BEYOND TRADE FINANCE

OPTIMISING TRADE FINANCE AND UNLOCKING THE CARGO SERVICE FINANCE WHITESPACE THROUGH NON-TRADITIONAL ALTERNATIVE DATA-DRIVEN LENDING

APRIL 2024

eCOM Registry
DATA DRIVEN FINANCING

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FOREWORD

International trade volumes surged post-Covid 19, with APAC accounting for over 40% of the USD 23 trillion global trade market in 2023. Within the region, Hong Kong continues to maintain a unique – and outsized – role, with the market consistently ranking among the top 10 global markets by total trade value. However, local trade finance volumes have been on the decline. While much of this has been driven by a combination of macroeconomic and geopolitical headwinds, as well as rising interest rates, financial institutions' cumbersome back-end processes continue to create notable frictions for borrowers seeking access to lending solutions, which has resulted in a USD 7.9 billion local trade finance gap.

An important but frequently overlooked enabler of global trade finance activity is the cargo service ecosystem, consisting of an intricate network of exporters, importers, freight forwarders, and shipping lines that facilitate the trade of goods. Many of these stakeholders face ongoing working capital shortfalls, primarily in the form of mismatches between payable and receivable maturity periods. And in more recent years, numerous factors have exacerbated these challenges, including sizeable FX fluctuations, volatile cargo service-related charges, rising labour costs, and higher delay-related fees from unexpected port congestions. However, despite the clear demand for credit, most banks have shied away from extending their balance sheets to cargo service participants, citing data limitations, small ticket sizes, an absence of collateral, and volatile credit risks, resulting in a USD 553 million cargo service financing gap in Hong Kong.

Looking forward, we see enormous potential for more innovative lenders to: (1) optimise their existing trade finance processes; and (2) plug the longstanding cargo service financing whitespace in Hong Kong. Specifically, by leveraging alternative data sources from ports, terminals, and customs, lenders can augment many of their traditional practices across the customer journey – from onboarding (e.g. KYC / KYB) to risk modelling (e.g. loan pre-qualification in real time) to credit risk management (e.g. co-lending). And with such a sizeable trade finance and cargo service financing gap in play, we believe this opportunity is simply too big to ignore.

Quinlan & Associates and eCOM Registry have co-authored this paper to provide incumbent lenders with a fresh perspective on how to best put alternative data to use in delivering tangible economic value to their trade finance businesses. We hope you enjoy the report and look forward to our continued discussions.

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SECTION 1

TRADE ECOSYSTEM

OVERVIEW OF TRADE ECOSYSTEM

Key Takeaways

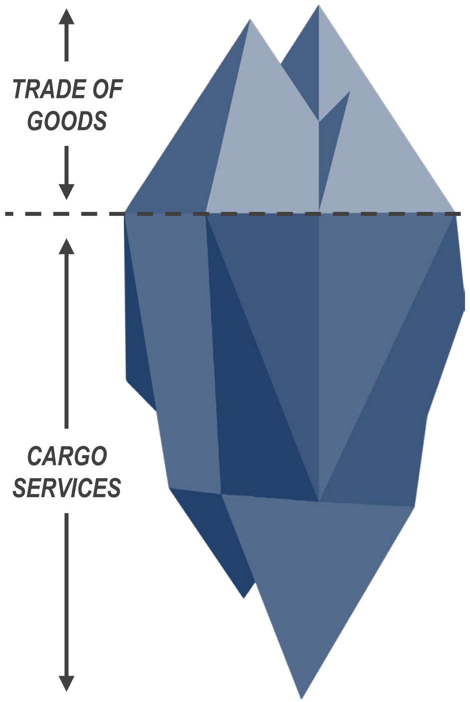
When examining the vast global trade ecosystem, attention typically gravitates towards the exchange of goods between exporters and importers.

However, underpinning global trade activity is an intricate network of freight forwarders, port operators, truckers, and shipping lines, all crucial in facilitating the movement of goods.

This cargo service ecosystem serves as the backbone of global trade, orchestrating the seamless movement of goods across borders and continents.

In addition to the exchange of physical goods, global trade relies on a cargo services ecosystem, a vital yet often overlooked facilitator of international trade activity

Trade Ecosystem
Overview



Exporter
Sends goods to another country for sale

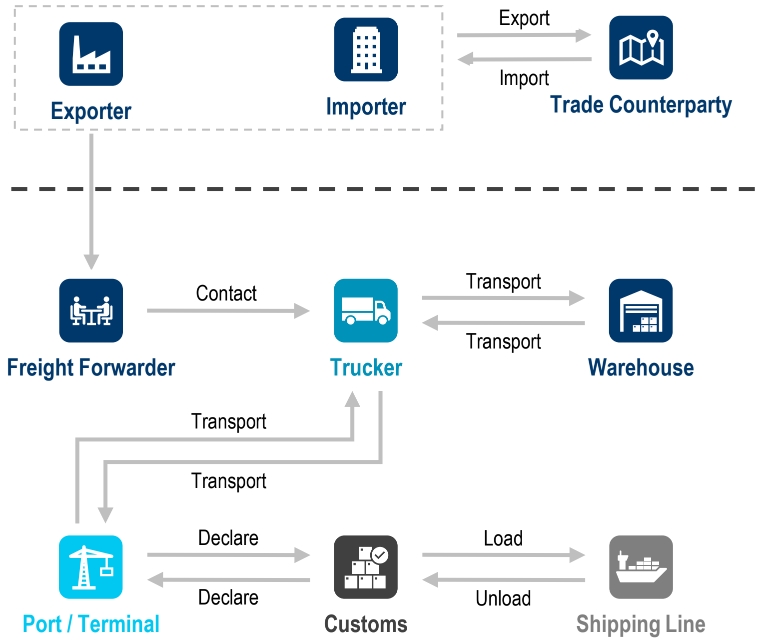
Importer
Purchases products from a foreign supplier

Freight Forwarder
Acts as an intermediary between traders and cargo service providers

Trucker
Delivers cargo between warehouses and ports

Port Operator
Manages terminals and operates port facilities

Shipping Line
Operates cargo vessels that carry goods globally



The global trade ecosystem extends beyond the trade of goods; the cargo services ecosystem plays a crucial yet often overlooked role in facilitating global trade activity

Source: Quinlan and Associates analysis

SECTION 1.1

TRADE OF GOODS

TRADE LANDSCAPE (1/2) – BY REGION

Key Takeaways

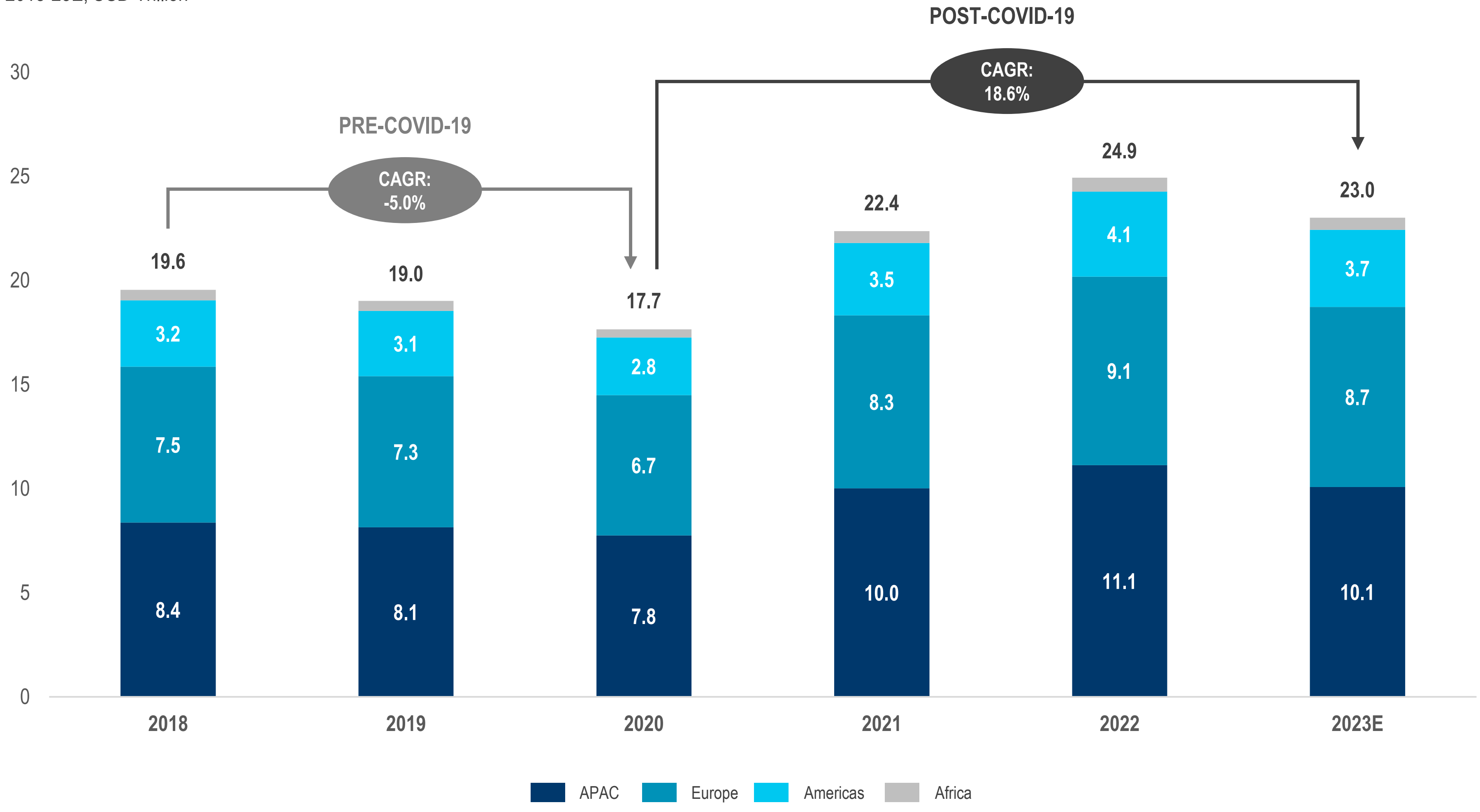
From 2018-23E, global trade value increased from USD 19.6 trillion to USD 23.0 trillion.

Despite experiencing a decline from 2018-20, primarily owing to the disruptions brought about by the COVID-19 pandemic, global trade activity rebounded strongly in 2021, driven by a resurgence in global economic activity.

More than 40% of the world's trade activities are concentrated in the APAC region, home to the world's most dynamic trade routes.

From 2018-23E, global trade value increased from USD 19.6 trillion to USD 23.0 trillion, with the APAC region accounting for over 40% of global trade activity

Global Trade Value by Region
2018-23E, USD Trillion



Source: UNCTAD, Quinlan and Associates analysis

TRADE LANDSCAPE (2/2) – BY MARKET

Key Takeaways

Mainland China, the U.S., and Germany occupy the top three positions in terms of total trade value by country.

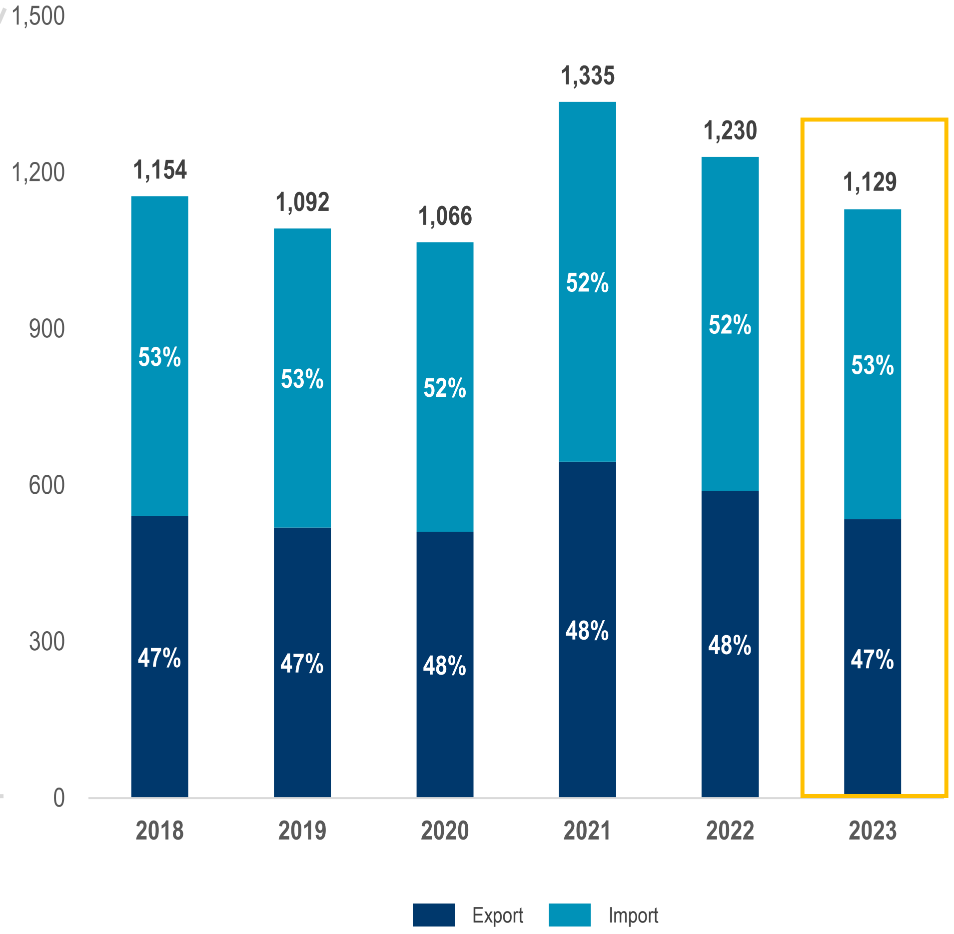
Hong Kong maintained its presence within the top 10 rankings, during which the market experienced an ongoing trade deficit stemming from the COVID-19 pandemic and the trade war between the U.S. and China.

Despite its small geographic and population size, Hong Kong consistently ranks in the top 10 global markets by total trade value

Trade Value Ranking by Jurisdiction
2022

	2022
1	MAINLAND CHINA
2	UNITED STATES
3	GERMANY
4	NETHERLANDS
5	JAPAN
6	FRANCE
7	SOUTH KOREA
8	UNITED KINGDOM
9	ITALY
10	**HONG KONG SAR**

Trade Value by Export / Import
2018-23, USD Billion, Hong Kong



Source: UNCTAD, Hong Kong Shipping Statistics, Quinlan & Associates analysis

SECTION 1.2

CARGO SERVICES

CARGO SERVICE VALUE CHAIN

Key Takeaways

The cargo service value chain involves three major stakeholders:

1. **Traders (Exporter / Importer):** drive demand by kickstarting the purchase, sale, and shipment of goods;
2. **Freight Forwarders:** coordinate and manage the flow of goods from one destination to the next on behalf of the trader, dealing with stakeholders (e.g. port operators) down the value chain;
3. **Shipping Lines:** truckers and shipping lines transport the goods within domestic territories or across international waters, each with their own checkpoints and corresponding processes / fees.

Supporting global trade activity is an expansive cargo service ecosystem, consisting of multiple key stakeholders with distinct roles across the cargo service value chain

Cargo Service Value Chain
Overview

EXPORT

		DESCRIPTION
INITIATE	CARGO BOOKING	The exporter books container space on a vessel and submits shipment details through the freight forwarder
TRANSPORT	CARGO CONSOLIDATION	While FCL[1] cargo is delivered directly, LCL[2] cargo needs to be consolidated at the warehouse
TRANSPORT	TRANSPORT TO PORT	Containers are filled and transported from the exporter's location to the container terminal, often by trucks
ARRIVE AT PORT / TERMINAL	CUSTOMS DECLARATION	Freight forwarders or customs brokers finish customs declarations or export permits
ARRIVE AT PORT / TERMINAL	CONTAINER LOADING	Containers are loaded onto the vessel and a Bill of Lading is issued once received by the shipping line
SHIP	OCEAN SHIPPING	The loaded vessel departs from the port of origin (i.e. Hong Kong), crossing international waters

IMPORT

		DESCRIPTION
INITIATE	CARGO BOOKING	The importer books container space on a vessel and submits shipment details through the freight forwarder
SHIP	OCEAN SHIPPING	The loaded vessel sails to the destination port (i.e. Hong Kong), crossing international waters
ARRIVE AT PORT / TERMINAL	CONTAINER UNLOADING	Containers are unloaded from the vessel at the port and stacked at the container terminal
ARRIVE AT PORT / TERMINAL	CUSTOMS DECLARATION	Freight forwarders or customs brokers finish customs declarations or import permits
TRANSPORT	TRANSPORT FROM PORT	Containers are transported from the terminal to the importer's final destinations, often by trucks
TRANSPORT	CONTAINER DEPOT	Empty containers may be returned to container depots for storage and maintenance

[1]Full Container Load, [2]Less than Container Load
Source: Quinlan & Associates analysis

CARGO SERVICE MONEY FLOWS (1/2) – EXPORTS

Key Takeaways

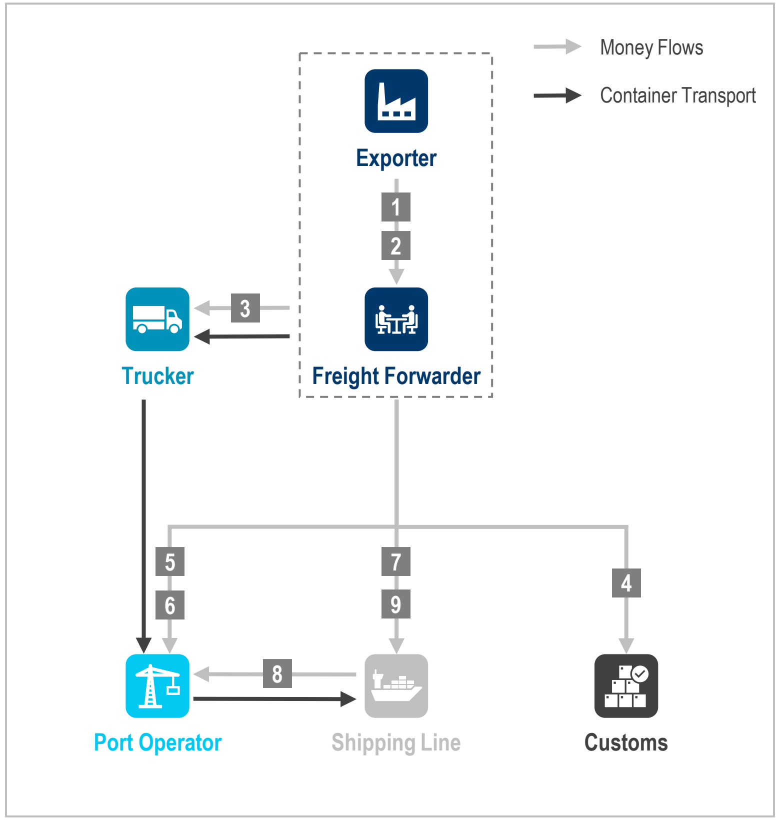
During the export process, the exporter can choose to employ a freight forwarder to handle the cargo shipment (and payments) on their behalf for a forwarder handling fee. In addition to freight forwarders (if applicable), there are four other main fee recipients:

1. **Shipping Lines:** ocean carrier fees and documentation fees are charged by the shipping line for transporting goods from one port to the next;
2. **Port Operators:** VGM fees and port security charges are charged to the exporter / freight forwarder, and terminal handling fees are charged to shipping lines by the port operator;
3. **Customs:** export declaration fees are charged by trade declaration companies;
4. **Truckers:** land-side transportation fees are charged by truckers for transporting the goods to the exporting port.

A variety of fees along the export value chain, including inland transportation, customs, port handling, and carrier charges, are borne by exporters or their freight forwarders

Export Money Flows

Overview, Hong Kong



MONEY FLOWS		AVERAGE FEES (HONG KONG)
1	Forwarder Handling Fee	• USD 51 per container
2	Exporter Payment (or via Forwarder)	• Fee 3~9
3	Land-Side Transportation Fee	• USD 205 per 40’ container • USD 192 per 20’ container
4	Export Declaration Fee	• USD 26 per shipment
5	VGM[1] Fee	• USD 22 per container
6	Port Security Charge	• USD 4 per 40’ container • USD 3 per 20’ container
7	Documentation Fee	• USD 77 per shipment
8	Terminal Handling Fee	• USD 384 per 40’ container • USD 256 per 20’ container
9	Ocean Carrier Fee	• USD 793* per 40’ container • USD 537* per 20’ container

[1]Verified Gross Mass; *Weighted average fees calculated based on export volume, assuming the split of the Ocean Carrier Fee between import and export is typically 50%

Source: Hong Kong Customs, Legislative Council, COSCO, OOCL Hong Kong, CNC Line, Freightos, eCOM Registry, OnePort, Quinlan & Associates estimates

CARGO SERVICE MONEY FLOWS (2/2) – IMPORTS

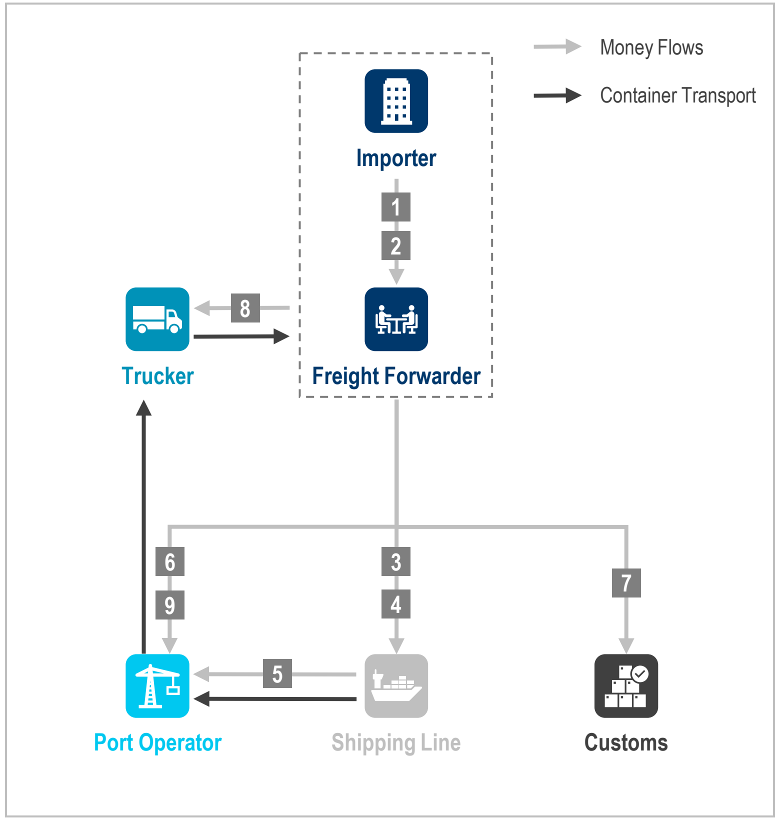
Key Takeaways

Similar to the export process, when importing goods, the importer can choose to employ a freight forwarder to handle the cargo shipment (and payments) on their behalf for a forwarder handling fee. In addition to freight forwarders (if applicable), there are four other main fee recipients:

1. **Shipping Lines:** ocean carrier fees and documentation fees are charged by the shipping line for transporting goods from one port to the next;
2. **Port Operators:** port security charges and container maintenance charges are charged to the importer / freight forwarder, and terminal handling fees are charged to the shipping line;
3. **Customs:** import declaration fees are charged by trade declaration companies;
4. **Truckers:** land-side transportation fees are charged by truckers for transporting the goods to their final destination.

Similarly, importers or their freight forwarders incur fees during cargo shipment, upon its arrival at the port, at customs, and for transportation to the final destination

Import Money Flows
Overview, Hong Kong



MONEY FLOWS		AVERAGE FEES (HONG KONG)
1	Forwarder Handling Fee	• USD 51 per container
2	Importer Payment (or via Forwarder)	• Fee 3~9
3	Ocean Carrier Fee	• USD 844* per 40' container • USD 614* per 20' container
4	Documentation Fee	• USD 77 per shipment
5	Terminal Handling Fee	• USD 384 per 40' container • USD 256 per 20' container
6	Port Security Charge	• USD 4 per 40' container • USD 3 per 20' container
7	Import Declaration Fee	• USD 26 per shipment
8	Land-Side Transportation Fee	• USD 205 per 40' container • USD 192 per 20' container
9	Container Maintenance Charge	• USD 15 per container

*Weighted average fees calculated based on import volume, assuming the split of the Ocean Carrier Fee between import and export is typically 50%
Source: Hong Kong Customs, Legislative Council, COSCO, OOCL Hong Kong, CNC Line, eCOM Registry, OnePort, Quinlan & Associates estimates

CARGO SERVICE FEES (PER CONTAINER)

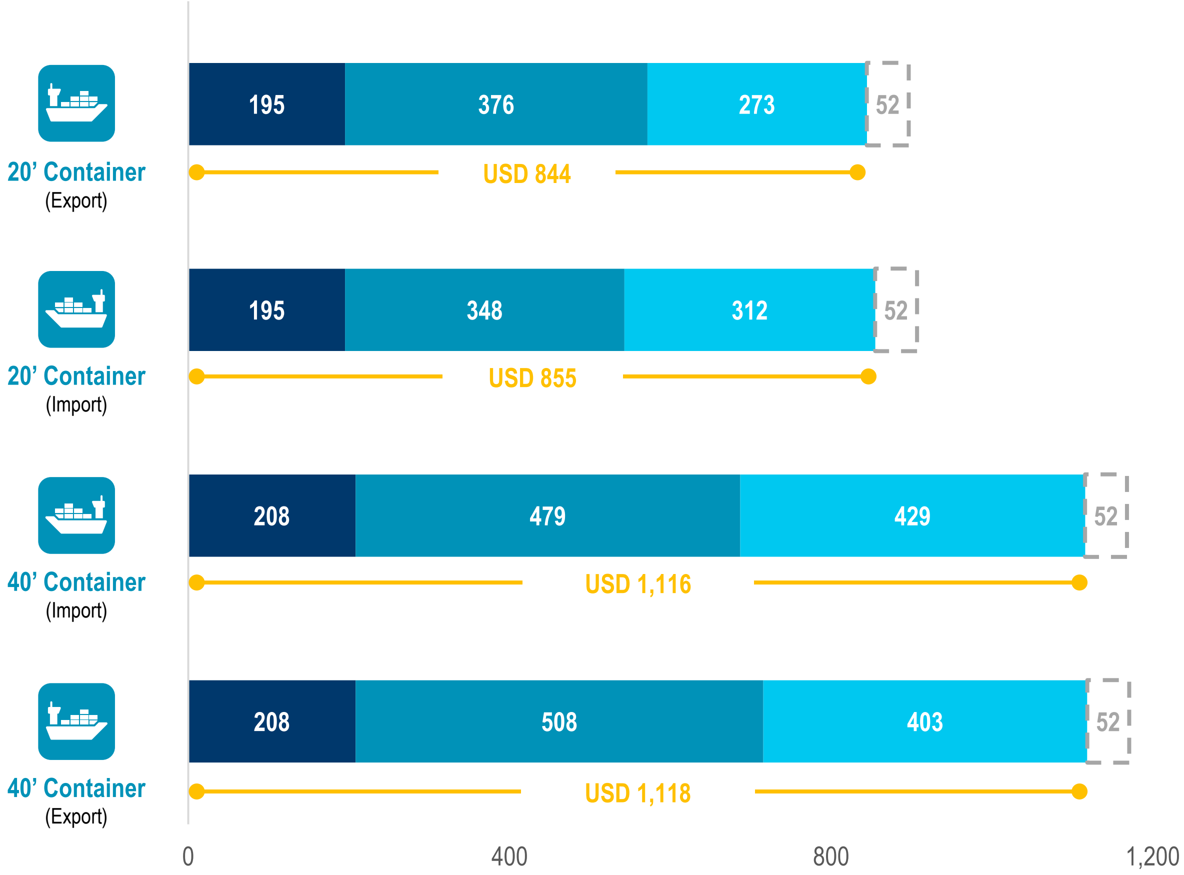
Key Takeaways

Taking into account the charges for land-side fees, ocean-side fees, ocean carrier fees, and forwarder handling fees (if exporters/importers opt for freight forwarders), we estimate the standard cargo service fee for exporting or importing in Hong Kong is approximately USD 850 for a 20' container and USD 1,117 for a 40' container (excluding forwarder handling fees).

The standard cargo service fees to export or import a 20' container and a 40' container in Hong Kong are ~USD 850 and ~USD 1,117 respectively

Average Cargo Service Fees per Container

2023E, USD, Hong Kong



1 LAND-SIDE TRANSPORTATION FEE
Fees associated with land transportation of containers by truck to and from the port terminal

2 OCEAN SIDE FEES
A variety of fees related to cargo dealing processes at the port, including consolidation, loading, declaration, etc.

3 OCEAN CARRIER FEES
Fees occurred during the international shipping of containers from the port of origin to the destination port

4 FORWARDER HANDLING FEES
Fees to engage freight forwarders to manage international shipments on behalf of exporters / importers

Source: Hong Kong Customs, Legislative Council, COSCO, OOCL Hong Kong, CNC Line, Freightos, eCOM Registry, OnePort, Quinlan & Associates estimates

CONTAINER SHIPPING THROUGHPUT / VOLUME

Key Takeaways

In 2022, Hong Kong ranked 9th in trade volume based on ports' container throughput, handling 14.3 million TEUs, among which more than 20% comes from import and export trade.

The import and export trade in Hong Kong involves 0.9 million containers, each associated with a series of cargo service payments, indicating a significant market size.

Freight forwarders play a crucial role in facilitating international trade operations in Hong Kong, with 51% of the containers being imported or exported through their services.

In terms of container size, 64% of containers in Hong Kong are 40-foot, while the remaining 36% are 20-foot. This preference for 40-foot containers is due to the marginal price differential between the two sizes, making them the preferred choice for shipping large quantities of cargo.

Hong Kong ranks as the 9th largest port globally, with a throughput of 14.3 million TEUs in 2023, within which import and export trade alone engaged ~0.9 million containers

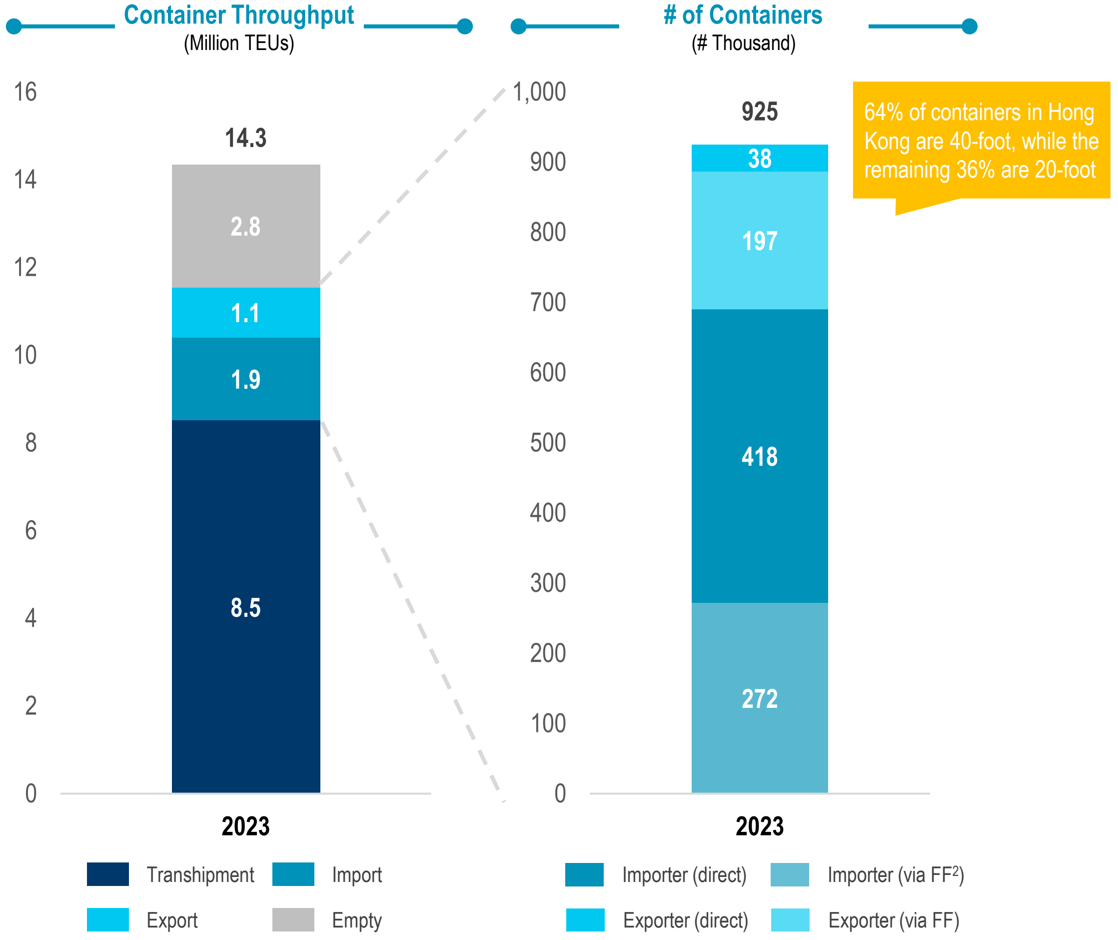
Container Throughput Ranking by Port

2022, Million TEUs[1]

	2022	
1	SHANGHAI	37.3
2	SINGAPORE	37.0
3	NINGBO	33.3
4	SHENZHEN	30.0
5	QINGDAO	26.8
6	GUANGZHOU	24.6
7	BUSAN	22.1
8	TIANJIN	19.8
9	**HONG KONG**	**16.7**
10	ROTTERDAM	14.4

Hong Kong Container Volume

2023, Million TEUs[1], # of Containers, Hong Kong



[1]Twenty-foot Equivalent Unit, [2]Freight Forwarder

Source: UNCTAD, Hong Kong Shipping Statistics, HK Census and Statistics Department, OnePort, eCOM Registry, Quinlan & Associates analysis

CARGO SERVICE ECOSYSTEM SIZE

Key Takeaways

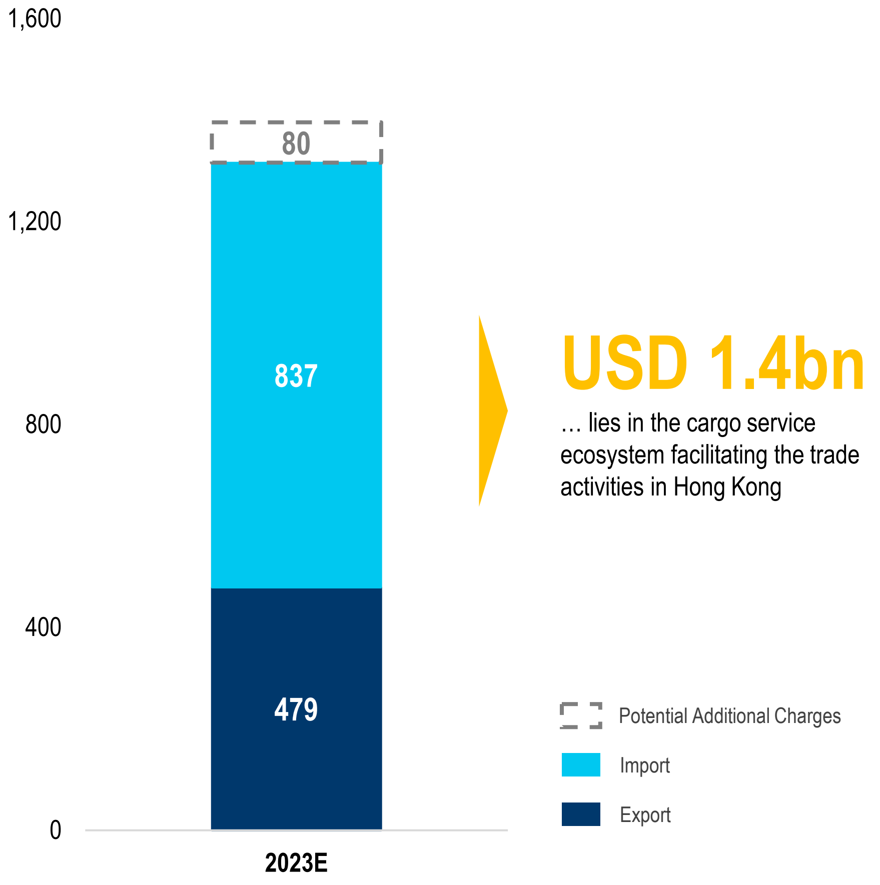
The total cargo service payment market size is estimated to be approximately USD 1.4 billion. These payments represent a significant credit market for this ecosystem that has not been brought to lenders' attention yet.

Other administrative charges, such as penalty charges and inspection fees, as well as additional services that traders might employ, such as documentation amendment fees and cooling facilities, also contribute to the actual size.

We estimate Hong Kong's cargo service ecosystem to be a USD 1.4 billion market (including potential additional charges like D&D charges, inspection fees, etc.)

Cargo Service Payment Market Size

2023E, USD Million



Potential Additional Charges

Hong Kong

1 **Demurrage & Detention Charges**
Penalty charges are applied when container usage exceeds the free time offered by carriers, averaging around USD 90 per container at the Port of Hong Kong

2 **Cargo Inspection Fee at Customs**
Physical examination of the goods is mainly conducted on a selective basis, and if selected, an inspection fee of approximately USD 128 per container might be charged

3 **Document Amendment Fee**
Besides the standard documentation fee, amending documents (e.g. bill of lading, shipping instruction) also incurs a fee ranging from USD 77 to 128 per request

4 **Cooling Charges**
Certain temperature-sensitive goods necessitating pre-cooling or cooling are subject to an extra charge of approximately USD 77 per container per day

Source: OnePort, eCOM Registry, Container XChange, OOCL Hong Kong, Quinlan & Associates estimates

SECTION 2

TRADE FINANCE

TRADE FINANCE (1/4) – MARKET SIZE

Key Takeaways

Following the COVID-19 pandemic, the trade finance market experienced a sharp rebound. However, financing volumes declined post-2021, reflecting a slowdown in global trade activity and challenges in meeting loan repayments.

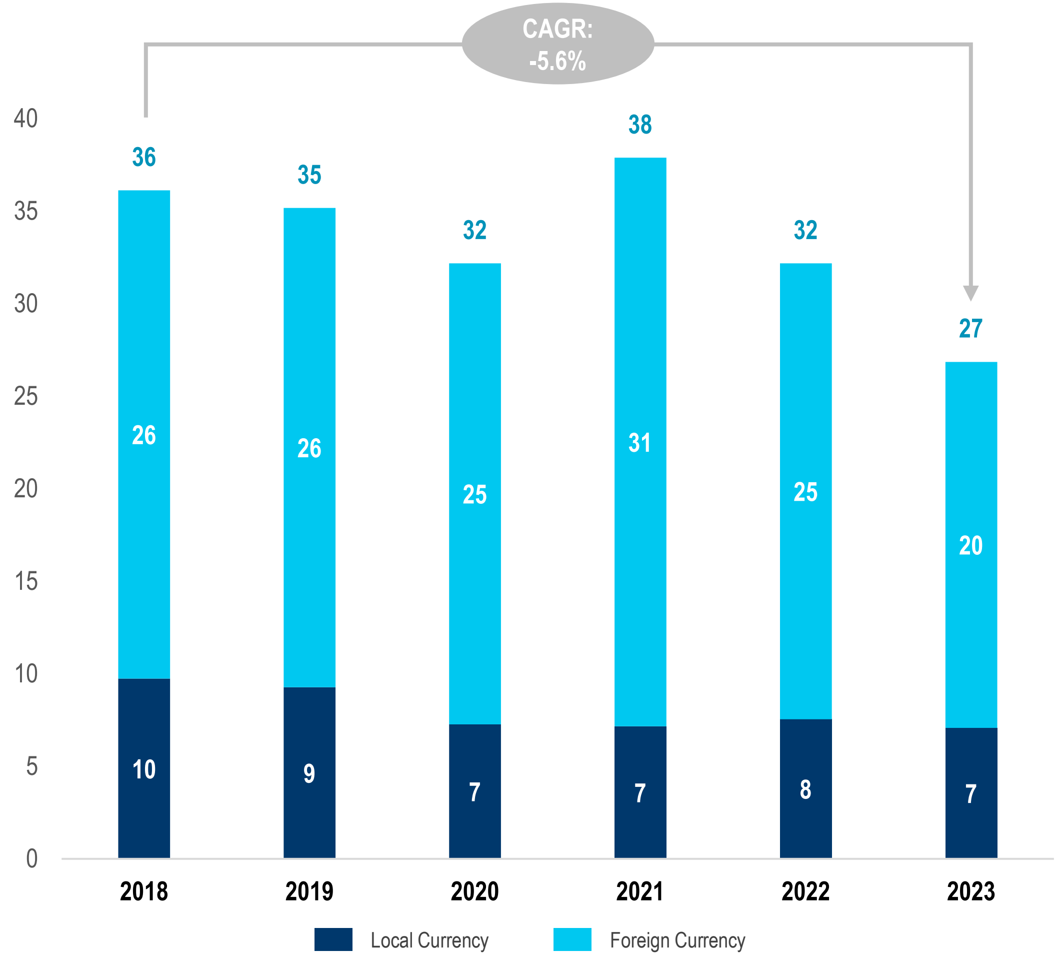
Given its extensive trade connections with other markets, 85% of the trade finance in Hong Kong is extended in foreign currencies.

In terms of product composition, traditional trade finance products such as documentary collections and guarantees continue to dominate the market, indicating potential for growth in newer products such as supply chain financing.

The Hong Kong trade finance market rebounded in 2021 but dipped in subsequent years, with traditional trade financing products dominating the market

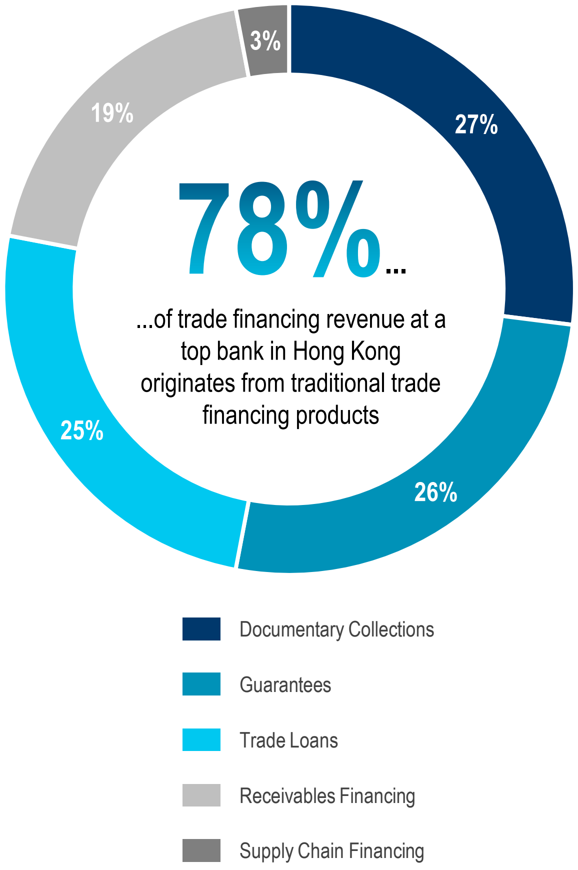
Trade Finance Market Size[1]

2018-23, USD Billion, Hong Kong



Trade Finance Product Breakdown

% of Revenue, A Top Bank in Hong Kong



[1]Loans to finance imports to and exports / re-exports from Hong Kong, excluding loans for merchandising trade not touching Hong Kong
Source: HK Census and Statistics Department, bank statements, Quinlan & Associates analysis

TRADE FINANCE (2/4) – LENDER FRICTIONS

Key Takeaways

Significant hurdles are recognised throughout the lending value chain, arising from operational inefficiencies and the substantial expenses linked to providing trade finance products. These challenges underscore the considerable resources required to deliver efficient trade finance solutions, encompassing streamlined account onboarding, loan processing, and account review.

While certain lenders are beginning to explore the utilisation of alternative data, its application is primarily limited to post-lending risk monitoring rather than other stages. Moreover, the elevated operational costs linked to thorough due diligence, hands-on engagement, and recurring follow-ups further impact the operational efficiency and profit margins of numerous lenders.

Major obstacles are identified across the lending value chain, stemming from operational inefficiencies and the high costs associated with offering trade finance products

Trade Finance Lender Journey

Frictions Summary

	ACCOUNT ONBOARDING		LOAN PROCESSING			ACCOUNT REVIEW	
	CUSTOMER OUTREACH	KNOW YOUR BUSINESS	LOAN APPLICATION	CREDIT ASSESSMENT	LOAN APPROVAL	RISK MONITORING	REPAYMENT COLLECTION
PROCESS FLOW	× Manually targeting customers, leveraging pre-existing databases and relationships	× Highly labour-intensive process requiring significant time and human resources	× Offline processes that require in-person document submission and signing	× Only considering traditional data from the credit bureau / registry or submissions	× Manual risk assessment process with recurring document requests and interviews	× Manual full-scale investigation / reconciliation of any changes in credit scoring	× Engaging external collections services for overdue loans via regular site visits and phone calls
KEY OBSTACLE	× Labour-intensive process, with focus placed on larger customers instead of long-tail targets	× Tedious, lengthy, and document-heavy onboarding process for customers	× The submission process is seen as complex and extremely time-consuming	× Data is not comprehensive and/or standardised, hindering scalable credit analysis	× Frequent back-and-forth can extend processing and approval timelines to several months	× Slowdown in service times due to delays from manual credit scoring reviews	× High ongoing costs associated with a large, outsourced, on-the-ground collections team
USE OF ALT DATA	×	-	×	-	×	-	×
IMPACTS ON LENDERS	× Limited targeting and acquisition efforts, resulting in suboptimal top-line revenue potential	× Costly process with heightened customer dissatisfaction around onboarding delays	× Tedious information / data collection, which is inefficient in terms of time and resources	× Non-comprehensive, slow, and inaccurate credit assessment, resulting in delays and heightened risks	× Huge workload borne by a large team of risk specialists on individual reviews	× Considerable resource needs, especially when conducting annual account reviews	× Low success rates, high costs, and time-consuming to collect delinquent loans

- Early Exploration × Not Used

Source: Quinlan & Associates analysis

TRADE FINANCE (3/4) – BORROWER DELAYS

Key Takeaways

Borrowers encounter numerous challenges throughout the trade finance application process, with inefficiencies in incumbent lenders' back-end operations directly impacting their access to capital. The trade finance application process is notoriously lengthy, spanning 8-12 weeks, characterised by recurrent document requests and follow-up interviews. This results in frequent back-and-forths, creating an inefficient and time-consuming experience for borrowers.

Financial institutions' clunky back-end processes create considerable delays for borrowers seeking access to trade finance solutions

Trade Finance Borrower Journey

Frictions Summary

DESCRIPTION	VISIBLE TIME
Application Form Fill out application forms online or physically at a branch, and receive a checklist of documents required for submission	**10-15 Minutes** Including filling in personal and company information, along with loan details
Document Submission Submit relevant paper documents, based on the checklist to a branch representative, physically / in-person	**1-2 Days** Including preliminary verification of the documents against the checklist
Follow-up Interview Interviews are scheduled to request any missing data along with gathering more input on the business nature and financial situation	**3-5 Days** RMs usually contact and interview the borrower in person after a few days
Account Processing and Review A comprehensive review of all documents and credit risks is conducted in compliance with regulations	**2-4 Weeks** The actual time is often longer than the time stated by lenders, varying by case
Approval and Disbursement Based on the result of the review process, loans are approved and disbursed to the loan applicant	**1-2 Days** The actual time is longer than the time stated by lenders, varying by case

RECURRING REQUESTS

Major Frictions

LOAN APPLICATION
Application submission and initial review by the traditional bank

Visible Time: 3-5 Weeks

ONGOING DOCUMENT REQUESTS
Ongoing document requests result in frequent back-and-forth

LENGTHY GENERAL CHECKS
Banks need to check the latest collateral / guarantee, etc.

Hidden Time: 5-7 Weeks

STRINGENT ELIGIBILITY CRITERIA
Numerous trade financing applicants, particularly SMEs, face rejection or partial approval

DELAYS OF ~8-12 WEEKS

Source: interviews, Quinlan & Associates analysis

TRADE FINANCE (4/4) – CREDIT GAP

Key Takeaways

Insufficient collateral from borrowers, coupled with limitations in lenders' data accessibility and risk modelling capabilities, has led to varying rejection rates for proposed trade finance loans.

Among multinational corporations and large / mid-cap applicants, average rejection rates stand at 15.0% and 14.1% respectively. This rate increases to 31.5% for micro & SME applicants.

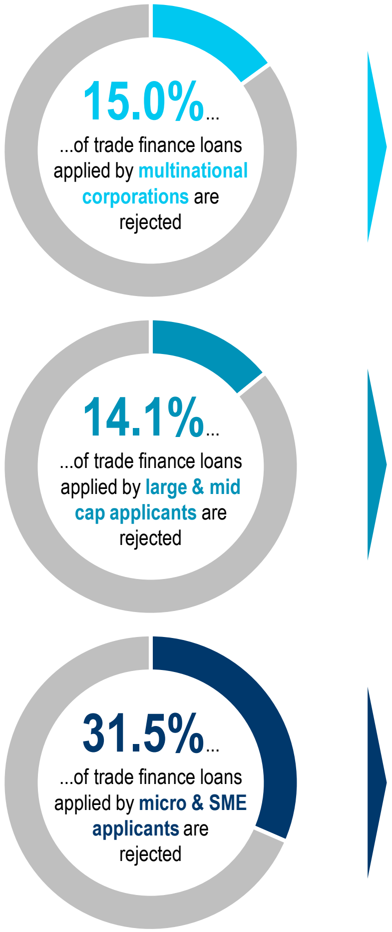
We estimate Hong Kong's trade finance credit gap stood at USD 7.9 billion in 2023, accounting for ~28% of the market's existing trade finance ecosystem.

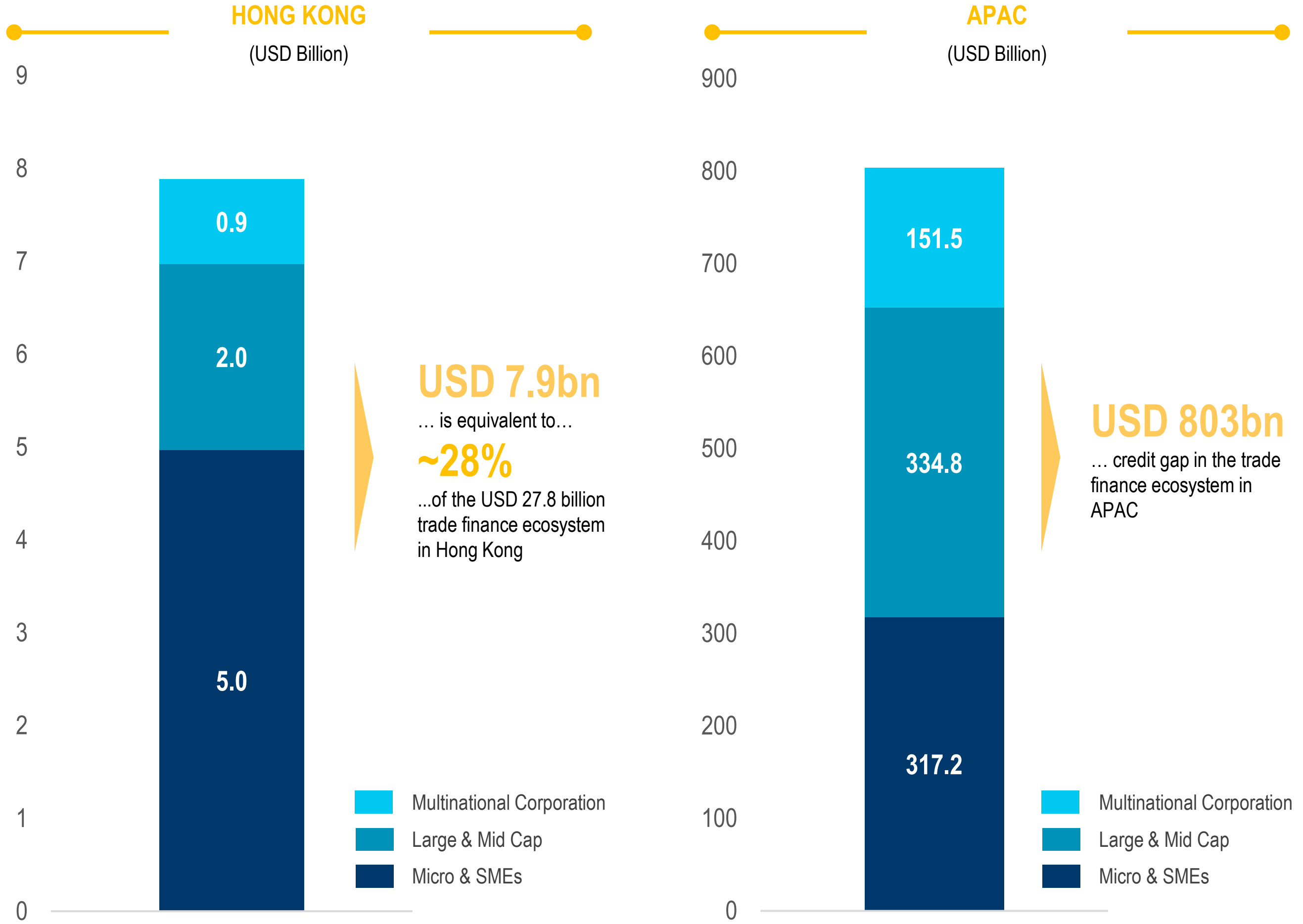
Zooming out to look at the entire APAC region, the credit gap expands significantly, which we estimate at USD 803 billion in 2023.

Hong Kong – and the wider APAC region – faces a significant trade finance gap, especially for micro and SME loan applicants

Rejection Rate & Trade Finance Credit Gap

2023E, Hong Kong & APAC





Source: Asian Development Bank, HK Census and Statistics Department, Quinlan and Associates estimates

SECTION 3

CARGO SERVICE FINANCE

SECTION 3.1

STAKEHOLDER PAIN POINTS & CREDIT NEEDS

STAKEHOLDER PAIN POINTS – SUMMARY

Key Takeaways

Throughout the cargo shipping and payment process, key stakeholders face challenges associated with mismatches in payment cycles, which is exacerbated by the lack of financial offerings in the market.

Payment mismatches aside, each stakeholder faces additional factors that destabilise their financial situation (e.g. currency mismatch, fluctuating freight rates, etc.), bringing about unexpected costs (and associated financing demands).

Stakeholders encounter various pain points throughout the cargo shipping and payment settlement process, with limited financial offerings to address these issues

Summary of Stakeholder Pain Points

Cargo Service Ecosystem

MAJOR PAIN POINTS	IMPORTER / EXPORTER	FREIGHT FORWARDER	TRUCKER	PORT OPERATOR	SHIPPING LINE
Major operating fees concerned	• Trucking fees • Customs fees • Port charges (e.g. terminal handling fees) • Documentation fees • Ocean freight fees • Forwarder handling fees	• Trucking fees • Customs fees • Port charges (e.g. terminal handling fees) • Documentation fees • Ocean freight fees	• Fuel costs • Driver / worker salaries • Maintenance fees • Security costs	• Port worker salaries • Port equipment maintenance fees • Container maintenance fees • Security costs	• Fuel costs • Port charges (e.g. terminal handling fees) • Crew / worker salaries • Container maintenance fees
Payment cycle mismatch	××	××	××	-	-
Currencies mismatch	××	×	-	-	×
Fluctuating freight rates	××	××	-	-	×
Increasing operational costs *(e.g. labour costs)*	-	-	××	×	×
Payment reconciliation	××	×	-	-	×
Unexpected additions *(e.g. delays, container loss, etc.)*	×	×	-	-	-
ACCESS TO CAPITAL					
Ease of access to financing solutions	×	×	××	-	-
OVERALL FINANCING DEMAND	■■■■■	■■■■■	■■■■■	■■□□□	■■■□□

FINANCING DEMAND: Low ■■■□□ High **LEVEL OF IMPACT:** ×× Very Unfavourable × Unfavourable - Dependent ▭ High Demand

Source: eCOM Registry, Quinlan & Associates analysis

PAYMENT CYCLE MISMATCH

Key Takeaways

Freight forwarders face an average payment mismatch of 40 days between their payables and receivables, leaving them more vulnerable to working capital shortages.

Exporters face a similar problem, as importer payments for goods do not typically arrive before shipments, leaving a sizable gap in their working capital. However, most of this gap is already covered by traditional bank offerings.

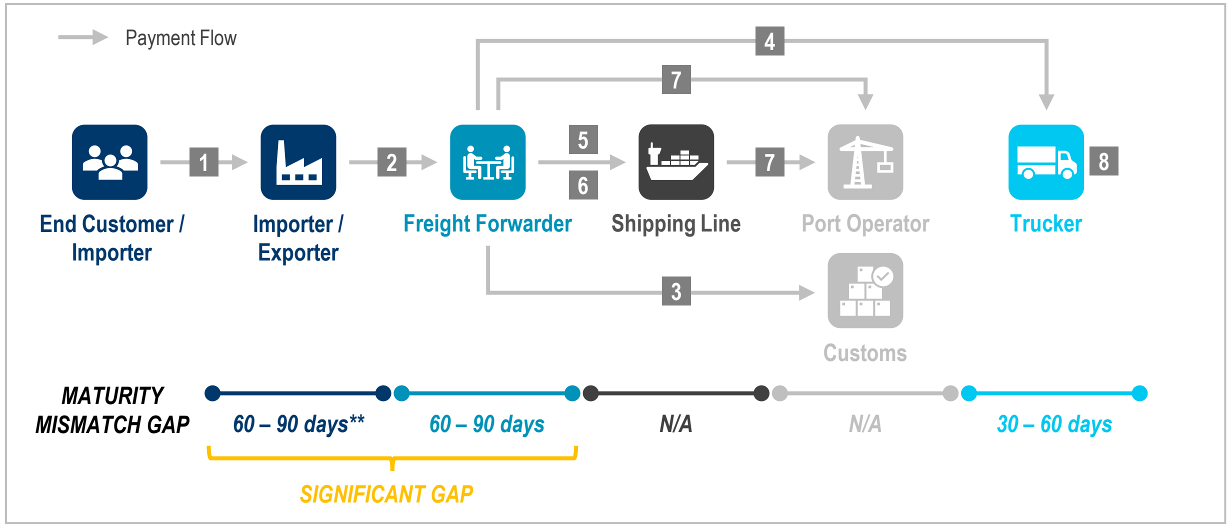
Importers' reliance on the sale of goods to upstream buyers also places them in a precarious position in terms of capital. While the goods themselves can often be financed to obtain capital, shipping fees are often not in scope.

Shipping lines and truckers face a shorter payment mismatch. Due to the nature of their business, however, this payment gap does not significantly affect their working capital.

Of note, sizeable mismatches exist between payable and receivable maturity periods for all stakeholders, creating demand for credit to bridge working capital gaps

Maturity Periods Mismatches Across the Value Chain

Overview



PAYABLE / RECEIVABLE	MATURITY PERIOD
1 Buyer / Importer Invoices	*~60-90 Days*
2 Forwarder Handling Fees*	*~60-90 Days*
3 Declaration Fees**	*Upfront*
4 Landside Fees**	*~30-60 Days*

PAYABLE / RECEIVABLE	MATURITY PERIOD
5 Ocean Carrier Fees**	*~30 Days*** / Upfront*
6 Documentation Fees**	*~30 Days*** / Upfront*
7 Port Operating Charges**	*~30 Days*
8 Trucker Operational Costs	*Upfront*

STAKEHOLDERS	LEVEL OF IMPACT
Importer / Exporter	××
Freight Forwarder	××
Trucker	××
Port Operator	-
Shipping Line	-

IMPACTS

- *Traders and forwarders are especially vulnerable to liquidity issues, as they often have long-dated receivables that are much shorter than their payables*
- *Shipping lines and truckers face similar problems, but the payment gap is much shorter, limiting its impact on capital*

LEVEL OF IMPACT: ×× Very Unfavourable × Unfavourable - Dependent

*Including all other downstream fees made by the freight forwarder; **Including exporter / importer direct payments without the use of freight forwarder services; ***Only ~10% of forwarders, exporters, and importers have payment terms with shipping lines

Source: Drewry, Mastercard, OnePort, eCOM Registry, Quinlan and Associates analysis

PAYMENT CURRENCY MISMATCH

Key Takeaways

As of 2023, more than half of the cargo imported and exported in Hong Kong originated from mainland China, exposing importers and exporters to the risks associated with HKD-CNY exchange rate fluctuations, as well as other currencies.

Importers face a challenge when the conversion rate from HKD to other currencies experiences a decline. This unfavourable shift necessitates the allocation of additional funds to cover the original payment.

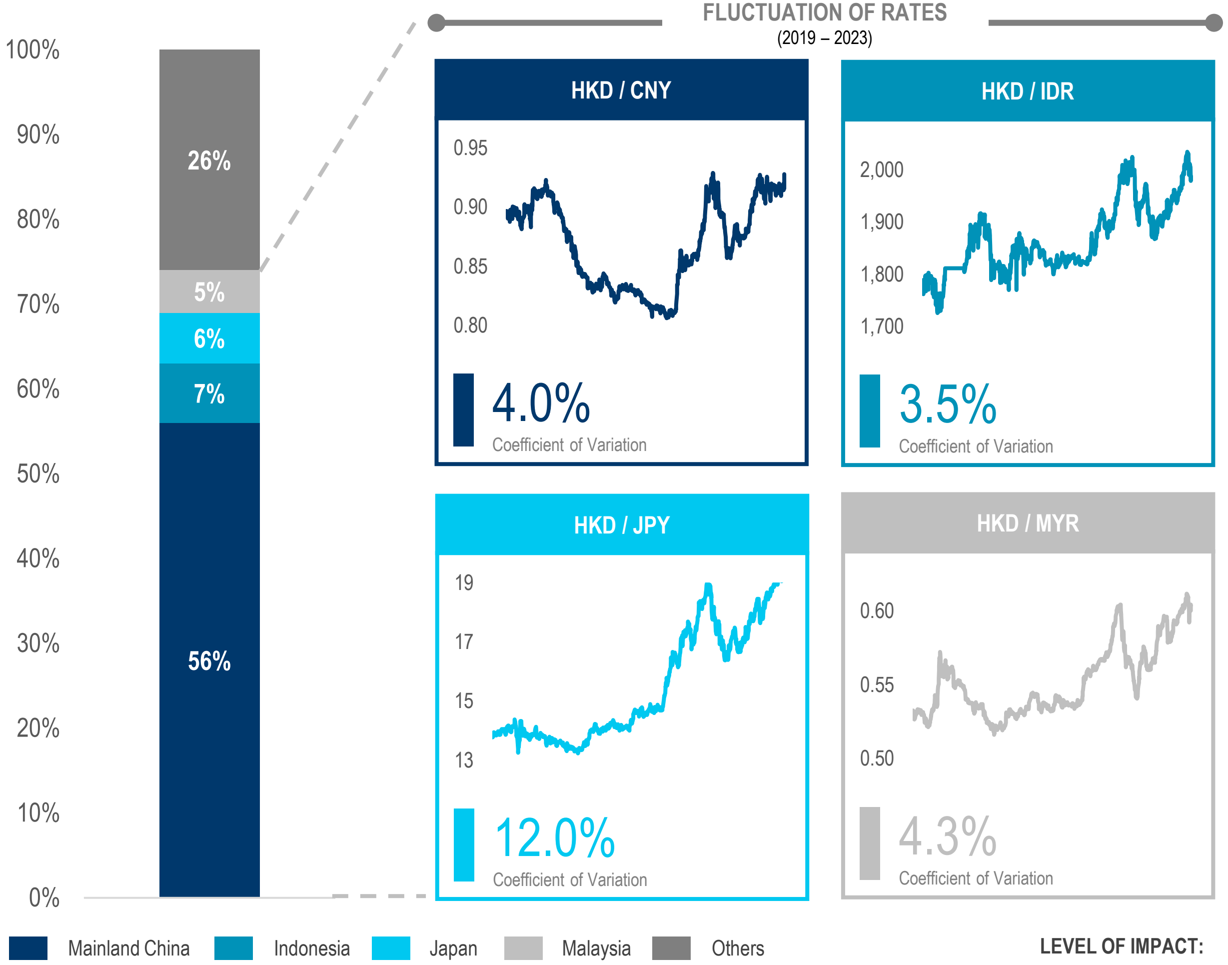
Conversely, exporters encounter a similar predicament when the conversion rate from other currencies to HKD falls, resulting in a reduction in the value of the payment they receive when measured by HKD.

The inherent instability of currency conversion rates exerts significant pressure on working capital.

As a significant portion of payments is typically settled in foreign currencies, exchange rate fluctuations can place considerable pressure on importer and exporter working capital

Total Port Cargo Breakdown by Country

2023, % of Volume, Hong Kong



STAKEHOLDERS	LEVEL OF IMPACT
Importer / Exporter	××
Freight Forwarder	×
Trucker	-
Port Operator	-
Shipping Line	×

IMPACTS

- *Importers need extra funds to cover the original payment when the conversion rate from HKD to other currencies decreases*
- *Exporters suffer a reduction in the value of the payment they receive when measured by HKD when the conversion rate from other currencies to HKD reduces*

LEVEL OF IMPACT: ×× Very Unfavourable × Unfavourable - Dependent

Source: Census and Statistics Department, Yahoo Finance, Quinlan & Associates analysis

FREIGHT RATE FLUCTUATION

Key Takeaways

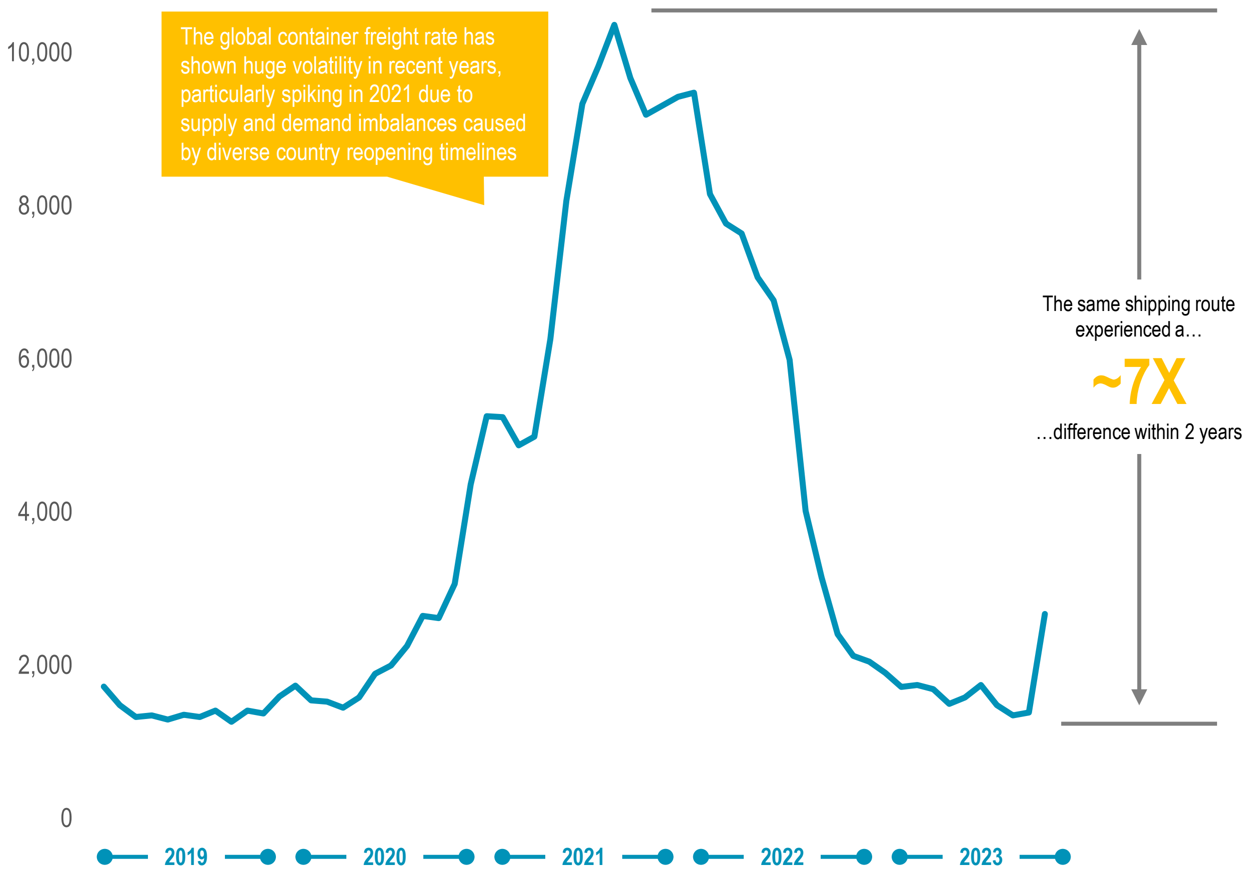
The charges associated with cargo services, such as freight fees, are subject to significant fluctuations, imposing financial burdens on importers, exporters, and freight forwarders.

When freight fees experience unexpected increases, exporters and importers are faced with the choice of either absorbing these costs or passing them on to downstream parties, namely importers and end customers. In either case, they require additional working capital to cover the resulting accounts payable to freight forwarders or shipping lines. Concurrently, freight forwarders themselves encounter an increase in the amount of accounts payable owed to shipping lines.

As highlighted during COVID-19, cargo service-related charges can be highly volatile, impacting the financial stability of importers, exporters, and freight forwarders

Global Container Freight Rate Index*

2019 – 2023, USD



STAKEHOLDERS	LEVEL OF IMPACT
Importer / Exporter	××
Freight Forwarder	××
Trucker	-
Port Operator	-
Shipping Line	×

IMPACTS

- *With increased freight rates, exporters and importers suffer from decreased profits or have to pass on the increased costs to the downstream customers*
- *The freight forwarder's amount of account payables to the shipping lines will also increase, harming their financial cycles*

LEVEL OF IMPACT: ×× Very Unfavourable × Unfavourable - Dependent

*Based on the freight costs of 40' containers via eight major routes globally, including applicable surcharges

Source: Drewry, MacroMicro, European Central Bank, Quinlan & Associates analysis

LABOUR COSTS & SHORTAGE

Key Takeaways

The rise of labour costs is a common pain point across the transportation industry, including port operators, shipping lines, and truckers. This trend is expected to continue with the insufficient local labour supply in Hong Kong.

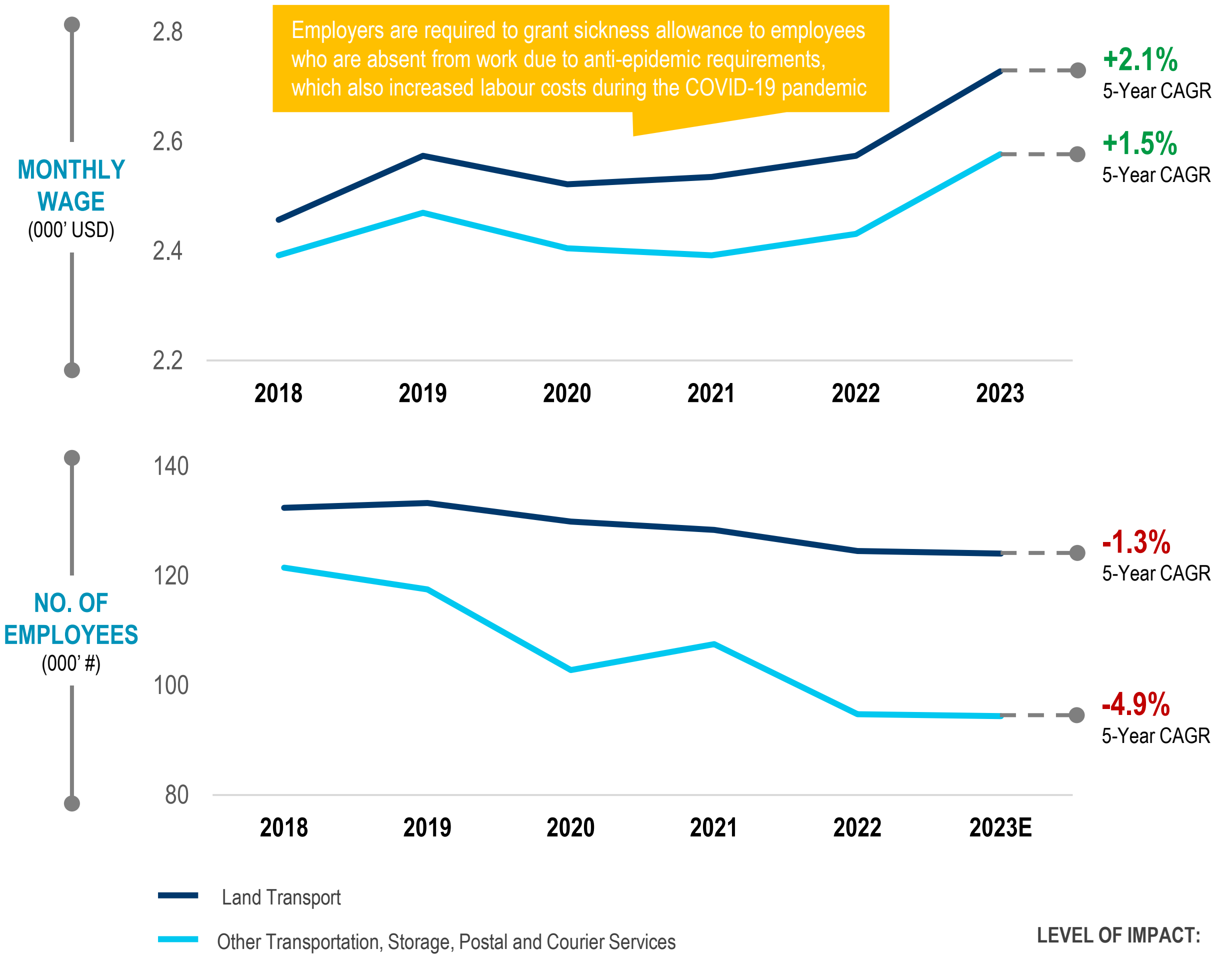
Although wages decreased during the COVID-19 pandemic, unit labour costs increased due to the revised sickness allowance policy, which required employers to grant sickness allowance to employees absent from work because of movement restrictions.

As the number of people working in the transportation sector continues to decline, port operators, shipping lines and truckers will be pressured to pay higher salaries to retain talent.

Ongoing labour shortages continue to put pressure on wages in the transportation industry, which have been rising steadily in recent years, especially post-COVID-19

Increasing Labour Costs & Labour Shortage

2018–23, Hong Kong Transportation Industry



STAKEHOLDERS	LEVEL OF IMPACT
Importer / Exporter	-
Freight Forwarder	-
Trucker	××
Port Operator	×
Shipping Line	×

IMPACTS

- *Traders and forwarders are not labour-intensive, hence impacts might be minor*
- *Truckers, port operators, and shipping lines need to pay higher salaries to maintain the working force, especially the frontline workers, as a result of the labour shortage*

LEVEL OF IMPACT: ×× Very Unfavourable × Unfavourable - Dependent

Source: Census and Statistics Department, Labour Department, Quinlan & Associates analysis

PAYMENT RECONCILIATION

Key Takeaways

The reconciliation process of shipping lines can create challenges that result in delays in releasing cargo to importers.

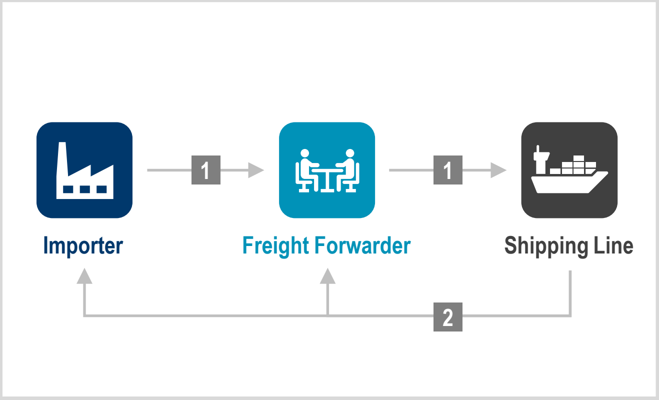
This is primarily due to the limited level of automation in the financial operations of shipping lines, which makes it difficult for them to accurately match payment transaction information with invoices and cargo information.

Additionally, handling multiple or combined payments, as well as payments in different currencies, further complicates the process.

Even after payment collection, shipping lines' tedious reconciliation processes can significantly delay the release of cargo to importers

Payment Reconciliation

Overview



1 Payment Initiation
The importers pay a variety of fees to the shipping line by themselves or through its freight forwarder

2 Cargo Release
The shipping line releases the cargo to the importers after payments are received and reconciliated

STAKEHOLDERS	LEVEL OF IMPACT
Importer / Exporter	××
Freight Forwarder	×
Trucker	-
Port Operator	-
Shipping Line	×

IMPACTS

- *Due to the tedious process in payment reconciliation, shipping lines may need to postpone the release of goods to importers and ultimately to the end customers*
- *The hassle in reconciliation can also influence the exporter's cargo loading and shipment process*

Pain Points for Shipping Lines

Invoice Matching
Due to the low level of automation in the shipping lines' financial operation, it is time-consuming for them to match a specific transaction to an invoice or a customer according to the information from banks

Payment Identification
Additionally, the importers' practice of combining multiple invoices into one payment or making partial payments can complicate the task of identifying the items or invoices being paid for in a transaction

Currency Discrepancy
Shipping lines may also face payments in both HKD and foreign currencies, which introduces additional complexities to the highly paper-based reconciliation process

LEVEL OF IMPACT: ×× Very Unfavourable × Unfavourable - Dependent

Source: Interviews, eCOM Registry, Quinlan & Associates analysis

SHIPMENT DELAYS & ADDITIONAL COSTS

Key Takeaways

In addition to the volatility of cargo service charges, freight forwarders and traders take on more fees based on fluctuations in shipment delays, chiefly caused by port congestions.

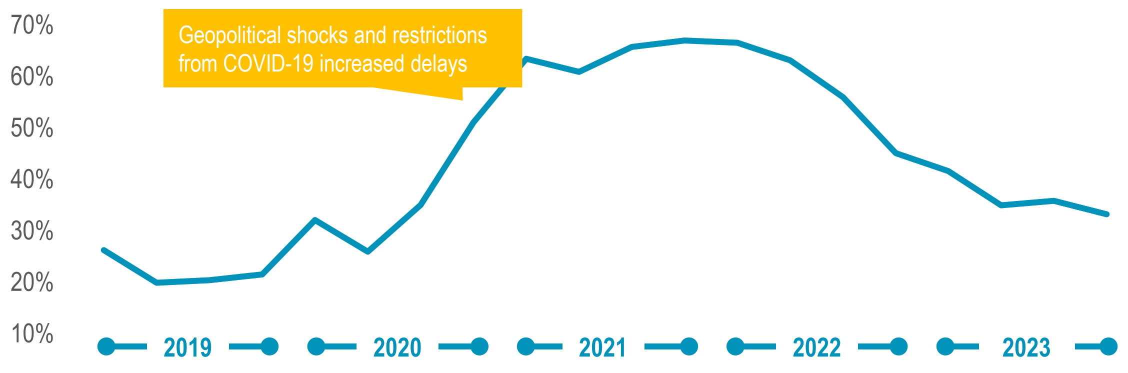
Port demurrage and detention charges and trucking detention charges affect freight forwarders and traders, especially during delayed shipments.

Additionally, traders face large opportunity costs when delayed shipments cause them to miss seasonal demand spikes, further decreasing their margins and capital at hand.

Freight forwarders and traders have faced margin and working capital pressures due to higher delay-related fees from unexpected port congestions

Container Deliveries Delayed for 1+ Days*

2019 – 2023, % of Container Shipments Delayed, Global



Additional Fees Incurred from Delays

Overview

Port Demurrage and Detention Charges
Shipment delays limit the flow of containers in and out of ports, incurring demurrage charges for delayed on and off-loading by port operators and detention charges for container usage by container owners

Trucking Detention And Futile Trip Charges
Delays to land-side transportation incur detention and futile trip charges from trucking companies for waiting and non-completed trips, which compounds with time

Indirect Costs
Delays prevent importers from capturing the seasonal demands of end customers, which hurts sales in their respective markets

STAKEHOLDERS	LEVEL OF IMPACT
Importer / Exporter	×
Freight Forwarder	×
Trucker	-
Port Operator	-
Shipping Line	-

IMPACTS

- *Freight forwarders and traders face greater exposure to delays as delay-related fees add up quickly and cut deep into margins*
- *Truckers and shipping lines, while still affected, are mostly insulated from delay-related charges as they are passed downstream to other stakeholders*

LEVEL OF IMPACT: ×× Very Unfavourable × Unfavourable - Dependent

*Based on data from 60+ carriers covering the top 20 shipping lines by revenue and other niche companies
Source: Sea Intelligence, Statista, International Transport Forum, The Loadstar, Quinlan and Associates analysis

CARGO SERVICE CREDIT GAP (1/2) – HONG KONG

Key Takeaways

Based on their payment mismatch and extent of pain point, each stakeholder faces a credit gap in financing.

A significant portion of importers, freight forwarders, and truckers display financing needs due to large payment mismatches. Additional fluctuations further expand upon these needs.

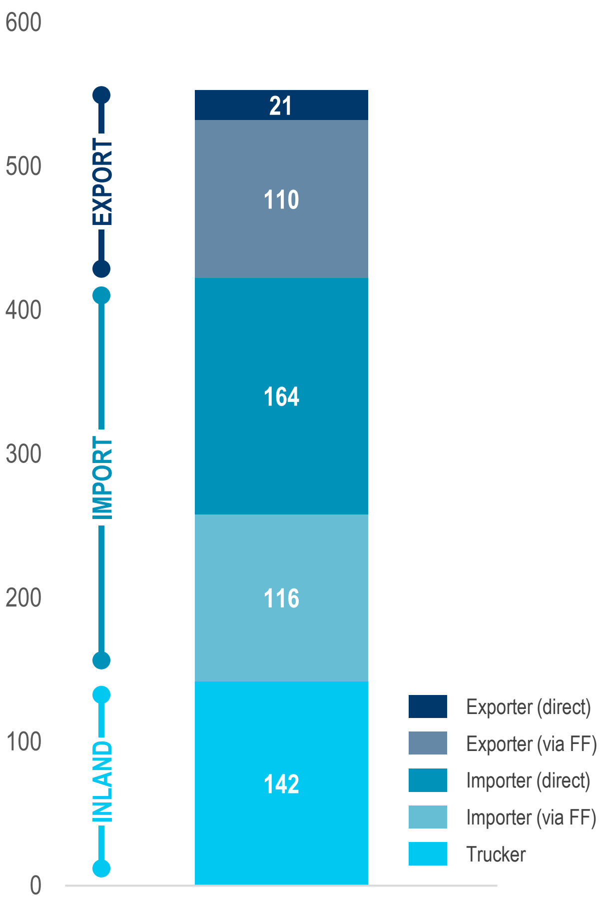
Exporters, on the other hand, face less credit demand as they tend to use more freight forwarder services, shifting the payment mismatches onto them.

Shipping lines do not face a significant credit gap, as they limit the number of counterparties they extend credit to, which greatly restricts their exposure to credit mismatches.

We estimate the current addressable cargo service financing gap in Hong Kong to be USD 553 million, a largely untapped market that lenders can look to capitalise upon

Hong Kong Cargo Service Financing Credit Gap

2023E, USD Million, Hong Kong



EXPORTERS... face longer receivable cycles from overseas importers and a lack of payment terms from shipping lines

IMPORTERS... encounter long receivable cycles from end-buyers and a lack of payment terms from shipping lines

FREIGHT FORWARDERS... see long-dated exporter and importer receivables along with short or no payment terms from shipping lines

TRUCKERS... need to pay their costs upfront, while their receivables often come much later, indicating a significant gap

PORT OPERATORS... have enough turnover to compress their cash gap to maintain cash flow health, limiting demand from them

SHIPPING LINES... have sufficient capital to cover payment mismatches, leading to a minimal demand for credit

USD 553m

… is equivalent to…

~40%

...of the USD 1.4 billion cargo services ecosystem in Hong Kong

Source: Interviews, eCOM Registry, Quinlan & Associates analysis

CARGO SERVICE CREDIT GAP (2/2) – APAC

Key Takeaways

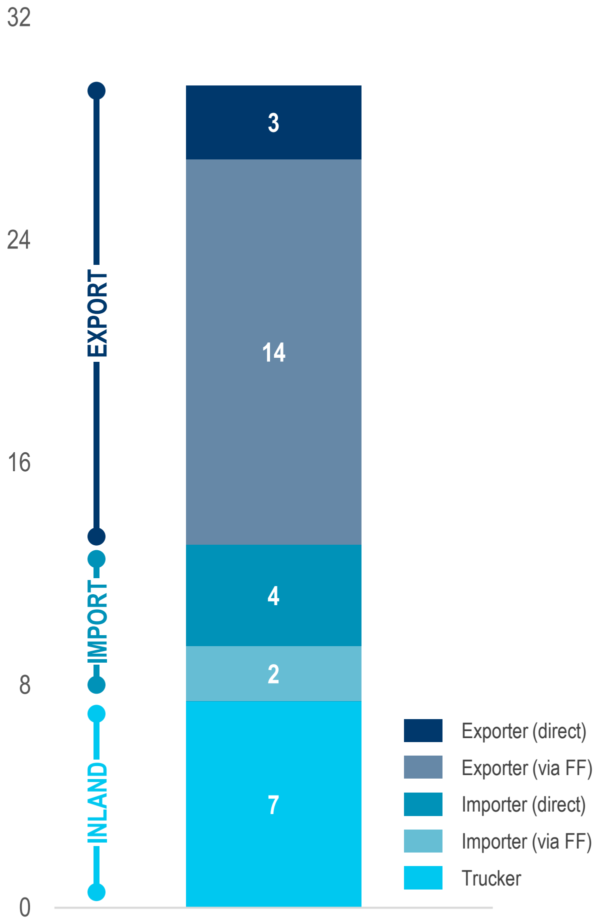
In the APAC region, financing opportunities for cargo services present a market potential that is more than 50 times greater than that of Hong Kong alone. With the significant volume of intra-regional trade within APAC and substantial exports to the US and the EU, the USD 30 billion credit gap emerges as a substantial constraint on global trade.

This credit gap not only represents a challenge but also offers lenders a scalable opportunity to tap into a much larger market. By first addressing local credit demands, lenders can strategically expand their focus to encompass the broader ecosystem. This approach allows them to meet the inter- and intra-regional financing needs of a diverse range of players, unlocking the potential for extensive and impactful contributions to the global trade landscape.

Looking across the broader APAC region, we estimate the current addressable credit gap in cargo service ecosystem to be USD 30 billion

APAC Cargo Service Financing Credit Gap

2023E, USD Billion, APAC



Key Considerations

APAC Market Sizing

TRADE VOLUME

INTRA-REGIONAL TRADE... accounts for 74% of total imports and 47% of total exports, surpassing the contribution of inter-regional trade

INTER-REGIONAL TRADE... in APAC consists of 76% exports and 24% imports by volume, primarily with the EU and the US

FEE LEVELS

OCEAN CARRIER FEES.. are ~62% higher for APAC average compared to HK due to a higher proportion of inter-regional trade

OTHER CHARGES... like Terminal Handling Charges are ~29% less across APAC compared to HK due to cheaper labour, etc.

FINANCING DEMANDS

CASH FLOW PAIN POINTS... still exist across APAC due to limited lending products that target cargo service ecosystem

USD 30bn

...market opportunity in the cargo service ecosystem in APAC

Source: Astute Analytica, Interviews, eCOM Registry, Quinlan & Associates analysis

SECTION 3.2

HONG KONG SUPPLY-SIDE LANDSCAPE

LENDER LANDSCAPE (1/2) – TRADITIONAL BANK

Key Takeaways

Traditional banks gravitate towards financing exporters and importers as their preference towards secured loans pushes them to cover goods. Banks are reluctant to directly extend credit to other areas, such as shipping

Furthermore, the international nature and long timespan of maritime transport tie up liquidity in the form of receivables. As such, solutions like receivables financing, factoring, and forfaiting offer relief to exporters and importers but are not available to freight forwarders and shipping lines

Instead, financial institutions offer generic SME products, such as instalments and revolving loans, to them, which leaves a significant opportunity in the market

While many local banks finance exporters, importers, and their goods, there is a notable whitespace for financing freight forwarders, shipping lines, and the shipment of goods

Trade Finance Offerings in Hong Kong

By Traditional Banks

TRADITIONAL BANKS	GENERIC USE			SPECIALISED USE							
				IMPORTERS & EXPORTERS						FREIGHT FORWARDERS & SHIPPING LINES	
	INSTALMENT LOAN	OVERDRAFT FACILITY	REVOLVING LOAN	PACKING CREDIT*	INVENTORY FINANCING	L/C[1] FINANCING**	D/C[2] FINANCING	RECEIVABLES FINANCING	FACTORING / FORFAITING	RECEIVABLES FINANCING	FACTORING / FORFAITING
HSBC	✓	✓	✓	✓	✓	-	✓	-	-	✓	×
中國銀行(香港) BANK OF CHINA	✓	✓	✓	✓	-	-	✓	-	-	×	×
standard chartered	✓	✓	×	✓	✓	-	×	-	×	×	×
恒生銀行 HANG SENG BANK	✓	✓	✓	✓	✓	-	✓	-	×	×	×
ICBC 工银亚洲	✓	✓	×	✓	×	-	×	-	-	×	×
BEA 東亞銀行	×	×	×	✓	-	-	×	×	×	×	×
NCB 南洋商業銀行	✓	✓	✓	✓	-	-	×	-	×	×	×
中国建设银行(亚洲) China Construction Bank (Asia)	×	×	×	✓	×	-	-	-	×	×	×
交通銀行(香港) BANK OF COMMUNICATIONS	×	×	×	-	-	-	-	-	-	×	×
DBS	×	✓	✓	✓	-	-	-	-	-	✓	×

✓ For Goods & Shipment   - For Goods Only   × Not Offered   ☐ Whitespace

[1]Letter of Credit, [2]Document Collection, *Includes Purchase Order Financing, **Includes Trust Receipts

Source: Bank websites, Quinlan & Associates analysis

LENDER LANDSCAPE (2/2) – VIRTUAL BANK & NBFI

Key Takeaways

While virtual banks and non-bank financial institutions ("NBFIs") have attempted to bridge the gap, a significant white space still exists within trade finance offerings.

Most existing offers centre around either generic SME products or goods-based loans for exporters and importers. These product offerings provide more flexibility to the borrowers; however, the reluctance to lend directly to freight forwarders and shipping lines still exists.

Virtual banks and non-bank financial institutions ("NBFIs") offer more flexible products to borrowers, but their offerings also fail to address the cargo service financing gap

Trade Finance Offerings in Hong Kong

By Virtual Banks & NBFIs

		GENERIC USE			SPECIALISED USE							
					IMPORTERS & EXPORTERS						FREIGHT FORWARDERS & SHIPPING LINES	
		INSTALMENT LOAN	OVERDRAFT FACILITY	REVOLVING LOAN	PACKING CREDIT*	INVENTORY FINANCING	L/C[1] FINANCING**	D/C[2] FINANCING	RECEIVABLES FINANCING	FACTORING / FORFAITING	RECEIVABLES FINANCING	FACTORING / FORFAITING
VIRTUAL BANKS	PAObank	✓	×	×	×	×	×	×	×	×	×	×
	Z	×	×	✓	×	×	×	×	×	×	×	×
	ANT BANK	×	×	✓	×	×	×	×	×	×	×	×
	airstar	×	×	×	×	×	×	×	×	×	×	×
	livi bank	×	×	×	×	×	×	×	×	×	×	×
NBFIS	亞洲聯合財務 UA FINANCE	✓	×	✓	×	×	×	×	×	×	×	×
	PROMISE 邦民日本財務	×	×	✓	×	×	×	×	×	×	×	×
	FundPark	×	×	✓	-	-	×	×	-	×	×	×
	Qupital	×	×	✓	×	×	×	×	×	×	×	×
	velotrade	×	×	✓	-	×	×	×	-	×	×	×

✓ For Goods & Shipment - For Goods Only × Not Offered ☐ Whitespace

[1]Letter of Credit, [2]Document Collection, *Includes Purchase Order Financing, **Includes Trust Receipts

Source: Virtual bank websites, NBFI websites, Quinlan & Associates analysis

MAJOR ROADBLOCKS FOR LENDERS

Key Takeaways

Banks and other financial institutions shy away from lending to finance the cargo services value chain due to:

1. Insufficient data for credit scoring / risk modelling
2. Small ticket sizes
3. Lack of collateral
4. High costs of processing
5. High volatility in credit risk

These factors expose lenders to unknown credit risks, unwanted international and geopolitical exposure, unsecured loans, small risk-weighted returns, and high costs.

Most lenders avoid financing the cargo service ecosystem due to data limitations, small ticket sizes, lack of collateral, high processing costs, and volatile credit risks

Major Roadblocks
Lenders

PRE-LENDING CONSIDERATIONS | LENDING FRICTIONS | ONGOING CONCERNS

Insufficient Data Availability

- Lenders hesitate to provide loans due to limited visibility into operations and a highly paper-driven payment process
- As freight forwarders and shipping lines operate across jurisdictions with different systems, their data is often in silos, making it hard for lenders to access

Small Ticket Size

- Compared to the underlying goods, cargo service ticket sizes are much smaller, translating into smaller marginal returns for each loan
- Many lenders are hesitant to extend smaller loans as the returns are often not worth the costs of issuing / recuperating them

Lack of Collateral

- Cargo service providers (e.g. freight forwarders) are primarily service-based industries that often lack tangible assets that can used as collateral for loans
- Lenders tend to avoid taking on additional exposure to satisfy working capital needs for non-collateralised loans

High Costs of Processing

- Many players in the cargo services ecosystem are SMEs who may struggle to provide standardised documents
- Shipping operations are highly paper-based, which requires significant labour costs and processing time when the lender reviews the loan applications back and forth

High Volatility in Credit Risk

- Geopolitical tensions and fluctuations in global trade are impacting cargo service providers, exposing lenders to unwanted risks
- Seasonality and delays induce volatile cash flows in cargo service providers' balance sheets, further amplifying their credit risks

How can lenders optimise their risk assessment process to minimise credit risks and associated costs, while capturing opportunities in the sector?

Source: Quinlan & Associates analysis

SECTION 4

DATA-DRIVEN APPROACH TO THE RESCUE

SECTION 4.1

NON-TRADITIONAL-DATA-DRIVEN FINANCING

SUMMARY OF UNSERVED / UNDERSERVED DEMANDS

Key Takeaways

Hong Kong boasts a robust trade ecosystem, valued at USD 1.1 trillion in 2023. While the local trade finance market is well-established, existing processes, which rely heavily on paperwork and manual labour, can be further streamlined. Moreover, the rejection and delay of trade finance applications have created a credit gap to the tune of USD 7.8 billion.

Sitting behind Hong Kong's trade finance market is a sizeable cargo service ecosystem, valued at USD 1.4 billion. However, stakeholders encounter various challenges across the value chain, especially payment cycle mismatches, creating a USD 0.6 billion credit gap.

Unfortunately, current trade finance offerings focus predominantly on goods financing, leaving this area underserved.

We see considerable scope to optimise Hong Kong's trade finance market and address the current cargo service financing whitespace

Trade Finance Landscape
Hong Kong, Summary

28%... ...of the trade finance market is not addressed yet

Market Size: USD 28bn

Financing Gap: USD 7.8bn

Major Pain Points:

Frictions within the Loan Application Process
Borrowers encounter various challenges throughout the trade financing application process, with inefficiencies in lenders' back-end operations impacting the provision of credit

Significant Credit Gap from Rejections
Trade finance applicants, particularly SMEs, often face rejection or partial approval due to insufficient collateral, or lenders' limited data accessibility and risk modelling capabilities

Protracted Application Timeline
The trade finance application process is known for its extensive duration, typically lasting between 8 to 12 weeks, marked by frequent requests for documents and follow-up interviews.

OPTIMISE THE UNDERSERVED TRADE FINANCE SPACE

Cargo Service Financing Landscape
Hong Kong, Summary

43%... ...of the cargo service financing market is not addressed yet

Market Size: USD 1.4bn

Financing Gap: USD 0.6bn

Major Pain Points:

Necessity of Cargo Services
The cargo services ecosystem plays a crucial role in facilitating Hong Kong's trade industry, representing an estimated USD 1.4 billion market in 2023

Diverse Pain Points within the Ecosystem
Stakeholders face challenges at different stages of cargo shipping – most notably, payment cycle mismatches, with an estimated USD 0.6 billion credit gap

Noticeable Industry Whitespace
Traditional lenders face difficulties in financing cargo service participants; their current offerings focus on financing goods (vs. services), creating a clear whitespace that savvy lenders can fill

CAPTURE THE UNSERVED CARGO SERVICE FINANCING SPACE

Source: Quinlan & Associates analysis

CARGO SERVICE DATA-DRIVEN FINANCING

Key Takeaways

To address the untapped market of trade finance and unserved cargo service financing, we propose that lenders adopt a data-driven approach to trade finance.

Under this approach, lenders can develop a customised risk-scoring model to instantly select and pre-qualify borrowers. Moreover, the application and loan disbursement process can undergo a more comprehensive review, allowing for fund distribution within a rapid timeframe of 5 days. Additionally, lenders can utilise real-time data from customers' operations for ongoing risk monitoring and assessment.

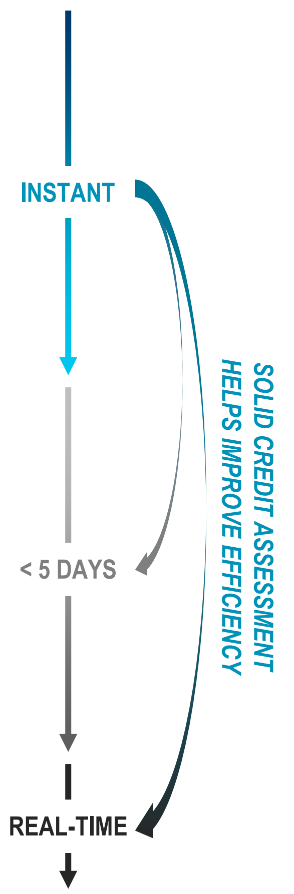
We see huge potential for lenders to better leverage risk modelling and data connections to pre-qualify loans and optimise the credit scoring of cargo service stakeholders

Non-Traditional Data-Driven Financing Value Chain

For Lenders

The data-driven approach optimises the process to <5 days, in contrast to the typical 60-90 days application process

Description	*Sample Pillars*	*Use of Alternative Data* – *Traditional*	*Use of Alternative Data* – *New*
Customer Identification & Risk Modelling Tailored risk models are built to analyse the potential customers within the alternative database, determine the standard for lending, and prioritise customer segments	• *AI-based Modelling* • *Machine Learning*	✗	✓
Data Aggregation & Credit Scoring Real-time and historical alternative data from various sources is gathered (e.g. from port database) and plugged into the risk models	• *Alternative Data Analytics* • *Scorecard Report Generation*	✗	✓
Loan Pre-qualification & Push Notification Scoring models automatically assess the data and pre-qualify the loan amount (up to a limit), subsequently notify the potential customers of the credit offerings	• *Predictive Analysis* • *Fraud Scoring Modelling*	✗	✓
Application Submission Customers review the lending terms (and pre-qualified loan amount) to decide whether they want to submit the loan application, and offer a full set of documents for final checks	• *eKYC* • *Optical Character Recognition*	-	-
Application Review and Approval Lenders conduct a more comprehensive review of the documents, schedule interviews to request any missing information, and approve the loan applications accordingly	• *Data Verification* • *Financial Analysis*	✓	✓
Loan Disbursement Having approved the loan application submitted by the borrower, the agreed upon ticket size amount is then disbursed to offer instant financing to the cargo services	• *Cybersecurity* • *Digital Payment*	-	-
Risk Monitoring and Review Customers' ongoing operations are monitored to adjust the credit scoring of borrowers, and lenders may modify the loan amount limit and lending terms accordingly	• *Alternative Data Analytics* • *Continuous Data Monitoring*	✓	✓



✓ Used ✗ Not Used - Not Applicable

Source: Quinlan & Associates analysis

DATA-DRIVEN APPROACH (1/2) – OVERVIEW

Key Takeaways

Lenders can leverage alternative data to gain a more accurate picture of cargo service stakeholders' financial situation. Aside from borrowers themselves, lenders can build more comprehensive credit pre-qualification models by accessing historical and real-time data from partnerships with ports, terminals, customs, as well as relevant global organisations.

This analysis encompasses predictive, behavioural, and financial assessments, utilising a diverse set of scorecard metrics such as capital structure, liquidity, profitability, and customer portfolio.

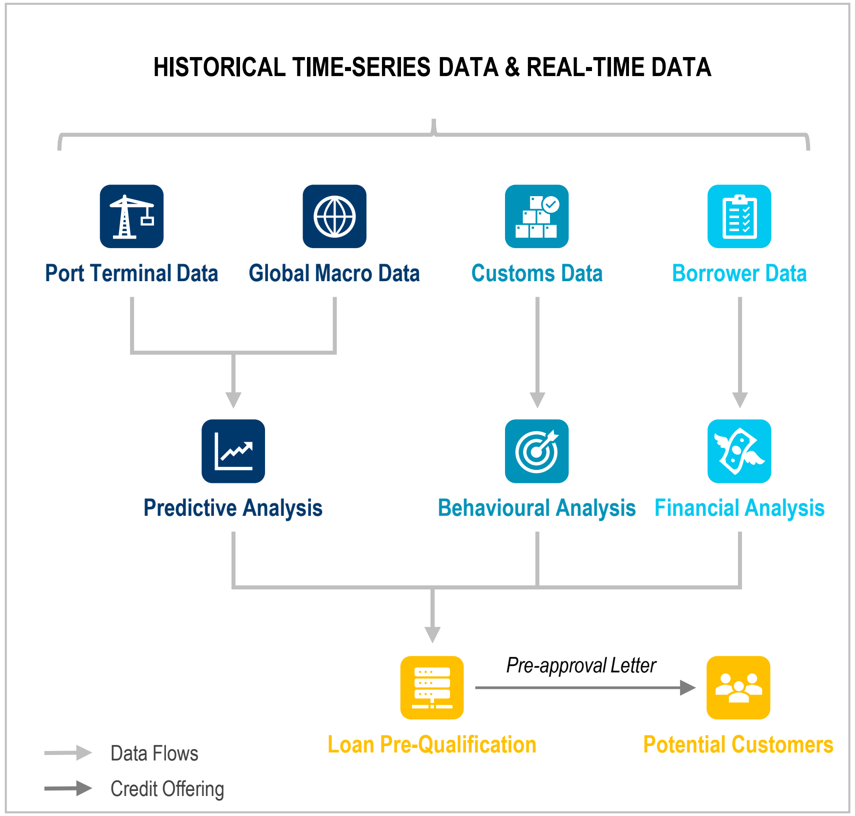
Upon consolidating alternative data from various sources, diverse analyses can be conducted to evaluate borrowers' creditworthiness to pre-qualify loans

Data-driven Approach
Overview

ALTERNATIVE DATA SOURCE | **PRE-LENDING QUALIFICATION**

#	ALTERNATIVE DATA SOURCES	EXAMPLES
1	**BORROWERS** Generated when contracts are signed and can indicate company performance	• Transaction History • Customer Details • Contract Management
2	**PORTS / TERMINALS / CUSTOMS** Generated when cargo / containers are being processed at the port / terminal	• Container Volume • Cargo Type • Shipping Schedule
3	**GLOBAL ORGANISATIONS** Generated globally and can indicate operational efficiency	• Satellite Tracking • Weather Patterns • Macroeconomics

Require internal data capabilities / partnerships to collect, process, and leverage alternative data efficiently



Source: Quinlan & Associates analysis

DATA-DRIVEN APPROACH (2/2) – IMPLEMENTATION

Key Takeaways

When lenders adopt a data-driven approach for loan approval, they have two major options: (1) in-house development and (2) third-party partnerships.

For in-house development, lenders are responsible for connecting with data sources (e.g. port terminals, customs) and consolidating the acquired data to assess the credibility of borrowers. Although this undertaking can be laborious, it gives lenders a higher level of customisability on data selection and the construction of risk models.

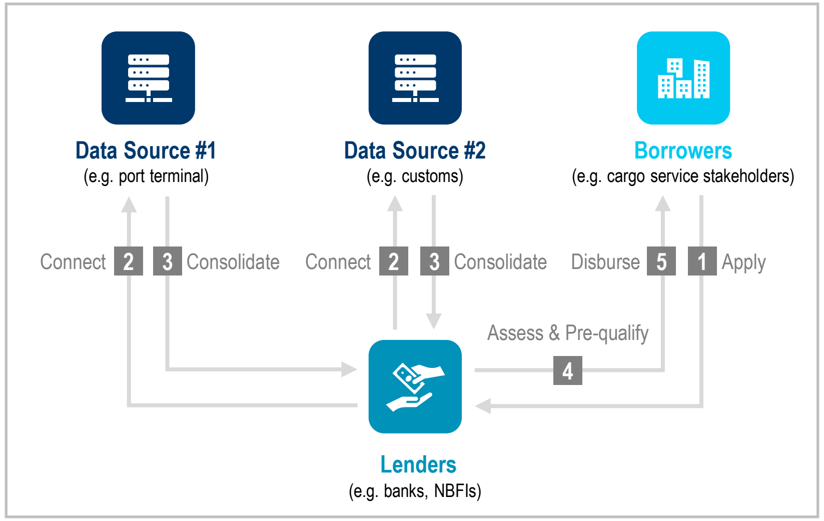
On the other hand, partnering with a third-party data provider can relieve lenders of the burden of establishing connections with data sources independently. Instead, the third-party data provider will gather and consolidate the information for the lenders. This enables lenders to benefit from an accelerated launch speed and enhanced efficiency, with the potential cost of ongoing subscription or commission fees paid to the partner.

While developing in-house data solutions allows for greater customisability, collaborating with relevant data providers enables lenders to build a more efficient lending process

Operational Model

In-house Development vs. Third-party Partnership

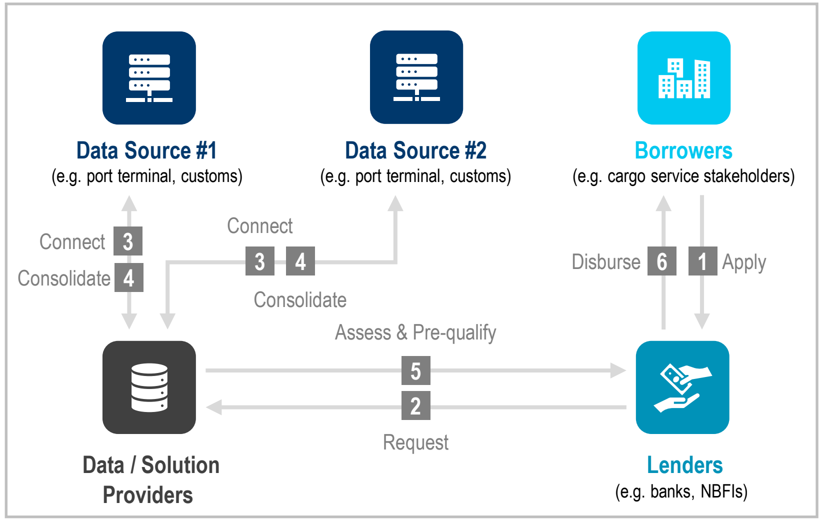
IN-HOUSE DEVELOPMENT



SUMMARY

While developing data solutions in-house offers lenders greater customisation, they must individually connect with data sources and consolidate diverse data sets, necessitating significant resources and upfront development costs

THIRD-PARTY PARTNERSHIP



SUMMARY

Partnering with a third-party data provider streamlines the process for lenders, who are relieved from establishing connections with data sources, resulting in faster launch speeds and increased efficiency, though it may incur ongoing subscription or commission fees

SHORTLIST THE MOST RELEVANT DATA / SOLUTION PROVIDER WITHIN THE TRADE WORLD

Source: eCOM Registry, Quinlan & Associates analysis

SECTION 4.2

CASE STUDY

CASE STUDY (1/5) – eCOM REGISTRY OVERVIEW

Key Takeaways

eCOM Registry aims to address two significant challenges within the trade finance ecosystem:

1. Tackling inefficiencies within the traditional trade finance process; and
2. Addressing the financing whitespace in the cargo service financing ecosystem.

To deliver on these goals, eCOM Registry offers three key solutions:

1. **KYC / KYB:** eCOM Registry provides financial institutions with risk analytics or reports for customer onboarding and account review, optimising efficiency;
2. **Pre-qualification:** eCOM Registry partners with Hong Kong Ocean Container Terminals – OnePort Ltd and offers credibility assessments and pre-approval services for loans for the community members of Hong Kong Ocean Container Terminal to financial institutions; and
3. **DataFin:** eCOM Registry directly provides data-driven financing from its own book, catering to importers/exporters, freight forwarders, and truckers.

eCOM Registry aims at solving two problems within the trade finance ecosystem by providing three types of data-driven solutions to four groups of stakeholders

eCOM Registry
Overview

eCOM Registry
DATA DRIVEN FINANCING

Established in Singapore in 2022, eCOM Registry is a technology and data provider for trade financing. With over 19,000 organisations within its network, eCOM Registry has documented well over 11 million transactions, which allows it to gain visibility over borrowers' financial health

Problems to be Solved
Summary

OPTIMISE
Trade Finance

Optimise the efficiency of trade finance to minimise frictions in the loan application processes and mitigate potentially addressable rejections

CAPTURE
Cargo Service Financing

Capture the untapped market opportunities in the cargo service ecosystem to address the credit gap and alleviate challenges in cash flow management

Solutions Overview
eCOM Registry

Solution	Description
1 KYC / KYB	eCOM Registry provides customer credit analytics / reports to financial institutions to support their onboarding of new customers, as well as annual account review and monitoring process of existing customers
2 Pre-Qualification	eCOM Registry partners with OnePort, conducts credit risk assessment on loan applicants, evaluates their credit scoring, and pre-approves loans for financial institutions to optimise the lending process
3 DataFin	eCOM Registry provides data-driven cargo service financing products (e.g. pay-on-delivery, pay-in-advance) directly to importers / exporters, freight forwarders, and truckers leveraging its own capital pool

Customer Group Coverage

✓ Importers
✓ Freight Forwarders
✓ Exporters
✓ Truckers

Source: eCOM Registry, Quinlan and Associates Analysis

CASE STUDY (2/5) – KYC / KYB SOLUTION

Key Takeaways

The traditional annual account review process can be burdensome for banks and borrowers, often involving extensive paperwork. To address this problem, eCOM Registry offers a streamlined solution for Bank X's account review process.

eCOM Registry simplifies the process by obtaining the trade and logistics data, as well as trade declaration data from the OnePort terminal, including information on shipments and logistics. This data is then used to generate a customer analytic report, which is subsequently sent to Bank X. This report not only provides information on the customer's credibility but also as a reference to offer them new products.

Bank X leverages eCOM Registry's KYC / KYB solution to optimise the traditional annual account review and monitoring process, which improves the efficiency

Case Study – KYC / KYB Solution

Bank X

Bank X

Bank X is one of the largest commercial banking groups in Hong Kong, and it internally deploys eCOM Registry's KYC solution across its management team, compliance team and risk team, leveraging OnePort's data to support the annual account review process and identify new business opportunities

Potential Use Cases within Bank X

KYC / KYB Solution

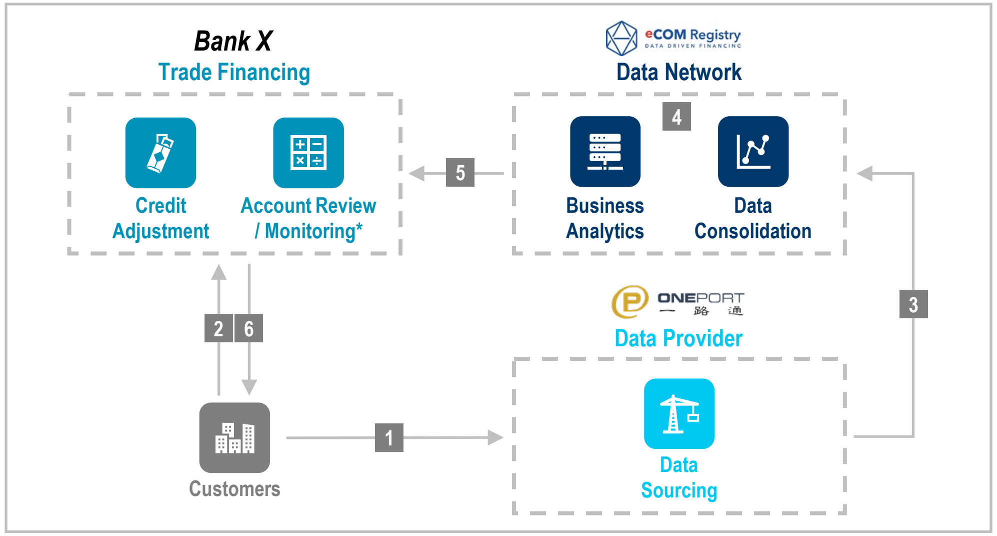
1 Account Review of New / Existing Customers
Simplify the account review and risk monitoring process for new / existing customers, eliminating manual and document-intensive procedures

2 Onboarding of New Customers
Streamline onboarding process for new customers, ensuring efficiency and speed without cumbersome document requirements

3 Offshore Trading Monitoring
Gain valuable insights to optimise the monitoring of customers' offshore trading transactions, increasing data visibility and improving risk management

KYC / KYB Solution for Account Review of Existing Customers

Mechanism



1	OnePort sources trade and logistics operational data from borrowers during their trade activities
2	Bank X obtains a data consent form from existing borrowers to authorise the use of data
3	eCOM Registry connects with OnePort for shipment and logistics data, and trade declaration
4	eCOM Registry consolidates the data and feed it into risk assessment models to produce a customer analytic report
5	The report will be sent to Bank X to support their annual account review* and to monitor their new / existing customers
6	Bank X adjusts the credit assessment or extends new offerings to the customers accordingly

*Helps to support regulatory compliance requirements (e.g. AML, sanction screening, fraud / suspicious transactions, etc.)
Source: eCOM Registry, Quinlan and Associates Analysis

CASE STUDY (3/5) – PRE-QUALIFICATION SOLUTION

Key Takeaways

Leveraging the data from OnePort, eCOM Registry offers loan pre-qualification services to Velotrade.

Together with eCOM Registry and OnePort, Velotrade established Ez-Fi, a platform utilising alternative data to provide collateral-free and pre-qualified loans to trade financing borrowers.

During the lending process, eCOM Registry utilises data collected from OnePort and an A.I. model to identify eligible customers and provides Velotrade with a selected list for product sales. Upon the customer's agreement, eCOM Registry generates a credit analytics report for final loan approval, and the funds are disbursed within 1-2 days upon the customer's request.

eCOM Registry also provides monthly customer analytics reports for continuous risk monitoring.

Leveraging data from OnePort, eCOM Registry partners with Velotrade to facilitate data-driven revolving loan / invoice financing with their pre-qualification solution

Case Study – Pre-qualification Solution

Velotrade

Established in Hong Kong in 2017, Velotrade is a trade finance lender for cargo service stakeholders. Together with eCOM Registry and OnePort, Velotrade established Ez-Fi, a platform utilising alternative data to provide collateral-free and pre-qualified loans to trade financing borrowers

Product Offerings Availability

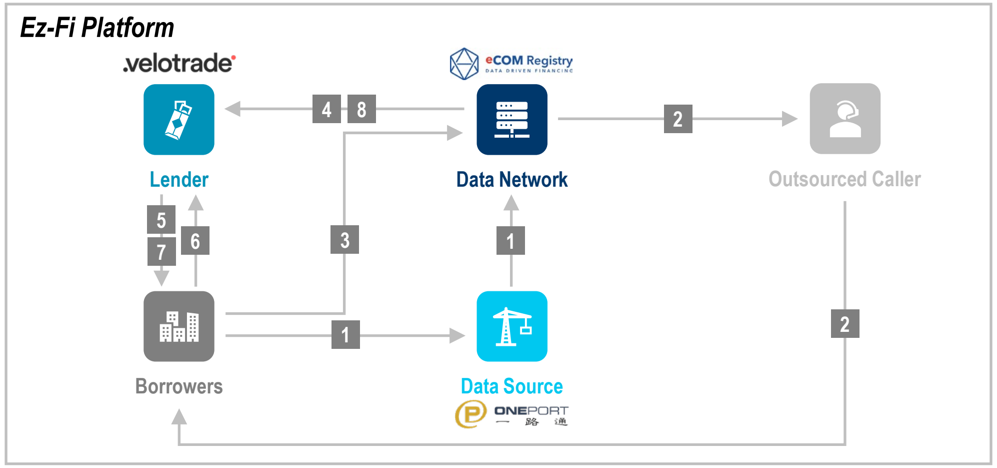
Pre-qualification Solution

Borrowers	Revolving Loan	Invoice Financing
Importers	✓	✓
Exporters	✓	✓
Freight Forwarders	✓	✓
Truckers	✓	×

✓ Applicable × Not Applicable

Pre-qualification Solution for Loan Processing and Approval

Mechanism



1	eCOM Registry utilises OnePort's trade and logistics data in an A.I. risk model to filter a list of target customers
2	eCOM Registry shares the list with Caller, who contacts customers for financing products with pre-approved amounts
3	If customers opt to apply, they register on Ez-Fi platform and sign the data consent form
4	eCOM Registry consolidates data, conducts risk assessment, and send credit analytics report to Velotrade
5	Velotrade provides credit pre-approval letter to customers to confirm their willingness to proceed the loan application
6	Customers agree to apply and might need to provide additional information for random checks against analytics reports
7	Velotrade approves and provides the final loan approval letter, and fund is disbursed in 1-2 days upon request
8	eCOM provides monthly customer analytics reports to Velotrade for ongoing risk monitoring purpose

Source: eCOM Registry, Quinlan & Associates analysis

CASE STUDY (4/5) – CO-LENDING SOLUTION

Key Takeaways

Leveraging the data from port terminals and customs, eCOM Registry also operates its own lending platform, disbursing funds to borrowers from its own book.

eCOM DataFin uses AI risk modelling to identify target customers and assess creditworthiness. Customers receive pre-approval offers, apply, and provide necessary details. Upon approval, funding is swiftly disbursed to the shipping line. Borrowers repay within 30 to 60 days, enjoying delayed payment options. Monthly analytics reports aid ongoing risk monitoring.

Pay-in-advance credit products target all four groups of stakeholders, while pay-on-delivery credit products target truckers only.

eCOM Registry also operates its own data-driven lending platform, disbursing funds to borrowers from its own lending book

Case Study – Co-lending Solution

eCOM DataFin
DATA DRIVEN LENDING
易數融

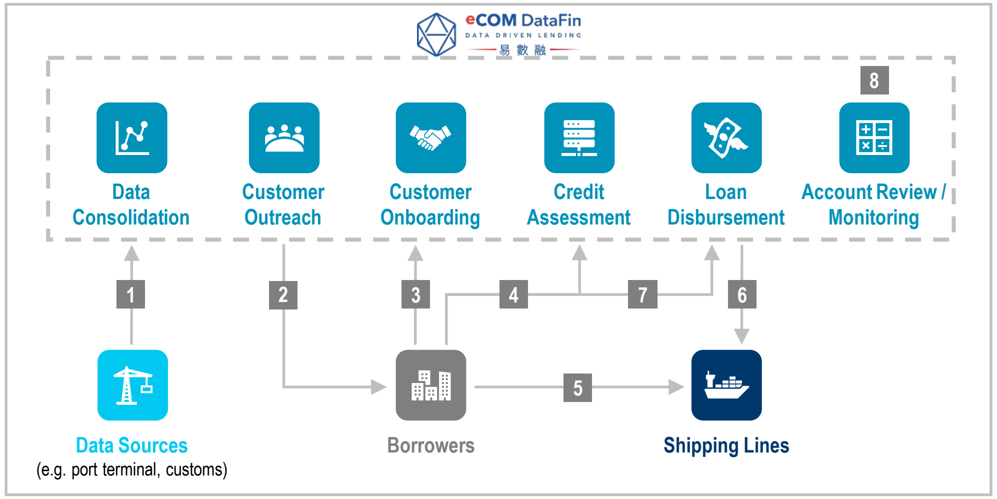
In addition to providing technology and data solutions to other lenders, eCOM Registry also operates its own data-driven co-lending platform, eCOM DataFin. Through this platform, it disburses funds to targeted borrowers from both its own lending book and those of its funding partners through pay-in-advance and pay-on-delivery products

Product Offerings Availability

Co-lending Solution

Borrowers	Pay-in-advance	Pay-on-delivery
Importers	✓	×
Exporters	✓	×
Freight Forwarders	✓	×
Truckers	✓	✓

✓ Applicable × Not Applicable



1. eCOM DataFin consolidates the data into an AI risk model to generate a list of target customers and credit reports
2. eCOM DataFin contacts the customers with pre-approval amounts to confirm their willingness to apply for the loan
3. If customers opt to apply, they register and sign the pre-approval letter, and might need to provide additional information
4. eCOM DataFin approves the application, and provides the final loan approval letter to the borrower
5. Borrowers submit cargo shipping documents to the shipping line to prepare for the cargo shipment
6. The approved funding is paid to the shipping line directly in 1-2 days upon the borrowers' request
7. Borrowers repay the loan amount and service charges to eCOM DataFin in 30 to 60 days, enjoying a delayed payment
8. eCOM DataFin generates and analyses monthly customer analytics reports for ongoing risk monitoring purpose

Source: eCOM Registry, Quinlan & Associates analysis

CASE STUDY (5/5) – SOLUTION BENEFITS

Key Takeaways

By targeting traditionally underserved segments, data-driven lenders can open themselves up to a sizeable universe of credit demand. And by basing credit scoring upon alternative data (instead of traditional data, e.g. financial reports), lenders can reduce operational frictions (via automated data collection) and further enhance their risk models.

Through access to financing, borrowers can alleviate various financial burdens, particularly cashflow mismatches. Moreover, obstacles associated with traditional lending channels, such as the need to prepare extensive documents, are substantially reduced, which also facilitates faster loan disbursements. In addition, a more robust data-enabled lending process provides lenders with a more holistic picture of their borrowers, allowing them to offer more personalised loan terms to alleviate specific pain points.

Both lenders and borrowers stand to reap a variety of tangible benefits from exploring data-driven opportunities in cargo-service financing

Benefits
eCOM Registry as a Solution

BENEFITS FOR LENDERS...

New Customer Base
Apart from trade finance, data-driven financing also targets cargo service financing that is not addressable by traditional methods due to data unavailability

Improved Operational Efficiency
Automated alternative data collection streamlines credit assessment and lending operations, replacing the analysis of paper-based documents

Enhanced Risk Model Accuracy
Insights from validation and ongoing monitoring of alternative data provide a more granular and time-sensitive view of borrowers' financial health

BENEFITS FOR BORROWERS...

Reduced Application Barrier
Loan application obstacles are substantially reduced without the need for traditional documentation and high collateral requirements

Expedited Loan Disbursement
Expedited back-end processing (e.g. pre-qualification) translates to faster loan disbursements, which better solves payment pains

Personalised Loan Terms
Data-enabled lenders are able to gain more visibility on borrowers' financial situation and can offer more personalised loan offerings

Source: eCOM Registry, Quinlan & Associates analysis

SECTION 5

HOW WE CAN HELP

eCOM Registry
DATA DRIVEN FINANCING

QUINLAN &ASSOCIATES

HOW WE CAN HELP

Key Takeaways

In collaboration with eCOM Registry, Quinlan & Associates stands ready to assist financial institutions in enhancing their current trade finance services and delving into new market opportunities:

1. BUSINESS STRATEGY

- Target Customers / Customer Acquisition
- Product / Service Offering
- Partnership Strategy
- Monetisation Strategy

2. COMMERCIAL OPERATIONS

- Quality Customer Onboarding
- KYC / KYB
- Loan Pre-qualification
- Co-lending Collaboration

Quinlan & Associates and eCOM Registry can facilitate financial institutions in optimising existing trade finance offerings and exploring new market opportunities

Areas of Deliberation

Business Strategy and Commercial Operations

BUSINESS STRATEGY

QUINLAN & ASSOCIATES

TARGET CUSTOMERS / CUSTOMER ACQUISITION

- Which segment(s) should you target, based on their financing demand, credit-worthiness, and other factors?
- How can you acquire your target customer base at a low cost, leveraging efficient lead generation processes?

PRODUCT / SERVICE OFFERING

- What core lending products / services, such as loan types and other value-add services, should you look to deliver to customers?
- How should you optimise customer lending experiences to increase stickiness?

PARTNERSHIP STRATEGY

- What potential platforms and partnerships should you leverage to develop new lending product offerings, optimise risk assessment models, and streamline existing back-end operational processes?

MONETISATION STRATEGY

- What is the overall business case for onboarding new technology / data solutions, including revenue and cost potential?
- What different organic and inorganic expansion options are available for you to enter new industries / markets?

COMMERCIAL OPERATIONS

eCOM Registry DATA DRIVEN FINANCING

QUALITY CUSTOMER ONBOARDING

- How can you acquire and onboard customers with creditworthy profiles and financing needs within the cargo service ecosystem?

KYC / KYB

- What is the best approach to automating the existing KYC / KYB process, leveraging alternative data and AI-driven models?

LOAN PRE-QUALIFICATION

- How can you enhance the accuracy of risk assessment and customise loan amounts before borrowers complete their application process?

CO-LENDING COLLABORATION

- Is there any market opportunity validated by a data-driven lending approach that financial institutions can explore?

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