

A Legal Framework for Collaboration Skills Recovery in Formerly Oppressed Communities

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Abstract

This article advances an interdisciplinary socio-legal framework for reconceptualizing reparations as psychological and collaborative capacity restoration rather than solely monetary compensation. Drawing on law and society scholarship, political economy, behavioral science, and emerging biomedical research, we argue that historically oppressed communities in the United States have suffered durable losses in collaboration skills due to state-sanctioned racial violence, segregation, and institutional exclusion. Existing reparations debates—focused primarily on cash transfers or symbolic recognition—have struggled to overcome doctrinal, political, and moral objections. We propose a legally viable alternative: federally mandated access to collaboration-enhancing interventions, including team-based sports, music education, and ethically regulated biomedical research, delivered through public institutions as a form of restorative justice. Using the Capitalism-Democracy-Rule of Law (CDR) growth model, we further show how collaboration operates as a public good that materially affects national economic performance. This framework reframes reparations as universal, forward-looking investments that satisfy constitutional constraints while advancing equality, rule of law, democratic legitimacy, and economic growth.

Keywords

Collaboration, CDR Economic Model, Gross Domestic Product, Sports and Music Training, Gene Therapy, Psychological Health Rehabilitation
Reparations

1. Introduction

The terms collaboration and cooperation are sometimes confused. In this research, we are interested in collaboration based on epistemological, metaphysical,

and axiological insights (Randrup, Druckemiller, & Briggs, 2016), so for clarity of purpose, we begin with the following definitions.

Definition. Cooperation is a plan and execution thereof by participants, each with their own personal self-interest and economic gain in mind, yet yielding unintended mutual benefits.

Definition. Collaboration is the planning and execution thereof by participants for their intentional mutual benefit of shared goals, objectives, and rewards.

Humans appear to be the only species with the capacity for true collaboration. Other animals may cooperate, but they do not collaborate in the same way humans do (Tomasello, 2010). Yet, possessing the capacity to collaborate does not guarantee that collaboration will develop. In much the same way that an infant has the innate ability to speak but will not acquire language without exposure to speech, human collaborative ability also seems to require activation, cultivation, and practice. Research by Avital, Aga-Mizrachi, and Zubedat (2016) and Avital and Aga-Mizrachi (2022) found that genes influence social cooperation in mice. If a comparable mechanism exists in humans, it suggests that collaboration may also have a genetic basis. Even so, such a capacity would still need to be stimulated and developed through experience and environment (Lee & Ridley, 2024).

One barrier to collaboration may be the weakening of collaboration skills through epigenetic transgenerational psycho-sequelae arising from adverse environmental conditions, including forced labor, severe discrimination, and exposure to toxic substances (Ridley & Nelson, 2022b). Skinner et al. (2013) show that exposure to environmental toxins can produce epigenetic changes that endure across generations and result in stable functional traits even after the exposure itself has ended. Although their study focused on metabolic consequences, the broader mechanism of epigenetic regulation extends to biological systems associated with stress response and behavioral regulation. Because collaboration relies heavily on neurobiological processes linked to emotional regulation, trust formation, and joint intentionality, all of which are vulnerable to chronic stress, it is biologically plausible that long-term exposure to oppressive or hazardous conditions may suppress collaborative capacity across generations without erasing it entirely. This perspective does not imply genetic determinism; rather, it suggests that collaborative potential remains recoverable through structured social settings that can help reactivate and strengthen latent human capacities for collaboration. Reparations for lost collaboration skills appear to be apropos.

The question of reparations in the United States remains one of the most persistent—and polarizing—issues in socio-legal discourse. From early post-Civil War efforts to compensate formerly enslaved people to modern litigation and legislative proposals, reparations claims have consistently encountered legal barriers, political resistance, and moral disagreement. Courts have dismissed reparations suits on standing, causation, sovereign immunity, and statute-of-limitations grounds, while legislatures have been reluctant to authorize large-scale monetary transfers tied explicitly to historical racial injustice (Alexander v. Oklahoma; African American

Slave Descendants Litigation, 2005). There are also the descendants of 300,000 white slaves who were brought to America (Jordan & Walsh, 2008).

Law and society scholars have long noted that these failures are not merely doctrinal but also institutional and cultural: reparations claim challenge dominant narratives about responsibility, merit, and the role of the state (Bell, 1974; Coates, 2004, 2014; Ogletree, 2003). As a result, the reparations debate has stalled in a binary opposition between moral necessity and legal impossibility.

This Article intervenes by reframing the problem reparations are meant to solve. Rather than focusing narrowly on wealth transfer, we conceptualize reparations as restoration of collaboration capacity—a form of social capital systematically damaged by slavery, Jim Crow, racial oppression, and exclusionary institutions. We argue that collaboration is not merely a cultural trait but a legally relevant, economically productive capacity that can be fostered—or undermined—by state action.

Our contribution is threefold. First, we synthesize socio-legal, psychological, and economic literature to demonstrate that collaboration skills are malleable, socially embedded, and essential to the rule of law, democratic governance, and economic growth. Second, we propose a concrete legal framework for delivering collaboration-enhancing interventions—team sports, music education, and regulated biomedical research—as reparative public goods. Third, we situate this framework within constitutional doctrine and federalism constraints, demonstrating its feasibility under existing U.S. law.

Research questions

1. Can lost collaboration skills be recovered?
2. Can the recovery mechanism be mandatory sports and music training gene therapy (a metaphorical analogy, not a biological intervention), and biological gene therapy?
3. If that is the case, is there a legal framework by which psychological health rehabilitation reparations can be implemented to raise CDR, and thereby GDP and average income nationwide?

Related literature

The debate around reparations has historically been discussed in financial terms. In a review of the literature on financial reparations, ample work has been published on repayment for past wrongs suffered by African Americans for the long-lasting and transgenerational effects of slavery, generally, and specific incidents of racism suffered by African Americans during the post-Civil War Jim Crow era, such as the Rosewood Massacre that occurred in Rosewood, Florida, in 1923, and the Tulsa Race Massacre that occurred in Tulsa, Oklahoma, in 1921 (Ogletree, 2003). Other claims for repayment came from Japanese who were interned in US government camps during World War II, and Native American Indians (Howard-Hassmann, 2004). On a global stage (Tan, 2007), Jews have sought and been compensated by Germany since the 1950s for crimes committed against them during the Holocaust, yet Blacks who were dispossessed of land and suffered

economically as a result of institutionalized racism in South Africa have not been paid. Other calls for reparations have been made by indigenous groups in Canada for land dispossessions, African nations for the exploitation of colonialism by European countries, and Caribbean nations who also suffered the lasting effects of slavery like that of African Americans in the US. Women who suffered abuse and other violations during war conflict are categories where repayment for wrongs committed against them based on their gender has been sought by victims. There is scant literature on reparations made in non-monetary terms.

a. Reparations in Socio-Legal Perspective: Beyond Monetary Redress

Socio-legal scholarship has long emphasized that reparations claims are not merely demands for compensation but contests over historical narrative, institutional responsibility, and the boundaries of legal redress (Bell, 1974; Ogletree, 2003; Simone, 2021). Over the past fifteen years, the reparations literature has increasingly recognized the limitations of a strictly monetary paradigm. While financial compensation has symbolic and redistributive appeal, scholars have noted that it faces persistent doctrinal barriers—standing, causation, sovereign immunity, and statutes of limitation—as well as political and moral resistance that undermines durability (Malveaux, 2005; Howard-Hassmann, 2004; Simone, 2021). Law and society researchers argue that these failures reflect institutional mismatch rather than moral insufficiency. Courts are structured to resolve individualized disputes, not diffuse, intergenerational harms embedded in lawful state action (Bell, 1974; Coates, 2014). Consequently, reparations claims repeatedly flounder not because injustice is unproven, but because law lacks administrable mechanisms for collective historical repair. This insight has prompted scholars to explore reparations outside traditional tort-like frameworks, including municipal reparations, truth commissions, and institutional reform (Simone, 2021). Recent socio-legal work further shows that opposition to monetary reparations is shaped by system-justifying beliefs and affective responses to perceived threat, rather than factual disagreement about historical wrongdoing (Jost et al., 2003a; Jost et al., 2004; Hibbing et al., 2014). These findings suggest that reparations frameworks that foreground race-specific cash transfers may provoke backlash that limits political feasibility. As a result, scholars have increasingly called for reparative approaches that are universal in form but remedial in effect—addressing structural harm without triggering zero-sum perceptions (Howard-Hassmann, 2004; Simone, 2021).

b. Institutionalism and the Limits of Legal Remedies

Institutionalist socio-legal theory emphasizes that law operates within, and is constrained by, broader social institutions that shape behavior, expectations, and legitimacy (Jepperson, 2002; Suchman, 1995). From this perspective, reparations failures are not accidental but are predictable outcomes of institutional path dependence. Legal doctrines governing standing, liability, and remedies reflect liberal individualist assumptions that are ill-suited to addressing collective harms produced by state policy over time (Malveaux, 2005). Within this literature, scholars have increasingly focused on the distinction between formal equality and sub-

stantive capacity. While civil rights law has dismantled de jure exclusion, it has done far less to repair the institutional and psychosocial damage caused by slavery, segregation, and racial oppression (Ogletree, 2003; Coates, 2014). Institutionalists argue that law's distributive effects depend not only on formal rules but also on the social capacities of individuals and groups to navigate, comply with, and benefit from those rules (Suchman, 1995; Ridley & Nelson, 2022a). This insight aligns with broader law and society findings that legal compliance and institutional effectiveness depend on trust, reciprocity, and shared norms—capacities that are unevenly distributed due to historical injustice (Tyler, 2006; Ridley & Nelson, 2022b). Reparations framed solely as wealth transfer therefore risk addressing symptoms rather than underlying institutional deficits.

c. Collaboration as Social Capital and Legal Infrastructure

A growing interdisciplinary literature conceptualizes collaboration as a form of social capital that is both economically productive and legally salient. In behavioral science, collaboration is understood as a learned, developmentally sensitive capacity shaped by early social environments and institutional design (Tomasello, 2009; Tomasello et al., 2012). Longitudinal and experimental research demonstrates that cooperative skills—joint attention, conflict resolution, trust-building—are not fixed traits, but malleable dispositions fostered through repeated, structured interaction (Tomasello et al., 2005; Jehn, 1997). Socio-legal scholars have increasingly drawn on this literature to explain variation in rule-of-law performance and institutional legitimacy. Where collaboration norms are strong, legal systems rely less on coercion and enjoy higher compliance and legitimacy; where they are weak, law becomes brittle, adversarial, and inefficient (Ridley & Nelson, 2022a). From this perspective, collaboration functions as a form of legal infrastructure—a precondition for effective governance rather than a cultural by-product.

Recent institutionalist work further links collaboration to democratic stability. Studies show that cooperative capacity moderates political polarization, facilitates collective problem-solving, and supports institutional resilience in heterogeneous societies (Hibbing et al., 2014; Jost et al., 2009). These findings suggest that collaboration deficits are not merely social problems but governance failures with direct legal relevance.

d. Historical Trauma, Institutional Betrayal, and Capacity Erosion

Within law and society scholarship, historical oppression is increasingly analyzed through the lens of institutional betrayal and intergenerational harm. Scholars document how slavery, Jim Crow, and racially targeted violence disrupted not only wealth accumulation but also family structure, educational continuity, and trust in public institutions (Coates, 2014; Perry, 2010). These disruptions have durable effects on social capacity, including diminished trust and cooperative engagement with legal institutions. Behavioral research complements this account by showing that chronic exposure to violence, deprivation, and institutional unreliability alters social cognition and cooperative behavior across generations (Jost

et al., 2007; Hibbing et al., 2014). While scholars caution against biological determinism, there is broad agreement that institutional environments can produce enduring psychosocial sequelae that shape collective outcomes (Ridley & Nelson, 2022b). Notably, the reparations literature has paid relatively little attention to these capacity-based harms. Most analyses focus on distributive justice rather than the restoration of social and institutional functioning. This omission represents a significant gap, particularly given law and society's emphasis on institutions as dynamic systems rather than static rule sets.

e. Non-Monetary Reparations and Institutional Design

Although underdeveloped, a small but growing body of scholarship examines non-monetary reparations and institutional reform as mechanisms of repair. Internationally, reparations programs have included education guarantees, health services, and memorialization efforts designed to rebuild civic trust rather than merely compensate loss (Howard-Hassmann, 2004; Tan, 2007). In the U.S. context, municipal reparations initiatives increasingly emphasize education, housing access, and institutional investment over direct payments (Simone, 2021). Law and society scholars argue that such approaches may be more consistent with constitutional constraints and more effective in producing long-term equality. Universal programs with reparative intent can avoid equal protection challenges while disproportionately benefiting communities harmed by past injustice (Simone, 2021). This logic aligns with institutionalist insights about legitimacy: policies perceived as inclusive are more likely to generate durable compliance and support.

f. Education, Collective Activity, and Collaboration Development

Empirical research on education and collective activity provides important support for capacity-based reparations. Studies of team sports and music education show consistent associations with enhanced cooperation, trust, and social integration, particularly when implemented during early childhood (Amason & Sapienza, 1997; Jehn, 1997). These findings extend beyond physical or artistic outcomes, highlighting social spillovers relevant to legal and institutional performance. Policy research further shows that state-mandated educational programs can shape social behavior when implemented systematically, though effectiveness depends on consistency, early exposure, and institutional support (Lounsbury et al., 2019; Stylianou et al., 2022). From a socio-legal perspective, these findings underscore the role of law in structuring environments that produce cooperative capacity.

g. Economic Institutionalism and the CDR Framework

Finally, economic institutionalist research links collaboration capacity to macro-level outcomes. The Capitalism-Democracy-Rule of Law (CDR) literature demonstrates that collaboration underpins institutional effectiveness and economic performance, influencing GDP per capita through its effects on rule of law and governance quality (Ridley et al., 2021; Ridley, 2022). This work reframes collaboration as a public good with positive externalities, strengthening the case for state intervention. From a law and society perspective, this linkage is crucial. It situates reparations not as redistributive charity but as institutional investment—aligning

remedial justice with collective benefit. This framing responds directly to moral and political objections identified in the reparations literature, offering a forward-looking justification grounded in shared prosperity rather than historical guilt.

H. Synthesis and Contribution

Taken together, the literature reveals three core insights. First, reparations debates have stalled because legal institutions are poorly equipped to address capacity-based harms through monetary remedies alone. Second, collaboration is a legally and economically significant capacity shaped by institutional design and vulnerable to historical injustice. Third, universal, non-monetary interventions offer a legally viable and politically sustainable path for reparative action. This article builds on these insights by integrating socio-legal theory, institutionalism, and behavioral science to propose collaboration restoration as a novel reparations framework. In doing so, it addresses a critical gap in the law and society literature: the absence of reparative models that target institutional capacity rather than wealth alone.

2. Reparations in Law and Society: Limits of the Monetary Paradigm

A. Doctrinal and Institutional Barriers

U.S. reparations litigation has repeatedly failed due to well-established doctrinal hurdles. Courts have required plaintiffs to show individualized injury traceable to specific defendants, a standard difficult to meet for collective historical harms. Claims have also been barred by statutes of limitations and the political question doctrine (Malveaux; *African American Slave Descendants Litigation*, 2005). From a law and society perspective, these outcomes reflect deeper institutional logics. Courts are structurally ill-suited to adjudicate diffuse, intergenerational harms rooted in state policy and social structure. As Bell (1974) famously observed, racial justice claims succeed only when they converge with elite interests.

Beyond formal doctrine, reparations litigation fails because it collides with the institutional self-conception of courts as neutral arbiters rather than architects of social repair. Law and society scholarship emphasizes that adjudication presupposes a stable baseline of social capacity—trust, reciprocity, and shared expectations—against which legal rights are asserted and enforced (Suchman, 1995; Tyler, 2006). Reparations claims, however, seek redress for injuries that undermine those very preconditions. When historical state violence and exclusion erode the collective capacity for cooperation and institutional engagement, courts lack both the epistemic tools and the remedial vocabulary to respond. Monetary damages presume fungibility and closure; intergenerational capacity loss does not conform to either assumption. As a result, courts translate complex institutional harm into individualized claims they are structurally bound to reject. This mismatch reveals that reparations litigation is less a failure of proof than a failure of institutional fit: courts are asked to repair systemic injuries using remedial instruments designed for discrete, transactional wrongs.

Institutional path dependence further entrenches this failure. Doctrines gov-

erning standing, causation, and remedy evolved in a legal order that treats social capacity as exogenous to law, rather than as something law itself produces or degrades. Yet socio-legal research shows that state action can systematically weaken collaborative capacity through segregation, carceral policy, and institutional betrayal (Ogletree, 2003; Coates, 2014). When such harms are legally invisible, reparations claims appear speculative or unadministrable. This institutional blindness has normative consequences: it shifts responsibility away from the state while naturalizing the downstream effects of its own policies. Recognizing these limits does not indict courts as illegitimate; rather, it clarifies why reparations framed as monetary compensation are predictably rejected. Effective reparative strategies must therefore operate outside adjudication, through institutional redesign that restores the social capacities on which law itself depends—a move that reframes reparations as governance reform rather than retrospective liability.

B. Political and Moral Contestation

Beyond courts, political opposition to reparations often rests on moral arguments about innocence, collective responsibility, and social division. Critics argue that monetary reparations unfairly burden individuals who did not personally participate in historical wrongdoing, or that they risk entrenching racial resentment (Bittker, 2003; Howard-Hassmann, 2004). Socio-legal research shows that these objections are not merely rhetorical, but are grounded in cognitive and affective processes related to threat perception, system justification, and identity (Jost et al., 2003a, 2003b, 2004, 2006, 2007, 2009; Hibbing et al., 2014). Any reparations framework that foregrounds race-specific cash transfers is, therefore, likely to trigger resistance that undermines political sustainability.

Political resistance to reparations is further sustained by the moral framing through which responsibility and remedy are commonly understood in liberal legal culture. Dominant moral intuitions emphasize individual culpability, voluntariness, and temporal proximity, rendering collective and intergenerational harms normatively suspect. Socio-legal research shows that when harm cannot be traced to a living wrongdoer or remedied through individualized compensation, it is frequently reclassified as tragic but legally irrelevant. This moral narrowing interacts with legal doctrine to foreclose reparative imagination: if no identifiable perpetrator can be blamed, then no legitimate remedy appears possible. Reparations claims thus confront a moral economy in which historical injustice is acknowledged rhetorically yet insulated from institutional response. Importantly, this resistance is not rooted solely in hostility to racial justice but in widely shared beliefs about fairness, desert, and the limits of state responsibility. These beliefs function as stabilizing narratives for existing institutional arrangements, preserving legitimacy by treating unequal outcomes as unfortunate but non-actionable.

From a law and society perspective, such moral contestation is best understood as a problem of institutional legitimacy rather than moral disagreement per se. Policies perceived as redistributive punishment—especially when explicitly race-targeted—are more likely to activate zero-sum reasoning and backlash, even

among actors who accept the historical record of injustice. By contrast, forward-looking policies framed as public investments in shared capacity can bypass these moral roadblocks. When reparative measures are justified in terms of democratic functioning, institutional effectiveness, and collective welfare, opposition grounded in innocence or resentment loses traction. This suggests that the political failure of reparations is not inevitable, but contingent on framing. Reparations designed as universal capacity restoration realign moral intuitions with institutional goals, transforming repair from a divisive act of recompense into a legitimate exercise of democratic governance.

3. Collaboration as a Socio-Legal and Economic Capacity

A. Collaboration in Social and Behavioral Science

Research across psychology, organizational behavior, and evolutionary biology demonstrates that collaboration is a learned, context-dependent capacity shaped by early socialization and institutional design (Tomasello et al., 2001, 2005, 2019, 2023; Jehn, 1997; Amason & Sapienza, 1997). Exposure to cooperative environments—particularly during childhood—predicts higher levels of trust, conflict resolution skills, and collective problem-solving. Conversely, chronic exposure to violence, deprivation, and institutional betrayal erodes collaborative dispositions, producing what we term a *negative intergenerational psycho-sequela*.

A central insight of social and behavioral science is that collaboration emerges from repeated, structured interaction rather than innate disposition. Developmental psychology demonstrates that cooperative capacities—such as joint attention, shared intentionality, and norm enforcement—are acquired through early participation in collective activities governed by rules and mutual dependence (Tomasello, 2009; Tomasello et al., 2012). These skills are reinforced through feedback loops in which successful cooperation generates trust and the expectation of reciprocity, while failed cooperation produces withdrawal and strategic individualism. Importantly, this process is highly sensitive to institutional context. Environments characterized by unpredictability, coercion, or betrayal disrupt the formation of cooperative norms, even when individuals possess the cognitive capacity for collaboration. Behavioral experiments show that exposure to unfair or violent institutions reduces the willingness to cooperate in unrelated settings, suggesting that collaboration is generalized across domains rather than siloed (Hibbing et al., 2014). This finding has direct relevance for historically oppressed communities, where state institutions were not merely absent but actively hostile. Under such conditions, non-cooperation may represent an adaptive response rather than a deficit, complicating simplistic cultural explanations for group-level outcomes.

Organizational and educational research further demonstrates that collaboration is most effectively cultivated through collective activities that require synchronized effort, role differentiation, and shared success criteria. Team sports and ensemble music are paradigmatic examples: both demand real-time coordination,

rule compliance, and conflict resolution, while rewarding collective rather than individual achievement (Jehn, 1997; Amason & Sapienza, 1997). Longitudinal studies indicate that sustained participation in such activities enhances trust, empathy, and prosocial behavior beyond the immediate setting, producing spillover effects relevant to civic and institutional life. These effects are strongest when participation begins in early childhood, supporting the view that collaboration capacity follows sensitive developmental periods. From this perspective, collaboration deficits are not fixed traits but historically contingent outcomes shaped by institutional exposure. This insight reframes collaboration as a recoverable capacity, susceptible to deliberate intervention through structured, legally supported environments rather than moral exhortation or individual remediation alone.

B. Collaboration and Law

Legal institutions both reflect and shape collaboration. Rule of law depends on shared norms of compliance, trust, and reciprocity. Where collaboration is weakened, legal systems become more coercive, less legitimate, and less effective (Ridley & Nelson, 2022a, 2022b). Law and society scholarship has emphasized that law's efficacy depends not only on formal rules but also on the social capacity for coordination and mutual recognition. Collaboration thus constitutes a legally salient form of social infrastructure.

From a socio-legal perspective, collaboration operates as an enabling condition for law rather than a consequence of legal enforcement. Legal rules presume a baseline capacity among subjects to coordinate behavior, interpret norms, and resolve disputes without constant coercion. Where such collaborative capacity is present, law functions as a coordinating mechanism that lowers transaction costs and stabilizes expectations. Where it is absent, law must rely on surveillance, punishment, and adversarial procedures that are costly and often counterproductive (Tyler, 2006). Empirical studies in procedural justice show that individuals are more likely to comply with legal rules when they perceive institutions as legitimate and cooperative, even when outcomes are unfavorable. This legitimacy, in turn, depends on shared norms of reciprocity and trust—core components of collaboration. Thus, legal compliance is not simply a function of deterrence but of social capacity shaped by institutional history. In communities where law has operated primarily as an instrument of domination rather than coordination, resistance and disengagement from legal institutions may reflect rational adaptation rather than deviance.

This insight reframes familiar debates about under-enforcement, over-policing, and legal cynicism. Law and society research demonstrates that coercive legal strategies can further erode collaboration by signaling distrust and reinforcing adversarial identities. Over time, this produces a self-reinforcing cycle: weakened collaboration necessitates more coercive law, which, in turn, further degrades cooperative capacity. Breaking this cycle requires interventions that restore the social foundations on which law depends. Collaboration, in this sense, is not external to legal reform but constitutive of it.

Legal institutions also shape collaboration through their distributive and expressive functions. Laws governing education, labor, housing, and public space structure the frequency, quality, and inclusiveness of collective interaction. Segregationist policies, exclusionary zoning, and punitive criminal justice regimes have historically fragmented social networks and limited opportunities for cooperative engagement across difference. Conversely, legal frameworks that mandate shared participation—such as public education systems, jury service, and civic institutions—can foster collaboration by creating repeated, structured encounters under conditions of relative equality. From this perspective, law is a designer of social environments that either cultivate or corrode collaborative capacity. The legal salience of collaboration thus lies not only in compliance outcomes but in law's role as an architect of social relations.

This design function has normative implications for reparations and legal reform. If law has contributed to the erosion of collaboration through past policy choices, it bears responsibility for creating conditions of restoration. Importantly, such responsibility need not take the form of individualized compensation. Instead, it can be discharged through forward-looking institutional design that rebuilds collaborative capacity as a public good. Universal legal interventions—particularly in education and early childhood settings—are especially powerful because they normalize cooperation while avoiding stigmatization. By embedding collaboration into ordinary legal structures, the state can repair historical damage while strengthening the rule of law, democratic legitimacy, and institutional effectiveness. In this way, collaboration becomes both an object of legal concern and a metric for evaluating the success of legal systems themselves.

4. Collaboration, Reparations, and the CDR Growth Model

Using the CDR model, prior research demonstrates that collaboration is a key input into national economic performance, operating through its effects on the rule of law and institutional effectiveness (Ridley et al., 2021). Countries with higher collaboration indices exhibit higher GDP per capita even after controlling for natural resources. This finding reframes reparations as an investment rather than a transfer. Restoring collaboration capacity among historically marginalized populations increases overall productivity and democratic stability, generating positive spillovers for society as a whole.

5. A Legal Framework for Psychological Health Rehabilitation Reparations

A. Universal Reporative Design

This section of the paper considers establishing a legal framework in which psychological health rehabilitation services, such as promoting team sports and music education in schools, would be provided as a form of reparations instead of monetary payments. The legal framework will also explore the legal and ethical parameters of the availability of gene therapy as a potential aid in the recovery of the lost

collaboration skills gene. See [Figure 1](#) and [Figure 2](#).

Sports within the context of mandates for school-aged children fall under the category of physical activity, as opposed to voluntary competitive sports that occur after school and outside of the classroom. Available research focuses on increasing physical activity among youth with the goal of improving physical health ([Robertson-Wilson et al., 2012](#); [Story, Nanney, & Schwartz, 2009](#)). There are multiple approaches and interventions designed to promote the development of robust physical education programs by influencing school policy, curriculum, or the school environment ([Richard et al., 1996](#)). The effectiveness of these methods is limited.

This discussion will focus on exploring the potential use of federal and state government legislation as one method of prescribing physical education in schools as a way to increase participation in team sports. The revised 2018 National Physical Activity Guidelines issued by the U.S. Department of Health and Human Services (HHS) set guidelines for the recommended amount of physical activity for everyone, including children. Most children fail to meet the guidelines ([Katzmarzyk et al., 2016](#)). Despite HHS's guidelines, the reauthorization of the federal Elementary and Secondary Education Act of 2001, also known as "No Child Left Behind", ushered in reduced funding for physical activity programs ([Center on Educational Policy, 2008](#)). As is evident here, two federal regulations on the same issue have contradictory mandates. Government legislation at the federal level can only establish general guidance as school systems are decentralized and regulated at the state, district, and individual school levels.

Studies of government legislation at the state level assess physical activity policies and practices by measuring factors such as the amount of time spent on physical education per student per week, the qualifications of teachers, and the number and length of recess breaks. The Elementary and Secondary Education Act (ESEA) requires schools that receive federal funding to report data on physical education and recess only, without mandating the provision of physical education. Among the states that have codified laws, some are categorized as recess laws, physical activity laws, or physical education laws, making the language incongruous.

This paper posits that mandated sports programs can be implemented more effectively at the federal level by developing a model for consistency across the applicable governmental agencies. However, federal laws must be broad enough to provide flexibility to account for differences among the states by defining their goals with specificity, adopting standard policy language, establishing teacher qualifications, and developing methods of oversight and evaluation. Any proposed legal framework must then be developed within the parameters of potential constitutional pitfalls, including the limits upon which the federal government impedes states' rights to legislate within their borders.

The term reparations conjure up negative reactions from those not part of the formerly oppressed group. In order to provide mandatory sports and music education, legislation is necessary for the restorative purpose of enhancing collabora-

tion. Previous papers (Ridley, Lee, & Nelson, 2023; Lee & Ridley, 2024) have established that mandatory sports and music education and training in Singapore have resulted in enhanced collaboration. Singapore is the only clear example of non-cash reparations, institutional trust, and education-based collaboration interventions. Prior to reparations, Singapore suffered all the indignities of former British colonial subjects. In just one generation, Singapore miraculously rose to a high GDP. Today, it has among the highest GDPs adjusted for purchasing power parity. Also, its characteristic of mandatory sports and music education is one of only a few that distinguish Singapore from the USA. Both nations are very similar in all other respects, so Singapore is the sole example and a perfect one. Therefore, it is most likely attributable to mandatory school sports and music education. In order to provide restorative collaboration in previously oppressed groups, it would be most efficient to have federal legislation, conditioning federal education funding on state adoption by schools in the U.S. to provide mandatory sports and music education. The benefit of enhanced collaboration would inure to all children, both formerly oppressed and non-oppressed.

A legal framework would entail federal legislation, signed into law, which requires schools to provide sports programs in all schools. Additionally, music education with qualified teachers, meeting certain standards, would be required. Previous research, along with the experience in Singapore, has established that the greatest benefit in enhancing collaboration occurs during early childhood. Thus, the requirement for mandatory sports and music education should begin in elementary schools. Rulemaking would need to occur through the administrative process, likely the Department of Education. Funding would be through general revenues.

The benefits of enhancing collaboration have been established in numerous papers (Ridley, Korovyakovskaya, & Llaugel, 2021; Ridley, 2022; Ridley, 2023; Ridley & Nelson, 2022b), and the flow through to GDP means that funding these programs would be a beneficial investment. By making the programs available to all children, we can provide restorative collaboration skills to previously oppressed groups along with access to all children and have resultant economic benefits. Biological and medical gene therapy funding can be legislated similarly. The research and development can be funded by the National Institute of Health. Then, where it is found to be biologically and medically feasible, gene therapy can be administered by medical professionals.

In summary, we propose a federal statutory framework mandating access to collaboration-enhancing programs in public education, including:

1. Team-based sports integrated into the school day
2. Music education emphasizing ensemble participation
3. Early childhood implementation, where effects are strongest

Crucially, these programs would be universal, avoiding equal protection challenges while disproportionately benefiting communities that have experienced collaboration erosion.

B. Federal Authority and Constitutional Constraints

Congress possesses authority to enact such legislation under the Spending Clause and its power to promote the general welfare. Conditioning federal education funding on compliance with collaboration-enhancing standards mirrors existing frameworks under the Elementary and Secondary Education Act. By avoiding race-exclusive classifications, the framework withstands strict scrutiny while advancing remedial objectives consistent with substantive equality principles.

C. Administrative Implementation

Although the proposed program is formally universal, its reparative character operates through a mechanism of disproportionate remedial effect tied to historically structured disadvantage. Law and scholarship have long recognized that facially neutral policies can function as remedies when they are designed to intervene in domains where harms have been systematically concentrated (e.g., education, health, and neighborhood conditions). Historically oppressed communities have experienced persistent disruptions to institutional trust, collective efficacy, and opportunities for collaboration skill formation due to legally sanctioned segregation, violence, and exclusion. As a result, baseline levels of access to collaboration-enhancing environments—such as structured team activities, arts education, and stable institutional support—are unevenly distributed. A universal program that guarantees early, sustained exposure to these environments, therefore, operates as a targeted structural intervention: it allocates greater marginal benefit to those starting from conditions of deprivation while avoiding the constitutional and political constraints associated with race-specific classifications. In this sense, the program mirrors other accepted forms of indirect remediation, such as universal public education and public health initiatives, which produce equity-enhancing outcomes precisely because they are deployed in domains where inequality is historically embedded.

Implementation would occur through the Department of Education, with standardized curricular guidelines, teacher qualification requirements, and outcome evaluation metrics. Oversight mechanisms would ensure flexibility for state and local variation while maintaining national coherence.

6. Constitutional Parameters for Non-Cash Reparations in the United States of America

Any reparations framework implemented through law must operate within the constraints of the United States Constitution. While monetary reparations tied explicitly to race have repeatedly encountered constitutional, political, and doctrinal resistance, non-cash reparations structured as universal, forward-looking public programs occupy a more legally durable position. This section analyzes the constitutional foundations, limits, and design requirements for non-cash reparations—particularly those aimed at restoring collaborative and psychological capacity—under existing U.S. constitutional law.

A. Equal Protection and the Limits of Race-Exclusive Remedies

The most significant constitutional obstacle to reparations arises under the Equal Protection Clause of the Fourteenth Amendment (and its federal analogue through the Fifth Amendment's Due Process Clause). Race-conscious government action is subject to strict scrutiny, requiring that the policy serve a compelling governmental interest and be narrowly tailored to achieve that interest (*Adarand Constructors, Inc. v. Peña*, 515 U.S. 200 (1995)). Although remedying past discrimination can constitute a compelling interest, the Supreme Court has been highly skeptical of race-exclusive remedies for historical injustice where the discrimination is not contemporaneous, individualized, or directly traceable to the defendant governmental entity (*City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989)). As a result, race-specific cash reparations face a substantial risk of invalidation, particularly when framed as compensation for diffuse historical harms rather than as remedies for recent, documented discrimination. By contrast, non-cash reparations structured as universal programs—available to all but designed to address capacity deficits produced by historical injustice—do not trigger strict scrutiny. When access is not conditioned on race, courts review such programs under rational basis scrutiny, which is highly deferential. From a constitutional design perspective, universality is not merely a political strategy but a doctrinal necessity.

B. Substantive Equality and Universal Remedial Design

Law and society scholarship emphasizes the distinction between formal equality and substantive equality. The Constitution does not prohibit the government from adopting policies that disproportionately benefit historically disadvantaged groups, so long as the policy is facially neutral and rationally related to a legitimate governmental objective (*Washington v. Davis*, 426 U.S. 229 (1976)). Non-cash reparations aimed at restoring collaboration capacity—such as mandatory team-based sports, music education, and psychological health interventions—can be constitutionally justified as serving legitimate governmental interests in education, public health, democratic participation, and economic productivity. That such programs disproportionately benefit communities harmed by past state action does not render them unconstitutional; rather, it reflects the reality of unequal baseline conditions produced by historical injustice. This approach aligns with Supreme Court precedent upholding broad social welfare and education programs that improve opportunities without distributing benefits based on suspect classifications (*San Antonio Independent School District v. Rodriguez*, 411 U.S. 1 (1973)). Constitutionally, the relevant inquiry is not whether a program remedies historical injustice, but whether it does so through impermissible means.

C. Congressional Authority: Spending Power and the General Welfare

Congress possesses broad authority under the Spending Clause to fund and condition programs that promote the general welfare (U.S. Const. art. I, § 8, cl. 1). Federal education and health initiatives—such as the Elementary and Secondary Education Act, Medicaid, and Head Start—demonstrate the constitutional viabil-

ity of using federal funds to shape state and local policy indirectly. A non-cash reparations framework grounded in collaboration restoration fits squarely within this tradition. Congress may condition federal education funding on the provision of team-based physical education, music instruction, and other collaboration-enhancing curricula, provided that the conditions are:

1. Related to the federal interest in the program
2. Unambiguous
3. Not coercive
4. Not independently unconstitutional

(*South Dakota v. Dole*, 483 U.S. 203 (1987)).

Because collaboration capacity is directly linked to educational outcomes, civic competence, and economic productivity, such conditions satisfy the “relatedness” requirement. Moreover, because participation is tied to funding rather than direct federal commandeering, the framework respects the principles of federalism.

D. Anti-Commandeering and Federalism Constraints

The Tenth Amendment limits Congress’s ability to compel states to enact or administer federal regulatory programs (*Printz v. United States*, 521 U.S. 898 (1997)). A reparations framework that mandates state action directly—without reliance on spending incentives—would likely violate the anti-commandeering doctrine. However, a spending-based approach avoids this problem. States retain the formal choice to accept or decline federal funds, even if the practical incentives are strong. Courts have consistently upheld this structure in education and public health contexts, so long as the conditions do not amount to coercion (*NFIB v. Sebelius*, 567 U.S. 519 (2012)). Accordingly, constitutionally permissible non-cash reparations must be implemented through incentives and standards, not direct federal mandates imposed on states.

E. Substantive Due Process and Bodily Integrity

Any proposal involving biomedical or genetic research raises additional constitutional considerations under substantive due process and bodily integrity doctrines. The Constitution protects individuals against involuntary medical treatment and experimentation (*Washington v. Harper*, 494 U.S. 210 (1990)). As a result, biomedical interventions cannot be mandatory, even if framed as reparative. Constitutionally permissible design requires:

- Voluntary participation
- Informed consent
- Clear therapeutic justification
- Robust ethical oversight

Federally funded research into the biological correlates of collaboration may proceed through existing National Institutes of Health frameworks, but application to individuals must remain strictly optional. Law and society scholarship cautions against biological determinism, reinforcing the need for social interventions to remain primary and biomedical approaches supplementary.

F. What the Constitution Forbids—and What It Permits

Taken together, constitutional doctrine draws a clear boundary between impermissible and permissible reparations strategies.

What the Constitution strongly disfavors or forbids:

- Race-exclusive cash transfers based solely on historical status
- Mandatory medical or genetic interventions
- Federal commandeering of state education systems
- Reparations framed as punitive redistribution without a present-day governmental purpose

What the Constitution permits and supports:

- Universal, forward-looking public investments
- Education-based and institutional capacity-building programs
- Spending-based federal incentives tied to legitimate policy goals
- Reparative measures justified by public welfare, democratic legitimacy, and economic productivity.

G. Implications for Reparations Theory

From a socio-legal perspective, constitutional constraints do not foreclose reparations; they shape their form. The Constitution favors rehabilitative, institutional, and prospective remedies over retrospective compensation. Non-cash reparations designed as universal capacity restoration are therefore not a constitutional compromise, but a constitutionally coherent expression of restorative justice. By aligning reparative aims with the constitutional structure, this framework transforms reparations from a legally precarious demand into a durable policy architecture—one capable of repairing historical harm while strengthening the institutional foundations of democratic governance.

7. Biomedical Research and Ethical Boundaries

Emerging research suggests a biological component to collaborative behavior. While speculative, federally funded research through the National Institutes of Health could ethically explore therapeutic interventions under strict safeguards. Any application would require voluntary participation, informed consent, and prohibition of coercive or discriminatory use. Law and society scholarship caution against biological determinism; accordingly, biomedical research must supplement—not replace—social interventions.

8. Implications for Law, Policy, and Social Justice

This framework advances a model of reparations that is:

- Legally viable under existing doctrine
- Politically sustainable due to its universality
- Economically productive
- Normatively grounded in restorative justice

It shifts reparations discourse from backward-looking blame to forward-looking capacity building, aligning moral repair with institutional resilience.

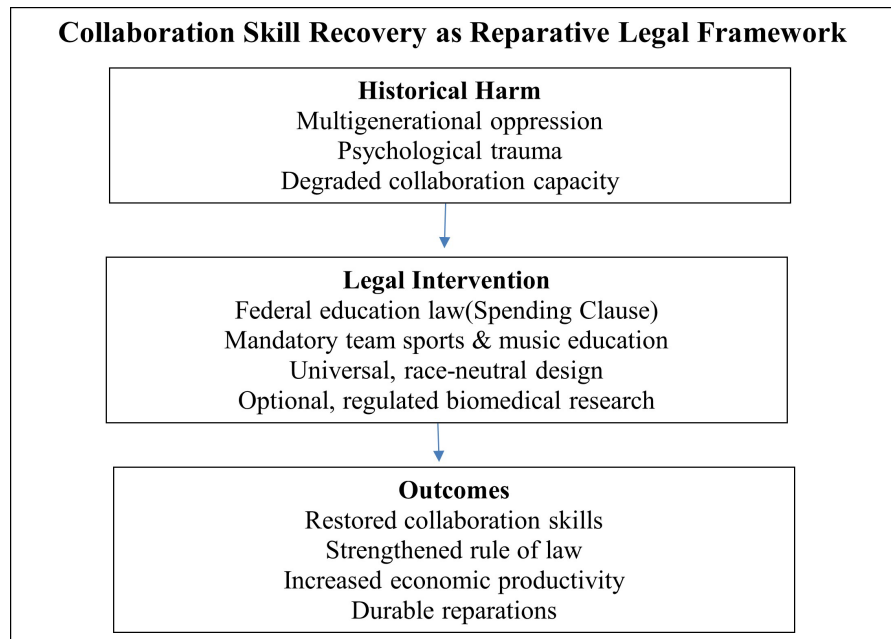


Figure 1. Illustration of our core thesis: reparations can be operationalized as collaboration skills recovery through prospective, universal legal interventions. By shifting from retrospective compensation to rehabilitative capacity restoration, the framework achieves reparative aims while remaining constitutionally durable and politically viable.

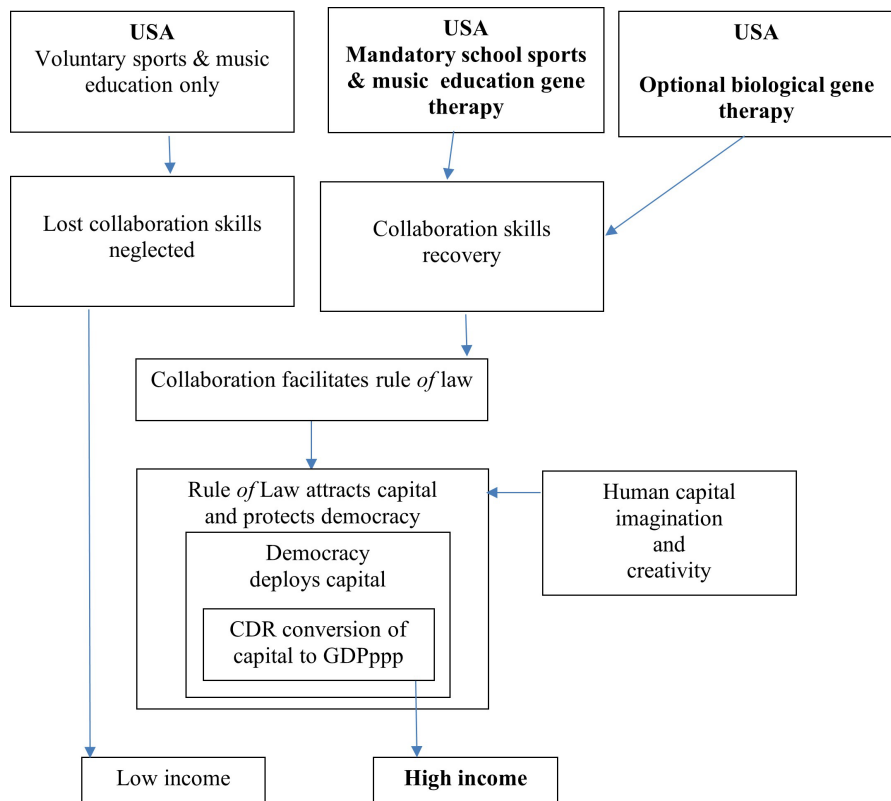


Figure 2. Collaboration skills recovery via mandatory school sports & music education gene therapy, and optional biological gene therapy, leads to higher GDPppp via the CDR innovation economics model.

9. Standard of Living from CDR

This paragraph and Appendix A are reproduced from [Ridley, Lee, and Nelson \(2023\)](#) for the reader's convenience. This paper is follow-on research that seeks solutions to the problems identified in that prior publication, based in pertinent part on the CDR economic growth model. There is a commonly held view that wealth just exists, and the government's role is to distribute it; that such wealth is embedded in natural resources. In reality, the source of wealth is the exogenous human capital of imagination and creativity. A capitalist is a person who seeks to maximize the payment they receive for their own personal effort. Every rational person is a capitalist. This is consistent with the [Ayn Rand \(1990\)](#) objectivist libertarianism epistemology and theory of value. It is also consistent with the [Friedman & Friedman \(1980\)](#) consequentialist libertarianism epistemology. Every individual is accorded maximum freedom to choose so long as he does not interfere with the freedom of others. Capitalism is the process of organizing capital for profitable investment. Exogenous human capital is converted into endogenous capital stock of knowledge, machines, recordings, computer programs, etc. These are used to convert raw materials into goods and services. This is measured as real per capita gross domestic product (GDP) adjusted for purchasing power parity (GDPppp), also known as standard of living. After consumption, depreciation (of machinery), and obsolescence (of knowledge), this contributes to wealth. Knowledge is finite, ignorance is infinite. Human imagination and creativity are unlimited; therefore, wealth is unlimited. There may be a fixed number of atoms in the world, but the number of ways that they can be combined is incalculable.

10. Concluding Remarks

Reparations debates in the United States have reached an impasse by equating justice with monetary compensation alone. Law and society scholarship invites broader conceptions of harm, responsibility, and repair. By reframing reparations as restoration of collaboration capacity, this paper offers a path that overcomes historical injustice while strengthening the rule of law, and democratic and economic institutions. Collaboration is not merely a social virtue; it is a legally and economically indispensable public good—one that law can and should help restore. This paper considers mandatory school team sports, music education gene therapy (a metaphorical analogy, not a biological intervention), and biological gene therapy where feasible. Future research may consider artificial intelligence for the development of human collaboration skills ([Ridley, Llaugel, & Garcia, 2026](#)).

Author Contributions

DR: Supervision, economic theory, mathematical modeling and calculations.

AN: related literature, legal framework.

Conflicts of Interest

The authors declare no conflict of interest.

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Appendix A: Mathematical Model Depiction of the CDR Growth Model

Various economic growth models for estimating GDP have been developed over time. The most recent by Ridley (2020, 2023) shows that GDP_{ppp} can be calculated from the CDRindex given in **Figure A1** (reproduced from Ridley, Lee, & Nelson, 2023) and **Figure A2** in Appendix B (reproduced from Ridley, 2020, 2023). The coefficients of the C, D and R policy variables are positive and contribute to GDP_{ppp}. However, there is a negative interactive term ($-1.21CDR$). It measures the degree to which excess democracy can delay decision making and decisions, and overregulation can prevent investment opportunities unnecessarily, and thereby reduce GDP_{ppp}. Thoreau (1849) said, “that government is best which governs least.”

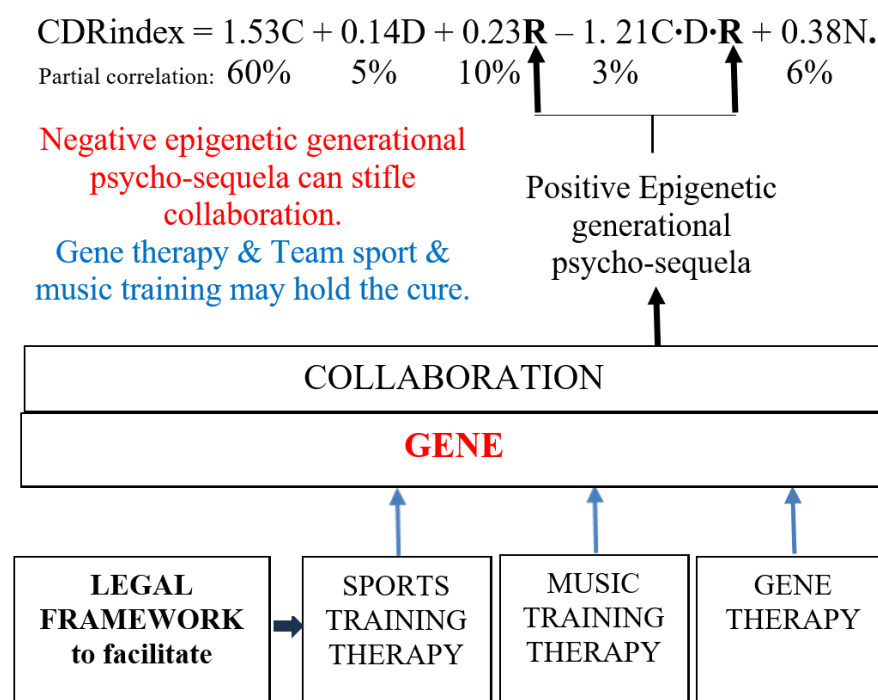


Figure A1. Year 2014 CDR Index and model for 79 countries. This model was re-estimated for years 1995 to 2016 with similar results. For additional comments on the countries included, see Ridley (2020, 2023). R requires collaboration skills, which require positive epigenetic generational sequelae. Reproduced in part from Ridley, Lee, and Nelson (2023).

Appendix B: Graphical Model Depiction of the CDR Growth Model

From Ridley (2020), the ordinary least squares (OLS) model is $g_i = \beta_0 + \beta_c C_i + \beta_d C_i + \beta_r C_i + \beta_{cdr} C_i \cdot D_i \cdot R_i + \beta_n N_i + \varepsilon_i$, where i represents the i th country, the coefficients and variables are dimensionless, and the errors ε_i are random and normally distributed with zero mean and constant standard deviation. We regress g on C , D , R , and N to obtain the i th country estimated g as follows.

$$\text{Year 2014: } g_i = 1.53C_i + 0.14D_i + 0.23R_i - 1.21C_i \cdot D_i \cdot R_i + 0.38N_i$$

where to determine the relative contributions of C , D , R , and natural resources

(N), we standardize the variables to guarantee upper and lower bounds of $0 \leq g, C, D, R, CDR, N \leq 1$ as follows:

$$g = (G - \text{lowest } G) / (\text{highest } G - \text{lowest } G), \text{ } G \text{ represents GDPppp}$$

$$C \text{ (Capitalism)} = (\text{per capita capitalization} - \text{lowest per capita capitalization}) / (\text{highest per capita capitalization} - \text{lowest per capita capitalization})$$

$$D \text{ (Democracy)} = (\text{lowest democracy rank} - \text{democracy rank}) / (\text{lowest democracy rank} - \text{highest democracy rank})$$

$$R \text{ (Rule of law)} = (\text{lowest corruption rank} - \text{corruption rank}) / (\text{lowest corruption rank} - \text{highest corruption rank})$$

$$N \text{ (Natural resources)} = (\text{per capita total natural resource rents} - \text{lowest per capita total natural resource rents}) / (\text{highest per capita total natural resource rents} - \text{lowest per capita total natural resource rents}).$$

Democracy and corruption are rank ordered, where the highest = 1 and the lowest = the number of countries. These transformations are all one hundred percent reversible: $G = g(\text{highest } G - \text{lowest } G) + \text{lowest } G$, highest $G = \$83,066$ and lowest $G = \$1,112$.

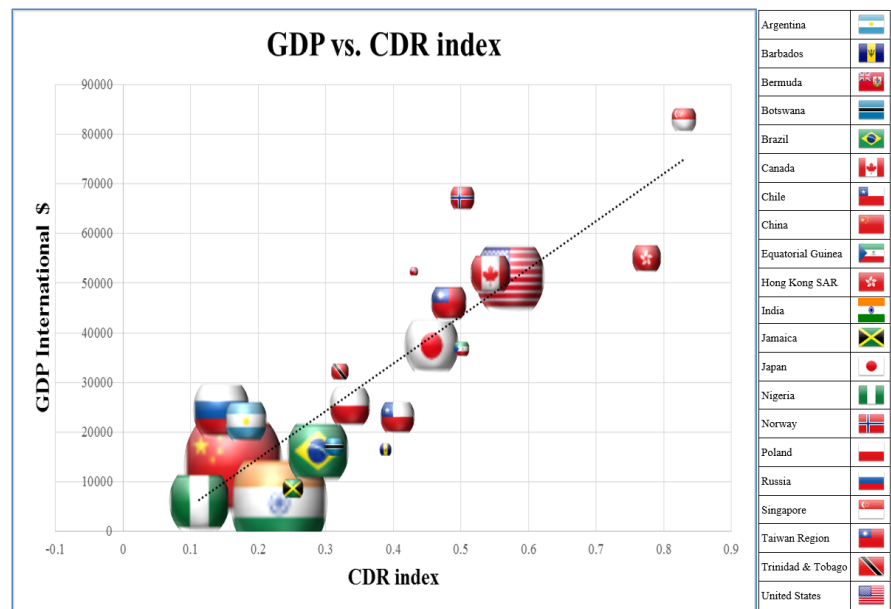


Figure A2. Year 2014 G vs CDR Index for 79 countries (line). Bubble size (21 countries) is the square root of population. This model was re-estimated for years 1995 to 2016 with similar results. For additional comments on the countries listed, see Ridley (2020, 2023). Click on the bubble graph to see an animation.

The CDR model is depicted in the vexillological chart in **Figure A2**. The CDR model flattens the world and creates a path to widespread and accelerated entrepreneurship.

To correct for bias due to the endogenous capital stock component of capital, a two-stage least squares (2SLS) estimate is conducted as follows.

The estimated 1st stage least squares model is

$$\hat{C}_i = 0.04 - 0.07L_i - 0.16D_i + 0.22R_i + 1.11C_i \cdot D_i \cdot R_i - 0.02N_i.$$

where \hat{C} is the exogenous entrepreneurship component of capital, and the instrumental variable (IV) is exogenous geographic latitude (L_i).

The estimated 2nd stage least squares unbiased model for estimating g from entrepreneurship capita (\hat{C}_i) is

$$\hat{g}_i = 1.30\hat{C}_i + 0.12D_i + 0.28R_i - 0.98\hat{C}_i \cdot D_i \cdot R_i + 0.39N_i.$$

The partial contributions to GDPppp are as follows: C: 60%, D: 5%, R: 10%, CDR: 3%, N: 6%, L: 4%.