

PRELIMINARY DRAFT

QUANTIFICATION OF REPARATIONS FOR TRANSATLANTIC CHATTEL SLAVERY

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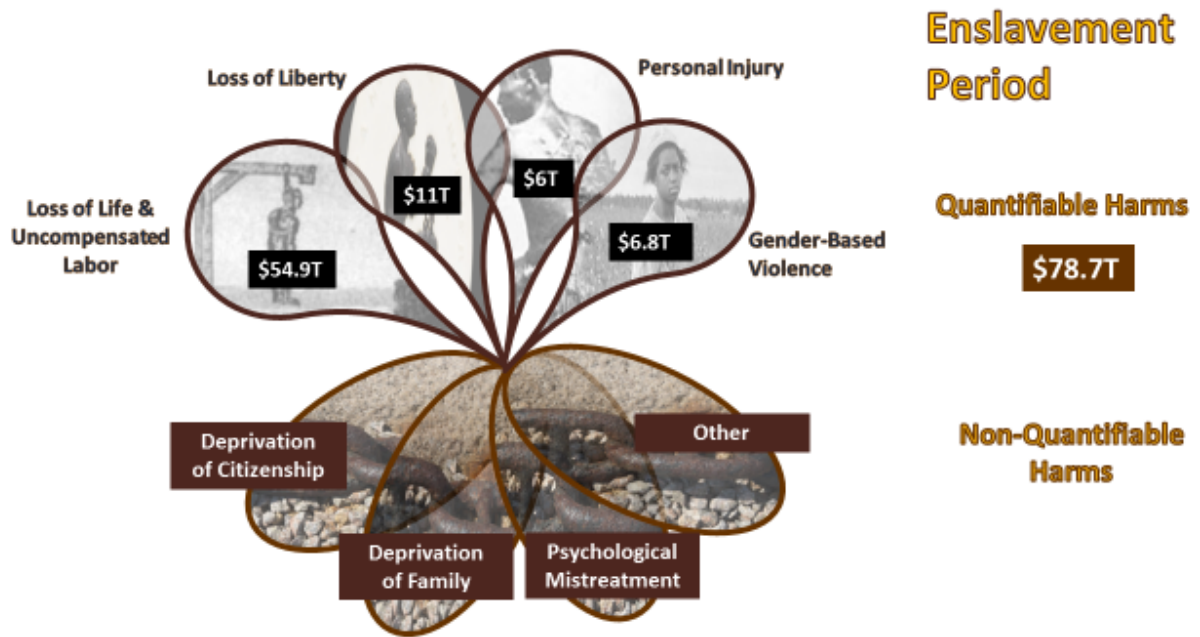
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Executive Summary

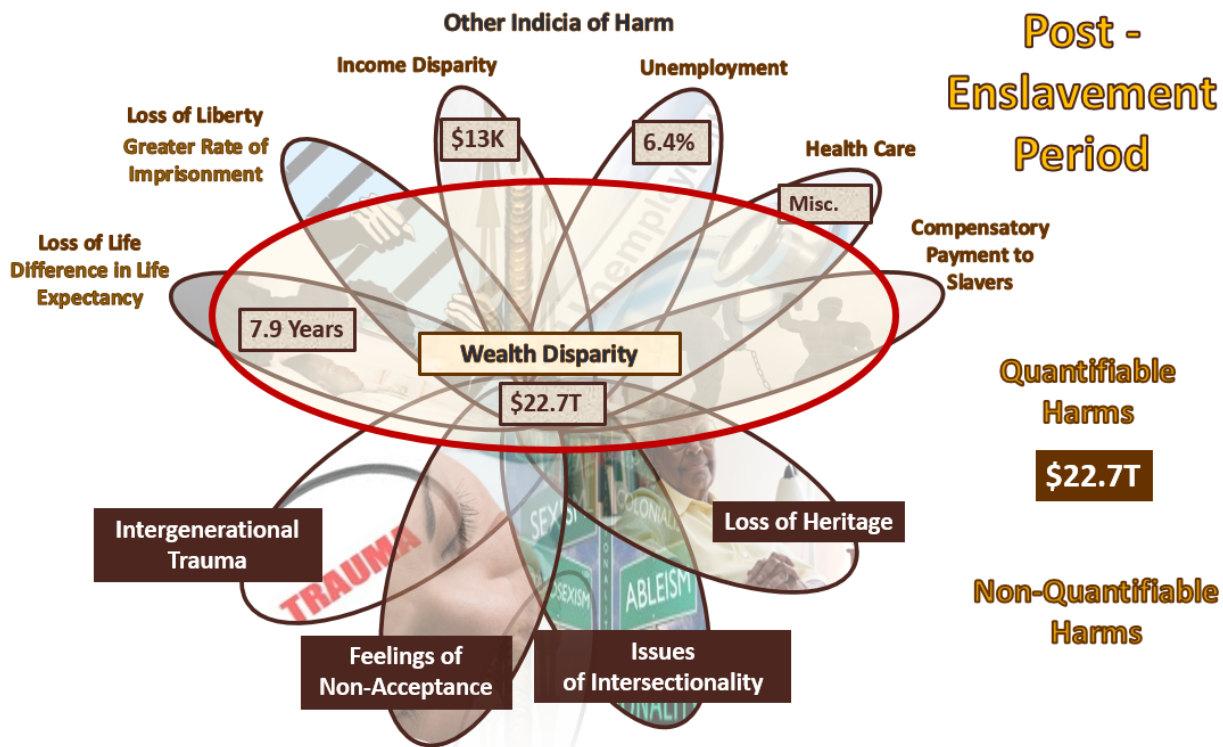
The harm caused by transatlantic chattel slavery was vast and its repercussions continue to resonate in the lives of the descendants of the enslaved to this day. Each enslaved person experienced overwhelming harm, beginning with the loss of their liberty and often ending with their premature death after a life marked by personal injury and other forms of violence, if they survived the journey at all. By our estimates, these harms were inflicted on 19 million people over the span of four centuries. These 19 million include those Africans kidnapped and transported to the Americas and Caribbean, and those born into slavery. Given the depth, breadth and duration of the harm, quantifying the associated reparations can seem like an insurmountable task. Yet, many scholars in multiple disciplines in different countries have documented and studied these harms for decades. In this paper, we bring the tools we have available as economists to build on this vast body of work and quantify in a novel—but far from definitive—manner elements of reparations for transatlantic chattel slavery.

To meet this challenge we begin by separating the harm into two broad categories of damages. First, for harm during the period when chattel slavery was carried out and, second, for continuing harm thereafter. During each of these periods, harm was multidimensional and it is important to recognize each of the distinct forms of harm experienced by the enslaved and by their descendants. However, we were only able to quantify a subset of these harms since the economic tools available to us are not appropriate to measure some of the categories of harm or because of data limitations.

The following figures summarize our categorization of the different heads of damages, as well as our baseline quantification.



For the period of enslavement, we estimate US\$78.7 trillion in reparations. However, as detailed in the body of this paper, this is a lower bound estimate that takes into account inflation from the date that harm was inflicted to the present date, and takes into account very conservative additional accounting for the time value of money. If, as other scholars have done, we used interest rates that closer resembled the market rates over the relevant centuries, the reparations associated with the enslavement period would be considerably higher. Prior work presenting similar calculations has noted that the magnitude of their estimates for reparation are close to or exceed the GDP of the enslaving countries. We note that these calculations measure a harm inflicted on **millions of persons**, and sometimes entire nations, for **hundreds of years**, and therefore GDP, which measures the output of a country in one year, is perhaps not the best yardstick to put them in context. Instead, we compare the magnitude of our estimates with the **cumulative** GDP over several centuries.



For the post-enslavement period, we recognize harms derived from slavery from many sources, some we quantify and some we do not. These include loss of liberty (in the form of excess incarceration of Afro-descendants), income disparity, unemployment, health care, compensatory payment to slave-owners, as well as other continuing harms from institutionalized racism such as political disenfranchisement, lack of physical safety and, for many nations, lack of economic development and resilience.

However, in measuring such harms, many of these categories overlap and are not strictly additive. Yet, most—if not all—of these harms affect directly or indirectly the current wealth of the descendants of the enslaved. Consequently, we offer an estimate of harm based on disparity in wealth between Black people in the Americas and Caribbean and their colonizers as a lower bound to the quantum of reparations from the period post enslavement.

This estimate of reparations for the post-enslavement period is US\$22.7 trillion. This is necessarily an imperfect proxy that provides a lower-bound estimate of the identified harms. The conservative nature of this estimate is driven by what it does not fully capture: (i) beyond the effect on current levels of wealth, the economic consequences include low levels of consumption in the preceding generations, and (ii) consequences of many of these harms, such as the psychological pain they impose, extend beyond economic outcomes. Nevertheless, we

find wealth disparity to be a reasonable proxy for the cumulative economic harms, especially if we recognize it as a lower bound for reparations.

The total harm estimated for the period of enslavement of US\$78.7 trillion plus the estimated harm for the period post enslavement of US\$22.7 trillion together total **US\$101.4 trillion**. We offer this figure as a quantum of reparations for transatlantic chattel slavery. We also recognize that this figure surely underestimates the true harms from that abominable institution.

I. Conceptual Framework

A. Introduction

We quantify certain elements of reparations for transatlantic chattel slavery, for harm both during the period when it was carried out and for continuing harm thereafter. The essential feature of this continuing harm is discriminatory treatment against the former enslaved and their descendants after the formal termination of transatlantic chattel slavery. We address certain elements of harm for which monetary compensation can be quantified, but economic analysis cannot capture the full scope of the harm. Where an aspect or component of harm is identifiable, but not possible to quantify, we note the harm. Even where quantification is possible, the resulting amounts often represent only partial compensation.

Where possible, we demonstrate the magnitude of the overlapping harms, recognizing that the amounts will fall short of fully compensating for those harms. Scholars such as Robert Beckford, who concluded that Britain (the UK) owes £7.5 trillion in reparations based on extensive research and evaluation, share a similar interest; however, it should be noted that there is no amount of money that could repair the harm of enslaving over 15 millions of Africans and their descendants.¹ While the resulting amounts are extraordinary, we provide context to understand them given the nature of the wrongs, the centuries over which they transpired, the delay in making reparations, and of the economies that benefited from them. Our work builds on the research that scholars from multiple disciplines and diverse geographies have conducted over the last decades.²

Additionally, this work benefits from discussions with an advisory group put together by Judge Patrick Robinson. Key consultants on this project includes Prof. Verene Shepherd, Prof. David Eltis, Prof. Robert Beckford and Ms Priscellia Robinson.

¹ Bindu Marthur, *The Empire Pays Back*, (2005, United Kingdom, Diverse Productions.)

² See e.g. “Report on the Work of the National Commission on Reparation”, NCR. November 2013.

B. Building Blocks Approach

Our assignment—to put a monetary figure on the full harm caused by transatlantic chattel slavery—is challenging to the point it may seem insurmountable. There is no amount of money that would repair the harm of enslaving millions of Africans and their descendants. As Professor Verene Shepherd³ has stated:

The need for reparation...is much more than a call for monetary compensation and cannot be narrowly defined as such; rather, it is a call for a long-term commitment to stabilise and bring restitution to those who were oppressed and subordinated by the dominant colonial powers.⁴

Therefore, the concept of economic damages—how much money would make the harmed person economically indifferent to a choice between the harm plus payment versus not having suffered the harm—is an unsatisfactory framework, because positing the choice of being enslaved is morally reprehensible. We want to be clear up-front that the analysis we present is not intended as—and cannot be—a full measure of compensation for transatlantic chattel slavery.

Instead, we endeavor to provide quantifications of certain well-defined components of the harm associated with transatlantic chattel slavery. Our first deconstruction is between the period of enslavement and the post-enslavement period. To the best of our knowledge, the first documented enslaved person was brought to the Americas in 1502⁵, and the final year of state-sanctioned enslavement was 1888 (for Brazil).⁶ The dataset we use for our quantitative analysis of the period of enslavement starts in 1511 and ends in 1870, with individual countries

³ Prof. Verene Shepherd is Director of the Centre for Reparation Research at the University of the West Indies and Chair of the UN Committee on the Elimination of Racial Discrimination. Her books include “Livestock, Sugar and Slavery: Contested Terrain in Colonial Jamaica,” 2009 and *Trading Souls: Europe's Transatlantic Trade in Africans* (with Sir Hilary Beckles), 2007.

⁴ Verene A. Shepherd, *Jamaica and the Debate over Reparation for Slavery: A Summary Overview*, in *Emancipation and the Remaking of the British Imperial World*, ed. McClelland Keith. (Manchester University Press, 2014), 231.

⁵ National Humanities Center Toolbox Library: Primary Resources in US History and Literature. (Last Revised June 2006). 7. *The Slave Trade*. Retrieved January 27, 2023, from <http://nationalhumanitiescenter.org/pds/amerbegin/exploration/text7/text7read.htm>.

⁶ Michel Erpelding, *The Status of Transatlantic Chattel Slavery in International Law After the 1815 Vienna Declaration*. American Society of International Law. Retrieved January 27, 2023, from <https://www.asil.org/sites/default/files/reparations/speaker/Erpelding,%20Michel%20-%20Int'l%20Legal%20Status%20of%20Transatlantic%20Chattel%20Slavery%20After%201815.pdf>.

entering and exiting the dataset over time. We measure the post-enslavement period up to the present time, with the exact year depending on data availability.⁷

We further subdivide between quantifiable and non-quantifiable damages. The quantified damages within the period of enslavement cover loss of labor income and loss of life (in the sense of the economic value of a lifetime's labor), loss of liberty, personal injury, and gender-based violence—including rape and forced pregnancy. The non-quantified damages from the period of enslavement include deprivation of citizenship, deprivation of family, deprivation of identity, and psychological mistreatment.

For the period post enslavement, to capture the cumulative effects of ongoing overlapping and intertwined harms, we offer a summary measure of reparations based on wealth differentials between people of African descent in the Americas and Caribbean and the descendants of their enslavers. Such a measure is imperfect, but overall conservative, and used in the academic literature on reparations. We also provide information on the categories of loss of life, loss of liberty, disparity in economic outcomes, disparities in access to social goods, and “other” quantifiable harms. In addition, we acknowledge unquantified harms such as feelings of non-acceptance, loss of heritage, intergenerational trauma, and issues of intersectionality—i.e. issues that affect people who belong to multiple protected groups simultaneously, such as descendants of enslaved people who are also disabled or members of the LGBTQ+ community.

These categories are not strictly additive. On the one hand, to the extent some of the quantified harms are overlapping, the portion that is overlapping should be removed from a sum of harms. On the other hand, the unquantified harms suggest that the total harm is larger than the sum of quantified harms. Our measure of reparations includes four separate and additive harms from the period of enslavement plus one summary measure from the post enslavement period. We address issues of interpreting our results and understanding them in context in the final section of this paper.

⁷ Bridget Brereton, "Family Strategies, Gender, and the Shift to Wage Labour in the British Caribbean," *Gender and Slave Emancipation in the Atlantic World*, Pamela Scully and Diana Paton, eds. Durham: Duke University Press, 2005; Swithin Wilmot, "'Females of Adandoned Character?': Women and Protest in Jamaica 1838-65," *Engendering History: Caribbean Women in Historical Perspective*, Verene Shepherd, Bridget Brereton and Barbara Bailey, eds. New York: St. Martin's Press, 1995, pp. 279-95; Clinton A. Hutton, *Colour for Colour Skin for Skin: Marching with the Ancestral Spirits into War Oh at Morant Bay*. Kingston Jamaica: Ian Randle, 2015; Swithin Wilmot, 2006. "'We Not Slave Again': Enslaved Jamaicans in Early Freedom, 1838–1865." In *The Faces of Freedom: The Manumission and Emancipation of Slaves in Old World and New World Slavery*, edited by Marc Kleijwegt, 215–31. Netherlands: Brill Academic Publishers.

C. Overview of Economic Framework

Our analysis is an economic one. That is, when available we look at market-based measures of compensation for harm as one component of reparations. Nevertheless, we understand that reparations are a broader concept that must address non-pecuniary damages and impacts and that considers the investments that may be needed to stop past harms from perpetuating.

In that context, we note the summary provided by the Office of the High Commissioner for Human Rights⁸:

Reparation measures include:

- **Restitution**, which should restore the victim to their original situation before the violation occurred, e.g. restoration of liberty, reinstatement of employment, return of property, return to one's place of residence.
 - **Compensation**, which should be provided for any economically assessable damage, loss of earnings, loss of property, loss of economic opportunities, moral damages.
 - **Rehabilitation**, which should include medical and psychological care, legal and social services.
 - **Satisfaction**, which should include the cessation of continuing violations, truth-seeking, search for the disappeared person or their remains, recovery, reburial of remains, public apologies, judicial and administrative sanctions, memorials, and commemorations.
-

In that framework, our analysis should be understood generally as addressing compensation. We apply standard economic concepts of compensation for damages and precedents in other legal contexts where reparations have been made or where compensation for moral damages has been quantified.

⁸ United Nations Human Rights Office of the High Commissioner, "Reparations: OHCHR and transitional justice," *United Nations*, <https://www.ohchr.org/en/transitional-justice/reparations>.

D. The Use of Interest Rates

The concept of the time value of money is well-established: a dollar today is worth more than a dollar tomorrow. Interest compensates for the delay in receiving amounts owed in the past.⁹ Interest can compensate for delay in three ways. First, it can offset inflation. Second, it can provide a real return, which may be positive or negative depending on the supply of and demand for funds in financial markets. Third, it can compensate for the risk of default of the debtor during the period of delay.

Many of the harms we are addressing occurred in the distant past. Consequently, interest must be applied here to determine the value today of the nominal amounts calculated in the past. The pure time value of money is referred to as a “risk-free” rate. This is generally the rate associated with the cost that the safest sovereigns pay to borrow money. If a dollar today can be invested at that rate without any risk of loss, it should be clear that this rate provides the economically reasonable compensation to trade a dollar today for an amount in the future.

Given the very long periods from when the harm was incurred to when reparations might be realized, interest will inevitably comprise a large portion of the compensation amounts expressed in today’s dollars. And indeed, although we have developed our analysis in U.S. dollars, the underlying currencies and specific rates are necessarily varied.

There is recent research conducted at the Bank of England that provides context for a global view of interest rates over several centuries.¹⁰ The analysis examined data both on nominal interest rates and on inflation since the 1300’s. The author also identified ‘safe’ rates using information from across many countries for the same period. The results are reproduced in Table 1.

TABLE 1: HISTORICAL INTEREST RATES

	1300s	1400s	1500s	1600s	1700s	1800s	1900s	2000s	CAGR (1500-2000)	CAGR (1800-2000)
Nominal Rate	7.3%	11.2%	7.8%	5.4%	4.1%	3.5%	5.0%	3.5%	5.0%	4.2%
Inflation	2.2%	2.1%	4.0%	0.8%	0.6%	0.0%	3.1%	2.2%	1.7%	1.6%
Real Rate	5.1%	9.1%	6.1%	4.6%	3.5%	3.4%	2.0%	1.3%	3.8%	2.6%

Source: "Eight centuries of global real rates, R-G, and the 'suprasecular' decline, 1311-2018" - BoE SWP 845.

⁹ Alexis Maniatis, Florin Dorobantu, and Fabricio Nuñez, F., "A Framework for Interest Awards in International Arbitration", *Fordham International Law Journal*, Vol. 41, 2018 p. 833.

¹⁰ Paul Schmelzing, "Eight centuries of global real rates, R-G, and the 'suprasecular' decline, 1311-2018", *Bank of England Staff Working Paper 845*, January 3, 2020..

We make two observations from this data set. First, although there are periods within some centuries when real rates are negative (that is where inflation is greater than the nominal interest rate), in general and across time and geographies, real risk-free rates have been positive. The second is that 3%, the nominal interest rate used in some of the academic literature that informs our analysis, is lower than the average for the time periods involved and would be a conservative and reasonable rate.

The approach we take to the use of interest rates is to compensate for purchasing power and a conservative measure of time value of money.¹¹ Not including purchasing power and the time value of money in the interest rate applied would be to implicitly allow the enslaving countries to benefit from the delay in recognizing the amount of reparations owed. Based on the Bank of England study, a rate of about 1.6% would take into account inflation and properly adjust for the change in purchasing power of money. Although a real rate of about 1.5% is implicitly used by the academic literature (as the difference between the 3% they use and the little more than 1.5% inflation experienced over these long timeframes), we chose to conservatively use a real rate of about 1% to account for the time value of money. This leads us to use a nominal rate of 2.5%.¹²

¹¹ We do not take any default risk into account since this element is most relevant in forward-looking calculations, where the possibility of default exists.

¹² We choose 2.5% rather than adding exactly 1% to our CAGR inflation rates to avoid a false sense of precision.

II. Reparations for the Period of Slavery

A. Quantified Damages

1. Loss of Life and Uncompensated Labor

We begin by calculating reparations for *loss of life* and *uncompensated labor*. We address both together, for two reasons. First, they share a common methodology. This methodology is based on measuring uncompensated labor and is adapted from the academic literature and from prior settings where reparations have been paid.¹³ Second, reliable data on the average life differential between an enslaved and a free person have been identified in Caribbean literature on the slave population, but we could not find such data for all the territories involved over the periods in question.¹⁴

The academic literature addressing reparations for uncompensated labor dates back (at least) to the 1990s, and we use this existing literature as our starting point.¹⁵ The economic literature

¹³ During the twentieth century, reparations were paid to the survivors and descendants of those who perished during the Holocaust. These reparations sought to compensate for loss of life and enslaved labor during the Holocaust. As Professor Shepherd stated in a National Reparatory Symposium at the University of the West Indies, Mona, February 22, 2003 “the trade in captives, and slavery were crimes against humanity (as defined by the Charter of the Nuremberg Tribunal) as recognized a century earlier by antislavery activists... A case can be made for reparation according to the dictates of international law.” Professor Beckles also reinforces this point stating, “[t]he concept of reparation is not new and is part of the theory of equity known as ‘restorative justice’. This concept of justice emphasizes repairing the harm caused by criminal action, and clear precedent exists in the form of apology and monetary compensation to affected peoples... for example, that in 1952, Germany agreed, at the World Jewish Congress in Israel, to pay \$65.2 billion to Jews for genocidal atrocities committed against them.” This makes reparations for the Holocaust an important reference point when assessing reparations for transatlantic chattel slavery. More recently, compensation to the victims (and the descendants of the victims) of 9/11 offer a methodological starting point to quantify harm associated with loss of life and personal injury. “The September 11 Victim Compensation Fund of 2001,” U.S. Department of Justice, <https://oig.justice.gov/reports/plus/a0401/final.pdf>.

¹⁴ Several authors have studied the demographics of slave populations in the Americas and Caribbean but we have been unable to piece together sufficient information for all the territories and all the relevant time periods. See e.g. Barry W. Higman, 1984. *Slave Populations of the British Caribbean 1807-1834* (Maryland, USA: The Johns Hopkins University Press) 307-398; David Eltis, Frank D. Lewis, and David Richardson. “Slave Prices, the African Slave Trade, and Productivity in the Caribbean, 1674-1807.” *The Economic History Review* 58, no. 4 (2005): 673–700; Robert S. Corruccini, Jerome S. Handler, Robert J. Mutaw, Frederick W. Lange, “Osteology of a slave burial population from Barbados, West Indies.” *Am J Phys Anthropol.* 1982 Dec;59(4):443-59. doi: 10.1002/ajpa.1330590414. PMID: 6762099.

¹⁵ Walter L. Fleming, “Forty Acres and a Mule.” *The North American Review* 182, no. 594 (1906): 721–37.

has developed multiple approaches to price the economic value of a human life. One approach is the Value of Statistical Life (VSL), where the value of a life is estimated based on how much people are willing to pay (or earnings they are willing to forego) to avoid certain life-threatening risks. Using the revealed preferences of the value of reducing fatal risks, the VSL is then calculated as the implied compensation needed to reduce the risk of loss of life from 100% to 0%. Implementing this approach uses market choices—here it would be the choices of those enslaved in the Americas and the Caribbean—as a basis for deriving the observed value they put on reducing their risk of death. Such market transactions do not exist here, and even if they did, they would have been made under the duress of enslavement, limiting their value as a true revelation of preferences.

Another approach is the Loss of Productive Life (LPL) methodology, where the value of a lost life is estimated as the amount expected to be earned by an individual over their remaining life had it not ended prematurely. For example upon the death of Sam Sharpe his owner was paid £16 and 10 shillings for ‘loss of property’ which was consequence of a premature death by unnatural cause.¹⁶ Similarly, ships carrying African captives would insure their “cargo” against death by unnatural causes, and should there be such a case they would be compensated. By comparing the slavery value placed on the enslaved person with we will be able to make a better assessment of the amount to be compensated. While many regulators favor VSL,¹⁷ LPL has been used to calculate compensation for wrongdoing.¹⁸ For example, part of the compensations awarded to the families of victims of the September 11 terrorist attacks through the September 11th Victim Compensation Fund was calculated using an LPL approach.^{19,20} Given

¹⁶ “Black Abolitionists and the end of the transatlantic slave trade,” BIM2023, accessed January 24, 2023 <https://www.blackhistorymonth.org.uk/article/section/history-of-slavery/black-abolitionists-and-the-end-of-the-transatlantic-slave-trade/>

¹⁷ Before adopting its current Value of Mortality Risk (VMR) framework, the U.S. Environmental Protection Agency (EPA) used VSL to assess whether certain air or water pollution regulations should be adopted. Specifically, the EPA compared the total willingness to pay for the health risk reductions from these regulations to the additional costs people would bear if they were adopted. In 2006, the EPA recommended a VSL of US\$7.4 million to be used in all cost-benefit analyses of proposed regulations. U.S. Environmental Protection Agency, “Mortality Risk Valuation,” <https://www.epa.gov/environmental-economics/mortality-risk-valuation>.

¹⁸ In many circumstances, we expect the VSL measure to be larger than the LPL measure. Consequently, our use of the LPL measure is conservative.

¹⁹ In the case of the September 11th Victim Compensation Fund, the average award for a death claim and personal injury claim were US\$1.44 million and US\$159,072, respectively. “The September 11 Victim Compensation Fund of 2001,” U.S. Department of Justice, <https://oig.justice.gov/reports/plus/a0401/final.pdf>.

²⁰ Values are nominal 2003 US Dollars. See “The September 11 Victim Compensation Fund of 2001,” U.S. Department of Justice, <https://oig.justice.gov/reports/plus/a0401/final.pdf>.

this precedent and the data and methodological advantages discussed below, we use an LPL approach to calculate reparations for loss of life.

Since the LPL approach values lost lives as forgone earnings, and reparations for uncompensated labor are intrinsically reparations for forgone earnings, we group reparations for loss of lives and uncompensated labor into a single “forgone earnings” head of damages. In doing so, we extend the notion of reparations for wealth extraction through forced labor, as described by Professor Sir Hilary Beckles (Professor Beckles)²¹ and others, to include reparations for wealth extraction *and* wealth destruction through premature death of the victims of chattel slavery.²²

a. Starting Point: Count of Enslaved

We note a crucial component of our analysis is the count and geographic distribution of people harmed. We are able to implement our damages methodology thanks to the rich data that in recent years has become available through the “Trans-Atlantic and Intra-American slave trade databases,”²³ a multidisciplinary project led by academics including Professors David Eltis of Emory University and David Richardson of the University of Hull.

Table 2 summarizes the number of embarked and disembarked enslaved people by destination, with the difference being the number of enslaved people who died in transit.

²¹ Professor Sir Hilary Beckles is the 8th Vice-Chancellor of The University of the West Indies, and the inaugural Chair of the Caribbean Community (CARICOM) Reparations Commission. Some works for example include Hilary Beckles. *Britain's Black Debt: Reparations for Caribbean Slavery and Native Genocide*, Kingston Jamaica: University of the West Indies Press, 2013.

²² Sir Hilary Beckles, The Historical Context of the Business of Transatlantic Chattel Slavery in *Proceedings of the two-day symposium, Reparations under International Law for Enslavement of African Persons in the Americas and the Caribbean*; Hilary Beckles, How Britain Underdeveloped the Caribbean: A Reparation Response to Europe's Legacy of Plunder and Poverty. Mona Kingston Jamaica: University of the West Indies Press, 2021; Hilary Beckles. *Britain's Black Debt: Reparations for Caribbean Slavery and Native Genocide*, Kingston Jamaica: University of the West Indies Press, 2013; Dorbrene E. O'Marde, “Reparation: An Opportunity for Direct Foreign Investment In The Region,” *Social and Economic Studies* 68, no. 3/4 (2019): 243–49.; Verene Shepherd and Gabrielle D. L Hemmings, *Introduction to Reparation for Secondary Schools*. Kingston Jamaica: University of the West Indies Press: The Centre for Reparation Research, 2022.

²³ David Eltis and David Richardson. *Atlas of the Transatlantic Slave Trade*. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." *Slave Voyages*, 2021. <https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." *Slave Voyages*, 2021. <https://www.slavevoyages.org/voyage/essays#interpretation/overview-trans-atlantic-slave-trade/introduction/0/en/>.

TABLE 2: EMBARKED, DISEMBARKED, DEATHS IN TRANSIT AND ESTIMATED BIRTHS INTO SLAVERY

Country	Embarked Enslaved	Disembarked Enslaved	Deaths in the Middle Passage	Born into Slavery	Total Number Harmed
<i>Caribbean</i>					
Antigua and Barbuda	142,013	119,866	22,147	47,338	189,351
Bahamas	15,012	13,228	1,784	5,004	20,016
Barbados	454,342	375,874	78,468	151,447	605,789
British Virgin Islands	19,230	17,085	2,145	6,410	25,640
Caribbean	31,261	26,336	4,925	10,420	41,681
Cuba	879,788	766,310	113,478	293,263	1,173,051
Dominica	117,350	102,401	14,949	39,117	156,467
Dominican Republic	34,662	27,644	7,018	11,554	46,216
Grenada	140,265	123,378	16,887	46,755	187,020
Haiti	799,391	694,995	104,396	266,464	1,065,855
Jamaica	1,083,443	931,574	151,869	361,148	1,444,591
Saint Kitts and Nevis	175,376	144,981	30,395	58,459	233,835
Saint Lucia	9,122	8,281	841	3,041	12,163
Trinidad and Tobago	45,131	39,434	5,697	15,044	60,175
US Virgin Islands	105,671	70,858	34,813	35,224	140,895
<i>Central America and Mexico</i>					
Belize	1,023	899	124	341	1,364
Honduras	353	282	71	118	471
Mexico	95,855	76,267	19,588	31,952	127,807
Panama	12,345	9,644	2,701	4,115	16,460
<i>South America</i>					
Argentina	78,789	63,122	15,667	26,263	105,052
Brazil	3,520,273	3,169,287	350,986	1,173,424	4,693,697
Colombia	252,746	201,631	51,115	84,249	336,995
Guyana	82,166	74,693	7,473	27,389	109,555
Peru	3,344	2,654	690	1,115	4,459
Suriname	297,991	258,893	39,098	99,330	397,321
Venezuela	17,479	14,468	3,011	5,826	23,305
<i>North America</i>					
US	341,734	281,055	60,679	7,623,675	7,965,409
<i>Miscellaneous</i>					
British Overseas Territories	50,000	41,557	8,443	16,667	66,667
Dutch Overseas Territories	166,327	144,151	22,176	55,442	221,769
French Overseas Territories	301,916	256,410	45,506	100,639	402,555
Other	19,785	15,907	3,878	6,595	26,380
TOTAL	9,294,183	8,073,165	1,221,018	10,607,825	19,902,008

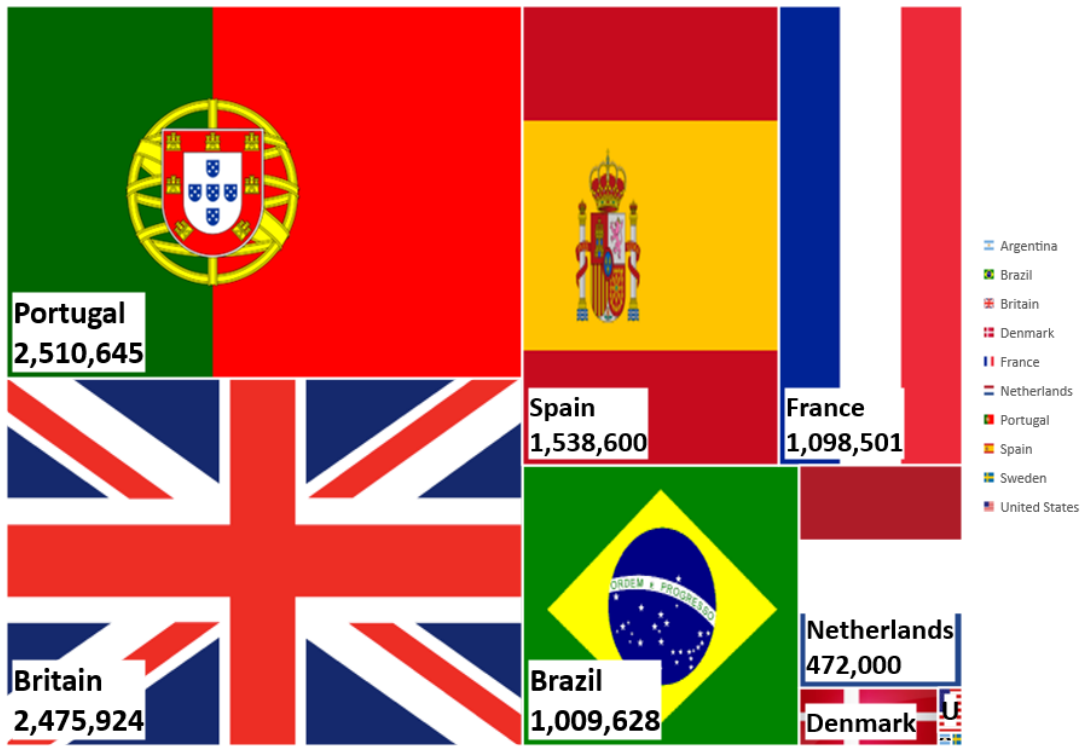
Sources and Notes: David Eltis and David Richardson. Atlas of the Transatlantic Slave Trade. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." Slave Voyages, 2021.

<https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." Slave Voyages, 2021.

<https://www.slavevoyages.org/voyage/essays#interpretation/overview-trans-atlantic-slave-trade/introduction/0/en/>. For the territories other than the United States, the counts of those born into slavery are estimated as one third of the number of people embarked, based on the calculations in Bindu Marthur, *The Empire Pays Back*, (2005, United Kingdom, Diverse Productions.) For U.S. birth data, we compute a birth ratio based off historical birth data. See J. David Hacker, "From '20. and odd' to 10 million: the growth of the slave population in the United States." *Slavery & abolition* 41, no. 4 (2020): 840-855.

Figure 1 summarizes the distribution of embarked people by enslaving country. We can see that the overwhelming majority of the embarked enslaved people had a British or Portuguese colony as destination.

FIGURE 1: EMBARKMENTS BY ENSLAVING COUNTRY (1510-1870)

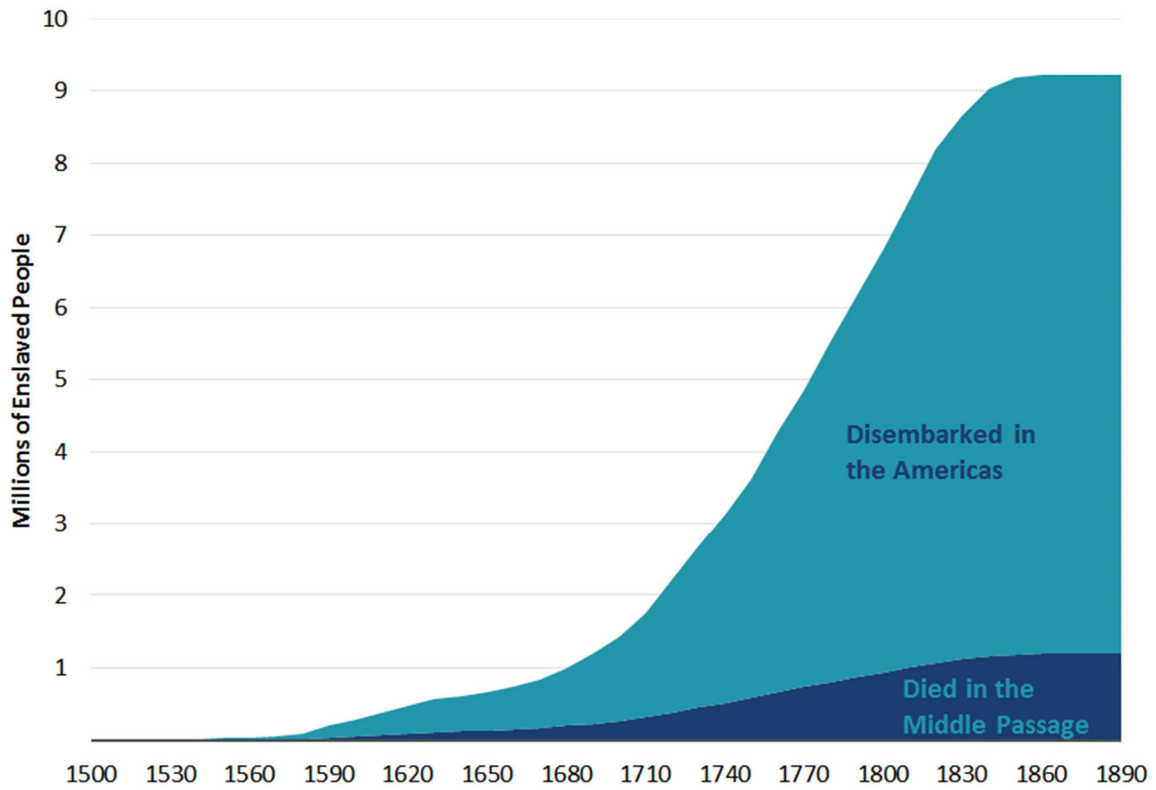


Source: David Eltis and David Richardson. Atlas of the Transatlantic Slave Trade. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." Slave Voyages, 2021. <https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." Slave Voyages, 2021.

Figure 2 summarizes the distribution of embarkments throughout time. While the largest number of embarkments happened in the 1750s-1850s, approximately 3 million enslaved people embarked before then. This is an important point to keep in mind, especially as we consider the impact of interest over very long time frames.

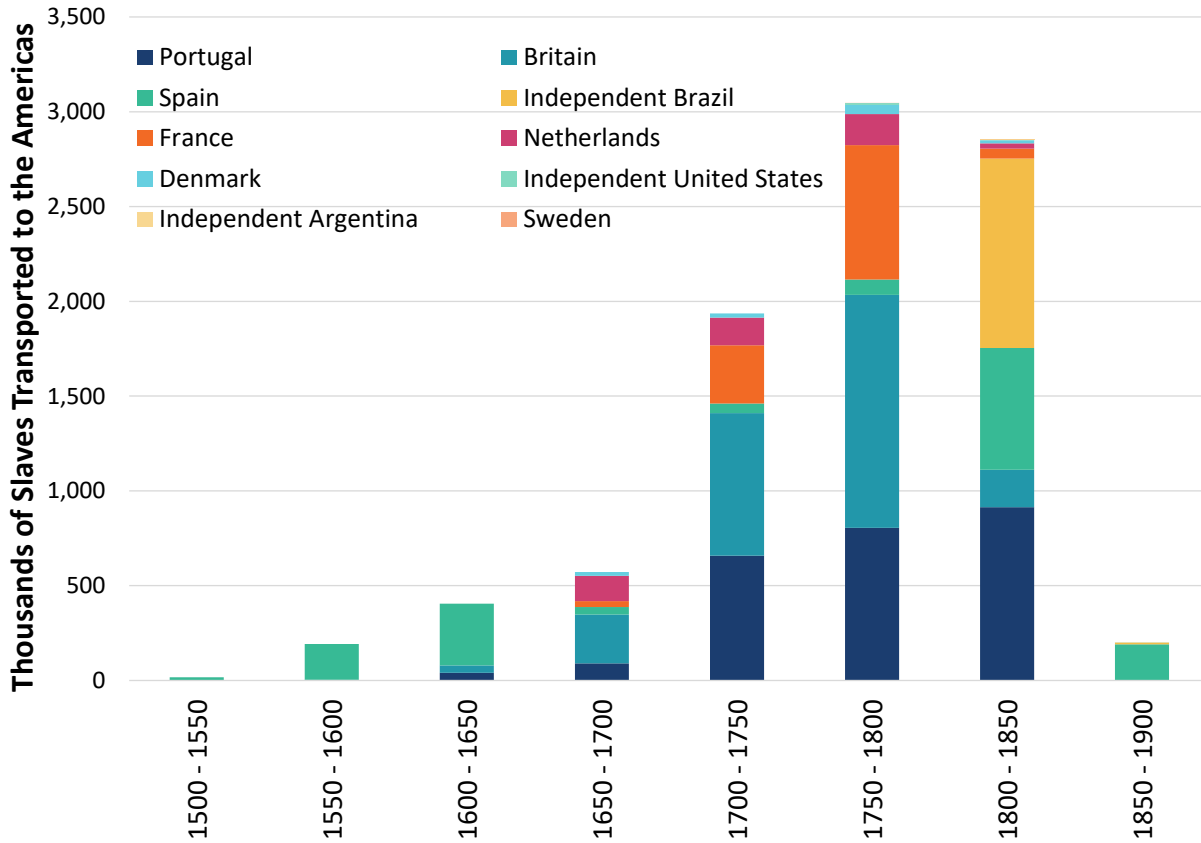
Figure 3 expands upon the summary in Figure 2 by breaking out embarkments by enslaving country.

FIGURE 2: CUMULATIVE EMBARKMENTS, DISEMBARKMENTS AND DEATHS IN TRANSIT (1510-1870)



Source: David Eltis and David Richardson. Atlas of the Transatlantic Slave Trade. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." Slave Voyages, 2021. <https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." Slave Voyages, 2021.

FIGURE 3: EMBARKMENTS BY ENSLAVING COUNTRY THROUGHOUT TIME



Source: David Eltis and David Richardson. Atlas of the Transatlantic Slave Trade. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." Slave Voyages, 2021. <https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." Slave Voyages, 2021.

This rich dataset allowed us to calculate damages for forgone earnings in perhaps the most comprehensive manner to date. In the following sub-sections, we detail the methodological framework, results, and sensitivity to assumptions.

b. Uncompensated Labor: Methodological Framework

In the 1990s, several academics published proposals for the calculation of reparations for slavery in the United States using market prices for enslaved people to approximate the lifetime

value of an enslaved person’s labor.^{24,25,26} These papers calculate reparations (in 2020 dollars) of US\$43 billion (Ransom and Sutch, 1990), US\$3.6 trillion (Neal, 1990) US\$5.3 to US\$12.0 trillion (Marketti, 1990), and \$435.8 billion (Darity et al., 2021).²⁷ We note that Ransom and Sutch consider the cost of an enslaved person’s upkeep as an implicit ‘wage’ that was paid to the enslaved and subtract it from reparations. In the same vein, Robert Beckford’s 2005 documentary, “The Empire Pays back”²⁸ introduces a calculation where David Richardson, an economic historian; Peter Tompkins, an actuary; and Mick Antoniw, an attorney specializing in workers’ compensation, calculate compensation of £1 million per enslaved person. Their analysis is limited to British colonies where they estimate 3 million Africans taken to work as slaves plus 1 million born to slavery, resulting in £4 trillion in unpaid wages. Like Ransom and Sutch, they subtract the upkeep cost of the enslaved from the reparations calculation.²⁹

More recent academic work, including Professor Thomas Craemer’s 2015 article “Estimating Slavery Reparations: Present Value Comparisons of Historical Multigenerational Reparations

²⁴ See e.g. Roger L. Ransom, and Richard Sutch. "Who pays for slavery?" In *The wealth of races: The present value of benefits from past injustices*, edited by Richard F. America, (1990): 31-54; Larry Neal, "A calculation and comparison of the current benefits of slavery and an analysis of who benefits." In *The wealth of races: The present value of benefits from past injustices*, edited by Richard F. America, (1990): 91-105; and James Marketti, "Estimated present value of income diverted during slavery." In *The wealth of races: The present value of benefits from past injustices*, edited by Richard F. America, (1990): 107-123.

²⁵ Ransom and Sutchs, 1990—as described in Craemer, 2015—“use the market value of a slave from historical records as “the buyer’s calculation of the present value of the stream of income which the buyer could extract from the slave.” With that expected income stream representing the difference of the slave’s productivity and the cost of feeding and housing the slave, according to Ransom and Sutch (1990:32), “the price of a slave summarizes the capitalized value of the economic exploitation inherent in the slave system.” They define the term economic exploitation as “that part of labor’s product which is not returned to the slave as food, shelter, and other consumption items”

Neal’s, 1990—as described in Craemer, 2015—“empirical work involves three steps. The first estimates the market value of the unpaid net wages of slaves who lived at various times before emancipation....The second estimates the number of slaves who labored without fair pay....The third multiplies the amounts by the number of slaves...and aggregates them” where “Neal’s (1990) method relies on the market price of the slave as the future income stream expected by the slave owner.”

²⁶ Darity et al. calculate the cost of slavery using the “Asset value of the enslaved” for a reparations amount of US\$466.5 billion (2021 US Dollars), though they favor the wealth gap approach. See William Darity Jr. et al., “The Cumulative Costs of Racism and the Bill for Black Reparations,” *Journal of Economic Perspectives*, vol. 36(2), Spring 2022.

²⁷ 2009 US Dollars of US\$36.14 billion, US\$2.98 trillion, US\$4.46 trillion, US\$9.99 trillion, and 2021 US Dollars of US\$466.5 billion, respectively, have been converted to 2020 US Dollars using US CPI Growth Rate.

²⁸ Bindu Marthur, *The Empire Pays Back*, (2005, United Kingdom, Diverse Productions.)

²⁹ The analysis in “The Empire Pays Back” arrives at total reparation damages of 7.5 trillion pounds. In addition to the 4 trillion pounds cited here, the academics consulted in the documentary also include calculations for unjust enrichment, which we do not treat as a separate head of damages.

Policies,”³⁰ criticizes the approach based on the prices paid for enslaved people. Craemer writes, “[enslaved] prices resembled ‘wages’ only from the perspective of a slave owner, who would have had the choice of hiring free laborers instead of purchasing slaves.” Craemer further notes that from the perspective of the enslaved person, upkeep costs—Ransom and Sutch’s implicit wage—“did not resemble a ‘wage’ (much less a fair one) because the slave had no (legal) choice in the matter. If unhappy with the ‘wage’ (monetary incentives, food and provisions, clothing, etc.), the slave could not choose a different ‘employer’ (slave owner), thus ruling out any competition of “employers” (slave owners) for ‘employees’ (slaves).”

We agree with Craemer’s critique and with his proposed solution. Instead of using the prices of the enslaved to approximate the wages they should have been paid, we use the wages that would have been paid, had the enslaved been free. Craemer uses historical data on hourly compensation for free labor and adds up the total hours of work that were available to slave owners in each year. Craemer then multiplies the total work hours by all chattel slaves by the hourly compensation for free labor to obtain the yearly financial damages. Craemer applies a 3% interest rate to each of these yearly amounts. Using this methodology, he calculates reparations for labor of people enslaved in the U.S. ranging from US\$7.1 to US\$17.0 trillion (in 2020 US dollars).³¹

Our calculation of reparations for loss of life and uncompensated labor relies on—and expands—the methodology proposed by Craemer. Following his framework, we calculate reparations associated with uncompensated labor as the wages that the enslaved should have received during the years that they were enslaved.

Two key factors drive this calculation. First, to estimate damages we use the number of labor hours that the enslaved were forced to supply, not the number of hours a non-enslaved person would have chosen to work. The reason is that the slave owners benefited from the labor that the enslaved *were forced to supply*, not the theoretical labor a free person *would have* supplied. Second, the number of hours should have been remunerated at the rate paid to a non-enslaved person, since those wages more closely capture the market value of labor.

³⁰ Thomas Craemer, "Estimating slavery reparations: Present value comparisons of historical multigenerational reparations policies." *Social Science Quarterly* 96, no. 2 (2015): 639-655.

³¹ US\$5.9 to US\$14.2 trillion (in 2009 US dollars) converted to 2020 US Dollars using US CPI Growth over that period.

c. Loss of Life and Uncompensated Labor

An important data challenge arises from attempting to calculate the damages for loss of life and the damages for uncompensated labor separately. In our context, the LPL approach consists of (i) calculating the difference between the life expectancy of an enslaved person and that of a free person, (ii) calculating the labor income a person would likely have earned during those lost life years, and (iii) aggregating over the number of enslaved persons.

Data requirements for this approach include the life expectancies for both enslaved and free people during the period of slavery. While there is life-expectancy data available for non-enslaved people in the United States, by decade dating back to 1790,³² for enslaved people, the earliest life expectancy data dates back to 1813, after the abolition of the slave trade in British territories³³ and no similar data has been identified for other countries.

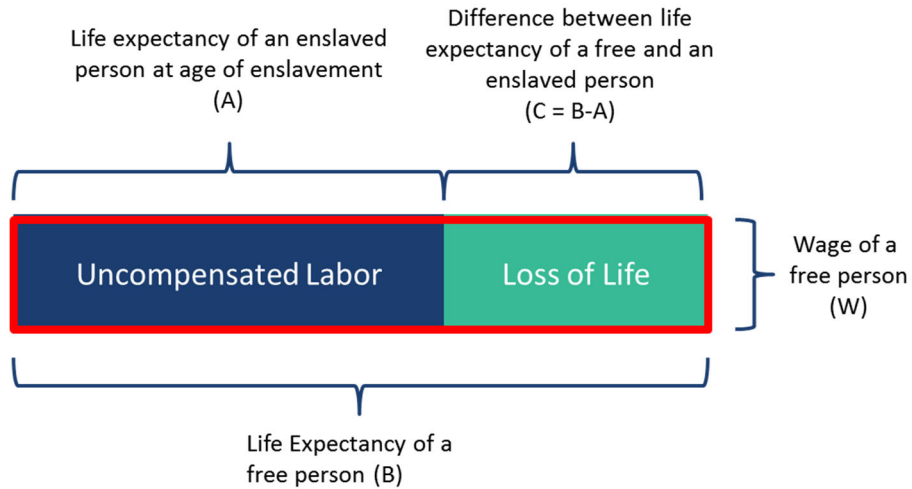
A way to circumvent this lack of data is by combining the calculations of damages for lost productive life with the damages for loss of income into a single number. The methodology described in the previous sub-section focuses on the value of the labor supplied by the enslaved to slave owners. We expand this methodology by assuming that, but for their enslavement, the enslaved would have lived the same number of years on average as non-enslaved people. Therefore, compensation should encompass the wages associated with the years they did not get to live due to their enslavement, and not only the unpaid wages for the years they were forced to work.³⁴ That is, we complement Craemer's approach by incorporating loss of life damages to his uncompensated labor approach. See Figure 4.

³² J. David Hacker, "Decennial life tables for the white population of the United States, 1790–1900." *Historical methods* 43, no. 2 (2010): 45-79.

³³ Barry W. Higman, 1984. *Slave Populations of the British Caribbean 1807-1834* (Maryland, USA: The Johns Hopkins University Press) 7-39

³⁴ Implicit in our analysis is that the additional years of life would have provided additional labor.

FIGURE 4: GRAPHIC REPRESENTATION OF FORGONE EARNINGS ANALYSIS



By combining Uncompensated Labor and Loss of Life into a single Forgone Earnings category, we circumvent data limitations surrounding life expectancy of the enslaved (A in the diagram). Forgone earnings associated with each enslaved person can then be calculated as the life expectancy of a free person (B) multiplied by the prevailing wage rate (W), the result is represented by the area within the red rectangle and it encompasses both Loss of Life and Uncompensated Labor damages.

The combined damages thus are based on the wages a non-enslaved person would have received (the fair wage) for the number of hours per day worked by an enslaved person (the labor supplied), multiplied times the life expectancy of a non-enslaved person (the but-for life expectancy). As described below, this approach also allows us to reflect loss-of-life reparations for individuals who were enslaved and did not survive the middle passage.³⁵

d. Modeling Assumptions

The first step is to determine the number of hours for which reparations should be paid. The relevant number should reflect the labor supplied by the enslaved. To that effect, Craemer considers two scenarios: 12 and 24 hours per day. The justification for the former is that, on average, there were 12 hours of light a day. The justification for the latter scenario is that even hours that the enslaved spent resting were “restoration of energy for further forced labor. It was not spare time in the wage-labor sense with choice of activities and granting it or not was entirely up to the slave owner.”

In contrast with Craemer, we have access to daily—as opposed to hourly—data on wages for non-enslaved workers. We assume that the enslaved were forced to work the same number of hours that non-enslaved workers chose to work, but for seven days a week. Most enslaved

³⁵ Barry W. Higman, 1984. *Slave Populations of the British Caribbean 1807-1834* (Maryland, USA: The Johns Hopkins University Press) 7-39. Bindu Marthur, *The Empire Pays Back*, (2005, United Kingdom, Diverse Productions.)

people worked in agriculture-related activities, and the working hours were dictated to a large extent by type of tasks assigned on the plantation. According to Higman, the enslaved generally worked from sunrise to sunset, however in some colonies (Jamaica and the windward islands) sugar factories operated around the clock 6 days per week until the early 19th century. In such cases the work periods were divided into ‘spells’. In the long spell the enslaved could work from midday to 4:30 PM, break for two hours and then resume working until dark and turn up again for work again at daylight the following day; shifts could therefore last for up to 30 hours.³⁶ Towards Emancipation, during the period of apprenticeship, working hours were reduced to 40 ½ hours per week.³⁷ We use assume a 12 hour workday in our analysis. Note that following Craemer’s reasoning for a 24 hour workday would simply double the estimated harm.

We also need to determine the number of years of labor for which reparations would compensate. We follow Craemer’s assumption that those born into slavery began forced labor at the age of 5. Higman study of the British Caribbean reveals that children under 6 years of age and those classified as “aged” [70 years and older] were not deemed active members of the labour force.³⁸ Therefore, we calculate reparations associated with those born to slavery by multiplying life expectancy at 5 years of age by the yearly wage rate. For a person that arrived in the Americas or Caribbean as an enslaved person, we assume forced labor began at the time of capture, which we further assume to be 20 years old.³⁹ Therefore, we calculate reparations associated with those that arrived in the Americas as enslaved people by multiplying life

³⁶ Barry W. Higman, 1984. *Slave Populations of the British Caribbean 1807-1834* (Maryland, USA: The Johns Hopkins University Press) 182.

Douglas Hall, “Slaves and Slavery in the British West Indies,” (*Social and Economic Studies* 11, no. 4 (1962): 305–18.) 307, 308.

³⁷ Douglas Hall, “The Apprenticeship Period In Jamaica, 1834-1838.” (*Caribbean Quarterly* 3, no. 3 (1953): 142–66. O. Nigel Bolland, “Systems of Domination after Slavery: The Control of Land and Labor in the British West Indies after 1838,” *Comparative Studies in Society and History* 23, no. 4 (1981): 591–619.

³⁸ Barry W. Higman, 1984. *Slave Populations of the British Caribbean 1807-1834* (Maryland, USA: The Johns Hopkins University Press) 46-47.

³⁹ We are aware that younger people were captured and embarked. For example, “Children constituted an estimated nineteen per cent of captives shipped to Jamaica from 1764-1788 and children between ten and sixteen constituted fourteen percent of those transported to the British Caribbean from 1683 to 1791” Barbara Bush, “African Caribbean Slave Mothers and Children: Traumas of Dislocation and Enslavement Across the Atlantic World.” (*Caribbean Quarterly* 56, no. 1/2 (2010): 69–94. However, the same sources notes that slave traders did not encourage the purchase of captives younger than age 12 and older than age 40 and babies and pregnant women were considered “undesirables”.

Moreover, using a database of captured individuals on British slaver ships from 1819-1845, we find that the median age of African individuals transported to the Americas was 20. See “African Names Database,” *Slave Voyages*. <https://www.slavevoyages.org/resources/downloads#african-names-database-downloads/0/en/>

expectancy at age 20 times the yearly wage rate.⁴⁰ For example, in the decade encompassing 1820-29, a white 20-year-old person was expected to live 39.3 more years, and we assume that such a person would have worked until death.

Next, we consider that adding the enslaved to the paid workforce would have simultaneously increased the supply of paid workers and increased the demand for them (since a close substitute would no longer be available). The increase in supply on its own would lead to lower wages, while the increase in demand would lead to increased wages. As Craemer explains, it is likely impossible to quantify the magnitude of each of these two effects. Absent further evidence, we assume the two effects roughly cancel out, leaving wages unchanged in the but-for world.⁴¹

Finally, for all those that embarked on the middle passage and did not survive the journey, we calculate the same forgone earnings that we would for an enslaved person that survived. For example, consider a person who was enslaved and embarked in a year when life expectancy of a free person at 20 years old (the assumed age of capture) was 47 years (*i.e.*, in the America's a 20 year-old was expected to live 47 years more). Additionally, assume that that the prevailing wage for a free person's work at the intended destination was 78 cents per day, and that this person did not survive the journey. Then, the reparations associated with this person's forgone earnings would be 47 years of wages paid at US\$0.78 per day (for 7 days a week of labor).⁴²

We also expand the geography and time periods considered by Craemer. Craemer focuses on the United States for the period from 1776 to 1865, noting that: "this is the time the United States could have abolished slavery but failed to do so." We extend Craemer's analysis by including the entirety of the Americas and the Caribbean and by starting the accounting of forgone earnings in the early 16th century, the start of the Spanish slave trade in the Americas. The first enslaved people in our dataset arrived in the Caribbean in the 1510s and in the

⁴⁰ An exception to this approach arises in decades close to the end of enslavement for each territory. If in a given decade and territory the life expectancy at 20 years old extended beyond the date in which slavery was abolished in that territory, we calculate damages only through the date on which slavery was abolished.

⁴¹ This is in line with Craemer, 2015 who assumed that "the addition of freed slave laborers might not have exerted a net effect on [paid workers'] wages". To the extent this assumption is not neutral, it is likely conservative because the amount of enslaved labor removed from the market is likely greater than the amount of free labor those laborers would have chosen to supply.

⁴² Several authors have examined wage rates in the Caribbean, such as Higman (1984) and Hall (1962,1953). This data does not extend for the full period considered, and we construct our estimates using U.S. wage rates as a reference point. See, e.g. Barry W. Higman, 1984. *Slave Populations of the British Caribbean 1807-1834* (Maryland, USA: The Johns Hopkins University Press): 203; Douglas Hall, "Slaves and Slavery in the British West Indies." (*Social and Economic Studies* 11, no. 4 (1962): 305–18. 307, 308; Douglas Hall, "The Apprenticeship Period in Jamaica, 1834-1838." *Caribbean Quarterly* 3, no. 3 (1953): 142–66.

Spanish Mainland Americas in the 1530s. We continue this accounting until slavery was abolished in each jurisdiction.

By accounting for lost wages of the enslaved during the colonial period, we are able to better quantify the reparations for chattel slavery in the Americas and Caribbean. Extending the geographic scope of the analysis requires additional assumptions due to data limitations. First, regarding wage levels, we provide estimates assuming that free labor in territories other than the United States earned 75%, 100%, and 125% of the wages earned by agricultural workers in the United States. We choose this range since we have no *ex-ante* reason to assume that agricultural wages would have been higher or lower outside the United States and to show that even assuming low wages outside the United States (the 75% scenario), the reparations required are still extraordinary.⁴³ We must also make assumptions about the number of people born into slavery outside of the United States. For every enslaved person embarked to the United States, 22 people were born into slavery. However, this ratio was likely lower in other geographies. For example, the calculation cited above, performed in the documentary “The Empire Pays Back,” assumes one person born to slavery for every three that were embarked. As a conservative assumption, we follow this one-to-three ratio in our calculations.

The methodology allows us to calculate forgone earnings at the time that the labor was supplied or that the enslaved died prematurely. To bring those forgone earnings to the present, an interest rate must be chosen.

For our base scenario, we use a rate of 2.5%. Given the centuries over which this compensation has been delayed, any compensation for the time value of money will be significant and dominate the estimation. Therefore, we chose to present this portion of the reparations calculation with a very conservative adjustment for the time value of money and recognize that if a more realistic number was chosen, the estimated harms would be multiples larger. Consequently, this provides a lower bound estimate, as estimates of compensatory damages typically also compensate for the time value of money. We provide sensitivities to alternative interest rates below.

⁴³ Several scholars note historical wages in non-U.S. contexts, such as Higman (1984), who compiles data on average wages in 1834, or Hall (1953), who discusses the apprenticeship system in Jamaica in the 1830s. We acknowledge that records of wages outside of the U.S. exist, but these data do not extend for the full time period we consider, and do not give a full record of wages across the Caribbean. *See*, for example, Barry W. Higman, 1984. *Slave Populations of the British Caribbean 1807-1834* (Maryland, USA: The Johns Hopkins University Press) 203; Douglas Hall, “Slaves and Slavery in the British West Indies.” (*Social and Economic Studies* 11, no. 4 (1962): 305–18.) 307, 308; Douglas Hall. “The Apprenticeship Period in Jamaica, 1834-1838.” *Caribbean Quarterly* 3, no. 3 (1953): 142–66.

e. Estimate of Damages

Table 3 summarizes this approach under the assumption of a 2.5% interest rate, the “one-to-three” born into slavery ratio outside the U.S.,⁴⁴ and assuming all free workers outside the United States would have earned the same wages⁴⁵ as an agricultural worker earned in the United States:

⁴⁴ For all non-US territories, we use a one birth per three embarkations ratio to impute births due to a lack of data. This ratio is consistent with the birth ratio in the 2005 documentary: “The Empire Pays Back”. Bindu Marthur, *The Empire Pays Back*, (2005, United Kingdom, Diverse Productions.) For the US, we utilize slave birth figures estimated by Hacker (2020). Source: J. David Hacker, “From ‘20. and odd’ to 10 million: the growth of the slave population in the United States.” *Slavery & Abolition* 41, no. 4 (2020): 840-855.

⁴⁵ We find this assumption the most reasonable one because the economies in the Southern U.S., Americas and Caribbean were largely based around agriculture during the relevant period and the wage data we have identified for territories outside the United States does not cover all the geographies and time periods we model.

TABLE 3: REPARATIONS ASSOCIATED WITH FORGONE EARNINGS BY COUNTRY

Country	Embarked Enslaved	Disembarked Enslaved	Deaths in Transit	Born into Slavery	Total Number Harmed	Value of Foregone Earnings (2020 USD Billions)		Total
						Disembarked and Deaths in Transit	Born into Slavery	
<i>Caribbean</i>								
Antigua and Barbuda	142,013	119,866	22,147	47,338	189,351	\$489	\$163	\$652
Bahamas	15,012	13,228	1,784	5,004	20,016	\$22	\$7	\$30
Barbados	454,342	375,874	78,468	151,447	605,789	\$1,875	\$625	\$2,500
British Virgin Islands	19,230	17,085	2,145	6,410	25,640	\$51	\$17	\$68
Caribbean	31,261	26,336	4,925	10,420	41,681	\$166	\$55	\$222
Cuba	879,788	766,310	113,478	293,263	1,173,051	\$1,677	\$559	\$2,235
Dominica	117,350	102,401	14,949	39,117	156,467	\$330	\$110	\$440
Dominican Republic	34,662	27,644	7,018	11,554	46,216	\$365	\$122	\$487
Grenada	140,265	123,378	16,887	46,755	187,020	\$391	\$130	\$522
Haiti	799,391	694,995	104,396	266,464	1,065,855	\$2,478	\$826	\$3,303
Jamaica	1,083,443	931,574	151,869	361,148	1,444,591	\$3,692	\$1,231	\$4,923
Saint Kitts and Nevis	175,376	144,981	30,395	58,459	233,835	\$620	\$207	\$827
Saint Lucia	9,122	8,281	841	3,041	12,163	\$26	\$9	\$34
Trinidad and Tobago	45,131	39,434	5,697	15,044	60,175	\$189	\$63	\$252
US Virgin Islands	105,671	70,858	34,813	35,224	140,895	\$260	\$87	\$347
<i>Central America and Mexico</i>								
Belize	1,023	899	124	341	1,364	\$1	\$0	\$1
Honduras	353	282	71	118	471	\$5	\$2	\$7
Mexico	95,855	76,267	19,588	31,952	127,807	\$924	\$308	\$1,232
Panama	12,345	9,644	2,701	4,115	16,460	\$66	\$22	\$88
<i>South America</i>								
Argentina	78,789	63,122	15,667	26,263	105,052	\$491	\$164	\$654
Brazil	3,520,273	3,169,287	350,986	1,173,424	4,693,697	\$9,560	\$3,187	\$12,747
Colombia	252,746	201,631	51,115	84,249	336,995	\$2,314	\$771	\$3,085
Guyana	82,166	74,693	7,473	27,389	109,555	\$224	\$75	\$298
Peru	3,344	2,654	690	1,115	4,459	\$28	\$9	\$37
Suriname	297,991	258,893	39,098	99,330	397,321	\$1,041	\$347	\$1,388
Venezuela	17,479	14,468	3,011	5,826	23,305	\$126	\$42	\$168
<i>North America</i>								
US	341,734	281,055	60,679	7,623,675	7,965,409	\$1,754	\$13,602	\$15,355
<i>Miscellaneous</i>								
British Overseas Territories	50,000	41,557	8,443	16,667	66,667	\$182	\$61	\$242
Dutch Overseas Territories	166,327	144,151	22,176	55,442	221,769	\$807	\$269	\$1,075
French Overseas Territories	301,916	256,410	45,506	100,639	402,555	\$1,067	\$356	\$1,422
Other	19,785	15,907	3,878	6,595	26,380	\$172	\$57	\$230
TOTAL	9,294,183	8,073,165	1,221,018	10,607,825	19,902,008	\$31,393	\$23,481	\$54,874

Source: Miscellaneous territories include non-sovereign states, such as the British Leeward Islands and Saint Barthélemy. Eltis, David and David Richardson. Atlas of the Transatlantic Slave Trade. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." Slave Voyages, 2021. <https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." Slave Voyages, 2021.

The table shows that, for our base scenario, reparations associated with loss of life and uncompensated labor (jointly forgone earnings) amount to **US\$55 trillion** dollars as of 2020. This is equivalent to US\$2.8 million for each of the estimated 19.9 million enslaved people in all the territories in the Americas and the Caribbean.⁴⁶

⁴⁶ We note that US\$10.9 million is very close the VSL estimate used by the U.S. Department of Transportation of US\$11.6 million in 2020. "Departmental Guidance on Valuation of a Statistical Life in Economic Analysis," U.S. Department of Transportation, March 23, 2021, <https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis>.

An important part of the large difference in the amount per enslaved person (relative to the calculations of other authors) is driven by interest. For example, Craemer focuses on analyzing post-1776 United States. Our analysis takes into account the entire documented history of embarkments, which began in the Caribbean more than 250 years earlier. In the next subsection we illustrate how, different assumptions affect our results, and in particular we show how when dealing with multi-century data, the choice of interest rate can have a critical impact.

f. Sensitivity to assumptions

Our base scenario assumes a 2.5% interest rate and yields reparations for forgone earnings of US\$55 trillion for the Americas and Caribbean. To illustrate the impact of the choice of interest rate, note that if we increased the rate to 3%, the forgone earnings calculations would be US\$217 trillion, or US\$10.9 million per enslaved person. Table 4 below shows how our results vary with interest rates of 0%, 1%, 1.7%, 2.1%, 2.3%, 2.5%, 3% and 5%. We also show how the results vary as we change the assumption of wages outside the United States from 75% to 125% of those in the United States.

TABLE 4: SENSITIVITY TABLE-REPARATIONS FOR FORGONE EARNINGS IN THE AMERICAS AND THE CARIBBEAN (IN US\$ BILLION)

Non-US Wages as a % of US Wages	75%	100%	125%
Interest Rate			
0.0%	\$165	\$190	\$216
1.0%	\$1,354	\$1,589	\$1,824
1.7%	\$5,877	\$6,997	\$8,116
2.1%	\$16,554	\$19,943	\$23,331
2.3%	\$27,071	\$32,807	\$38,543
2.5%	\$45,000	\$54,874	\$64,749
3.0%	\$175,105	\$216,944	\$258,782
5.0%	\$180,703,855	\$229,081,566	\$277,459,276

Source: Eltis, David and David Richardson. Atlas of the Transatlantic Slave Trade. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." Slave Voyages, 2021.

<https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." Slave Voyages, 2021.

The table shows that assumptions on wage rates has an effect on the estimated reparation amounts. However, it also shows that, by far the largest impact comes from the choice of interest rate.

We note that our choice of 2.5% nominal rate and Craemer’s choice of 3% (implicitly assuming a real interest rate or time value of money of about 0.8% and 1.3%, respectively) are consistent with other multi-century interest rates. For example, perpetual bonds issued by the UK between 1700 and 1800 paid a 3% coupon at issuance. Dutch perpetual bonds issued as early as 1350 paid an 8% interest rate at issuance.⁴⁷

2. Loss of Liberty

Loss of liberty is at the core of chattel slavery. It is clear that monetary compensation cannot compensate fully for its loss. But in the United States as well as in other parts of the Americas and Caribbean colonial contexts, there are indicia of compensation that has been paid to people who have had their liberty forcibly and unjustly taken. As with other components, we begin with data from the U.S. context and then turn to the question of how to interpret it in the economic context of other nations and economies. We present our estimate based on the value of manumissions, but provide two alternative measures based on false imprisonment and on Japanese internment reparations.

a. Primary Estimate of Harm: Manumissions

Across time and societies, the enslaved in certain circumstances could purchase their freedom. Detailed information about such transactions or manumissions has generally been scarce. Analysis by Cole (2005), for example, addressed this issue by considering manumissions in the context of an economic transaction.⁴⁸ Here, the manumission is viewed as compensation to the slave owner for the value of the uncompensated labor the enslaved would have provided plus a premium that reveals a minimum value above this amount that the enslaved paid to gain their liberty. Cole found empirical evidence that the premium was about 20 percent. This construct is useful in our building-block approach, because it isolates the value of labor from the price of manumission.

We apply the 20% premium directly to the lifetime wages,⁴⁹ or loss of life, values estimated for each country and each year. This means that for our base scenario that leads to US\$55 trillion in

⁴⁷ Nicholas LePan, “The History of Interest Rates Over 670 Years,” *Visual Capitalist*, November 15, 2019, <https://www.visualcapitalist.com/the-history-of-interest-rates-over-670-years/>

⁴⁸ Shawn Cole, “Capitalism and Freedom: Manumissions and the Slave Market in Louisiana, 1725-1820,” *The Journal of Economic History*, Cambridge University Press, vol. 65(4), 2005, pages 1008-1027, December.

⁴⁹ We acknowledge that premiums could have been different in geographies outside the United States, but use the 20% premium due to data availability. See Hilary Beckles and Verene Shepherd. *Trading Souls : Europe's Transatlantic Trade in Africans to the Caribbean*. Ian Randle; Global Distributor, 2007; Daive A. Dunkley “Agency

forgone earnings, there would be an additional US\$11 trillion in reparations associated with loss of liberty reparations (see Table 5).

TABLE 5: DAMAGES RESULTING FROM MANUMISSIONS

Forgone Wages and Loss of Life Damages, 2020 \$bn	\$54,874
Premium for Self-Manumission	20%
Total Award, 2020 \$mm	\$10,974,890

Sources and Notes: Cole, Shawn, 2005. "Capitalism and Freedom: Manumissions and the Slave Market in Louisiana, 1725-1820," *The Journal of Economic History*, Cambridge University Press, vol. 65(4), pages 1008-1027, December.

b. Alternative Estimate of Harm: Compensation for Wrongful Imprisonment

Compensation for loss of liberty also can be observed directly in the case of payments made to people found to have been wrongfully imprisoned. We consider two additional pieces of evidence on compensation for loss of liberty from the U.S. context, where compensation for long-term wrongful imprisonment has been extensively documented.⁵⁰

First, for people wrongfully imprisoned by the U.S. federal government, current compensation law provides US\$50,000 per year of wrongful incarceration. In cases where the imprisoned was held on death row, the compensation is increased to US\$150,000 per year.⁵¹ Many state governments in the United States also provide compensation to people wrongfully imprisoned for state crimes. The amounts are similar, with a median amount equal to US\$50,000 annually. Several states provide additional non-monetary compensation in the form of social services or benefits. Because these amounts also compensate for the lost opportunity to earn income, we

of the Enslaved : Jamaica and the Culture of Freedom in the Atlantic World." 2013. Lanham Md: Lexington Books; David Eltis and Stanley L. Engerman. 2011. *The Cambridge World History of Slavery Volume 3: Ad 1420-Ad 1804*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CHOL9780521840682>; Patterson Orlando. 1982. *Slavery and Social Death: A Comparative Study*. Cambridge Mass: Harvard University Press.; Verene Shepherd *Working Slavery Pricing Freedom: Perspectives from the Caribbean Africa & the African Diaspora*, 2001, New York: Palgrave.

⁵⁰ Similar laws regarding compensation for wrongful imprisonment exist in contexts outside of the U.S., however we find that these laws usually compensate individuals for short-term imprisonment rather than long-term, per-year awards like in the U.S. See, for example, *Bisham Seegobin v. Attorney General of Trinidad and Tobago*, CV 2009-03089 (Republic of Trinidad and Tobago), http://webopac.ttlawcourts.org/LibraryJud/judgments/HC/masalexander/2009/cv_09_03089DD12jun2012.pdf

⁵¹ "Key Provisions in Wrongful Conviction Compensation Laws," May 27, 2022, <https://www.law.umich.edu/special/exoneration/Documents/IP%20-%20Key%20Provisions.pdf>

adjust them to remove the annual amount of wages consistent with full time employment at the minimum wage.⁵² Table 6 provides a summary and

Table 7 illustrates the dispersion across different states.

TABLE 6: SUMMARY OF COMPENSATION BY U.S. STATES FOR WRONGFUL INCARCERATION

	Base Award per Year, Less Income at Minimum Wage	All Awards, Less Income at Minimum Wage
Average	\$43,543	\$58,543
Median	\$34,920	\$34,920
Mode	\$34,920	\$34,920

Sources and Notes: These payments are not inflation-adjusted. Excludes states that give compensation at a certain "cap" rather than by year and states that measure award strictly on annual income (CT, MD, UT, and VA). 20 states also offer non-monetary services, such as tuition assistance or housing assistance. US Department of Justice, 'Fact Sheet: The Justice for All Act,' April 2006; 'Compensation Statutes: A National Overview,' University Michigan Law; 'Key Provisions in Wrongful Conviction Compensation Laws,' Innocence Project, 2022; The Spokesman-Review, 'Idaho officials pay US\$2.6M for wrongful convictions of 2 men,' June 15, 2021; Montana State Assembly Bill HB 92, State of Montana, 2021; Nevada State Assembly Bill NO. 104, State of Nevada, 2019.

⁵² We adjust for state and federal minimum wage. See "Consolidated State Minimum Wage Update Table," U.S. Department of Labor, October 1, 2022.

TABLE 7: COMPENSATION FOR WRONGFUL INCARCERATION IN THE US

Jurisdiction	Date Last Amended	Annual Income at Minimum Wage	Award per Year	Award per Year, less Income	Additional Award for Death Row	Miscellaneous Additional Award	All Awards, Net Income
Federal	2004	\$15,080	\$50,000	\$34,920	\$100,000	n.a.	\$134,920
Alabama	2001	\$15,080	\$50,000	\$34,920	n.a.	n.a.	\$34,920
California	2017	\$24,960	\$51,100	\$26,140	n.a.	n.a.	\$26,140
Colorado	2013	\$25,002	\$70,000	\$44,998	\$50,000	n.a.	\$94,998
District of Columbia	1981	\$31,200	\$200,000	\$168,800	n.a.	n.a.	\$168,800
Florida	2017	\$17,805	\$50,000	\$32,195	n.a.	n.a.	\$32,195
Hawaii*	2016	\$21,008	\$50,000	\$28,992	n.a.	\$100,000	\$128,992
Iowa	1997	\$15,080	\$18,250	\$3,170	n.a.	n.a.	\$3,170
Idaho	2021	\$15,080	\$62,000	\$46,920	\$75,000	n.a.	\$121,920
Illinois**	2011	\$20,800	\$199,150	\$178,350	n.a.	n.a.	\$178,350
Kansas	2018	\$15,080	\$65,000	\$49,920	n.a.	n.a.	\$49,920
Louisiana	2011	\$15,080	\$25,000	\$9,920	n.a.	n.a.	\$9,920
Michigan	2016	\$20,072	\$50,000	\$29,928	n.a.	n.a.	\$29,928
Minnesota	2014	\$20,800	\$50,000	\$29,200	n.a.	n.a.	\$29,200
Missouri	2022	\$19,656	\$65,335	\$45,679	n.a.	n.a.	\$45,679
Mississippi	2009	\$15,080	\$50,000	\$34,920	n.a.	n.a.	\$34,920
Montana	2021	\$17,992	\$60,000	\$42,008	n.a.	n.a.	\$42,008
North Carolina	2008	\$15,080	\$50,000	\$34,920	n.a.	n.a.	\$34,920
New Jersey	2013	\$22,880	\$50,000	\$27,120	n.a.	n.a.	\$27,120
Nevada***	2019	\$16,640	\$100,000	\$83,360	n.a.	n.a.	\$83,360
Ohio	2010	\$18,096	\$56,752	\$38,656	n.a.	n.a.	\$38,656
Texas	2011	\$15,080	\$80,000	\$64,920	n.a.	n.a.	\$64,920
Vermont****	2014	\$22,797	\$45,000	\$22,203	n.a.	n.a.	\$22,203
Washington	2013	\$28,080	\$50,000	\$21,920	\$50,000	n.a.	\$71,920
Wisconsin	1987	\$15,080	\$5,000	\$0	n.a.	n.a.	\$0
Average				\$45,363			\$60,363
Median				\$34,920			\$38,656

Sources and Notes: These payments are not inflation-adjusted. Excludes states that give compensation at a certain "cap" rather than by year and states that measure award strictly on annual income (CT, MD, UT, and VA). 20 states also offer non-monetary services, such as tuition assistance or housing assistance. US Department of Justice, 'Fact Sheet: The Justice for All Act,' April 2006; 'Compensation Statutes: A National Overview,' University Michigan Law; 'Key Provisions in Wrongful Conviction Compensation Laws,' Innocence Project, 2022; The Spokesman-Review, 'Idaho officials pay US\$2.6M for wrongful convictions of 2 men,' June 15, 2021; Montana State Assembly Bill HB 92, State of Montana, 2021; Nevada State Assembly Bill NO. 104, State of Nevada, 2019.

Applying the median compensation of US\$38,656 per year to total number of years of individual enslavement in the Americas and Caribbean of almost 802 million years estimates harm based on false imprisonment of US\$31 trillion. It is reasonable to use this compensation as it represents the value one of the enslaving countries assigns to the loss of liberty. By taking the current value that the United States assigns we side-step the need to use interest to bring to the reparations to present value. If we assume that other geographies would assign a lower award per year of unjust imprisonment (*e.g.*, 75% or 50% of what is assigned in the United States), the resulting reparations would still be in the tens of trillions of dollars (US\$23.2 trillion for our 75% example and US\$15.5 trillion in the 50% case).

TABLE 8: DAMAGES RESULTING FROM WRONGFUL INCARCERATION

Median Unjust Imprisonment Award, Less Income (2020 \$)	\$38,656
Enslaved Total Life Years (mm)	801.58
Total Award (2020 \$mm)	\$30,986,174

Sources and Notes: These payments are not inflation-adjusted. US Department of Justice, 'Fact Sheet: The Justice for All Act,' April 2006; 'Compensation Statutes: A National Overview,' University Michigan Law; 'Key Provisions in Wrongful Conviction Compensation Laws,' Innocence Project, 2022; The Spokesman-Review, 'Idaho officials pay US\$2.6M for wrongful convictions of 2 men,' June 15, 2021; Montana State Assembly Bill HB 92, State of Montana, 2021; Nevada State Assembly Bill NO. 104, State of Nevada, 2019.

Second, reparation payments were made to Japanese-Americans interned during World War II. Those payments amounted to US\$43,753 (tax free, 2020 dollars). The period of internment was from 19 February 1942 to 20 March 1946⁵³, about four years, making the reparations equal to at least US\$10,718 annually (based on the assumption internment typically lasted the entire period). When scaled to the total life-years of enslavement, this award would equate to US\$8.6 trillion total damages attributed to loss of liberty.

TABLE 9: DAMAGES RESULTING FROM LOSS OF LIBERTY

Method	Total Damages (2020 \$tn)
Manumissions	\$10.97
Alternative Approaches	
Unjust Imprisonment	\$30.99
Japanese Internment	\$8.59

3. Personal Injury

Being an African slave in the British West Indies meant being chattel and property. The Official Slave Codes in Barbados (1661) institutionalized the dehumanization of black people as property. Under these laws, “Africans were gibbeted, castrated, branded with hot irons, dismembered and locked in dungeons for unlimited periods as punishment.”⁵⁴

⁵³ Taylor Weik, “Behind Barbed Wire: Remembering America's Largest Internment Camp,” NBC News, March 16, 2016.

⁵⁴ Hilary Beckles, *Britain's Black Debt: Reparations for Caribbean Slavery and Native Genocide*. University of the West Indies Press, 2013. p. 63; see also “Illness and death among the enslaved,” The Danish West Indies – Sources of history, [https://www.virgin-islands-history.org/en/history/slavery/illness-and-death-among-the-enslaved/#:~:text=Life%20as%20an%20enslaved%20laborer,injuries%20and%20death's%20constant%20presence](https://www.virgin-islands-history.org/en/history/slavery/illness-and-death-among-the-enslaved/#:~:text=Life%20as%20an%20enslaved%20laborer,injuries%20and%20death's%20constant%20presence:): “Life as an enslaved laborer in the Danish West Indies was not only characterized by hard work, brutal

The conditions of brutal punishments and incapacitating work injuries in the British and Danish West Indies was likely universal across the enslaved in the Americas and Caribbean. Therefore, we assume that all enslaved people suffered personal injury as a consequence of their enslavement, and calculate reparations associated with the embarked enslaved persons—including those that died in transit—as well as those born into slavery.

Like in the case of loss of life and uncompensated labor, we look to previous instances where compensation for comparable damages have been paid. Once more, given that it is a recent case where payments for both loss of life and personal injury were awarded, the compensation paid to the victims of the 9/11 terrorist attacks serves as the anchoring point for our analysis. As mentioned above the September 11 Victim Compensation Fund of 2001, awarded on average US\$1.44 million for death claims and US\$159,072 for personal injury claims. That is, personal injury claims represent 11% of the average death claim.

Based on this, we calculate personal injury damages as 11% of the damages associated with forgone earnings. This results in reparations associated with personal injury of US\$6 trillion.⁵⁵

4. Gender-Based Violence

Gender-based violence—predominantly sexual assault and forced pregnancy—was widely experienced by enslaved women and documented by slavers.⁵⁶ Here we aim to identify and measure the additional harm experienced by victims of gender-based violence beyond those harms already identified. The additional harm from gender-based violence is associated with the pain and suffering from the loss of sexual autonomy and, in the case of forced pregnancy, having to endure a pregnancy, plus the additional fear of constantly living under the threat of such violence. Sexual violence was necessary to the proliferation of slavery after the slave

punishment and powerlessness. But also by diseases, incapacitating work injuries and death's constant presence.”

⁵⁵ At a 2.5% interest rate, we obtain a damages estimate for forgone earnings of US\$55 trillion. Multiplying this figure by 11% yields a figure of US\$6 trillion.

⁵⁶ We acknowledge that men and children also suffered sexual violence under slavery. However, due to a lack of data, we are unable to quantify the resulting damages. Sexual violence against women was a key legal issue for the propagation of slavery, and Black women's reproductive capacity was central to legislating slavery. Additionally, several slavers kept journals recording sexual abuse against women. See Verene Shepherd and Ahmed Reid, “Women, Slavery and the Reparation Movement in the Caribbean.” *Social and Economic Studies* 68, no. 3/4 (2019): 31–59.

trade ended, especially in the United States, as enslaved women's childbearing potential became the only way to increase the enslaved population.⁵⁷

Detailed databases recording sexual assaults do not exist, partially because rape and sexual violence toward enslaved women was legal.⁵⁸ Consequently, we take a more approximate approach to measuring this harm. To make the analysis tractable, we start by identifying the female years of enslaved persons after age 15.⁵⁹ We then apply a per-year measure of harm to estimate the total reparations under this category. These estimates are largely based on contemporary judicial rulings, so our per-year estimate of harm is already in current dollars and does not need to be adjusted.⁶⁰

We start with our estimates of number of years of enslavement from our analysis of loss of life and lost wages in the preceding section and apply an appropriate fraction to those numbers to estimate the number of years of female enslavement. In his 1989 article, Geggus examines the age and sex composition of the Atlantic slave trade with a particular focus on the French slave trade and found that the median slave ship had a male-to-female ratio of 1.65; implying that 38% of those enslaved were women.⁶¹ The '75th percentile' of male-to-female ratios on slave ships was 1.88; implying that 35% of those enslaved were women. In our analysis, we applied 35% to the counts of enslaved people to calculate the number of enslaved women. For the sake

⁵⁷ Verene Shepherd and Ahmed Reid, "Women, Slavery and the Reparation Movement in the Caribbean." *Social and Economic Studies* 68, no. 3/4 (2019): 31–59.; Barbara Bush, 'Sable venus', 'she devil' or 'drudge'? British slavery and the 'fabulous fiction' of black women's women's identities, c. 1650–1838, *Women's History Review* 9, no. 4 (2000): 761-789; Boa, Sheena, "Free black and coloured women in a white man's slave society". M. Phil. Thesis, University of the West Indies, 1988; Lucille Mathurin Mair, *A Historical Study of Women in Jamaica, 1655-1844*. Kingston: University of the West Indies Press, 2006; Douglas Hall. *In Miserable Slavery: Thomas Thistlewood in Jamaica 1750-86*. Mona: University of the West Indies Press, 1999; Patterson Orlando. 1982. *Slavery and Social Death: A Comparative Study*. Cambridge Mass: Harvard University Press; Hilary Beckles, "Property Rights in Pleasure: The Marketing of Enslaved Women's Sexuality". In *Engendering History: Caribbean Women in Historical Perspective*. Eds. Verene Shepherd, B. Brereton & B. Bailey, 125-140. Kingston: Ian Randle, 1995.

⁵⁸ See *George v. State*, 183 Miss. 327, 184 So. 67 (Miss. 1938): "The regulations of law as to the white race, on the subject of sexual intercourse, do not and can not, for obvious reasons, apply to slaves; their intercourse is promiscuous, and the violation of a female slave would be a mere assault and battery. [...] By the new code, a slave can only commit a rape upon a white woman."

⁵⁹ In our estimates we use the free person life expectancy because of data limitation that we do not have enslaved life expectancy for all regions and periods of interest.

⁶⁰ We chose to leave the analysis in current dollars because any change in our estimate that resulted from discounting and re-inflating the estimates would reflect those calculations, not something fundamental about the harm being measured.

⁶¹ David Geggus, "Sex ratio, age and ethnicity in the Atlantic slave trade: data from French shipping and plantation records." *The Journal of African History* 30, no. 1 (1989): 23-44.

of consistency, we keep this 35% assumption for those who were brought across the Middle Passage and those who were born into slavery. We believe that this number serves as a lower-bound for the number of women who partook in the system of chattel slavery.

Several studies have looked into sexual abuse of enslaved women⁶² and they agree that slave owners and other white men sexually assaulted at least 58% of all enslaved women aged 15-30 years. This figure likely undercounts the proportion of women who experienced gender-based violence, as it does not include women who were forced into sex work or coerced into sex with other enslaved men.⁶³ This figure also does not account for the fact that all enslaved women lived under the threat of sexual violence. We take 58% as a lower-bound for the share of enslaved women who experienced gender-based violence and apply to the counts of enslaved women to calculate the number of women who experienced gender-based violence.

To place a compensatory value on the harm, we turn to judicial rulings on compensation for rape and forced pregnancy for guidance. There is a very significant range of compensation provided by US courts, varying from US\$55 to US\$15 million.⁶⁴ As summarized in Table 10, the range for awards we have identified in other countries is also wide, but not as much as within the United States.

⁶² Cynthia Prather, Taleria R. Fuller, William L. Jeffries IV, Khiya J. Marshall, A. Vyann Howell, Angela Belyue-Umole, and Winifred King, "Racism, African American women, and their sexual and reproductive health: a review of historical and contemporary evidence and implications for health equity." *Health equity* (2018). See also: Carolyn M. West and Kamilah Johnson. "Sexual violence in the lives of African American women: Risk, response, and resilience." *National Online Resource Center on Violence Against Women 1* (2006): 1-11.

⁶³ Forced sex between enslaved people was common in the Americas as a means of increasing the slave population. See David Brion Davis, "Slavery, Sex, and Dehumanization" in *Sex, Power, and Slavery*, 2004.

⁶⁴ Balumisa case, 2009 RP 038 RMP/1427 and RMP1280/MTL/09; Amy McQuillin v. Carlos Perez; No. 2001-0194-CA-17 (2005).

TABLE 10: SUMMARY OF DAMAGE AWARDS FOR GENDER-BASED VIOLENCE

Context	Year	Crime	Award (\$2020)	Case
Peru	2006	Rape; Sexual Violence	\$51,600	Miguel Castro Castro Prison v. Peru, Merits, Reparations, and Costs, Judgment, Inter-Am. Ct. H.R. (ser. C) No. 160, ¶¶ 260(x)–, 223–24, 310–11, 433.c).ix-x (Nov. 25, 2006))
Guatemala	2004	Rape	\$27,400	Case of the Plan de Sánchez Massacre v. Guatemala. Reparations. Judgment 19 November 2004. Series C No. 116, paras.87-89
Mexico	2010	Rape; Forced Pregnancy	\$83,300	Case of Rosendo Cantú et al. v. Mexico, Preliminary Objection, Merits, Reparations, and Costs. Judgment of August 31, 2010. Series C No. 216, paras.72-75.
Peru	1997	Rape; Torture	\$64,400	Miguel Castro Castro Prison v. Peru. Merits, Reparations and Costs. Judgment of November 25, 2006. Series C No. 160, paras. 305-307 and 432(h).
Turkey	2015	Rape; Torture	\$51,830	Aydin v. Turkey 23178/94, Judgment (Merits and Just Satisfaction), Court (Grand Chamber), 25/09/1997, para.131.
Bosnia	2015	Rape of minor	\$16,055	Bosiljko Marković and Ostoja Marković, Case No. S1 1 K 012024 14 Kri, 24 June 2015, para.242
Bosnia	2019	Rape	\$18,180	A v Bosnia and Herzegovina, 11 September 2019, CAT/C/67/D/854/2017, para.2.5.
Peru	2018	Rape; Forced Pregnancy	\$159,120	Agencia EFE, 'El Supremo de Perú condena a un militar por violación como delito de lesa humanidad,' Qué Pasa Media, February 13, 2018.
Peru	2018	Rape	\$16,700	El Supremo de Perú condena a un militar por violación como delito de lesa humanidad, EFE, 13 February 2018.
Chad	2016	Rape	\$111,025	Judgment on Reparations, EAC, First Instance Chamber, 29 July 2016, para.60
Chad	2016	Sexual Slavery	\$138,781	Judgment on Reparations, EAC, First Instance Chamber, 29 July 2016, para.60
Guam	2016	Rape	\$16,200	The 2016 Guam World War II Loyalty Recognition Act, S. 2943, (a)(1)(A) and (c)(2)(A).
Peru	2011	Rape	\$3,795	Supreme Decree No. 051-2011-PCM, 16 June 2011.
DRC	2009	Rape	\$60,500	Mulenge/Lemera 2009, RMP0933/KMC/10.
Bulgaria	2003	Rape of minor	\$13,632	M.C. v. Bulgaria (2012)
Guatemala	2005	Rape; Torture	\$3,520	Claudia Paz y Paz, Guatemala: Gender and Reparations for Human Rights Violations, in R. Rubio-Marin (ed.) What happened to the Women? Gender and Reparations for Human Rights Violations, Social Science Research Council (2006), 92-135, p111.
Croatia	2015	Sexual Violence	\$24,490	Zakon o pravima žrtava seksualnog nasilja za vrijeme oružane agresije na Republiku Hrvatsku u Domovinskom ratu (NN 064/2015)
Average			\$50,619	
Average (Americas only)			\$58,006	

None of these compensatory amounts are directly comparable to the additional harm from gender-based violence against enslaved persons. These estimates tend to be for singular or defined duration events, not lifetime harms. Some of them include compensation for lost wages, which we previously estimated separately. They tend to include compensation for the ongoing anguish from singular events, not the continuing harm from cumulative sexual violence. As a consequence, judgement is required in settling on a measure of annual harm. We use US\$50,000 per year per adult enslaved women. This estimate is easily scalable. For example, a harm per year of US\$100,000 would double our calculation of total harm presented in Table 11.

TABLE 11: SUMMARY OF DAMAGES FOR GENDER-BASED VIOLENCE

Region	Enslaved Women Experiencing Sexual Abuse	Years of Gender-Based Violence (GBV) Experienced by Disembarked Enslaved Women	Lifetime GBV Damages for Enslaved Women Brought to the Americas (2020 USD Billions)	Lifetime GBV Damages for Enslaved Women Born in the Americas (2020 USD Billions)	Total Lifetime Damages for Enslaved Women Experiencing GBV (2020 USD Billions)
Caribbean	701,177	29,777,105	\$1,489	\$496	\$1,985
Central America	17,540	765,806	\$38	\$13	\$51
South America	762,205	32,840,837	\$1,642	\$547	\$2,189
US	56,602	2,485,999	\$124	\$2,236	\$2,360
Other	92,242	3,812,444	\$191	\$64	\$254
Total	1,629,766	69,682,191	\$3,484	\$3,356	\$6,840

5. Summary of Quantified Damages

TABLE 12: SUMMARY OF QUANTIFIED DAMAGES

Damage Category	Total Damages (2020 US\$ Billion)
Forgone Earnings	\$54,874
Loss of Liberty	\$10,975
Personal Injury	\$6,036
Gender-Based Violence	\$6,840
Total Damages for Wrongful Conduct	\$78,725

TABLE 13: SUMMARY OF QUANTIFIED DAMAGES BY DESTINATION AND ENSLAVING COUNTRY

Country	Enslaving Country										Total
	Argentina	Brazil	Britain	Denmark	France	Netherlands	Portugal	Spain	Sweden	United States	
Destination Country											
<i>Caribbean</i>											
Antigua and Barbuda			\$924								\$924
Bahamas			\$43								\$43
Barbados			\$3,495								\$3,495
British Virgin Islands			\$98								\$98
Caribbean								\$305			\$305
Cuba								\$3,333			\$3,333
Dominica			\$636								\$636
Dominican Republic								\$654			\$654
Grenada			\$736		\$19						\$755
Haiti					\$4,734						\$4,734
Jamaica			\$6,924					\$74			\$6,998
Saint Kitts and Nevis			\$1,168								\$1,168
Saint Lucia			\$50								\$50
Trinidad and Tobago			\$117					\$233			\$350
US Virgin Islands				\$507							\$507
<i>Central America and Mexico</i>											
Belize			\$1								\$1
Honduras								\$10			\$10
Mexico								\$1,659			\$1,659
Panama								\$122			\$122
<i>South America</i>											
Argentina	\$6							\$888			\$894
Brazil		\$3,283						\$15,243			\$18,527
Colombia								\$4,161			\$4,161
Guyana			\$290		\$144						\$434
Peru								\$50			\$50
Suriname						\$1,970					\$1,970
Venezuela								\$228			\$228
<i>North America</i>											
US			\$2,494							\$19,981	\$22,475
<i>Miscellaneous</i>											
British Overseas Territories			\$342								\$342
Dutch Overseas Territories						\$1,494					\$1,494
French Overseas Territories					\$1,990				\$8		\$1,998
Other								\$310			\$310
TOTAL	\$6	\$3,283	\$17,317	\$507	\$6,887	\$3,464	\$15,243	\$12,028	\$8	\$19,981	\$78,725

B. Not Quantified Harms

The analysis above quantified harms during the period of enslavement related to lost labor, lost life, loss of liberty through false imprisonment, personal injury, and gender-based violence. There were additional harms inflicted upon the enslaved that are not (fully) captured by those estimates, including psychological mistreatment and deprivation of social and political life. Unfortunately, current data limitations prevented us from quantifying these harms. The lack of quantification is not an indication of the unimportance of these avenues of harm, and we therefore address them briefly below.

Since legal institutions considered enslaved persons to be property, the enslaved could not fully participate in social and political affairs.⁶⁵ We recognize our damages framework cannot fully address the harms caused by social and political exclusion. As Professor Beckles notes:

[D]ivisions and lack of egalitarianism [...] made the Atlantic World deeply unstable. [Enslaved persons] were not incorporated into the Atlantic World as citizens with equal rights, but as chattel, enslaved, and as the inferior 'Other'.⁶⁶

Enslaved people were forced to leave their own families and cultural traditions behind and adopt European customs, religion, and language, furthering their isolation.⁶⁷ Even as countries of formerly enslaved persons established their own governance systems post-independence, they faced issues of sovereignty from former colonizing powers, economic hardships, and hostility in an overwhelmingly racist global arena.⁶⁸

Further, enslaved individuals faced incalculable physical, psychological, sexual, and emotional trauma that cannot be quantified.⁶⁹ As Judge Patrick Robinson⁷⁰ notes:

⁶⁵ Jim Crow laws and Black codes were laws passed in the southern United States that limited the rights of Black citizens, including limited employment opportunity, voter suppression, and segregation. *Dred Scott v. Sanford*; Sir Hilary Beckles, Welcome and Opening Remarks at Reparations under International Law for Enslavement of African Persons in the Americas and the Caribbean Symposium. Delivered on May 20, 2021.

⁶⁶ Verene Shepherd, *I Want To Disturb My Neighbor: Lectures on Slavery, Emancipation and Postcolonial Jamaica*, Ian Randle, 2007.

⁶⁷ Nearly half of enslaved people were separated from their families upon arrival to the Americas, and approximately 1 in 4 enslaved people sold were children, separated from parents. "Black Families Severed by Slavery," Equal Justice Initiative, January 29, 2018. <https://eji.org/news/history-racial-injustice-black-families-severed-by-slavery/>. See also Verene Shepherd, *I Want To Disturb My Neighbor: Lectures on Slavery, Emancipation and Postcolonial Jamaica*, Ian Randle, 2007; David Brion Davis, "Slavery, Sex, and Dehumanization" in *Sex, Power, and Slavery*, 2004; Monica Schuler, "Alas Alas Kongo": *A Social History of Indentured African Immigration into Jamaica 1841-1865*. Baltimore: Johns Hopkins University Press, 1979.; Sasha Tuner, *Contested Bodies: Pregnancy Childrearing and Slavery in Jamaica*. Philadelphia: University of Pennsylvania Press, 2017; Lewis Maureen. 2003. *Central Africa in the Caribbean : Transcending Time Transforming Cultures*. Barbados: University of the West Indies Press; Maureen Warner Lewis, *Trinidad Yoruba - from Mother Tongue to Memory*. University Of Alabama Press, 2009.

⁶⁸ Verene Shepherd, *I Want To Disturb My Neighbor: Lectures on Slavery, Emancipation and Postcolonial Jamaica*, Ian Randle, 2007.

⁶⁹ The enslaved were "gibbeted, castrated, branded with hot irons, dismembered, and locked in dungeons for unlimited periods as punishment for insubordination." See Hilary Beckles, *Britain's Black Debt: Reparations for Caribbean Slavery and Native Genocide*. University of the West Indies Press, 2013. p. 82; Patterson, Orlando. *The Sociology of Slavery: An Analysis of the Origins, Development and Structure of Negro Slave Society in Jamaica*. London: McGibbon and Kee. 1967. Bruce Golding, "Debates in Jamaica's House of Representatives," February 27, 2007.

⁷⁰ Judge Patrick L. Robinson, Member of the International Court of Justice, is Honorary President Emeritus of the American Society of International Law, and served as Chair for the First and Second Symposia on Reparations under International Law for Trans-Atlantic Chattel Slavery.

[O]ne does not have to be a devotee of the Olympics of the oppressed to be able to agree that transatlantic chattel slavery as an atrocity exemplifying man's inhumanity to man has never been surpassed... [A]s an atrocity, transatlantic chattel slavery was: striking for its duration of over four hundred years [and] unmatched for its barbarity.⁷¹

Underpinning this maltreatment was the institutionalized dehumanization of African people. As Professor Beckles notes:

[The slave trade] fed the most barbaric system of human bondage the world had seen. Africans were reduced by slave relations to the legal status of non-humans [...] property, chattel, and real estate [...] They had no right to life; their existence as social beings was at the pleasure of owners whose rights over them were effectively unlimited.⁷²

Slavery had incalculable effects on the psyche of those it dominated and dehumanized, potentially leading to the internalization of Black individuals' "inferiority."⁷³ Racial ethnic groups have developed internal discrimination towards each other with a preference for whiteness⁷⁴, a phenomenon bred out of slavery called colorism.⁷⁵ As Professor Beckles notes, "[t]hese socio-legal perceptions of Africans, and the punishments they received, reflected the British definition of them as property...nonhumans deserving of their enslavement."⁷⁶ In every aspect of life, the enslaved were reduced to nonbeings. While we cannot quantify the damages arising from the psychological and physical mistreatment of enslaved persons, we recognize its unique cruelty and role in promoting the economic and political enrichment of slavers.

⁷¹ Judge Patrick Robinson, Welcome and Opening Remarks at Reparations under International Law for Enslavement of African Persons in the Americas and the Caribbean Symposium. Delivered on May 20, 2021.

⁷² Hilary Beckles, "'Slavery was a long, long time ago': remembrance, reconciliation and the reparations discourse in the Caribbean." *ARIEL*, vol. 38, no. 1, Jan. 2007, pg. 15-16; see also for example section B.1 on legal precedents such as the Barbados slave codes.

⁷³ See Frantz Fanon, *Black Skin, White Masks*, Grove Press, 1952; Lise Fitzpatrick, "African Names and Naming Practices: The Impact Slavery and European Domination had on the African Psyche, Identity and Protest," 2012.

⁷⁴ Arthur H. Goldsmith, Darrick Hamilton and William Darity Jr., "Shades of Discrimination: Skin Tone and Wages," 2006, *American Economic Review*

⁷⁵ Renee Empress, "Shadeism: Digging Deeper than Skin Color," 2013.

⁷⁶ Hilary Beckles, *Britain's Black Debt: Reparations for Caribbean Slavery and Native Genocide*. University of the West Indies Press, 2013. p. 82.

III. Reparations for the Period After Formal Abolition of Chattel Slavery

In 2021, Professor Beckles noted:

the reparations movement is not just looking at how much is required to compensate labor, but what is required to promote the development of democratic society and economy today out of the rubble of an abandoned colony.⁷⁷

At the core of this statement is the recognition that the effects of slavery have extended centuries beyond the dates on which it was outlawed in the Americas and the Caribbean. In this section we seek to document, and when possible quantify, those lasting effects.

A. Quantified Damages

The nature of the ongoing harms from the post-enslavement period are more comingled than from the period of enslavement. We first offer as a summary of harm the difference in wealth between the formerly enslaved and the societies that enslaved them. This measure does not fully capture all of the harms from the period of post enslavement, so we also identify additional quantifiable categories of harm.

1. Summary Estimate of Harm: Wealth Disparity

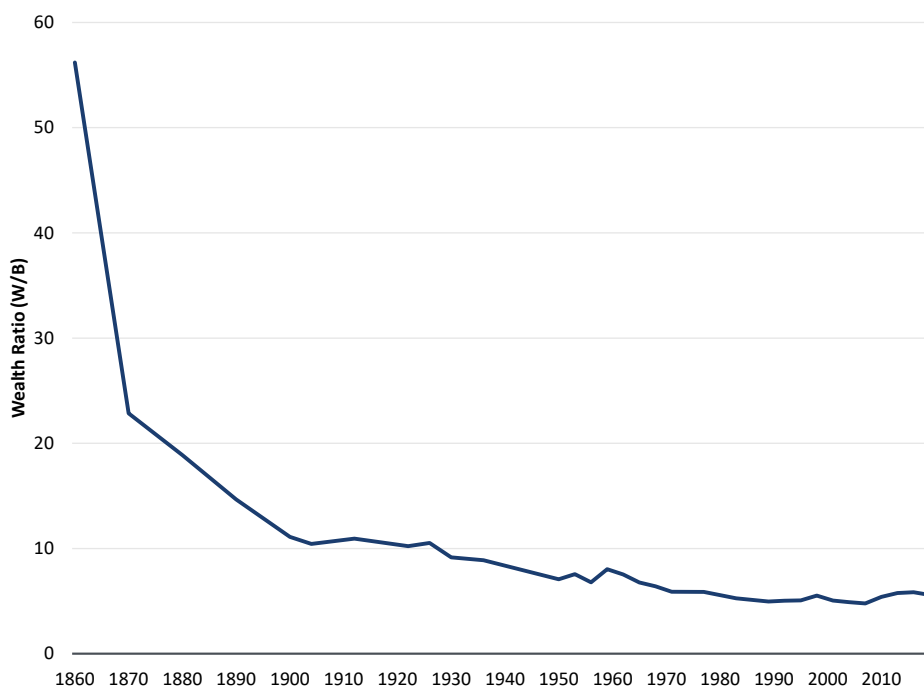
The economic consequences of enslavement will impact both the opportunity to develop human capital and consume goods and services (including education and other investments that can increase income) during one's lifetime as well as the opportunity to accumulate wealth that can be passed on across generations. In the lifetime of an individual, both effects are realized: the victim achieves less income and consumption in their lifetime and leaves behind less wealth for her heirs. From the perspective today of a descendent of enslaved people, a key expression of the cumulative loss of wealth across time is the difference in accumulated wealth between affected and unaffected (or beneficiary) races or societies.

⁷⁷ Hilary Beckles, "Opening Address in Proceedings of the two-day symposium, Reparations under International Law for Enslavement of African Persons in the Americas and the Caribbean," May 20, 2021.

Wealth differentials as a measure of harm is inherently conservative for two reasons. First, it does not incorporate non-economic harms. Second, it does not account for the differential in economic consumption over time. Nevertheless, we find it a useful lower-bound summary of harm.⁷⁸ We first estimate the wealth disparity between Black and white people in the United States and then provide an estimate of the wealth disparity between the remaining colonized countries in the Americas and Caribbean and their colonizers.

Today, the wealth gap between Black and white Americans remains one of the largest indicators of racial disparity. Using an 1860-2019 dataset compiled by Derenoncourt, *et al.* (2022), we show that the racial wealth gap has remained mostly stagnant over the last 50 years, with the largest changes occurring directly following emancipation (1860-1900).⁷⁹ See Figure 5.

FIGURE 5: WHITE-TO-BLACK PER-CAPITA WEALTH RATIO IN THE UNITED STATES, 1860-2019



Source: Ellora Derenoncourt et al., “Wealth of Two Nations: The U.S. Racial Wealth Gap, 1860-2020,” *National Bureau of Economic Research Working Paper No. 30101*, June 2022.

In Table 14, below, we summarize the white-to-Black wealth ratio from 1860 to 2020, by decade. As is clearly shown, the racial wealth gap has increased since the 1990s.

⁷⁸ This approach to estimating reparations is used by others. See, for example, William Darity Jr. et al., “The Cumulative Costs of Racism and the Bill for Black Reparations,” *Journal of Economic Perspectives*, vol. 36(2), Spring 2022.

⁷⁹ Ellora Derenoncourt et al., “Wealth of Two Nations: The U.S. Racial Wealth Gap, 1860-2020,” *National Bureau of Economic Research Working Paper No. 30101*, June 2022.

TABLE 14: WHITE-TO-BLACK PER CAPITA WEALTH RATIO IN THE UNITED STATES, 1860-2020

White-to-Black per capita Wealth Gap		
Year	Wealth Ratio (W/B)	% Change
1860	56.19	n.a.
1870	22.85	-59.3%
1880	18.88	-17.4%
1890	14.66	-22.3%
1900	10.77	-26.6%
1910	10.94	1.6%
1920	10.21	-6.7%
1930	9.85	-3.6%
1940	8.89	-9.7%
1950	7.31	-17.7%
1960	7.45	1.9%
1970	6.36	-14.6%
1980	5.57	-12.4%
1990	5.00	-10.3%
2000	5.13	2.7%
2010	5.31	3.5%
2020	5.72	7.6%

Source: Ellora Derenoncourt et al., “Wealth of Two Nations: The U.S. Racial Wealth Gap, 1860-2020,” *National Bureau of Economic Research Working Paper No. 30101*, June 2022.

Using the wealth gap as a measure of the economic opportunities lost to Black people in the United States in earning, saving, and investing since emancipation, we achieve an estimate of US\$277,967 per person disparity in accumulated wealth.⁸⁰ Applying this to the approximately 41.3 million Black individuals in the U.S., as of the 2020 Census, we estimate US\$11.5 trillion in aggregate damages for Black individuals in the U.S.⁸¹

⁸⁰ This is consistent with Darity Jr. and Mullen (2020), who estimate reparations at US\$267,000 per person for descendants of enslaved persons. See Ellora Derenoncourt et al., “Wealth of Two Nations: The U.S. Racial Wealth Gap, 1860-2020,” *National Bureau of Economic Research Working Paper No. 30101*, June 2022; William Darity Jr. et al., “The Cumulative Costs of Racism and the Bill for Black Reparations,” *Journal of Economic Perspectives*, vol. 36(2), Spring 2022.

⁸¹ Table HH-2: Households, by Race and Hispanic Origin of the Householder: 1970 to Present, Current Population Survey, United States Census Bureau, <https://www.census.gov/data/tables/time-series/demo/families/households.html>.

TABLE 15: DAMAGES FOR WHITE-BLACK WEALTH GAP IN THE UNITED STATES (IN US\$ BILLIONS)⁸²

Mean Black Wealth, 2019	\$60,126
Mean White Wealth, 2019	\$338,093
Wealth Gap Ratio	5.62
Wealth Gap (\$)	\$277,967
Black Population, 2020	41,332,911
Wealth Gap Damages (\$bn)	\$11,489

Source: Ellora Derenoncourt et al., "Wealth of Two Nations: The U.S. Racial Wealth Gap, 1860-2020," *National Bureau of Economic Research Working Paper No. 30101*, June 2022

For the rest of the Americas and Caribbean, we estimate the current day, per-person differential in wealth between African descended population of a country and the wealth of the slave-trading country. This is an imperfect method since the wealth disparities between enslaving countries and the African descended population of countries in the Americas is driven by multiple variables. On the one hand, to some extent, the lower wealth of colonized countries is due to the effects of colonization beyond the creation of slavery-based economies. On the other hand, the African-descended populations of the colonized countries tend to do worse economically than the national averages we are using here.⁸³ Furthermore, the higher wealth of the slave-trading countries may not rest exclusively on the benefits derived from the slave trade. In a hypothetical world that never experienced transatlantic chattel slavery, the wealth of the slave-trading countries would have been lower and the wealth of the colonized countries would have been higher, but we don't know if the gap would have been completely eliminated. Nevertheless, we find the wealth differential a useful summary measure of harm, especially considering it's inherently conservative nature. We find the accumulated wealth differential for these countries to be US\$11.2 trillion.

⁸² Consumer Price Index, Bureau of Labor Statistics, <https://www.bls.gov/cpi/data.htm>.

⁸³ This legacy of colorism is noted below in the discussion of additional harms.

TABLE 16: DAMAGES FOR WEALTH GAP ACROSS THE AMERICAS (IN US\$ BILLIONS)

Desination Country	Enslaving Country	Black Adults (thousands)	Wealth per Adult (\$)	Total Wealth (\$bn)	But-For Wealth per Adult (\$)	Wealth Gap per Black Adult (\$)	Total Wealth Gap (\$bn)
Antigua and Barbuda	United Kingdom	70	\$22,987	\$2	\$299,559	\$276,572	\$19
Bahamas	United Kingdom	278	\$53,490	\$15	\$299,559	\$246,069	\$68
Barbados	United Kingdom	221	\$70,469	\$16	\$299,559	\$229,090	\$51
Cuba*	Spain	11,301	\$25,452	\$288	\$224,385	\$198,933	\$2,248
Dominica	United Kingdom	49	\$37,139	\$2	\$299,559	\$262,420	\$13
Dominican Republic*	Spain	11,000	\$25,452	\$280	\$224,385	\$198,933	\$2,188
Grenada	United Kingdom	78	\$52,012	\$4	\$299,559	\$247,547	\$19
Haiti	France	6,621	\$911	\$6	\$325,862	\$324,951	\$2,152
Jamaica	United Kingdom	2,041	\$20,161	\$41	\$299,559	\$279,398	\$570
Saint Lucia	United Kingdom	138	\$32,496	\$4	\$299,559	\$267,063	\$37
Trinidad and Tobago	United Kingdom	1,032	\$45,506	\$47	\$299,559	\$254,053	\$262
Belize	United Kingdom	64	\$10,383	\$1	\$299,559	\$289,176	\$19
Honduras*	Spain	202	\$25,452	\$5	\$224,385	\$198,933	\$40
Mexico	Spain	1,703	\$44,340	\$75	\$224,385	\$180,045	\$307
Panama	Spain	262	\$45,649	\$12	\$224,385	\$178,736	\$47
Argentina	Spain	123	\$8,474	\$1	\$224,385	\$215,911	\$27
Brazil	Portugal	15,791	\$19,796	\$313	\$160,347	\$140,551	\$2,219
Colombia	Spain	2,422	\$16,457	\$40	\$224,385	\$207,928	\$504
Guyana	United Kingdom	145	\$12,252	\$2	\$299,559	\$287,307	\$42
Peru	Spain	811	\$18,995	\$15	\$224,385	\$205,390	\$167
Suriname	The Netherlands	143	\$7,410	\$1	\$403,852	\$396,442	\$57
Venezuela	Spain	661	\$23,028	\$15	\$224,385	\$201,357	\$133
Total							\$11,187

Source: *No data on wealth per adult is available, and we therefore use average Latin American wealth per adult. We exclude non-sovereign countries, such as Martinique and the Virgin Islands. We assume 100% of the population in Caribbean countries is Black or Afro-Caribbean, whereas we use country-level statistics on race Central and South America. For consistency with U.S. values, we include categories such as Creole, and exclude categories such as *pardo* ("mixed-race") in Brazil, but acknowledge many of these people face structural racism due to the color of their skin. Credit Suisse, "Global Wealth Databook 2022," 2020; Central Intelligence Authority, 'The World Factbook: Argentina,' January 30, 2023; Central Intelligence Authority, 'The World Factbook: Panama,' January 18, 2023; Central Intelligence Authority, 'The World Factbook: Honduras,' January 26, 2023; Central Intelligence Authority, 'The World Factbook: Colombia,' January 26, 2023; Central Intelligence Authority, 'The World Factbook: Suriname,' January 30, 2023; Jazmin Aguilar Rangel, "Infographic: Afrodescendants in Mexico," Wilson Center, July 29, 2022; Compendium 2: Population Composition, BUREAU OF STATISTICS, GUYANA, July 2016; UNFPA and Statistical Institute of Belize, 'Belize Population and Housing Census,' Country Report, 2010; República Bolivariana de Venezuela Ministerio del Poder Popular del Despacho de la Presidencia y Seguimiento de la Gestión de Gobierno Instituto Nacional de Estadística, 'Cuadro 2.11. Distribución Porcentual de la Población, Según Autoreconocimiento Étnico,' 2011; IBGE, 'Tabela 1.3.1 - População residente, por cor ou raça, segundo o sexo e os grupos de idade - Brasil - 2010,' Censo 2010, 2010.

Our estimate of the total reparations for transatlantic chattel slavery for the period of post-enslavement is US\$22.7 trillion. See Table 17. The cumulative effects of the many harms from slavery are only partially captured by our wealth differential calculation. In the following section, we provide data on several of the individual harms. As these harms are partially reflected in the wealth differential, they are not fully additive to our central estimate of US\$22.7 trillion.⁸⁴ Consequently, our central estimate should be viewed as a lower bound.

⁸⁴ We were not able to disentangle the overlapping nature of all of the harms.

TABLE 17: TOTAL REPARATIONS FOR THE PERIOD OF POST-ENSLAVEMENT (IN US\$ BILLIONS)

U.S. Wealth Gap Damages (\$bn)	\$11,489
Non-U.S. Wealth Gap Damages (\$bn)	\$11,187
Total Wealth Gap Damages (\$bn)	\$22,677

Sources and Notes: See Table 15 and Table 16 ~~Error! Reference source not found.~~

TABLE 18: TOTAL REPARATIONS FOR THE PERIOD OF POST-ENSLAVEMENT (IN US\$ BILLIONS) BY ENSLAVING AND DESTINATION COUNTRY

Country	Enslaving Country										Total
	Argentina	Brazil	Britain	Denmark	France	Netherlands	Portugal	Spain	Sweden	United States	
Destination Country											
<i>Caribbean</i>											
Antigua and Barbuda			\$19								\$19
Bahamas			\$68								\$68
Barbados			\$51								\$51
British Virgin Islands			\$0								\$0
Caribbean											\$0
Cuba								\$2,248			\$2,248
Dominica			\$13								\$13
Dominican Republic								\$2,188			\$2,188
Grenada			\$19		\$0						\$19
Haiti					\$2,152						\$2,152
Jamaica			\$564					\$6			\$570
Saint Kitts and Nevis											\$0
Saint Lucia			\$37								\$37
Trinidad and Tobago			\$88					\$175			\$262
US Virgin Islands											\$0
<i>Central America and Mexico</i>											
Belize			\$19								\$19
Honduras								\$40			\$40
Mexico								\$307			\$307
Panama								\$47			\$47
<i>South America</i>											
Argentina	\$0							\$26			\$27
Brazil		\$393						\$1,826			\$2,219
Colombia								\$504			\$504
Guyana			\$28		\$14						\$42
Peru								\$167			\$167
Suriname								\$57			\$57
Venezuela								\$133			\$133
<i>North America</i>											
US			\$1,275							\$10,214	\$11,489
<i>Miscellaneous</i>											
British Overseas Territories											\$0
Dutch Overseas Territories											\$0
French Overseas Territories											\$0
Other											\$0
TOTAL	\$0	\$393	\$2,180	\$0	\$2,166	\$57	\$1,826	\$5,840	\$0	\$10,214	\$22,677

2. Other Indicia of Harm

a. Loss of Life

We illustrate differences in life expectancy between the descendants of victims of chattel slavery and the colonizer populations. First, Table 19 shows how life expectancy in the countries that were destination for disembarkments of enslaved people is significantly lower than in the enslaving countries.

TABLE 19: CURRENT LIFE EXPECTANCY IN ENSLAVED EMBARKMENT DESTINATIONS AND IN ENSLAVING COUNTRIES

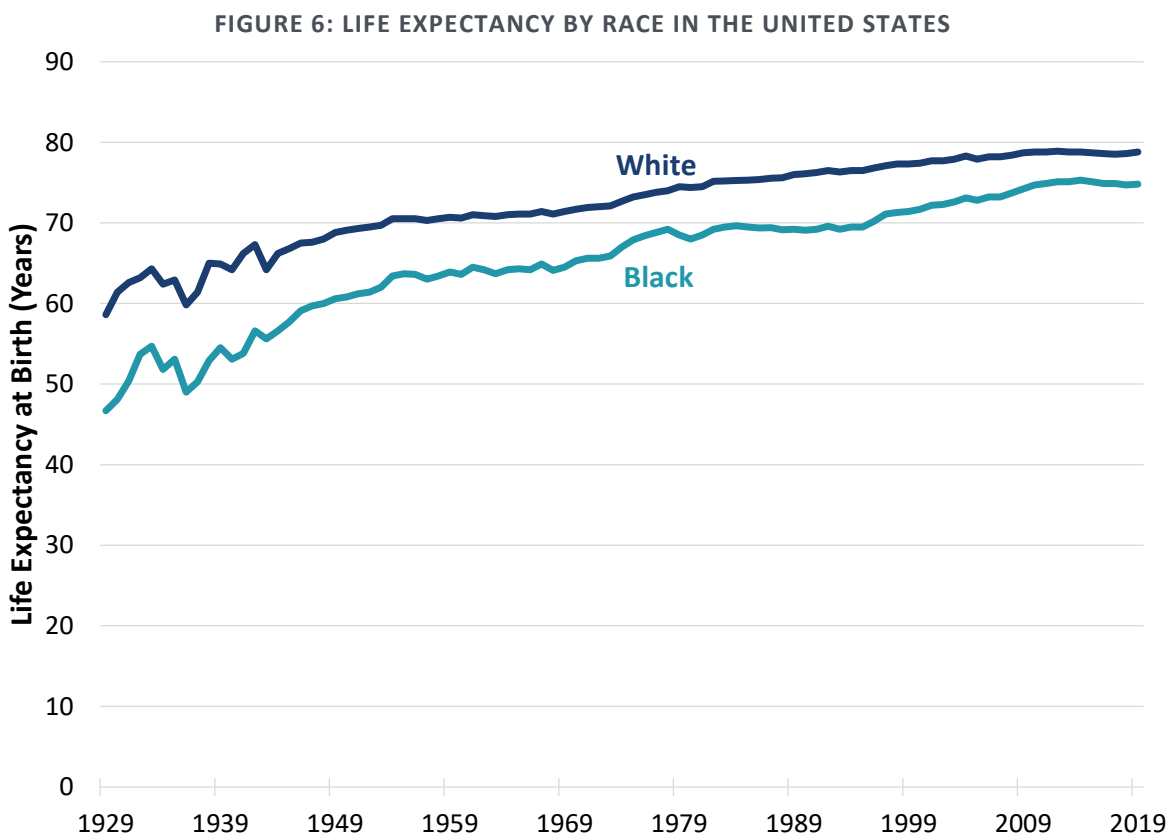
Country	Life Expectancy at Birth
<i>Enslaving Countries</i>	
Denmark	82
France	82
Portugal	81
Spain	82
The Netherlands	81
United Kingdom	81
<i>Average</i>	82
<i>Destination Countries</i>	
Antigua and Barbuda	79
Argentina	76
Barbados	77
Brazil	74
Cuba	78
Dominica	77
Dominican Republic	73
Grenada	75
Guyana	68
Haiti	64
Honduras	71
Jamaica	72
St. Kitts and Nevis	71
St. Lucia	73
St. Vincent and the Grenadines	72
The Bahamas	73
Trinidad and Tobago	74
United States	77
<i>Average (With United States)</i>	74
<i>Average (Without United States)</i>	73

Source: Life expectancy at birth is the average number of years a newborn is expected to live if mortality patterns at the time of its birth remain constant in the future. "Life expectancy at birth, total (years)," World Bank, 2020, <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>.

Life expectancy is on average 7.9 years longer in the enslaving countries than in the destination countries. This means that a person living in an enslaving country today can expect to live 11% longer than if they live in a colonized country.

In a later section we show that the average GDP per capita in the destination countries excluding the United States is US\$6,865 per capita (\$36,205 if the United States is included). A first approximation to the economic effect of this lower life expectancy is obtained by adding [11%] to the current annual GDP of the destination countries.⁸⁵ We find this effect to be US\$229 billion per year (\$2.5 trillion per year if the United States is included).

The demographic make-up of the United States allows for a more refined approach. Within the United States, there is a clear demographic distinction between the descendants of the enslaved (and other African immigrants and their descendants, who through institutionalized racism are victims of the legacy of slavery) and the white population. See Figure 4. As shown in Figure 6, the gap in life expectancy between white and Black populations has decreased over the last 100 years, but as of 2010 there was still a 3.78 year difference, which was almost 5 years for men and over 3 years for women.



⁸⁵ This simplified approach assumes that the benefits of longer life are realized throughout the lifetime of citizens.

TABLE 20: LIFE EXPECTANCY AT BIRTH BY RACE AND SEX IN THE UNITED STATES, 1900-2010

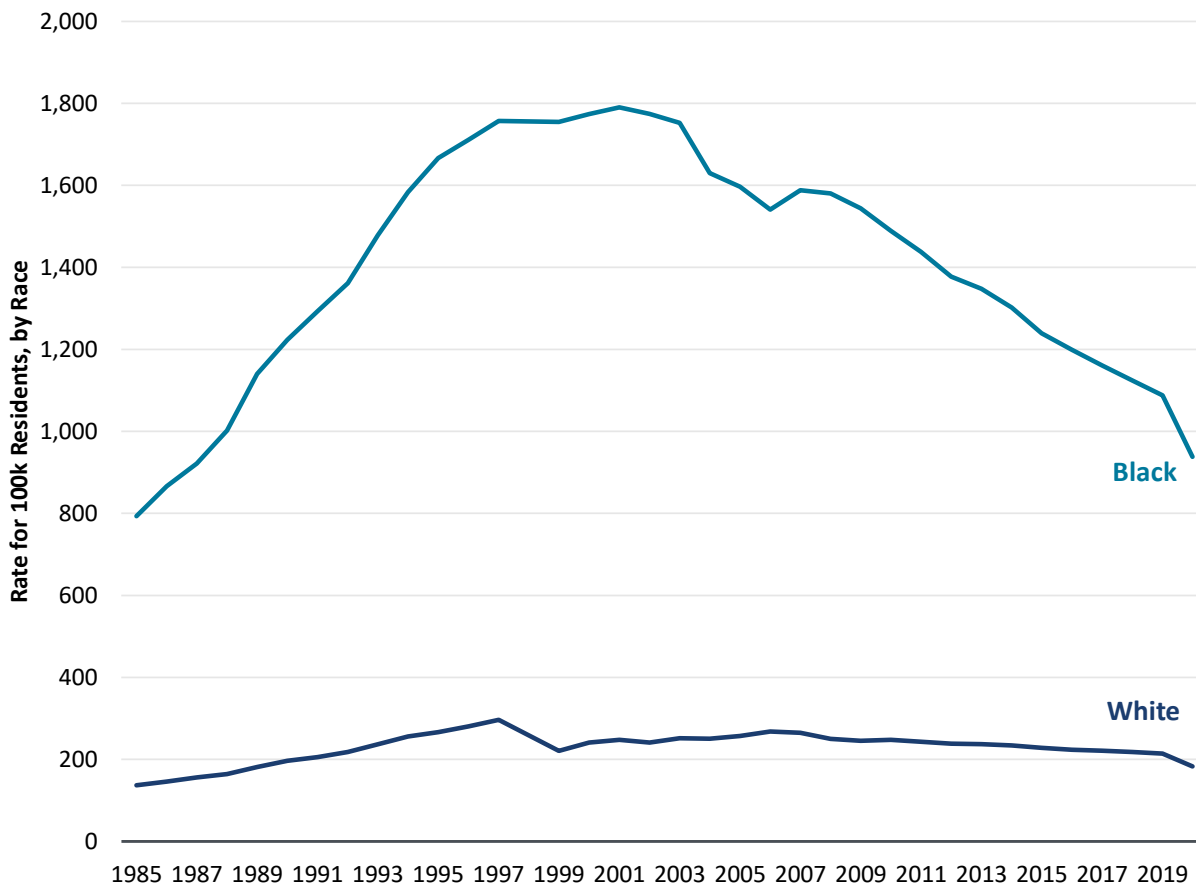
Decade	Difference in Average Life Expectancy in Years (Male) [1]	Difference in Average Life Expectancy in Years (Female) [2]	Difference in Average Life Expectancy in Years (All) [3]
1900	16.22	16.47	16.28
1910	16.18	15.95	15.99
1920	10.35	12.06	11.14
1930	10.57	11.33	10.94
1940	8.74	10.19	9.40
1950	6.7	8.28	7.42
1960	6.46	7.30	6.82
1970	6.13	5.32	5.72
1980	6.85	5.35	6.09
1990	7.84	5.58	6.66
2000	6.15	4.35	5.14
2010	4.67	3.09	3.78
Average	8.91	8.77	8.78

Source: Race and ethnicity categories changed over the period, though we use we use 'Non-Hispanic White' and 'Non-Hispanic Black' values where possible. National Center for Health Statistics, "National Vital Statistics Reports, United States Life Tables," Centers for Disease Control and Prevention.

b. Loss of Liberty

Post-enslavement, African descendants are still at greater risk of losing liberty through increased incarceration rates. As an example, we illustrate differences in incarceration rates between the Black and white population in the United States.

FIGURE 7: IMPRISONMENT RATE PER 100,000 US RESIDENTS OF A GIVEN RACE, 1985–2020



Source: Christopher J. Mumola and Allen J. Beck, “Prisoners in 1996,” *US Bureau of Justice Statistics*, June 1999.; Darrell K. Gilliard and Allen J. Beck, “Prisoners in 1997,” *US Bureau of Justice Statistics*, August 1998; Allen J. Beck and Christopher J. Mumola, “Prisoners in 1998,” *US Bureau of Justice Statistics*, August 1999; William Sabol et al., “Prisoners in 2008,” *US Bureau of Justice Statistics*, December 2009; E. Ann Carson, “Prisoners in 2018,” *US Bureau of Justice Statistics*, April 2020; E. Ann Carson, “Prisoners in 2020,” *US Bureau of Justice Statistics*, December 2021.

c. Income Disparity

The post-enslavement ability of formerly enslaved people to earn income remains curtailed to this day. This can be seen both at the national level in the impact on countries with large legacies for formerly enslaved and within countries in differences between black and white earnings.

TABLE 21: DISEMBARKED SLAVES AND CURRENT GDP PER CAPITA IN EUROPEAN SLAVE-HOLDING COUNTRIES, AND COUNTRIES WHERE SLAVES DISEMBARKED IN THE AMERICAS AND THE CARIBBEAN

	Number of Disembarked Slaves	GDP per Capita (USD)
<i>Enslaving Countries</i>		
Denmark	n.a.	\$61,063
France	n.a.	\$39,037
Portugal	n.a.	\$22,195
Spain	n.a.	\$27,056
The Netherlands	n.a.	\$52,396
United Kingdom	n.a.	\$41,098
	Average	\$40,474
<i>Destination Countries</i>		
Antigua and Barbuda	119,866	\$13,993
Argentina	63,122	\$8,586
Barbados	375,874	\$16,319
Brazil	3,169,287	\$6,815
Cuba	766,310	\$9,478
Dominica	102,401	\$7,004
Dominican Republic	27,644	\$7,268
Grenada	123,378	\$9,273
Guyana	74,693	\$6,956
Haiti	694,995	\$1,272
Honduras	282	\$2,406
Jamaica	931,574	\$4,665
St. Kitts and Nevis	144,981	\$18,441
St. Lucia	8,281	\$8,805
The Bahamas	13,228	\$24,665
Trinidad and Tobago	39,434	\$15,286
United States	281,055	\$63,028
<i>Former Union States</i>	35,389	\$63,091
<i>Former Confederate States</i>	245,666	\$52,069
	Average (inc. U.S.)	\$13,192
	Average (excl. U.S.)	\$10,077

Sources and Notes: Sources and Notes: David Eltis and David Richardson. Atlas of the Transatlantic Slave Trade. Yale University Press, 2015; "Trans-Atlantic Slave Trade - Database." Slave Voyages, 2021.

<https://www.slavevoyages.org/voyage/database>; "Trans-Atlantic Slave Trade - Essays." Slave Voyages, 2021.

<https://www.slavevoyages.org/voyage/essays#interpretation/overview-trans-atlantic-slave-trade/introduction/0/en/>;

The World Bank, 'GDP (current US\$),' World Development Indicators, 2022; The World Bank, 'Population, total,' World Development Indicators, 2020; September 30, 2022.

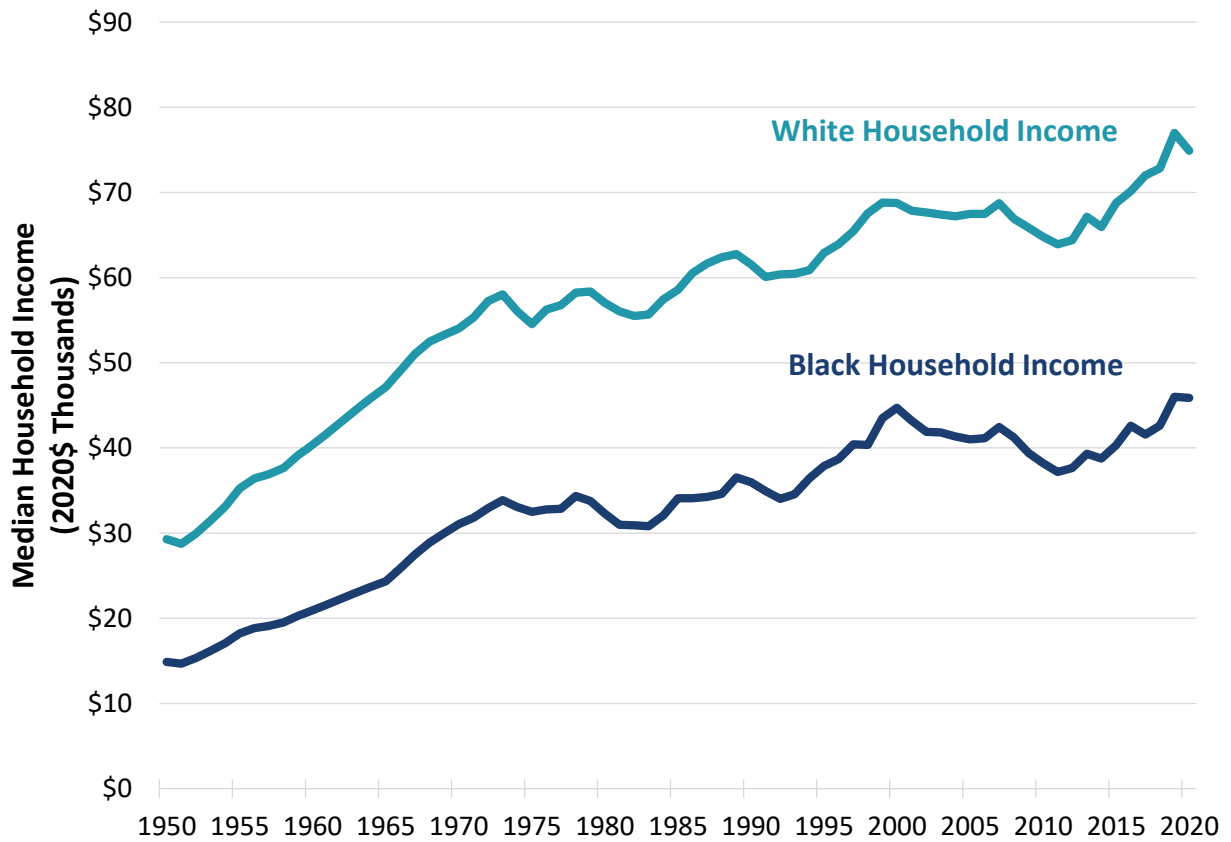
TABLE 22: DISCREPANCY IN MEDIAN INCOME BETWEEN BLACK AND WHITE HOUSEHOLDS IN THE UNITED STATES⁸⁶

Decade	White Households	Black Households	Discrepancy
1950s	\$33,795	\$17,404	49%
1960s	\$46,870	\$24,820	47%
1970s	\$56,488	\$32,902	42%
1980s	\$58,761	\$33,067	44%
1990s	\$63,195	\$37,677	40%
2000s	\$67,536	\$41,819	38%
2010s	\$68,696	\$40,420	41%

Sources and Notes: All values in 2020 U.S. Dollars. “Households by Total Money Income, Race, and Hispanic Origin of Householder: 1967 to 2020,” U.S. Census Bureau, 2021; “Median family income, by race/ethnicity of head of household: 1950 to 1993,” National Center for Education Statistics, 1996.

⁸⁶ “Median household income in the United States, by race and Hispanic origin from 1967 to 2021,” Statista. <https://www.statista.com/statistics/1086359/median-household-income-race-us/>. See also, “Median family income, by race/ethnicity of head of household,” National Center for Education Statistics, <https://nces.ed.gov/pubs98/yi/yi16.pdf>.

FIGURE 8: MEDIAN HOUSEHOLD INCOME IN THE UNITED STATES BY RACE, 1950 TO 2021



Source: All values in 2020 U.S. Dollars. “Households by Total Money Income, Race, and Hispanic Origin of Householder: 1967 to 2020,” U.S. Census Bureau, 2021; “Median family income, by race/ethnicity of head of household: 1950 to 1993,” National Center for Education Statistics, 1996.

d. Unemployment Disparity

Exacerbating the disparity in wages is the ability to find work. Again, using the United States as an example, the unemployment rate for Black Americans has consistently been more than twice as large as for white Americans.

TABLE 23: UNEMPLOYMENT RATE IN THE UNITED STATES BY RACE

Decade	Unemployment rate (Black)	Unemployment rate (White)	Difference in Unemployment Rates
1970	12.5%	5.8%	6.7%
1980	15.0%	6.3%	8.7%
1990	11.0%	5.0%	6.0%
2000	10.0%	4.9%	5.1%
2010	10.8%	5.5%	5.3%
Average	11.9%	5.5%	6.4%

Source: US Bureau of Labor Statistics, “Labor force characteristics by race and ethnicity, 2020,” *BLS Reports*, November 2021.

e. Health Care

Professor Beckles has highlighted that poor health outcomes in the Caribbean are an integral part of the legacy of slavery. As he noted in 2021:

Another viewpoint is that that period of enslavement of wealth extraction and colonization left the people of the Caribbean who are the descendants of that process in the depths of poverty. This poverty has translated into mass illiteracy **and extreme public ill health**. When you look at the Black population today in the Caribbean, if you use the marker of chronic diseases—hypertension, diabetes—and apply it across the world, the Black people in the Caribbean are the sickest people in the world because the descendants of the enslaved people in the Caribbean have the highest per capita expression of diabetes and hypertension. This is why today the first two major slave societies, Barbados and Jamaica, are now competing for the title “Amputation Capital of the World” because there is no place in the world with the same kind of expression of diabetic amputation challenges. Barbados and Jamaica have the highest percentage of amputations per capita in the world because the correlation between that medical fact and the fact that Barbados and Jamaica were the first two significant chattelization economies in the world.⁸⁷

Indeed, as the following tables illustrates, life expectancy is significantly lower in the Americas and the Caribbean relative to their enslaving countries. Similarly, death rates from

⁸⁷ Hilary Beckles, The Historical Context of the Business of Transatlantic Chattel Slavery in *Proceedings of the two-day symposium, Reparations under International Law for Enslavement of African Persons in the Americas and the Caribbean*; Hilary Beckles. *Britain's Black Debt: Reparations for Caribbean Slavery and Native Genocide*. Kingston Jamaica: University of the West Indies Press, 2013.

cardiovascular disease and the prevalence of diabetes are much higher in the Americas and Caribbean.

TABLE 24: HEALTH OUTCOMES IN ENSLAVING COUNTRIES AND IN THE AMERICAS AND CARIBBEAN

Country	Life Expectancy at Birth	Death Rate from Cardiovascular Disease	Diabetes Prevalence
<i>Enslaving Countries</i>			
Denmark	82	119	5
France	82	91	5
Portugal	81	128	9
Spain	82	107	10
The Netherlands	81	113	5
United Kingdom	81	132	6
<i>Average</i>	82	115	7
<i>Destination Countries</i>			
Antigua and Barbuda	79	227	12
Argentina	76	184	5
Barbados	77	186	14
Brazil	74	176	9
Cuba	78	197	8
Dominica	77	267	12
Dominican Republic	73	311	11
Grenada	75	271	13
Guyana	68	448	12
Haiti	64	449	9
Honduras	71	298	5
Jamaica	72	200	11
St. Kitts and Nevis	71	299	16
St. Lucia	73	221	12
St. Vincent and the Grenadines	72	292	8
The Bahamas	73	247	9
Trinidad and Tobago	74	227	13
United States	77	157	11
<i>Average (With United States)</i>	74	259	10
<i>Average (Without United States)</i>	73	265	10

Sources: Life expectancy at birth is the average number of years a newborn is expected to live if mortality patterns at the time of its birth remain constant in the future. Death rate is measured in annual number of deaths from cardiovascular disease per 100,000 people. Diabetes prevalence is the share of people aged 20-79 who have diabetes. World Bank, "Life expectancy at birth, total (years)," 2020, <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>; Our World in Data, "Deaths-Cardiovascular diseases-Sex: Both-Age: Age-standardized (Rate)," 2019, <https://ourworldindata.org/grapher/cardiovascular-disease-death-rates?tab=table>; Our World in Data, "Diabetes prevalence (% of population ages 20 to 79)," 2021, <https://ourworldindata.org/search?q=diabetes>.

This health disparity also materializes within countries. In the United States, Black individuals face reduced access to quality medical care. In 2021, Black men were twice as likely to report not seeing a doctor due to cost than were white men,⁸⁸ and Black women were 71% more likely to report not seeing a doctor due to cost than were white women.⁸⁹ In several US states, Black men were more than three times more likely to report not seeing a doctor due to cost than white men.⁹⁰ Table 25 details these disparities.

TABLE 25: INCIDENCE OF SEEKING MEDICAL CARE AMONG WHITE AND BLACK AMERICANS

Race	Men	Women
Black	12%	12%
White	6%	7%
Disparity	100%	71%

Source: “Men Who Report Not Seeing a Doctor in the Past 12 Months Due to Cost by Race/Ethnicity,” *Kaiser Family Foundation*, 2021.; “Women Who Report Not Seeing a Doctor in the Past 12 Months Due to Cost by Race/Ethnicity,” *Kaiser Family Foundation*, 2021.

The disparity in the ability to afford a doctor is partially driven by the disparity in uninsured rates between non-elderly Black and white people. While the uninsured rates for both Black and white people in the U.S. have fallen over the past 15 years, the relative disparity in uninsured rates has remained unchanged (see Table 26 below).⁹¹ While the uninsured rates for the non-elderly Black population fell by 44% between 2008 and 2021, Black people are still about 50% more likely to be uninsured than white people in the U.S.

⁸⁸ “Men Who Report Not Seeing a Doctor in the Past 12 Months Due to Cost by Race/Ethnicity,” *Kaiser Family Foundation*, 2021. <https://www.kff.org/other/state-indicator/men-who-report-not-seeing-a-doctor-in-the-past-12-months-due-to-cost-by-race-ethnicity/?currentTimeframe=0&selectedDistributions=white--black&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>.

⁸⁹ “Women Who Report Not Seeing a Doctor in the Past 12 Months Due to Cost by Race/Ethnicity,” *Kaiser Family Foundation*, 2021. <https://www.kff.org/womens-health-policy/state-indicator/women-who-did-not-see-a-doctor-in-the-past-12-months-due-to-cost-by-race-ethnicity/?currentTimeframe=0&selectedDistributions=white--black&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>.

⁹⁰ These states were Nebraska, New Jersey, Indiana, Minnesota and Maryland.

⁹¹ “Uninsured Rates for the Nonelderly by Race/Ethnicity,” *Kaiser Family Foundation*, 2021. <https://www.kff.org/uninsured/state-indicator/nonelderly-uninsured-rate-by-raceethnicity/?activeTab=graph¤tTimeframe=0&startTimeframe=12&selectedDistributions=white--black&selectedRows=%7B%22wrapups%22:%7B%22united-states%22:%7B%22%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>.

TABLE 26: INCIDENCE OF MEDICAL INSURANCE AMONG WHITE AND BLACK PEOPLE IN THE U.S.

Year	Black Uninsured Rate	White Uninsured Rate	Disparity
2008	19.5%	12.5%	56.0%
2009	19.7%	12.7%	55.1%
2010	19.9%	13.1%	51.9%
2011	19.3%	12.8%	50.8%
2012	18.9%	12.5%	51.2%
2013	18.8%	12.3%	52.8%
2014	14.9%	9.8%	52.0%
2015	12.1%	7.7%	57.1%
2016	10.7%	7.1%	50.7%
2017	11.1%	7.3%	51.7%
2018	11.5%	7.5%	52.1%
2019	11.4%	7.8%	45.2%
2021	10.9%	7.2%	51.2%
Average Disparity			52.2%

Source: “Uninsured Rates for the Nonelderly by Race/Ethnicity,” *Kaiser Family Foundation*, 2021.

One consequence of these disparities is that Black people in the U.S. are much more likely to die sooner from the same diseases than their white counterparts. For example, in the U.S. Black people are three times more likely to die of asthma than white people.⁹² Additionally, the overall cancer death rate is 19% higher for Black people than for white people.⁹³ Finally, Black people generally develop and die from age-related diseases earlier than white people in the U.S.⁹⁴

In addition to experiencing lower rates of insurance coverage, higher barriers to access health care and worse health outcomes than their white counterparts, Black people in the U.S. are more likely to report mistrust in the medical system. This mistrust is due to a history of unethical medical experimentation on black bodies⁹⁵ and modern-day medical discrimination. In an October 2020 poll, 7 in 10 Black people in the U.S. said they were treated unfairly by the health

⁹² Office of Minority Health, “Asthma and African Americans,” U.S. Department of Health and Human Services, February 11, 2021, <https://minorityhealth.hhs.gov/omh/browse.aspx?vl=4&lvlid=15>.

⁹³ Stacy Simon, “Gap in Cancer Death Rates Between Blacks and Whites Narrows,” *American Cancer Society*, February 14, 2019, <https://www.cancer.org/latest-news/gap-in-cancer-death-rates-between-blacks-and-whites-narrows.html>.

⁹⁴ Morgan E. Levine and Eileen M. Crimmins. (2014). Evidence of accelerated aging among African Americans and its implications for mortality. *Social science & medicine* (1982), 118, 27–32.

⁹⁵ Harriet A. Washington, *Medical apartheid: The dark history of medical experimentation on Black Americans from colonial times to the present*. Doubleday Books, 2006.

care system and 55% percent said they distrusted it.⁹⁶ The problem of medical discrimination is particularly acute for Black Mothers. Among Black women who have a child under the age of 18, 41% say there was a time in the past three years when health care provider talked down to them or didn't treat them with respect. Black women overall are also more likely than Black men to report feeling that health care provider didn't believe they were telling the truth.⁹⁷ Due to distrust in the medical system, half of Black adults said they would not want to get a coronavirus vaccine if it was deemed safe by scientists and was freely available.⁹⁸

These effects of access and trust in the medical system can also be seen in the infant mortality rates in the United States.

TABLE 27: INFANT MORTALITY BY RACE IN THE UNITED STATES

	Percent Mortality (Black) [A]	Percent Mortality (White) [B]	Difference in Percent Mortality [C]
Infant Mortality	1.06%	0.45%	0.61%

Sources and Notes: "Infant Mortality Rates by Race and Ethnicity," *CDC*, 2019.

In summary, Black people in the U.S. experience reduced access to medical care. Even when they receive medical care, they are more likely to report being discriminated against and face higher mortality rates than their white counterparts.

f. Compensatory Payment to Slavers

Reparations linked to slavery have been awarded and paid in the past—to enslavers. One of the most infamous cases is the payment of reparations to slavers following Haiti's independence.⁹⁹ As noted by Professor Daut in 2020:

⁹⁶ Michael A. Fletcher, "Black Americans see a health-care system infected by racism, new poll shows," *National Geographic*, October 16, 2020, <https://www.nationalgeographic.com/history/article/black-americans-see-health-care-system-infected-racism-new-poll-shows#close>.

⁹⁷ Khiara M. Bridges, "Implicit Bias and Racial Disparities in Health Care," *American Bar Association Human Rights Magazine*, 43(3). https://www.americanbar.org/groups/crsj/publications/human_rights_magazine_home/the-state-of-healthcare-in-the-united-states/racial-disparities-in-health-care/.

⁹⁸ Liz Hamel et al., "KFF/The Undeclared Survey on Race and Health," *Kaiser Family Foundation*, October 13, 2020.

⁹⁹ Reparations to slavers were also paid in the United States when the enslaved people in the District of Columbia were emancipated. Kris Manjapra, "D.C.'s Enslavers Got Reparations. Freed People Got Nothing." *Politico Magazine*, June 17, 2022, <https://www.politico.com/news/magazine/2022/06/17/washington-emancipation-day-00038824>.

On April 17, 1825, the French king...issued a decree stating France would recognize Haitian independence but only at the price of 150 million francs – or around 10 times the amount the U.S. had paid for the Louisiana territory. The sum was meant to compensate the French colonists for their lost revenues from slavery.¹⁰⁰

An investigation conducted by the New York Times concluded that:

France ultimately agreed to reduce its original demand to 90 million francs. But we found that Haiti made payments totaling 112 million francs over the course of seven decades, or about \$560 million in today's dollars¹⁰¹

In the early 2000s, former Haitian president Jean-Bertrand Aristide became one of the leading voices demanding restitution for the payments made to France. As noted by the Miami Herald on December 18, 2003:

In the months leading up to Jan. 1 bicentennial celebrations, Aristide has launched a controversial campaign to get France to repay its former colony billions of dollars in restitution. And he has already sent Paris a bill, down to the very last cent: \$21,685,135,571.48.¹⁰²

While this amount far exceeds the amount that was paid to the former slave owners and their descendants, it comes very close to the New York Times 2022 estimate:

But [the \$560 million in payments note above] only begins to account for the loss. With the help of 15 leading economists from around the world, we modeled what might have happened if that money had gone into the Haitian economy, rather than being shipped off to France without getting any goods or services in return.

¹⁰⁰ Marlene Daut, "When France extorted Haiti—the greatest heist in history," *The Conversation*, June 30, 2018. <https://theconversation.com/when-france-extorted-haiti-the-greatest-heist-in-history-137949>. See also, Dupuy, Alex. "Spanish Colonialism and the Origin of Underdevelopment in Haiti." *Latin American Perspectives* 3, no. 2 (1976): 5–29, and Dupuy Alex. *Rethinking the Haitian Revolution : Slavery Independence and the Struggle for Recognition*. Lanham Maryland: Rowman & Littlefield, 2019.

¹⁰¹ Lazaro Gamio et al., "The Ransom: Haiti's Lost Billions," *The New York Times*, May 20, 2022. <https://www.nytimes.com/interactive/2022/05/20/world/americas/enslaved-haiti-debt-timeline.html>

¹⁰² Jacqueline Charles, "Aristide pushes for restitution from France," *The Miami Herald*, December 18, 2003. <https://www.latinamericanstudies.org/haiti/haiti-restitution.htm>

Our estimates found that over time, the payments to France cost Haiti from \$21 billion to \$115 billion in lost economic growth. Put in perspective, that is anywhere from one to 8 times the size of Haiti’s entire economy in 2020.

However, Mr. Aristide’s call for restitution was interrupted by his ouster from power following a coup in 2004, which may well have been linked—at least partially—to his call for reparations. As noted in the *New York Times*:

France’s ambassador to Haiti at the time, Thierry Burkard, said in an interview that France and the United States had effectively orchestrated “a coup” against Mr. Aristide, and that his abrupt removal was “probably a bit about” his call for reparations from France, too.¹⁰³

On May 10, 2015, during the inauguration of a slavery memorial in Guadeloupe, French President François Hollande seemed to acknowledge France’s obligation when he stated “When I come to Haiti, I will, for my part, settle the debt that we have”¹⁰⁴ only to have “aides rushing to clarify that the debt referred to was a moral one and did not involve any financial compensation.”¹⁰⁵

Along this same vein, of implicitly admitting wrongdoing, in 2016, France’s parliament symbolically repealed the 1825 ordinance that required the Haitian payments to former slaveholders. However, financial restitution has yet to occur.

B. Additional Harms Not Quantified

The creation of “Blackness” as an inferior social caste and the institutionalization of this racist ideology was necessary to justify chattel slavery. African enslaved persons came from diverse linguistic, religious, and cultural backgrounds—the idea that they were a monolith, and inferior to Europeans, is a historical construction that occurred through colonialist exploitation and the

¹⁰³ Constant Méheut et al., “The Ransom: Demanding Reparations, and Ending Up in Exile,” *The New York Times*, May 26, 2022. <https://www.nytimes.com/2022/05/20/world/americas/haiti-aristide-reparations-france.html>

¹⁰⁴ Stéphanie Trouillard, “Hollande’s vow to settle ‘debt’ to Haiti sparks confusion,” *France 24*, May 12, 2015. <https://www.france24.com/en/20150512-hollande-vow-haiti-debt-france-settle-slavery-confusion>.

¹⁰⁵ Stéphanie Trouillard, “Hollande’s vow to settle ‘debt’ to Haiti sparks confusion,” *France 24*, May 12, 2015. <https://www.france24.com/en/20150512-hollande-vow-haiti-debt-france-settle-slavery-confusion>.

slave trade.¹⁰⁶ Abolition did not end racism or erase slavery’s legacy, nor did systems of “racial democracy” that took root after emancipation.¹⁰⁷ Our analysis addresses the economic and wealth aspects of racism post-abolition, but we are unable to quantify the innumerable ways in which racism and racist institutions affect the lives of Black individuals today. Below, we discuss some unquantified aspects of reparations post-abolition, focusing on racial violence, health, discrimination, climate insecurity and debt, and race’s intersections with other marginalized identities (an intersectional approach). We recognize these harms as inseparable from the legacy of slavery and necessary to a reparations framework, though we are unable to quantify them now.

While no longer institutionalized through enslavement, Black individuals in the Americas have faced significant violence since abolition. Between 1882 and 1968, 3,446 Black Americans in the U.S. were lynched, a violent public act in which lawless mobs execute individuals without trial, as a means of enforcing racial segregation and promoting racist stereotypes.¹⁰⁸ Similarly, Black individuals continue to face significantly higher rates of violence at the hands of police, an institution borne out of the “slave patrols” that would hunt down escaped enslaved persons and later the police departments that would enforce Jim Crow laws through excessive brutality.¹⁰⁹ Police violence is not a U.S. phenomenon alone, as Black individuals in the Caribbean and South America likewise face high rates police brutality—75% of people shot by police in Brazil, for example, are Black.¹¹⁰ Indisputably, racial violence remains an issue in the Americas.

The legacy of slavery has significant health consequences for Black individuals in the Americas. Enduring racist experiences create significant stress, which results in long-term health

¹⁰⁶ Barbara Fields, “Ideology and Race in American History,” *Region, Race, and Reconstruction: Essays in Honor of C. Vann Woodward*. Eds. J. Morgan Kousser and James M. McPherson. New York / Oxford: Oxford University Press, 1982, pp. 143-177.

¹⁰⁷ Carlos Hasenbalg, and Suellen Huntington. “BRAZILIAN RACIAL DEMOCRACY: REALITY OR MYTH?” *Humboldt Journal of Social Relations* 10, no. 1 (1982): 129–42.

¹⁰⁸ NAACP, “History of Lynching in America, <https://naacp.org/find-resources/history-explained/history-lynching-america>.

¹⁰⁹ NAACP, “The Origins of Modern Day Policing,” <https://naacp.org/find-resources/history-explained/origins-modern-day-policing>

¹¹⁰ See Azam Ahmed, “Where the Police Wear Masks, and the Bodies Pile Up Fast,” *The New York Times*, December 20, 2019, <https://www.nytimes.com/2019/12/20/world/americas/brazil-police-shootings-murder.html>; Sanoja Bhaumik, “Black Lives Matter comes to Colombia,” *The Bogota Post*, June 23, 2020. <https://thebogotapost.com/black-lives-matter-comes-to-colombia/46928/>

implications, including increased blood pressure and cortisol levels.¹¹¹ Research also suggests that racial discrimination results in lower self-esteem and higher rates of depression among African American and Caribbean individuals.¹¹² In addition to the emotional consequences of facing racism, Black populations face a higher prevalence of chronic diseases, such as diabetes and high blood pressure, because of the dietary culture that emerged during enslavement.¹¹³ Similarly, the pressure to conform to Eurocentric beauty standards both negatively affects Black women's self-worth and leads them vulnerable to harmful beauty practices, which can cause mercury poisoning, kidney damage, cancer, and premature puberty.¹¹⁴

Racism also leads to discrimination, stigmatization, ostracism, and other forms of "othering" of Black individuals in the Americas. Black individuals have historically faced discrimination in health care, housing, employment, social settings, education, and more.¹¹⁵ Racist and inadequate representation of Black individuals in media entrench stereotypes and negatively affect Black individuals' sense of self.¹¹⁶ Additionally, popular culture in the U.S. often

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- ¹¹¹ See, for example, Cheryl A. Armstead, et al., "Relationship of racial stressors to blood pressure responses and anger expression in black college students." *Health psychology : official journal of the Division of Health Psychology, American Psychological Association* vol. 8,5 (1989): 541-56. doi:10.1037//0278-6133.8.5.541; Patrick R. Steffen et al., "Effects of perceived racism and anger inhibition on ambulatory blood pressure in African Americans." *Psychosomatic medicine* vol. 65,5 (2003): 746-50. doi:10.1097/01.psy.0000079380.95903.78; Brooke G. McKenna et al., "When Anger Remains Unspoken: Anger and Accelerated Epigenetic Aging Among Stress-Exposed Black Americans." *Psychosomatic medicine* vol. 83,9 (2021): 949-958. doi:10.1097/PSY.0000000000001007; Julie Ober Allen, et al., "Cortisol and Racial Health Disparities Affecting Black Men in Later Life: Evidence From MIDUS II." *American journal of men's health* vol. 13,4 (2019): 1557988319870969. doi:10.1177/1557988319870969
- ¹¹² Eleanor K. Seaton, et al. "The prevalence of perceived discrimination among African American and Caribbean Black youth." *Developmental psychology* vol. 44,5 (2008): 1288-97. doi:10.1037/a0012747
- ¹¹³ Hilary Beckles, "The Reparation Movement: Greatest Political Tide of the Twenty-first Century," *Social and Economic Studies*, col 68(3&4), 2019; Howard G, Cushman M, Moy CS, et al. Association of Clinical and Social Factors With Excess Hypertension Risk in Black Compared With White US Adults. *JAMA*. 2018;320(13):1338–1348. doi:10.1001/jama.2018.13467; Barry W. Higman, *Jamaican Food : History Biology Culture*. University of the West Indies Press, 2008.
- ¹¹⁴ We note that the pressure to conform to white beauty standards is heavily impacted by colorism. Germiné H. Awad, et al., "Beauty and Body Image Concerns Among African American College Women." *The Journal of black psychology* vol. 41,6 (2015): 540-564. doi:10.1177/0095798414550864; Ami R. Zota and Bhavna Shamasunder. "The environmental injustice of beauty: framing chemical exposures from beauty products as a health disparities concern." *American journal of obstetrics and gynecology* vol. 217,4 (2017): 418.e1-418.e6. doi:10.1016/j.ajog.2017.07.020
- ¹¹⁵ Verene Shepherd, "Past Imperfect, Future Perfect? Reparations, Rehabilitation, Reconciliation," *The Journal of African American History*, vol. 103(1-2), March 2018; Abigail Thernstrom and Stephan Thernstrom, "Black Progress: How far we've come, and how far we have to go," *The Brookings Institution*, March 1, 1998.
- ¹¹⁶ Narissra M. Punyanunt-Carter (2008) The Perceived Realism of African American Portrayals on Television, *Howard Journal of Communications*, 19:3, 241-257, DOI: 10.1080/10646170802218263; "Black representation in film and TV: The challenges and impact of increasing diversity," *McKinsey*, March 11, 2021; Jadesola T.

denigrates Black culture—African American Vernacular English (AAVE), despite having its own grammatical rules, is perceived as less refined than Standard English.¹¹⁷ The constant belittling of Blackness and Black culture, as well as the legacy of enslavement, furthers discrimination against Black individuals. Exposure to violent human rights abuses, such as chattel slavery, can harm both the individual who experienced the trauma and their offspring.¹¹⁸ Several researchers have examined how Black individuals inherit the stress and trauma from enslaved persons and those who lived through the threats of violence in the political systems that succeeded slavery.¹¹⁹

Further, resource exploitation of the Americas and Caribbean during slavery has left their economies crippled and deeply vulnerable to the rising costs of climate change.¹²⁰ As Professor Verene Shepherd notes, most of those who live in the Caribbean today would not live there if it were not for chattel slavery:

[I]t is impossible to examine the present ecological crisis in vulnerable Small Island Developing States (SIDS) in the Caribbean without recalling and understanding the manner in which we have been subjected to this precarious position. Our obvious geographical location has made us, as a Region, susceptible to the effects of natural disasters. Yet, if we recall, our ancestors were not willing passengers on ships to this

Olayinka, et al., “#BlackGirlMagic: Impact of the social media movement on Black women's self esteem.” *International journal of women's dermatology* vol. 7,2 171-173. 9 Jan. 2021, doi:10.1016/j.ijwd.2021.01.006; Antonio C. La Pastina, Joseph D. Straubhaar & Lirian Sifuentes (2014) Why Do I Feel I Don't Belong to the Brazil on TV?, *Popular Communication*, 12:2, 104-116, DOI: 10.1080/15405702.2014.893582.

¹¹⁷ Robert J. Kraemer et al., "Sociolinguistic perceptions of African-American English." *Negro Educational Review* 51, no. 3/4 (2000): 139-148. See also Sonjah Stanley Niaah, “*Dancehall: From Slave Ship to Ghetto*,” 2010. Ottawa Ont: University of Ottawa Press; Carolyn Cooper, *Sound Clash: Jamaican Dancehall Culture at Large*, New York, Palgrave Macmillan, 2004.

¹¹⁸ Patricia Dashorst, Trudy M. Mooren, Rolf J. Kleber, Peter J. de Jong, Rafaele J. C. Huntjens, “*Intergenerational consequences of the Holocaust on offspring mental health: a systematic review of associated factors and mechanisms*.” *Eur J Psychotraumatol*. 2019 Aug 30;10(1):1654065. doi: 10.1080/20008198.2019.1654065. PMID: 31497262; PMCID: PMC6720013; Frantz Fanon, “*Black Skin White Masks*” New ed. New York: Grove Press, 2008; Joy DeGruy and Randall Robinson. “*Post Traumatic Slave Syndrome : America's Legacy of Enduring Injury and Healing*” Newly revised and updated ed. Portland Oregon: Joy DeGruy Publications, 2017; Verene A. Shepherd, “*Reparation, Psychological Rehabilitation & Pedagogical Strategies*,” George Lamming Distinguished Lecture, Errol Barrow Centre for the Creative Imagination Cave Hill, Barbados, June 2014.

¹¹⁹ Resmaa Menakem, *My Grandmother's Hands: Racialized Trauma and the Pathway to Mending Our Hearts and Bodies*, Central Recovery Press, 2017.

¹²⁰ Mimi Sheller, “The Case for Combining Slavery Reparations and Climate Reparations in the Caribbean”; John F. Richards, *The Unending Frontier: an Environmental History of the Early Modern World*. Berkeley: University of California Press, 2003. <https://hdl.handle.net/2027/heb90017.0001.001.>; Mimi Sheller, *Consuming the Caribbean: From Arawaks to Zombies*, New York: Routledge, 2003.

very Region. They were forcefully transported to the Caribbean to labour and aid in the enrichment of European colonial powers.¹²¹

In addition to the high costs of climate change, the Central and South American countries face high levels of sovereign debt from lenders in the Western financial institutions that contributed to the use of fossil fuels and growth of extractive mining industries.¹²² While we do not quantify the costs of global warming and climate insecurity, we recognize the role slavery played in worsening these crises for Caribbean and Central American countries. Overall, there is an inextricable link between the underdevelopment of the region, continuing post-colonial harm and vulnerabilities to global financial instabilities experienced by the Caribbean as a result of the stifling structures of the World Bank, the International Monetary Fund, and other international agencies.¹²³

We recognize that the experience of racism is not homogenous for all those who inherit the inequity borne of the slave trade. Using an intersectional framework, we recognize the compounded privilege or disprivilege of our individual identities is a complex network. For example, the experience of Black women differs greatly from white women and Black men. Black women have historically faced reduced reproductive autonomy and increased sexual violence,¹²⁴ lower marriage and higher single motherhood rates,¹²⁵ and higher burdens of

¹²¹ Verene Shepherd, “Environmental Racism, the Climate Crisis and Reparatory Justice”. Panel on Environmental Justice, the Climate Crisis and People of African Descent 28th Session of the WGEPAD, March 26, 2021.

¹²² Mimi Sheller, “The Case for Combining Slavery Reparations and Climate Reparations in the Caribbean.”

¹²³ Hilary Beckles and Verene Shepherd, “Introduction” in *Journal of Social and Economic Studies* 68, no. 1 (2019): 1-10

¹²⁴ Khabele et al., “A Perspective on James Marion Sims, MD, and Antiracist Racism in Obstetrics and Gynecology,” *Journal of Minimally Invasive Gynecology*, February 1, 2021; Paola Alonso, “Autonomy Revoked: The Forced Sterilization of Women of Color in 20th Century America,” *Ibid.* A Student History Journal, 13, Spring 2020; Lucille Mathurin Mair, *A Historical Study of Women in Jamaica, 1655-1844*. (Kingston: University of the West Indies Press, 2006

¹²⁵ Thomas P. Bonczar and Allen J. Beck, “Lifetime Likelihood of Going to State or Federal Prison,” Bureau of Justice Statistics, March 1997; Chris M. Wilson and Andrew J. Oswald, “How Does Marriage Affect Physical and Psychological Health? A Survey of the Longitudinal Evidence,” Institute for the Study of Labor Working Paper No. 1619, May 2002; Richard V. Reeves and Christopher Pulliam, “Middle class marriage is declining, and likely deepening inequality,” The Brookings Institution, March 11, 2020, <https://www.brookings.edu/research/middle-class-marriage-is-declining-and-likely-deepening-inequality/>; Becky Ahlberg, “U.S. Single Parent Households,” State of California Commission on Peace Officer Standards and Training, https://post.ca.gov/portals/0/post_docs/publications/Building%20a%20Career%20Pipeline%20Documents/safe_harbor.pdf

emotional labor—managing both others’ feelings and their own to avoid racial stereotyping.¹²⁶ Black LGBTQ individuals face higher incidences of violence, poverty, policing, discrimination, and harassment than white or heterosexual counterparts.¹²⁷ And, across the Americas, colorism—discrimination against darker-skinned individuals—affects Black individuals’ employment rates, health outcomes, educational attainment, sense of self-worth and self-esteem, and experience of privilege.¹²⁸ We recognize the intersectional nature of privilege, though we are unable to quantify such intersections.

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- ¹²⁶ Edith Clarke, *My Mother Who Fathered Me : A Study of the Families in Three Selected Communities of Jamaica*, Rev. ed. Kingston Jamaica: Press University of the West Indies, 1999; Merle Hodge, (2004) *“The Shadow of the Whip: A Comment on Male-Female Relations in the Caribbean”*. In Nigel Bolland (Ed.) *The Birth of Caribbean civilisation: A century of ideas about culture and identity, nation and society*. Kingston, Jamaica: Ian Randle Press, 525-530; Joycelin Massiah; “Women as heads of households in the Caribbean: Family Structure and Feminine Status” 1983, UNESCO.
- ¹²⁷ Anastasia Moloney, “LGBT+ murders at ‘alarming’ levels in Latin America – study,” *Reuters*, August 8, 2019; “‘I Have to Leave to Be Me’: Discriminatory Laws against LGBT People in the Eastern Caribbean,” *Human Rights Watch*, March 21, 2018; Sean Arayasirikul, et al., “A global cautionary tale: discrimination and violence against trans women worsen despite investments in public resources and improvements in health insurance access and utilization of health care.” *International journal for equity in health*, Vol. 21(32), March 3, 2022, doi:10.1186/s12939-022-01632-5; “Fatal Violence Against the Transgender and Gender Non-Conforming Community in 2022,” *Human Rights Council*, 2022; Laura E. Kuper and Brett R. Coleman, “Coping With LGBT and Racial–Ethnic-Related Stressors: A Mixed-Methods Study of LGBT Youth of Color,” *Journal of Research on Adolescence*, Vol. 24(4), 2013; Johanna L. Ramirez, Kirsten A. Gonzalez & M. Paz Galupo (2017): “Invisible During My Own Crisis”: Responses of LGBT People of Color to the Orlando Shooting, *Journal of Homosexuality*, DOI: 10.1080/00918369.2017.1328217
- ¹²⁸ Taylor W. Hargrove, “Light Privilege? Skin Tone Stratification in Health among African Americans” *Sociology of Race and Ethnicity (Thousand Oaks)*, Vol. 5(3), 2018, Kelly O. Cowart and Kevin D. Lehnert, “Empirical evidence of the effect of colorism on customer evaluations” *Psychology & Marketing* Vol. 35(5), 2018 ; Amelia R. Branigan, Christopher Wildeman, Jeremy Freese, and Catarina I. Kiefe, “Complicating Colorism: Race, Skin Color, and the Likelihood of Arrest,” *Socius: Sociological Research for a Dynamic World*, Vol. 3, 2017

IV. Context and Conclusions

As summarized in Table 28 and Figure 9, our analysis quantified reparations compensation of US\$101.4 trillion. While this is an almost unimaginably large amount of money, in the preceding sections we have shown that the magnitude is reasonable given the depth (the harm per person), breadth (the number of people harmed) and duration of the harm, as well as the delay in making reparations. In this section, we show what these reparations would represent to the enslaving countries, especially in the context of their economic performance from the time when they sponsored slavery to the present.

FIGURE 9: SUMMARY OF QUANTIFIED DAMAGES (2020 US\$ BILLIONS)

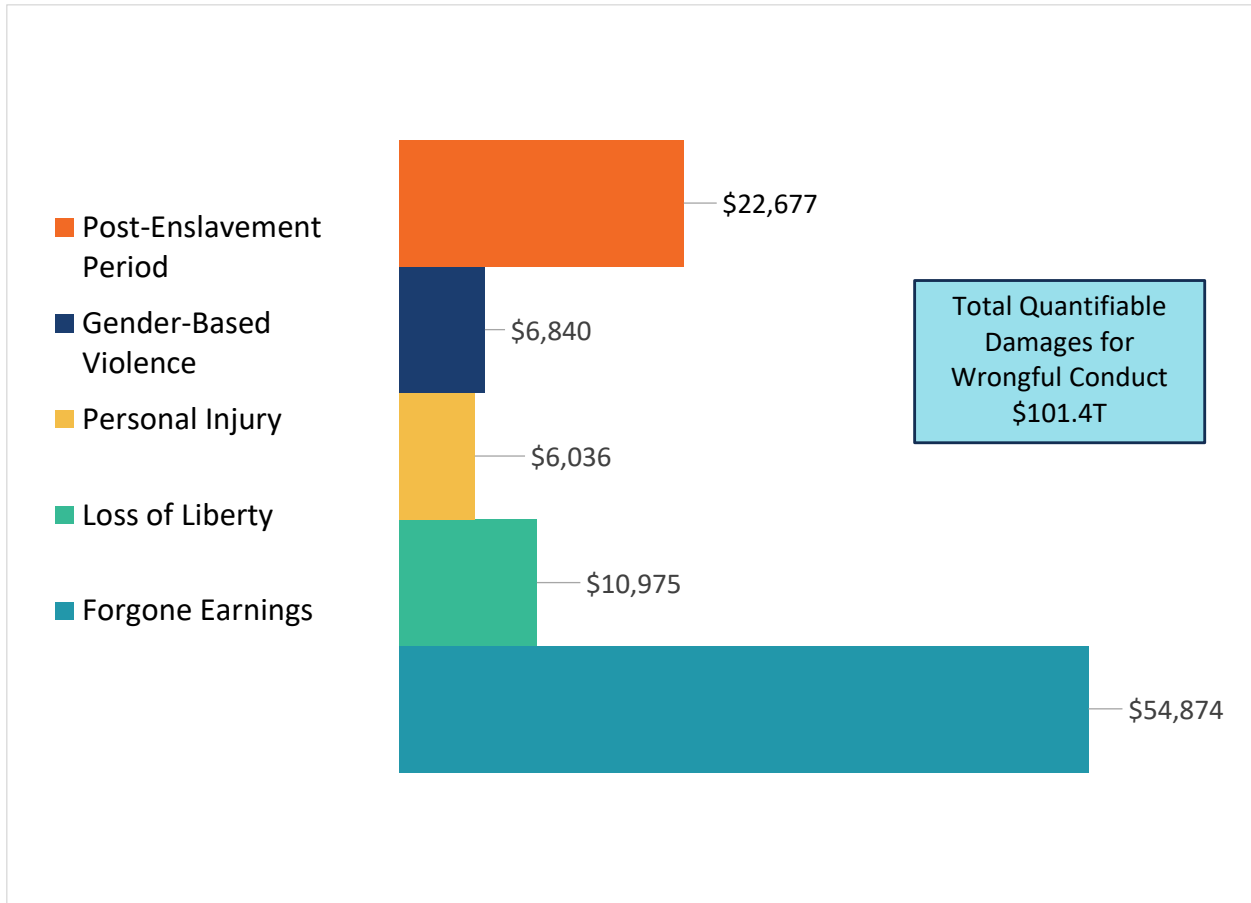


TABLE 28: DAMAGES FROM ENSLAVEMENT AND POST-ENSLAVEMENT PERIOD

Damage Category	Total Damages (2020 US\$ Billion)
<i>Period of Enslavement</i>	
Forgone Earnings	\$54,874
Loss of Liberty	\$10,975
Personal Injury	\$6,036
Gender-Based Violence	\$6,840
<i>Period of Post-Enslavement</i>	
	\$22,677
Total Damages for Wrongful Conduct	\$101,402

Note: For all countries except the United Kingdom and United States, 'Cumulative GDP' refers to the sum of real GDPs (in 2020 US\$) since 1960. For the United Kingdom, 'Cumulative GDP' refers to the sum of real GDPs (in 2020 US\$) since 1800. For the United States, 'Cumulative GDP' refers to the sum of real GDPs (in 2020 US\$) since 1790.

The more than US\$100 trillion in reparations owed are not all owed by a single country. In Table 29, we report an accounting of reparations by destination and enslaving country.

TABLE 29: TOTAL HARMS BY ENSLAVING AND DESTINATION COUNTRIES

Country	Enslaving Country										Total
	Argentina	Brazil	Britain	Denmark	France	Netherlands	Portugal	Spain	Sweden	United States	
Destination Country											
<i>Caribbean</i>											
Antigua and Barbuda			\$944								\$944
Bahamas			\$111								\$111
Barbados			\$3,546								\$3,546
British Virgin Islands			\$98								\$98
Caribbean								\$305			\$305
Cuba								\$5,581			\$5,581
Dominica			\$649								\$649
Dominican Republic								\$2,843			\$2,843
Grenada			\$755		\$19						\$774
Haiti					\$6,885						\$6,885
Jamaica			\$7,488					\$80			\$7,568
Saint Kitts and Nevis			\$1,168								\$1,168
Saint Lucia			\$86								\$86
Trinidad and Tobago			\$204					\$408			\$612
US Virgin Islands				\$507							\$507
<i>Central America and Mexico</i>											
Belize			\$20								\$20
Honduras								\$50			\$50
Mexico								\$1,966			\$1,966
Panama								\$168			\$168
<i>South America</i>											
Argentina	\$6							\$915			\$920
Brazil		\$3,677									\$20,746
Colombia							\$17,069				\$4,664
Guyana			\$318		\$158						\$476
Peru								\$217			\$217
Suriname						\$2,027					\$2,027
Venezuela								\$362			\$362
<i>North America</i>											
US			\$3,769							\$30,196	\$33,965
<i>Miscellaneous</i>											
British Overseas Territories			\$342								\$342
Dutch Overseas Territories						\$1,494					\$1,494
French Overseas Territories					\$1,990				\$8		\$1,998
Other								\$310			\$310
TOTAL	\$6	\$3,677	\$19,497	\$507	\$9,053	\$3,521	\$17,069	\$17,869	\$8	\$30,196	\$101,402

Such amounts are difficult to understand in isolation. To begin to put the results in context, the GDP of the United States was approximately US\$25 trillion in 2022, and those of the UK and France were approximately US\$3 trillion, each. Yet, having a reparations number that is several multiples of a country's GDP is not surprising. Recall that GDP is a measure of the **annual** output of a country, while the damages we—and the authors on whose work we build on—have calculated here occurred over **centuries**. It makes sense that one year of output of a country's economy is insufficient to repair the damages inflicted on millions of people over 200, 300 or more years.

Moreover, the delay in the payment of these reparations also plays a very important role. As noted above, given that centuries have passed from the harm to the present, the calculated reparations are very sensitive to the choice of interest rate. As shown in Table 30 reducing the

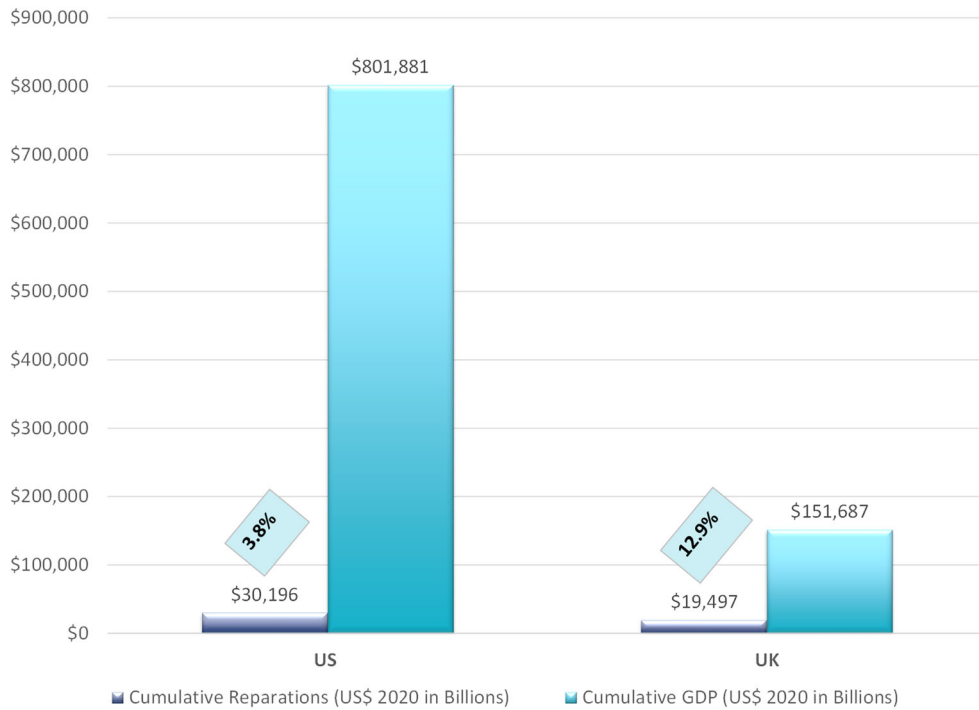
interest rate from our baseline 2.5% to 2.3% reduces the reparation to US\$73 trillion, and reducing the rate further, to 2.1% reduces the reparation estimate to US\$55 trillion.

TABLE 30: IMPACT OF INTEREST RATES ON TOTAL REPARATIONS, BY DAMAGE CATEGORY

Head of Damages	Interest Rate (%)							
	0.0%	1.0%	1.7%	2.1%	2.3%	2.5%	3.0%	5.0%
Forgone Earnings	\$190	\$1,589	\$6,997	\$19,943	\$32,807	\$54,874	\$216,944	\$229,081,566
Loss of Liberty	\$38	\$318	\$1,399	\$3,989	\$6,561	\$10,975	\$43,389	\$45,816,313
Personal Injury	\$21	\$175	\$770	\$2,194	\$3,609	\$6,036	\$23,864	\$25,198,972
Gender-Based Violence	\$6,840	\$6,840	\$6,840	\$6,840	\$6,840	\$6,840	\$6,840	\$6,840
Post-Enslavement Harm	\$22,677	\$22,677	\$22,677	\$22,677	\$22,677	\$22,677	\$22,677	\$22,677
Total Damages for Wrongful Conduct	\$29,766	\$31,598	\$38,683	\$55,642	\$72,494	\$101,402	\$313,713	\$300,126,368

A more natural comparison then is to look at the reparations compared to cumulative GDP since the period of enslavement. Although data going back centuries are limited for many countries, we can get a sense of the magnitudes from data for the U.S. and the UK. As shown in Figure 10, the estimated reparations represent only a fraction of the cumulative GDP over the period when they arose and remained unpaid: about 4% for the US (based on GDP since 1750) and 13% for the UK (based on data since 1800). In both cases, the true percentages are lower, since the reparations arose in even earlier periods for which we lack GDP data.

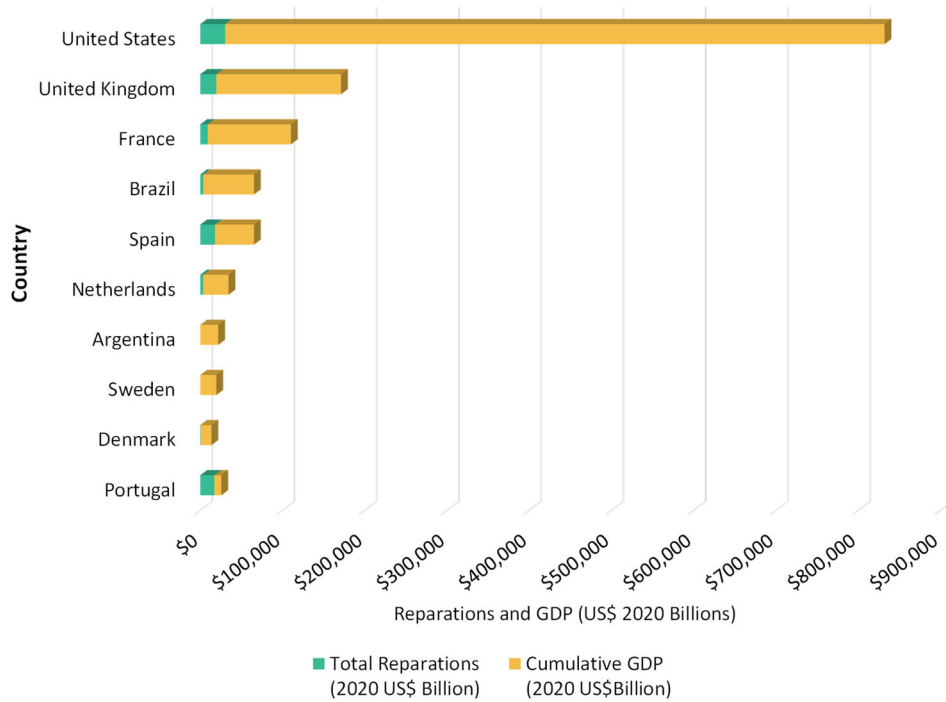
FIGURE 10: REPARATIONS AS A PERCENTAGE OF CUMMULATIVE GDP (US & UK)



To provide context for other countries, we use the much more limited GDP data since 1950, as presented in Figure 11.¹²⁹

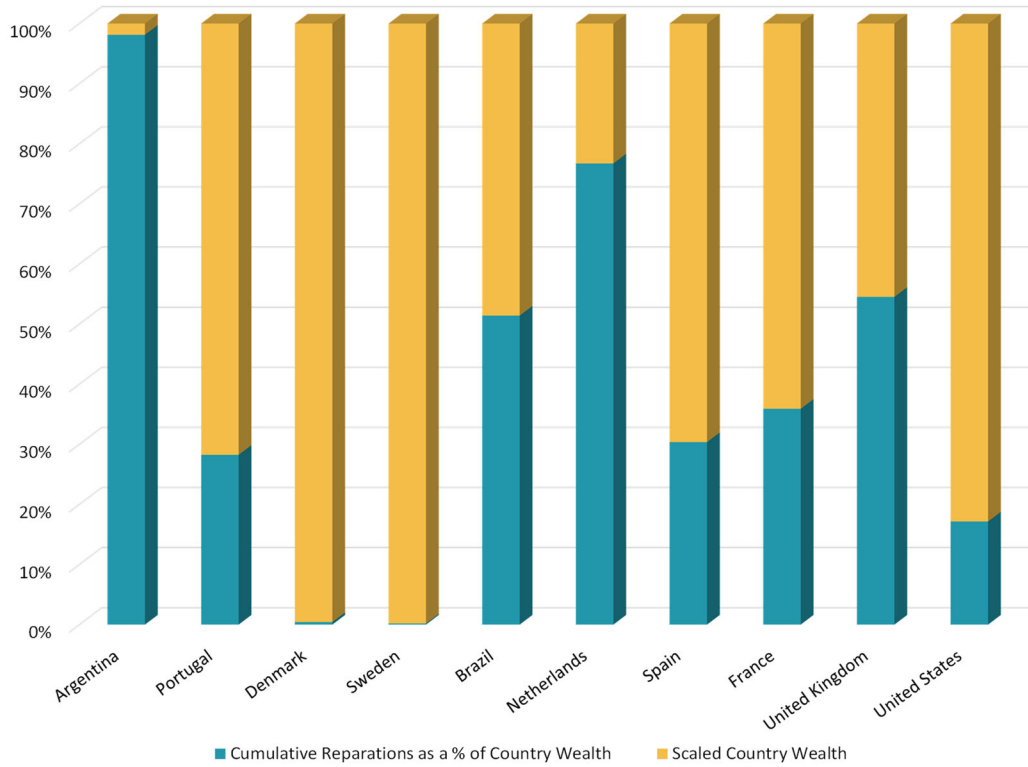
¹²⁹ We note that for the US and the UK, GDP since 1950 represented 91 and 81% of the cumulative GDP since 1790 (US) and 1800 (UK).

FIGURE 11: REPARATIONS AS A PERCENTAGE OF CUMMULATIVE GDP



We can also express these amounts in the context of the present-day wealth of the enslavers. Figure 12, presents this context. The results are striking, but it must be kept in mind that wealth represents only what remains from fruits of economic activity over centuries, not what was consumed along the way. The reparations, in contrast, represent the value of forgone wealth and consumption.

FIGURE 12: REPARATIONS AS A % OF COUNTRY WEALTH



Sources and Notes: "Global Wealth Databook 2022," Credit Suisse, 2022.