

Legible but Not Included: Consent-Based Commercial Data Sharing and the Two Margins of SME Credit in Hong Kong

Jiawei Liang^{1,*}

¹ Fuyuan British American School, Shenzhen, Guangdong, China

* Corresponding Author Email: 2231226775@qq.com

Abstract. The Hong Kong Monetary Authority's Commercial Data Interchange (CDI) is a consent-based public gateway that converts a small firm's transaction records into hard, portable information for lenders. The regulator's own evaluation reports that banks using CDI intensively charge 36 basis points less and require 1.1 fewer collateral items on new small and medium-sized enterprise (SME) loans. This paper reads that result against the theory it is meant to instantiate. Through a documentary single-case design, pairing CDI with the United Kingdom's mandatory Commercial Credit Data Sharing scheme and comparing sectors within the case, we argue that the benefit falls on the intensive margin and accrues to firms already legible to the data ecosystem. On the operator's own appendix tables, the collateral effect is confined to five transaction-data-rich sectors, and the interest-rate effect outside them is marginal. No effect appears on loan size or tenor, and no evidence exists on approval rates. We therefore theorize consent-based commercial-data infrastructure as an instrument that redistributes the returns to legibility among the already-legible rather than one that extends the credit frontier. Hardening soft information is not the same as relaxing the credit constraint.

Keywords: SME finance, open banking, information asymmetry, alternative data, Hong Kong.

1. Introduction

Small firms are informationally opaque. Because raising the interest rate worsens the pool of applicants and their incentives, lenders ration credit by quantity rather than clearing the market on price [1]. The classical remedies are collateral, which small firms lack, and relationship lending, which produces information that cannot easily be transferred to another lender. Digital transaction records promise a third route: if a firm's payments, sales, and trade flows can be made legible to any lender it authorizes, the opacity that justifies rationing should fall.

Hong Kong is an instructive place to examine that promise. Roughly 360,000 small and medium-sized enterprises (SMEs) account for over 98% of enterprises [2]. Yet the descriptive picture is not the one the policy narrative assumes. Hong Kong firms name access to finance their most serious obstacle less often than the regional average, at 6.3% against 12.7% across East Asia and the Pacific. At the same time they finance only 7.3% of investment from banks, against a high-income average of 17.4%, and fund 79.3% internally. The obstacle is also unevenly distributed: 7.5% of small firms name access to finance their biggest constraint, against 1.8% of medium firms [3]. Something binds, it binds at the bottom of the size distribution, and it does not present itself as a complaint about credit.

In October 2022 the Hong Kong Monetary Authority (HKMA) launched the Commercial Data Interchange (CDI), a consent-based infrastructure through which a firm authorizes its data providers to transmit commercial records directly to a bank [4]. CDI is unusual among data-sharing regimes: it is convened by a central bank, scoped to commercial rather than consumer data, and voluntary rather than mandated. In January 2026 the HKMA published the first and, to our knowledge, only evaluation of it. Comparing the six most CDI-active banks with other banks before and after launch, the study finds that CDI-active banks charge interest rates 36 basis points (bps) lower and require 1.1 fewer collateral items on new SME loans, equivalent to about 6% and 22% of the respective sample means [5].

That result has been read as evidence that CDI eases SME financing constraints. This paper argues that the reading is too generous, and that the memorandum's own appendix tables show why. We develop the argument through three propositions. First, CDI's benefits are bounded by legibility: they

appear where firms already generate shareable transaction records, and the collateral effect disappears outside those sectors. Second, hardening operates on the intensive margin, changing the price and security of credit for firms already inside the market, while the extensive margin, which is to say who obtains credit at all, remains untouched and, in the closest institutional analogue, unmoved even under mandatory sharing. Third, the constraint that policy demonstrably relieves in Hong Kong may not be informational at all.

The paper adds a source-verified institutional account of CDI, including a governance feature not previously mentioned in the literature; a theoretical reframing of consent-based data infrastructure as an instrument of redistribution rather than expansion; and a documentary finding, drawn from the operator's own published tables, that its summary does not state.

2. Theoretical Framework

2.1. Two Margins

Credit constraints occur at two different levels, and the main error this paper addresses is the conflation of these two. The intensive margin issue refers to the conditions under which a company already in the credit market can borrow: interest rate, collateral requirements, loan amount, loan term, etc. The extensive margin problem is a boundary issue: does the firm obtain credit at all, is it the first loan, and does a lender that previously refused it now lend? Both sides are affected by information asymmetry, but these do not need to be addressed together, and an instrument that improves the terms offered to observable firms may leave the boundary unchanged. Fig. 1 shows the divisions in the argument.

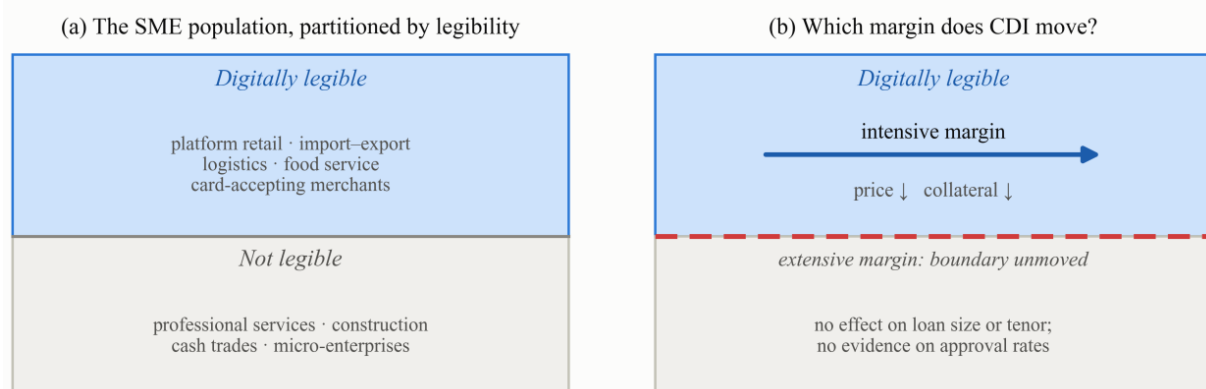


Fig. 1 The two margins of SME credit

2.2. Soft Information, Hardened

Information used in lending is conventionally partitioned by whether it survives transmission. Hard information is quantitative, verifiable, and can be summarized in a number that travels between people and institutions without loss. Soft information, such as the lender's judgment of a proprietor's competence or the texture of a long relationship, degrades when it is written down or passed on, which is why it is produced and consumed inside the same organization [6]. CDI is, by construction, a soft-to-hard conversion device. It takes what a bank could previously learn only through costly relationship-specific effort, or could not learn at all, and renders it in a standardized, transmissible form available to any authorized lender.

2.3. Why Conversion Need Not Expand Credit

The optimistic reading treats conversion as unambiguously expansionary. Three results predict otherwise.

Hardening displaces the technology it replaces. When lenders establish an information-sharing centre, relationship-based lending decreases because the value of private, relationship-specific

information held by lenders is eroded after it is disseminated to all lenders [7]. The borrowers who have relied most on relationship lending are precisely the most opaque.

The contents of what is shared matter; it does not have to be rich. Disseminating the default data alone promotes repayment, because the prospect of a recorded default disciplines borrowers. Disseminating favourable records may reduce the severity of that discipline, so a regime of full disclosure may be less effective than a regime limited to defaults [8]. CDI is a white-information system for sales, payments and trade that does not report delinquencies. This is precisely the setting about which the theory is least confident, and it has not been mentioned in the discussion of CDI.

Lastly, borrower-owned data increases competition among lenders, but not all borrowers will be assisted. When sharing is voluntary, the decision to share itself provides information; lenders deduce information from the absence of sharing, and some borrowers are made worse off in equilibrium [9]. Together these results predict redistribution rather than expansion: the returns to being legible rise, and they rise for those who are already legible.

2.4. The Optimistic Prior and Its Scope Conditions

The countervailing evidence is genuine and has been duly considered. Simple digital-footprint variables predict consumer default as well as a credit bureau score, and can score customers that the bureau cannot [10]. Among Chinese firms borrowing from a big-tech lender, credit responds to transaction volume and network score rather than to local housing prices; bank credit responds to collateral value, and data serves as a substitute for collateral in this case [11].

Both settings share features Hong Kong does not. The lender is a platform that observes the borrower continuously and can suspend the storefront on which the borrower's revenue depends; the incumbent credit bureau is thin; and the lender both holds the data and extends the loan. CDI holds no data, extends no loans, and can delist no one. Whether the platform result survives the removal of the platform is an open question, and it is the question the Hong Kong case is positioned to address.

3. The Commercial Data Interchange

CDI is the data-infrastructure pillar of the HKMA's Fintech 2025 strategy, described by the regulator as “a consent-based data sharing infrastructure with a standardised and secure technical interface” through which “[b]anks and data providers can connect to the interoperable platform to share commercial data” [5]. Table 1 records its institutional profile, together with the evidentiary status of each claim. Three features of the design carry analytical weight and are not adequately noted in existing accounts.

Table 1. The Commercial Data Interchange: institutional profile

Feature	Description	Source	Evidence status
Production launch	24 October 2022, following a pilot from November 2021	[4]	Primary
Participation at launch	23 banks; 10 data providers, six live at launch; “over HK\$1.6 billion in approved SME loans” during the pilot	[4]	Operator self-reported; the HK\$1.6bn is a pilot cumulative, not a snapshot
Participation, September 2025	26 banks; 17 data providers	[5]	Operator self-reported
Cumulative usage, September 2025	Over 71,000 applications and reviews; estimated credit approvals over HK\$58 billion	[5]	Operator self-reported; counts processing events, not loans
Operator and its ownership	A subsidiary of Hong Kong Interbank Clearing Limited (HKICL), “a private company jointly owned by the [Hong Kong Monetary Authority] and the [Hong Kong Association of Banks]”; the subsidiary, HKICL Technology Solutions Limited, was “invited to design, develop and operate the CDI platform”	[12]	Primary
Consent model	Banks access a firm's data only “[w]ith the data owner's consent”	[5]	Primary
Data retention	“[T]he CDI does not store any datum concerned”	[12]	Primary
Audit mechanism	Blockchain records each exchange “in an immutable, traceable and consistent manner”	[12]	Primary
Data carried	E-trade declarations; e-commerce activity; supply-chain records; payments; credit history. Non-transactional: Commercial Credit Reference Agency; Companies Registry via the Consented Data Exchange Gateway	[5]	Primary
Conduct perimeter	Banks must “prevent and correct unfair biases or disparate impacts” in alternative-data credit models; CDI named as the consent-exchange channel	[13]	Primary
Evaluation	One study, by the operator, disclaiming loan-level attribution	[5]	Not independently audited; not peer-reviewed

CDI is a channel that holds a ledger, not a storehouse. The operator says that "the CDI does not store any datum concerned", and that blockchain technology guarantees "all activities involving data exchange are recorded and distributed in an immutable, traceable and consistent manner among the parties connected" [12]. Therefore, CDI will not accumulate a proprietary data asset. This is not the same as a credit bureau; it does not keep the collected data and does not lend based on what it has accumulated. CDI creates an information advantage that benefits only the banks involved.

The operator is a joint venture between the regulator and the banks. CDI was designed, developed and is operated by a wholly-owned subsidiary of Hong Kong Interbank Clearing Limited (HKICL), which is HKICL Technology Solutions Limited. The parent refers to itself as "a private company jointly owned by the Hong Kong Monetary Authority (HKMA) and the Hong Kong Association of Banks (HKAB)" [12]. Therefore, the data consumers indirectly own part of the operator through their trade association, but the data owners, which are SMEs whose business records have been transferred by the platform, do not have ownership or governance rights in the operator. We present the facts and refrain from assigning a normatively evaluative judgment.

Now the boundary of the regulation names CDI. In March 2026, a circular on the use of alternative data required authorised institutions to "test and monitor credit risk assessment models to prevent and correct unfair biases or disparate impacts", to ensure that the implementation model was "highly interpretable", and encouraged participants "to exchange the customer consent with the relevant alternative data provider through CDI where applicable" [13]. It is the first Hong Kong-issued instrument to directly address credit assessment by alternative data.

At the bottom of the platform is an older level of evidence that should not be confused with proof of credit effects. Before the introduction of CDI, a participating bank established a transactional cash-flow model using about 74 million monthly observations of over 1,000 SMEs in the experiment and achieved a one-month-ahead default-prediction area under the curve (AUC) of 0.78-0.94 across nine algorithms; at the two- and three-month horizons, this performance dropped significantly, and a point-of-sale provider built a pre-screening model on nearly 1.55 million observations of over 300 SMEs and used delinquency in its own service charges as a proxy for default [14]. Therefore, a predictive signal exists in the Hong Kong SME transaction data at a short horizon. They do not show that any company was approved for credit it would otherwise have been denied.

4. Research Design

The research is a single-case documentary study [15]. CDI is selected on theoretical grounds rather than convenience: it is the first regulator-convened commercial-data interchange, there is little theory on such regimes, and its consent-based, white-information design is a configuration about information sharing that the literature has been least confident in. Generalisation is claimed to be analytic for propositions, never statistical.

Two comparisons are included, but not for coverage; they are for what they identify. The first is a paired cross-case comparison with the United Kingdom's Commercial Credit Data Sharing scheme (CCDS), as shown in Table 2. CCDS has kept the scope and content relatively constant compared with CDI, using SME commercial credit data from banks, and has varied a single institutional feature: sharing is mandatory for the nine designated banks instead of voluntary, and it is intermediated by designated private credit reference agencies rather than a public gateway [16]. The second is an internal negative comparison of CDI-exposed and non-CDI-exposed sectors. It keeps the institution, lenders, the regulator, the sample period and the macroeconomy constant, and varies only whether the borrower had generated shareable transaction records before applying for a loan. It is the cleanest contrast available, it is derived solely from the operator's own published tables, and it is where the collateral effect disappears.

The evidence base is documentary: HKMA circulars, press releases and research memoranda; the HKMA's own contribution to a Bank for International Settlements volume; the operator's disclosures and a firm-level survey. All quantitative claims are classified according to the level of evidence in

Table 1. The special analysis is to read the appendix tables of the operator's evaluation instead of the abstract.

We do not claim a causal relationship for CDI. None are available from public data: the supervisory database "does not collect any information on whether a loan is facilitated by CDI or not, limiting direct attribution" [5], and Hong Kong's SME guarantee schemes involve the same borrowers over time.

5. Findings

The evaluation on which everything turns has drawn new Hong Kong-dollar SME loans from the HKMA's Granular Data Reporting database between January 2022 and March 2025. Excluding loans guaranteed under the SME Financing Guarantee Scheme (SFGS) or the SME Loan Guarantee Scheme (SLGS) and keeping only loans with reported borrower financials, the estimation sample is 80,097 observations from 16 retail banks, accounting for about 48% of the non-guaranteed SME loans. The treated set at the bank level consists of the six most active CDI users [5].

5.1. Legibility Precedes Information

With the data owner's consent, CDI will transmit "e-trade declarations, e-commerce activities, supply chain records, payments and credit history", as well as non-transactional data from the Commercial Credit Reference Agency and the Companies Registry [5]. The sectors that the memorandum refers to as "CDI-exposed", based on the use cases published on the CDI website, are retail trade, import and export, postal and courier, warehousing and support activities, and food and accommodation [5]. The data that the platform has and the sectors that benefit are not random; they are connected by a system. A company is known to the CDI only when a third party has already recorded that company's activities in a machine-readable format. A professional-services partnership that invoices upon request, a construction subcontractor paid by cheque, and a cash-based trader: none of them generate e-trade declarations, e-commerce activity or supply-chain records. Such enterprises are invisible to the interchange by construction, no matter how good the underwriting model that would score them.

The within-case comparison bears this out, and it does so asymmetrically. Fig. 2 reproduces the relevant coefficients.

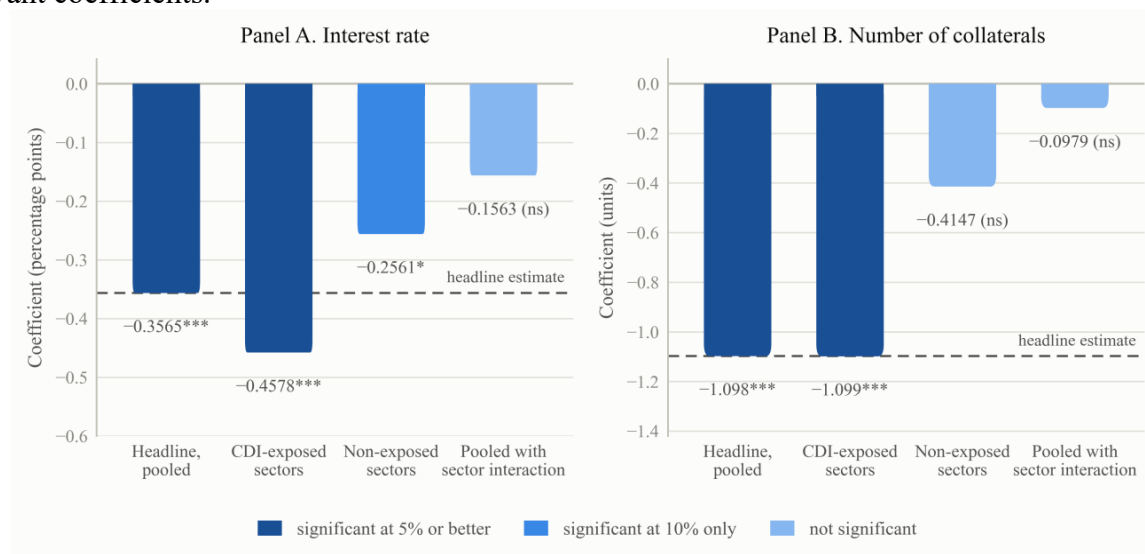


Fig. 2 Estimated effects of CDI on SME loan terms, by borrower sector

For the number of collaterals, the restriction is unambiguous, and the memorandum concedes it on page 12: outside the CDI-exposed sectors the effect is "weaker and statistically insignificant," and the estimated effects "are primarily driven by loans to CDI-exposed sectors" [5]. The subsample estimate for non-exposed sectors is -0.4147 and not significant; in the pooled specification that adds

a sectoral interaction, the baseline coefficient falls to -0.0979 and is not significant. The headline reduction of 1.1 collateral items is a data-rich-sector result.

For the interest rate the position is weaker but still asymmetric, and here the memorandum does not spell out what its own table shows. In the pooled specification with the sectoral interaction, the baseline coefficient falls to -0.1563 and is not statistically significant; the significant estimate is the triple interaction, at -0.4188 . In the subsample specification, the coefficient for non-exposed sectors is -0.2561 , significant only at the 10% level and roughly 56% of the -0.4578 estimated for exposed sectors. The decline in rates is reported on page 11 as “about 20 bps more for borrowers in CDI-exposed sectors” [5].

The honest reading is therefore that the collateral benefit outside data-rich sectors is absent on the operator's own account, and the price benefit there is marginal and does not survive a specification in which the sectoral interaction is permitted to absorb it. Same regulator, same banks, same window, same economy; the only variable is whether the firm was already legible. This would be disconfirmed by robustly significant effects outside CDI-exposed sectors across specifications, or by data providers extending to cash-based trades.

5.2. Hardening Moves the Intensive Margin Only

CDI is associated with price and security, but not with quantity, in the sample. The estimated effects on the logarithm of loan tenor (-0.0571) and the logarithm of loan amount (-0.0829) are not statistically significant, and the memorandum explicitly states that “we do not find statistically significant results for loan tenor and loan size” [5]. Credit is relatively cheaper and less secured. It will not be any larger or longer.

Beyond the sample, the extensive margin is not merely unmeasured but unmeasurable from public data. The supervisory database from which every published estimate is drawn “does not collect any information on whether a loan is facilitated by CDI or not” [5]. No approval-rate estimate exists because none can be constructed; the absence is structural, not incidental. Table 2 sets the two regimes side by side on the axis that separates them.

Table 2. CDI and the United Kingdom's Commercial Credit Data Sharing scheme

Axis	Hong Kong CDI	CCDS (United Kingdom)
Participation	Consent-based; voluntary for banks and data providers	Mandatory for nine designated banks, subject to SME approval
Intermediation	Public gateway operated by a regulator-industry joint venture	Designated private credit reference agencies
Data content	Commercial and transactional records; government registries	Current accounts, loan repayments, corporate credit cards
Scope	SME	SME (turnover below £25 million)
Identification available	None; supervisory data carry no CDI flag	Eligibility discontinuity at the £25 million threshold
What the evidence shows	-36 basis points of interest, -1.1 collaterals at CDI-intensive banks; bank-level, non-causal; no effect on loan size or tenor	$+1.36$ percentage points on the probability of a new lending relationship (about $+25\%$), concentrated in non-bank lenders; <i>driven by SMEs with prior lending relationships</i>
Source	[5]	[16]

The paired comparison supplies what Hong Kong cannot. CCDS obliged the nine largest United Kingdom banks to share their SME clients' current-account, loan-repayment, and corporate-card records with any lender the SME approved. Because the scheme applied only to firms with turnover below £25 million, the threshold furnishes quasi-random variation. Exploiting it, eligibility raised the probability of forming a new borrowing relationship by 1.36 percentage points against a sample mean formation rate of 5.3%, an increase of roughly 25%, with the effect statistically significant for new relationships with non-bank lenders rather than banks, and concentrated among clients of the nine banks obliged to share. Firms forming new non-bank relationships saw interest expenses fall. The distributional result is the one that matters here: “[t]hese new relationships are driven by the SMEs

with prior lending relationships—a finding at odds with the financial inclusion goals” of open-banking policies [16].

The implication for CDI is direct. The closest institutional analogue, evaluated with a far cleaner identification strategy, under a mandatory regime that removes the consent margin entirely, delivered its benefits to firms that already had lending relationships. If compelled sharing did not reach the credit-invisible, a consent-based regime has no evident reason to do better, because the firms least visible to the data ecosystem are also the least able to supply data through it. Theory converges on the same conclusion from the other direction: hardening erodes the relationship lending on which the most opaque borrowers depended [7]. This would be disconfirmed by an approval-rate or first-time-borrower effect, anywhere, under consented sharing.

5.3. Information May Not Be the Binding Constraint

To identify anything at all, the memorandum must exclude every loan guaranteed under the SFGS or the SLGS: the operator's own econometricians treat public guarantees as a force large enough to contaminate any estimate of CDI, and remove it before proceeding.

The magnitude of that removed force can be glimpsed. Using the same supervisory database and a deep neural network, a companion HKMA study estimates for an illustrative restaurant-sector borrower a counterfactual loan of about HK\$197,000 without the guarantee against about HK\$943,000 with it, and finds that a guarantee reduces the probability of a loan downgrade by roughly six percentage points [17]. The limits of that comparison must be stated before a reader states them: these are different outcomes, loan *amount* against loan *terms*, estimated by different methods, and are not commensurable as effect sizes.

What is commensurable is the mechanism. Guarantees cover the lender's loss exposure, not the borrower's information, and thus lenders will supply credit that they would otherwise have offered at a different price or not at all [18]. If risk-bearing capacity, rather than information, is the constraint in Hong Kong SME credit, then an information infrastructure operates under a slack constraint, and the two instruments are not complements to address a single friction but substitutes for each other addressing two frictions.

We do not claim to settle this. Neither the Hong Kong guarantee study nor the United States evidence tests the information channel against the risk-bearing channel directly. The proposition is raised, and it would be disconfirmed by credit expansion attributable to CDI among unguaranteed, thin-file borrowers.

5.4. What the Propositions Do Not Say

The first two propositions both support the information mechanism. Benefits appear exactly where the informational gain is largest, and vanish where it is smallest. That is evidence the theory is right. The finding is not that CDI fails, but that it succeeds at something narrower than what is claimed for it.

6. Discussion

6.1. Scope Conditions on Data versus Collateral

The platform-lending literature conflates three mechanisms. A big-tech lender possesses the borrower's data; it also possesses enforcement leverage, since it can suspend the storefront through which the borrower earns; and it operates under a different cost and regulatory structure. When such a lender extends collateral-free credit tracking transaction volumes rather than house prices [11], how much of the result is attributable to data alone is not obvious.

CDI isolates the first way by design. It has no data, offers no loans, cannot delist a company, and only provides information for traditional banks. The measured association is 36 basis points and one collateral item, not the collateral-free lending that the platform's setting generates. Read it as an upper bound of what can be achieved by information transmission alone in a bank-centred, high-property-

value, common-law economy with a mature credit bureau; thus, it is informative and suggests that a significant portion of the platform's effect stems from enforcement leverage rather than from data. We put this forward as a bound and an invitation to try, not as an estimate.

6.2. Redistribution Rather than Expansion

If hardening reallocates the returns to legibility, the winners are digitally visible incumbents and the losers are opaque firms whose relationship rents erode [7]. Consent architecture then adds a second filter on top of the first: consent can only be given by a firm that has something to share. A regime designed to empower the data subject may, for this reason, be less inclusive than one that compels the data holder.

6.3. Fairness Without an Addressee

The March 2026 circular requires banks to correct “unfair biases or disparate impacts” in credit models that use alternative data [13]. Yet Hong Kong recognizes no protected class in commercial credit, and CDI's borrowers are frequently legal persons rather than natural ones. The disparate-impact framework is imported into a setting that supplies it with no group against which impact is to be measured. Whether the operative category should be firm size, sector, or the mere availability of a digital footprint is unresolved, and no literature we located applies the framework to legal-person lending. We name the gap; we do not close it.

7. Limitations

Generalization is analytic, not statistical. No causal effect of CDI is claimed, and none can be identified from public data. The evidence is documentary; bank behaviour is inferred from disclosures rather than observed. Many quantitative claims are reported by the operator of the system they describe and are labelled as such in Table 1. Our re-reading of the memorandum's appendix is an interpretation of a published table, not an independent estimation, and the memorandum has not been peer-reviewed. The firm-level survey used in the Introduction excludes firms with fewer than five employees, precisely the segment at CDI's margin, and its size bands do not correspond to Hong Kong's administrative SME definition, so its figures contextualize rather than test. Finally, the exclusion argument in the first proposition is theoretical: no study has empirically mapped which Hong Kong SMEs are invisible to the interchange, and we do not claim to have done so.

8. Conclusion

Credit constraints bind on two margins, and consent-based commercial-data infrastructure has so far been shown to move only one. Hong Kong's Commercial Data Interchange is associated with cheaper and less-secured credit for SMEs in sectors that already generate shareable transaction records, at banks that use the platform intensively, on the operator's own supervisory data. Outside those sectors the collateral benefit is absent and the price benefit is marginal. Nothing in the public record speaks to approval rates, first-time borrowing, or default, and the supervisory database is not constructed so that it could.

The paper contributes a source-verified institutional account of CDI, including the observation that its operator is jointly owned by the regulator and the banks that consume its data while the SMEs that supply the data are unrepresented; a reframing of consent-based data infrastructure as an instrument that redistributes the returns to legibility rather than extending the credit frontier; and a reading of the operator's appendix tables that its own summary does not offer.

Three things would settle what we cannot: a loan-level indicator of CDI facilitation in the supervisory database, an approval-rate outcome, and an empirical map of the firms the interchange cannot see.

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