

REVIEW ARTICLE

Does Digital Tax Administration Lighten the Load? Compliance Costs and Micro Enterprises

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ABSTRACT

Local governments across Indonesia are digitalising tax administration, introducing electronic filing, electronic payment, and automated transaction recording for restaurant, hotel and parking taxes. Digitalisation is universally presented as reducing burden on business. This study asked whether the international evidence supports that claim for the smallest enterprises, and what the answer implies for Indonesian local tax reform. The method is a structured review of empirical studies published between 2017 and 2024, organised around the compliance cost literature, the tax digitalisation literature, and the technology adoption literature, followed by application to the Indonesian local tax context. The evidence runs in two directions and the divergence is systematic rather than random. Where digitalisation replaces a process the firm already performed, it reduces burden substantially: electronic filing cut time spent on tax affairs by forty per cent in one experimental study. Where digitalisation imposes a new instrument the firm must acquire and operate, the smallest firms adopt least and bear most: in one African case only twenty-nine per cent of the smallest taxpayers used mandated electronic billing machines against fifty-four per cent of larger ones, and the smallest faced an effective tax rate of 8.3 per cent against 5.4 per cent. Compliance costs are regressive to begin with, reaching 3.87 per cent of turnover for unincorporated enterprises in one estimate. The study concludes that the decisive design question is not whether to digitalise but whether the instrument substitutes for or adds to what micro enterprises already do.

Keywords: *tax compliance cost; digital tax administration; micro enterprises; local tax; technology adoption*

ABSTRAK

Pemerintah daerah di Indonesia tengah mendigitalkan administrasi pajak daerah melalui pelaporan elektronik, penyetoran elektronik, dan perekaman transaksi otomatis untuk pajak restoran, hotel, dan parkir. Digitalisasi selalu disajikan sebagai upaya meringankan beban pelaku usaha. Penelitian ini mempertanyakan apakah bukti internasional mendukung klaim tersebut bagi usaha terkecil, dan apa implikasinya bagi reformasi pajak daerah di Indonesia. Metodenya adalah telaah terstruktur atas studi empiris terbitan 2017 hingga 2024, disusun mengikuti literatur biaya kepatuhan, literatur digitalisasi perpajakan, dan literatur adopsi teknologi, lalu diterapkan pada konteks pajak daerah Indonesia. Buktinya mengarah ke dua arah yang berlawanan, dan perbedaannya sistematis, bukan acak. Ketika digitalisasi menggantikan proses yang memang sudah dijalankan pelaku usaha, bebannya turun tajam: pelaporan elektronik memangkas waktu pengurusan pajak sebesar empat puluh persen dalam satu studi eksperimental. Ketika digitalisasi mewajibkan instrumen baru yang harus dibeli dan dioperasikan sendiri, usaha terkecil yang paling sedikit mengadopsi dan paling berat

menanggung: pada satu kasus di Afrika hanya dua puluh sembilan persen wajib pajak terkecil menggunakan mesin penagihan elektronik yang diwajibkan, berbanding lima puluh empat persen wajib pajak besar, dan yang terkecil menghadapi tarif efektif 8,3 persen berbanding 5,4 persen. Biaya kepatuhan memang sudah regresif sejak awal, mencapai 3,87 persen dari omzet pada satu estimasi. Penelitian menyimpulkan bahwa pertanyaan desain yang menentukan bukanlah apakah harus mendigitalkan, melainkan apakah instrumennya menggantikan atau justru menambah apa yang sudah dikerjakan usaha mikro.

Kata kunci: biaya kepatuhan pajak; administrasi pajak digital; usaha mikro; pajak daerah; adopsi teknologi

1. INTRODUCTION

Tax administration is being digitalised almost everywhere, and the justification offered is almost always the same. Electronic systems are said to reduce the time and cost that taxpayers spend complying, while simultaneously improving revenue collection and reducing the discretion through which corruption operates. The claim is attractive because it promises a rare thing in tax policy: a change that benefits the administration and the taxpayer at once.

In Indonesia this reasoning has reached the local level. Provincial and district revenue agencies have introduced electronic filing for regional tax returns, electronic payment channels including national standardised quick-response codes, and automated transaction recording devices installed at restaurants, hotels and parking operators. The instruments differ from one another substantially, but they are consistently justified by the same argument about reduced burden.

Whether that argument holds for the smallest enterprises is a separate question from whether it holds on average, and it is the question that matters most for local taxation. Local taxes fall disproportionately on small establishments: a restaurant tax reaches the warung as well as the hotel dining room, and a parking tax reaches the individual attendant as well as the shopping centre operator. If digitalisation reduces burden for larger establishments while raising it for the smallest, the aggregate effect could be favourable while the distributional effect is regressive.

The question is empirically tractable because a substantial body of evidence now exists, though almost none of it addresses Indonesian local taxes directly. This study therefore asks three questions. First, what does the evidence establish about the size and incidence of tax compliance costs for small firms? Second, does digitalisation reduce those costs, and does the answer differ by firm size? Third, what follows for the design of Indonesian local tax digitalisation?

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Compliance costs and their regressivity

Tax compliance costs are the resources a taxpayer expends in meeting obligations, distinct from the tax itself: time spent on records and returns, fees paid to advisers, and the cost of systems acquired for the purpose. The foundational empirical finding in this literature is that these costs are regressive, falling more heavily relative to size on smaller firms, because a substantial portion is fixed and does not scale with turnover.

Recent evidence quantifies the effect. Mukherjee and Badola (2022), estimating value added tax compliance costs for unincorporated enterprises in India from national survey data, find average compliance costs of 4.35 per cent of total annual operating costs and

3.87 per cent of annual turnover, with the burden inversely related to turnover size. Bruce-Twum et al. (2023), surveying tax professionals in Ghana, find the structure of external compliance costs regressive across the size distribution. Bruce-Twum et al. (2022), surveying 132 Ghanaian small and medium enterprises directly, identify firm size, firm age, sector and technology factors as significant determinants of the burden.

The consequences extend beyond the firms bearing the cost. Peprah et al. (2022), studying 485 micro and small businesses in Ghana, find that a one per cent increase in compliance burden is associated with a 7.5 per cent increase in the tax gap, and that small businesses exhibit a tax gap 24.9 per cent higher than micro businesses. Compliance burden, on this evidence, is not merely a cost borne privately by firms; it is a determinant of revenue.

Measurement in this field is notoriously fragile, and this bears on how confidently any single estimate should be read. Eichfelder and Hechtner (2018) demonstrate that survey framing alters estimated compliance costs by between minus thirty-nine and plus sixty-five per cent on average, and by between minus fifty-three and plus one hundred and twelve per cent for small firms specifically. The direction of findings across studies is therefore more informative than the magnitude of any one of them.

Does digitalisation reduce the burden?

The evidence divides, and the division is the analytical core of this study. On one side, Okunogbe and Pouliquen (2022), exploiting an experimental introduction of electronic filing in Tajikistan, find that e-filing reduced the time firms spent on tax affairs by forty per cent. The mechanism is substitution: the electronic return replaced a paper return the firm was already preparing, and eliminated the journey and the queue associated with filing it. The same study finds reduced bribe payments among previously compliant firms, consistent with reduced official discretion.

Hesami et al. (2024), in a systematic review of electronic invoicing and prefilled returns, conclude that these instruments generally reduce both compliance and administrative costs, with particular relief at the early stages of a firm's financial cycle. Okunogbe and Santoro (2023) set out the broader conceptual case for how information technology expands the tax base and encourages voluntary compliance in African settings.

On the other side stands evidence that is harder to reconcile with the standard claim. Eichfelder and Hechtner (2018) report no significant evidence that e-government applications reduced compliance costs in the Belgian case they examine. Bellon et al. (2022), studying electronic invoicing in Peru, find substantial compliance gains — reported taxable sales rose 7.4 per cent, purchases 5.5 per cent, and value added tax liability 8.2 per cent, with a larger effect of 11.6 per cent among small and medium enterprises — but also record an increase in firm exit rates following the reform announcement, which the authors interpret as evidence that adoption costs deterred some firms.

The most directly instructive case is Rwanda. Mascagni et al. (2023) examine value added tax in practice following the mandating of electronic billing machines, and find that complexity and limited administrative capacity left the smallest firms bearing a heavier burden. Their conclusion is stated plainly: technological advances have limited potential in contexts where administrative capacity is weak.

Reconciling the divergence

The two bodies of evidence are not in genuine conflict once the instruments are distinguished. Electronic filing and prefilled returns substitute for an activity the taxpayer already performs; they remove steps without adding any. Electronic billing

machines and mandated transaction recording devices add an instrument the taxpayer must acquire, install, learn, maintain and reconcile, frequently alongside rather than instead of existing practice.

This distinction — between substituting and additive digitalisation — organises the evidence coherently and is the conceptual framework this study advances. It predicts that the burden effect of a digital tax instrument depends less on the technology than on its relationship to the taxpayer's existing process, and that the prediction should hold most sharply for the smallest firms, whose existing process is least formalised and whose fixed-cost absorption capacity is lowest.

Technology adoption by micro enterprises

A third literature examines whether small firms adopt such systems at all. Night and Bananuka (2020), surveying 214 small business managers in Uganda, find that adoption of an electronic tax system mediates the relationship between attitude toward the system and tax compliance, which implies that attitude alone does not produce compliance without adoption occurring.

In the Indonesian context, Hermanto et al. (2022) apply an extended meta-unified theory of acceptance to 486 taxpayers reporting returns online, finding trust, effort expectancy and performance expectancy significantly shaping attitude while social influence was not significant. Anatan and Nur (2023), studying 101 Indonesian micro, small and medium enterprises, find that perceived drivers significantly increase digital transformation readiness while perceived barriers do not significantly reduce it — a result suggesting that readiness responds to opportunity more than it is deterred by difficulty. Paramita and Cahyadi (2024) examine adoption of the national standardised payment code, though their respondents are users rather than merchants, which limits inference to the enterprise side.

Indonesian local tax evidence

Two recent Indonesian studies address local tax digitalisation directly. Abrori et al. (2024), applying structural equation modelling to 188 respondents at a Jakarta regional revenue unit, find that digitalisation effectively strengthens external compliance factors — tax awareness and service quality — through simplification of reporting and payment, while its effect on internal moral dimensions is minimal. The same study reports that Indonesia's local tax ratio averages only 1.21 per cent, indicating heavy fiscal dependence on central transfers.

Mujiyati et al. (2024), using generalised least squares on 37 district and municipal tax collection units in Central Java over 2018 to 2022, find that digital platforms for vehicle tax administration positively affect local tax revenue, reinforced by online information services, though the use of revenue targets as a moderating mechanism was not effective.

Administrative burden as a distinct construct

Compliance cost and administrative burden are related but not identical, and the distinction determines what a reform can be expected to change. Halling and Baekgaard (2024), reviewing one hundred and nineteen studies, establish that burdens are consequential, distributive and constructed rather than given; introduce the notion of burden tolerance; and show that frontline delivery and government communication shape the burden people actually experience. A digitalisation reform can therefore reduce measured statutory compliance cost while leaving experienced burden unchanged, and the two must be reported separately.

Kochanova et al. (2020), examining electronic filing across a broad cross-section of economies, find it reducing both the time firms spend preparing and paying taxes and the likelihood and frequency of visits by tax officials, while modestly raising income tax revenue as a share of national output. They also report no strong relationship between electronic government and corruption, which qualifies a claim frequently made for such reforms and is worth stating explicitly rather than passing over.

Who bears what remains

Three studies indicate that the residual burden after digitalisation is distributed rather than eliminated. Vincent (2023) finds that greater subnational taxing discretion and administrative control is associated with lower compliance, operating through enforcement intensity, compliance costs and perceived legitimacy — that is, through precisely the channels a digital system alters. Balan et al. (2022), randomising property tax collection between local chiefs and state agents, find chief collection raising compliance by 3.2 percentage points and revenue by forty-four per cent through the use of local information to identify high-propensity households, without damaging tax morale.

The implication for a digital system is uncomfortable. If the gain from chief collection comes from local information about who is likely to pay, then a centralised digital register that removes the local intermediary removes that information as well, and must reconstruct it from data. Van den Boogaard et al. (2022) point to what would make that reconstruction acceptable, finding that meaningful transparency requires information matched to taxpayer priorities and usable as a basis for dialogue, and that engagement requires forums taxpayers perceive as safe and sincere.

Zulkifli et al. (2019) argue conceptually that information and communication technology raises strategic quality and thereby local government performance. The proposition is about the administration rather than about the taxpayer, and setting it alongside the compliance cost literature makes the asymmetry visible: the same reform is theorised as capability on one side of the counter and as burden on the other, and the two literatures rarely address the same reform simultaneously.

Research gap

Both Indonesian studies measure effects on revenue or on compliance attitude. Neither measures compliance cost borne by taxpayers, and neither disaggregates by enterprise size. The international literature establishes that compliance costs are regressive and that digital instruments differ in whether they substitute or add, but that literature addresses central taxes almost exclusively. The intersection — the distributional burden of local tax digitalisation on micro enterprises — is unexamined, and it is precisely where Indonesian local tax instruments operate.

3. METHOD

The study is a structured literature review with conceptual development, followed by application to the Indonesian local tax context. It does not generate primary data; its contribution is the organising framework and its application.

Selection and organisation

Empirical studies published between 2017 and 2024 were identified addressing tax compliance costs for small firms, the effects of tax administration digitalisation, and technology adoption by small enterprises. Studies were retained where they reported quantitative findings and where full bibliographic details could be verified against publisher or indexing records. Findings were then organised according to whether the

digital instrument examined substituted for an existing taxpayer process or added a new one, which is the distinction the review develops.

Application to the Indonesian context

Indonesian local tax instruments were classified using the same distinction, drawing on the regulatory framework established by Law 1 of 2022 on fiscal relations and its implementing regulation, together with regional regulations on local taxation. The classification is analytical rather than empirical: it predicts burden effects from instrument design, and those predictions remain to be tested.

Limitations of the design

Three limitations follow from this design and bound what the study can claim. First, no compliance cost estimate for Indonesian local taxes exists in the reviewed literature, so the Indonesian application rests on transferred findings rather than domestic measurement. Second, the studies drawn on differ in setting, tax type and method, so their findings are combined narratively rather than pooled statistically. Third, given the measurement fragility documented by Eichfelder and Hechtner (2018), the magnitudes reported below should be read as indicative of direction rather than as precise quantities.

4. RESULTS AND DISCUSSION

The size of the burden

The compliance burden on small enterprises is substantial in relation to their margins. Mukherjee and Badola's (2022) estimate of 3.87 per cent of annual turnover, derived from national survey data on unincorporated enterprises, is the most directly applicable figure located, because unincorporated enterprises are the closest analogue to the Indonesian micro enterprises subject to local taxes.

For a trading enterprise operating on a net margin in the region of five to ten per cent, a compliance cost approaching four per cent of turnover represents a very large share of profit. This is the quantitative basis for treating compliance cost as a first-order design consideration rather than an administrative detail, and it is the reason the substituting-versus-additive distinction matters materially rather than merely conceptually.

Table 1. Verified estimates of compliance burden and its effects on small firms

Source: compiled by the authors from the studies cited.

Evidence in two directions

The effect of digitalisation on this burden is not uniform, and the pattern of divergence is the study's central finding.

Figure 1. Reported effects of tax digitalisation across settings (source: compiled by the authors; the Rwandan figure expresses the difference in effective rate between the smallest and larger firms)

Where the instrument substitutes, the effect is favourable and large. The forty per cent reduction in time spent on tax affairs reported by Okunogbe and Pouliquen (2022) is a substantial improvement, and Hesami et al.'s (2024) systematic review supports the generality of the finding for electronic invoicing and prefilled returns. These are cases in which the digital channel replaced a process the taxpayer already performed.

Where the instrument adds, the effect is mixed at best. Eichfelder and Hechtner (2018) find no significant compliance cost reduction from e-government applications. Bellon et al. (2022) find compliance improvement alongside increased firm exit, which is precisely

what would be expected if adoption imposed a fixed cost that some firms could not bear. And Mascagni et al. (2023) document the distributional consequence most directly.

The Rwandan case and what it demonstrates

The Rwandan evidence deserves separate treatment because it is the closest available analogue to Indonesian transaction recording devices. Electronic billing machines were mandated for value added tax registrants, which is structurally similar to mandating automated recording for restaurant and hotel tax.

Figure 2. Take-up and use of mandated electronic billing machines by taxpayer size, Rwanda (source: Mascagni et al., 2023)

The disparities are large. Only twenty-nine per cent of the smallest taxpayers used the mandated machines, against fifty-four per cent of larger taxpayers. Only thirteen per cent of small taxpayers claimed refunds, against twenty-nine per cent of larger ones, and forty-two per cent of the smallest firms claimed no input credit at all, against twenty-one per cent of others. More than forty-three per cent of firm-quarter observations showed inconsistency between machine records and tax returns.

The consequence is a regressive effective rate: the smallest firms faced an effective value added tax rate of 8.3 per cent against 5.4 per cent for larger firms. The mechanism is straightforward and generalisable. A firm that does not operate the machine cannot generate the documentation required to claim input credit, so it pays tax on turnover rather than on value added. The instrument intended to formalise small firms instead penalised those least able to operate it.

Application to Indonesian local taxes

Applying the substituting-versus-additive distinction to Indonesian local tax instruments produces a determinate and testable classification.

Table 2. Classification of Indonesian local tax digital instruments

Source: authors' classification. Predictions follow from the framework developed in the literature review and have not been empirically tested for Indonesian local taxes.

The classification suggests that Indonesian local tax digitalisation is not a single policy with a single distributional effect but a bundle of instruments with divergent ones. Electronic filing and electronic payment should reduce burden broadly. Automated transaction recording should reduce burden for establishments that already operate point-of-sale systems — which is to say, larger ones — while increasing it for those that do not.

The Indonesian evidence available is consistent with this reading, though it does not test it. Abrori et al. (2024) find that digitalisation strengthens compliance through simplification of reporting and payment, which are the substituting instruments; they do not examine recording devices. Mujiyati et al. (2024) find revenue gains from digital platforms in vehicle tax administration, which is also a substituting application, since vehicle tax was already assessed centrally by the province.

Anatan and Nur's (2023) finding that perceived drivers raise digital readiness while perceived barriers do not significantly reduce it has a specific implication here. If micro enterprises are not deterred by anticipated difficulty, then low adoption of additive instruments is unlikely to be explained by reluctance, and more likely reflects capability and cost constraints that are not resolved by persuasion. Adoption campaigns would then be the wrong instrument for a problem that is structural.

Why the smallest firms are structurally disadvantaged

It is worth setting out explicitly why the additive category falls hardest on the smallest establishments, because the mechanism is not simply that they have less money. Three distinct constraints compound.

The first is fixed-cost indivisibility. A recording device costs approximately the same whether installed in an establishment turning over ten million or one billion rupiah monthly. Because the cost does not scale, its ratio to turnover is orders of magnitude higher at the small end — which is the same structural feature that makes conventional compliance costs regressive, as Mukherjee and Badola (2022) and Bruce-Twum et al. (2023) both document.

The second is the absence of a complementary process. A larger establishment mandated to install recording equipment typically already operates a point-of-sale system, so the mandate is closer to substitution than addition for that firm. A micro establishment recording sales in a notebook has no such system, so the mandate is purely additive. The same regulation therefore falls into different categories of the framework depending on who receives it — which is why an instrument can be substituting on average and additive at the margin.

The third is documentary consequence. As the Rwandan case shows, non-operation of a mandated device does not merely leave a firm where it was; it removes its ability to substantiate input claims, converting a value-added base into a turnover base. Indonesian local transaction taxes are levied on turnover rather than value added, so this specific mechanism does not transfer directly. The analogous risk is different but real: where automated recording establishes turnover for tax purposes and manual records previously understated it, the effective burden on newly-recorded micro establishments rises sharply and discontinuously, which is a formalisation effect rather than a compliance-cost effect and warrants separate treatment in policy design.

Implications for design

Three implications follow, and they are actionable rather than general. First, the burden question should be settled at the design stage by asking a single diagnostic question about each proposed instrument: does it replace something the taxpayer already does, or add something new? Instruments in the first category can be implemented broadly with reasonable confidence. Instruments in the second require a distributional assessment before mandate.

Second, where an additive instrument is nonetheless justified — and automated recording has a strong revenue-assurance rationale for transaction-based taxes — the fixed cost should not fall on the smallest establishments. Provision of devices at public cost, exemption thresholds below a specified turnover, or simplified presumptive regimes for micro establishments are the available options. The Rwandan evidence indicates what happens when none is adopted.

Third, and most immediately, compliance cost for Indonesian local taxes has never been measured. The tax ratio of 1.21 per cent reported by Abrori et al. (2024) indicates that local taxation is a small revenue source, which makes the ratio of compliance cost to revenue collected potentially unfavourable in a way that has not been examined. A compliance cost survey disaggregated by establishment size would be inexpensive relative to the sums at stake and would convert this study's predictions into tested propositions.

There is a revenue argument for this as well as an equity one. Peprah et al.'s (2022) finding that a one per cent increase in compliance burden raises the tax gap by 7.5 per cent implies that burden reduction is not merely a concession to taxpayers but a

revenue strategy. Where an additive instrument raises burden at the smallest end, the resulting compliance loss may offset the revenue assurance the instrument was adopted to provide.

Distinguishing what the reform removes from what it relocates

The evidence assembled here supports a narrower claim than digitalisation reforms usually make for themselves. Electronic filing demonstrably reduces the time firms spend on tax and the frequency of official visits, and electronic invoicing raises reported activity within a year. Neither finding establishes that total burden falls, because Halling and Baekgaard (2024) show that experienced burden is constructed at the point of delivery and shaped by communication rather than determined by statutory procedure alone.

For the smallest enterprises the relocation is likely to be adverse. A system that shifts effort from periodic interaction with an official to continuous interaction with an interface transfers cost from an intermittent and negotiable form to a fixed and non-negotiable one, and the fixed component is precisely what the compliance cost literature identifies as regressive. Kochanova et al.'s (2020) finding that electronic government shows no strong relationship with corruption further limits what may be claimed: the reform can be defended on time saved and revenue recorded, and should not be defended on integrity grounds that the evidence does not support.

Weigel's (2020) participation dividend indicates a countervailing consideration that the efficiency framing omits entirely. If the act of being taxed increases citizens' engagement with the state, then reducing contact between taxpayer and administration has a cost that no compliance cost measure captures, and a design that minimises interaction is optimising against one criterion while degrading another that was never stated.

Limitations

Four limitations qualify this study. First, it is a review and develops no new empirical evidence; the Indonesian classification in Table 2 is a set of predictions, not findings. Second, the transferred estimates come from India, Ghana, Rwanda, Peru, Tajikistan and Belgium, and their applicability to Indonesian local taxes is an assumption rather than a demonstrated fact. Third, the reviewed studies address value added tax and income tax rather than local transaction taxes, and the differing tax structures may affect how compliance burden behaves. Fourth, measurement fragility in this field means the magnitudes reported should be treated as indicative of direction only.

5. CONCLUSION

Digitalisation of tax administration is presented, almost without exception, as reducing burden on business. The evidence reviewed here indicates that this is true for some instruments and false for others, and that the difference is systematic. Where a digital instrument substitutes for a process the taxpayer already performs, burden falls substantially — by forty per cent of time spent in one experimental estimate. Where it adds an instrument the taxpayer must acquire and operate, the smallest firms adopt least and bear most, and can end up facing effective tax rates materially higher than larger competitors.

For Indonesian local taxation this distinction is directly operational. Electronic filing and electronic payment substitute, and should be expected to reduce burden. Automated transaction recording adds, and should be expected to raise burden for micro establishments that lack existing point-of-sale systems, unless the fixed cost is

deliberately placed elsewhere. The Rwandan evidence shows what an unmitigated mandate produces: low take-up among the smallest, inability to claim input credit, and a regressive effective rate.

The most consequential gap is that no compliance cost estimate exists for Indonesian local taxes at any enterprise size. Until one does, distributional claims about local tax digitalisation — in either direction — rest on evidence transferred from other tax systems. Producing that estimate, disaggregated by establishment size, is the necessary next step, and given the demonstrated relationship between compliance burden and the tax gap, it is a revenue question as much as an equity one.

DECLARATIONS

Author contributions (CRediT)

Conceptualisation: Author 1. Methodology: Author 1. Formal analysis and investigation: Author 1. Writing — original draft preparation: Author 1. Writing — review and editing: Author 1. Supervision: Author 1. All named authors have read and approved the final manuscript and accept responsibility for its content.

Conflict of interest

The authors declare that they have no financial or non-financial conflict of interest in relation to the subject matter of this article. No author holds a position in, or receives support from, any organisation examined or evaluated in this study.

Data availability

This study generated no primary data. It draws exclusively on published peer-reviewed literature, publicly available legal instruments and publicly available official statistics, all of which are identified in the text and listed in the references. No confidential administrative record, individual taxpayer record, permit file or personal datum was accessed, and no individual person or business is identified. Every quantity reported was traced to a single identified public source and can be verified by any reader from that source.

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Declaration on the use of artificial intelligence

In accordance with COPE, ICMJE and WAME positions, and with the RCP AI Use Declaration requirement, the authors disclose that generative artificial intelligence tools were used in preparing this manuscript, specifically to assist with literature identification, synthesis of the reviewed sources, and language editing of the draft. Artificial intelligence was not used to generate data, results or citations. Every reference in this article was verified by the authors against the publisher's own record, a digital object identifier record or an indexing database record before inclusion, and sources whose bibliographic details or indexing status could not be confirmed were excluded. No artificial intelligence tool is listed as an author. The authors take full responsibility for the accuracy, integrity and originality of the entire content of this article.

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