CROSSING THE BORDER:
DRIVING INNOVATION FROM INEFICIENCY

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- Subscription-based
- Key topics:
  - Trends
  - Best practices
  - Vendor comparisons
  - Case studies
- Fixed price, fixed deliverable
- Market assessments, vendor or system selection, IT strategy
- Tapping our expertise, either face to face, or via email, phone
- Innovation workshops
- Emerging technologies
- IT portfolio alignment
- Business/IT roadmap
Today’s discussion

Drivers and Trends

Traditional Models

External Influences

Emerging Models

The Path Forward
What are the **drivers** and **trends** affecting the cross-border payments ecosystem?
Global trade drives the world economy

Value of 2015 imports – All products

Sources: ITC/TradeMap 2015, Oliver Wyman and Celent analysis
Demographic megatrends

Demographic megatrends that will almost certainly have a significant impact for virtually every large enterprise in every industry include:

• Aging of the population in North America and Europe.
• High rates of population growth in certain emerging markets, especially Africa.
• Massive migration from rural areas to cities across all emerging markets.
• Migration of workers from emerging markets to the advanced economies.
• The coming of age of the “digital natives.”
Payment types

C2C Examples
- Peer-to-peer
- Remittances
- Personal services payments

C2B Examples
- Bill payments
- Online purchases/e-commerce
- Payment at POS
- Charitable donations

B2C Examples
- Employee payroll
- Contractor payments
- Reimbursements
- Rebates & refunds

B2B Examples
- Supplier payments
- Capital purchases
- Intercompany lending
- Bank-to-bank

Source: Celent
B2B accounts for the majority of cross-border volume and revenue

Global cross-border payments flows, 2015 US$ billion

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<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>C2C</td>
<td>$405</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B2C</td>
<td></td>
<td>$765</td>
<td></td>
<td></td>
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<tr>
<td>C2B</td>
<td>$980</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>B2B</td>
<td>$135,815</td>
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Global cross-border revenues/margin as percentage of flows, 2015 US$ billion

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<tr>
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</thead>
<tbody>
<tr>
<td>C2C</td>
<td></td>
<td></td>
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<tr>
<td>B2C</td>
<td>6.2%</td>
<td>$20</td>
<td></td>
<td></td>
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<tr>
<td>C2B</td>
<td>1.5%</td>
<td>$15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B2B</td>
<td>0.2%</td>
<td>$240</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: McKinsey Global Payments Map, Celent analysis
Payments revenue mix varies by geographic region

Total 2015 payments revenue: $1.8 Trillion

Source: McKinsey Global Payments Map, Celent analysis
Cross-border payments are evolving at different speeds in different regions

Global cross-border payments growth, value, and total revenues (2015–2020)

Value (US$ billions)

Volume CAGR, 2015–2020

Source: BCG Global Payments 2016: The Interactive Edition
Borders still matter when it comes to making and receiving payments.

Are traditional cross-border payment services adequately positioned for today’s challenges?
Traditional cross border payment models

High value, low volume

- Real-time, gross settlement (RTGS) systems, typically central banks, transfer money from one bank to another immediately, with finality – traditional correspondent banking model

Low value, high volume

- Cross-border ACH
- Global card networks (credit and debit)
- FX brokers
- Money transfer operators
- Online wallet services
Traditional cross border payment process using correspondent banks

Source: Celent
Cross-border payments have several critical elements of uncertainty

Critical elements of uncertainty

• When will payment reach the beneficiary?
• What amount will be received after fees are deducted?
• What costs will the originator incur including fees and FX rate margins?
• How many intermediary banks will be involved?
• Will the beneficiary have enough information to easily record and reconcile to accounts receivable?
Potential expenses associated with B2B cross-border payments

International payment servicing cost breakdown

20.9 bps

- 2.0 Foreign Exchange
- 2.5 Currency Hedging
- 5.6 Treasury Operations
- 4.8 Liquidity
- 4.4 Payment Operations
- 1.6 Basel III (LCR)

Source: The Cost-Cutting Case for Banks-Ripple
Lack of disruption in the cross-border payments space

• Relatively high revenue margins persist due to a lack of external downward pressure

• Regulation and increased competition forced providers to reduce fees on domestic payments, resulting in operational cost improvements through front-end automation, process simplification, standardization and outsourcing, along development of new applications for existing payments products.

• With healthy margins, banks and providers have had little incentive for structural changes to cross-border payment models, back-end systems, and operational processes.

• As a result, operational cost per transaction for international payments continues to average well above $20

Source: Global Payments 2015: A Healthy Industry Confronts Disruption, McKinsey Global Payments Map
What are the **external influences** affecting the cross-border landscape?
External influences affecting the cross-border payments landscape

- Leveraging SEPA Standards / ISO20022
- New and proposed regional payment networks
- FX volatility
- Promise of blockchain
- Complex regulatory environment
- FinTechs: From competition to collaboration
FX volatility continues to be an unknown

Exchange rate changes: 1 year vs 1 month

Source: International Monetary Fund
The siren call of blockchain

US Federal Reserve → US Based Bank → Buyer

$ → $ → ¥ → ¥ → $ → $ → ¥ → ¥ → $ → $ → ¥ → ¥

US Based Bank → Supplier → Japanese Correspondent Bank → Bank of Japan

SWIFT Messaging Network

Process friction

FX Transaction Fee

Japanese Correspondent Bank → FX Market Maker

FX Market Maker → US Based Bank

Buyer → Supplier → Japanese Based Bank

Process optimization
Fintech firms face a dizzying array of regulatory bodies
Money services business (MSB) example

Source: Celent Analysis (Illustrative), 2017
Institutions must adjust their business models to adapt to a changed banking ecosystem.

Drastically changing external forces... ...exacerbate ongoing pressures and change the Ecosystem... ...necessitating changes in the business model.

- Technology
- Competition
- Regulatory
- Economic
- Customer

Changing Ecosystem

Pressure on revenue
Pressure on costs

New Business Model

- Channels
- Innovation
- Architecture

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Each Party Has a Role to Play in the Banking/FinTech Ecosystem

FinTech-Financial Institution
FinTechs may be eroding the bank’s business, but banks ultimately will outlast the majority of FinTechs. How do they work together to ensure both their futures?

Corporates feel banks IT is inflexible – but it also provides common experience and access to all their customers. Do corporates really want to rid themselves of banks or simply want better banks?

FinTech-Corporate
Corporates are drawn to the customer-centricity of FinTech – but are they buying on price and ignoring the risks?
How are emerging payment models creating innovation from inefficiency?
A dizzying array of non-bank segments and providers in the cross-border payment space

<table>
<thead>
<tr>
<th>Segment</th>
<th>P2P Remittances (C2C)</th>
<th>Cross-Border eCommerce (C2B)</th>
<th>Cross-Border Card Networks (C2B)</th>
<th>Cross-Border Payroll (B2C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Western Union WU</td>
<td>PayVision</td>
<td>MasterCard</td>
<td>CEREGO</td>
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<tr>
<td></td>
<td>Ria</td>
<td>Payeezy First Data Powered</td>
<td>VISA</td>
<td>transpay</td>
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<td></td>
<td>azimo</td>
<td>Amazon Payments</td>
<td>JCB</td>
<td>ADP</td>
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<td></td>
<td>Xoom</td>
<td>glocal payments</td>
<td>DISCOVER</td>
<td>tuxedo</td>
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<td></td>
<td>TransferWise</td>
<td>Authorize.Net</td>
<td>American Express</td>
<td>bluemarble</td>
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<td></td>
<td>MoneyGram</td>
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<td>HYPERWALLET</td>
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<td>worldremit</td>
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<td>uphold</td>
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</tbody>
</table>

Source: Celent Analysis (Non-Exhaustive), 2017
A dizzying array of non-bank segments and providers in the cross-border payment space, continued

<table>
<thead>
<tr>
<th>Segment</th>
<th>Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Chain Networks (B2B)</td>
<td>SAP Ariba, basware, TRADESHIFT, Octet, invapay, traxpay</td>
</tr>
<tr>
<td>Foreign Exchange Brokers (B2B)</td>
<td>INTL, FCStone, FXCM, Thomson Reuters, Travelex, OANDA, kantox</td>
</tr>
<tr>
<td>Cross-Border Payment Networks (B2B)</td>
<td>SWIFT, PAYCOMMERCE, earthport, ripple, VISA, Equiniti, INPAY, Ebury</td>
</tr>
</tbody>
</table>

Source: Celent Analysis (Non-Exhaustive), 2017
Alternative cross-border payment networks

• Several commercial entities in the Fintech space (including Earthport, TransPay, and PayCommerce) have established cross-border payment solutions targeting corporate payments (and in some cases, corporate collections).

• Although the business models and technology architectures differ from each other, these systems are heavily dependent on banks for cross-border payment processing and settlement.

• They aim to “remove the middleman” or intermediary inherent in correspondent banking, thereby lowering cost, expediting processing, and enhancing transparency.

• Some of these networks are piloting real-time payment capabilities, in some cases taking advantage of distributed ledgers.
SWIFT Global Payments Innovation Initiative

**SWIFT gpi initiative**

- Leverages SWIFT messaging infrastructure for enhancing B2B cross-border payments
- 70 participating banks representing more than 75% of cross border SWIFT payments traffic
- gpi Tracker demonstrated at Sibos 2016
- Corporates will be invited to participate in 2017

- Anticipated benefits:
  - Operational efficiencies
  - Liquidity optimization
  - Same day use of funds
  - Transparency and predictability of fees
  - End-to-end payments tracking
  - Transfer of rich payment information

- Potential for adoption of emerging technologies as a phase 2

Source: SWIFT, Celent analysis
# B2B Cross Border Payment Models

<table>
<thead>
<tr>
<th>Visa B2B Connect</th>
<th>Ripple</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Building Visa B2B Connect using Chain’s Core blockchain infrastructure</td>
<td>- Cross-border payment platform</td>
</tr>
<tr>
<td>- Private blockchain</td>
<td>- Private blockchain using proprietary digital currency (XRP) as a bridge currency</td>
</tr>
<tr>
<td>- Near real-time transactions</td>
<td>- Real-time transactions</td>
</tr>
<tr>
<td>- Targeting high-value payments</td>
<td>- Registered money service business</td>
</tr>
<tr>
<td>- Targeting low-value payments</td>
<td>- Targeting low-value payments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Earthport Payment Network</th>
<th>PayCommerce</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Cross-border payment network</td>
<td>- Cross-border payment network</td>
</tr>
<tr>
<td>- Connects to domestic ACHs</td>
<td>- Connects to correspondent banks</td>
</tr>
<tr>
<td>- Real-time transactions via Ripple</td>
<td>- Clients include banks and corporates</td>
</tr>
<tr>
<td>- Registered money service business</td>
<td>- Supports payments and acceptance</td>
</tr>
<tr>
<td>- Targeting low-value payments</td>
<td>- Real-time transactions via Federated Ledger</td>
</tr>
<tr>
<td></td>
<td>- Targeting low-value payments</td>
</tr>
</tbody>
</table>
### Corporate treasurers already using or considering non-bank providers

Q: Thinking of non-bank competition, do you use or would you consider using any of the following as potential reliable service providers or services?  
(Percentage of corporate practitioners)

<table>
<thead>
<tr>
<th>Service Provider</th>
<th>Currently Using</th>
<th>Considering within next 12 months</th>
<th>Considering for longer term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-bank FX providers</td>
<td>39%</td>
<td>22%</td>
<td>39%</td>
</tr>
<tr>
<td>Third-party onboarding service providers</td>
<td>35%</td>
<td>27%</td>
<td>41%</td>
</tr>
<tr>
<td>Alternative (non-bank) payment networks</td>
<td>26%</td>
<td>37%</td>
<td>37%</td>
</tr>
<tr>
<td>Non-bank supply chain finance</td>
<td>17%</td>
<td>33%</td>
<td>50%</td>
</tr>
<tr>
<td>Mobile wallet or similar providers</td>
<td>10%</td>
<td>60%</td>
<td>30%</td>
</tr>
<tr>
<td>Third-party KYC service providers</td>
<td>6%</td>
<td>24%</td>
<td>71%</td>
</tr>
<tr>
<td>Blockchain or decentralized consensus ledgers</td>
<td>6%</td>
<td>13%</td>
<td>81%</td>
</tr>
<tr>
<td>Cryptocurrencies</td>
<td>20%</td>
<td></td>
<td>80%</td>
</tr>
</tbody>
</table>

Source: GTNews 2016 Transaction Banking Survey Report of Survey Results
Innovation arising from inefficiency

Choosing a provider

- Geographic and currency reach
- Payment methods supported
- Pricing for anticipated volume and value
- Time for funds to clear
- Transparency of transactions
- Finality of transactions
- Remittance information
- Reporting and reconciliation
- Integration options
- Customer support
The Path Forward

• Customer expectations are changing. Investments in new cross-border payment solutions can strengthen relationships with a customer-centric approach.

• Diverse cross-border payment segments and models enable customers to adopt solutions that most closely meet their needs.

• In addition to improvements in speed, cost and efficiency, a primary benefit of diversity in the cross-border B2B payments space is provide businesses with greater control of their cash flow, their currency exposures and their international risks.

• Embrace the ISO 20022 global payment standard for payment initiation and, just as importantly, for receipt of remittance information.

• Embrace collaboration, not competition. Those firms – banks, corporates, and FinTechs – attuned to the needs of the others and willing to adapt will be best positioned to provide value and be fairly compensated for it.
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