

# Cash Converse

CMS Analytics' monthly webinar series to discuss the latest cash challenges and opportunities facing the banking market

# CMS Analytics

How we work with financial institutions...



 Forecast

 Reconcile

 Clarify

 Commercial



Cash Operations Audit



Armored transport rescheduling



Recycler optimization



Denomination optimization

# CMS Analytics

## Sectors



ATMs



Financial Institutions



Foreign Currency  
and Commodities



Retailers



Vaults/Cash Centres

## Where We Operate



## Clients



First Citizens Bank





# Workshop: Cash Cycle Orchestration: Aligning Banks & Suppliers

February 10 | Honor A, 1-3pm



# CASH IN THE USA

Register here!



September 28-30  
Kimpton EPIC Hotel  
Miami

[www.cashintheusa.com](http://www.cashintheusa.com)

# Cash Converse: The Cash Agenda 2026





Lee Williamson  
*Managing Director*



Luke Curry  
*Cash Cycle Manager*



Ryan Ellis  
*Business Development Manager*



# Agenda

- 1 Impact of cash policies
- 2 Market consolidation
- 3 Supply chain cooperation
- 4 Technological advancements



1

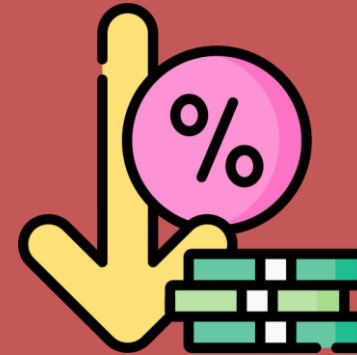
Impact of cash policies

# Policy announcements

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Stopping the  
production of the  
penny



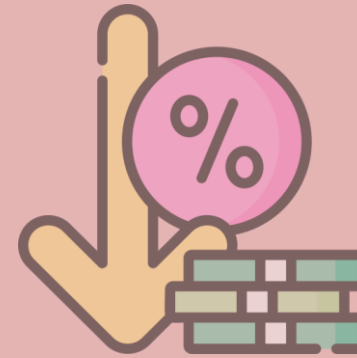
The lowering of  
interest rates

# Policy announcements

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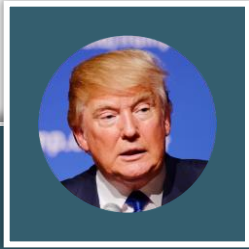


Stopping the  
production of the  
penny



The lowering of  
interest rates

# The end of the penny



February 2025:

"For far too long the United States has minted pennies which literally cost us more than 2 cents... this is so wasteful!"



June 2025:

"After more than two centuries in circulation, the penny is getting retired"

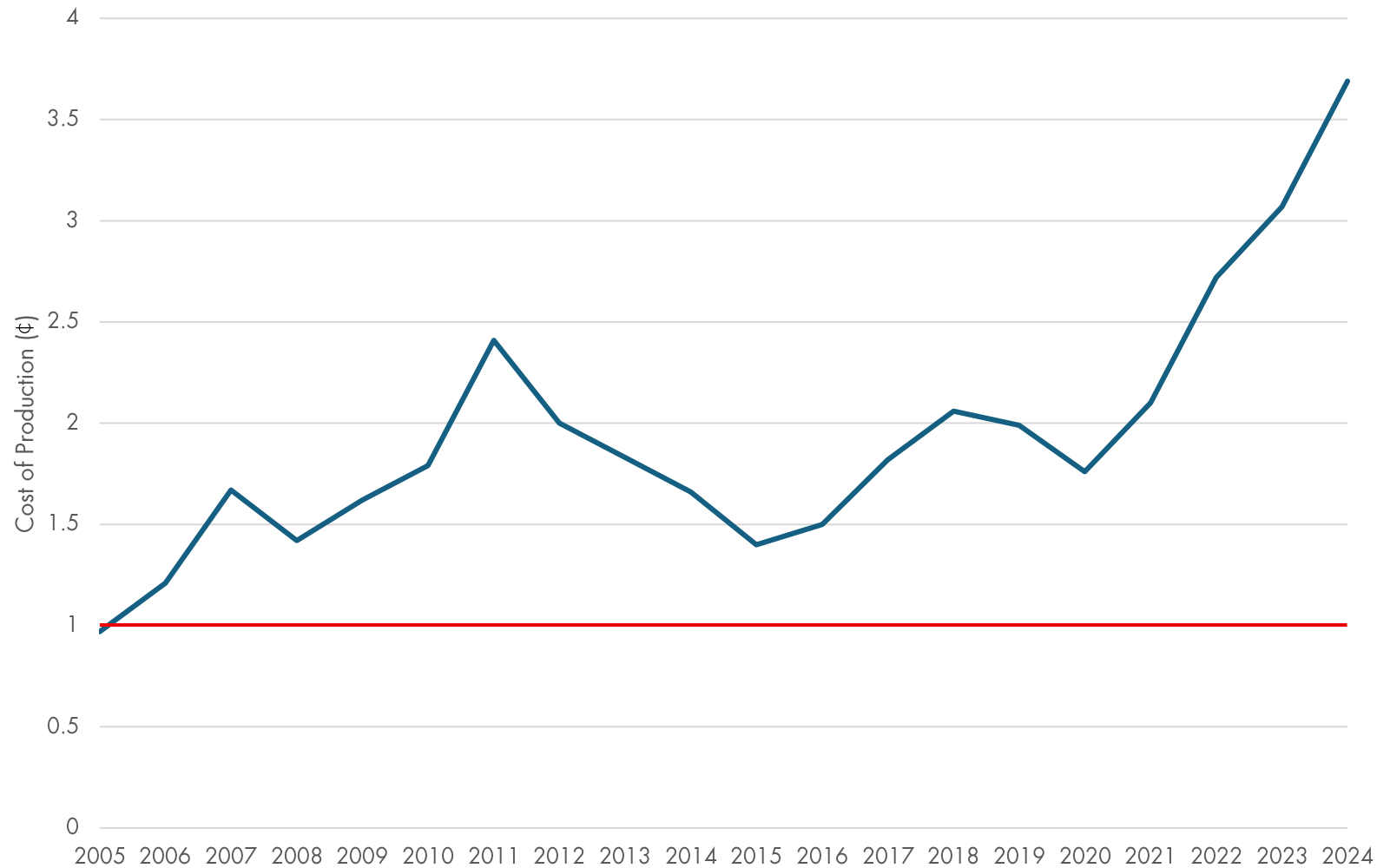


November 2025:

The U.S. Mint in Philadelphia produced the final penny to be circulated on November 12

# Why now?

Unit Cost Per Penny Year-on-Year



Customer Usage



Armored Transport Burden



Supply Chain Savings

# Systematic rounding

## Common Cents Act 2025

*"...require cash purchases to be rounded up or down to the nearest five cents."*



Passed the Financial Services  
Committee in late June, now  
awaiting a house vote

# Systematic rounding

## Common Cents Act 2025

*"...require cash purchases to be rounded up or down to the nearest five cents."*



Passed the Financial Services Committee in late June, now awaiting a house vote



## Consumer Protection Advisory



No consumer harm



Clear disclosure



No hidden price changes



Neutral rounding

# Common Cents Act

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## Detail

Mandated the acceptance of in-person cash transactions up to \$500

## Real World Example

*"...Walmart and Costco forced to maintain cash-capable self-checkouts"*

## Future Impact

Protects smaller businesses and cash heavy stores as they are protected from digital-only

# Common Cents Act

---

## Detail

Mandated the acceptance of in-person cash transactions up to \$500

Price Parity: Ensures merchants can't charge a higher price to customers paying cash

## Real World Example

*"...Walmart and Costco forced to maintain cash-capable self-checkouts"*

*"Banks are now advising merchants to always round down to stay compliant"*

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Protects smaller businesses and cash heavy stores as they are protected from digital-only

Comes into effect in March 2026, ensures the penny removal has minimal effect on consumers

# Common Cents Act

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## Detail

Mandated the acceptance of in-person cash transactions up to \$500

Price Parity: Ensures merchants can't charge a higher price to customers paying cash

Cashless locations must provide a "cash-to-card" kiosk on the premises

## Real World Example

*"...Walmart and Costco forced to maintain cash-capable self-checkouts"*

*"Banks are now advising merchants to always round down to stay compliant"*

*"Why stadiums are rushing to install fee-free kiosks to meet 2026 compliance standards"*

## Future Impact

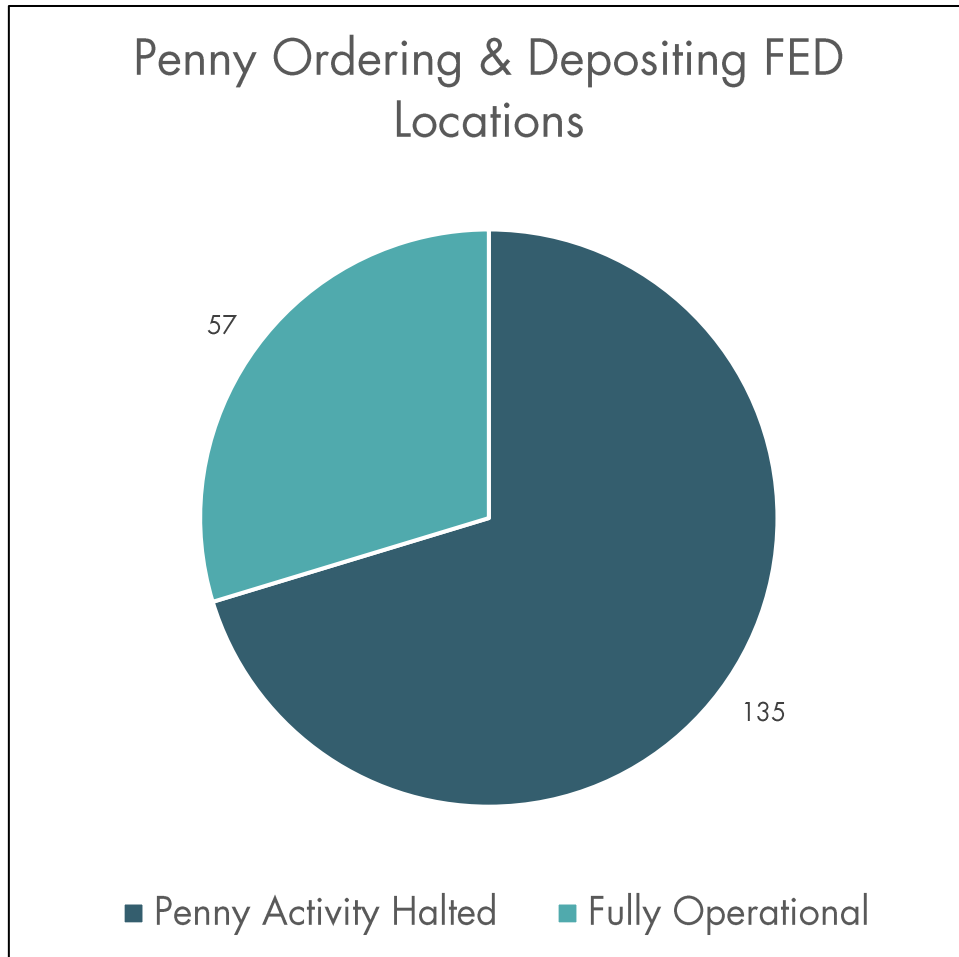
Protects smaller businesses and cash heavy stores as they are protected from digital-only

Comes into effect in March 2026, ensures the penny removal has minimal effect on consumers

Law stipulates machines must be fee-free and can't collect PII

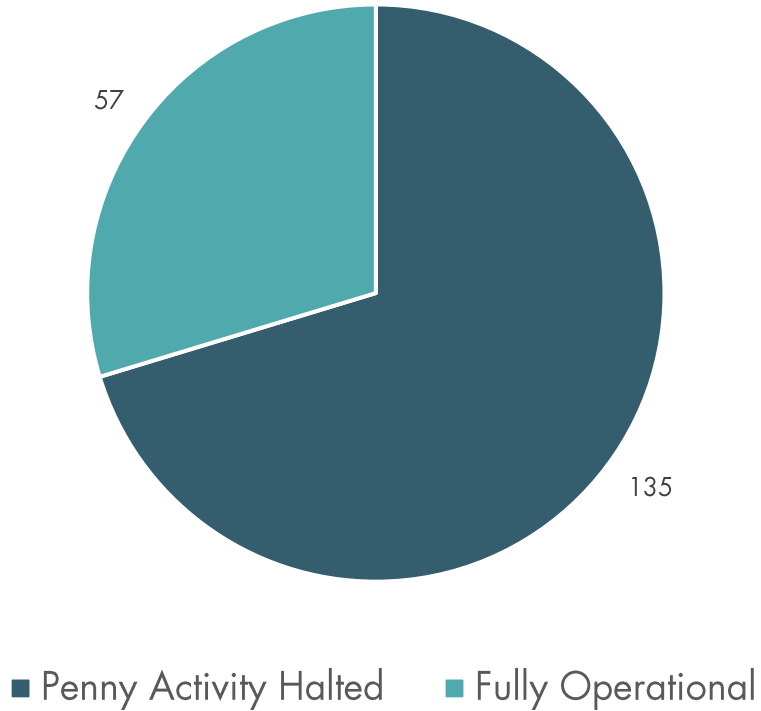
# Penny recirculation


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# Penny recirculation

Penny Ordering & Depositing FED Locations




 Burlington Free Press

As penny shortage ripples, the Fed said they are accepting penny deposits

2 days ago




 NACS

Federal Reserve Announces Actions to Support Penny Circulation

2 weeks ago



 America's Credit Unions

Fed will resume accepting pennies at commercial coin distribution centers

2 weeks ago



 American Bankers Association

ABA Applauds Fed Decision to Resume Accepting Penny Deposits

2 weeks ago

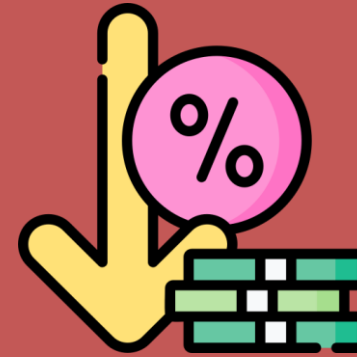
More news >

# Policy announcements

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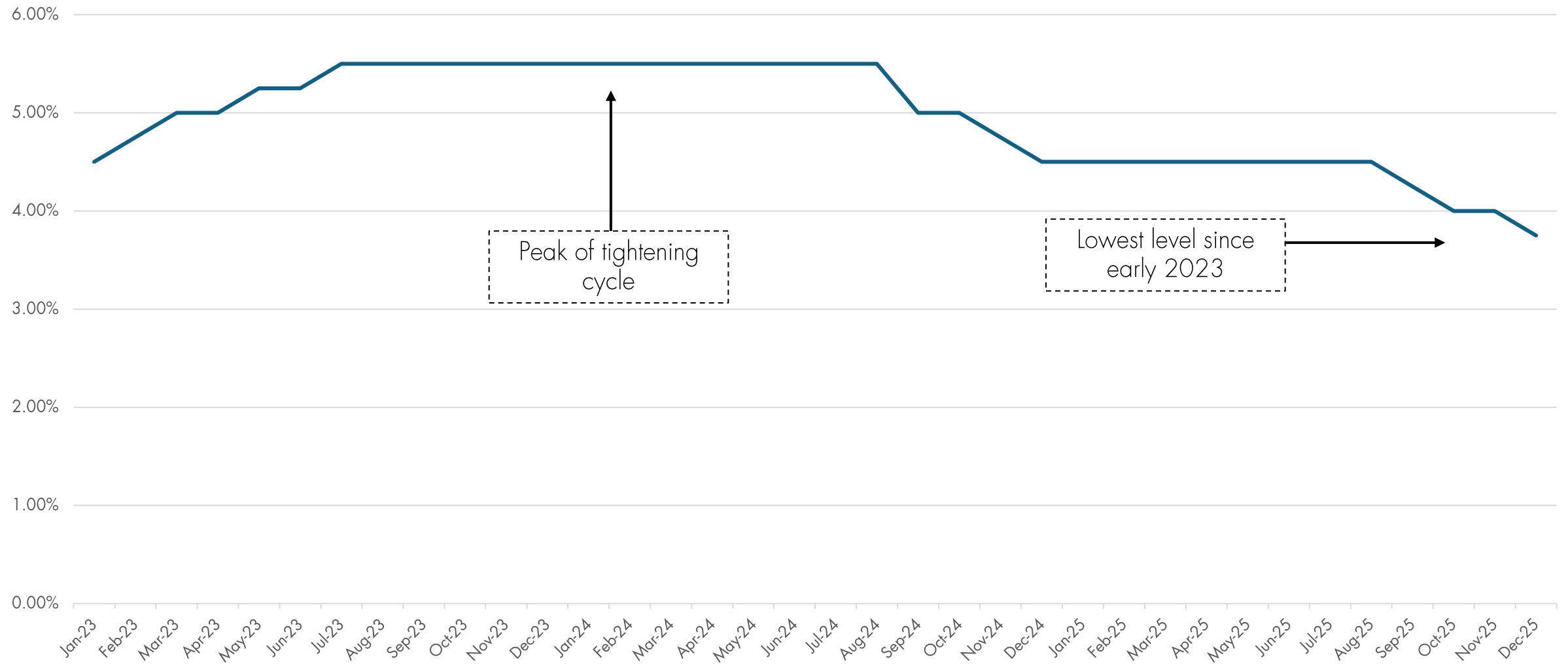
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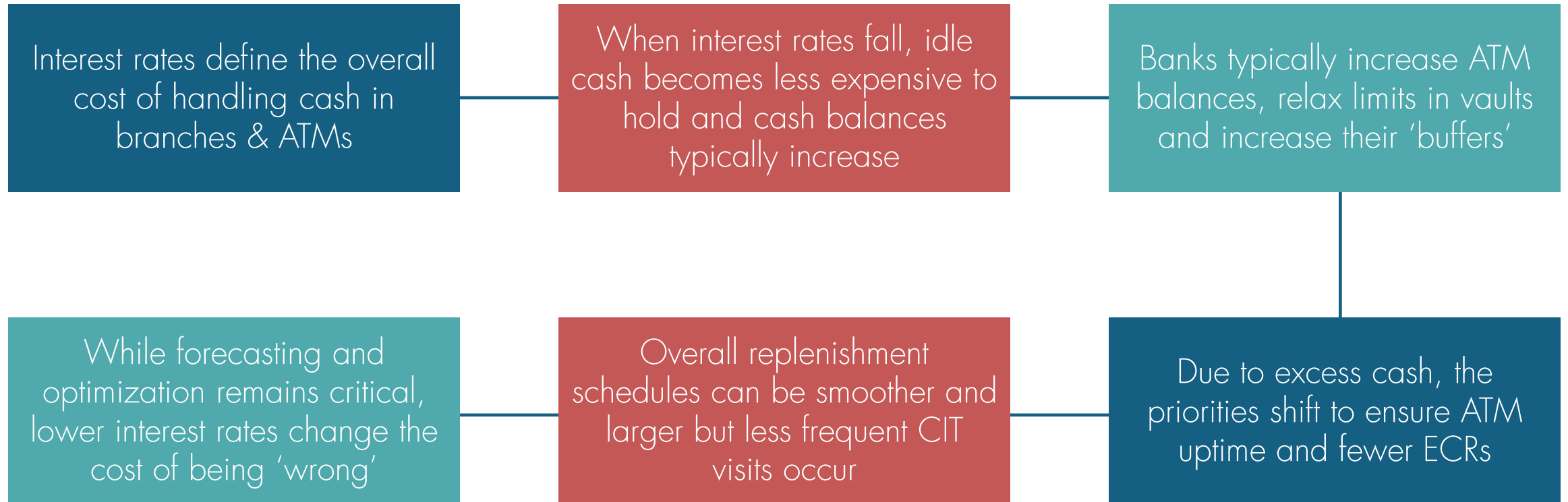
# Federal Funds Rate snapshot

United States Fed Fund Rate Since 2023



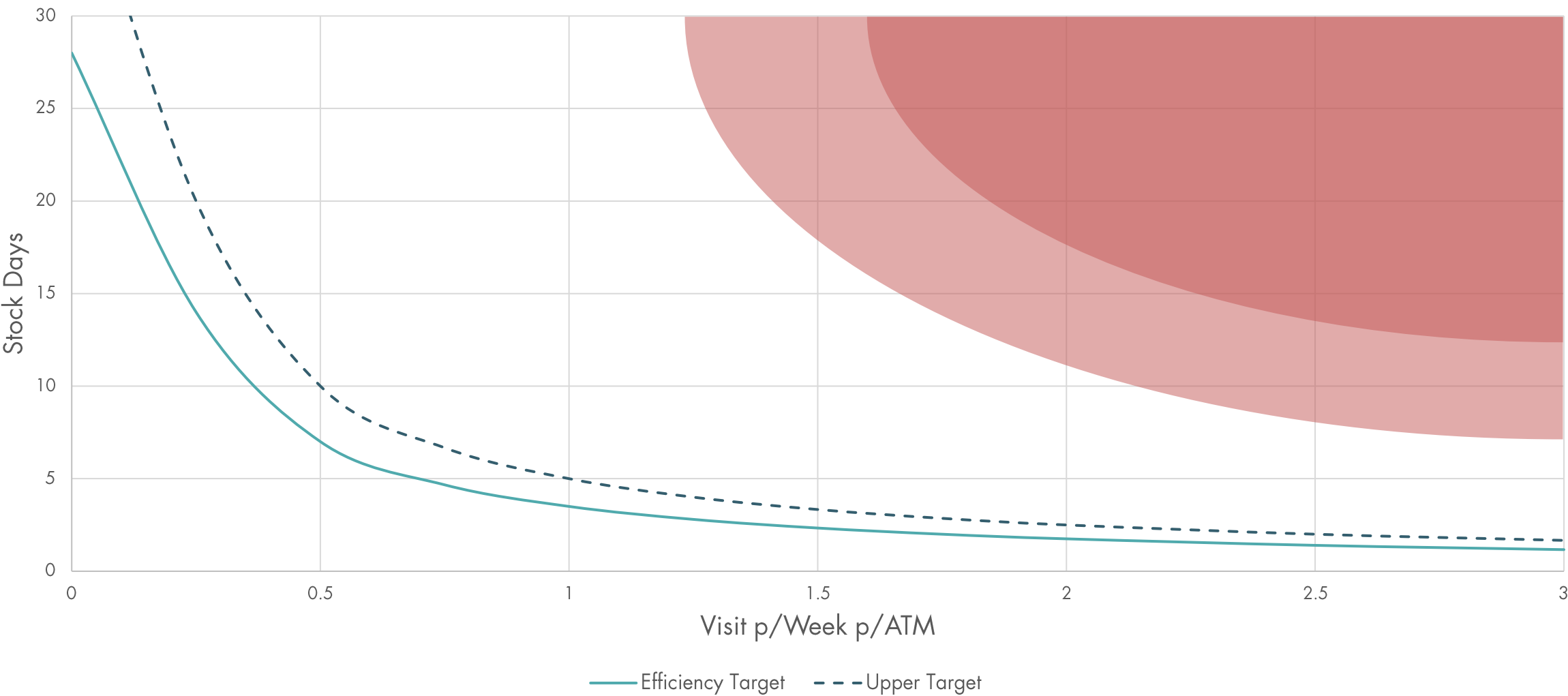
# Why does this matter?

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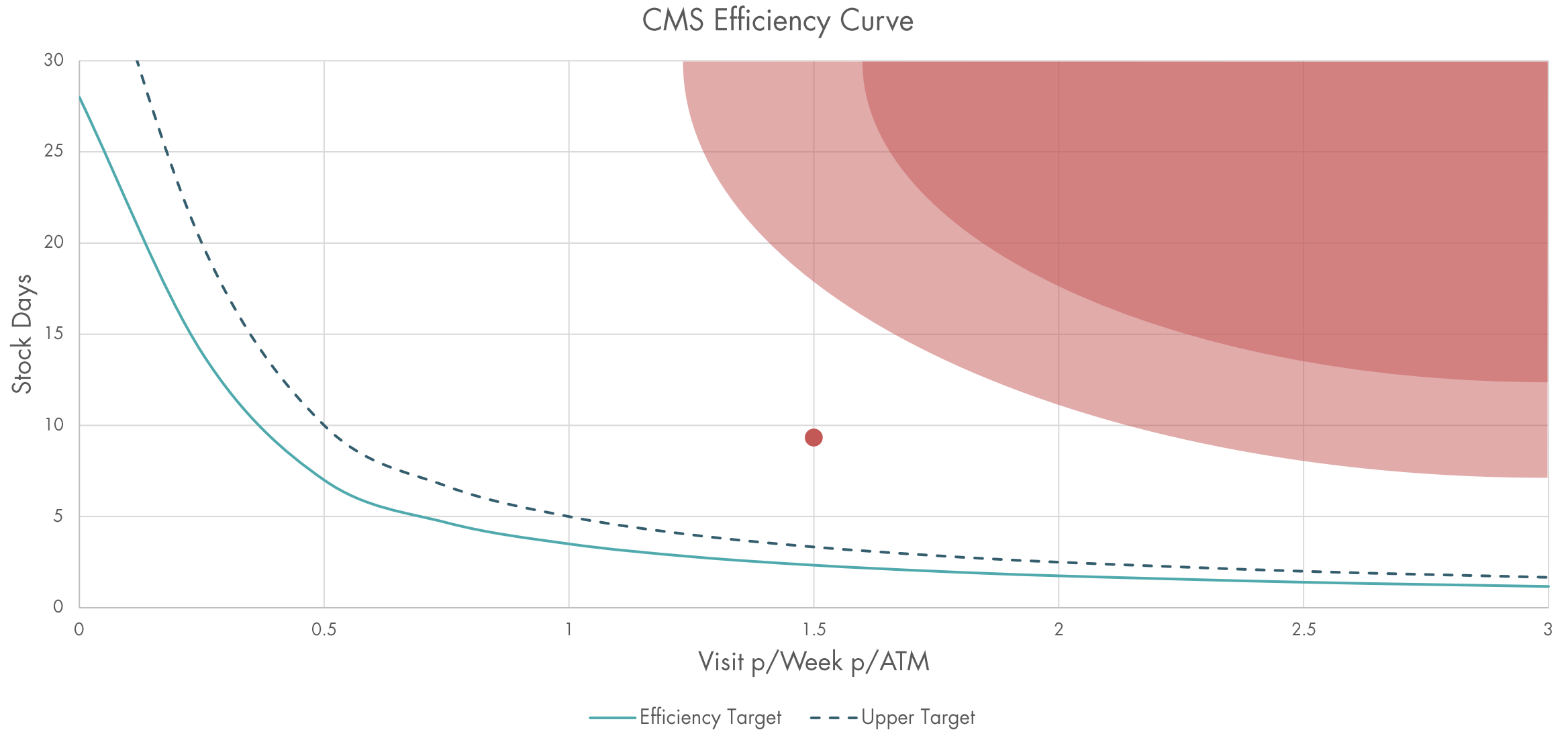


# Impact on cash operations

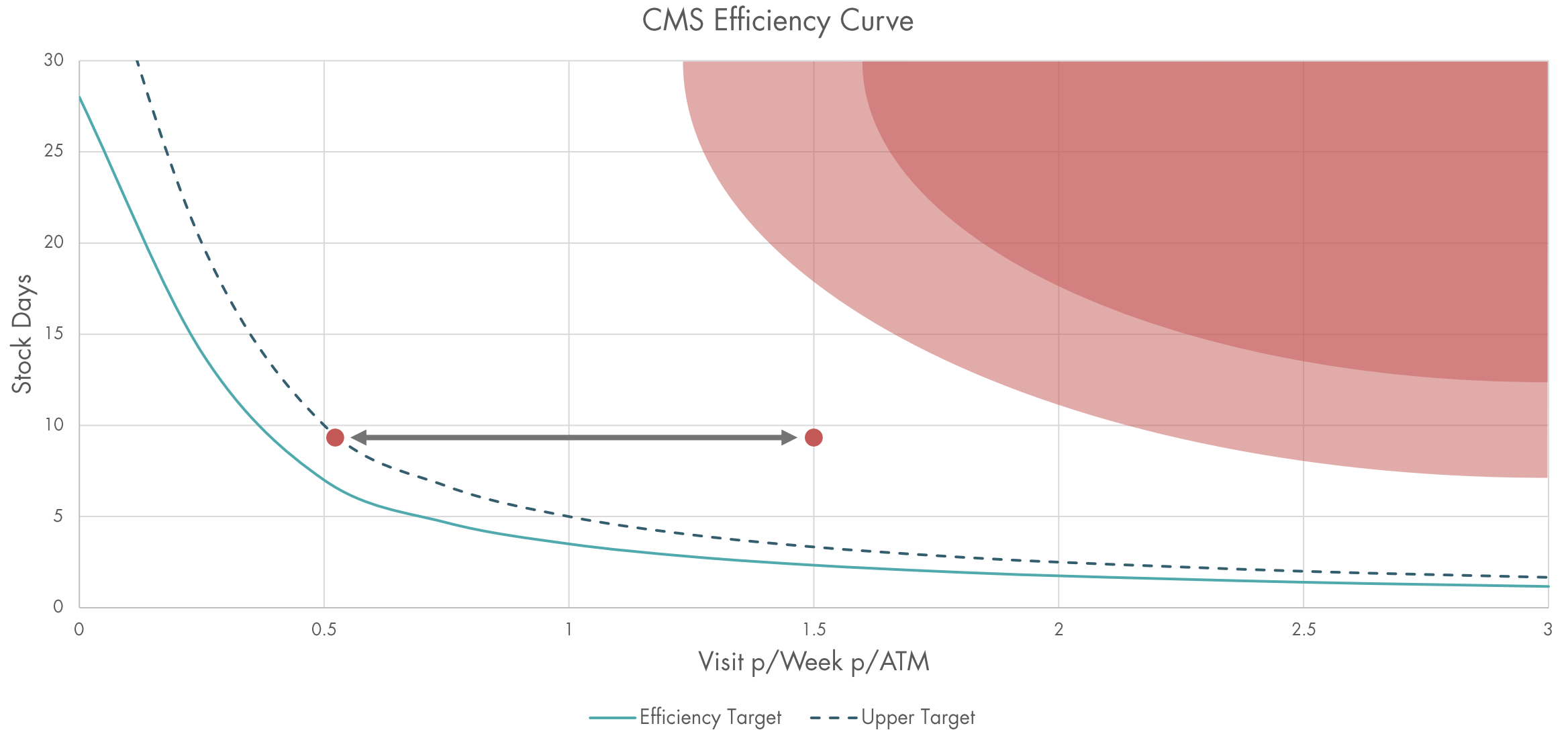
CMS Efficiency Curve



# Impact on cash operations

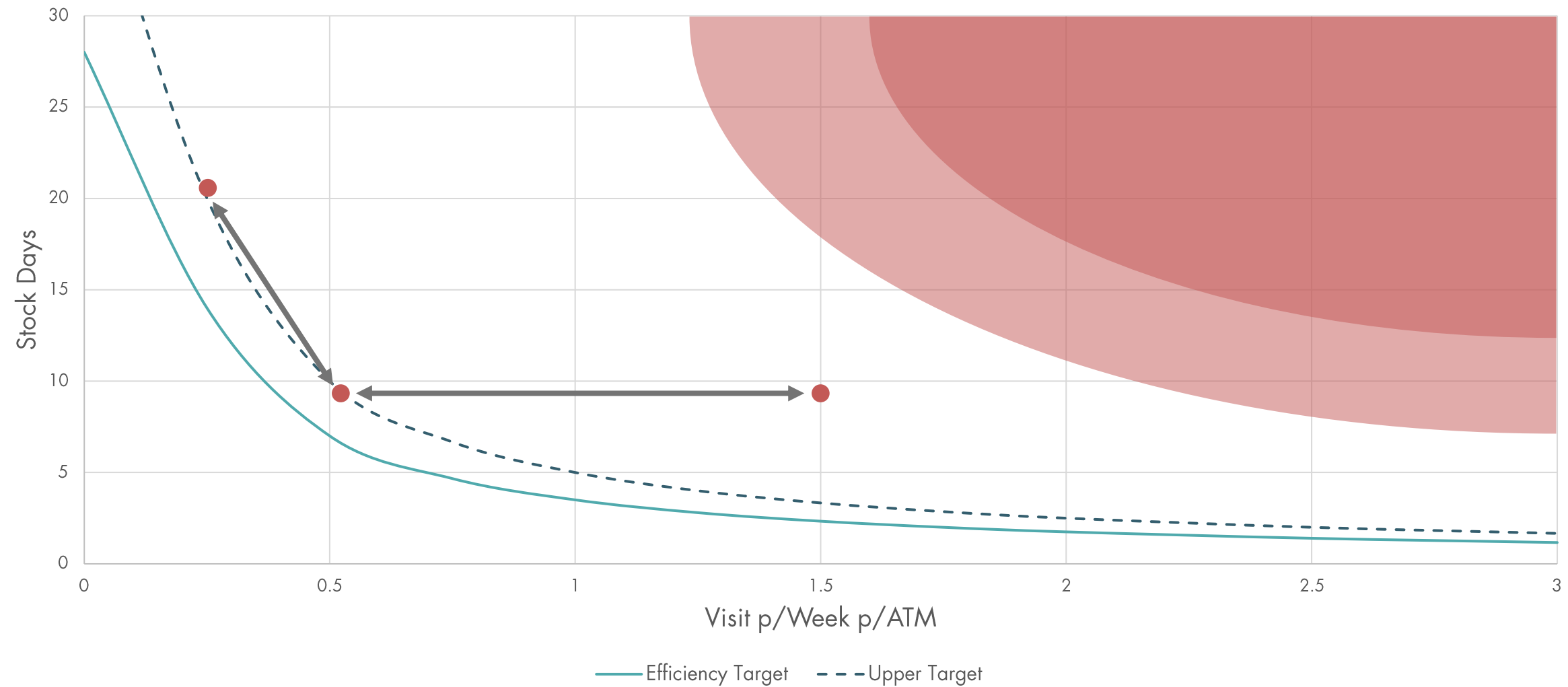


# Impact on cash operations



# Impact on cash operations

CMS Efficiency Curve



# Future projections

**Goldman  
Sachs** JPMORGAN  
CHASE & CO.

**BlackRock**

THE WALL STREET JOURNAL  
**WSJ**



Multiple organizations across the country are predicting that by the end of 2026, interest base rates will be cut up to **two** more times – ending the year in the region of **3%**



2

Consolidation in cash

# A historic year

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President Trump revoked the Biden administration's 'Executive Order on Promoting Competition', signalling a rollback of aggressive antitrust enforcement and a more deal-friendly regulatory climate.



Total value and asset size of mergers increased by over 50%



U.S. regulators approved mergers at the fastest rate in 35 years



Q4 2025 recorded \$25.1 billion in deal value



179+ total mergers in 2025, highest since 2021



Merged entities report 30% reduction in non-interest expenses

# Cash related M&A

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Banking merger



Banking strategic acquisition



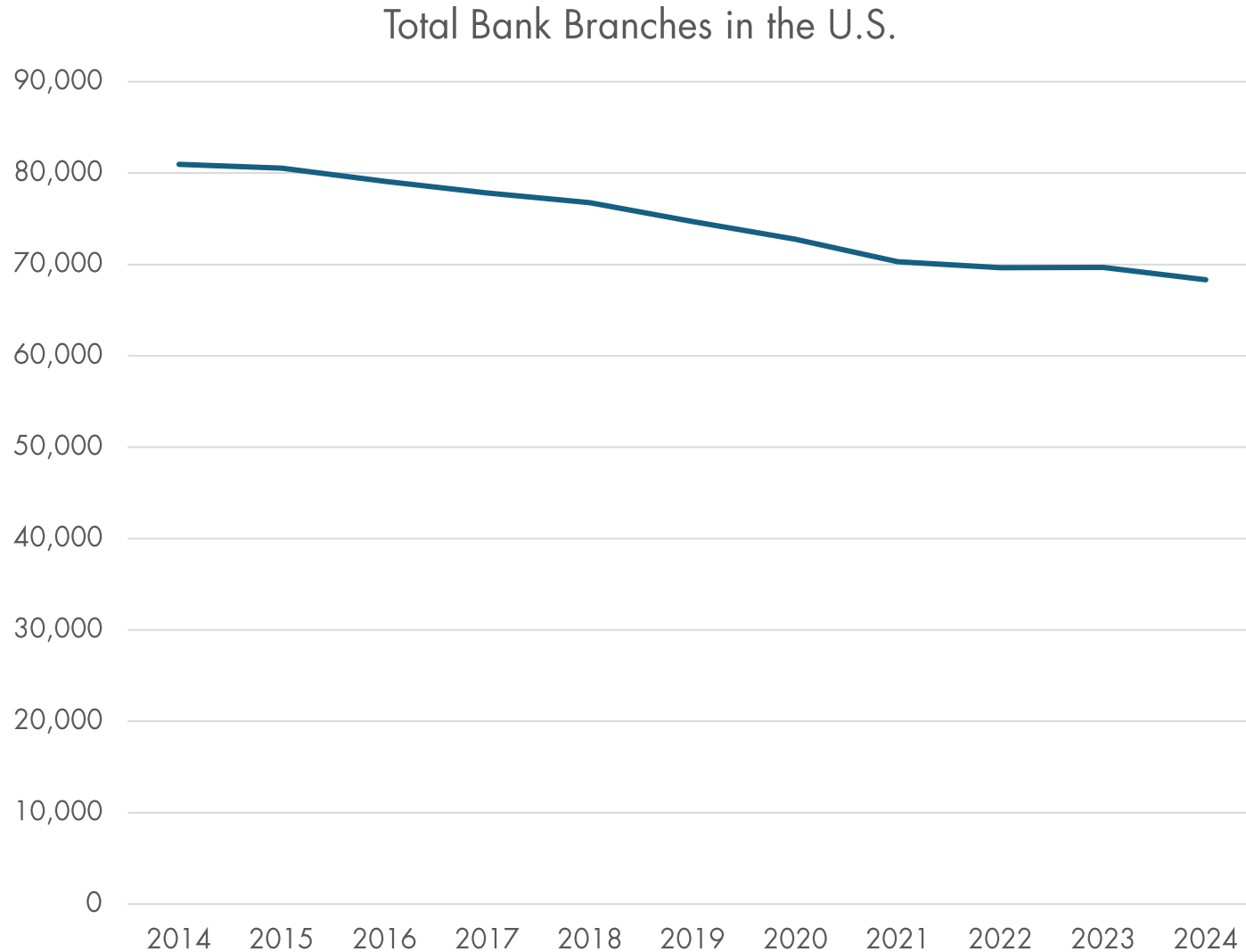
FIFTH THIRD



Vendor consolidation



# Banking footprint



Over 1,000 bank branches are set to close in 2026 as we see a continued digital adoption amongst consumers

# Long-term impact



Economies of scale

Greater efficiency

More collaborative supply  
chain



Increased dependency

More complex  
communication

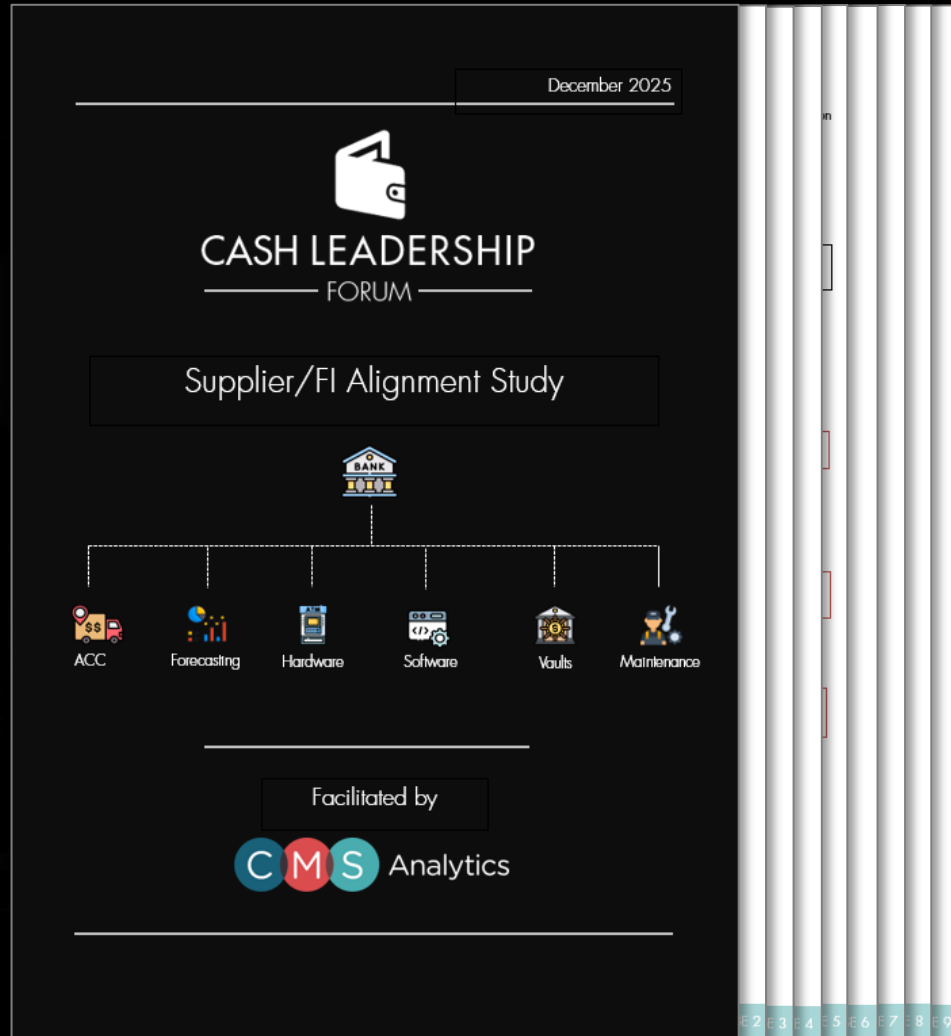
Scalability problems through  
legacy solutions



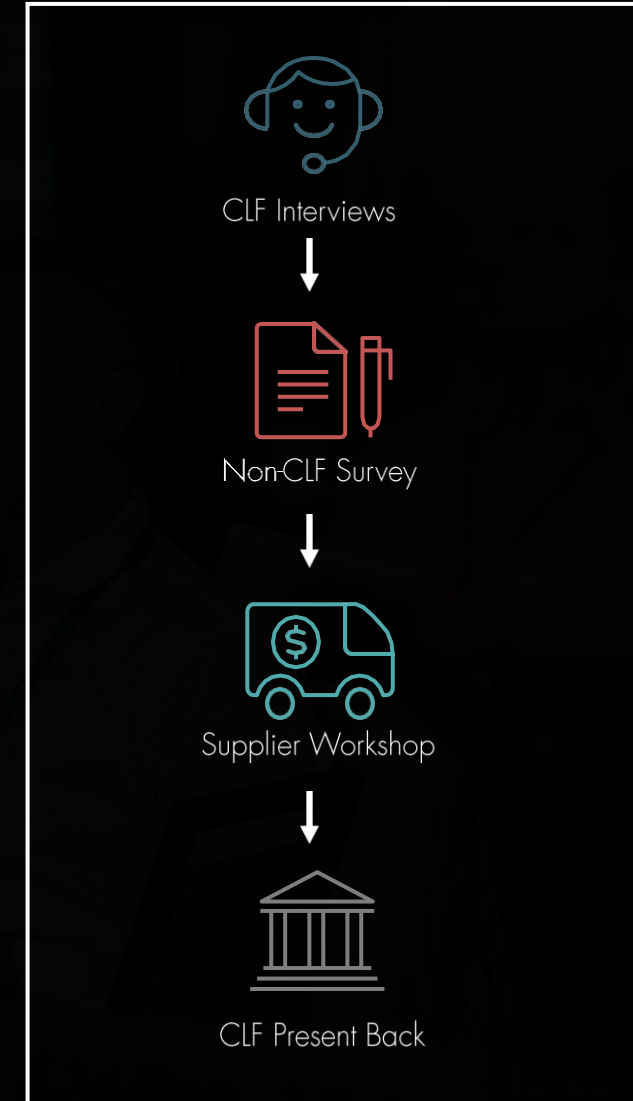
3

Supply chain cooperation

# In focus: Supplier/FI alignment study



Phase 1 complete



# Future initiatives

Financial  
Institutions



Suppliers

Financial Institutions and their suppliers unanimously voted JIT the most transformative initiative

The supply chain is aligned on what matters, so how do we deliver it?

# Why JIT is Hard



## Language and incentive

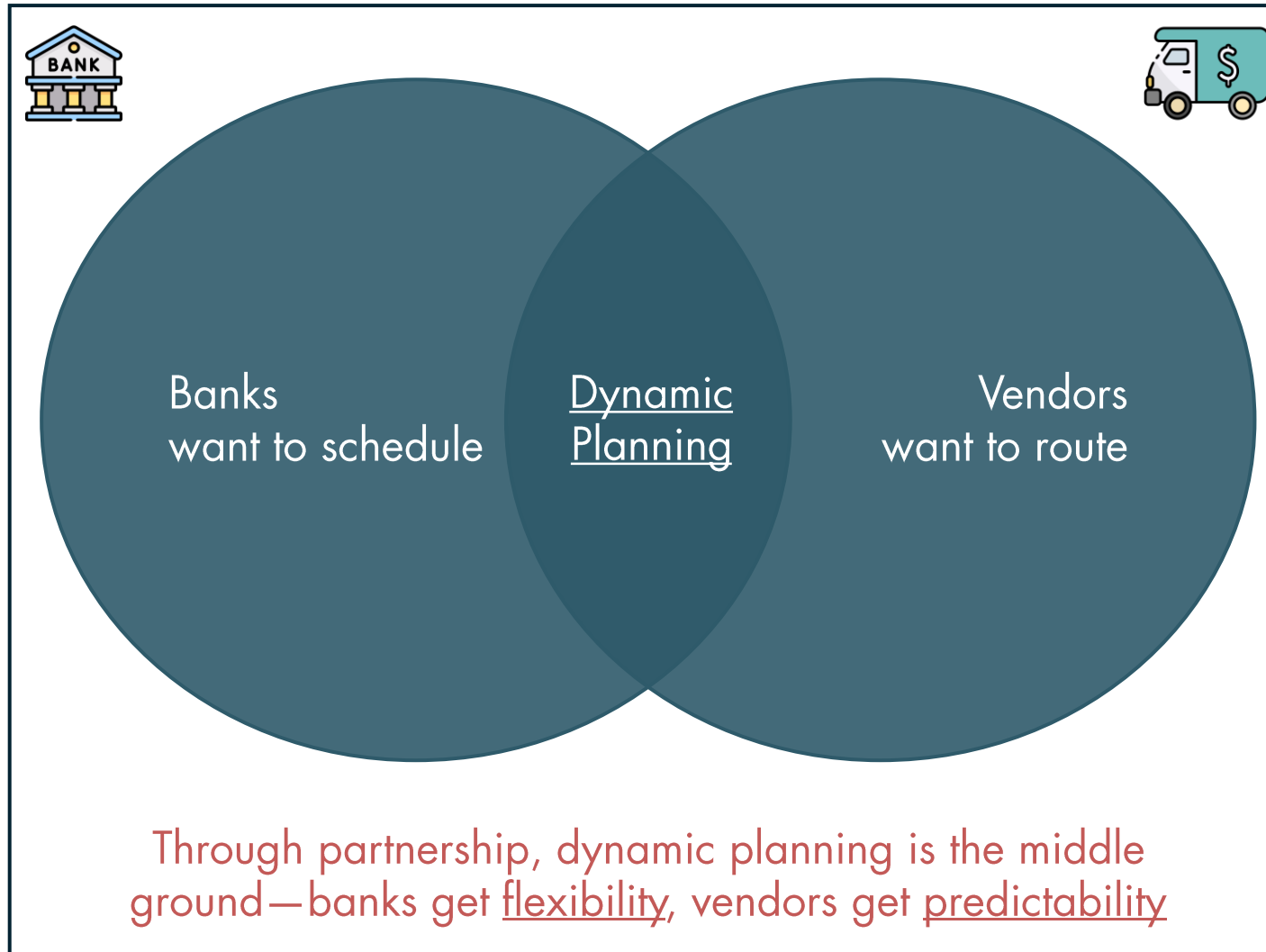
- No shared definition
- No standard KPIs
- Incentives vary across stakeholders



## Operational capabilities

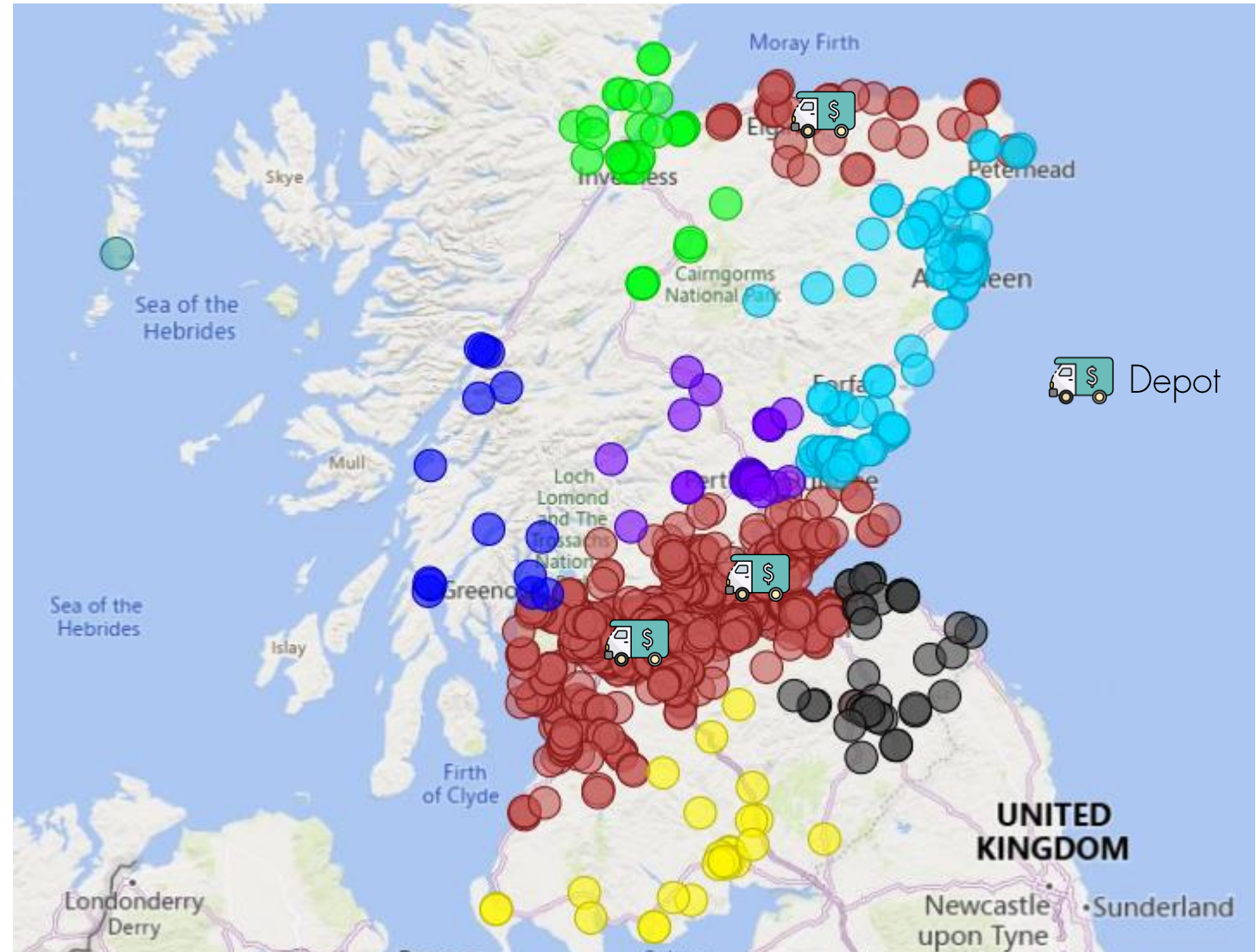
- Forecasting models ill-equipped
- Difficult to account for capacity nuances; service windows, cut-off times, crew limits, security protocols

# Dynamic Planning



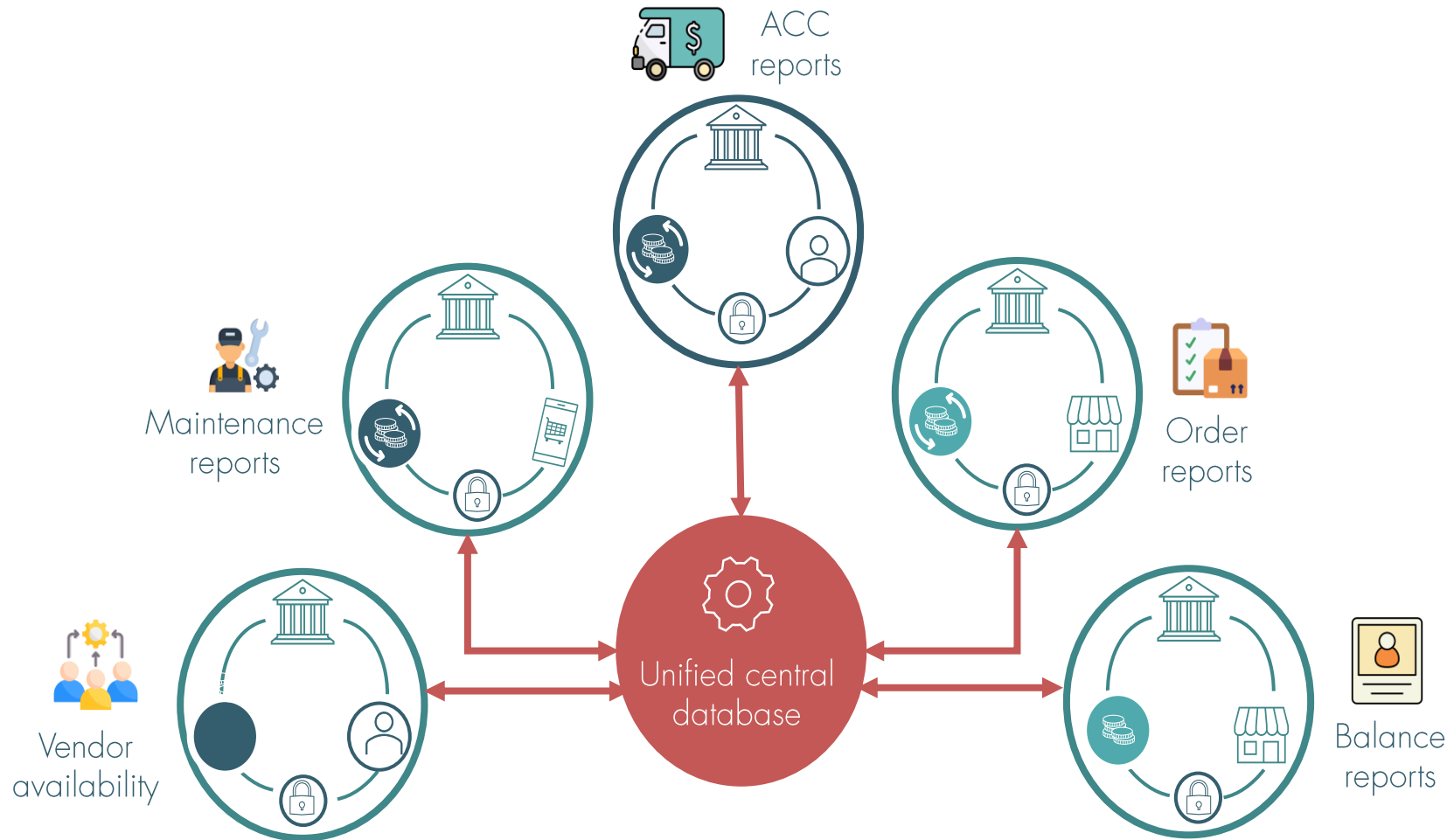
# What is Dynamic Planning?

- Dynamic Planning replenishes ATMs based on location and number of withdrawals as opposed to the more standard fixed replenishment schedules
- This enables more flexibility in the Estate
  - Higher utilization/lower residuals
  - Lower cash balance
  - Optimal number of replenishments
  - Ability to react to changing situations (i.e. COVID)
- Every site is categorised as either a "Cluster" or "JIT" (Just in Time) site based on location from Depot
  - JIT sites can be filled any working day
  - Cluster sites can be filled on set days
  - Routes are maximised to ensure optimal loading



# How we do it: Digital Twin

## Digital Twin



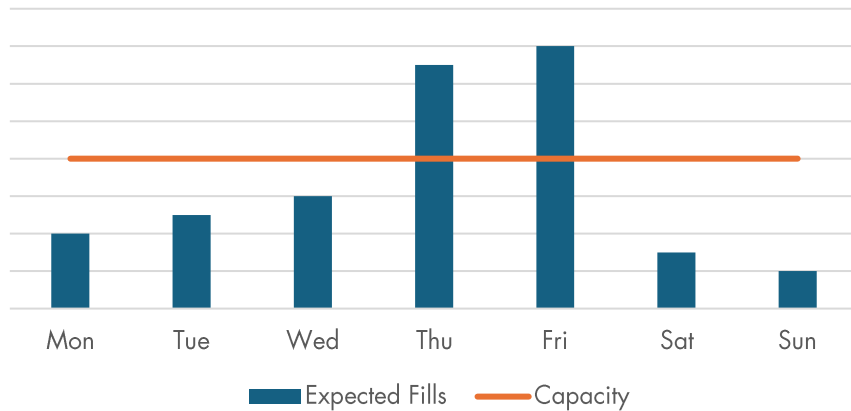
We collect and integrate various data sources to build a Digital Twin of the network.

Then, we simulate to test how specific site segmentations and schedules would perform.

Through continuous iterations, the optimal clusters are identified based on availability, cost and risk.

# Case Study: UK Example

Pure JIT - Weekly Workload Clusters



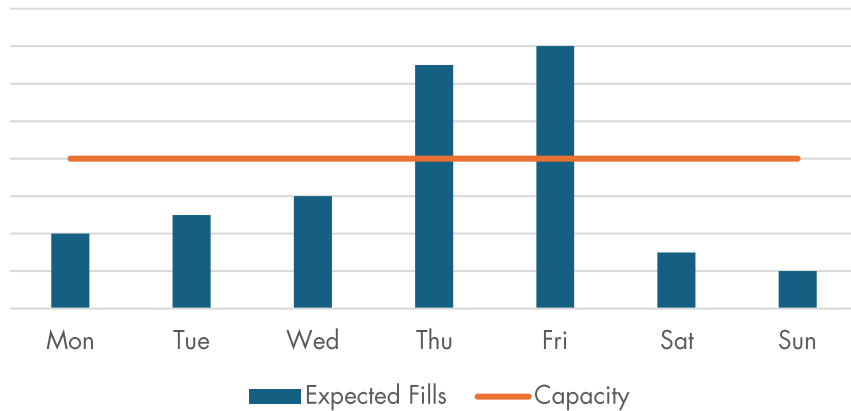
The operator was convinced that pure JIT was the right answer.

However, because demand profiles were heavily skewed towards the weekend, the JIT model pushed the majority of the workload to Thursdays and Fridays.

- Overstuffed late-week routes, missed services and emergency runs
- Vault overtime and next-day knock-on delays
- Outages and customer complaints
- Finger-pointing supply chain

# Case Study: UK Example

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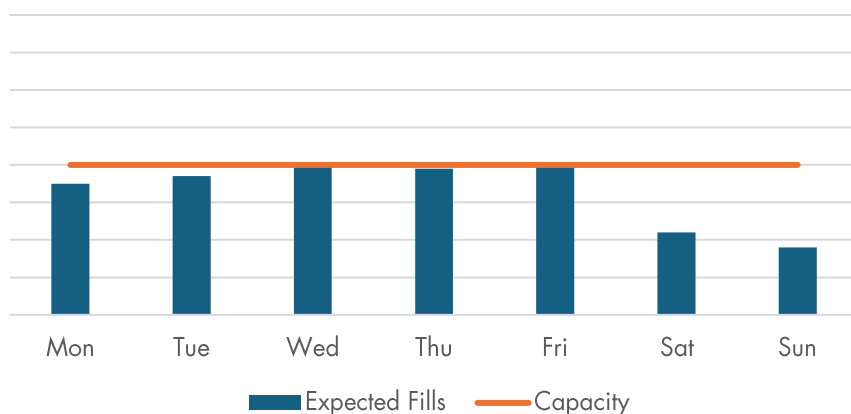


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Dynamic Planning - Smoothed Workload



CMS introduced Dynamic Planning to address this.

With the vendors, we agreed to review the network and classify each site.

Service patterns were redesigned, in line with realistic weekly capacity and we distributed workload evenly throughout the week.

- Healthier bank-vendor working rhythm
- Emergency runs down 35-60%
- Cash outs down 40-55%
- Idle cash down 25-40%
- Missed replens down 50-70%



4

Technological advancements

*Poll - Which statement best describes your situation?*

- 1. Already rolled out recycling ATMs*
- 2. Plans to roll out in the next few years*
- 3. No plan to roll out in the near future*



# Recycler technology – The answer?

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"Over the next five years, some 60,000 recycling ATMs will be deployed in North America"



Given the price of hardware, recyclers seem the inevitable next step in ATM operations

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"Over the next five years, some 60,000 recycling ATMs will be deployed in North America"



Given the price of hardware, recyclers seem the inevitable next step in ATM operations



Deploying recycler technology can open a can of worms for institutions



Without powerful data driven solutions, it only slows the problem



Ultimately, they just buy you time to 'get it right'

# Recycler rollout: Case study

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Busy downtown location

Schedule: Mon/Wed/Fri

Daily Dispense: \$66,450

Daily Deposit: \$58,420

# Recycler rollout: Case study



Busy downtown location

Schedule: Mon/Wed/Fri

Daily Dispense: \$66,450

Daily Deposit: \$58,420

1

Certain denominations are cashing out while others bloat

2

Increased complaints and longer queues

3

Armored transport services are disrupted

4

Adds more pressure on the nearby branch

# Recycler rollout: Case study

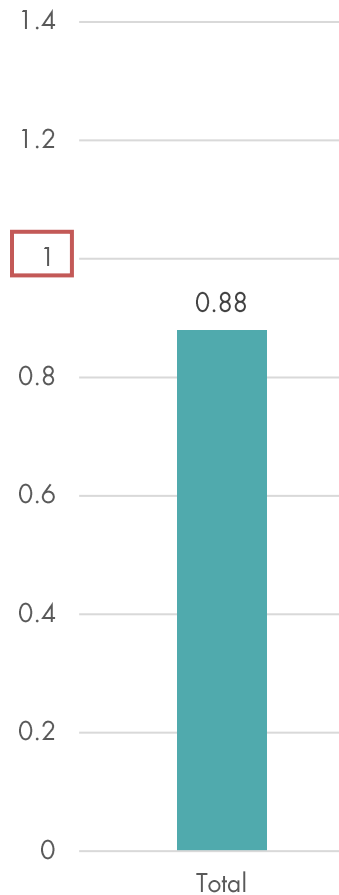


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Cash Usage Ratio

# Recycler rollout: Case study

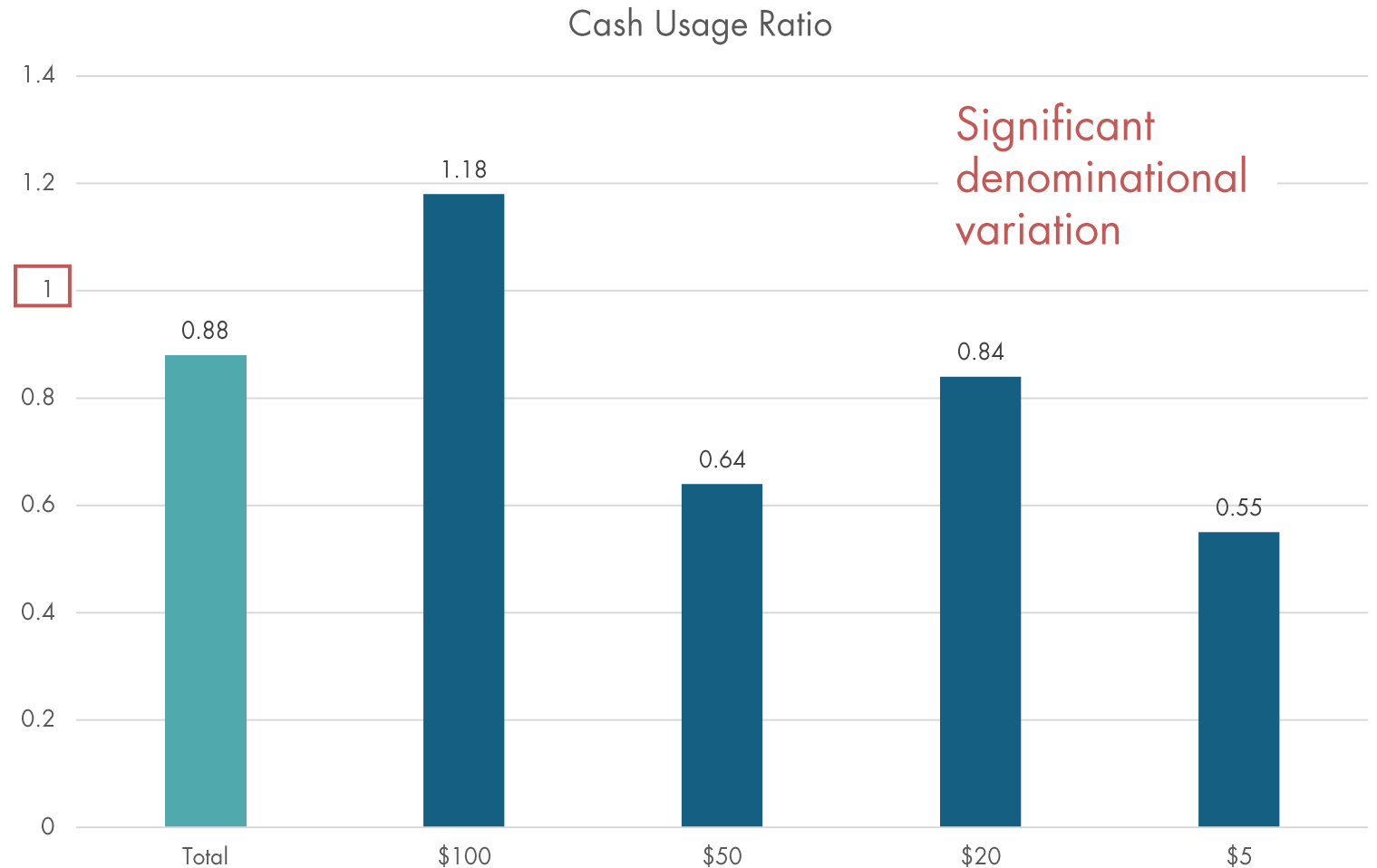


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# Recycler rollout: Case study



Busy downtown location

Schedule: Mon/Wed/Fri

Daily Dispense: \$66,450

Daily Deposit: \$58,420

The demand profile at this location is limiting the efficiency of the ATM

Furthermore, the business case isn't working

How do you get it working?

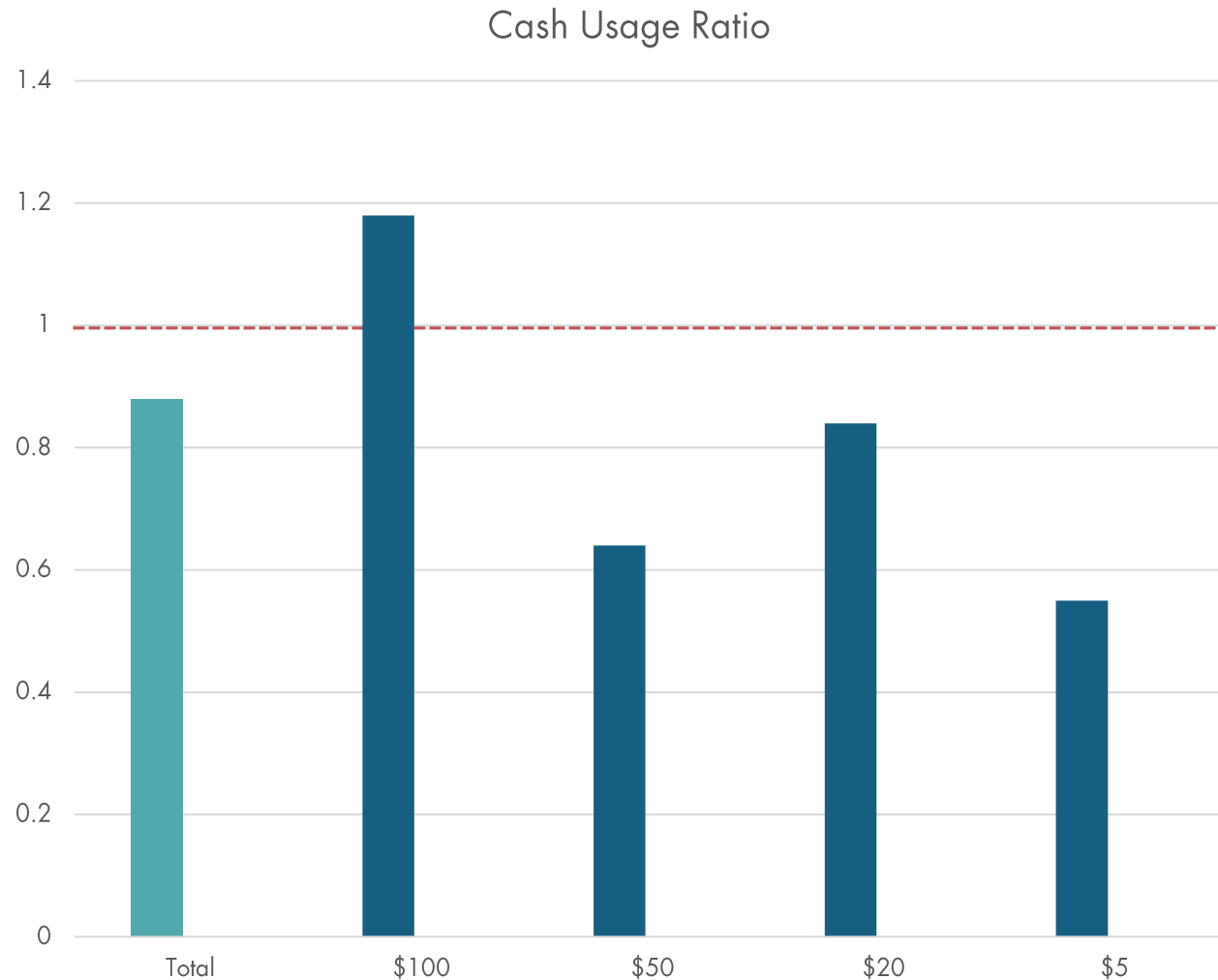
1

Try to order  
appropriately for  
the machine

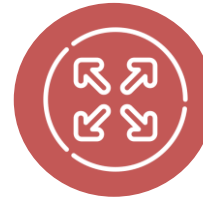
2

Prime the  
machine for  
recycling by  
optimizing at the  
denom level

# Recycler rollout: Case study



Optimizing for the exact denomination fingerprint of each site is key



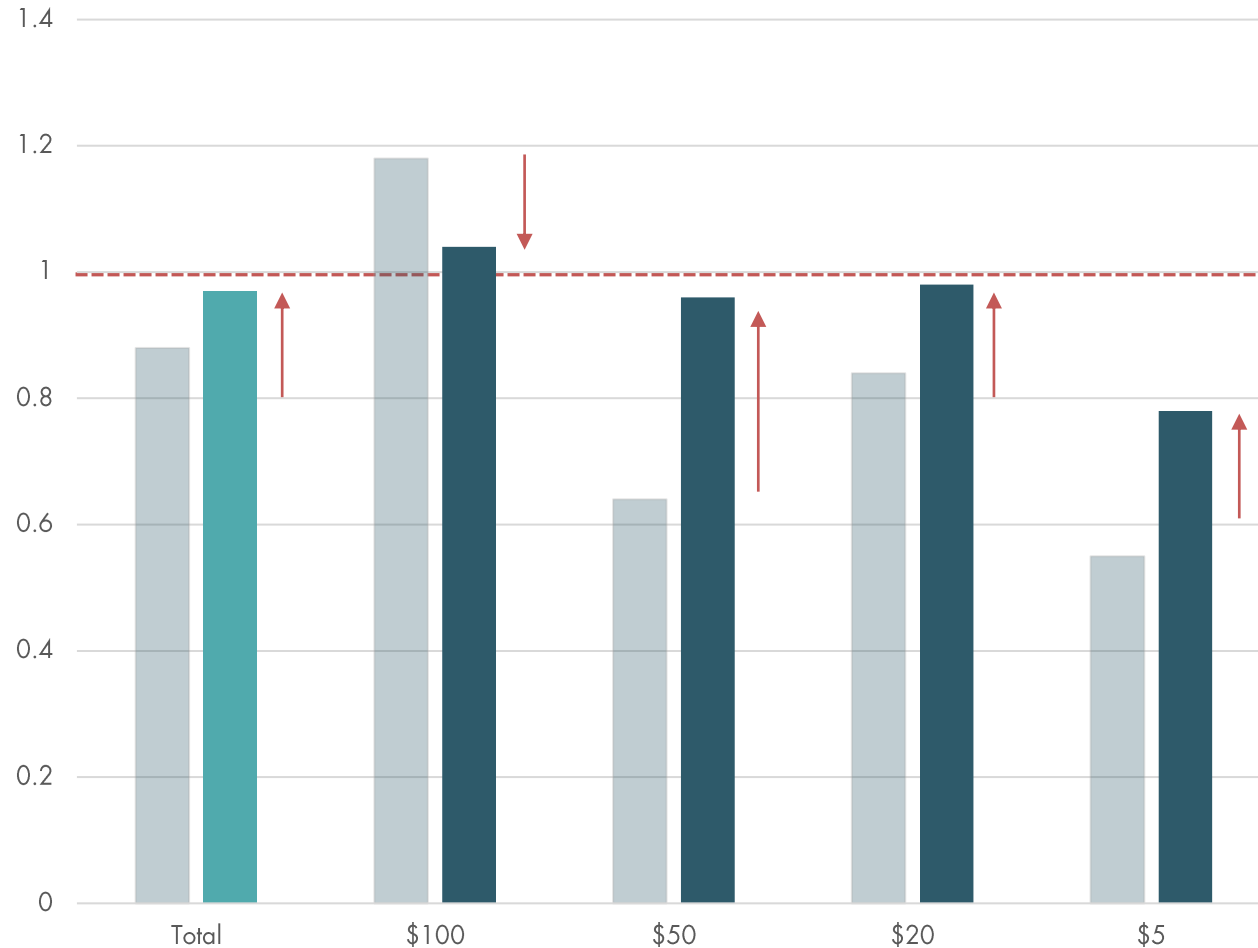
Manipulate the withdrawal demand to emulate deposit demand



Utilize the dispense algorithm and preset configurations to address this

# Recycler rollout: Case study

Case Study ATM: Cash Usage Ratio



Optimizing for the exact denomination fingerprint of each site is key

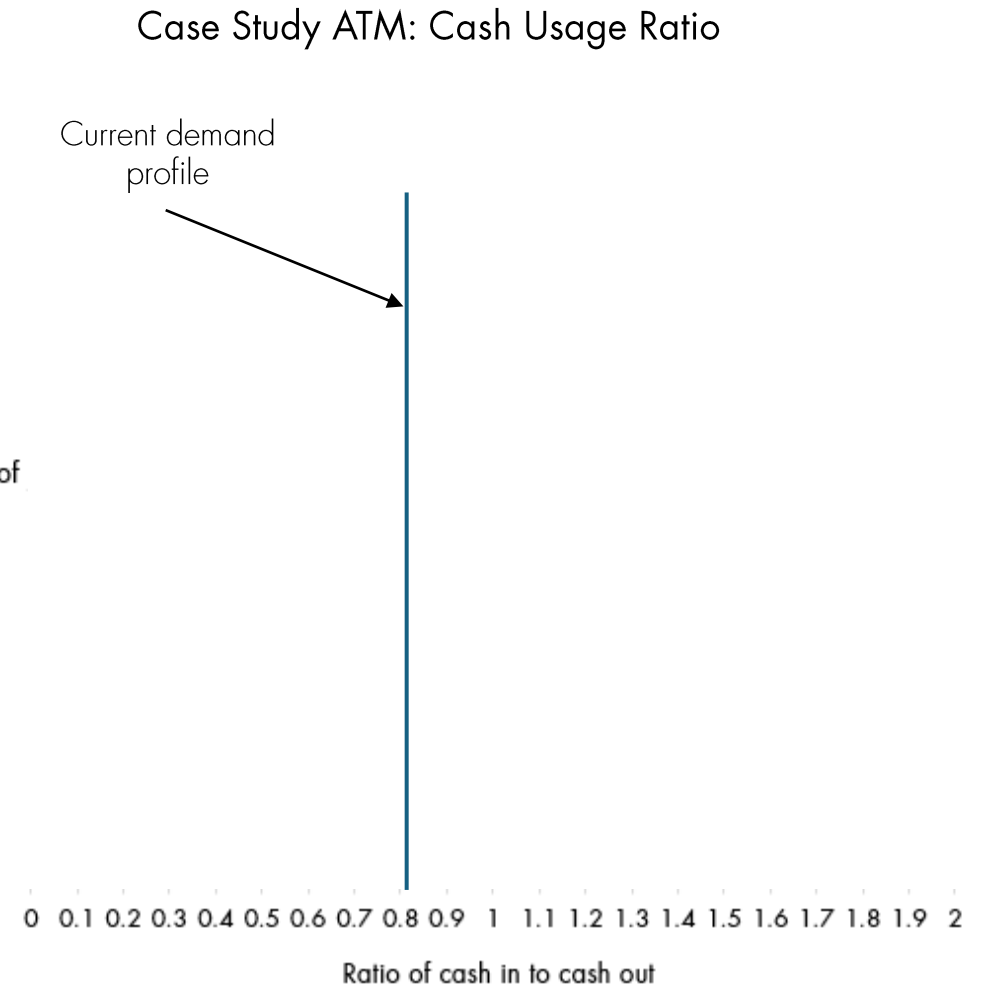
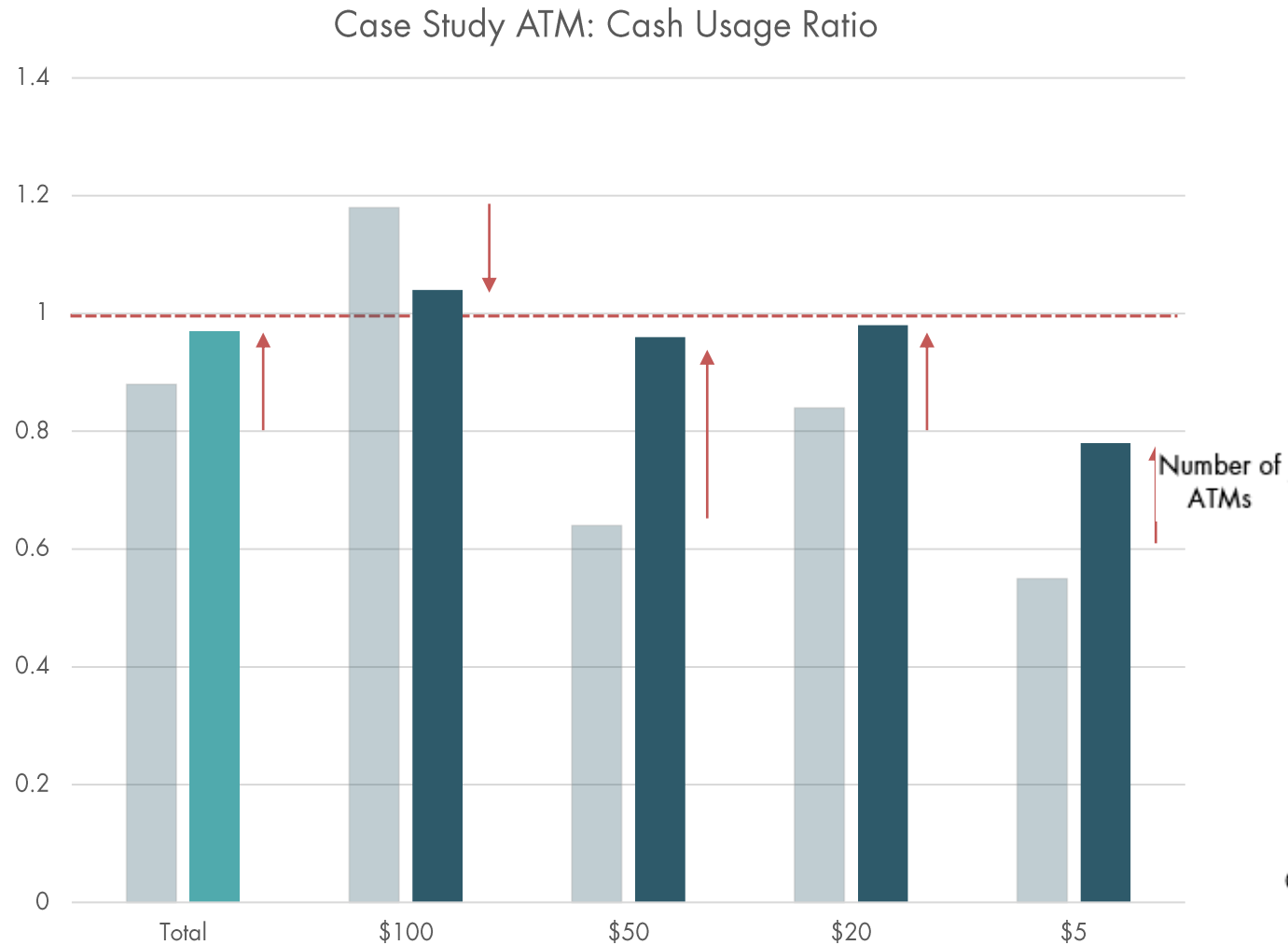


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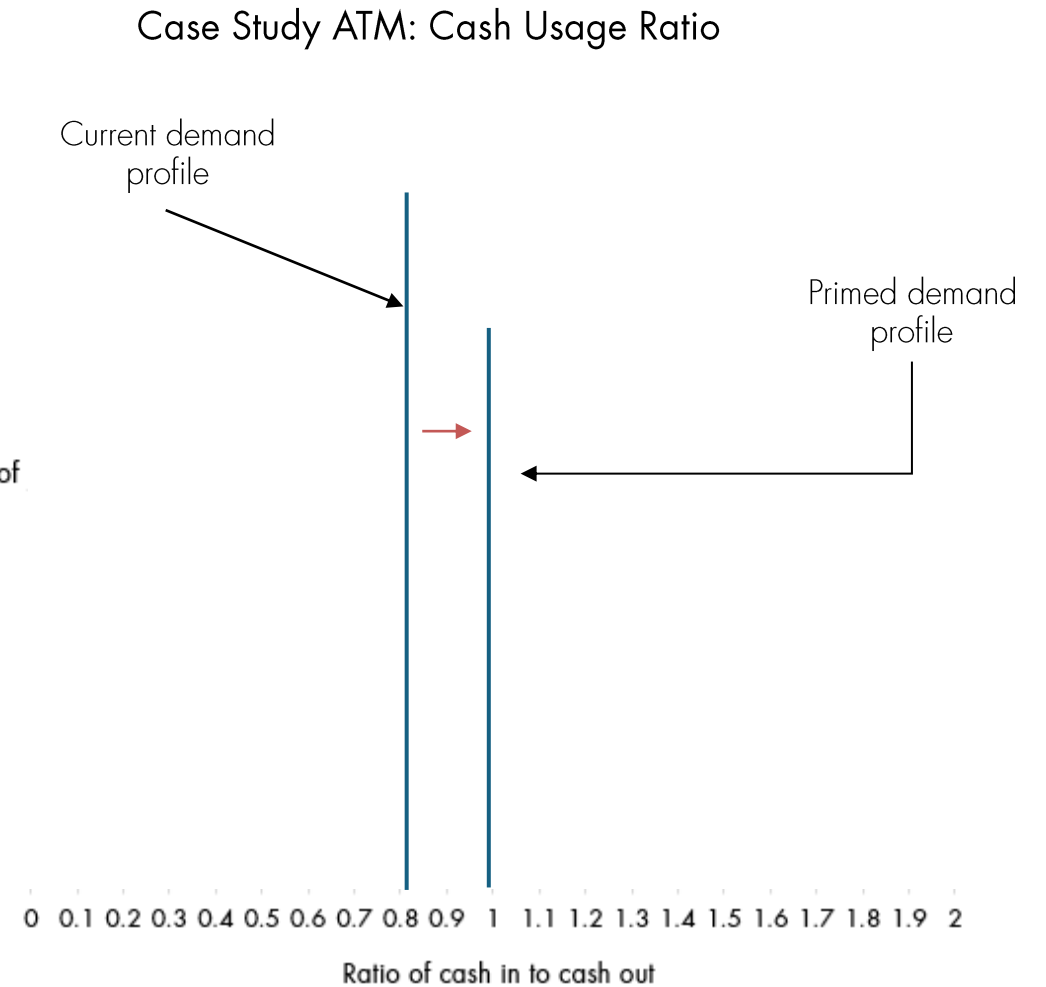


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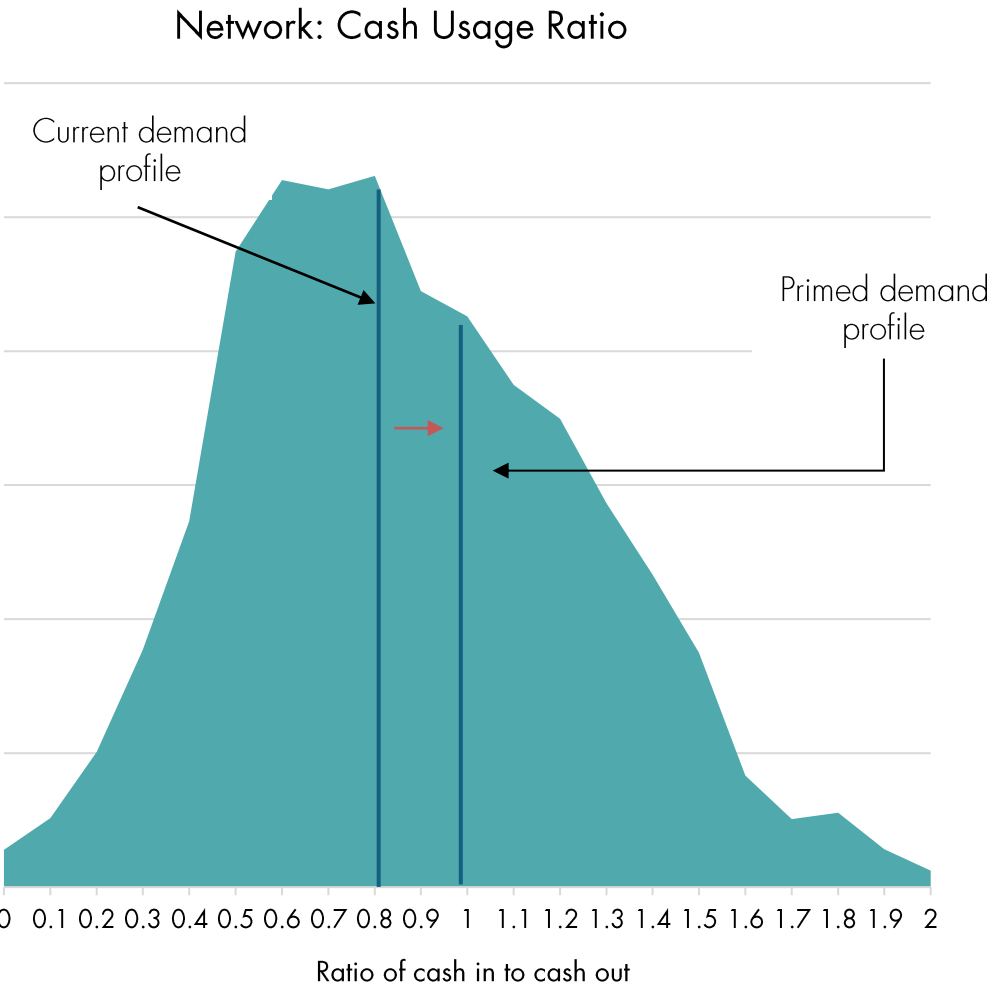
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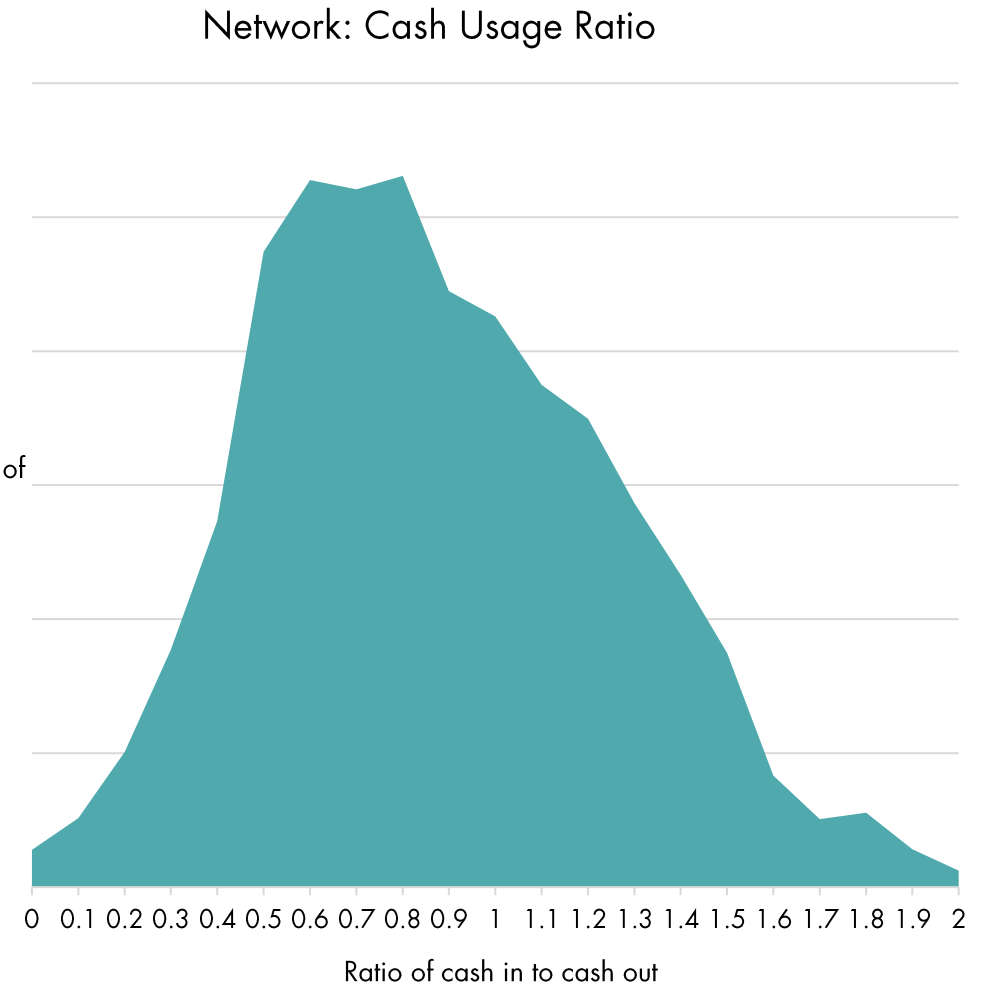
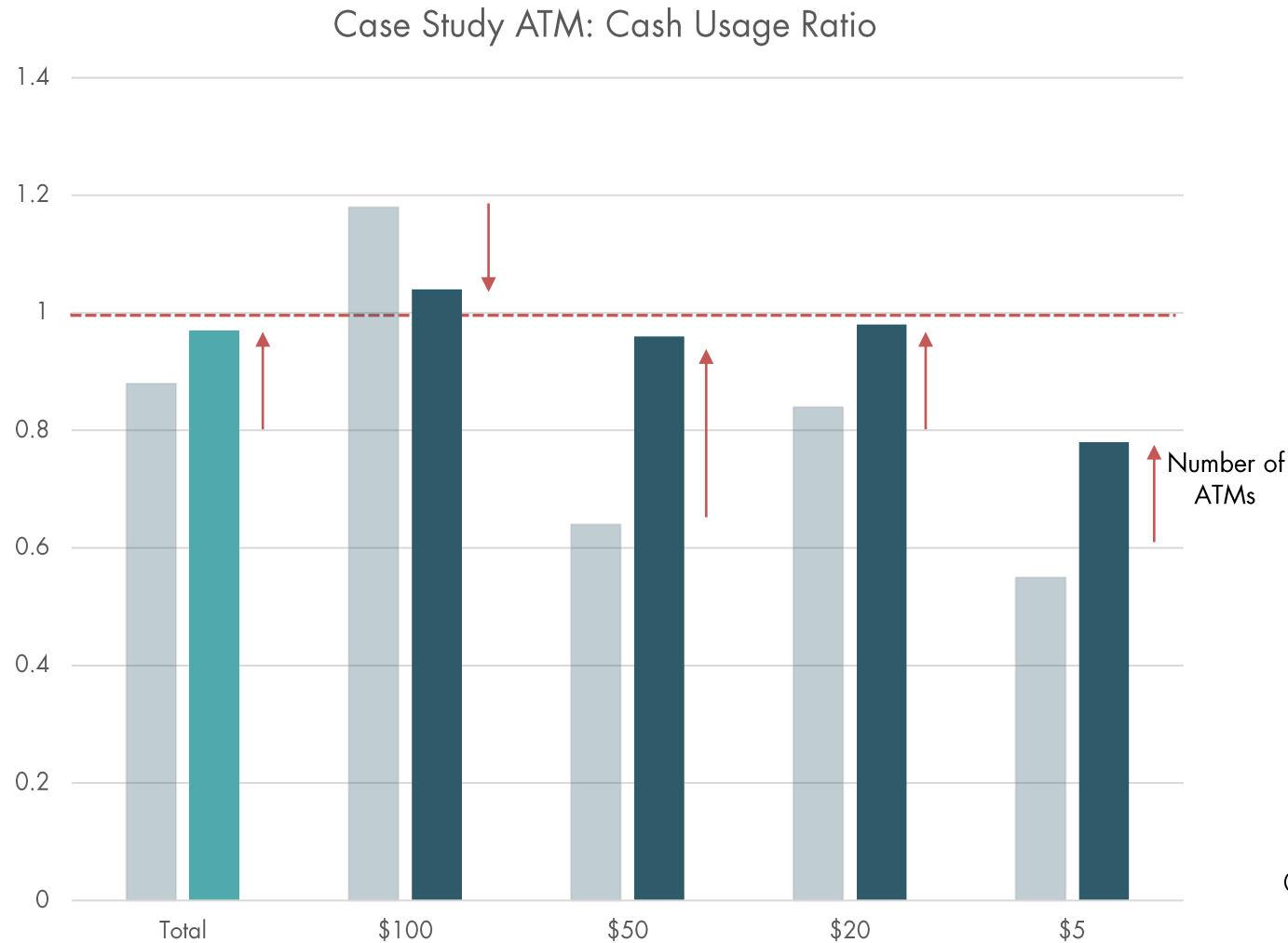
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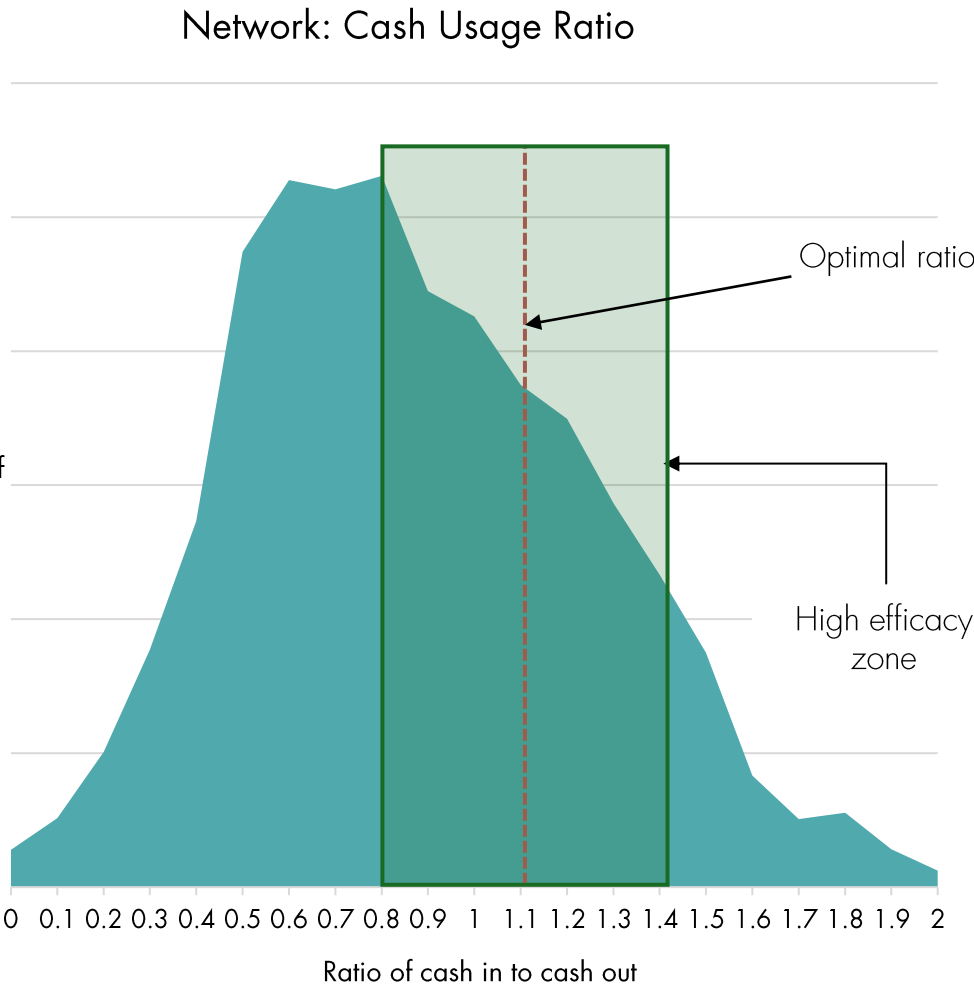
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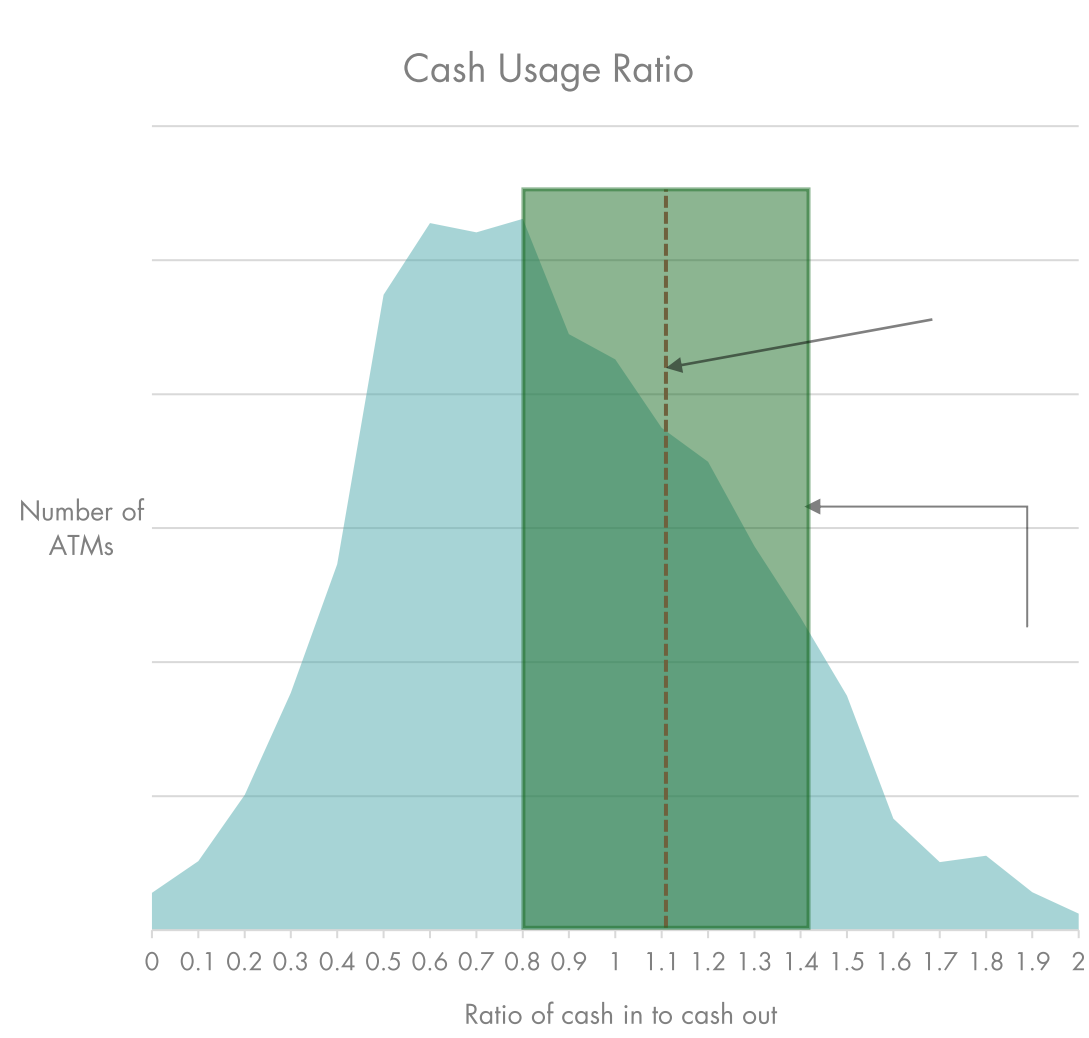
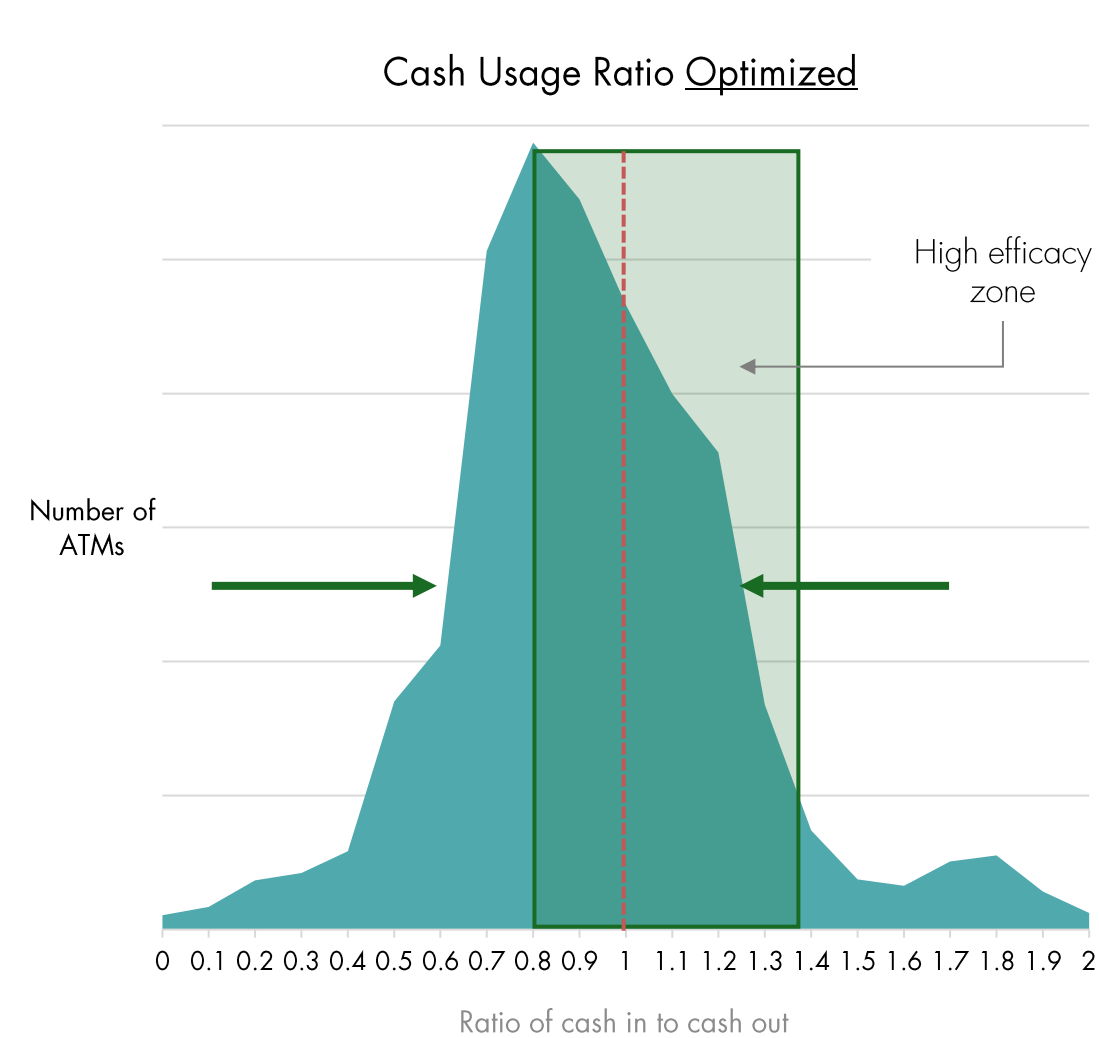
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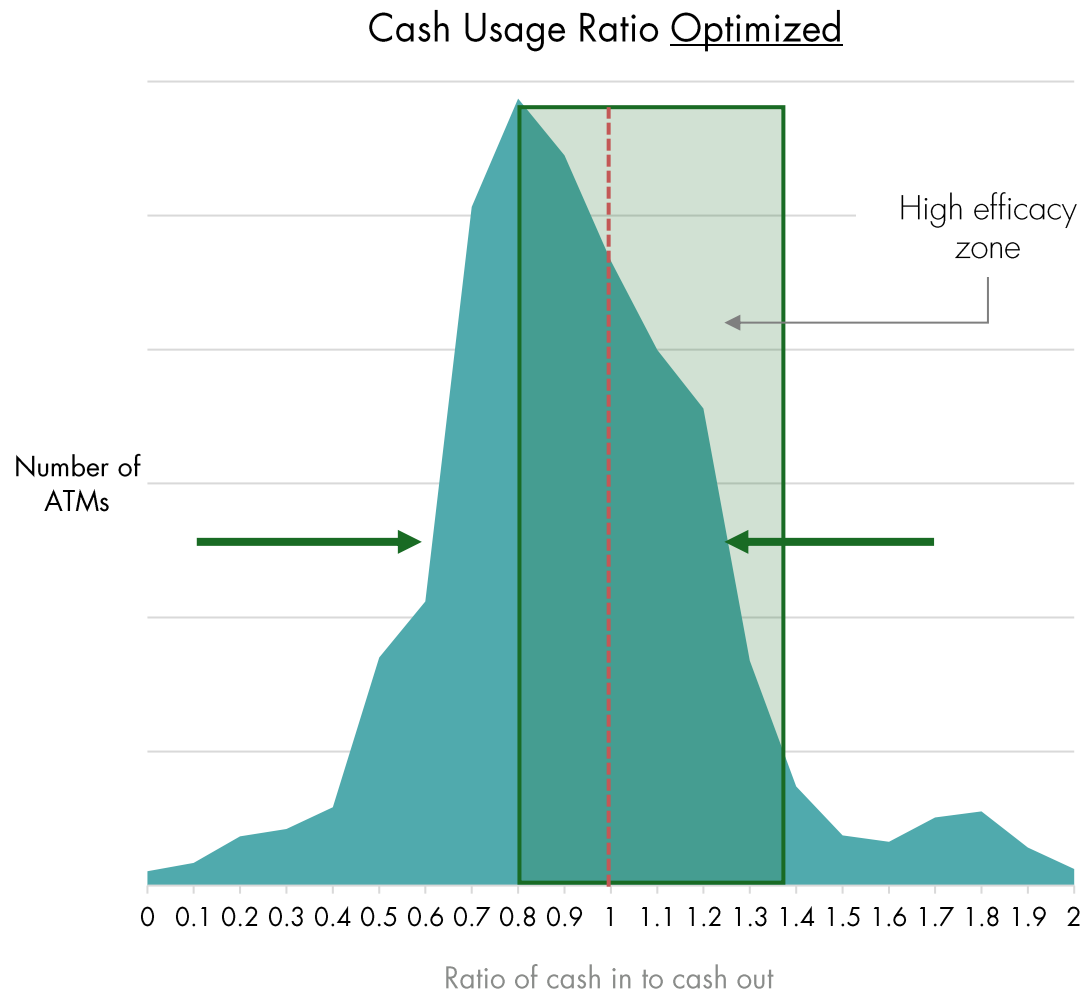
# Recycler rollout: Case study



# Recycler rollout: Case study



# Recycler rollout: Case study



The key to unlocking the benefits of recycler technology is by moving as much of your network as possible into the high efficacy zone

Do this by utilizing data to understand and manipulate the demand profile at each location

Failing to do so will lead create more operational headache, worsen the customer experience and waste the capital expenditure

# Recap

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1

Impact of cash policies

2

Consolidation in Cash

3

Supply chain cooperation

4

Technological advancements

# Thank You

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Follow us on **LinkedIn**

*Poll - Which of the topics covered would you like to hear more about at the next Cash Converse?*

- 1. Impact of cash policies*
- 2. Consolidation in cash*
- 3. Supply chain cooperation/Dynamic planning*
- 4. Technological advancements*





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