Her Majesty's Aid: A Principal–Agent Analysis of Development Assistance in the Late British Empire*

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Abstract

The Colonial Development and Welfare (CD&W) Fund, launched by London in 1929, is the historical precursor to modern foreign aid. The program included a fiscal mandate requiring colonial authorities to mobilize tax revenue to co-fund CD&W projects. Fulfilling this mandate required major reforms to recruitment and promotion policies within the Colonial Service. These reforms screened for mission-oriented officials and elicited effort by aligning career advancement with fiscal performance. Drawing on original data from 12 African colonies (1929–1969) and archival research, I show that aid increased taxation because patronage governors were replaced by career officials who shared London's developmental agenda, and because fulfilling the fiscal mandate served as a pathway to internal promotion. The findings highlight how shared interests and incentive-compatible goals were instrumental to overcome agency problems in imperial aid delivery. The conclusion reflects on what practical lessons this historical episode may offer for the design of contemporary foreign aid programs.

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1 Introduction

The Colonial Development and Welfare (CD&W) Fund, launched by the British government in 1929, is the historical forerunner of official development assistance. Led by a new generation of British politicians, the CD&W initiative embodied a major shift in colonial policy: it aimed to raise living standards in British colonies lacking self-governing institutions while simultaneously expanding markets for British products.[1] Over its 40-year lifespan, the CD&W funded more than 11,200 projects across 56 colonial territories, amounting to roughly 0.7% of British GDP and 9% of colonial budgets.

This paper investigates the role of the CD&W program in shaping fiscal capacity in the colonies—namely, the ability of the state to assess wealth and collect taxes.[2] The program incorporated a *fiscal mandate* that compelled colonial authorities to modernize tax structures in order to raise local funds for co-financing CD&W-sponsored projects. However, this mandate was only fulfilled after a series of organizational reforms within colonial administrations succeeded in attracting mission-oriented officials and aligning the latter's career advancement with programmatic goals.

To gain analytical clarity on why reforms to the Colonial Service—the name given to colonial administrations—were necessary for achieving the fiscal mandate, I draw on two insights from the foreign aid literature. First, practitioners and theorists emphasize that aid is most effective when recipients share the donor's preferences for the mission—in this case, capacity-building.[3] Yet this alignment is rarely observable to donors. Opportunistic governments can exploit this asymmetry to secure funds and divert them for personal or political gain.[4] Second, a well-functioning aid bureaucracy is critical to aid performance.[5] When qualifications are low, monitoring is weak, and promotions are decoupled from programmatic goals, aid officials are unlikely to exert effort toward the mission's objectives.[6]

A close examination of the CD&W program reveals that London faced agency problems akin to those encountered in contemporary aid programs. First, colonial governors, sitting at the top of the Colonial Service, were expected to lead and oversee the CD&W initiative. Yet these governors were often patronage appointees who did not necessarily share

[1] Initially introduced as the Colonial Development Fund in 1929, the "Welfare" component was formally added in 1940. For simplicity, I refer to the program as "CD&W" throughout.

[2] See Besley and Persson (2011) for the conceptual framework.

[3] Collier (2007); Killick, Gunatilaka and Marr (1998); Pomerantz (2004).

[4] Berman et al. (2019) and Bourguignon and Sundberg (2007); for real-world examples, see Mosley (1992) and Pomerantz (2004).

[5] van de Walle and Johnston (1996).

[6] Wane (2004); Ghani and Lockhart (2009).

the metropole's new vision for the colonies. For the program to succeed, it was essential to have local leadership committed to the developmental agenda. Second, the Colonial Service in the early twentieth century was a weakly bureaucratized organization: it offered low compensation, poor working conditions, and limited opportunities for advancement. These organizational shortcomings were compounded by limited oversight. Communication delays and difficult terrain meant that colonial officers—especially in Africa—could go weeks without contact with headquarters, creating ample opportunity to shirk responsibilities or shift blame. Making imperial aid effective required reforms that aligned career advancement with *observable* (i.e., verifiable) programmatic outcomes—most notably, local tax collection.

The metropole used its quasi-absolute authority over colonial governance to address both agency problems. Recruitment policies were overhauled to select candidates aligned with the new vision for development. Patronage appointments at the governorship level gave way to meritocratic selection beginning in 1930, while junior officers were recruited directly from top universities and socialized into the developmental agenda through tailored training programs. By screening intrinsically motivated officials into the Colonial Service, London could reasonably expect colonial administrators to pursue the mission's goals—including the fiscal mandate—with less need for external enforcement, thereby minimizing opportunism and reducing monitoring costs.

Reform designers were not naive, so changes extended well beyond recruitment. Conditions in the colonies remained challenging, and oversight was weak, meaning the temptation to shirk effort persisted. Considerable thought was given to how best to elicit effort from officers. A battery of measures was adopted, including performance-based rules for pay raises, paid leave, and retirement pensions, modeled on other meritocratic bureaucracies in the empire. Annual performance evaluations of *every* colonial officer were instituted; promotion criteria based on merit were formalized; and, crucially, a performance-based tournament system was introduced at the governorship level to elicit effort even at the very top of the administrative hierarchy.[7]

By the mid-1930s, the Colonial Service had become a modern meritocratic organization capable of screening out disengaged officials and eliciting effort from those in post. This transformation of the imperial bureaucratic apparatus explains the CD&W program's success in meeting its fiscal mandate. From junior officers to governors, Colonial Service personnel understood that raising local revenue to co-finance development projects was not only central to the program—it was key to advancing their own careers.

I divide the empirical examination of the argument into two parts. First, using an

[7]Xu (2018).

original panel of 12 British colonies in sub-Saharan Africa from 1929 to 1969, I assess the fiscal impact of the CD&W program. Two-way fixed effects regressions show that a one-standard-deviation increase in aid is associated with an approximate five-percentage-point increase in local tax revenue. I address threats to inference in two ways. First, I analyze declassified correspondence between departments of the Colonial Office to reconstruct the criteria the metropole used to allocate imperial aid. This analysis reveals that colonies with weaker fiscal capacity received disproportionately more assistance. Second, I exploit exogenous variation in aid flows induced by shocks to the UK's balance of payments. Taken together, these findings indicate that the CD&W's fiscal mandate was, in fact, met: imperial aid increased tax collection.

Next, I examine the mechanisms linking imperial aid to fiscal expansion—that is, why the fiscal mandate was met. To do so, I reconstruct the career trajectories of 80 colonial governors who served in Africa during the CD&W era. Using two- and three-way fixed effects models (colony, year, governor), I show that aid's effect on taxation was mediated by the appointment of "mission-oriented" governors[8] and by aligning professional rewards (i.e., gubernatorial reappointment and eligibility for a generous retirement pension) with programmatic goals. To address concerns about non-random assignment to governorships, I construct a new battery of time-varying measures capturing personal connections between governors and their superiors at the Colonial Office—including shared attendance at public schools, overlapping university years (and college house, for Oxbridge graduates), and membership in the same Companion Orders.[9]

Overall, the analysis suggests that the CD&W program expanded local taxation because organizational reforms to the Colonial Service succeeded in screening mission-oriented agents and providing them with high-powered incentives to fulfill the program's fiscal mandate. These findings offer an original causal mechanism for the growth of fiscal capacity in late colonial Africa:[10] specifically, the fiscal mandate pushed a new generation of colonial administrators to make populations and territories more legible and to adopt Western tax technologies—such as income tax withholding and excises on goods like alcohol, meat, and candles.

Notably, the finding that aid increased local taxation stands in stark contrast to nearly all postcolonial evidence, which finds that foreign aid weakens tax capacity by eroding accountability and undermining bureaucratic institutions.[11] The case of the CD&W program

[8]In using the expression "mission-oriented", I follow the language in Besley and Ghatak (2018).

[9]I am grateful to an anonymous reviewer for this suggestion.

[10]Albers, Jerven and Suesse (2023); Gardner (2012); Xu (2019).

[11]Bräutigam and Knack (2004); Combes, Ouedraogo and Tapsoba (2016); Devarajan, Azam and

shows that aid can promote fiscal capacity—*if* donors are able to align preferences with recipient leadership and restructure local bureaucracies. Of course, replicating the political and administrative overhaul undertaken by the British in an imperial context is difficult, if not impossible, under modern development settings. The Conclusion reflects on whether, and to what extent, the scope conditions of this historical intervention—namely, donor control over political and bureaucratic leadership, and the imposition of counterpart funding requirements[12]—can be meaningfully adapted to contemporary government-to-government aid partnerships.[13]

The remainder of the paper is structured as follows. Section 2 elaborates on two conditions that enhance aid effectiveness—shared interest between donors and recipients, and a professional local bureaucracy in which career advancement is incentive-compatible with mission goals—and derives testable hypotheses for imperial aid. Drawing on declassified communications, parliamentary debates, and administrative memoirs, Section 3 presents the history of the CD&W program, its institutional setup, and its fiscal mandate. Section 4 introduces original data on aid disbursements and tax revenue in 12 African colonies and examines whether imperial aid increased local taxation.[14] Section 5 tests the two proposed mechanisms—screening and effort inducement—using detailed data on governors' careers. Two additional tests follow. First, I leverage variation in the principal's oversight capacity to show that fiscal outcomes improved when supervisors in London faced milder information asymmetries. Second, I consider an alternative mechanism for the observed relationship between aid and taxation—direct technical assistance—but find no empirical support. Section 6 concludes with implications for contemporary debates on aid effectiveness.

2 Aid, Agency Issues, and Capacity Building

To gain analytical clarity about the set of challenges the Colonial Office encountered in administering the CD&W program, I draw on principal-agent models developed to study modern-day foreign aid. In this framework, a donor or *principal* seeks to build state capacity

O'Connell (1999); Ghura (1998); Gupta, Pivovarsky, Clements and Tiongson (2003); Heller (1975); Marineau (2020); Moss, Pettersson Gelander and van de Walle (2006); Remmer (2004); Svensson (2000). For null effects, see Boone (1996); Carter (2013); Clist and Morrissey (2011); Leuthold (1991); Teera and Hudson (2004).

[12]Winters and Streitfeld (2018).

[13]The spirit of modern aid "partnerships" is captured in the UK Government (2005) report. Aid channeled through non-governmental organizations—or "bypass aid"—falls outside the scope of this manuscript, as it involves a different set of actors. Bypass aid accounted for 30% of OECD development assistance in 2009 (Dietrich, 2014).

[14]I will use the terms "issues" and "disbursements" interchangeably. Refer to Appendix D for details.

in a foreign territory—the mission—and delegates its implementation to a local *agent*, the recipient. The donor is motivated by a form of "paternalistic altruism,"[15] and delegation occurs under conditions of asymmetric information: First, the donor cannot observe ex ante whether the recipient's leadership genuinely shares its preference for the mission—a problem of hidden information;[16] Second, the donor cannot observe the agent's actions or decisions, only outcomes—a problem of hidden action.[17]

Shared Interest: Donors aim to partner with recipients who genuinely support the goals of the aid program. Shared interest reduces the need for effort-inducement mechanisms to ensure that the agent advances the principal's goals, thereby lowering monitoring costs and reducing the risk of opportunistic behavior.[18] The importance of preference alignment between donors and recipients' leadership is well documented by scholars and aid practitioners.

Azam and Laffont examine the dilemmas faced by donors when they cannot determine whether the recipient's government genuinely shares interests or is opportunistic. The latter type is expected to divert aid toward a politically favored group—the local elite. To ensure that aid reaches the program's intended target—the poor—the donor must tolerate a degree of leakage when working with opportunist types, which lowers overall aid effectiveness. When the incumbent's bias toward the elite is too strong, the donor's expected utility justifies terminating the aid program.[19] Berman, Lake, Padró i Miquel and Yared (2019) extend these insights to post-conflict reconstruction contexts, modeling the relationship between preference divergence (adverse selection) and effort provision (moral hazard). They show that closer preference alignment between donor and recipient leadership reduces the cost of inducing effort. A mission-oriented agent requires fewer or smaller "carrots" to perform. This alignment is also crucial in dynamic terms: if aid enhances institutional capacity (e.g.,

[15] Azam and Laffont (2003, p. 30); see also Pomerantz (2024, pp. 162–163) for a normative assessment.

[16] Another class of adverse selection problems concerns the agent's competence—whether they possess the skills needed to execute the mission. The Colonial Office addressed this by recruiting directly from top universities and providing additional training. Most recruitment efforts, however, focused on screening for intrinsic motivation—arguably a harder problem to solve. I return to this point in the qualitative discussion.

[17] A specific form of moral hazard arises when aid is fungible and can be diverted to political uses (Bermeo, 2016; Briggs, 2012; Jablonski, 2014; Jones, 2005; Reinikka and Svensson, 2011). This concern was largely absent in the imperial context (as discussed below); thus, I focus on mechanisms to prevent effort relaxation. The distinction between hidden information and hidden action is drawn from Gailmard (2010).

[18] Agency issues focused on preference alignment are related but conceptually distinct from the literature on the *conditional* effect of aid, as advanced by Burnside and Dollar (2000) and Dollar and Pritchett (1998). These scholars emphasize the importance of pre-existing institutional quality for aid effectiveness. Their findings had a profound impact on the aid regime in the 2000s and underpin the logic of aid allocation "selectivity." In contrast, agency problems center on the characteristics of agents rather than institutions. Moreover, the CD&W program disproportionately targeted *weaker* colonies (see Appendix I), thus falling outside the selectivity hypothesis.

[19] Azam and Laffont (2003).

tax collection), the donor must ensure that future leaders will not weaponize that capacity against rivals. If the donor cannot influence or predict who will hold power tomorrow, the present value of capacity-building aid diminishes. Thus, Berman et al.'s model predicts that preference alignment lowers the *current* costs of aid delivery and increases the *long-term sustainability* of aid programs.[20]

Killick, Gunatilaka, and Marr provide compelling empirical evidence regarding the importance of shared interest. Their qualitative meta-analysis of World Bank structural adjustment programs across 21 countries (1980–1994) finds that in 17 of the 21 cases, "the probability that programme measures [were] implemented appeared to be a function of the extent to which the government and its officials perceived adjustment reform to be in their own interest" (p.108); and in 18 of 21 the "programme 'ownership,' an indicator of the extent of interest conflict, [had] a decisive influence program implementation" (Table 5.1).[21] Pomerantz (2004) similarly argues that "shared purpose"—or genuine alignment of donor and recipient objectives—is essential to building trust and enhancing aid effectiveness. This view echoes the conclusions of van de Walle and Johnston:[22]

> Donor financial support can and should be used to help a *reform-minded government* cushion the pain of necessary policy adjustments. [...] But the donors should refuse to support governments that are not *clearly committed* to stabilization. [...] A lesson from the history of economic reform in Africa is that donor support to countries *not fully committed* to adjustment will fail to prevent continued economic drift, stagnation, and crisis management."

Effort Inducement. While recruiting intrinsically motivated agents is crucial, it is likely insufficient for ensuring aid effectiveness. Once funds are disbursed, recipients may exploit informational asymmetries to divert resources. To reduce this risk, since the 1990s donors have conditioned aid on *observable* (i.e., verifiable) performance outcomes—such as poverty reduction, literacy improvements, and specific policy benchmarks.[23]

Opportunistic behavior also manifests at the implementation level. In many developing countries, aid is managed by civil services that are under-resourced and poorly monitored.[24]

[20]For similar arguments in the bureaucracy literature regarding intrinsic motivation in contractual relationships, see Besley and Ghatak (2018) and Spenkuch, Teso and Xu (2023).

[21]See Killick, Gunatilaka and Marr (1998). "Programme" aid in their analysis refers to budgetary support, which differs from project-based aid such as the CD&W initiative.

[22]van de Walle and Johnston (1996, p. 101), italics added.

[23]Bourguignon and Sundberg (2007, p. 319). See Svensson (2003) for dilemmas in aid conditionality.

[24]van de Walle and Johnston (1996, pp. 108–114).

Low compensation further weakens the incentive to exert effort.[25] Practitioners have long cautioned that civil servants managing international aid may focus instead on accessing "free excludable benefits"—such as the project vehicle, petty cash, and sitting fees—rather than delivering results.[26] Ironically, cash-strapped ministries celebrate the arrival of new projects regardless of adequacy, often ignoring long-term operating costs.[27] These distorted incentives, along with donor fragmentation, have led to an inflation of small, uncoordinated aid projects that "undermine rather than support state institutions."[28]

The importance of internal incentive schemes within aid bureaucracies is formally explored by Wane.[29] This model assumes that while agency leadership aims to lift the recipient out of a poverty trap, the staff care primarily about their own welfare. He examines two rules of internal promotion: one based on the number of projects initiated, and another based on project performance. Despite the risks of overly ambitious performance targets,[30] the latter rule better aligns staff behavior with the agency's mission. When evaluated on outcomes, staff prioritize projects with a high probability of success and avoid those prone to delay or failure.

Wane's analysis underscores that local aid bureaucracies require incentive-compatible promotion schemes tied to the program's goals—in this case, capacity-building. Otherwise, in contexts of weak oversight, spurious goals may take precedence and render aid ineffective.[31]

Expectations. Drawing on insights from the literature on modern aid effectiveness, I derive two specific predictions for the analysis of the CD&W program. First, the fiscal mandate should have been more likely to be fulfilled when a mission-oriented colonial governor held office—that is, when London could rely on an intrinsically motivated agent at the apex

[25]Hirschmann (2003, p. 230) offers a vivid first-hand account of technical assistance implementation in Tanzania. He was struck by the low morale of government officials, who were vastly underpaid and lacked any incentive "to collect and communicate data with care [to the central government,] even if they have the training to do so." Hirschmann recounts a conversation with a local official who reflected on this issue: "In referring to officers in the data analysis unit of his ministry, a Tanzanian, whose salary was topped up by a donor, said of his colleagues on local salary: 'They don't get paid enough to think. It is perfectly reasonable not to. Why should they?"' (p. 229).

[26]van de Walle (2001, p. 208).

[27]van de Walle (2001, p. 205).

[28]Ghani and Lockhart (2009, p. 98).

[29]Wane (2004).

[30]See Ferejohn (1986) for a canonical treatment.

[31]Wane's conclusions resonate with a broader literature on public administration. Khan, Khwaja and Olken (2019) show that promotion opportunities raise civil servant performance; Dal Bó, Finan and Rossi (2013) find that higher wages attract more capable applicants and improve bureaucratic outcomes; and Besley and Ghatak (2018) argue that performance incentives reinforce mission motivation, creating synergies between intrinsic and extrinsic motivation.

of the colonial administration to advance the developmental agenda. Second, tax revenue should have increased when compliance with the fiscal mandate was expected to enhance a colonial official's career prospects—that is, when effort toward the fiscal mandate was incentive-compatible with internal promotion.

To test these predictions, I leverage variation generated by reforms to recruitment and promotion rules within the Colonial Service that affected both causal mechanisms. Before turning to the empirical analysis, I provide a historical overview of the CD&W initiative and its fiscal mandate.

3 Imperial Aid

The interwar years were a hectic period in British politics: The Labour Party assumed power for the first time (briefly in 1924 and again in 1929), unemployment surpassed 20%, protectionist policy regained popularity, and national socialism and communism grew within the established parties. In this context the British Parliament passed unanimously the 1929 *Colonial Development Act*, a bill granting imperial funds for development projects in Crown colonies and dependent territories, namely colonies without self-government.[32]

The 1929 Act represented a major deviation from the Gladstonian principle that had governed the relationship between the metropole and the colonies.[33] Although occasional subsidies had been granted in the past to cope with natural disasters, this was the first time that the metropole assumed that the British taxpayer was responsible for the economic prosperity of the colonies.[34]

The Colonial Development Fund program encapsulated a variety of interests in British politics: the Liberals saw an opportunity to grow international markets in times of economic contraction;[35] within Labour, the Fabians viewed the bill as an opportunity to improve living conditions in the colonies, and the trade unionists emphasized the opportunity to secure cheaper inputs for British industry, a sentiment shared by the Tories. Oswald Mosley, the leader of negotiations, summarized the *dual mandate* of the CDW program: "The Bill is to develop the Colonies agriculturally and industrially *and* to provide employment in this country."[36]

[32]India did not qualify because it exceeded those limits. See Casler and Gaikwad (2023) for details on constitutional reforms in India under empire.

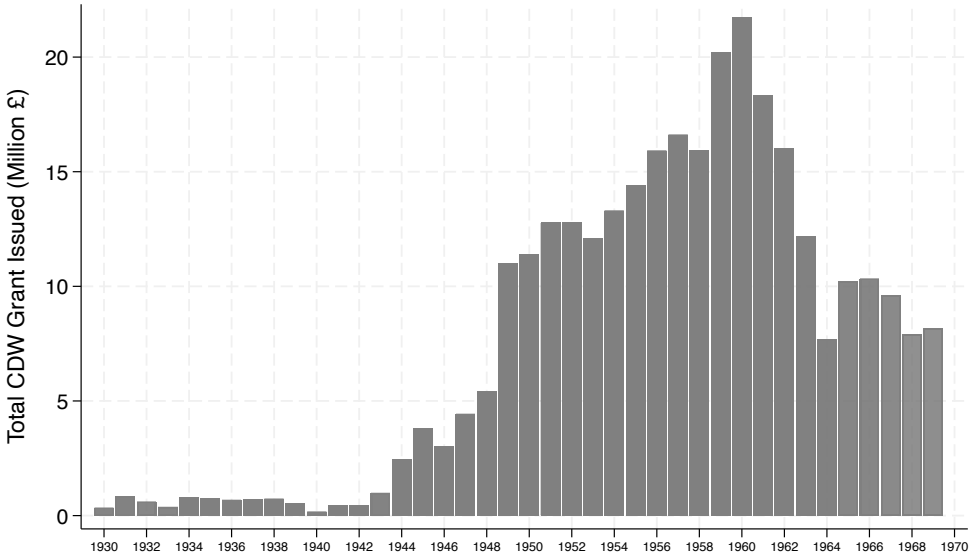
[33]Davis and Huttenback (1988).

[34]Constantine (1984) and Stammer (1967).

[35]See, for instance, the Liberal Party Manifesto for the 1929 election.

[36]HC, July 18, 1929. Considered in Committee: Colonial Development Bill, Volume 230. Italics added.

Figure 1: Total Annual Grants-in-Aid to the Empire



Note: Territorial CD&W grants to the 56 Crown colonies and other nonself-governing protectorates: **Africa:** Basutoland, Bechuanaland, Gambia, Gold Coast, Kenya, Mauritius, Nigeria, North Rhodesia, Nyasaland, Seychelles, Sierra Leone, Somaliland, Swaziland, Tanganyika, Uganda, Zanzibar. **South-East Asia**: Ceylon, Hong Hong, Malaysia, North Borneo, Sarawak, Singapore, Strait Settlements. **Indian Ocean/Pacific**: Solomon Islands, Fiji, Gilbert and Ellice Islands, New Hebrides, Pitcairn Island, Tonga. **Middle East/Mediterranean:** Aden, Cyprus, Gibraltar, Jordan, Malta, Palestine. **West Indies:** Antigua, Bahamas, Barbados, Bermuda, British Guiana, British Honduras, Cayman Islands, Dominica, Grenada, Jamaica, Leeward Islands, Montserrat, St. Kitts, Nevis and Anguilla, St. Lucia, St. Vincent, Trinidad, Turks and Caicos Islands, Virgin Islands. **Atlantic**: Ascession Islands, Falkland Islands, Newfoundland, St. Helena, Tristan da Cunha. Source: Own elaboration based on sources cited in text.

In the early years of the program, most imperial aid went to the West Indies, where a Comptroller General had been appointed to coordinate scheme proposals in the region. By 1940 it had become obvious that funds were too modest to enable truly transformative projects and that the 1929 bill missed an important aspect of development: education. In recognition, in June 1940 the British Parliament passed the *Colonial Development and Welfare Act*, stipulating that developmental efforts had to balance economic growth and the welfare of colonial peoples. The spirit of the 1940 Act changed 180 degrees in comparison to the one in 1929: it recognized that social welfare of native people was crucial for any metric of development. The letter of the law was supported by a fivefold increase in funds plus a shift in the balance between grant-in-aid and loan-in-aid from 50–50 before 1940 to 95% in grants afterward.

Geopolitical circumstances impeded the full implementation of the 1940 Act. Modest funding was issued in the early 1940s, and the few projects that moved forward were connected to war efforts. As reflected in Figure 1, colonial development regained momentum in the last months of the war. To encourage new applications, the British Parliament passed the

Colonial Development and Welfare Act of 1945, which addressed many of the issues raised by its critics and eased multiyear programming by allowing CD&W funds to cover recurrent expenditures. Perhaps most importantly, the 1945 bill eliminated an earlier provision that obliged colonies to return any unspent balance by the end of the fiscal year. Last but not least, the bill more than doubled the funds of the 1940 Act from £50 million to £120 million to be spent over the course of 10 years.

Colonies responded to the 1945 bill by submitting a myriad of new project proposals, ranging from infrastructure to health care to education. To match demand, the British government expanded the funds in 1949 and 1950 with new bills and again in 1955, 1959, 1963, and finally 1965. Following a wave of independence declarations, the CD&W program was terminated in 1969, and British aid continued in the form of official development assistance.

By 1969, London had transferred a total of £362 million in CD&W funds to the colonies, distributed across more than 11,200 development projects (or "schemes") in 56 colonial territories. Relative to the size of the British economy, the CD&W program accounted for approximately 0.9% of GDP at its inception and 0.6% at its conclusion.[37] Per capita disbursement of imperial aid averaged £0.19 in 1955 prices, which corresponds to approximately £6.21 or $7.85 in 2024 values.[38] This level of per capita funding is roughly one-quarter less than the $9.93 the United States invested in Sub-Saharan Africa in 2024,[39] while the British economy in 1955 was approximately 64 times smaller than the U.S. economy in 2024, in inflation-adjusted terms. Relative to local budgets, in Africa—where the bulk of CD&W resources were allocated—grants represented an average of 9.5% of total local revenue and exceeded 50% in smaller colonies such as Bechuanaland (now Botswana) and Gambia. Overall, the CD&W initiative constituted a significant—and historically unprecedented—commitment to colonial development.

3.1 The Workings of Imperial Aid

Imperial aid was granted to projects, which were formulated and implemented by members of the Colonial Service, recruited in London and assigned to the colonies on a permanent basis (details below). The agency of native peoples in the CD&W program was limited and indirect. District officials—hands-on midrank officials of the Colonial Service—toured the territories, met chiefs, and collected requests for development projects, from roads, to soil erosion to elementary schools. Occasionally, the collaboration was formalized: for instance,

[37] For reference, the UK spent 0.5% of its GDP on official development assistance in 2021 (OECD Stat).
[38] Converted using Bank of England inflation calculator and 2024 exchange rate of £1 = $1.265.
[39] Aid disbursement: New York Times, March 8, 2025; population estimate: Statista, 2024.

in the Sukumaland Development Scheme in Tanganyika (Tanzania), initiated in 1946, a team of colonial service officials met regularly with chiefs at the headquarters of the Federal Council (representing fifty chiefdoms) to present progress reports, discuss plans, and request local support from native authorities.[40]

Once drafted, proposals were submitted to the Colonial Office in London for evaluation, which was strict. Initially, all proposals were examined by the Colonial Development Advisory Committee—a veto player populated by business owners, trade unionist, and public officials—which advised the Colonial Office. Project scrutiny was tight and ensured that development funds were not used as budgetary aid, which would have violated the CD&W mandate.[41] With the internal expansion of the Colonial Office, the evaluation of applications was conducted in-house starting in 1941. The proposals were now evaluated by sectoral and regional departments in the Colonial Office, which consulted with the Treasury to establish the financial feasibility of every plan.[42] Most often, the sponsors were requested to make revisions and adjustments. Once revised and resubmitted, conditional on approval by the Colonial Office *and* the Treasury, the project was presented by the Secretary of State for the Colonies to the Parliament for its approval, granting MPs an opportunity for examination.[43] An Auditor Office to control spending was put in place to assist monitoring efforts by the Colonial Office.[44]

The tight supervision of the CD&W funds minimized fungibility—in particular, the misuse of developmental funds to finance budget deficits, which would have weakened incentives to expand local taxation. No indication appears in the published record or archival materials of funds been redirected for purposes other than intended. Fund fungibility was not an issue for imperial aid.

3.2 The Fiscal Mandate

Imperial aid was designed to expand and complement local revenues, not replace them. During colonial times recipients were expected to use CD&W funds for filling the financial gap of specific development projects, not for budgetary purposes. To avoid fiscal relaxation,[45] the

[40] Purvis (2001, p.95). For other excerpts of the *Corona Journal* narrating first-hand accounts of district officers interacting with native authorities for development purposes, see Wilson (2001) and Du Satoy (2001).

[41] Abbott (1971, p.77).

[42] Jeffries (1956) for the internal expansion and specialization efforts in the Colonial Office.

[43] Morgan (1980*a*, p.81).

[44] Morgan (1980*a*, p.90).

[45] That risk was early recognized by prominent advisors to the British government: e.g., Kaldor (1963, p.410).

fiscal infrastructure of colonies—or "state machinery" as officials referred to it—received close attention from the program designers. Colonial administrators were expected to mobilize local resources to copay CD&W projects with new forms of taxation. Arthur Creech Jones (Labour), then Undersecretary of State for the Colonies, referred to this goal as follows:[46]

> I would also like the further implementation of the *pledge* which was given at the time of the passing of the 1940 Act, that there shall be a steep increase of direct taxation in the Colonies. The *building up of taxable capacity* should go on, and the work of development accelerated, but that direct taxation, already started in many of the Colonies, should as a policy be more vigorously pursued.

Jones's words illustrate what the *official mind* wanted from the colonial administrators—building taxable capacity—while acknowledging universal obstacles to tax reform, namely opposition from the local population (European and native) to direct taxes.[47]

Starting in 1945, colonial authorities were required to submit 10-year development plans, including an estimate of recurrent costs and a statement of metropolitan *and local* funds budgeted for CD&W projects. George Hall (Labour), Secretary of State for the Colonies, reminded participant colonies of the need to raise direct taxation to cofund CD&W projects:[48]

> Rates of taxation vary considerably from one colonial territory to another, and it is important that direct taxation borne mainly by the richer members of the community should be reviewed, if this has not been done recently, so as to ensure that local revenues are making an adequate and fair contribution towards the cost of the development and advancement of the territory.

The same communication enclosed a memorandum explaining how development plans had to be formulated. Section II.(2) of this memorandum, *Revenue side of the plan*, reaffirmed the need to increase taxation to secure future revenue sources with which to fund CD&W projects. Consistently, in the first 21 development plans approved by the Colonial Office, over one third of all project proposals were to be funded locally.[49] The fiscal mandate was present also in the individual project applications, in which the sources of local revenue that would be used to help pay every specific CD&W project had to be listed. Appendix E offers one such example for Gambia.

[46]HC, 16 February 1945. Debate: Third Reading of the 1945 CD&W Bill, Vol. 408. Italics added.

[47]Gardner (2012) for case-specific accounts. Also note that, with the exception of Kenya, white settler communities constituted a small proportion of the population in African colonies without self-government.

[48]Cmd. 6713, 1945: par. 11.

[49]Bradley (1950, p.56). The actual local contribution would grow over time, reaching two thirds of all spending.

Efforts to reshuffle fiscal taxation via CD&W funds continued over the years. John Dugdale (Labour), the Minister of State for Colonial Affairs in 1950, alluded to implicit conditionality in the assistance program:[50]

> When we come to consider requests which some territories will no doubt make from to time for additional funds, we shall feel bound to have regard, no matter how admirable the purpose for which the money is sought, to the ability and willingness of these territories to increase their own taxation within the limits of their capacity. We attach considerable importance to this.

Five years later, Alan Lennox-Boyd (Conservative), Secretary of State for the Colonies, insisted on shared financial responsibility between the metropole and the colonies in the Despatch addressed to all colonial governors:[51]

> Taking the colonial territories as a whole, local funds have since 1945 provided more than half the total finance required for development. Governments will naturally continue to look first to their own financial resources [...] and will need carefully to examine the possibilities of raising additional revenues for development.

The emphasis on revenue mobilization was well understood by Colonial Service officials, that is, agents on the ground. A conference unmistakably titled *Techniques of Development Finance in Colonial Territories* attended by 33 colonial tax administrators from Africa, the West Indies, and the Far East acknowledged the following the final memorandum:[52]

> It is, after all, one of the *fundamental objectives* of His Majesty's Government's policy of Colonial Development that the revenues of the less fortunate territories should be strengthened as a result of the assistance which has been so generously given.

Efforts to expand the colonial fiscal machinery to fund development projects were remarkable: in fact, by 1959, 64% of all development projects had been funded by local resources (compared to 15% by imperial aid),[53] with total development expenditure accounting for 25% of *all* colonial spending.[54] Appendix C offers specific examples of how colonial tax systems were modernized to achieve this goal.

[50]HC, 09 November 1950. Floor Debate: Second Reading of the CD&W Bill of 1950, Vol 480.
[51]Cmd. 9462: p.1955
[52]Conference of the Technique of Development Finance in British Colonial Territories, 1951: p.7. Italics added.
[53]Morgan (1980*d*, p.159).
[54]Cmd. 672, 1959: p.3.

4 Aid Effects

In this section I examine systematically whether the inflow of CD&W funds expanded local taxation in 12 Crown colonies and protectorates in Africa, the region that received most of the funds.[55] The territories in the sample (with modern-day names in parenthesis) are Basutoland (Lesotho), Bechuanaland (Botswana), Gambia, Gold Coast (Ghana), Kenya, Nigeria, Northern-Rhodesia (Zambia), Nyasaland (Malawi), Sierra Leone, Swaziland (Eswatini), Uganda, and Tanganyika (Tanzania).[56]

To reconstruct the CD&W program, I collected information on yearly CD&W issues per territory from multiple sources: For 1929–1939, I digitized the *Colonial Development Annual Abstract Accounts*; for 1940–1969, I relied on the *UK's Annual Civil Appropriation Accounts* (Class II section). I classified issues into three categories: grant-in-aid, loan-in-aid, and research. Ninety-five percent of funds were issues in the first category, which is why I limit attention to grants-in-aid.

To analyze the fiscal impact of imperial aid I focus on annual colonial taxation. I draw this variable from Albers, Jerven, and Suesse, who reconstructed the fiscal trajectory of 48 African polities since 1900.[57] I follow their recommendation and set *real tax revenue per capita* as the outcome variable. This variable is computed as the ratio of nominal tax revenue per capita over nominal day wages. Substantively, the outcome variable indicates the number of workdays that the government collects from each worker on an annual basis. Crucially, nominal day wages are included in the denominator of this measure, allowing comparisons over time and across territories.[58]

The tax revenue measure includes standard taxes in colonial Africa: direct taxes (e.g., poll taxes and income taxes[59]) and indirect taxes (e.g., excises) *net of trade taxes*. To further isolate tax mobilization efforts, nontax revenue is eliminated from the outcome variable. All things considered, the outcome variable offers a good measure of hard-to-collect taxes expressed in per capita constant value.[60]

[55] Refer to Appendix A for a regional breakdown of CD&W funds and to Appendix B for a map of British African Colonies.

[56] The analysis includes Tanganyika, a UN Trust Territory that regularly received CD&W funds and was treated like any other colony (Morgan, 1980*a*, p. 17), but excludes the British Cameroons and Togoland—also UN Trust Territories—which received little to no attention from the CD&W program.

[57] Albers, Jerven and Suesse (2023).

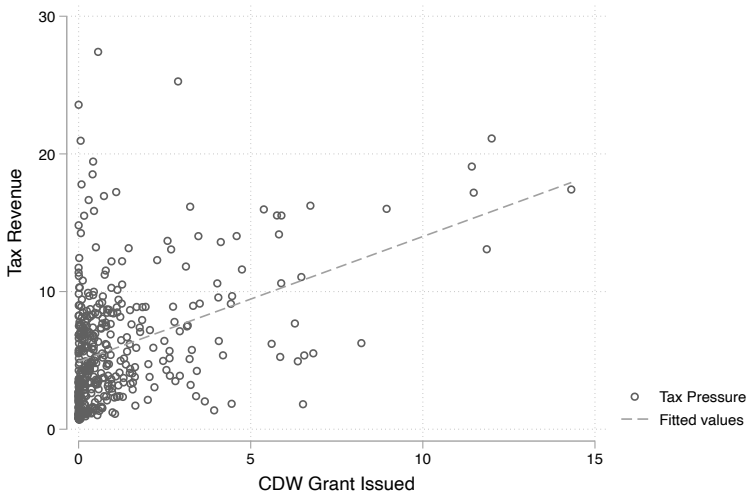
[58] Notice that price deflators or GDP estimates did not exist before the 1960s. Hence wages are the best option to deflate monetary values.

[59] Income taxes were first introduced during World War II to pay for it.

[60] This measure does not include revenue raised by Native Treasuries (Bolt and Gardner, 2020; Bolt et al., 2022). Importantly, CD&W fund *allocation criteria* (addressed in section 4.3) did not consider the existence of Native Treasuries (or lack thereof) because these operated independently of colonial treasuries—a good

To facilitate comparison, I express annual CD&W grant-in-aid issues on the same scale as the outcome variable: *wage-deflated* CD&W issues *per capita*. I show the bivariate relationship between real tax revenue and CD&W funds per capita in Figure 2. This plot shows a positive relationship between colonial tax yields and imperial aid. In the empirical analysis that follows I investigate whether this association can be interpreted causally.

Figure 2: Tax Pressure vs. CD&W Grants in British African Colonies, 1929–69.



Note: Tax pressure and CD&W Issues are expressed in per capita, constant value.

4.1 OLS models

Throughout, I consider the fiscal effort exerted by the colonial administration to be proportional to annual issues of CD&W grants. To test this proposition, I fit the following expression:

$$\text{Tax Revenue}_{i,t} = \beta_0 \text{Tax Revenue}_{i,t-1} + \beta_1 \text{CDW Issue}_{i,t} + X'_{it}\Phi + \rho_i + \theta_t + \epsilon_{i,t} \qquad (1)$$

where the first lag of the dependent variable is included to account for serial dependence; X_{it} denotes time-varying colonial covariates; and ρ_i and θ_t colony and year fixed effect batteries, respectively, to account for unobserved time-invariant characteristics of colonies and common secular trends. Notice that the contemporaneous relationship that I model in expression 1 measures the immediate efforts that colonial administrators made to match imperial aid with

example of the African "bifurcated state" (Mamdani, 1996). Any unobserved characteristic that made some colonies rely on Native Treasuries that could also affect colonial taxation is factored into the statistical analysis by the inclusion of colony fixed effects.

local resources—as required by the CD&W fiscal mandate—and it does not capture dynamic effects of aid on the tax capacity.[61]

The CD&W program was intended to promote economic growth and improve welfare in recipient colonies; hence, any control variables that correlate with either of these outcomes may bias the estimate of interest, β_1, in Expression (1). Bearing this in mind, I select a minimal battery of relevant controls, X_{it}: The first is colony population, which I log-transform. Population has been shown to be a key determinant of CD&W fund *allocation* (see Appendix I) and is likely correlated with wealth, and thus with the tax base. Population data is drawn from Albers et al., who reproduce data originally compiled by Frankema and Jerven—arguably the most reliable historical population dataset for the African continent to date.[62] I also include an original control for the occurrence of systemic unrest in the colonies. These events may have prompted tax increases to fund security measures while simultaneously delaying development projects, making unrest a relevant covariate. This binary indicator is coded manually based on information in 300+ Annual Colonial Reports and supplemented by secondary sources.[63]

Access to CD&W funds terminated right after independence, implying that territories remain in the dataset as long as they are part of the empire. Because independence in the British Empire occurred gradually, the panel becomes unbalanced in the later years of the analysis.[64] I show that results hold when the data are subset to the 1945–1961 period, when the panel is strongly balanced and aid flows peak.

4.2 Correlates of Imperial Aid

Table 1 presents a battery of OLS models with colony fixed effects. Column 1 reexamines the bivariate relationship between taxation and CD&W funds in Figure 2 keeping time-invariant colony-level variation constant. The coefficient is positive and different from zero.[65] Column 2 accounts for serial correlation by adding a first lag of the dependent variable, leading to a substantial attenuation of $\hat{\beta}_1$. Column 3 adds a battery of year fixed effects to account for any secular trend in aid or tax mobilization. Model 4 adds the two covariates:

[61] That analysis would require the use of lags (or leads) among other modeling assumptions about direct and indirect effects of aid on revenue (e.g., aid-led expansion of the tax base).

[62] Frankema and Jerven (2014).

[63] Refer to Appendix A.3 for further details.

[64] Ghana is the first territory to gain independence in 1957 followed by Nigeria in 1960, and Sierra Leone and Tanganyika in 1961. Eswatini (then Swaziland) gains independence last, in 1968.

[65] Given the small number of countries to cluster standard errors, I stay with standard robust errors. Bootstrapping clustered standard errors leads to similar estimates. Refer to Appendix F.

population and colonial unrest. Substantively, results in column 4 imply that a one-standard deviation increase in CD&W issues increases average tax revenue by six percentage points, holding everything else constant.[66] Column 5 considers the political landscape in the UK: a Prime Minister attuned to the new vision for the colonies (encapsulated by Macmillan's "Winds of Change" speech) may have been more lenient in enforcing the fiscal mandate while also issuing more CD&W funds.[67] I therefore fit a battery of Prime Minister fixed effects.[68] The coefficient on CD&W issues increases marginally in these models; however, a key limitation is that year fixed effects must be dropped due to collinearity.

Table 1: Colonial Tax Revenue and CD&W Issues, 1929–69

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CDW Grant Issue	0.85***	0.21***	0.20**	0.20**	0.22***	0.18*	0.28**
	(0.10)	(0.08)	(0.09)	(0.09)	(0.08)	(0.10)	(0.11)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged DV	No	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	No	Yes	Yes	No	Yes	Yes
Colony Controls	No	No	No	Yes	Yes	Yes	Yes
Prime Minister FE	No	No	No	No	Yes	No	No
Time period	Full	Full	Full	Full	Full	1946–61	Full
Synched FY	No	No	No	No	No	No	Yes
Mean DV	5.79	5.79	5.79	5.79	5.79	6.86	5.96
Observations	397	397	397	397	397	181	215
R-squared	0.57	0.87	0.89	0.89	0.87	0.88	0.91

Note: Monetary units are expressed in per capita real value. Colony controls are: log of Population and Colonial Unrest. Refer to Appendix O for the expanded version of the regression table. Robust standard errors in parenthesis: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Columns 6 to 7 run two robustness tests: I work with a strongly balanced panel in column 6 by focusing on the 1946–1961 period, that is, from the postwar years to the beginning of the empire's end. In this balanced sample, a one-standard deviation increase in aid leads to a four percent increase in tax revenue, a similar value than in column 4. I take care of small misalignments between fiscal years between the metropole and the colonies

[66] Results are unlikely to result from Nickell bias. For $\hat{\beta}_0 = .85$ and T = 39 the bias is approximately $-(1+\hat{\beta})/(T-1) = 0.048$, or 4.9% of $\hat{\beta}_1$.

[67] I am grateful to an anonymous reviewer for this suggestion.

[68] A more refined variable capturing government ideology—distinguishing between Labour, National Labour, National Coalition (wartime), and Conservative—yields the same results.

in column 7. The fiscal year in the UK ran from April to March of the following year, whereas that of the colonies varied. Some followed the fiscal year of the metropole: the Gold Coast, Nigeria, Basutoland, Bechuanaland, and Swaziland. Others followed the January-to-December calendar year (Gambia), but some transitioned away from it, adopting a July-to-June fiscal year starting in 1954 (Kenya, Northern Rhodesia, Nyasaland, and Uganda) and 1958 (Sierra Leone). In practice, for some colony–years, the British fiscal year includes three months of the following calendar year, raising questions about sequential causality. To assuage reverse causation concerns, column 7 reruns expression (1) subsetting the sample to the colonies that shared the UK's fiscal calendar from beginning to end (Basutoland, Bechuanaland, and Swaziland) and to colonies that transitioned to the British fiscal calendar after they did. Although the sample size decreases, the magnitude and precision of the coefficient of interest is comparable with the full sample results.[69]

The analysis in Table 1 shows that an increase in CD&W funds is associated with an increase in colonial taxation. An endogeneity problem may exist, however, if *high* taxation predicts CD&W inflows—a problem of reverse causation—or if colonies that are more likely to expand taxation are also more likely to receive CD&W funds due to unobserved, time-varying factors—an omitted variable bias. I address both threats to inference separately.

4.3 Allocation Criteria

Did colonies with higher capacity to tax receive more imperial aid? The simple answer is no. To prove this, I study fund allocation criteria with now-declassified records. Specifically, I reconstructed internal correspondence in the Colonial Office in the 1940s, in which staff of various departments discussed which criteria to follow to allocate imperial aid. The debate lasted for six months and concluded with a formal recommendation to the Secretary of State for the Colonies, who had the last word on this matter. The recommendation to the Secretary of State included a list of variables that should guide the allocation of funds. I examine the predictive power of those recommendations under a regression framework. To conduct this exercise, I compiled the six allocations for the full life-span of the CD&W program as well as data for all the variables listed in the recommendation to the Secretary of State.

The analysis reveals that two of these variables, namely colonial population and revenue per capita, explain over two thirds of the allocation variation; and no remaining variables are statistically different from zero. Crucially, the analysis of the allocation criteria shows

[69] I defer the reader to the appendix materials for additional robustness tests: In Appendix G, I rerun the main models using first-differences; in Appendix H, I examine the influence of potential outliers; and in Appendix F, I allow for various forms of clustered standard errors.

that *higher* revenue per capita predicts *smaller* aid allocations. In other words, imperial aid was disproportionally targeted at colonies with weak fiscal institutions, assuaging concerns of reverse causality. I summarize the archival and statistical exercise in Appendix I.

4.4 Shocks in Aid

What if unobserved, time-varying factors drove the relationship between aid issues and colonial tax mobilization? To address this hypothetical, I gain leverage on identification by exploiting sudden changes in the Balance of Payments (POB) in the metropole to obtain exogenous variation in imperial aid.

The British economy had been under stress since World War I.[70] The rise of global protectionism followed by the Great Depression weakened global demand for British exports, limiting access to foreign reserves. This situation grew into a major problem when the UK issued large loans denominated in US dollars to wage World War II. The Treasury struggled to keep the UK BOP afloat, requiring major devaluations of the sterling pound in 1931 and 1967.[71]

Students of colonial development have suggested that the generosity of CD&W flows was linked to the UK BOP: When the BOP was in surplus, the Treasury had fiscal space to issue imperial aid, whereas in deficit years nonessential expenses—including CD&W issues—were cut to prioritize debt service.[72] I take advantage of this observation to gain leverage on identification.

Specifically, I model the *observed* volume of aid received by colonies—the issues analyzed in Table 1—as an interaction between the *expected* aid—an endogenous variable—and the UK BOP—an exogenous variable. To measure the expected volume of aid, I rely on CD&W *commitments*, which were the project accounts from which issues were drawn.[73]

The aid commitment to a given project was decided following the lengthy evaluation referred to in section 3.1. Project proposals were handled by the Colonial Office and the Treasury and voted annually on the floor of Parliament. Given this multi-staged, detail-oriented procedure, I expect commitments to be relatively inelastic to short-term shocks in the UK BOP.

[70] Eichengreen (2004).

[71] Schenk (2010, ch.1).

[72] Abbott (1970, p.1226), Little and Clifford (1965, p.241); Havinden and Meredith (1993, p.222); Morgan (1980*b*, p.84); Tomlinson (2003, p.421).

[73] Refer to Appendix D for a diagram showing the nested structure of allocations, commitments, and issues.

Aid commitments were *expected*—thus endogenous—but the cycle of the UK BOP was unpredictable and orthogonal to any given colony. By modeling the *observed* aid as an interaction between aid *commitments* and the UK BOP, I obtain an exogenous measure of aid indexed at the colony-year level. If this strategy is right, we should expect an increase in issued aid when the BOP was in surplus and a decline when it ran a deficit. Crucially, the duration and intensity of those cycles are unpredictable and unrelated to colony characteristics.

Data. To implement this test, I digitized the 11,200+ commitments of the CD&W program from 1929 to 1969 for the 56 participant colonies (although here I focus on the 12 territories in sub-Saharan Africa). For the years between 1930 and 1939, the data come from the *Annual Reports of the Advisory Committee of Colonial Development*; and for the years 1941 to 1969, from the *Annual Returns of Schemes*.[74] I classified each project by sector and aid type (grant, loan, research) and computed annual grant totals for African territories expressed as per capita work-day equivalents (hence the same scale as for the outcome variable).

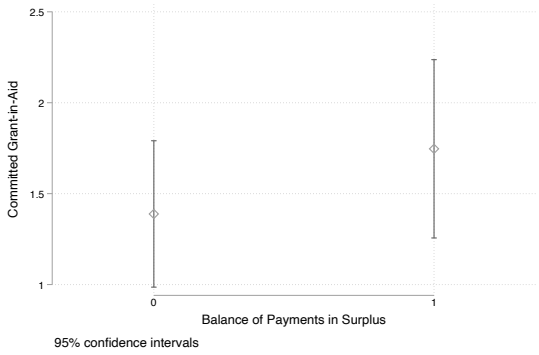
Figure 3a shows the evolution of the UK BOP, which fluctuated around zero before and after World War II, when it experienced a severe negative shock. For Figures 3b and 3c, I created an indicator variable that takes value 1 when the UK BOP was in surplus and zero otherwise. In Figure 3b committed aid in surplus years is compared with deficit years: It shows that the generosity of commitments increased somewhat in years of BOP surplus, but differences across groups were not statistically different (t=1.12). This is consistent with the slow-moving process of project evaluation and approval. In contrast, aid issues were highly sensitive to the UK's balance of payments (BOP). As shown in Figure 3c, aid disbursements were twice as large in years of UK BOP surplus compared to deficit years ($t = 3.82$). A scale comparison between the figures suggests that when the BOP was in surplus, expected and observed aid were roughly the same—as they should be—but issues experienced a sharp decline when the UK BOP ran a deficit. Appendix K shows that the discontinuity in aid issues across surplus and deficit years holds at the colony level. That is, the metropole did not strategically allocate limited resources to some colonies in bad times. These patterns confirm the observation made by imperial aid historians: in bad years for the UK BOP, the Treasury cut back on imperial aid across the board.

Next, I instrument the CD&W issue variable in expression 1 with an interaction between CD&W Commitment and UK BOP. Intuitively, the commitment variable measures the max-

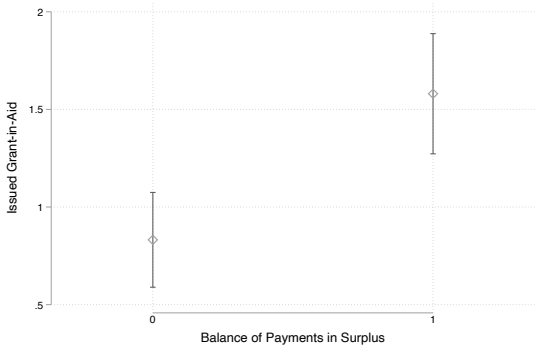
[74]Because of the transition from Colonial Development to the Development and Welfare program in 1940, no new commitments are made that year.

Figure 3: UK Balance of Payments and Imperial Aid

(a) UK's BOP as a % of GDP



(b) CDW Commitments (ttest = 1.12)



(c) CDW Issues (ttest = 6.19)

Note: World War II years in gray in panel (a). Data in panels (b) and (c) for 12 colonies in sub-Saharan Africa and bars represent 95% CI. For presentation purposes, the BOP is dichotomized in Figures (b) and (c), while I employ the continuous variable in the statistical analysis. Data of BOP and GDP from 1929 to 1947 from Feinstein (1976) and from Office of National Statistics from 1948 to 1969.

imum volume of new aid that a colony can receive in any given year while the UK BOP adds exogenous variation to the actual transferred (i.e., issued) funds.[75] Formally, the first stage reads:

$$\begin{aligned} \text{CDW Issue}_{it} &= \gamma_1 \text{CDW Commitment}_{it} + \gamma_2 \text{UK BOP}_t \\ &+ \gamma_3 (\text{CDW Commitment}_{it} \times \text{UK BOP}_t) \\ &+ \gamma_3 \text{Tax Revenue}_{i,t-1} + X'_{it}\Phi + \rho_i + \psi_p + v_{it} \end{aligned} \tag{2}$$

and the second stage remains:

$$\begin{aligned} \text{Tax Revenue}_{it} &= \beta_1 \widehat{\text{CDW Issue}_{it}} \\ &+ \beta_2 \text{CDW Commitment}_{it} + \beta_3 \text{UK BOP}_t \\ &+ \beta_4 \text{Tax Revenue}_{i,t-1} + X'_{it}\Omega + \lambda_i + \sigma_p + \epsilon_{it} \end{aligned} \tag{3}$$

with X_{it} denoting time-varying colony characteristics, and ρ and λ representing colony fixed effects in the first and second stage, respectively. Because the second stage includes a first lag of Tax Revenue$_{it}$, for identification purposes I also include it in the first stage. The excluded instrument is (CDW Commitment$_{it}$ $\times$ UK BOP$_t$), while CDW Commitment$_{it}$ and UK BOP$_t$ enter both stages to satisfy conditional exogeneity. That is, by controlling for both main effects in the second stage, the instrumented variable captures the portion of tax revenue that changes in response to the level of aid made possible by shocks to the UK's balance of payments. Note that in this design, year fixed effects are absorbed by the UK BOP variable. To mitigate concerns about time-varying changes in colonial policy, I include the Prime Minister fixed effects ψ and σ in the first and second stage, respectively. Inflation is addressed by expressing all monetary variables in constant prices.

Results are reported in Table 2. The first-stage model (top panel) shows a positive relationship between committed and issued funds, which strengthens when the UK balance of payments is positive, i.e., $\hat{\gamma}_1 > 0$ and $\hat{\gamma}_3 > 0$, respectively. The F-statistic exceeds 12 in specifications with and without a World War II indicator variable (columns 1 and 2, respectively)—the latter accounting for the prolonged dip in the UK balance of payments during the war years.

In the bottom panel, the coefficient of interest, $\hat{\beta}_1$, is positive and statistically significant at the 90% level. The coefficient for the instrumented variable is stable across both specifications and is twice the size of the OLS coefficient in Table 1, suggesting a strong

[75] This instrumental variable strategy is inspired by the work of Angelucci, Meraglia and Voigtländer (2022), who employ a similar identification approach, albeit in a very different context.

Table 2: Colonial Tax Revenue and Imperial Aid Shocks, 1929–69

First Stage: CDW Issue		
	(1)	(2)
CDW Commitment	0.21***	0.21***
	(0.05)	(0.05)
Balance of Payment (BOP)	-0.09***	-0.06*
	(0.03)	(0.04)
CDW Commitment × BOP	0.03***	0.03***
	(0.01)	(0.01)
Observations	386	386
R-squared	0.67	0.67
Second Stage: Tax Revenue		
$\widehat{CDWissue}$	0.46*	0.46*
	(0.28)	(0.28)
CDW Commitment	-0.01	-0.01
	(0.05)	(0.05)
BOP	0.06	0.11**
	(0.04)	(0.05)
First lag of DV	Yes	Yes
Colony FE	Yes	Yes
Colonial Controls	Yes	Yes
British PM FE	Yes	Yes
WWII Year	No	Yes
Wald F (Kleibergen-Paap)	12.51	12.63
Observations	386	386
R-squared	0.87	0.87

Note: All monetary units are expressed in per capita, real value. Controls are: log of Population and Colonial Unrest. Refer to Appendix O for the expanded version of the regression table. Robust coefficients in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

local average treatment effect. That is, sudden increases in aid flows during periods of sharp BOP fluctuations appear to have been matched by governors doubling down on the fiscal mandate.

Notice that the exclusion restriction would be violated if there were other time-varying factors spuriously correlated with the UK BOP and also affecting tax revenue. This design mitigates that concern in two ways: First, as explained earlier, the dependent variable in the second stage measures tax revenue *net of trade taxes*, which reduces the risk that global trade shocks simultaneously influence both the UK balance of payments and colonial

taxation. Second, in the absence of year fixed effects (which are collinear with the BOP), the battery of Prime Minister fixed effects accounts for any time-varying unobserved propensity among British governments to be simultaneously reluctant to cut CD&W flows and lenient toward colonies that fail to meet the fiscal mandate.

Building on both quantitative and qualitative evidence, the first part of the empirical analysis reveals a positive, causal relationship between CD&W flows and colonial taxation. Interested readers can refer to Appendix C for additional detail on how colonial tax systems were revamped to meet the fiscal mandate. There, I provide supplementary qualitative and statistical evidence showing that aid funds expanded *direct tax* collection—a strong indicator of fiscal capacity.[76] Next in the main text, I focus on the two proposed mechanisms that connect CD&W funds and colonial tax growth.

5 Making Imperial Aid Work

Building on principal-agent models, Section 2 identified two key conditions under which compliance with mission goals—in this case, the fiscal mandate of the CD&W program—can be expected. First, alignment of preferences between the metropole and colonial officials; second, alignment of career incentives with programmatic goals. This section elaborates on the Colonial Service reforms implemented by London during the interwar period to satisfy both conditions and assesses their effectiveness by leveraging information on colonial governors' backgrounds and opportunities for career advancement.

5.1 Recruitment into the Colonial Service

At the turn of the 20th century, the Colonial Service had gained a reputation for attracting "bad apples"—individuals lacking talent and discipline—and for staffing management positions with second and third sons of aristocratic families who did not respond well to authority.[77] This collection of misfits was ill-suited to an administrative system plagued by vast information asymmetries between London and the colonies. The problem became apparent after World War I: growing imperial competition between European powers and tighter reliance on colonial economies called for a well-greased Colonial Service working in unison with the metropole.[78]

[76] Besley and Persson (2011); Tilly (1990).
[77] Cain and Hopkins (2016); Furse (1962). This characterization does not include the Indian Civil Service.
[78] Cohen (1958, pp. 80–88).

Organizational reforms were initiated in the early 1910s and accelerated after the war, extending from junior officers to the apex of the Colonial Service: the governor. He was the "king-pin" in the system of relationships between the metropole and the dependent territory.[79] Governors personified the Crown in the territory and exercised all the constitutional functions of the Crown, including executive authority.[80] To carry out these functions, governors were granted broad powers in security, finance, and political affairs. These responsibilities came with generous remuneration and a comfortable lifestyle.

Governors were appointed by the Secretary of State for the Colonies, the head of the Colonial Office in London. Patronage appointments to governorships were common in British history and were rationalized as part of a trust-based system. Only individuals with certain character, manners, and upbringing could be trusted for such a powerful and minimally monitored office.[81] This rationale had survived various attempts to introduce meritocratic appointment and promotion in the British administration, starting with the 1854 Trevelyan–Northcote Report.[82] Governorships were the last vestige of patronage in the British civil service.

The patronage system was effectively terminated in 1930 with the publication of the Warren Fisher Report—the "Magna Carta of the Colonial Service."[83] Old practices were curtailed by the establishment of a new personnel division within the Colonial Office, staffed by career bureaucrats—not political appointees—who handled all questions of recruitment, promotions, and discipline.[84] The personnel division was subdivided into two sections: recruitment was in the hands of a newly established Colonial Service Appointment Board, staffed by three members with field experience in the colonies. Promotion, transfers, pensions, and conditions of employment were handled by the Staffing Division. Within a decade of the Warren Fisher Report, the vast majority of governors were career officials who had risen through the ranks, as opposed to politically connected individuals.[85] Reform at the very top infused a strong dose of professionalism into the Service:[86]

At the junior level, the Warren Fisher Report consolidated the recruitment practices initiated in the 1910s by Sir Ralph D. Furse,[87] when he was commissioned to modernize the

[79] Although legislative councils were created in the final years of colonial rule, governors were not accountable to them, but only to the Secretary of State for the Colonies.

[80] Jeffries (1956, p. 35).

[81] Cain and Hopkins (2016); Heussler (1963).

[82] O'Gorman (2001); Shefter (1994, pp. 45–48).

[83] Jeffries (1938, p. 55).

[84] Kirk-Greene (2006, p. 31).

[85] Lee (1967, Diagram V, p. 138).

[86] Kirk-Greene (2006, p. 32); Lee (1967, p. 137).

[87] Furse would be involved in recruitment efforts for almost four decades, and he is considered one of the

Colonial Service. Aware of the deficit of competence and work ethic in the organization, Furse prioritized recruiting a new generation of talented officers. To that end, he targeted recent graduates from top schools by coordinating with University Appointment Boards:[88]

> By this time [late 1920s] we had a secret list of Oxford and Cambridge tutors in order of the reliability of their reports on undergraduates: we knew pretty well whose swans would turn out to be geese.

To convince graduates from top schools to join the Service, Furse had to rebrand the Colonial Service as a respectable career. He lobbied governors to improve salaries and living conditions in the colonies, including tax exemptions, benefits, and a generous leave policy for new recruits.[89] Leaflets were printed and distributed at universities and major weekly magazines, and mainstream authors were commissioned to write booklets presenting the colonial administration as a fine profession.[90] Furse's ultimate goal was to match the Colonial Service to "the high status enjoined by the Indian Colonial Service in the public mind,"[91] and arguably he did: following World War II, more than two-thirds of new recruits joined straight from college.[92]

The indoctrination into the new organizational culture of the Colonial Service was reinforced through mandatory training courses. Beginning in 1926, all new recruits were required to enroll in the *Tropical African Administrative Services* course, offered at Oxford and Cambridge (and later at the London School of Economics), which provided general administrative training and fostered a strong sense of collegiality.[93] The developmental mission of the Colonial Service was formalized in the Devonshire Report of 1946, which enhanced postgraduate training: UK-based instruction was extended to one year, followed by a one-year field probation period before final appointment.[94] Interviews with retired Colonial Service officials confirm that these training courses had a pronounced ideational component,[95] fostering a strong *esprit de corps* among participants.[96]

architects of the modernization of the institution.

[88]Furse (1962, p. 223).

[89]Kirk-Greene (2006, p. 32); Furse (1962, p. 220).

[90]Kirk-Greene (2006, pp. 35–36).

[91]Kirk-Greene (2006, p. 43).

[92]Gardiner (1998, p. 41).

[93]Those with sector-specific skills pursued specialized training: cadets in the Education Service trained at the University of London's Institute of Education; agricultural cadets attended the Imperial College of Tropical Agriculture in Trinidad; those in the Colonial Forestry and Veterinary Services enrolled at the Imperial Forestry Institute at Oxford; and cadets in the Colonial Medical Service trained at the Liverpool School of Tropical Medicine and the London School of Hygiene and Tropical Medicine, inaugurated in 1924 (Kirk-Greene, 2006, pp. 27–28).

[94]Lee (1967, pp. 45–47).

[95]Stockwell (2018, p. 100).

[96]Gardiner (1998).

The *esprit de corps* and sense of shared mission were reinforced by annual summer courses at Oxford, university social clubs, magazines (e.g., *Corona*, the Journal of HM's Colonial Service), and sectoral conferences with peers from other colonies. The emphasis at the recruitment stage on selecting talented *and* like-minded individuals who viewed the Colonial Service as a lifelong career potentially mitigated adverse selection in imperial aid governance.

Ultimately, the recruitment reforms aimed to attract a particular type of individual. Merit was important—hence the emphasis on college graduates—but so was a sense of shared mission. Furse—a fervent advocate of empire—prioritized making recruits confident "in the general rightness of British Colonial aims and policy,"[97] which was increasingly questioned both internationally and domestically. Drawing on surveys of former recruits, Gardiner confirms that a substantial number of officers joined the Service drawn by a "sense of imperial mission." One recruit put it thus:

> [I] entered the Kenya administration in the 1950s in the belief that "the British Empire was, on the whole, the best thing that happened to mankind since the Roman Empire."[98]

5.2 Performance Incentives within the Colonial Service

Alongside recruitment efforts, interwar reforms in the Colonial Service cultivated the importance of on-the-job performance. As noted above, most governorships were filled by career officials within 10 years of the Warren Fisher Report. The vast majority of these governors had spent 20 to 30 years working in the lower echelons of the Colonial Service. In fact, most African governors had held the position of district officer earlier in their careers.[99] That was a hands-on, intermediate rank in the command chain, responsible for implementing guidelines from provincial commissioners, who were themselves accountable to the governor. District officers presided over assistant officers and probatory cadets. About three-quarters of the governors in Africa post-1930 began their careers as cadets and were promoted entirely within the ranks.

The governor's performance was closely monitored by the Staffing Division in London, whose members decided on tenure. Governors could be reappointed—only a third were, which is revealing in itself—and promoted to higher-status colonies that offered more generous compensation and retirement pensions.[100] The "plums of the service," or Class I

[97] CO 877/27/1: Paragraph 17.
[98] Gardiner (1998, pp. 106–107).
[99] Kirk-Greene (1979, p.236).
[100] Jeffries (1949, p.102).

Colonies, were Nigeria, Kenya, Malaya, Ceylon, Tanganyika, and Hong Kong.[101] Uganda, Northern Rhodesia, and Sierra Leone in Africa constituted Class II; Gambia, Nyasaland, and Somaliland, Class III. Zanzibar and the High Commissioner Territories of Southern Africa (Basutoland, Bechuanaland, and Swaziland) came in last place. Ambitious Colonial Secretaries (second to governors) vied for a Class IV or III governorship, while sitting governors postulated for coveted vacancies in higher-ranked colonies.

New governors were designated to the poorest colonies, and those who performed well were transferred to wealthier ones.[102] Because the Colonial Office could not observe the decisions and actions of governors, promotion relied heavily on *verifiable* outcomes. The fiscal performance of the colony served this evaluative function and became a crucial determinant of gubernatorial reappointment and promotion after the Warren Fisher Report.[103] Using causal inference methods, Xu shows that colonial governors who raised more taxes and enacted more tax ordinances were promoted to colonies with greater status and higher salaries.[104] Kirk-Greene suggests that monitoring of gubernatorial performance was even stricter in colonies receiving CD&W funds.[105] The case of Gambia, one of the poorest colonies at the time, is illustrative: in 1945, Governor Hilary Blood set up Native Treasuries for the purpose of colonial development in the *Protectorate* (the section of the territory under native authority). He empowered the chiefs managing these treasuries to raise taxes and build infrastructure to stimulate development and expand the tax base.[106] In recognition of his efforts, Blood was rewarded with a second governorship, this time in Barbados.

The interwar reforms also strengthened career incentives for junior officials. Reformers of the Colonial Service believed that the best way to induce performance was to offer a clear track for professional promotion within the Service. The 1932 unification of colonial civil services, also recommended by the Warren Fisher Report, was a key step in this direction.[107] Colonial administrations were largely siloed organizations before unification, guided by idiosyncratic traditions and rules; transfers between colonies were rare. The unification of over 35 colonial administrations (including the prestigious Indian, Malayan, and Sudanese Civil Services) expanded the career opportunities of ambitious officials and standardized

[101]For example, the governor's salary in 1947 in Nigeria was £6,500, compared to £2,500 in Gambia (Kirk-Greene, 2000, Table 7.3).

[102]Meredith (1975, p.494).

[103]Interestingly, this method of evaluating governors shares similarities with tournament models in modern-day China (Li and Zhou, 2005; Truex, 2016).

[104]Xu (2018).

[105]Kirk-Greene (2000, p.227).

[106]Ceesay (2019, pp.94–96).

[107]Jeffries (1938).

promotion criteria. Sir Charles Jeffries, who led the unification, stated:[108]

> The main purpose of the unification scheme [...] was to aid recruitment by offering candidates admission to a corporate Service with a promise of consideration for advancement to any of the scheduled posts for which their qualifications and merits make them eligible. [...] Eligibility for promotion outside their territories was now written into the constitution instead of being an uncovenanted act of patronage on the part of the Secretary of State. [The members of the unified service] benefited too from the improvements in salaries, pension arrangements, and general conditions of employment associated with the development of the unification scheme.

The unification aligned the standards of the Service with those offered in the most reputable colonies and opened new opportunities for officials serving in less desirable territories. According to Kirk-Greene, the unification was particularly consequential for professional and technical staff in smaller colonies, where promotion prospects were otherwise unfavorable.[109]

Performance-based salary rules accompanied the unification. The Warren Fisher Report included a recommendation to use a long incremental salary scale to induce performance. In particular, it advocated for the use of an "efficiency bar",[110]

> which requires the production of a certificate of efficiency from the Head of the officer's Department before further progress up the scale can be made. Our evidence shows that the purpose of the institution of the long scales was to prevent a block in promotion, and to promote recruitment by offering to candidates the prospect of attaining at least a reasonably high salary in return for efficient service and irrespective of the occurrence of vacancies.

The efficiency bar was enshrined in *Appointments in Her Majesty's Colonial Service*, an annual publication prepared by the Colonial Office detailing conditions of service, promotion, and transfers of Colonial Service personnel.[111] The Warren Fisher Report concluded by stating that promotion to higher ranks would occur "by selection on the sole basis of merit,"[112] a major deviation from the centuries-old seniority rule.[113]

Performance assessment. Reforms in promotion and compensation rules in the interwar years were designed to induce effort among colonial officials, even those deployed to less-than-ideal posts. But how was performance assessed? Governors led the process. Unlike

[108] Jeffries (1972, p.13).
[109] Kirk-Greene (2006, p.31).
[110] Cmnd. 3554: p.33.
[111] Colonial Office (1954, Section 8, par. 8).
[112] Cmnd.3554: p.34.
[113] Bradley (1950, p. 17).

bureaucratic leaders today,[114] colonial governors micromanaged their staff and monitored subordinates closely. Governors gained a reputation for doing so and were casually nicknamed the "stick of H[is] M[ajesty]."[115]

Governors wrote annual confidential reports on all their senior officers and submitted copies to the Colonial Office. Promotion requests within or across colonies required the governor's recommendation.[116] The Staffing Division at the Colonial Office had the final word on promotions and raises, but these decisions were largely based on the governor's annual reports.[117] The centrality of the governor's confidential reports was recognized in the Promotions to Higher Appointments section of the final report of the 1948 Conference of African Governors in London:[118]

> The annual confidential reports supplied by Governors form the basis of the Colonial Office system of "noting" [i.e., consideration for promotion]. As these reports come in, they are carefully scrutinized not only by the Colonial Service Department but also by the appropriate geographical department, the appropriate adviser (where there is one) in the case of professional officers, and by a higher authority [Secretary of State] with a view to determining whether any particular officer should be specially noted as suitable for consideration of promotion in the ensuing year. [...] The *main criterion* which determines whether an officer shall be noted is merit as shown by his report.

Holding the key to promotions and salary increases, the governor exerted substantial leverage over the career trajectory of his subordinates. If meeting the fiscal mandate was important for promotion, one can expect the governor to use his authority to compel subordinates to meet that goal. A biographical anecdote illustrates how the governor's expectations trickled down the command chain. Sharing his experience as a cadet in Northern Rhodesia, Harry Franklin recollects the instructions he received from his District Commissioner upon arrival:[119]

> "The only [duty] that matters, if you want promotion, is tax-collection. The more tax you collect the higher the governor will rate you."

To sum up, starting in the interwar years, the Colonial Service was transformed into a modern bureaucratic organization in which colonial governors—the top political and bureaucratic authority in the colony—were carefully vetted to ensure commitment to the new

[114] Patty (2018, p.202).
[115] Jeffries (1949, p.102).
[116] Even appeals to the Secretary of State regarding a governor's decision were elevated through him (Jeffries, 1972, p.10).
[117] Other than the governor's annual reports, the Colonial Office had records only of the officer at the time of entry into the Service (Jeffries, 1956, pp.145–146).
[118] FO 371 67589, Appendix V, Colonial Service: p.8. Italics added.
[119] Franklin (1974, p.37).

agenda of imperial development. In this organizational hierarchy, the governor's fate was in the hands of the Colonial Office, and the fates of his subordinates were in his. Screening like-minded individuals into both senior and junior posts became a priority in the metropole. However, to ensure effort toward the mission's objectives under conditions of limited direct oversight, verifiable performance targets—with tax collection high on the list—were implemented at every rank of the Civil Service, from the governor to the probatory cadet.

5.3 Recruitment and Effort-Inducing Reforms: An Empirical Test

Having discussed recruitment and promotion policies in the Colonial Service, I now leverage the career trajectories of *colonial governors* in Africa to test the two proposed mechanisms behind the performance of imperial aid:[120] First, the alignment of preferences between the metropole and colonial authorities; second, the incentive-compatibility between programmatic goals and individual career advancement.

To address the first set of issues, relating to adverse selection, I exploit reforms in the recruitment of colonial governors. To examine the second set of issues, related to moral hazard, I study governors' efforts to meet verifiable outcomes at critical stages of their careers, and exploit variation in the metropole's oversight capacity—that is, changes in the degree of information asymmetry between the principal and the agent.

5.3.1 Recruitment Reforms

Here I examine whether the positive effect of aid on local revenue mobilization found in Section 4 resulted from improvements in the recruitment of colonial governors, the highest-rank political authority in the colony. Given governors' massive power and leverage over their subordinates, I expect their commitment to the CD&W initiative to be instrumental in meeting the fiscal mandate.[121]

I use two strategies to identify the governor's *type*: First, following Xu, I differentiate between governors appointed before and after the publication of the Warren Fisher Report in 1930.[122] Those appointed before 1930 assumed office under the old patronage system, whereas those appointed after 1930 underwent an independent evaluation of their record

[120]Ideally, one would also test recruitment and incentive structures within the lower echelons of the Colonial Service. However, it is not possible to match subnational fiscal performance to individual officers.

[121]Strategic appointment of governors is a possibility. I address this with a series of connectedness variables and, when permitted, governor fixed effects.

[122]Xu (2018) shows that governors appointed after the Warren Fisher Report of 1930 mobilized more fiscal revenue, but he does not consider the role of imperial aid or its fiscal mandate.

and aptitude. I expect the new recruitment system to screen in governor candidates with proven commitment to London's agenda for the colonies, including the CD&W program and its fiscal mandate.

I hand-coded the career trajectories of the 80 governors who served in African colonies between 1929 and 1969 from Kirk-Greene's (1980) biographic compendium.[123] I divide governors into two groups—*Warren Fisher* vs. *Patronage* appointees—based on the starting date of their first governorship ever. Because the CD&W initiative was launched in 1929, only a fraction of governors assumed their first ever governorship before 1930: 13% of the colony–year sample. With that caveat in mind, I run the following interaction model:

$$\begin{aligned}\text{Tax Revenue}_{it} &= \beta_0 \text{Tax Revenue}_{i,t-1} + \beta_1 \text{CDW Grant Issue}_{it} + \beta_2 \text{Warren Fisher Appointee}_g \\ &+ \beta_3 (\text{CDW Grant Issue}_{it} \times \text{Warren Fisher Appointee}_g) + X'_{it}\Phi + W'_g\Gamma \\ &+ \rho_i + \delta_t + v_{it}\end{aligned} \tag{4}$$

with $X_{i,t}$ denoting the same time-varying colony-level controls as in previous models; W_g governor-level controls; and ρ_i and δ_t colony and year fixed effects, respectively. I expect $\beta_3 > 0$ if the Warren Fisher reform screened mission-committed types into colonial governorships. The before–after divide may correlate with other differences: younger governors might have received a better education and had had less time to assume a governorship by 1930 (meaning that younger governors might be particularly high performing). To account for this possibility, I control for the governor's date of birth (DOB) and for the year of entry into Colonial Service, separately.

Xu has provided strong causal evidence that the Warren Fisher Reform effectively ended nepotism in the Colonial Service.[124] However, such problems may have persisted—if only temporarily—beyond 1930. Connected officials could have been assigned to colonies with higher tax potential; another possibility is that connectedness allowed governors to exert less effort, as had historically occurred both in the Colonial Service and in other bureaucracies.[125] If such personal ties existed and are not accounted for, I risk attributing to recruitment reforms (and later, effort-inducing policies) causal effects that actually stem from underlying

[123] In the main analyses, I drop 5 governors who were manifestly appointed for political reasons: Edward William Macleay Grigg, Evelyn Baring, George Stewart Symes, Hubert Winthrop Young, and Malcolm John MacDonald. Three of these individuals were appointed after the Warren Fisher reform and were commissioned with very specific missions; e.g., MacDonald was appointed to Kenya in 1963 and navigated the last year of this territory as British colony. The political reasons that led to their appointment are explained are explained by Kirk-Greene (1979) and Nicolson and Hughes (1975). Appendix L shows that all results, except the Warren Fisher Governor test, hold.

[124] Xu (2018)

[125] Colonnelli, Prem and Teso (2020); Guardado (2022).

patterns of favoritism.

To address this concern, I measure personal connections between each governor and their two direct superiors in the Colonial Office: the Secretary of State for the Colonies—a political appointee at the apex of the Colonial Office—and the Permanent Undersecretary of State for the Colonies—the highest-ranking civil servant, directly beneath the Secretary in the Colonial Office hierarchy.[126] For each governor, secretary, and undersecretary, I code where they attended public school (i.e., primary and secondary education), which university they graduated from (and which college they belonged to, if they attended Oxford or Cambridge), and their graduation dates.[127] These graduation dates allow me to determine whether individuals overlapped at the university.

I also consider a second channel of connection: membership in the same companion orders, which may have inclined Colonial Office superiors to be more lenient toward governors, whether due to camaraderie or reputational concerns. Following Kirk-Greene (1980, pp. 27–30), I focus on three orders commonly awarded to governors: the Order of St. Michael and St. George, the Order of the British Empire, and the Royal Victorian Order. I code whether a governor held the same title within one of these orders at the same time as their Secretary of State or Permanent Undersecretary. For each governor, I record the date at which they were elevated to knighthood or grand knighthood in any of these orders and determine whether their superiors held the same distinction at that time. Crucially, these companion order dyads are time-varying, as they change with any turnover in the offices of governor, Secretary of State, or Permanent Undersecretary, or with new appointments to these orders.[128]

Finally, I include a time-varying indicator for whether the governor had been knighted, regardless of whether his superiors had received the same distinction. Knighted governors may have been assigned to colonies with higher tax potential or evaluated less rigorously, given their elevated status. This indicator captures knighthoods from the three main orders previously discussed, as well as from three less common ones among governors: the Order of the Bath, the Order of the Thistle, and the Order of the Knights Bachelor.

The top panel of Table 3 shows differences between *Warren Fisher* and *Patronage* ap-

[126] Jeffries (1956, Appendix II).

[127] I thank an anonymous reviewer for suggesting this approach to measuring connectedness.

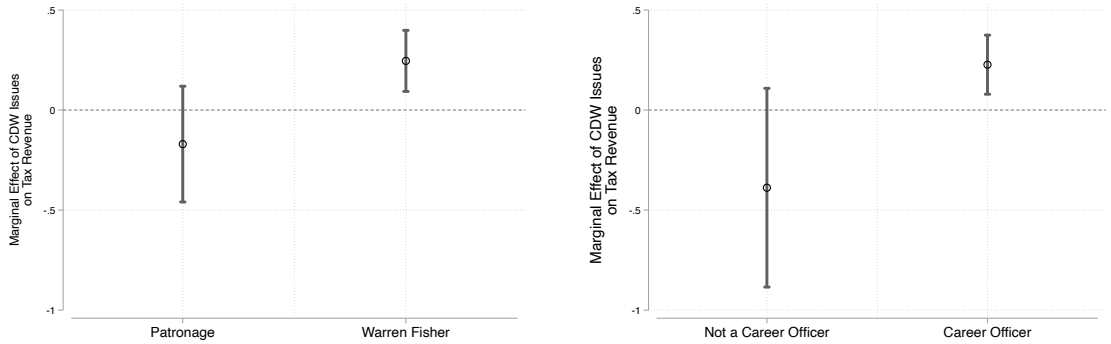
[128] Peerage, although an intuitive measure of elite connectedness, is not a useful indicator this late into the British Empire: only one African governor during this period—Charles Dundas—was born into the peerage. A few others were elevated to the peerage later in life: Grigg (1945), Richards (1947), Twining (1958), and Baring (1960). However, these ennoblements occurred only after their retirement from the Colonial Service: Richards and Twining were elevated the same year they retired, Baring one year after, and Grigg two decades later.

Table 3: Recruitment Track and Administrators Performance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CDW Grant Issue × Warren Fisher	0.416**	0.401**	0.449**	0.235	0.591***	0.458**	0.417**
	(0.178)	(0.180)	(0.185)	(0.227)	(0.203)	(0.188)	(0.180)
CDW Grant Issue	-0.170	-0.156	-0.200	-0.005	-0.344*	-0.218	-0.171
	(0.175)	(0.178)	(0.179)	(0.218)	(0.196)	(0.192)	(0.176)
Warren Fisher	0.573*	0.536*	0.514	0.650**	0.485	0.576*	0.611*
	(0.324)	(0.309)	(0.325)	(0.309)	(0.334)	(0.325)	(0.331)
DOB	Yes	No	Yes	Yes	Yes	Yes	Yes
Date of Entry	No	Yes	No	No	No	No	No
Same Public School†	No	No	Yes	No	No	No	No
Same University	No	No	No	Yes	No	No	No
Same College	No	No	No	No	Yes	No	No
Same Order	No	No	No	No	No	Yes	No
Governor Knight	No	No	No	No	No	No	Yes
Lag of DV	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	379	379	379	379	379	379	379
R-squared	0.888	0.887	0.888	0.889	0.889	0.888	0.888
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
CDW Grant Issue × Career Official	0.615**	0.616**	0.617**	0.607**	0.602**	0.634**	0.614**
	(0.291)	(0.291)	(0.292)	(0.295)	(0.292)	(0.295)	(0.292)
CDW Grant Issue	-0.388	-0.389	-0.388	-0.394	-0.376	-0.404	-0.387
	(0.300)	(0.300)	(0.302)	(0.303)	(0.302)	(0.307)	(0.301)
Career Official	-0.040	-0.066	-0.067	0.007	-0.037	-0.044	-0.040
	(0.168)	(0.162)	(0.168)	(0.180)	(0.169)	(0.177)	(0.168)
DOB	Yes	No	Yes	Yes	Yes	Yes	Yes
Date of Entry	No	Yes	No	No	No	No	No
Same Public School	No	No	Yes	No	No	No	No
Same University	No	No	No	Yes	No	No	No
Same College	No	No	No	No	Yes	No	No
Same Order	No	No	No	No	No	Yes	No
Governor Knight	No	No	No	No	No	No	Yes
Lag of DV	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colony Fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	379	379	379	379	379	379	379

Note: These models examine whether the governor's recruitment method impacted the fiscal performance of the CD&W program. *Warren Fisher* = 1 if the governor's first-ever appointment dates after the 1930 Warren Fisher Report, 0 otherwise. *Career Official* = 1 if the governor entered the civil service as a cadet, 0 otherwise. Colony-level controls: log of Population, Resource Value, and Internal Conflict. Governor-level controls: *D.O.B.* (date of birth) and *Date of Entry* (date of first appointment into the colonial service, regardless of rank). † Each row in the connectedness controls includes two variables: one for the governor and the Secretary of State, and another for the governor and the Permanent Undersecretary of State. Refer to Appendix O for the expanded version of the regression table. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Figure 4: Recruitment and Fiscal Performance



(a) Appointment (b) Background

Note: Figures show the marginal effects based on column 1 and 8 in Table 3 respectively. 90% CI. A governor is appointed by meritocratic criteria (patronage) if he assumes his first gubernatorial office after (before) 1930. A governor is a career officer if he joined the Colonial Service as a cadet; he is not a career officer if he was recruited from the private sector, military, or Colonial Office (the latter is not part of the Colonial Service).

pointees in meeting the fiscal mandate of the CD&W program, and Figure 4a plots marginal effects drawn from column 1. The effect of imperial aid on tax revenue is not different from zero in the presence of a patronage governor ($\hat{\beta}_1 = 0$), but it is positive and different from zero when the colony is under the command of a governor appointed following the Warren-Fisher report ($\hat{\beta}_3 > 0$). Models in the top panel of Table 3 are largely robust, with one exception: When a new era governor overlapped at the same university with the Permanent Undersecretary of State, the effect of the interaction coefficient dissipates (column 4); importantly, this null does not repeat in other models that include the *Same University* control.

A second strategy to identify the governors' intrinsic motivations relates to their professional background. After World War I, junior recruits joined the service via "open competition;" in addition to formal qualification requirements (e.g., a bachelor's degree) candidates had to submit recommendation letters (often from ex-service members) and be interviewed by the Colonial Office. These interviews—originally conducted by Furse himself—were intended to select graduates who demonstrated academic merit and an affinity with the new vision for the colonies—precisely to ameliorate agency problems. Upon a positive interview, the new recruits spent two full years "in probation" (one receiving specific training at Oxford and Cambridge, another in the field) after which—and conditional on a positive report—they became civil servants. Candidates under probation received the title "cadets."[129] Almost

[129]Expressions such as "Assistant District Officer, Assistant District Commissioner, Assistant Resident,

two thirds of the governors in the dataset initiated their careers as cadets.

The path from cadet to governor was involved: After the two-year probation (later extended into three), they were promoted to assistant district officers, then to district officers, (assistant) provincial commissioners, (deputy) chief secretary, and finally governor. On average 23 years were needed for promotion within the ranks from cadet to governor (with a sample maximum of 34 years) and possibly multiple international moves.

Governors who did not rise through the ranks of the Colonial Service were recruited from the military (particularly after World War II), the private sector (typically businessmen with experience in trade or mining), and the Colonial Office (which belonged to the Civil Service, not the Colonial Service). Compared to this group, I expect governors who entered the Service as cadets to have fully internalized the mission's goals. Their prolonged field experience likely made them more adept at identifying priorities, communicating them to subordinates, and monitoring compliance. Specifically with respect to imperial aid, I expect these "cadet-made governors" to be more effective in meeting the CD&W fiscal mandate than noncareer officials, who may have assumed office lacking the necessary know-how, leadership skills, or shared interests.

I test this proposition by rerunning expression (4), but this time I use Career Official as the modulating variable. Drawing from Kirk-Greene's biographies, I establish whether African governors entered the Service as cadets, and I interact that variable with CD&W issues. Results are reported in the bottom panel of Table 3; for ease of interpretation, Figure 4b plots marginal effects drawn from column 8. Overall, results suggest that the CD&W fiscal mandate was more likely to be met when a career governor was in command.

The findings in this section are consistent with the proposed mechanism—that is, the new generation of closely-vetted colonial governors smoothed out agency issues between the metropole and the colony. Arguably, "Warren Fisher governors" and "cadet-made governors" not only shared London's agenda for the colonies but also possessed individual qualities that helped them promote within the ranks and attain a governorship (e.g., above-average competence). Although it is impossible to study the screening mechanism in isolation with observational data, next I examine how governors reacted to performance incentives, specifically.

Assistant Collector" denoted the same rank. Cadet = 1 in the dataset if the governor biography in Kirk-Greene (1980) lists any of the above expressions.

5.3.2 Eliciting Gubernatorial Effort

I leverage two pivotal moments in a governor's career—reappointment and retirement—to examine the role of performance-based incentives. Governorships conferred quasi-absolute powers, professional and social prestige, and emoluments more generous than most civil service positions in the metropole. First-time governors were typically assigned to a Class IV colony (or Class III, if fortunate). The Colonial Office assessed their performance in this initial post to decide whether to reappoint them, possibly to a higher-status colony. Only about one third of governors in the sample convinced the Colonial Office of their merit for reappointment. If successful, further governorships often followed—up to four in some cases. The make-or-break point was clinching that first reappointment.

Beyond future earnings and enhanced social standing, reappointment significantly increased the likelihood of securing a governor's pension, which was generous by the standards of the time. To qualify, the individual needed to serve ten years as governor (later reduced to three) and reach the age of 60 (later reduced to 55). Failing to meet either criterion meant that pension emoluments were calculated based on the last position held before the governorship—typically, a substantial pecuniary loss. This (ingenious or perverse) rule created strong incentives to secure a second governorship. Nicolson and Hughes note that the "peculiar nature" of pension eligibility "put a premium on getting a second governorship."[130]

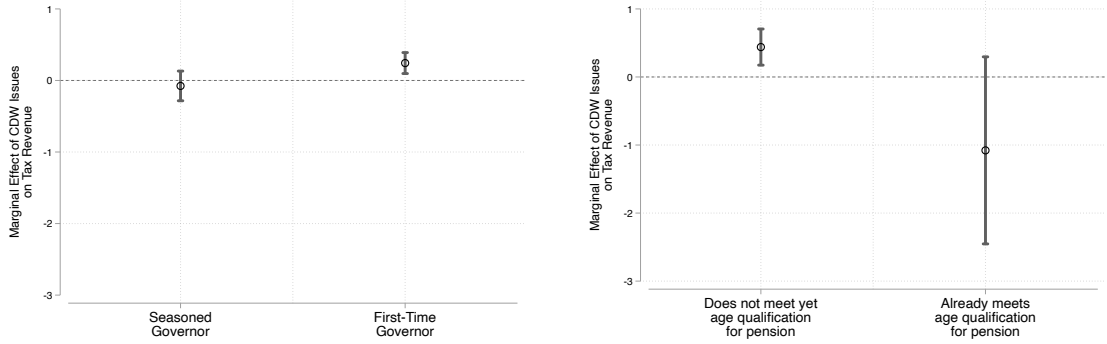
Building on this observation, I expect first-time governors to be particularly effective in meeting the fiscal mandate of the CD&W program. By mobilizing local revenue to match imperial aid—an *observable* outcome—first-time governors could signal their value to the Colonial Office and improve their chances of reappointment.

I test this proposition by estimating the specification in Expression (4), using as the moderator a dummy variable equal to 1 if the colony is governed by a first-time appointee. Results are reported in the top panel of Table 4, where I control for the governor's date of birth, date of entry into the Service, connectedness variables, and the governor's social status (proxied by knighthood). For ease of interpretation, marginal effects drawn from column 1 are plotted in Figure 5a. The sign and magnitude of β_3 remain stable across specifications, suggesting that personal connections did not interfere with governor assignment or evaluation. Notably, the interaction coefficient magnifies when governor fixed effects are introduced in column 8, indicating that governors exerted greater effort in their first assignment compared to subsequent ones. Overall, the results in the top panel of Table 4 support the theoretical mechanism: in the presence of performance-based promotion incentives, CD&W

[130]Nicolson and Hughes (1975, p. 95).

funds were more likely to expand colonial taxation.

Figure 5: Career Incentives and Performance



(a) Seeking First Reappointment (b) Before/After Pension Qualification

Note: Figures show the marginal effects based on columns 1 and 10 in Table 4, respectively. 90% confidence intervals shown. The scale of the left-hand figure has been adjusted to match that of the right-hand figure, which may make the effects appear smaller than they are. *First Governorship* = 1 if the colony is under the command of a first-time governor, 0 otherwise. *Age Requirement* = 1 if the governor meets the minimum age to qualify for a retirement pension, 0 otherwise. Governors qualify if they are at least 60 years old (or 55 after 1947). All governors in panel (b) meet the tenure requirement.

For most office holders, the governorship was the final post before retirement.[131] Governors' retirement pensions were governed by special legislation: to qualify, they were required to complete ten years in office—the *tenure requirement*. For career officials, this threshold was reduced to three years in 1935. If a governor failed to meet the tenure requirement, his pension was calculated based on the rank (or profession) held prior to assuming gubernatorial office. Anecdotal evidence suggests that governors with military backgrounds actively sought reappointment in order to secure the substantially more generous pension associated with the governorship. Some, like Sir Gordon Guggisberg, pursued this goal despite serious health issues, ultimately dying just months short of meeting the ten-year requirement.[132]

To offer a second test of performance-based incentives, I focus on governors who had already met the tenure requirement and exploit the discontinuity created by the minimum age threshold for pension eligibility. If incentives operate as theorized, one would expect greater effort toward fulfilling the CD&W fiscal mandate by *tenured* governors before they reached age 60 (or 55 after 1947), compared to afterward. Once both criteria for pension eligibility were satisfied, the Colonial Office lacked further means to induce gubernatorial effort.

[131]Kirk-Greene (1980, p.26).
[132]Kirk-Greene (1979, p.217).

Table 4: Career Incentives and Fiscal Performance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CDW Issue × First Time Governor	0.343***	0.331***	0.337***	0.323**	0.352***	0.341***	0.333***	0.648**
	(0.122)	(0.121)	(0.122)	(0.128)	(0.124)	(0.118)	(0.120)	(0.264)
CDW Grant Issue	-0.118	-0.106	-0.107	-0.111	-0.128	-0.124	-0.110	-0.474*
	(0.124)	(0.123)	(0.126)	(0.128)	(0.126)	(0.125)	(0.123)	(0.255)
First Time Governor	0.019	0.057	0.043	-0.097	0.019	0.004	0.006	0.242
	(0.189)	(0.189)	(0.189)	(0.194)	(0.193)	(0.199)	(0.191)	(0.698)
First Lag of DV	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colony Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DOB	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Date of Entry	No	Yes	No	No	No	No	No	No
Same Public School	No	No	Yes	No	No	No	No	No
Same University	No	No	No	Yes	No	No	No	No
Same College	No	No	No	No	Yes	No	No	No
Same Order	No	No	No	No	No	Yes	No	No
Governor Knighted	No	No	No	No	No	No	Yes	No
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Governor FE	No	No	No	No	No	No	No	Yes
Observations	379	379	379	379	379	379	379	377
R-squared	0.888	0.888	0.888	0.889	0.888	0.888	0.888	0.934

	(9)	(10)	(11)	(12)	(13)	(14)	(15)
CDW Issued	0.440***	0.464***	0.442***	0.463***	0.471***	0.436***	0.540***
	(0.160)	(0.160)	(0.161)	(0.160)	(0.161)	(0.159)	(0.132)
CDW Issued × Age Qualification Met	-1.518*	-1.468*	-1.521*	-1.642**	-1.569*	-1.487*	-1.805**
	(0.818)	(0.797)	(0.800)	(0.825)	(0.817)	(0.809)	(0.711)
Age Qualification Met	-0.315	-0.225	-0.319	-0.265	-0.288	-0.286	-0.046
	(0.575)	(0.604)	(0.582)	(0.575)	(0.586)	(0.594)	(0.590)
Tenure Requirement Met	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lag of DV	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Same Public School	No	No	Yes	No	No	No	No
Same University	No	No	No	Yes	No	No	No
Same College	No	No	No	No	Yes	No	No
Same Order	No	No	No	No	Yes	No	No
Governor Knighted	No	No	No	No	No	No	Yes
Colony FE	No	Yes	Yes	Yes	Yes	Yes	Yes
Governor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Governor FE	No	No	No	No	No	No	Yes
Observations	164	164	164	164	164	164	164
R-squared	0.965	0.965	0.965	0.965	0.966	0.965	0.973

Note: *First Term Governor* = 1 if the governor is in his first governorship; 0 otherwise. *Age Requirement Met* = 1 if the governor meets the minimum age to qualify for retirement pension; 0 otherwise. *Tenure Requirement Met* = 1 if the governor meets the minimum number of years in office to qualify for retirement pension; 0 otherwise. *Colony-level controls:* log of Population and Colonial Unrest. *Governor-level controls: D.O.B.* (Date of Birth); *Date of Entry* = date of first appointment into the Colonial Service regardless of rank. These two variables are excluded from columns 9–14 as they are time-invariant and collinear with governor fixed effects. *Connections:* Each of the four connection rows (Same Public School; Same University; Same College; Same Order) includes two dummy variables: one for the governor–Secretary of State pair and another for the governor–Permanent Undersecretary of State pair. These equal 1 if both individuals attended (and overlapped at) the same educational institution or were members of the same companion order; 0 otherwise. Refer to Appendix O for the expanded version of the regression table. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

For this test, I restrict the sample to governors who had met the tenure requirement—42% of the sample (N = 164). This relatively low percentage is consistent with the high bar for reappointment. Within this subset, roughly one quarter of governors had also reached the minimum age requirement, suggesting that remaining active beyond retirement age was uncommon—likely due to health limitations in the tropics, as noted in numerous autobiographies.

Results are reported in the bottom panel of Table 4. I begin with a model that includes year and governor fixed effects, thereby leveraging within-governor variation over time, and then add the connection controls stepwise. In the final specification (column 15), I include colony fixed effects. These models estimate the average effect of imperial aid on taxation for tenured governors, both before and after they reach the minimum retirement age. Figure 5b summarizes the main finding: while tenured governors remained below the retirement age threshold, an inflow of CD&W funds was associated with a positive increase in local taxation—similar in magnitude to the effects reported in Table 1. However, once they crossed the age threshold, the coefficient turns negative and is borderline statistically significant.

In short, once governors became fully eligible for their pensions, they appeared to scale back their efforts to meet the fiscal mandate of the CD&W program. Looking back, it seems likely that those who stayed in office beyond retirement age were not expected to prioritize development goals. The alternative explanation—that the Colonial Office did not anticipate this drop in effort—would point to an oversight in judgment on the metropole's part.

5.4 Moral Hazard and Varying Information Asymmetries between the Colonial Office and the Governor

The previous test examined the importance of making the governor's career advancement incentive-compatible with the fiscal mandate of the program. Here, I turn to the root of the moral hazard problem between the Colonial Office and the governor: the former could not directly observe the governor's actions or decisions—only his outcomes. Aware of this limitation, governors may have exploited informational gaps to shirk effort.

Five of the Permanent Undersecretaries of State who served during the CD&W program had prior field experience in the colonies (by contrast, only one Secretary of State for the Colonies did). Some had served in Africa as members of the Colonial Service (Maffey, Macpherson, Poynton), others in the King's African Rifles (Parkinson), or in other colonies without self-government (Wilson). This kind of field experience may have made them better equipped to monitor gubernatorial performance. With first-hand knowledge of the challenges

of colonial administration, they were more likely to distinguish between a genuine explanation and an excuse for (fiscal) underperformance. By the same token, governors may have been less inclined to shirk when their supervisors had field experience and were thus harder to mislead.

Appendix M explores variation in this source of information asymmetry by estimating the effect of CD&W disbursements on tax revenue, conditional on whether the Permanent Undersecretary of State had prior field experience. Results suggest that the association between aid disbursements and tax revenue was indeed stronger when the Colonial Office was headed by an Undersecretary with field experience. While these results are not causally identified—e.g., the appointment of a particular type of Undersecretary may have been endogenous to fiscal crisiss in the metropole—they are consistent with the presence of hidden action problems at the core of imperial aid delivery.

5.5 Alternative Mechanisms: Direct Technical Assistance

The positive impact of imperial aid on tax performance may not have resulted solely from the fine-tuning of selection and promotion rules in the Colonial Service, but also from directed technical assistance—or both. For context, less than 1% of all CD&W spending was allocated to direct technical assistance.

While the CD&W program itself did not spend substantially on technical assistance, other initiatives sought to raise managerial skills and administrative practices in the colonies. For example, the British Board of Inland Revenue (the British equivalent of the American IRS) deployed experts to help design and improve the administration of colonial income tax departments.[133] These efforts were supplemented by the creation, in 1942, of the Colonial Income Tax Office—a new division within the Board of Inland Revenue—which assisted colonial governments in taxing British multinationals seeking to repatriate profits to the metropole and avoid colonial taxation.[134] The Colonial Income Tax Office also offered advice on legal matters, and its specialists responded to inquiries about colonial and overseas tax legislation. At the request of colonial governments, and in coordination with the Department of Technical Co-Operation, it deployed specialists to the field to advise on tax reform.[135]

Beginning in 1952, the Colonial Income Tax Office also offered six-month training courses for colonial tax personnel in London. These courses targeted both British and African candidates with proven field experience. By 1967, the office had trained 373 students from 40

[133]Conference on the Technique of Development Finance in British Colonial Territories, 1951: p.12.
[134]O.D. 1/1.
[135]O.D. 1/16.

colonies. Importantly, CD&W scholarships were used to fund the participation of colonial officers in these courses.[136] To qualify for the courses, candidates had to demonstrate substantial experience as colonial tax collectors, be nominated by the head of their department, and secure financial support from their own colonial government. In Appendix N, I examine whether the observed positive association between CD&W issues and tax revenue is driven by participation in this training program, which I use as a proxy for direct technical assistance.

The results of this test are null. It is possible that this variable does not fully capture broader imperial efforts to build administrative capacity in the colonies. Perhaps, the effect of human capital investment on fiscal performance requires longer time horizons to show in the data. While these are plausible explanations, it is nevertheless notable that of the 24 African students who participated in the program before independence, 21 were nominated during the tenure of a first-term governor—precisely when gubernatorial incentives to mobilize taxation were strongest.

6 Conclusion & Implications for Today's Foreign Aid

By studying the CD&W program, I was able to leverage variation in recruitment and promotion rules within the Colonial Service to assess imperial aid performance. The empirical analyses indicate that imperial aid mobilized local taxation because organizational reforms in the Colonial Service selected like-minded agents and provided them with strong incentives to meet the program's fiscal mandate.

The positive effect of imperial aid on colonial taxation rests on three scope conditions. First, the donor had virtually unrestricted power to select local leadership. Second, the donor was able to shape colonial bureaucracies in ways that made career incentives incentive-compatible with programmatic goals. Third, the program included cost-sharing obligations.

The first condition refers to London's ability to appoint colonial leaders who shared its new vision for development. I showed that the replacement of unvetted patronage appointees with career governors committed to the developmental agenda increased the effectiveness of imperial aid in mobilizing local taxation. This scope condition is arguably inapplicable in the postcolonial world. While donors may influence who retains power[137] or exert leverage in post-conflict contexts by endorsing leaders committed to state-building,[138] international

[136] Conference on the Technique of Development Finance in British Colonial Territories, 1951: p.13.

[137] For instance, Faye and Niehaus find that U.S. administrations channel aid to U.S.-friendly leaders during election periods (Faye and Niehaus, 2012). A more troubling case of foreign interference is discussed in Berger et al. (2013).

[138] Fearon and Laitin (2004); Krasner (1999); Lake (2016).

law prohibits foreign powers from directly selecting the leaders of sovereign states.

Perhaps the more relevant question is not whether donors can control who holds power, but rather *to whom they choose to give aid*. Drawing on extensive experience with the modern aid regime, Collier advocates targeting countries led by "reform-minded" leaders who have already demonstrated a commitment to growth-enhancing policies, such as initiating fiscal reforms. These leaders, he argues, are more likely to use aid effectively and make meaningful progress in poverty reduction.[139] An alternative strategy is proposed by Pomerantz, who suggests that recipients design a menu of projects, and donors fund those aligned with their own priorities—thereby creating shared interest by design and increasing recipient ownership.[140] The importance of preference alignment is further supported by Killick et al.'s qualitative meta-analysis of World Bank adjustment programs.[141] The present paper reinforces these insights by leveraging variation in the degree of shared interest between the metropole and colonial officials, using within-country evidence and addressing threats to inference.

The second scope condition emphasizes the metropole's ability to shape the structure and norms of colonial bureaucracies. This paper has shown that imperial aid worked *after* reforms aligned the promotion incentives of career officials with the goals of the development program. This finding supports Collier's claim regarding the importance of technical assistance in reforming civil services that might otherwise obstruct development.[142] That is, *sequencing matters*: technical assistance—such as building skills, increasing professionalism, rationalizing procedures, and enhancing transparency—should precede financial aid to ensure that recipient bureaucracies are capable of absorbing and using funds effectively. My findings suggest that technical assistance should also target promotion and pay structures as a means of aligning career advancement with administrative goals. In a related argument, van de Walle and Johnston (1996) contend that internal oversight mechanisms within local aid bureaucracies should be prioritized over physical development projects to enhance aid effectiveness. Even under very different institutional arrangements, the findings in this paper lend empirical support to that view.

The third scope condition is the fiscal mandate embedded in the CD&W program, which required colonial authorities to co-finance development projects using local revenue. "Counterpart funding" in World Bank projects has declined since the early 2000s, as recipient

[139]Collier (2007, ch. 7).
[140]Pomerantz (2024, pp. 178–179).
[141]Killick, Gunatilaka and Marr (1998).
[142]Collier (2007, p. 111).

governments often fail to fulfill their commitments.[143] Still, around half of Bank projects in the mid-2010s retained cost-sharing clauses.[144] Although this paper does not exploit variation in co-financing—since it was a constant feature of the CD&W program—it suggests that co-funding can be most effective when the career advancement of local aid administrators is incentive-compatible with fulfilling local contribution targets.

To conclude, the analysis of the CD&W program offers a novel perspective on the late British Empire—a period surprisingly underexplored in political science despite its relevance for understanding postcolonial development.[145] This paper finds that imperial aid was effective in mobilizing local taxation—a core pillar of modern statehood. Future research should explore whether the observed increase in tax effort benefited local populations—for instance, by expanding Africans' access to public services—and whether the fiscal push of the empire's final decades persisted in newly independent nations.

[143]Winters and Streitfeld (2018).

[144]The Millennium Challenge Corporation—a U.S. aid agency focused on infrastructure and capacity building—relied heavily on cost-sharing initiatives, as did several USAID programs before the agency was dissolved in early 2024.

[145]Important exceptions include Lee and Paine (2019*b*,*a*) and Opalo (2022), who examine the *political* legacies of constitutional reform and colonial legislatures. On the *economic* legacies of colonial investment, see Huillery (2009) and Ricart-Huguet (2021).

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Supplementary Online Appendices

Her Majesty's Aid

These appendices contain materials, results, and robustness checks that supplement the main text.

A Data

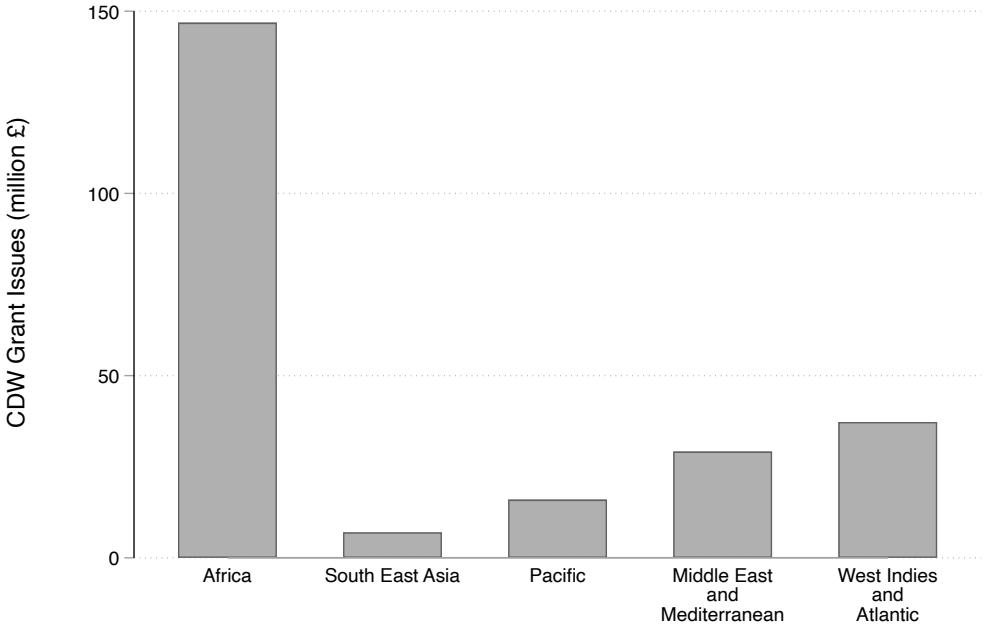
A.1 CD&W Funds

Table A-1: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
per capita tax revenue (constant)	5.789	4.176	0.687	27.411	397
per capita CD&W issues (constant)	1.134	1.965	0	14.312	397
per capita CD&W committed (constant)	1.541	3.183	0	28.122	397
per capita CD&W committed (constant)	1.577	3.22	0	28.122	386
ln(Population)	14.468	1.435	12.127	17.562	397
Colonial Unrest	0.121	0.326	0	1	397
UK Labour Government	0.272	0.446	0	1	397
UK Prime Minister	4.31	2.1	1	9	397

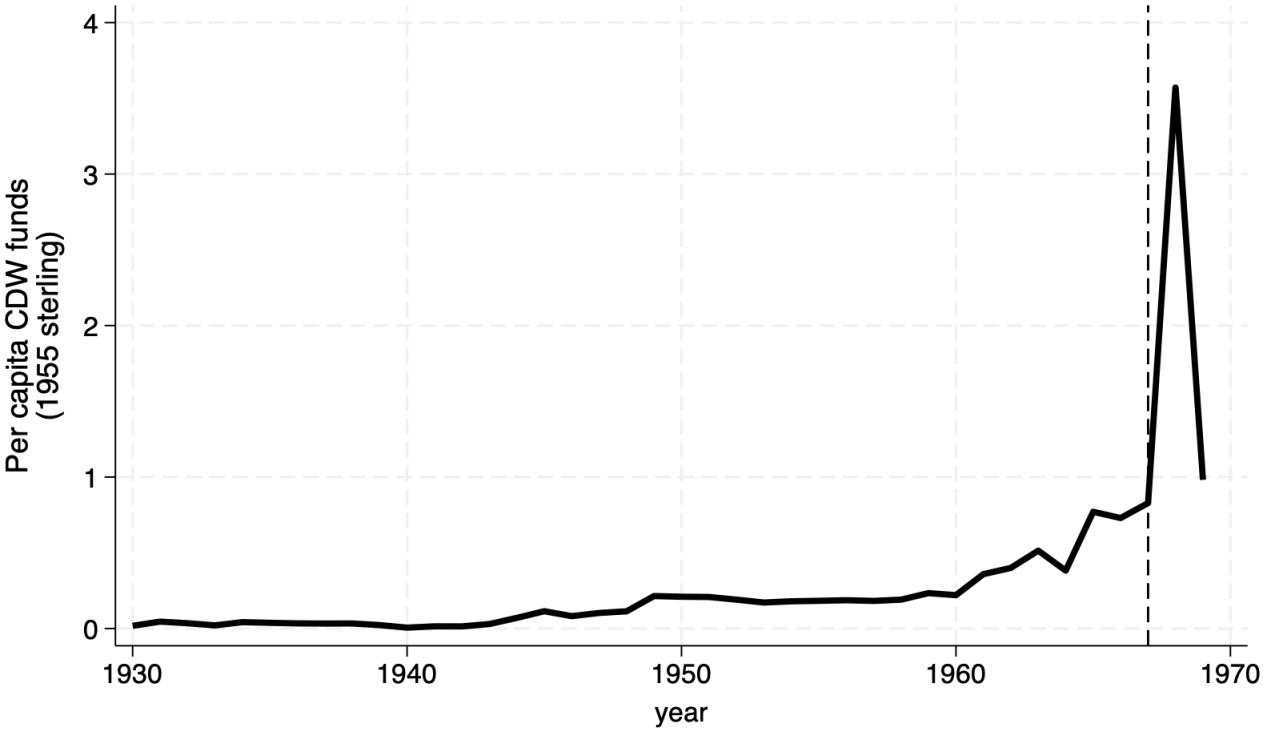
Note: The Unit of analysis is the colony-year. Annual CD&W issues represent the actual funds received by a colony in a given fiscal year. Source: For 1930–1939, *Colonial Development Annual Abstract Accounts*; for 1940–1969, the *UK's Annual Civil Appropriation Accounts* (Class II section). CD&W commitments denotes days-of-work equivalent aid committed per inhabitant. For 1929-9, data from *Annual Reports of the Advisory Committee of Colonial Development*, and 1941-69, from the *Annual Returns of Schemes*. Per capita tax revenue: denotes days-of-work equivalent paid in taxes; Population and Natural Resource Market Value are drawn from Albers, Jerven and Suesse (2023). Natural Resource Market Value is time-varying world market prices with the a basket of export commodities of the colony. Internal Conflict, originally from Brecke, drawn from Coppedge et al. (2023). UK Labour Government and Prime Minister identify (Wikipedia) is based on the executive composition by the end of the calendar year (which in the UK is ahead of the fiscal year by three months).

Figure A-1: Regional Distribution of CD&W Funds, 1929–1969



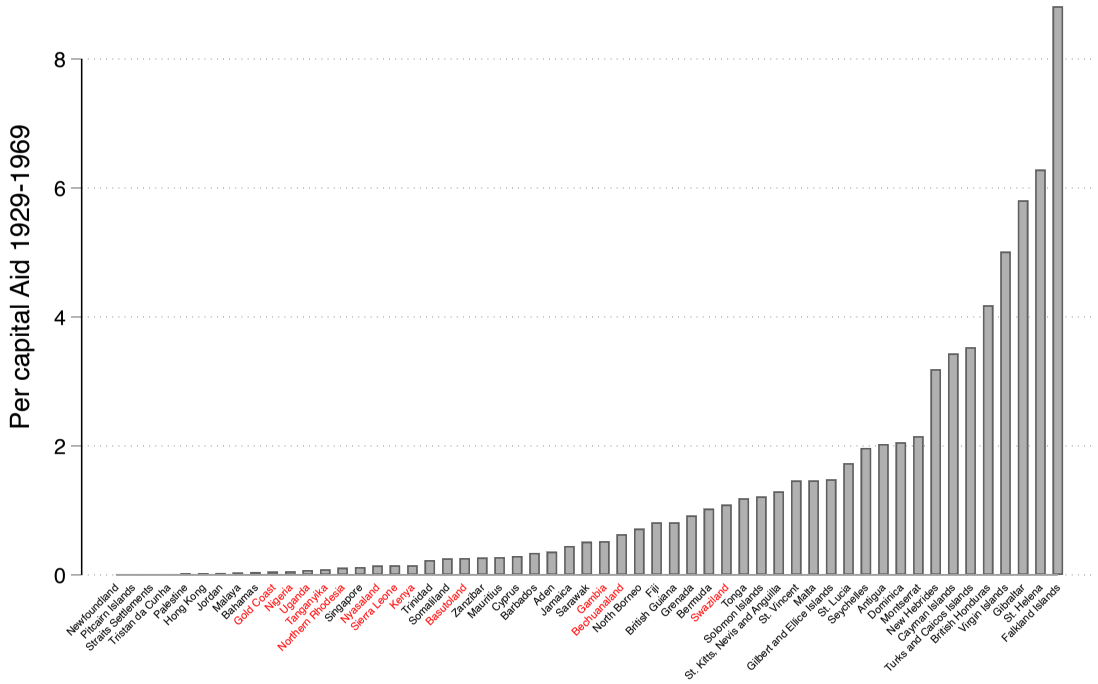
Note: This figure shows the nominal value of total CD&W grant-in-aid issued (i.e., actually received by the colonies) during the entire life-span of the program by region

Figure A-2: Per Capita CD&W Funds



Note: This figure shows per capita CD&W spending for all 56 qualifying colonies from the beginning to the end of the program. CD&W data refer to total issues (grants, loans, and research grants, with grants accounting for over 95% of the total). Population data come from the *Statesman's Yearbooks*. I entered data for 1929, *1940*, *1945*, *1955*, *1959*, *1963*, *1965*, and 1969 (with italicized years coinciding with the multiyear CD&W allocations analyzed in Appendix I) and interpolated interior values. Monetary figures are expressed in 1955 sterling pounds (Feinstein, 1976), making them comparable over time. The two highest per capita spending ratios appear in 1968 and 1969, when only small territories remained in the Empire (the last territorial colony in Africa to gain independence was Basutoland in 1967); accordingly, these two outlier years are excluded from the working dataset.

Figure A-3: Per Capita CD&W Funds by Territory



Note: This figure displays per capita CD&W spending for all qualifying colonies. Monetary values are expressed in 1955 sterling pounds (Feinstein, 1976). See Table A-2 for data sources. The figure reveals a strong negative relationship between total population and per capita CD&W allocations. The 12 African colonies included in the sample are highlighted in red.

A.2 Governor Data

Table A-2: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.
Career				
Post-Reform Governor	0.843	0.364	0	1
Cadet-made-Governor	0.724	0.447	0	1
First Governorship	0.601	0.49	0	1
Date of Birth	1894	12.3	1869	1916
Date of Entry	1919	12.4	1890	1948
Tenure Requirement	0.425	0.495	0	1
Age Requirement	0.138	0.345	0	1
Connections				
Governor-Secretary: Same Public School	0.01	0.097	0	1
Governor-Secretary: Same University	0.15	0.357	0	1
Governor-Secretary: Same College	0.01	0.097	0	1
Governor-Secretary: Both British Empire	0.064	0.245	0	1
Governor-Permanent Undersecretary: Same Public School	0.019	0.137	0	1
Governor-Permanent Undersecretary: Same University	0.159	0.366	0	1
Governor-Permanent Undersecretary: Same College	0.088	0.283	0	1
Governor-Permanent Undersecretary: Both British Empire	0.124	0.329	0	1
Governor-Permanent Undersecretary: Both Michael & George	0.855	0.352	0	1
Governor Knight	0.701	0.458	0	1

Note: Proportions are computed in relation to the full colony–year sample, N=421. Same College refers only to Oxford and Cambridge.

Career. The professional trajectory of governors (including their date of birth) is coded from Kirk-Greene (1980). *Date of Entry* refers to the date of first appointment in the Colonial Service, regardless of rank. *Warren-Fisher Governor* equals 1 if the governor's first appointment to a governorship occurred after the 1930 reform that terminated patronage appointments; 0 otherwise. *Cadet-made-governor*, or simply *cadet*, equals 1 if the governor entered the Colonial Service as a cadet, 0 otherwise. *First Governorship* equals 1 if the individual is serving in his first term as governor. *Tenure Requirement* equals 1 if the governor has met the 10-year minimum service threshold required for full retirement pension (3 years, starting in 1935). *Age Requirement* equals 1 if the governor is aged 60 (or 55,

starting in 1947), 0 otherwise.

Connections. For each governor, Secretary of State, and Permanent Undersecretary of State,[146] I identify where they attended school (public school, university, college), the year of university graduation (if applicable), and the Order(s) of Chivalry of which they were members and the elevation date. I then establish whether the governor overlapped with either superior (Secretary or Permanent Undersecretary) in any of these institutions or orders. Data sources include: *Who's Who*, *Who Was Who UK*, the *Oxford Dictionary of National Biography*, and Kirk-Greene (1980). I give further details below:

i. Order of Chivalry. Following Kirk-Greene (1980, pp. 27–30), I focus on the three main orders that frequently honored governors for their service—the Order of St. Michael and St. George, the Order of the British Empire, and the Royal Victorian Order—and code whether their contemporaneous superiors held the same distinction. In the sample, no Secretary of State was knighted in either the Order of St. Michael and St. George or the Royal Victorian Order; and no Permanent Undersecretary received the latter. These combinations are therefore excluded from the analysis.

While elevation to an order typically occurred later in a governor's career—and often in recognition of general service to the Crown rather than fiscal performance—the variable I construct captures *mutual recognition* by the same order. I record the year in which each individual received the honor and code joint membership as 1 if both the governor and either of his two superiors were members of the same order in a given year. Because all three offices—governor, Secretary of State, and Permanent Undersecretary—rotated over time, co-membership variables are time-varying for any given governor.

To construct the variable *knighted*, I consider whether and when governors were knighted in one of the three principal orders above, or in any of three additional ones: the Order of

[146]The Permanent Undersecretary of State for the Colonies was renamed Permanent Undersecretary of State for Commonwealth Affairs in 1966, when the office merged with the Foreign Office.

the Bath, the Order of the British Empire (Commander rank and above), or the Order of the Thistle. This variable equals 1 regardless of whether the governor's superiors also held a knighthood.

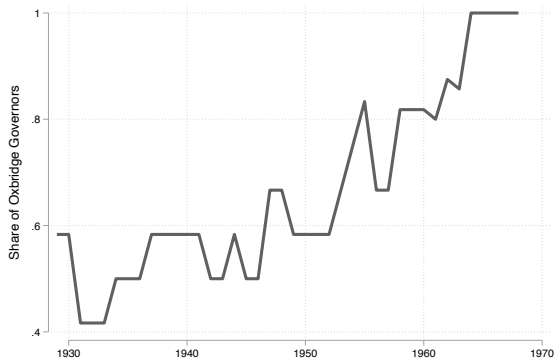
ii. Education. Governors were educated at a wide range of British public schools—over 60 in total—and a few were privately educated. Only three attended Eton. Likewise, only three governors in the sample attended the same public school as the contemporaneous Secretary of State for the Colonies, and only one shared this background with the Permanent Undersecretary.

By contrast, university education was far more concentrated. Among Secretaries of State, 15 attended Oxbridge, one went to City University London, one to Central Labour College (the Labour Party's training school), and seven had no university degree. Among Permanent Undersecretaries, seven attended Oxford, one Cambridge, two military academies, and one the University of South Africa. Meanwhile, 55 governors graduated from Oxford or Cambridge, five from Edinburgh or Glasgow, five from Royal Academies, and 14 had no university degree.

The representation of Oxbridge-educated governors increased over time (Figure A-4), as cadets recruited during the interwar period reached the peak of their careers within the Colonial Service. By the end of the period, *all* governors had graduated from either Oxford or Cambridge.

In the rare cases where a governor attended more than one higher education institution, I coded the institution that connected them to their superior. Given the broad range in birth years (1869–1916), I determine whether a governor and either superior graduated from the same college *within a seven-year window*, which would imply potential overlap during a typical four-year degree. Graduation dates were imputed for two Secretaries of State (Robert Gascoyne-Cecil and Anthony Greenwood) based on their biographies and date of birth. Results are robust to broader windows that allow for interrupted or delayed university

Figure A-4: Share of Colonial Governors who Graduate from Oxford or Cambridge



studies.

iii. Field Experience of the Permanent Undersecretary of State. Only one Secretary of State for the Colonies had prior experience as a colonial administrator: Lloyd, who had served in Egypt and India. By contrast, five Permanent Undersecretaries had field experience in colonial territories (details provided in the main text).

A.3 Colonial Unrest

To identify major events in the colonies, I ran text-recognition on more than 350 Colonial Reports using Adobe Acrobat Pro and searched for 14 lemmatized keywords: *strike, riot, emergency, attack, violen*, arrest, terror, subvers*, unrest, protest, dispute, mutin*, intimidat*, disturb**. These terms were chosen inductively to exhaust the universe of possible unrest-related incidents. Most often, these keywords appeared in clusters—for instance, "unrest" and "intimidation" would occur in the same paragraph describing a single episode.

Once potential unrest episodes were flagged, I read the relevant report sections in full and made a judgment call on whether the events had colony-wide repercussions. In some cases, I triangulated the information with Wikipedia entries and secondary academic sources, including books and journal articles.

Reporting of unrest episodes is subject to selection bias. Colonial authorities had little incentive to publicize disturbances under their jurisdiction. Therefore, I assume that any mention of unrest in official reports reflects genuinely serious disruptions—those too significant to ignore or suppress. Also, unrest varied across colonies, both in form and intensity, making colony fixed effects highly recommended. Strikes and stoppages were common in more industrialized colonies (e.g., Northern Rhodesia and Nigeria), so I focused on strikes described as "general" or those explicitly characterized as "serious" in the reports. The most significant unrest episodes were often revisited in subsequent reports, confirming their exceptional status. Some even prompted the formation of official commissions of inquiry to investigate their causes.

In total, I identified 52 major episodes of colonial unrest. These stemmed from poor labor conditions, political grievances, and protests against abuses by colonial or traditional authorities (especially under indirect rule). While the systemic impact of some of these events may be debated, I classified unrest episodes into two categories: *major* and *minor*, based on their geographic spread and seriousness as described in the Colonial Reports. If

minor episodes are included, the number of unrest occurrences rises from 52 to 82. The empirical analysis in the main manuscript focuses on the most restrictive definition—i.e., major episodes. Results are robust to using the broader classification.

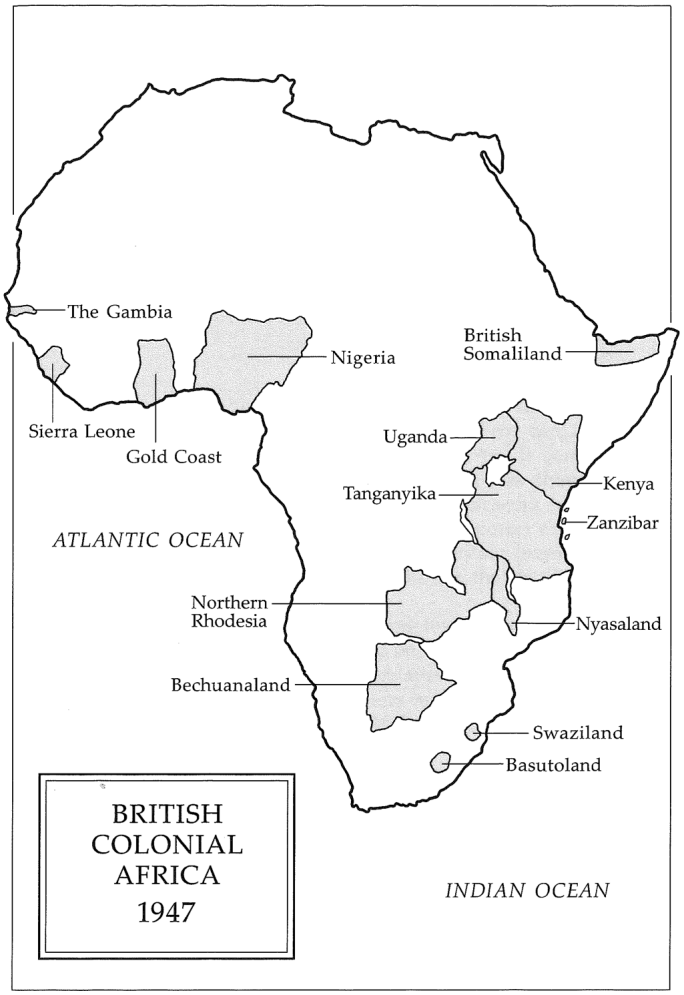
Secondary sources used to confirm and contextualize the material in the Colonial Reports include:

- Cooper, Frederick. 1996. *Decolonization and African Society: The Labor Question in French and British Africa.* New York: Cambridge University Press.
- Denzer, LaRay. 1982. "Wallace-Johnson and the Sierra Leone Labor Crisis of 1939." *African Studies Review* 25(2/3): 15983.
- Kaniki, Martin H. Y. 1974."Politics of Protest in Colonial West Africa: The Sierra Leone Experience." *The African Review: A Journal of African Politics, Development and International Affairs* 4(3):42358.
- Killingray, David. 1982. "Military and Labour Recruitment in the Gold Coast During the Second World War." *The Journal of African History* 23(1): 8395.
- Sekgoma, Gilbert A. 1986. "The Second W orld War and the Sierra Leone Economy: Labour Employment and Utilisation, 1939-45." in David Killingray and Richard Rathbone (eds.) *Africa and the Second World War* UK: Palgrave MacMillan, p.232-257.

B British African Colonies

This maps shows all Crown colonies and protectorates in British Africa. Somaliland is not considered in the analysis because price deflators are not available for this colony.

Figure A-5: British Colonial Africa in 1947. Source: Kirk-Greene (2006).



C The Expansion of Direct Taxation in Africa

The tax revenue imperative has been a constant in British colonialism: it manifested "a pervasive hunger all along the chain of command from the central to the local state, leading to efforts to tax or impose fees on anything that moved" (Mamdani, 1996, p. 56). This time, however, it was tied to a developmental agenda.

Emphasis on Income Taxation

Beginning in the interwar years, African colonies undertook a comprehensive reshaping of their tax systems. Each territory implemented different reforms, and multiple systems could coexist within the same colony (e.g., Nigeria's federal structure allowed for different tax regimes in the North and South). The common denominator of these reforms, however, was a renewed emphasis on direct taxation—particularly income and corporate taxes—which fell under the authority of the colonial government.

Native Treasuries were also established during this period (Bolt et al., 2022), but they operated as separate jurisdictions administered by Native Authorities. These bodies collected "local taxes" paid exclusively by Africans and earmarked the revenue for local spending. Hence, the bulwark of the expansion of tax collection in colonial Africa was driven by tax instruments controlled by the colonial state—namely, income taxes, corporate taxes, and consumption taxes (including tariffs).

Table A-3 adapts Hailey's original data to illustrate the growing importance of income taxation and the declining reliance on direct taxes levied exclusively on African—such as hut and poll taxes. In virtually all colonies, consumption taxes were the principal source of revenue (spearheaded by tariff revenue), but income tax yields grew substantially over just thirteen years, 1938–1951. Income taxes were paid primarily by white settlers and African merchants. In practice, the colonial tax system disproportionately targeted urban districts, where economic activity was monetized and state legibility was highest.

Table A-3: Move Towards Income Taxes in British Africa (adapted from Hailey's African Survey (1956 revised), p.682-3)

	Year	Income Tax	Direct Tax on Africans	Indirect Tax
Gold Coast	1938	1.5	0	98.5
	1951	28.0	0	72.0
Nigeria	1938	0.6	14.2	85.2
	1951	15.3	1.4	83.3
Sierra Leone	1938	19.8	9.9	70.3
	1951	29.3	3.0	67.7
Gambia	1938	0	8.6	91.4
	1951	22.3	0	77.7
Kenya	1938	4.5	14.1	81.4
	1951	26.3	6.4	67.3
Uganda	1938	1.8	30.9	67.3
	1951	5.3	3.6	91.1
Tanganyika	1938	2.4	31.7	65.9
	1951	17.1	10.6	72.3
Northern Rhodesia	1938	48.3	8.5	43.2
	1951	67.7	1.2	31.1
Nyasaland	1938	8.0	24.5	67.5
	1951	25.7	13.3	61
Basutoland	1938	1.8	44.1	54.1
	1951	20.3	23.6	56.1
Bechuanaland	1938	19.1	33.0	47.9
	1951	18.3	13.6	68.1
Swaziland	1938	4.4	38.4	57.2
	1951	49.2	8.8	42.0

Note: Income Tax is paid by white settlers and Africans, but in practice it fell on white settlers; Direct tax on Africans are paid by Africans only. These taxes refer to poll and hut taxes. Indirect Tax refers to consumption taxes.

Why the Income Tax?

From the outset of the CD&W program, direct taxation was seen by the Colonial Office as the primary instrument for expanding colonial revenue. This view is exemplified by the quote from Arthur Creech Jones (Labour) cited in Section 3.2 of the main text. The growing importance of income tax is also reflected in a series of three papers published by the *African Studies Branch* of the Colonial Office in the *Journal of African Administration*, which assessed the state of colonial taxation. The research team identified two main reasons

behind the increased emphasis on income taxation in African colonies—namely, World War II and the CD&W program:

> First the outbreak of the second world war, with its effect on trade and on costs of administration, and its stimulus to greater productivity in Africa; secondly the new large scale Colonial Development policy instituted in 1940. [...]
>
> The second factor, the Colonial Development and Welfare Grants brought this question of direct taxation more directly to a head because such grants naturally presupposed the condition that individual territories themselves would make the maximum reasonable contribution to the cost of the development schemes.
>
> A situation arose in some ways like that of 1919 when after the first war an extension of taxation had to be considered. Accordingly income-tax has now been introduced into every African Colonial territory which had not already got it. (African Studies Branch, 1950, p.8)

Based on the British experience during World War I,[147] income taxation was regarded as the most effective and fairest method of raising revenue in the mid-century official circles.

Two Examples: Nigeria and Kenya

The income tax is widely considered the endpoint of fiscal capacity building, as it requires a highly organized bureaucracy capable of assessing and monitoring compliance across an atomized tax base.[148] The remarkable gains in fiscal capacity documented in Table A-3 were achieved through new methods of tax assessment and collection, coupled with coercion toward the African population.

Specific reforms were adapted to local conditions and could vary even within a single colony. I illustrate this variation with two examples: In southern Nigeria, the adoption of

[147] Scheve and Stasavage (2010)
[148] Tilly (1990); Besley and Persson (2011).

the income tax required replacing the *communal* assessment and collection system with one based on *individual* reporting. This change also challenged traditional structures of indirect rule by reducing the role of chiefs in tax administration. In the Egun-Awori division near Lagos, 15.4% of all tax-paying males paid the individual income tax in 1947; by 1954, that figure had risen to 81.2%.[149]

In Kenya, colonial authorities adopted specific strategies to expand the reach of income taxation. First, beginning in 1933, selected African farmers were allowed to cultivate crops—such as coffee—that were particularly easy to tax. The income tax itself was introduced in 1936 and compelled white settlers to "pay taxes commensurate with their income."[150] This legislation also laid the foundation for a modern tax administration, led by the Finance Department, which assumed responsibility for assessing and collecting income taxes across the colony.

New tax payment mechanisms were introduced alongside the income tax, including the *stamp card* system (or *kodi*) in 1936—a voluntary method of monthly income tax payments. The goal was to allow workers to smooth their tax obligations over time, rather than making a single lump-sum payment at the end of the year, which was conducive to tax evasion. The kodi also served to protect African workers from abuse by European employers, as it allowed them to switch jobs and continue their tax payments independently.[151]

Tax collection was overseen by District Officers and enforcement was particularly aggressive during the 1930s and 1940s. In many cases, Africans were compelled to abandon subsistence agriculture and enter wage labor in order to meet their tax obligations (Tarus, 2004, p. 175). Employment was typically found in towns, settler farms, and development projects. Although tax collection in rural areas remained a challenge, District Officers understood what was required to advance their careers, consistent with the main argument of the paper:

[149]Booth (1956, p. 77).
[150]Tarus (2004, p. 198).
[151]Tarus (2004).

> District Commissioners [one rung below District Officer] would always complain of being overwhelmed by tax collection. To most DCs, taxation was an intolerable burden. But despite this, the majority of colonial administrators took the keenest interest in the tax of their respective districts. This was not only because of its importance to the country's revenues but also because they regarded the prompt payment of tax as a sign of a well-run and prosperous district (Tarus, 2004, p.208)

By the mid-1940s, Kenya had developed a relatively efficient—though unmerciful—tax system. The income tax, which fell primarily on the wealthier segments of society, accounted for 25% of total tax revenue in 1951, up from just 4% in 1939. The ratio of total tax revenue to national income was estimated at 18.7%.[152] The professionalization of the Ministry of Finance continued into the late 1950s. An Auditor Department and an Organization and Methods Unit—modeled after the counterpart offices at H.M. Treasury in London—were introduced to standardize procedures and enhance oversight of public finances.[153]

CD&W and Income Tax

To conclude this Appendix, Table A-4 replicates the analysis from Table 1 in the main paper, but focuses exclusively on direct taxes (note that the data from Albers et al. pool income and corporate taxes together). The results are substantively similar to those in the main analysis. Based on column 4 (the saturated model), a one-standard-deviation increase in imperial aid issues is associated with a 5.5 percentage point increase in average *direct* tax revenue.

[152]East Africa Royal Commission 1953-55 (1955, p. 90).
[153]Mackenzie (1961, pp. 65–66).

Table A-4: Direct Tax Revenue and CD&W Issues, 1929–69

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CDW Grant Issue	0.62***	0.12*	0.13*	0.14*	0.16**	0.14	0.21**
	(0.09)	(0.06)	(0.07)	(0.08)	(0.08)	(0.09)	(0.09)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged DV	No	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	No	Yes	Yes	No	Yes	Yes
Colony Controls	No	No	No	Yes	Yes	Yes	Yes
Prime Minister FE	No	No	No	No	Yes	No	No
Time period	Full	Full	Full	Full	Full	1946–61	Full
Synched FY	No	No	No	No	No	No	Yes
Mean DV	4.92	4.92	4.92	4.92	4.92	5.86	5.06
Observations	397	397	397	397	397	181	215
R-squared	0.52	0.87	0.89	0.89	0.87	0.91	0.90

Note: This table focuses on tax revenue stemming from direct taxes (i.e., income and corporate taxation). Monetary units are expressed in per capita real value. Colony controls are: log of Population and Colonial Unrest. Refer to Appendix O for the expanded version of the regression table. Robust standard errors in parenthesis: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D Terminology

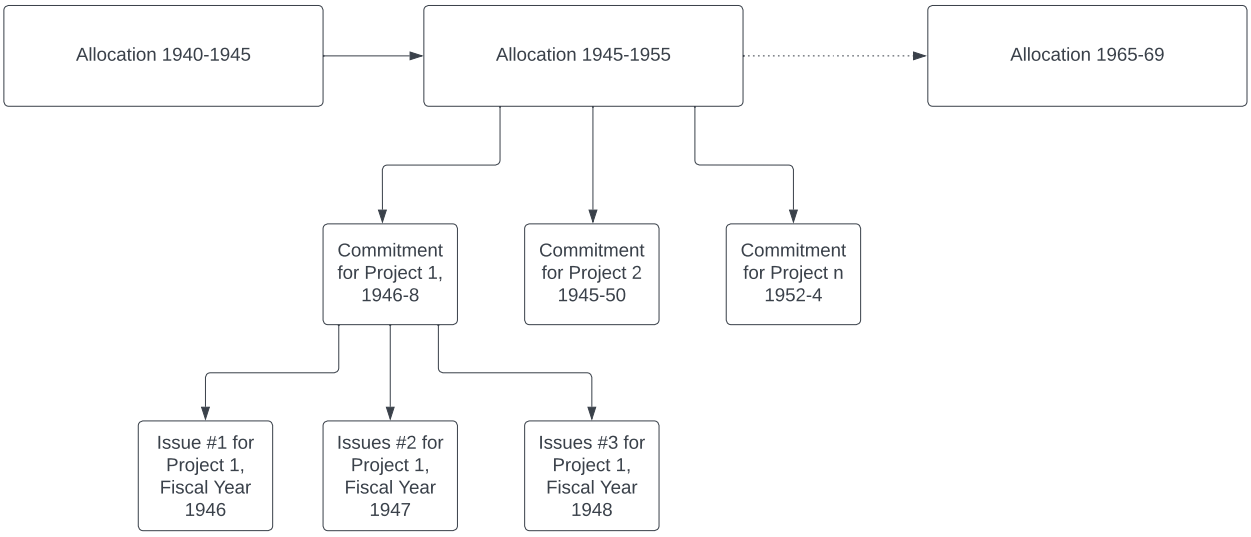


Figure A-6: Allocations, Commitments, and Issues

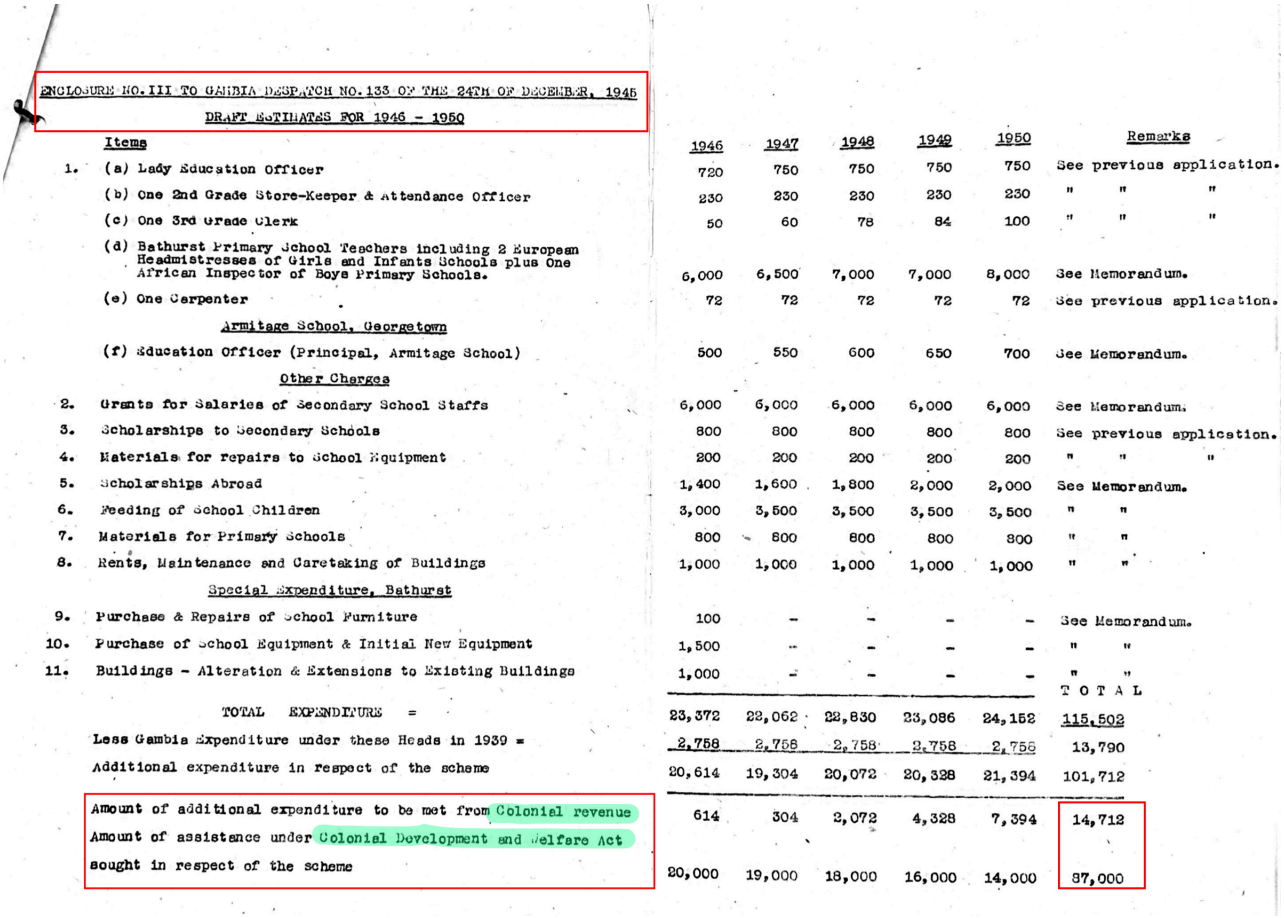
The CDW program had six Allocations, 11,200+ Commitments, and various annual Issues per commitment. Allocations offered multi-year CDW budgets to each recipients for a predefined number of years. Commitments offered multi-year funds to individual projects. Issues reflected the actual flows of CDW moneys to fund each project. The total sum of issues could not exceed the total funds commitment to each project. The total sum of commitments for a given colony could not exceed the CDW allocation to that colony.

Note that in the text, the terms "disbursements" and aid "issues" are used interchangeably. The former is widely used in the contemporary aid literature, while the latter was the term employed by official UK sources in the mid-twentieth century.

E Example of a CD&W Project Application

Individual project applications submitted from the colony to the Colonial Office enclosed an itemized list of imperial and colonial funds for the project. Figure A-7 shows an example for a school project in Gambia. In this case, the metropole, via CD&W grant-in-aid, would assume 85% of the cost.

Figure A-7: Excerpt of CD&W grant-in-aid application for Education, Gambia 1944. Marks added by author. Source: CO 87/265/5:



ENCLOSURE NO. III TO GAMBIA DESPATCH NO. 133 OF THE 24TH OF DECEMBER, 1945

DRAFT ESTIMATES FOR 1946 - 1950

	Items	1946	1947	1948	1949	1950	Remarks
1.	(a) Lady Education Officer	720	750	750	750	750	See previous application.
	(b) One 2nd Grade Store-Keeper & Attendance Officer	230	230	230	230	230	" " "
	(c) One 3rd Grade Clerk	50	60	78	84	100	" " "
	(d) Bathurst Primary School Teachers including 2 European Headmistresses of Girls and Infants Schools plus One African Inspector of Boys Primary Schools.	6,000	6,500	7,000	7,000	8,000	See Memorandum.
	(e) One Carpenter	72	72	72	72	72	See previous application.
	Armitage School, Georgetown						
	(f) Education Officer (Principal, Armitage School)	500	550	600	650	700	See Memorandum.
	Other Charges						
2.	Grants for Salaries of Secondary School Staffs	6,000	6,000	6,000	6,000	6,000	See Memorandum.
3.	Scholarships to Secondary Schools	800	800	800	800	800	See previous application.
4.	Materials for repairs to School Equipment	200	200	200	200	200	" " "
5.	Scholarships Abroad	1,400	1,600	1,800	2,000	2,000	See Memorandum.
6.	Feeding of School Children	3,000	3,500	3,500	3,500	3,500	" "
7.	Materials for Primary Schools	800	800	800	800	800	" "
8.	Rents, Maintenance and Caretaking of Buildings	1,000	1,000	1,000	1,000	1,000	" "
	Special Expenditure, Bathurst						
9.	Purchase & Repairs of School Furniture	100	-	-	-	-	See Memorandum.
10.	Purchase of School Equipment & Initial New Equipment	1,500	-	-	-	-	" "
11.	Buildings - Alteration & Extensions to Existing Buildings	1,000	-	-	-	-	" "
							TOTAL
	TOTAL EXPENDITURE =	23,372	22,062	22,830	23,086	24,152	115,502
	Less Gambia Expenditure under these Heads in 1939 =	2,758	2,758	2,758	2,758	2,756	13,790
	Additional expenditure in respect of the scheme	20,614	19,304	20,072	20,328	21,394	101,712
	Amount of additional expenditure to be met from Colonial revenue	614	304	2,072	4,328	7,394	14,712
	Amount of assistance under Colonial Development and Welfare Act sought in respect of the scheme	20,000	19,000	18,000	16,000	14,000	87,000

F Alternative Standard Errors

Tables in the main paper report Huber–White (robust) standard errors. However, alternative error structures may be considered. One candidate is clustering by colony. Given the small number of colonies ($C = 12$), I implement the HC2 or Bell and McCaffrey (2002) degrees-of-freedom correction.[154] In the mechanism section, the governor is the central actor: his motivation and incentives link CD&W issues to taxation outcomes. Accordingly, I also cluster standard errors by governor ($C = 78$). In a closely related study, Xu (2018) uses dyadic clusters based on governor–Secretary of State for the Colonies pairs to account for error correlation driven by nepotistic ties. I consider those dyads, as well as alternative dyads between governors and Permanent Undersecretaries of State.

Results for the main and mechanism analyses for all four clustering strategies are reported in Tables A-5 and A-6, respectively. In general, the Huber–White standard errors fall between the most liberal and most conservative clustering options. For this reason, I retain robust standard errors in the main tables.

Table A-5: Effect of CD&W on Tax Revenue

	Standard Error	N Clusters
CDW Issues ($\hat{\beta}$)	0.202	
Huber White	(0.021)	-
Colony Cluster (HC2 Bell & McCaffrey)	(0.071)	12
Governor Cluster	(0.019)	78
Governor-Secretary Dyadic Cluster	(0.015)	226
Governor-Perm.Unders. Dyadic Cluster	(0.013)	135

Note: This model corresponds to column 1 in Table 1, thus includes a first lag of the outcome variable, colony and year fixed effects, and colony controls: population and colonial unrest. p-value in parenthesis.

[154] Guido W. Imbens and Michal Koleda. 2016. "Robust Standard Errors in Small Samples: Some Practical Advice." *The Review of Economics and Statistics* 98(4): 701–712.

Table A-6: Effect of CD&W Interactions on Tax Revenue by Governor

	CDW				
Method	× Post-Reform	× Cadet	× First Term	× Under 60	N Clusters
CDW Issues ...	0.416	0.605	0.377	0.533	
Huber White	(0.020)	(0.036)	(0.010)	(0.000)	-
Colony Cluster (HC2 Bell & McCaffrey)	(0.552)	(0.062)	(0.132)	(0.029)	12
Governor Cluster	(0.058)	(0.015)	(0.017)	(0.001)	78
Governor-Secretary Dyadic Cluster	(0.027)	(0.030)	(0.008)	(0.000)	226
Governor-Perm.Unders. Dyadic Cluster	(0.047)	(0.009)	(0.018)	(0.001)	135

Note: From left to right, these models correspond to column 1 in Table 3, column 8 in Table 3, column 1 in Table 4, and column 9 in Table 4, respectively. Thus, they all include a lag of the dependent variable, colony and year fixed effects, colony controls (population and colonial unrest), and the governor's date of birth. The last column before last (Under 60) also includes governor fixed effects. p-values in parenthesis.

G Main results with Variables expressed in First Differences

The outcome variable describes a stationary series with drift (non-zero mean). Table A-7 shows that results are robust to a specification when both Tax Revenue and CDW Issues are expressed in first-differences.

Table A-7: Changes on Colonial Tax Revenue as a function of Changes in CD&W Issues, 1929–1969

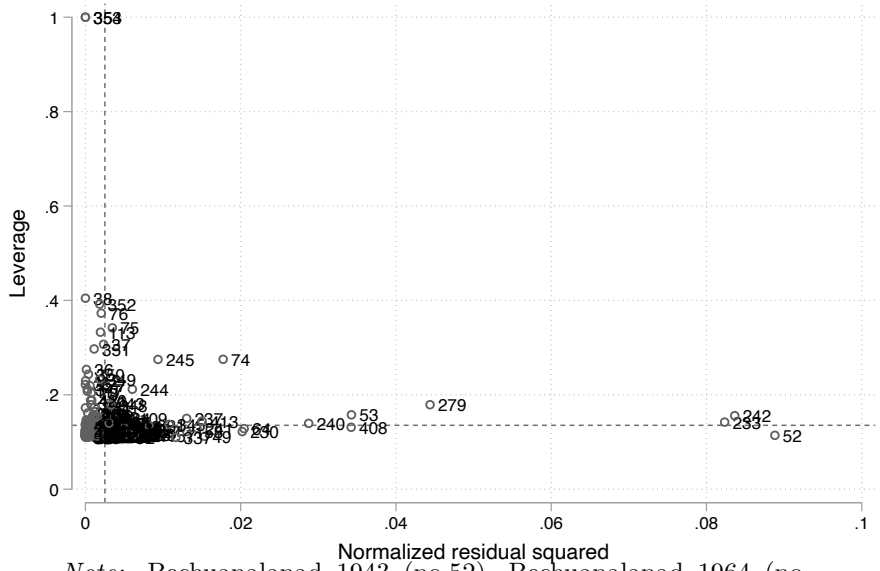
	(1)	(2)	(3)	(4)
Δ CDW Grant Issue Per Capita	0.19**	0.19**	0.21**	0.21**
	(0.08)	(0.08)	(0.10)	(0.09)
Mean DV	0.17	0.17	0.11	0.13
Year FE	Yes	Yes	Yes	Yes
Colony FE	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes
Synched FY	No	No	No	Yes
Period	1929-69	1929-69	1946-61	1929-69
Observations	385	385	181	210
R-squared	0.15	0.16	0.21	0.24

Note: Standard errors in parenthesis. Monetary units are expressed in per capita constant terms. Controls, expressed in levels: log of Population and Unrest Episodes. *** p<0.01, ** p<0.05, * p<0.1

H Impact of Outliers

The dataset is small and there is a risk that results are driven by outliers. I examine this possibility in multiple ways.

Figure A-8: Identifying Influential Cases: Residuals vs. Leverage



Note: Bechuanalanad 1943 (no.52), Bechuanalanad 1964 (no. 74), Northern Rhodesia 1952 (no.233), Northern Rhodesia 1961 (no. 242), Northern Rhodesia 1964 (no. 245), Nyasaland 1962 (no.279), Swaziland 1967 (no.353), and Swaziland 1968 (no.354).

First, I conduct a statistical evaluation of influential cases in Figure A-8. There are observations with high residuals but little leverage on the estimates (no. 52, 242, and 233) and others with small residuals but high leverage (cases no. 353 and 354, superimposed). There are some additional cases with some leverage or high residuals (no. 279, 74, and 245). I rerun the analysis dropping these eight observations and report results in Table A-8. Results are almost identical.

Second and *crucially*, the distribution of CD&W issues is skewed because low-populated colonies received disproportionally more received more funds per capita than high-populated colonies (Figures A-3 and **??**). Acknowledging that systematic variation, I drop observations that are above two standard deviations of each *colony-specific mean*. I report results in the

Table A-8: Fully-specified model with and without potential outliers

	(1) Tax Pressure	(2) Tax Pressure
CDW Grant Issue	0.20***	0.19***
	(0.06)	(0.06)
Potential outliers†	Included	Excluded
First lag of DV	Yes	Yes
Colony FE	Yes	Yes
Year FE	Yes	Yes
Colony Controls	Yes	Yes
Observations	399	388
R-squared	0.90	0.92

† Potential outliers: Bechuanaland 1943 (no.52), Bechuanaland 1964 (no. 74), Northern Rhodesia 1952 (no.233), Northern Rhodesia 1961 (no. 242), Northern Rhodesia 1964 (no. 245), Nyasaland 1962 (no.279), Swaziland 1967 (no.353), and Swaziland 1968 (no.354). Note: Monetary units are expressed in per capita constant terms. Controls are: log of Population, Resources Value, and Internal Conflict. Because a lag of the dependent variable is included, dropping four outliers eliminates twice the number of observations from the effective sample *** p<0.01, ** p<0.05, * p<0.1.

top panel of Table A-9. Results are largely similar to those in the main analysis (reported in column 1 for convenience), but dropping the highest CD&W values of Swaziland decreases slightly the estimated coefficient of CD&W, while dropping those of Bechuanaland exert a bigger impact on the estimate. A close examination of these cases suggests that issue is not in the CD&W value, but the deflator, which is based on local wages. I study further causes of this measurement issue in Panels B and C in Table A-9.

In panel B I replace the deflator variable in the main analysis—local wages—for the inflation in the metropole (Feinstein, 1976). Those series correlate at 0.71. The first column in Panel B reports results for the entire sample and subsequent columns drop one colony at a time. Results are consistent across subsamples. In panel C I avoid deflating values altogether and rely only on population normalization (together with year and colony FE,

like I do in every other model). The first column in Panel C shows results for the entire sample and subsequent columns results following list-wise deletion of colonies. Results are consistent across subsamples.

Together, panels B and C indicate in Table A-9 indicate that any disproportional impact of high CD&W inflows into Bechuanaland and Swaziland in the main analysis is related if any to the deflator choice, not the CD&W data entry. More importantly, the statistical analysis of leverage in Figure A-8 and Table A-8 shows that observations for Bechuanaland and Swaziland with high leverage do not change the main results, confirming that the larger CD&W inflows that these two colonies received are in the regression line. Last but not least, results hold when (i) the analysis is limited to the 1945–1961 period (column 6 in Table 1)—before the acceleration of per capita CD&W funds targeted at smaller colonies; (ii) when I instrument CDW Issues with the CDD Commitments $\times$ UK BOP; and (iii), when I rerun the mechanism section models without the potential outliers in Bechuanaland and Swaziland, as shown in Table A-10 below.

All in all, Table A-8-A-10 are largely robust to different normalization, deflators, and distribution anomalies.

Table A-9: Evaluation of influential cases, alternative deflators, and normalization rules

		Exclusion of Case-specific high CD&W values for:											
	All	Basutoland	Bechuanaland	Gambia	Gold Coast	Kenya	Nigeria	N.Rhodesia	Nyasaland	S.Leone	Swaziland	Tanganyika	Uganda
Panel A: CDW Issues per capita and deflated by local prices (Albers et al. 2023)													
per capita CDW Issue (colony wages)	0.20**	0.21**	0.12	0.23**	0.20**	0.20**	0.20**	0.20**	0.20**	0.20**	0.18*	0.20**	0.20**
	(0.09)	(0.09)	(0.08)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.09)	(0.09)
Observations	397	395	395	395	395	396	395	395	396	395	394	396	396
R-squared	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.88	0.89	0.89	0.88	0.89	0.89
Panel B: CDW Issues per capita and deflated by metropole's prices (Feinstein 1976)													
		Excluded Colony:											
	All	Basutoland	Bechuanaland	Gambia	Gold Coast	Kenya	Nigeria	N.Rhodesia	Nyasaland	S.Leone	Swaziland	Tanganyika	Uganda
per capita CDW Issue (UK prices)	0.31***	0.32***	0.31**	0.35***	0.31***	0.31***	0.31***	0.33***	0.32***	0.31***	0.21*	0.31***	0.31***
	(0.11)	(0.12)	(0.14)	(0.13)	(0.12)	(0.12)	(0.11)	(0.13)	(0.12)	(0.11)	(0.13)	(0.12)	(0.12)
Observations	397	360	360	361	371	363	366	366	366	365	360	365	364
R-squared	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92	0.92	0.90	0.92	0.92
Panel C: nominal CDW Issues per capita													
		Excluded Colony:											
per capita CDW Issue (nominal)	0.35***	0.36***	0.36***	0.39***	0.36***	0.35***	0.35***	0.38***	0.36***	0.35***	0.24*	0.35***	0.35***
	(0.11)	(0.11)	(0.14)	(0.13)	(0.11)	(0.11)	(0.11)	(0.12)	(0.11)	(0.11)	(0.12)	(0.11)	(0.11)
Observations	397	360	360	361	371	363	366	366	366	365	360	365	364
R-squared	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.97	0.94	0.94	0.90	0.94	0.94
Common too all panels													
Lag DV	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Dependent variable expressed in the same units than CDW flows. Controls are: log of Population and colonial unrest episodes. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

Table A-10: Evaluation of Outliers for Screening Mechanisms: Recruitment Track and Administrators Performance

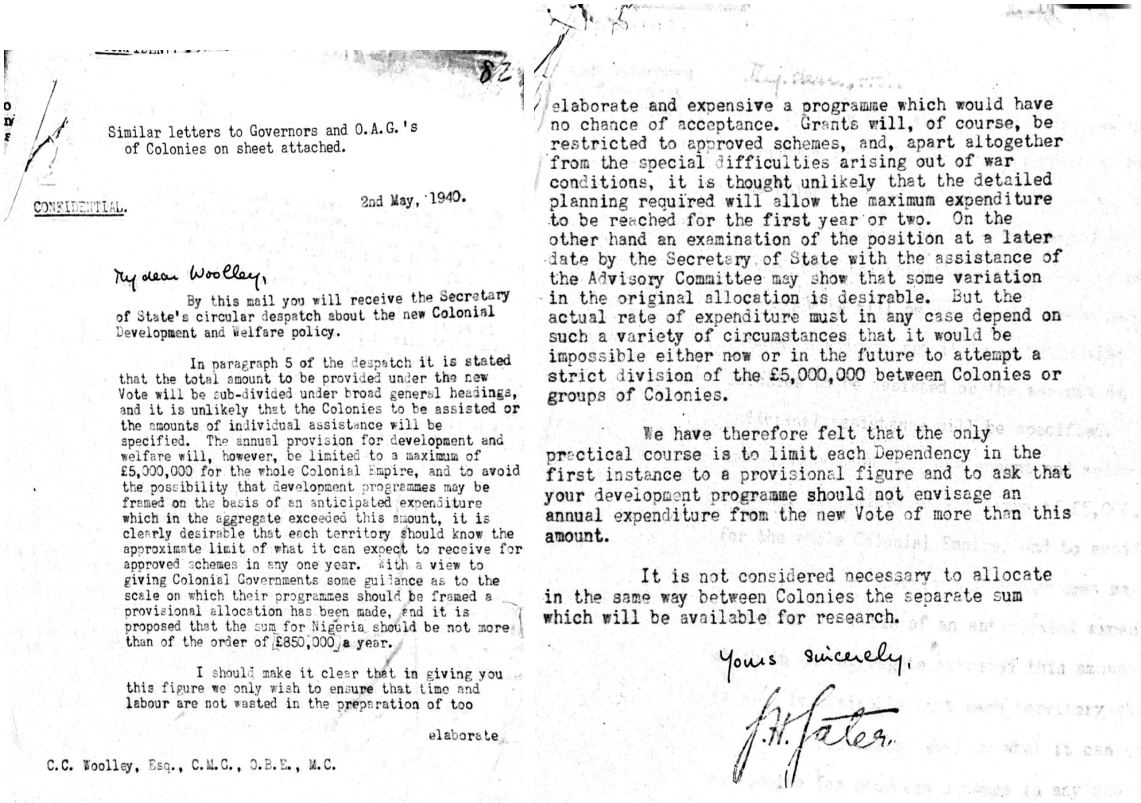
	Drop Swaziland Outliers ↓	Drop Bechuanaland Outlier ↓	Drop both sets of Outliers ↓	Drop Swaziland Outlier ↓	Drop Bechuanaland Outlier ↓	Drop both sets of Outliers ↓
	(1)	(2)	(3)	(4)	(5)	(6)
CDW Grant Issue × Warren Fisher Governor	0.33*	0.40**	0.28			
	(0.17)	(0.18)	(0.18)			
CDW Issues × Career Official				0.58**	0.62**	0.58*
				(0.29)	(0.29)	(0.30)
CDW Grant Issue	-0.16	-0.18	-0.19	-0.44	-0.42	-0.51
	(0.17)	(0.18)	(0.18)	(0.30)	(0.31)	(0.31)
Warren Fisher Governor	0.53	0.55*	0.46			
	(0.33)	(0.33)	(0.34)			
Career Official				-0.05	-0.03	-0.03
				(0.17)	(0.17)	(0.17)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Colony Controls	Yes	Yes	Yes	Yes	Yes	Yes
Lag of DV	Yes	Yes	Yes	Yes	Yes	Yes
Governor DOB	Yes	Yes	Yes	Yes	Yes	Yes
Colony Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	377	376	374	377	376	374
R-squared	0.89	0.88	0.88	0.89	0.88	0.88
	(7)	(8)	(9)	(10)	(11)	(12)
CDW Grant Issue × First Time Governor	0.26**	0.32**	0.22*			
	(0.12)	(0.13)	(0.12)			
First Time Governor	0.09	0.07	0.09			
	(0.18)	(0.19)	(0.18)			
CDW Grant Issue	-0.09	-0.09	-0.13	0.41***	0.62***	0.38*
	(0.12)	(0.13)	(0.13)	(0.13)	(0.18)	(0.20)
CDW Grant Issue × Age Requirement Met				-1.71**	-1.84**	-1.70**
				(0.71)	(0.72)	(0.71)
Age Requirement Met				-0.18	-0.04	-0.19
				(0.61)	(0.59)	(0.62)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Colony Controls	Yes	Yes	Yes	Yes	Yes	Yes
Lag of DV	Yes	Yes	Yes	Yes	Yes	Yes
Governor DOB	Yes	Yes	Yes	No	No	No
Governor FE	No	No	No	Yes	Yes	Yes
Tenure Requirement Met	-	-	-	Yes	Yes	Yes
Colony Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	379	378	376	163	163	162
R-squared	0.90	0.89	0.89	0.97	0.97	0.97

Note: These models examine whether the governor's recruitment method influenced the fiscal performance of the CD&W program. Each specification sequentially excludes potential outliers: Bechuanaland, Swaziland, and both. *Warren Fisher* equals 1 if the governor's first appointment to a governorship occurred after the 1930 Warren Fisher Report; 0 otherwise. *Career Official* equals 1 if the governor entered the Colonial Service as a cadet; 0 otherwise. *First Term Governor* equals 1 if the governor is serving his first term in office; 0 otherwise. *Age Requirement Met* equals 1 if the governor has reached the minimum age to opt for a retirement pension; 0 otherwise. *Tenure Requirement Met* equals 1 if the governor has served the minimum number of years in office required to qualify for a pension; 0 otherwise. Colony-level controls include: *log Population* and *Colonial Unrest*. Governor-level control: *Date of Birth* (D.O.B.). Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

I CD&W Fund Allocation

This section shows that colonies that had lower tax capacity received disproportionately more CD&W funds, lowering concerns of reverse causality. To come to this conclusion we need to study CD&W fund *allocations*, which established a colony-specific cap to the annual funds that governors could expect from the metropole.[155] The first allocation took place in 1940 as part of the Colonial Development and Welfare Act. As reflected in the official communication of the allocation for 1940 to Nigeria, reproduced in Figure A-9, allocations were intended to help colonial administrators to prepare financially realistic project proposals:

Figure A-9: 1940 Allocation to Nigeria, Official Communication



Similar letters to Governors and O.A.G.'s of Colonies on sheet attached.

CONFIDENTIAL. 2nd May, 1940.

My dear Woolley,

By this mail you will receive the Secretary of State's circular despatch about the new Colonial Development and Welfare policy.

In paragraph 5 of the despatch it is stated that the total amount to be provided under the new Vote will be sub-divided under broad general headings, and it is unlikely that the Colonies to be assisted or the amounts of individual assistance will be specified. The annual provision for development and welfare will, however, be limited to a maximum of £5,000,000 for the whole Colonial Empire, and to avoid the possibility that development programmes may be framed on the basis of an anticipated expenditure which in the aggregate exceeded this amount, it is clearly desirable that each territory should know the approximate limit of what it can expect to receive for approved schemes in any one year. With a view to giving Colonial Governments some guidance as to the scale on which their programmes should be framed a provisional allocation has been made, and it is proposed that the sum for Nigeria should be not more than of the order of £850,000 a year.

I should make it clear that in giving you this figure we only wish to ensure that time and labour are not wasted in the preparation of too elaborate and expensive a programme which would have no chance of acceptance. Grants will, of course, be restricted to approved schemes, and, apart altogether from the special difficulties arising out of war conditions, it is thought unlikely that the detailed planning required will allow the maximum expenditure to be reached for the first year or two. On the other hand an examination of the position at a later date by the Secretary of State with the assistance of the Advisory Committee may show that some variation in the original allocation is desirable. But the actual rate of expenditure must in any case depend on such a variety of circumstances that it would be impossible either now or in the future to attempt a strict division of the £5,000,000 between Colonies or groups of Colonies.

We have therefore felt that the only practical course is to limit each Dependency in the first instance to a provisional figure and to ask that your development programme should not envisage an annual expenditure from the new Vote of more than this amount.

It is not considered necessary to allocate in the same way between Colonies the separate sum which will be available for research.

Yours sincerely,

J.H. Gater

C.C. Woolley, Esq., C.M.G., O.B.E., M.C.

Note: Circular telegram sent by Sir George Gater, the Permanent Undersecretary of State for the Colonies, to Charles Woolley, the Chief Secretary of the Governor of Nigeria (CO 859/40/6)). In 1940, Nigeria received an allocation of £850,000.

There were a total of six allocations in the lifespan of the program: 1940, 1945, 1955,

[155] I offer an extended account of the allocation of CD&W funds elsewhere.

1959, 1963, and 1965. Based on now-declassified records, I reconstructed six months of internal deliberations within the Colonial Office about which criteria to follow to allocate CD&W funds in 1945. Perhaps surprisingly, internal debates did not follow any political directive from the top. The opposite seems true: the heads of the Colonial Office departments denounced the lack of political instructions to accomplish the task. On February 2, 1945, O.G.R. Williams (Assistant Secretary of the CO) admitted to Sir Sidney Caine (Assistant Undersecretary of Finance, Production and Research) that their superior (the Secretary of State) had "disavowed in this speech on the Second reading of the Colonial Development and Welfare Bill any idea of detailed planning in the Colonial Officer" and that for the time being they would rely on a memorandum made by Frederik J. Pedler at the Finance Department of the Colonial Office in December 1944.[156]

In that memorandum Pedler had explained his train of thought in much detail: He had first allocated the £120 million based on the colonies' population, but he was not happy with the outcome. Pedler discussed various criteria to justify cuts to the population-based allocation. The ability to float loans at home or in London was an important one to him. For instance, "Nigeria's credit ought to be good for loans" (p.2)—a sufficient reason to cut CD&W funds by 20% relative to the £34 million that Nigeria would have received if they had only followed the population rule. Fiscal surplus was another factor justifying an allocation cut. Gambia, which had experienced a fiscal surplus for five years in a row, 19391944, was considered by Pedler in less need of CD&W funds than its per population figure suggested. Pedler advocated for a cut in aid also for colonies that had barely used the funds granted in the previous allocation of 1940 (e.g. Bermuda) and for territories affected by war (e.g., Malaya and Hong Kong) because conditions there were not apt for developmental investment. Last but not least, Pedler considered the colony's "capacity to spend"—a criterion that did not seem to follow any objective metric—as a limiting factor in the amount of CD&W funds to be allocated. Citing Somaliland to support his argument, he asserted that despite having

[156]CO 852/589/11.

much need for funds, the population-corresponding £2 million where more than Somaliland could handle given its weak government machinery.

Pedler considered other criteria that justified allocation increases. The territorial area was one of them: smaller territories were assumed poor, calling for larger allocations, all else constant. Regional grievance was another criterion in his view. For instance, "it would not be possible to restrict Uganda to half of Kenya's share and allocating little funding to Northern Rhodesia [because of its many resources and surplus, as that] "would be a crisis" (p.5).

The allocation drafted by Pedler established a focal point among the departments in the Colonial Office over the next months. In the official allocation that followed, most colonies received less than Pedler suggested because he allocated small funds to centrally administered schemes, which were expanded during the internal debates in spring 1945. His memorandum, nonetheless, granted the population considerable leverage in the allocation of funds, continuing a practice initiated in the 1940 allocation.[157]

Deviations from the population rule required lengthy justifications from the Department heads involved in the negotiations. The preference for this criterion was not unanimous, and several officials aired their frustration. For instance, J.B. Williams, in a meeting with the Secretary of State on March 7, 1945, denounced the population rule for ignoring the resources of each colony.

The discussions extended over the next months. The correspondence among the heads of the departments showed some improvisation, particularly in the allocations of poorer colonies. That of Aden, for instance, was described as "a wild guess" of the funds needed by the territory (CO Correspondence, January 17, 1945). Some dismay was also perceived in the discussions; for instance, Sir Arthur Dawe, Deputy Undersecretary of State at the Colonial Office, admitted on January 22, 1945 that

[157]CO 859/40/6.

> the difficulties in finding any reasonably 'scientific' basis of the allocation are obvious. I am not sure that all the relevant factors [discussed in Pedler's memorandum] have been brought into this picture or that the right weighting has been given to those which do appear. I am inclined to think that the population factor, although tempered by the other considerations mentioned by Pedler, has been rather too prominent.

Other officials involved in the negotiations would have preferred to pause allocations and wait for all developmental plans to arrive, but they understood that option was not "politically" feasible (CO Correspondence, March 3, 1945).

Despite the many considerations and idiosyncratic circumstances mentioned in the internal correspondence, the Department heads tried to follow objective criteria that could be measured and compared. Consistently, population, revenue, and debt were often mentioned in the correspondence. A statistical compendium was put together and widely circulated in the final stages of the negotiation. The compendium was "prepared for giving details of population, revenue surpluses and public debts, the financial assistance already given or promised under the 1940 Act and the estimated amounts outstanding as being unexpended" and was shared by the Comptroller General F. Stockdale ahead of the last meeting with department heads where a final recommendation to the Secretary of State for the Colonies was made.[158] An excerpt of the compendium is reproduced in Figure A-10.

Agreed on at a meeting on June 5, 1945, the final allocation recommendation by the Deputy Under Secretary of State (second in command), the assistant undersecretaries, the heads of Department, and the Comptroller General of the West Indies, was elevated to the Office of the Secretary of State on June 12, 1945. CO records on the CD&W allocation became sparser in the following months, and debates occurred around specific colonies. For the most part, the internal communications between June and November, when allocations were made public, dealt with how to deliver the news to the colonies in order to avoid grievance and misunderstanding.

[158]May 30, 1945, letter for discussion with Assistant Undersecretary of State (CO 852/589/11).

I AREA	II POPULATION	III REVENUE		IV DEBT	V SURPLUS	VI ASSISTANCE ISSUED	VII ASSISTANCE OUTSTANDING	VIII 1940 ALLOCATION (a) x 10	IX FURTHER PROMISES	X COMPREHENSIVE PLANS COST	X COMPREHENSIVE PLANS ASSISTANCE REQUIRED	ASSISTANCE PROMISED	XI POPULATION PROPORTION	XII SUGGESTED ALLOCATION
'000 Sq.miles	'000	£'000	£ per sq.mile	£ per head	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	%	£
West Africa														
Gambia	4	185	357	89	2	59	196	30	120	800		1,410(5)	1,410(5)		0.3	1,000,000
Sierra Leone	28	1,799	1,544	55	1	1,370	712	207	418	1,200					2.7	1,900,000
Gold Coast	92	3,960	4,858	54	1	10,400	2,756	98	157	2,300		5,000(5)	1,000(5)	4,000(4)	6.0	3,500,000
Nigeria	375	21,261	9,857	28	0.5	24,785	2,250	425	7,090	8,500		40,000	27,000		32.6	23,000,000
Margin for Readjustments																2,500,000
Total West Africa	497	27,205	16,716	34	0.6	36,574	5,914	761	7,765	12,800					41.8	34,000,000
East Africa																
Somaliland	68	547	176(1)	3	0.6	236 (11)	nil	nil	318	380					0.8	750,000
Kenya	250	3,681	4,818	22	1	17,581	2,360	276	755	2,300		17,000	5,000	-	5.6	1,750,000
Uganda	80	3,931	2,358	49	0.6	2,850	3,850	25	1,285	2,300		4,800(6)	2,300(6)	2,500(6)	6.0	3,000,000
Tanganyika	359	5,418	3,801	10	0.6	7,556	500	385	-	3,300		12,000	9,600		8.3	7,000,000
Zanzibar	1	250	477	477	2	nil	nil	14	88	380					0.4	750,000
Margin for Readjustments																1,500,000
Total East Africa	708	13,827	11,323	16	0.8	28,225	6,650	678	2,446	8,500					20.8	17,450,000
Central Africa																
Nyasaland	38	1,978	951	25	0.6	3,610	430	38	309	1,000					2.6	2,500,000
Northern Rhodesia	290	1,385	2,868	10	2	2,247	2,000	19	20	1,000					2.1	2,000,000
Margin for Readjustments																500,000
Total Central Africa	328	3,361	3,819	12	1	5,857	2,430	57	329	2,000					4.7	5,000,000
South Africa																
S.A.H.C.(Gen.)																
Bechuanaland Protectorate	275	265	282	1	1	nil	144								0.4	
Swaziland	7	156	200	29	1	nil	6			1,500	2,000				0.2	2,000,000
Basutoland	12	562	516	43	1	nil	405						219(5)		0.9	
Total South Africa	294	984	997	3	1	nil	555								1.5	

(a) These totals are too low in some instances, as the previous column includes payments made under C.D.W. schemes, totalling £561,000

(1) 1939 Revenue

Parl

Figure A-10: Excerpt of the statistical table prepared for the draft of the final recommendation to the Secretary of State for the Colonies for the 1945 allocation. Source: CO 852/589/11.

The definitive 1945 allocation, published in the Despatch of Nov 12, 1945,[159] deviated only slightly from the recommendations elevated to the Secretary of State in June of that year. The two series correlate at 0.99. In general, deviations occurred downward because the CO decided to keep a reserve of 10% for unexpected expenses. In the next section, I run a simple statistical test to examine whether the six allocations followed the objective criteria used by Pedler, Stockdale, and other top-rank CO officials in 1945.

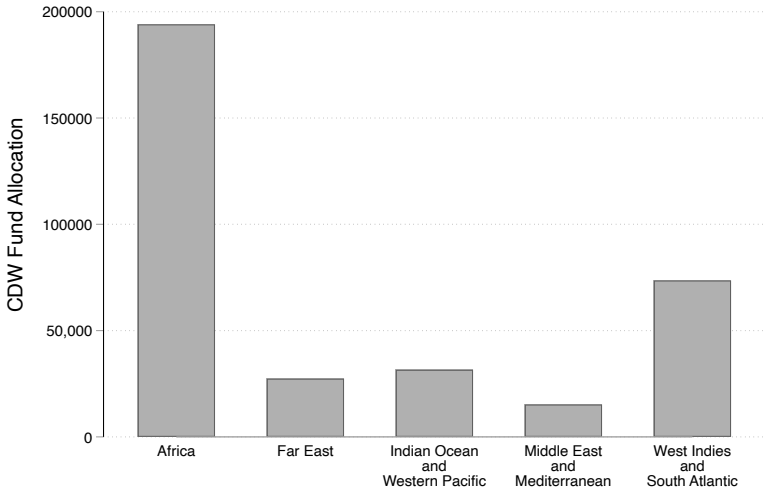
Allocation Data

The 1945, 1955, and 1963 allocations were published in separate dispatches presented by the Secretary of State for the Colonies to Parliament: Nov. 12, 1945,[160] April 26, 1955,[161] and Nov. 18, 1963.[162] To the best of my knowledge, the allocations for 1940 and 1959 were never published. I discovered them in the internal communications between the Colonial Office and the Treasury, which are kept at the National Archives at Kew (London). The allocations for 1940 were communicated separately to each colony on the Circular Telegram of May 2, 1940,[163] and the 1959 allocations were communicated in the Circular Despatch of July 21, 1959.[164] For the last allocation of the program, in 1965, I rely on Morgan.[165]

To analyze allocation criteria statistically, I must use the entire program data. To that end, I gathered allocations for 48 territories, a total of 204 colonyyear observations. The 48 figure is slightly smaller than the total number of nonself-governing colonies (56) because I collapsed some units (e.g., St. Helena and Ascension) and dropped the case of Palestine and Transjordan (these territories were pooled together in some allocations, and I could not locate covariate data for the Transjordan) and the case of Malta, which received in 1959

[159]Cmd. 6713.
[160]Cmd. 6713.
[161]Cmd. 9462.
[162]Colonial No.357.
[163]CO 859/40/6.
[164]CO 1025/109
[165]Morgan (1980*c*, p.317).

Figure A-11: CD&W Fund Allocations, 1940–1965



a vast allocation of £20 million for idiosyncratic reasons. The sum total of allocations in this period was £341,821 million, thus matching the aggregate official statistics published by the Foreign & Commonwealth Office in 1971. The resulting panel is unbalanced because colonies stopped receiving funds upon gaining independence (e.g., the Gold Coast past 1957) or under foreign occupation (e.g., Singapore in 1942–1945).

The regional distribution of CD&W funds for the six allocations between 1940 and 1965 are reported in Figure A-11. The distribution suggests that wealthier colonies, generally located in the Far East and West Indies, received relatively little funding, whereas poorer colonies, generally located in Africa, received most of the funds of the program.

In order to test the relevance of the factors discussed in the allocation of 1945, I gathered data on population, area, revenue, fiscal surplus (the difference between revenue and expenditure), debt, and unspent balance for every allocation year. Population and debt data are drawn from the *Stateman's Yearbook* (various years), the Area is taken from the *1929 Statistical Abstract of the Colonial Empire*, and figures for revenue and surplus for 1944–1959 are drawn from *The Colonial Empire* (various issues) and for 1963 from the *Stateman's Yearbook* of that year.[166]

[166] A detailed data Appendix listing primary and secondary sources will follow.

Table A-11: CD&W Allocations 1940–1965

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Population	0.50***	0.50***	0.49***	0.49***	0.50***	-0.53**	-1.50***	-1.41***
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.20)	(0.30)	(0.29)
Revenue/Cap			-13.21***	-13.21***	-10.33***	-17.79***	-32.03**	
			(3.22)	(3.23)	(3.27)	(4.99)	(12.87)	
Fiscal Surplus				0.01	-0.02	0.05	0.25	
				(0.13)	(0.13)	(0.16)	(0.25)	
Public Debt/Cap					28.83**	-13.24	-32.11	
					(11.89)	(26.88)	(36.65)	
Outstanding Balance (%)								6.22**
								(2.96)
Allocation FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colony FE	No	No	No	No	No	Yes	Yes	Yes
Deflated values	No	No	No	No	No	No	Yes	No
# Allocations	6	6	6	6	6	6	6	5
# Colonies	47	47	47	47	47	47	47	45
Mean DV (£000)	1,675	1,675	1,675	1,675	1,675	1,675	1,989	1,902
Observations	204	204	204	204	195	195	195	150
R-squared	0.52	0.55	0.56	0.56	0.58	0.76	0.80	0.90

Note: See text for sources. Standard errors clustered at colony in parentheses. *** p<0.01, ** p<0.05, * p<0.1

The internal debate in the Colonial Office in 1945 suggests that the colony population was a prime factor in the allocation criteria. In column 1 I run a simple bivariate model between CD&W allocation and population. The resulting R-square is .52, confirming the relevance of this variable. In the second column I add a battery of allocation indicators and the population coefficient remains stable, suggesting no correlation between the size of colonial population and duration in the program. In column 3 I control for the Revenue per "head" or capita, which is listed in column 5 in the statistical compendium assembled by the Colonial Office to decide the 1945 allocation (Figure A-10). This variable is negative and statistically significant. Based on this estimate, a one standard deviation increase in total revenue per capita decreased average allocation by £265.95 or 15.88%. The negative sign suggests that colonies struggling to mobilize domestic resources received more generous allocations.

In column 4 I consider fiscal surplus, also discussed in Pedler's memo. This variable is centered around zero. The null result holds if I normalize the surplus size by total revenue

or by population. This result suggests that austerity policy was not rewarded by the CD&W program, a clear deviation from old Gladstonian economics.

In the internal correspondence between the CO and the Treasury in 1945, countries that could easily float loans on the London Stock Exchange were recommended to receive less funding from the CD&W program. In Column 5 I control for the outstanding public debt per capita. Most public debt was issued in London, but a few colonies had considerable domestic debt (e.g., Hong Kong). The coefficient for public indebtedness in column 5 is positive—against expectations—and statistically different from zero.

Column 6 offers a new perspective because it includes colony fixed effects and focuses on longitudinal variation within any given territory. The population coefficient flips, meaning that as population size increased, which would normally happen if the economy grew, colonies received less funding from the program. The revenue per capita remains negative and statistically different from zero while increasing its substantive impact. According to the new estimate, a one standard-deviation increase in revenue per capita, decreased average CD&W fund allocation by £358,163 or 21.4%, all else constant. In this model the coefficient for public debt turns negative (as originally expected) and statistically insignificant. This suggests that an increase in public indebtedness over time in a given colony was perceived, if at all, as a signal of investors' confidence in its revenue-generating capacity.

So far I have controlled for allocation fixed effects, which should correlate with price growth over time. To better adjust for inflation, in column 7 I deflate all monetary values and express them in 1955 pound sterling.[167] The new set of estimates in column 8 are substantively similar to those in column 7. Although the coefficients for population and revenue per capita increase, so does the average of the dependent variable.

In column 8 I consider the effect of any unspent balance, that is, the funds from the prior allocation that had not been spent by the time a new one was decided. I normalize the total

[167]Inflation data are drawn from Feinstein (1976).

funds unspent by the size of the previous allocation and multiply the resulting ratio by 100 for interpretation purposes.[168] In this model I drop other financial variable to avoid bad controls. Likewise, the total number of allocations is reduced to five because that for 1940 had no precedent. Although Pedler was reluctant to be generous with colonies that had not exhausted the previous allocation, the results suggest that the official allocations did not discriminate against slow spenders. If anything, the opposite holds true.

In sum, the statistical analysis points to two main criteria in allocation decisions: one was the population size; the other, the capacity to mobilize domestic revenue through taxation. Results for public debt and fiscal surplus are mixed. Unspent balances, which were more likely in colonies with weaker state machinery, increased the quantity of new allocations. Altogether, the analysis suggests that CD&W funds prioritized colonies with weaker tax capacity and state machinery, alleviating concerns of reverse causation in Table 1.

[168]This variable is larger than 100 for nine West Indian colonies in 1963 because some centrally kept funds were shared with the territories between allocations.

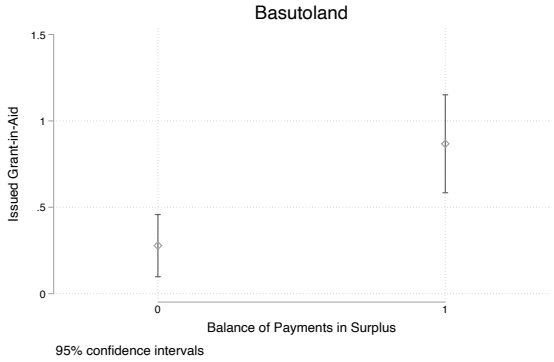
J An Example of Annual Commitments

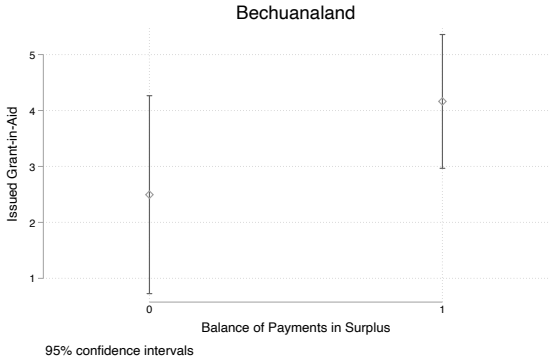
Figure A-12: Excerpt of 1951 CD&W Commitments to Nyasaland (Malawi). Source: House of Commons Papers 211, XXIV.267 (24). Color marks added by author for legibility. The first column indicates scheme number, followed by recipient, a summary of project description, and last column the total amount of committed pound sterling funds.

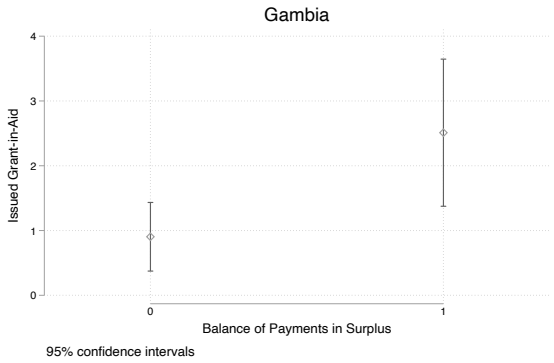
846D	Nyasaland ...	Mass education project ... ... *Further grant under Schemes Nos. D. 846, D. 846A. D. 846B and D. 846C (see House of Commons Papers Nos. 166 of 1948, 211 of 1949, 107 of 1950 and 189 of 1951) to continue the scheme of mass education and community development during the years 1952–54.*	38,641
1483A	do. ...	Provision of aeronautical wireless facilities ... *Supplementary grant under Scheme No. D. 1483 (see House of Commons Paper No. 189 of 1951) to provide for additional equipment at Chileka airport and for buildings and equipment at Lilongwe, Mzuzu and Karonga.*	8,990
1616	do. ...	Geological survey of corundum deposits ...	480
1625	do. ...	Geological Surveys Department ... ... *Grant to cover approximately 35 per cent. of the developmental expenditure of the Department over a five-year period. The provision will be devoted mainly to the supply of water for African villages.*	52,500
1672	do. ...	Secondary and technical education ... ... *The scheme provides for expanding facilities at the Government Secondary/Technical School at Dedza and establishing a Government junior trade training centre near Blantyre.*	90,600
1677	do. ...	Plant for road development ... ... *The grant covers the purchase of plant and equipment for the programme of road construction.*	60,454
1702	do. ...	Survey of Shire Valley project ... ... *Grant to cover 50 per cent. of the estimated cost of a comprehensive survey to be carried out as a preliminary to the preparation of a major scheme of development.*	150,000
1739	do. ...	Geological survey	160

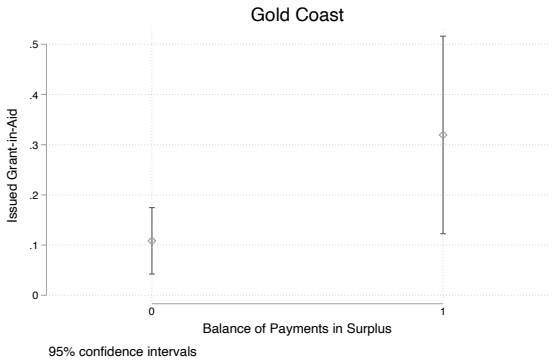
K Aid Shocks by Country

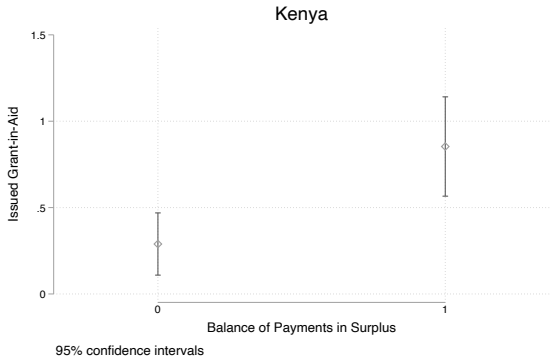
The figures in this Appendix show average per capita CD&W issue in constant value by colony in years of UK BOP surplus and deficit. The only country that did not experienced a systematic drop in CDW issues during deficit BOP years is Nyasaland (for no apparent reason). Results in Table 2 hold if Nyasaland colony is excluded from the analysis.

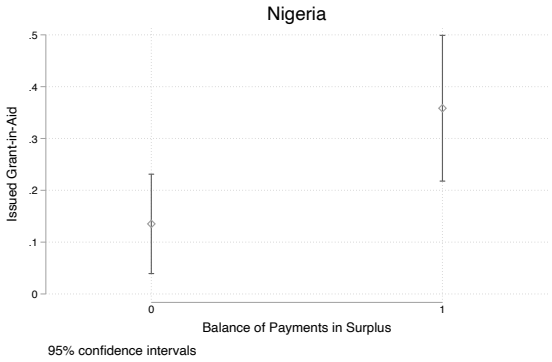


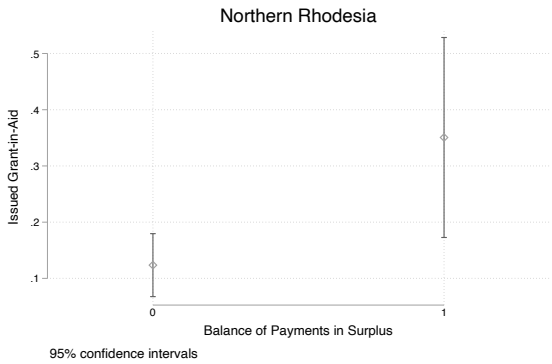








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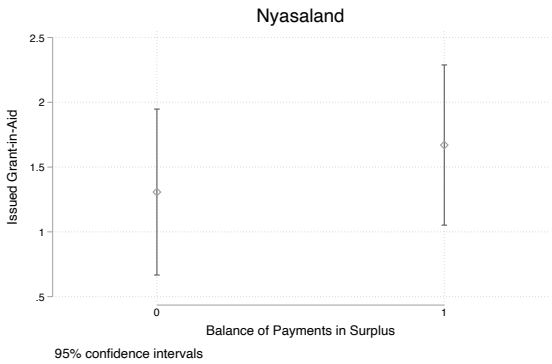
Balance of Payments in Surplus
95% confidence intervals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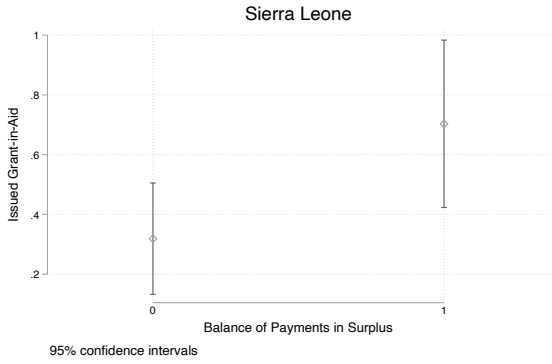
Balance of Payments in Surplus
95% confidence intervals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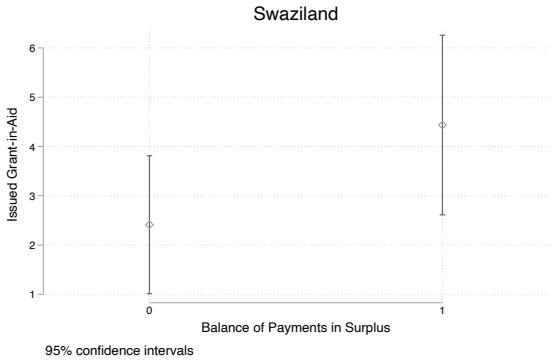
Balance of Payments in Surplus
95% confidence intervals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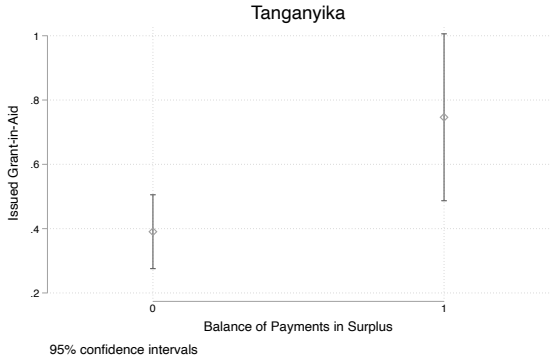
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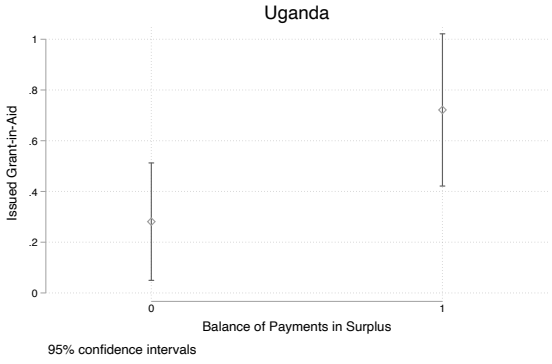
Balance of Payments in Surplus
95% confidence intervals


Uganda
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Balance of Payments in Surplus
95% confidence intervals

L Cuckoos in the Nest

The analysis of gubernatorial recruitment and on-the-job incentives in Section 5 of the main text excludes the so-called "cuckoos in the nest" (Nicolson and Hughes, 1975)—that is, governors who were clearly appointed for political purposes. I identified five such governors among those who served in Africa between 1929 and 1969 (e.g., Evelyn Baring was appointed Governor of Kenya in 1952 to suppress the Mau Mau rebellion). Further details on the political nature of these appointments can be found in Nicolson and Hughes (1975) and KirkGreene (1979).

In Tables A-12 and A-13, I re-estimate the models presented in the main paper, this time including the "cuckoos" in the sample. Results remain robust across all specifications except the first test. Specifically, the inclusion of political appointees in the post-1930 governor group renders the interaction coefficient statistically indistinguishable from zero. This finding is consistent with the nature of their appointment.

Table A-12: Recruitment Track and Administrators Performance Including Cuckoos in the Nest

	(1)	(2)	(3)	(4)
CDW Issues × Warren Fisher	0.233	0.219		
	(0.176)	(0.174)		
Warren Fisher	0.224	0.218		
	(0.292)	(0.282)		
CDW Issues × Career Official			0.486**	0.480**
			(0.218)	(0.216)
Career Official			-0.023	-0.034
			(0.157)	(0.152)
CDW Grant Issue	-0.020	-0.004	-0.268	-0.260
	(0.177)	(0.178)	(0.224)	(0.223)
First lag DV	Yes	Yes	Yes	Yes
DOB	Yes	No	Yes	No
Date of Entry	No	Yes	No	Yes
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Colony FE	Yes	Yes	Yes	Yes
Observations	397	397	397	397
R-squared	0.886	0.886	0.887	0.887

Note: These models include governors appointed for political reasons. *Warren Fisher Governor* equals 1 if the governor's first appointment to a governorship occurred after the 1930 Warren Fisher reform; 0 otherwise. *Career Official* equals 1 if the governor entered the Colonial Service as a cadet; 0 otherwise. Colony-level controls include: *log Population* and *Colonial Unrest*. Governor-level controls include: *D.O.B.* (date of birth), and *Date of Entry*, defined as the date of first appointment to the Colonial Service, regardless of rank. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A-13: Career Incentives and Administrator Performance including Cuckoos in the Nest

	(1)	(2)	(3)
CDW Grant Issue × First Time Governor	0.254**	0.505*	
	(0.118)	(0.263)	
CDW Grant Issue	-0.030	-0.196	0.533***
	(0.124)	(0.249)	(0.130)
CDW Grant Issue × Age Requirement Met			-1.706**
			(0.698)
First Time Governor	0.129	0.181	
	(0.186)	(0.722)	
Age Requirement Met			-0.587
			(0.729)
First Lag of DV	Yes	Yes	Yes
DOB	Yes	No	No
Colonial Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Colony FE	Yes	Yes	Yes
Governor FE	No	Yes	Yes
Tenure Requirement Met	-	Yes	Yes
Observations	399	399	173
R-squared	0.897	0.937	0.972

Note: These models include governors that were appointed by political reasons. *First Term Governor* equals 1 if the governor is serving his first term in office; 0 otherwise . *Age Requirement Met* equals 1 if the governor has reached the minimum age to opt for a retirement pension; 0 otherwise. *Tenure Requirement Met* equals 1 if the governor has served the minimum number of years required to qualify for a retirement pension; 0 otherwise. Colony-level controls include: *log Population* and *Colonial Unrest*. *D.O.B.*: Date of birth. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

M Principal with Field Experience

Five Permanent Undersecretaries of State for the Colonies had prior field experience, which may have helped reduce information asymmetries between London and colonial agents. Using the same model specification as in expression 4, Table A-14 shows that the relationship between aid and tax revenue was indeed stronger when the Undersecretary had first-hand experience in the colonies.

Table A-14: The effect of CD&W issues on Tax Revenue when the Principal has field experience

	(1)	(2)	(3)	(4)	(5)
CDW Issues × Undersecretary with Field Experience	0.231**	0.221*	0.236**	0.222*	0.231**
	(0.115)	(0.117)	(0.115)	(0.114)	(0.115)
CDW Grant Issue	0.050	0.063	0.031	0.057	0.053
	(0.108)	(0.112)	(0.111)	(0.108)	(0.113)
Undersecretary with Field Experience	-2.322	-1.946	-3.092	-2.220	-2.281
	(2.899)	(2.998)	(3.007)	(2.865)	(2.994)
Colony FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Governor DOB	Yes	Yes	Yes	Yes	Yes
Colony Controls	Yes	Yes	Yes	Yes	Yes
Same Public School	No	Yes	No	No	No
Same University	No	No	Yes	No	No
Same College	No	No	No	Yes	No
Same Order	No	No	No	No	Yes
Observations	381	381	381	381	381
R-squared	0.899	0.899	0.900	0.899	0.899

Note: All connections are specific to the Governor with the Permanent Undersecretary. Colony-level controls: log of Population and Social Conflict. Governor-level controls are: D.O.B. (date of birth). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

N Tax Collection Courses in London

Improvements in local administration resulting from imperial aid may be an alternative, nonmutually exclusive causal mechanism for the strong association between CD&W issues and tax revenue. In this appendix I focus on one particular aspect of capacity building—skill acquisition—to explore this mechanism.

Starting in 1952, the Internal Bureau of Revenue set up a six month courses in London to train colonial officials in tax collection techniques. This program ran from 1952 to 1969 and trained 337 students from all over the empire. The training continued after independence.

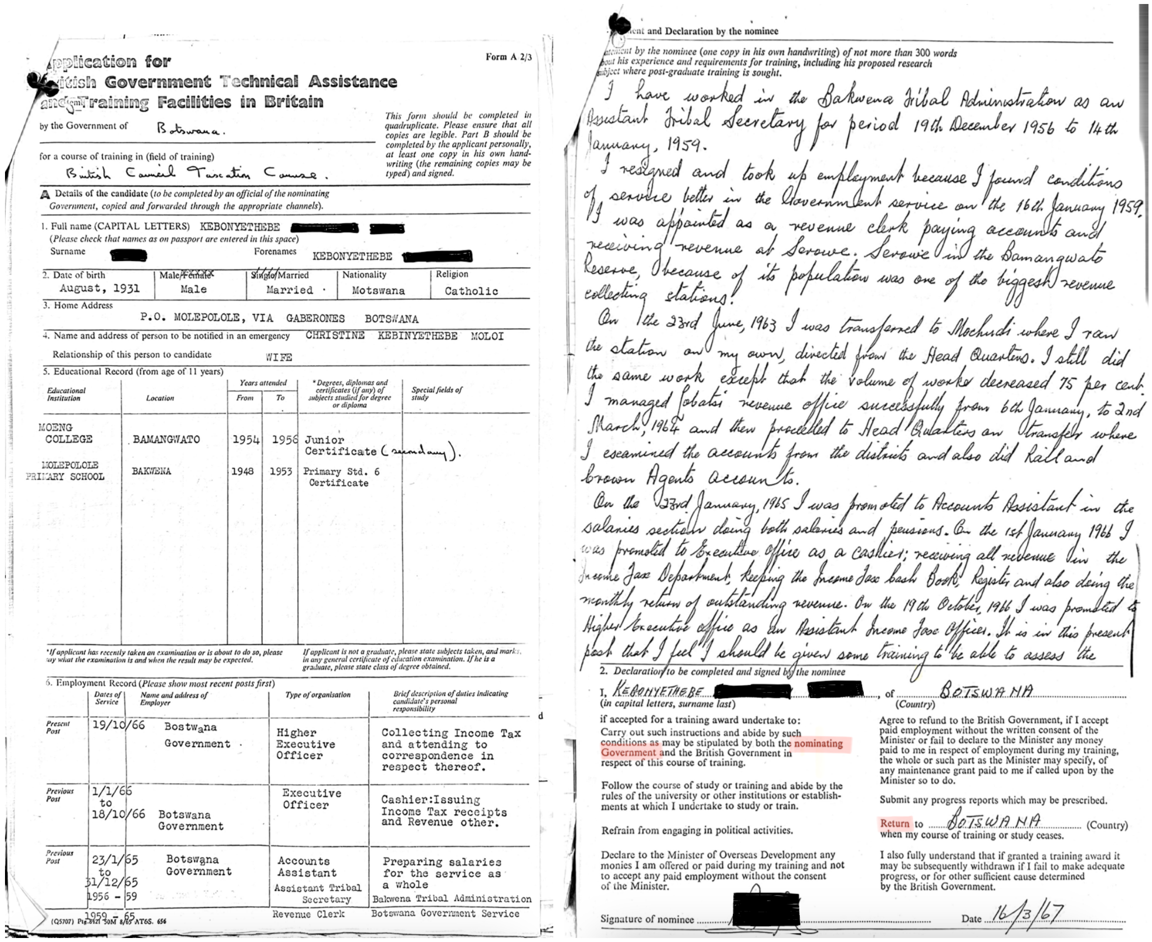
The course was targeted at management positions within colonial administrations, and colonial administrators nominated their candidates. Participation was competitive. Figure A-13 shows an application form by a Botswanan candidate (as of 1967, two years after independence). Mr. Kebonyethese was senior tax official in Botswana (I semi-anonymized the record). He had eleven years of experience in the colonial administration by the time he applied for this course. As stated in the type-written bottom left column on the second page of the application, Mr. Kebonyethese (like any other candidate), required the nomination of his government. Mr. Kebonyethese's proposal was rejected for not being sufficiently qualified.

The semi-annual program ran 37 courses in total with an average of 11 students per edition. I have coded the number of students at the colony–year level from the Colonial Income Tax Office records.[169] In the working sample (1952–independence, 12 African colonies), 24 African students participated in this program. I use their participation as a proxy of colonial efforts to build tax capacity.

In column 1 in Table A-15 I rerun the main analysis in Table 1 after 1952. The CD&W issues coefficient in the subset sample is qualitatively identical to that for the full sample.

[169]OD 1/20. The agency changed its name to Overseas Territories in its last years of operation. The agency was shut down in 1972 and starting in 1973 training of (former) colonies' personnel was conducted by the Inland Revenue Department (OD 1/25).

Figure A-13: Application for Colonial Income Tax Office course



Form A 2/3

Application for British Government Technical Assistance and Training Facilities in Britain

by the Government of Botswana.

for a course of training in (field of training) British Council Taxation Course.

This form should be completed in quadruplicate. Please ensure that all copies are legible. Part B should be completed by the applicant personally, at least one copy in his own handwriting (the remaining copies may be typed) and signed.

A Details of the candidate (*to be completed by an official of the nominating Government, copied and forwarded through the appropriate channels*).

1. Full name (CAPITAL LETTERS) KEBONYETHEBE [redacted]
(*Please check that names as on passport are entered in this space*)
Surname [redacted] Forenames KEBONYETHEBE [redacted]

2. Date of birth	Male/Female	Single/Married	Nationality	Religion
August, 1931	Male	Married	Motswana	Catholic

3. Home Address P.O. MOLEPOLOLE, VIA GABERONES BOTSWANA

4. Name and address of person to be notified in an emergency CHRISTINE KEBINYETHEBE MOLOI
Relationship of this person to candidate WIFE

5. Educational Record (from age of 11 years)

Educational Institution	Location	Years attended From	To	*Degrees, diplomas and certificates (if any) of subjects studied for degree or diploma	Special fields of study
MOENG COLLEGE	BAMANGWATO	1954	1956	Junior Certificate (secondary).	
MOLEPOLOLE PRIMARY SCHOOL	BAKWENA	1948	1953	Primary Std. 6 Certificate	

**If applicant has recently taken an examination or is about to do so, please say what the examination is and when the result may be expected.*

If applicant is not a graduate, please state subjects taken, and marks, in any general certificate of education examination. If he is a graduate, please state class of degree obtained.

6. Employment Record (*Please show most recent posts first*)

	Dates of Service	Name and address of Employer	Type of organisation	Brief description of duties indicating candidate's personal responsibility
Present Post	19/10/66	Bostwana Government	Higher Executive Officer	Collecting Income Tax and attending to correspondence in respect thereof.
Previous Post	1/1/66 to 18/10/66	Botswana Government	Executive Officer	Cashier:Issuing Income Tax receipts and Revenue other.
Previous Post	23/1/65 to 31/12/65	Botswana Government	Accounts Assistant	Preparing salaries for the service as a whole
	1956 - 59		Assistant Tribal Secretary	Bakwena Tribal Administration
	1959 - 65		Revenue Clerk	Botswana Government Service

(Q5707) Ptg.8121 50M 8/65 AT6S. 656

Statement and Declaration by the nominee

Statement by the nominee (one copy in his own handwriting) of not more than 300 words about his experience and requirements for training, including his proposed research subject where post-graduate training is sought.

I have worked in the Bakwena Tribal Administration as an Assistant Tribal Secretary for period 19th December 1956 to 14th January, 1959.

I resigned and took up employment because I found conditions of service better in the Government service on the 16th January 1959. I was appointed as a revenue clerk paying accounts and receiving revenue at Serowe. Serowe in the Bamangwato Reserve, because of its population was one of the biggest revenue collecting stations.

On the 23rd June, 1963 I was transferred to Mochudi where I ran the station on my own, directed from the Head Quarters. I still did the same work except that the volume of works decreased 75 per cent. I managed Lobatsi revenue office successfully from 6th January, to 2nd March, 1964 and then proceeded to Head Quarters on transfer where I examined the accounts from the districts and also did Rail and Crown Agents accounts.

On the 23rd January, 1965 I was promoted to Accounts Assistant in the salaries section doing both salaries and pensions. On the 1st January 1966 I was promoted to Executive Office as a Cashier; receiving all revenue in the Income Tax Department, keeping the Income Tax Cash Book, Register and also doing the monthly return of outstanding revenue. On the 19th October, 1966 I was promoted to Higher Executive Office as an Assistant Income Tax Officer. It is in this present post that I feel I should be given some training to be able to assess the

2. Declaration to be completed and signed by the nominee

I, KEBONYETHEBE [redacted], of BOTSWANA
(in capital letters, surname last) (Country)

if accepted for a training award undertake to:

Carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the British Government in respect of this course of training.

Follow the course of study or training and abide by the rules of the university or other institutions or establishments at which I undertake to study or train.

Refrain from engaging in political activities.

Declare to the Minister of Overseas Development any monies I am offered or paid during my training and not to accept any paid employment without the consent of the Minister.

Agree to refund to the British Government, if I accept paid employment without the written consent of the Minister or fail to declare to the Minister any money paid to me in respect of employment during my training, the whole or such part as the Minister may specify, of any maintenance grant paid to me if called upon by the Minister so to do.

Submit any progress reports which may be prescribed.

Return to BOTSWANA (Country) when my course of training or study ceases.

I also fully understand that if granted a training award it may be subsequently withdrawn if I fail to make adequate progress, or for other sufficient cause determined by the British Government.

Signature of nominee [redacted] Date 16/3/67

Note: Source OD 1/19. Anonymized by Author.

In column 2 I control for the time-varying, colony-specific number of colonial students in London. I interpret this variable as a proxy of colonial efforts to improve local capacity. The effect for CD&W issues remains unaltered in the presence of the new control, suggesting that the latter does not drive the main effect. In column 3 I run the mirror image of the interactive model in Expression 4 in the main text. The effect of CD&W issues on tax revenue does not vary by student participation in training programs. Results remain null when I consider lags to student participation, cumulative stutent participation, or when I rerun the analysis for the full sample.

Table A-15: Tax Revenue as a function of Imperial Aid and Participation in Tax Training Programs, 1952–1969

	(1)	(2)	(3)
CDW Grant Issue	0.423***	0.425***	0.414***
	(0.127)	(0.127)	(0.126)
Tax Student		0.564	1.221
		(0.639)	(1.111)
CDW Grant Issues × Tax Student			-0.402
			(0.401)
Lagged DV	Yes	Yes	Yes
Colony FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	135	135	135
R-squared	0.902	0.903	0.904

Note: All monetary units are expressed in per capita, real value. Controls are: log of Population, Resources Value, and Internal Conflict. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

O Expanded Regression Tables Showing All Coefficients

This Appendix shows omitted coefficients in Table 1 to 4 in the main paper in compliance with the Journal policy.

Table A-16: Colonial Tax Revenue and CD&W Issues, 1929–69 (Table 1 in the paper)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CDW Grant Issue	0.85***	0.21***	0.20**	0.20**	0.22***	0.18*	0.28**
	(0.10)	(0.08)	(0.09)	(0.09)	(0.08)	(0.10)	(0.11)
First Lag of Tax Pressure		0.88***	0.88***	0.88***	0.86***	0.77***	0.80***
		(0.05)	(0.05)	(0.06)	(0.06)	(0.11)	(0.08)
ln(Population)				-1.09	0.57	-3.95	1.72
				(3.85)	(1.66)	(6.32)	(5.69)
Colonial Unrest				0.11	0.02	0.10	0.60
				(0.34)	(0.32)	(0.44)	(0.50)
Baldwin					-0.03		
					(0.22)		
Chamberlain					0.12		
					(0.26)		
Churchill					0.44		
					(0.43)		
Atlee					0.22		
					(0.46)		
Eden					0.06		
					(0.74)		
MacMillan					-0.30		
					(0.79)		
Douglas-Home					-0.34		
					(1.07)		
Wilson					0.11		
					(1.06)		
Constant	4.82***	0.59***	0.64**	16.37	-7.59	59.28	-23.95
	(0.17)	(0.23)	(0.26)	(55.55)	(23.51)	(92.24)	(81.82)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	No	Yes	Yes	No	Yes	Yes
Time period	Full	Full	Full	Full	Full	1946–61	Full
Synched FY	No	No	No	No	No	No	Yes
Mean DV	5.79	5.79	5.79	5.79	5.79	6.86	5.96
Observations	397	397	397	397	397	181	215
R-squared	0.57	0.87	0.89	0.89	0.87	0.88	0.91

Note: Monetary units are expressed in per capita real value. Colony controls are: log of Population and Colonial Unrest. MacDonald is the excluded PM. Robust standard errors in parenthesis: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A-17: Colonial Tax Revenue and Imperial Aid Shocks, 1929–69 (Table 2 in the paper)

First Stage: CDW Issue		
	(1)	(2)
CDW Commitment	0.21***	0.21***
	(0.05)	(0.05)
Balance of Payment (BOP)	-0.09***	-0.06*
	(0.03)	(0.04)
CDW Commitment × BOP	0.03***	0.03***
	(0.01)	(0.01)
First Lag of Tax Pressure	0.08**	0.08**
	(0.04)	(0.04)
ln(Population)	7.92***	8.05***
	(1.55)	(1.57)
Colonial Unrest	-0.09	-0.09
	(0.17)	(0.18)
WW2 Year		0.24
		(0.27)
Constant	-112.54***	-114.43***
	(22.09)	(22.33)
Observations	386	386
R-squared	0.67	0.67
Second Stage: Tax Revenue		
$\widehat{CDWissue}$	0.46*	0.46*
	(0.28)	(0.28)
CDW Commitment	-0.01	-0.01
	(0.05)	(0.05)
BOP	0.06	0.11**
	(0.04)	(0.05)
First Lag of Tax Pressure	0.84***	0.83***
	(0.06)	(0.06)
ln(Population)	-3.61	-3.32
	(2.91)	(2.93)
Colonial Unrest	0.05	0.03
	(0.33)	(0.33)
WW2 Year		0.54
		(0.40)
Constant	47.69	43.79
	(38.43)	(38.65)
Colony FE	Yes	Yes
British PM FE	Yes	Yes
Wald F (Kleibergen-Paap)	12.51	12.63
Observations	386	386
R-squared	0.87	0.87

Note: All monetary units are expressed in per capita, real value. Controls are: log of Population and Colonial Unrest. FE batteries apply to both first and second stage. Robust coefficients in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table A-18: Recruitment Track and Administrators Performance (Top Panel of Table 3 in the paper)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CDW Grant Issue × Warren Fisher	0.416**	0.401**	0.449**	0.235	0.591***	0.458**	0.417**
	(0.178)	(0.180)	(0.185)	(0.227)	(0.203)	(0.188)	(0.180)
CDW Grant Issue	-0.170	-0.156	-0.200	-0.005	-0.344*	-0.218	-0.171
	(0.175)	(0.178)	(0.179)	(0.218)	(0.196)	(0.192)	(0.176)
Warren Fisher	0.573*	0.536*	0.514	0.650**	0.485	0.576*	0.611*
	(0.324)	(0.309)	(0.325)	(0.309)	(0.334)	(0.325)	(0.331)
First Lag of Tax Revenue	0.841***	0.841***	0.835***	0.840***	0.843***	0.839***	0.841***
	(0.062)	(0.062)	(0.064)	(0.062)	(0.062)	(0.064)	(0.062)
ln(Population)	-0.526	-0.811	-0.570	-0.725	-0.423	-0.363	-0.452
	(3.911)	(3.984)	(3.912)	(3.745)	(3.847)	(4.092)	(3.915)
Colonial Unrest	0.116	0.115	0.116	0.183	0.130	0.125	0.109
	(0.363)	(0.363)	(0.364)	(0.365)	(0.362)	(0.364)	(0.362)
Date of Birth	-0.017		-0.017	-0.030	-0.014	-0.019	-0.013
	(0.022)		(0.022)	(0.024)	(0.021)	(0.024)	(0.023)
Date of Entry		-0.008					
		(0.011)					
Governor-Permanent Undersecretary: Same Public School			0.633				
			(0.607)				
Governor-Secretary: Same Public School			0.424				
			(0.668)				
Governor-Permanent Undersecretary: Same University				-0.596**			
				(0.270)			
Governor-Secretary: University				0.255			
				(0.298)			
Governor-Permanent Undersecretary: Same College					0.481		
					(0.385)		
Governor-Secretary: Same College					-1.139**		
					(0.571)		
Governor-Secretary: Both British Empire Order						0.357	
						(0.377)	
Governor-Permanent Undersecretary: Both British Empire Order						-0.162	
						(0.238)	
Governor-Permanent Undersecretary: Both Michael and George Order						-0.002	
						(0.485)	
Governor Knight							0.192
							(0.295)
Constant	39.766	26.593	40.399	68.332	32.898	42.335	32.142
	(74.601)	(66.314)	(74.612)	(76.842)	(71.437)	(76.737)	(76.241)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	379	379	379	379	379	379	379
R-squared	0.888	0.887	0.888	0.889	0.889	0.888	0.888

Note: These models examine whether the governor's recruitment method impacted the fiscal performance of the CD&W program. Warren Fisher = 1 if first ever appointment into governorship dates after 1930 Warren Fisher Report, 0 otherwise. Career Official = 1 is the governor entered the civil service as a cadet, 0 otherwise. Colony-level controls: Controls: log of Population, Resources Value, and Internal Conflict. Governor-level controls are: D.O.B. (date of birth) and Date of Entry (date of first appointment into the colonial service regardless of rank). Refer to Appendix O for the expanded version of the regression table. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A-19: Recruitment Track and Administrators Performance (Bottom Panel of Table 3 in the paper)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
CDW Grant Issue × Career Official	0.615**	0.616**	0.617**	0.607**	0.602**	0.634**	0.614**
	(0.291)	(0.291)	(0.292)	(0.295)	(0.292)	(0.295)	(0.292)
CDW Grant Issue	-0.388	-0.389	-0.388	-0.394	-0.376	-0.404	-0.387
	(0.300)	(0.300)	(0.302)	(0.303)	(0.302)	(0.307)	(0.301)
Career Official	-0.040	-0.066	-0.067	0.007	-0.037	-0.044	-0.040
	(0.168)	(0.162)	(0.168)	(0.180)	(0.169)	(0.177)	(0.168)
First Lag of Tax Pressure	0.854***	0.852***	0.848***	0.852***	0.857***	0.855***	0.854***
	(0.059)	(0.060)	(0.062)	(0.059)	(0.060)	(0.061)	(0.059)
ln(Population)	-2.518	-2.731	-2.497	-2.605	-2.637	-2.565	-2.511
	(3.927)	(3.980)	(3.943)	(3.766)	(3.871)	(4.099)	(3.931)
Colonial Unrest	0.155	0.154	0.152	0.229	0.168	0.165	0.154
	(0.359)	(0.360)	(0.359)	(0.358)	(0.359)	(0.359)	(0.358)
Date of Birth	-0.019		-0.019	-0.034	-0.017	-0.022	-0.019
	(0.021)		(0.022)	(0.024)	(0.021)	(0.024)	(0.023)
Date of Entry		-0.011					
		(0.011)					
Governor-Permanent Undersecretary: Same Public School			0.612				
			(0.602)				
Governor-Secretary: Same Public School			0.526				
			(0.731)				
Governor-Permanent Undersecretary: Same University				-0.638**			
				(0.261)			
Governor-Secretary: University				0.193			
				(0.304)			
Governor-Permanent Undersecretary: Same College					0.284		
					(0.353)		
Governor-Secretary: Same College					-1.168**		
					(0.575)		
Governor-Secretary: Both British Empire Order						0.214	
						(0.396)	
Governor-Permanent Undersecretary: Both British Empire Order						-0.059	
						(0.243)	
Governor-Permanent Undersecretary: Both Michael and George Order						-0.178	
						(0.474)	
Governor Knight							0.018
							(0.298)
Constant	73.117	61.313	71.997	102.761	71.822	80.137	72.338
	(75.450)	(66.305)	(75.942)	(78.598)	(71.904)	(78.504)	(77.241)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	379	379	379	379	379	379	379

Note: These models examine whether the governor's recruitment method impacted the fiscal performance of the CD&W program. Warren Fisher = 1 if first ever appointment into governorship dates after 1930 Warren Fisher Report, 0 otherwise. Career Official = 1 is the governor entered the civil service as a cadet, 0 otherwise. Colony-level controls: Controls: log of Population, Resources Value, and Internal Conflict. Governor-level controls are: D.O.B. (date of birth) and Date of Entry (date of first appointment into the colonial service regardless of rank). Refer to Appendix O for the expanded version of the regression table. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A-20: Career Incentives and Fiscal Performance (Top Panel of Table 4 in the paper

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CDW Issue × First Time Governor	0.343***	0.331***	0.337***	0.323**	0.352***	0.341***	0.333***	0.648**
	(0.122)	(0.121)	(0.122)	(0.128)	(0.124)	(0.118)	(0.120)	(0.264)
CDW Grant Issue	-0.118	-0.106	-0.107	-0.111	-0.128	-0.124	-0.110	-0.474*
	(0.124)	(0.123)	(0.126)	(0.128)	(0.126)	(0.125)	(0.123)	(0.255)
First Time Governor	0.019	0.057	0.043	-0.097	0.019	0.004	0.006	0.242
	(0.189)	(0.189)	(0.189)	(0.194)	(0.193)	(0.199)	(0.191)	(0.698)
First Lag of Tax Revenue	0.826***	0.825***	0.817***	0.825***	0.831***	0.828***	0.828***	0.310**
	(0.066)	(0.066)	(0.069)	(0.068)	(0.067)	(0.068)	(0.067)	(0.127)
ln(Population)	-0.416	-0.536	-0.369	-1.472	-0.604	-0.835	-0.768	4.147
	(4.114)	(4.181)	(4.136)	(4.063)	(4.163)	(4.321)	(4.206)	(11.368)
Colonial Unrest	0.201	0.201	0.198	0.239	0.211	0.200	0.193	0.395
	(0.365)	(0.366)	(0.365)	(0.364)	(0.362)	(0.366)	(0.364)	(0.369)
Date of Birth	-0.013		-0.013					
	(0.021)		(0.021)					
Date of Entry		-0.011						
		(0.011)						
Governor-Permanent Undersecretary: Same Public School			0.757					
			(0.612)					
Governor-Secretary: Same Public School			0.613					
			(0.745)					
Governor-Permanent Undersecretary: Same University				-0.489**				
				(0.248)				
Governor-Secretary: Same University				0.468				
				(0.320)				
Governor-Secretary: Same College					-1.067*			
					(0.631)			
Governor-Permanent Undersecretary: Same College					0.441			
					(0.369)			
Governor-Secretary: Both British Empire						0.266		
						(0.408)		
Governor-Permanent Undersecretary: Both British Empire						-0.004		
						(0.240)		
Governor-Permanent Undersecretary: Both Michael & George						0.071		
						(0.490)		
Governor Knight							-0.181	
							(0.239)	
Constant	31.180	29.373	31.711	22.264	9.585	12.910	12.134	-55.931
	(78.141)	(70.530)	(78.272)	(58.508)	(59.903)	(62.161)	(60.521)	(163.762)
Colony FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Governor FE	No	No	No	No	No	No	No	Yes
Observations	379	379	379	379	379	379	379	377
R-squared	0.888	0.888	0.888	0.889	0.888	0.888	0.888	0.934

Note: *First Term Governor* = 1 if the governor is in his first governorship; 0 otherwise. *Age Requirement Met* = 1 if the governor meets the minimum age to qualify for retirement pension; 0 otherwise. *Tenure Requirement Met* = 1 if the governor meets the minimum number of years in office to qualify for retirement pension; 0 otherwise. *Colony-level controls:* log of Population and Colonial Unrest. *Governor-level controls: D.O.B.* (Date of Birth); *Date of Entry* = date of first appointment into the Colonial Service regardless of rank. These two variables are excluded from columns 9–14 as they are time-invariant and collinear with governor fixed effects. *Connections:* Each of the four connection rows (Same Public School; Same University; Same College; Same Order) includes two dummy variables: one for the governor–Secretary of State pair and another for the governor–Permanent Undersecretary of State pair. These equal 1 if both individuals attended (and overlapped at) the same educational institution or were members of the same companion order; 0 otherwise. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A-21: Career Incentives and Fiscal Performance (Bottom Panel of Table 4 in the Paper)

	(9)	(10)	(11)	(12)	(13)	(14)	(15)
CDW Issued	0.440***	0.464***	0.442***	0.463***	0.471***	0.436***	0.540***
	(0.160)	(0.160)	(0.161)	(0.160)	(0.161)	(0.159)	(0.132)
CDW Issued × Age Qualification Met	-1.518*	-1.468*	-1.521*	-1.642**	-1.569*	-1.487*	-1.805**
	(0.818)	(0.797)	(0.800)	(0.825)	(0.817)	(0.809)	(0.711)
Age Qualification Met	-0.315	-0.225	-0.319	-0.265	-0.288	-0.286	-0.046
	(0.575)	(0.604)	(0.582)	(0.575)	(0.586)	(0.594)	(0.590)
First Lag of Tax Pressure	0.676***	0.659***	0.676***	0.684***	0.668***	0.669***	0.504***
	(0.109)	(0.112)	(0.112)	(0.111)	(0.112)	(0.114)	(0.161)
ln(Population)	-0.190	-0.294	-0.179	-0.267	-0.190	-0.215	-70.880***
	(0.224)	(0.230)	(0.234)	(0.270)	(0.196)	(0.217)	(21.919)
Colonial Unrest	-0.090	-0.106	-0.074	-0.084	-0.098	-0.092	0.055
	(0.494)	(0.506)	(0.512)	(0.492)	(0.498)	(0.497)	(0.490)
Governor-Permanent Undersecretary: Same Public School		0.866					
		(0.830)					
Governor-Secretary: Same Public School		-0.000					
		(0.522)					
Governor-Permanent Undersecretary: Same University			-0.049				
			(0.623)				
Governor-Secretary: University			-0.226				
			(0.553)				
Governor-Permanent Undersecretary: Same College				-0.567			
				(0.752)			
Governor-Secretary: Same College				-0.641			
				(0.822)			
Governor-Secretary: Both British Empire Order					-6.760**		
					(3.111)		
Governor-Permanent Undersecretary: Both British Empire Order					1.300**		
					(0.524)		
Governor-Permanent Undersecretary: Both Michael and George Order					0.127		
					(0.951)		
Governor Knight						0.263	
						(0.594)	
Constant	2.096	3.570	2.005	3.435	9.034**	2.264	935.805***
	(2.886)	(3.024)	(2.995)	(3.699)	(3.739)	(2.812)	(289.868)
Tenure Requirement Met	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colony FE	No	No	No	No	No	No	Yes
Governor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Governor FE	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	164	164	164	164	164	164	164
R-squared	0.965	0.973	0.973	0.973	0.973	0.974	0.973

Note: *First Term Governor* = 1 if the governor is in his first governorship; 0 otherwise. *Age Requirement Met* = 1 if the governor meets the minimum age to qualify for retirement pension; 0 otherwise. *Tenure Requirement Met* = 1 if the governor meets the minimum number of years in office to qualify for retirement pension; 0 otherwise. *Colony-level controls:* log of Population and Colonial Unrest. *Governor-level controls: D.O.B.* (Date of Birth); *Date of Entry* = date of first appointment into the Colonial Service regardless of rank. These two variables are excluded from columns 9–14 as they are time-invariant and collinear with governor fixed effects. *Connections:* Each of the four connection rows (Same Public School; Same University; Same College; Same Order) includes two dummy variables: one for the governor–Secretary of State pair and another for the governor–Permanent Undersecretary of State pair. These equal 1 if both individuals attended (and overlapped at) the same educational institution or were members of the same companion order; 0 otherwise. Refer to Appendix O for the expanded version of the regression table. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.