The Verification Effect

What happens when sales reporting becomes visible

HIVE · 2026 · Revenue Settlement Infrastructure

37% vs 0.9%	55% → 1%	+5.8–9.8%
evasion on self-reported vs third-party-reported income (Denmark, randomized)	IRS misreporting rate as visibility increases	reported sales when Quebec mandated monitoring

The structural problem with self-reported sales

Every percentage-based lease depends on a number the tenant reports. Rent, royalties, and revenue shares are only as accurate as that figure, and the evidence on self-reported figures is unambiguous.

In the largest randomized audit experiment ever conducted, Danish tax authorities found evasion rates of 0.2 to 0.9 percent on income reported by third parties, versus roughly 37 percent on purely self-reported income. Self-reported income made up about 5 percent of total income in the study, but accounted for 87 percent of all detected evasion (Kleven et al., *Econometrica*, 2011).

The IRS reaches the same conclusion at national scale: income invisible to third parties shows a 55 percent net misreporting rate. Add information reporting and it falls to 6 percent. Add withholding and it falls to 1 percent (IRS Publication 5869). The IRS calls the driver “visibility.” What an independent system can see gets reported honestly. What only the reporter can see does not.

This is not an accusation against any tenant. It is a structural property of self-reporting, documented across countries, decades, and methods.

The effect is measurable, and it moves gross revenue

Quebec provides the cleanest measurement anywhere of what happens when verification arrives. When mandatory sales recording modules were introduced in Quebec restaurants, reported sales rose 5.8 to 9.8 percent on average (Boyer and d'Astous, *Canadian Journal of Economics*, 2023, peer-reviewed). The increase was in reported gross revenue, the exact base on which percentage rent is calculated. Nearly 33,000 recording modules later, Revenu Québec had earlier estimated sales-suppression losses in the restaurant sector alone at $417 million per year (OECD, 2013), and Canada made sales-suppression software a federal offence in 2014.

Statistics Canada estimates the underground economy at $72.4 billion nationally, with British Columbia's share at $11.7 billion, 2.8 percent of provincial GDP and the third-highest rate in the country. Retail trade and food service together account for nearly a fifth of it.

Why the status quo cannot fix this

Self-reporting regimes do not just miss underreporting; they lack the means to detect it at all. A 2012 performance audit of Long Beach Airport found $1.3 million of $4.2 million in concession revenue rested entirely on self-reported figures with no verification, and concluded that the absence of controls “removed the deterrent effect.” A 2024 Denver International Airport audit found the airport did not monitor concessionaire point-of-sale systems at all across a $513 million concessions program, and that one café's gross-revenue deductions were 97 percent disallowed once actually examined. New York City's Comptroller, auditing a percentage-rent restaurant lease, documented point-of-sale manipulation (excessive no-sale transactions, cancelled orders) and could not even quantify the loss because the records were unverifiable; across 41 concession and lease audits, the city assessed $23.8 million in additional revenue owed.

Annual audits, the traditional answer, are expensive, adversarial, after-the-fact, and cover one tenant at a time. The gap is structural, so the fix must be structural.

Verification, not enforcement

HIVE's premise follows directly from the evidence: the goal is not to catch underreporting, it is to make it structurally impossible, so it never happens. Tenants authorize read-only access to their existing point-of-sale system. Gross sales flow directly from the terminal to the settlement calculation. Both parties see the same verified figure. There is nothing to dispute, because there is no second version of the number.

The Danish and Quebec evidence says what happens next: when reporting becomes visible, reported figures rise to match reality, without audits, accusations, or conflict. Every documented case above is a place where visibility was absent. HIVE's function is to make visibility the default condition of the lease.

Honest tenants gain most. Where sales reports drive stall allocation, renewals, and rent negotiations, underreporting distorts the comparisons honest vendors are judged by. Verification flattens that field: the tenants reporting accurately stop competing against fiction.

What this means for an operator

Rent calculated on verified gross revenue instead of self-reported figures. Settlement computed continuously and paid on schedule rather than chased. A dispute-resistant audit trail on every settlement, built from source data both parties can see. And for fixed-rent tenants, whose individual sales an operator has no right to see, HIVE reports only privacy-protected aggregates, with automatic suppression of small groups, so verification never becomes surveillance.

Our measurement commitment

HIVE sells verified data, so our claims meet the same bar. The figures in this paper come from government and peer-reviewed sources, cited below. As live deployments mature, we will publish measured, cohort-level results, reported-sales change at adoption, same vendors, same events, in place of modeled estimates. Where we model in the meantime, we model conservatively below the documented averages and label it.

References

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