

Future Research

Sensitivity analysis of GDP components: Future work should subject the new state-level GDP estimates to rigorous sensitivity testing. Specifically, researchers should vary the “arbitrary” parameters identified in the paper—such as the 10 percent weighting for enslaved shelter and the assumed milk yields—to determine if the finding of high antebellum Southern wealth holds under a range of plausible assumptions. This would establish bounds of uncertainty around the point estimates provided here.

Integration of capital destruction data: To better isolate the effects of labor withdrawal and racism on the postbellum decline, future research should incorporate data on the destruction of physical capital during the Civil War. By controlling for the loss of livestock, farm implements, and infrastructure (using data from the 1860 and 1870 censuses), scholars could distinguish between the temporary shock of war damage and the persistent structural effects of emancipation and discrimination.

Value-added analysis of the cotton sector: Research should recalculate the economic contribution of the cotton sector by explicitly modeling the value added through transportation, insurance, and merchandising between the farm gate and the point of export. Rather than dismissing these margins, a more comprehensive accounting would provide a clearer picture of how much of the national and regional economy was indirectly dependent on the slave-grown commodity.

Copyediting

The paper presents a rigorous construction of state-level GDP estimates to challenge established narratives regarding the economic history of the American South. However, the text contains minor calculation discrepancies in the data tables that undermine the precision of the work. Furthermore, the argument regarding the post-bellum economic decline would be significantly strengthened by explicitly distinguishing between the immediate “shock” of capital destruction (which the current draft largely overlooks) and the long-term “trend” of labor withdrawal and structural stagnation. Addressing the specific mathematical errors and refining the theoretical distinction between stock destruction and flow constraints will align the paper with the Editor’s requirements and preempt Reviewer 2’s concerns.

- **p. 5** In Table 1, the sum of the sub-components listed under the “Services” sector for the year 1859 (Education 31 + Finance 51 + Government 67 + Hand trades 79 + Personal 92 + Professional 114 + Shelter 395 + Trade 661 + Transportation 259) equals 1,749. However, the total row for “Services” lists the value as 1,748. Consider verifying the rounding in the source data and correcting the total to 1,749 to ensure arithmetical accuracy.
- **p. 10** The sentence “The South only seemed wealthy, according to Wright (2006, 61), was an illusion because planters...” is grammatically incorrect and disrupts the flow of the argument. The clause “was an illusion” lacks a proper subject in the current construction. Consider revising to: “According to Wright (2006, 61), the South only seemed wealthy; this apparent prosperity was an illusion because planters...”
- **p. 11** The phrase “Wright’s (1975... 1978...) assertions that world demand for cotton was the principal determinant of Southern growth appears unconvincing...” contains a subject-verb agreement error. The subject “assertions” is plu-

ral, but the verb “appears” is singular. Consider changing “appears” to “appear.”

- **p. 11** The discussion of the 1860 census wealth data presents an opportunity to address the reviewer’s concern regarding the “arbitrary” nature of the GDP proxies. Since the independent census wealth data corroborates the new GDP estimates (both showing the South at ~80-87% of the North), this alignment serves as a validity check. Consider adding a sentence to the end of the paragraph ending “...methodological error” to explicitly frame this: “The close correspondence between these independent wealth statistics and the new output-side GDP estimates serves as a robustness check, validating the proxies used to construct the latter.”
- **p. 13** In Table 4, the sum of the percentage shares for the “Services” sub-components in 1859 (Trade 9.1 + Transport 3.3 + Finance 0.6 + Professional 2.6 + Personal 3.4 + Government 1.2 + Education 0.4 + Hand trades 0.9 + Shelter 7.1) equals 28.6. However, the total row for “Services” lists the share as 28.7. Consider adjusting the rounding of the components or the total to ensure they sum correctly to 100% and match the aggregate figure.
- **p. 13** Footnote 8 dismisses the value added to cotton by transportation and merchandising as “too small” without quantifying it, which Reviewer 2 flagged as a minimization of the sector. The data provided (9.3 cents farm price vs. 11.6 cents export price) implies a markup of roughly 25 percent. Applying this to the 14 percent GDP share would raise cotton’s contribution to approximately 17.5 percent. Consider revising the footnote to explicitly acknowledge this calculation: “While the margin between farm and export prices implies a markup of roughly 25 percent—potentially raising cotton’s total contribution to around 17.5 percent of GDP—this upper-bound estimate does not qualitatively alter the conclusion that the sector was not the singular, overwhelming engine of

the Southern economy.”

- **p. 14** The explanation for the post-1865 decline focuses almost exclusively on labor withdrawal, omitting the destruction of physical capital (livestock, infrastructure) noted by the reviewer. To defend the thesis without conceding the argument, consider inserting a distinction between immediate levels and long-term trends in the paragraph beginning “Even that modest contribution...” You might argue that while capital destruction explains the immediate depth of the post-war trough, it cannot explain the *persistence* of the gap over the subsequent decades, which is better explained by the structural labor issues identified in the text.
- **p. 15** The text cites “Rhode (2024, 9, Table 8)” in the Note for Table 5. Please verify if this refers to the “Unpublished paper” listed in the references or the *Explorations in Economic History* article also listed in the references (p. 22). If it is the published version, ensure the citation style matches the final publication details rather than the working paper format.

Proofreading

No issues found.