

CAPCO

JOURNAL

The Capco Institute Journal of Financial Transformation

Value dynamics

Disruptive forces reshaping
financial services

Technological transformations

Sending out an SMS: How text
alerts are transforming
consumer finance

Michael D. Grubb
Jeroen Nieboer
Matthew Osborne
Jonathan Shaw

#61 SEPTEMBER 2025

CAPCO
a wipro company

KING'S
College
LONDON

KING'S
BUSINESS
SCHOOL

JOURNAL

The Capco Institute Journal of Financial Transformation

Recipient of the Apex Award for Publication Excellence

Editor

Crawford Spence, King's Business School

Advisory board

Lance Levy, Strategic Advisor

Owen Jelf, Partner, Capco

Suzanne Muir, Partner, Capco

David Oxenstierna, Partner, Capco

Editorial board

Franklin Allen, Professor of Finance and Economics and Executive Director of the Brevan Howard Centre, Imperial College London and Professor Emeritus of Finance and Economics, the Wharton School, University of Pennsylvania

Philippe d'Arvisenet, Advisor and former Group Chief Economist, BNP Paribas

Rudi Bogni, former Chief Executive Officer, UBS Private Banking

Bruno Bonati, Former Chairman of the Non-Executive Board, Zuger Kantonalbank, and President, Landis & Gyr Foundation

Dan Breznitz, Munk Chair of Innovation Studies, University of Toronto

Urs Birchler, Professor Emeritus of Banking, University of Zurich

Elena Carletti, Professor of Finance and Dean for Research, Bocconi University, Non-Executive Director, UniCredit S.p.A.

Lara Cathcart, Associate Professor of Finance, Imperial College Business School

Géry Daeninck, former CEO, Robeco

Jean Dermine, Professor of Banking and Finance, INSEAD

Douglas W. Diamond, Merton H. Miller Distinguished Service Professor of Finance, University of Chicago

Elroy Dimson, Emeritus Professor of Finance, London Business School

Nicholas Economides, Professor of Economics, New York University

Michael Enthoven, Chairman, NL Financial Investments

José Luis Escrivá, President, The Independent Authority for Fiscal Responsibility (AIReF), Spain

George Feiger, Pro-Vice-Chancellor and Executive Dean, Aston Business School

Gregorio de Felice, Head of Research and Chief Economist, Intesa Sanpaolo

Maribel Fernandez, Professor of Computer Science, King's College London

Allen Ferrell, Greenfield Professor of Securities Law, Harvard Law School

Peter Gomber, Full Professor, Chair of e-Finance, Goethe University Frankfurt

Wilfried Hauck, Managing Director, Statera Financial Management GmbH

Pierre Hillion, The de Picciotto Professor of Alternative Investments, INSEAD

Andrei A. Kirilenko, Reader in Finance, Cambridge Judge Business School, University of Cambridge

Katja Langenbucher, Professor of Banking and Corporate Law, House of Finance, Goethe University Frankfurt

Mitchel Lenson, Former Group Chief Information Officer, Deutsche Bank

David T. Llewellyn, Professor Emeritus of Money and Banking, Loughborough University

Eva Lomnicka, Professor of Law, Dickson Poon School of Law, King's College London

Donald A. Marchand, Professor Emeritus of Strategy and Information Management, IMD

Colin Mayer, Peter Moores Professor of Management Studies, Oxford University

Francesca Medda, Professor of Applied Economics and Finance, and Director of UCL Institute of Finance & Technology, University College London

Pierpaolo Montana, Group Chief Risk Officer, Mediobanca

John Taysom, Visiting Professor of Computer Science, UCL

D. Sykes Wilford, W. Frank Hipp Distinguished Chair in Business, The Citadel

Table of contents

Technological transformations

12. Riding the digital tides: Analyzing the digital yuan's present and possible future
China's digital yuan is a powerful but cautiously evolving tool aimed at modernizing payments and enhancing state control.

Rhys Bidder, King's Business School
– Qatar Centre for Global Banking and Finance | Lerong Lu, King's College London – Dickson Poon School of Law

28. Rebuilding capital markets on-chain: Tokenization, treasuries and the next financial layer
Tokenization is reshaping finance but its potential depends on aligning legal and institutional factors.

Sofia Villacreses Cardenas,
Consultant, Capco

42. Artificial Intelligence in the equity research industry
AI is slowly reshaping equity research but adoption remains uneven due to cultural, technical, and organizational barriers.

Margaret H. Christ, Professor, University of Georgia | Minjeong (MJ) Kim, Assistant Professor, University of Wisconsin | Michael A. Yip, Assistant Professor, University of Georgia

52. Sending out an SMS: How text alerts are transforming consumer finance
Behavioral nudges show strong potential to curb unnecessary overdraft fees for U.K. bank retail clients without restricting credit access.

Michael D. Grubb, Associate Professor of Economics, Boston College | Darragh Kelly, Data Scientist, Google | Jeroen Nieboer, Experiment and Machine Learning Platform Manager, Deliveroo | Matthew Osborne, Associate Professor of Marketing, University of Toronto | Jonathan Shaw, Technical Specialist, U.K. Financial Conduct Authority and Research Associate, Institute for Fiscal Studies

60. Digital transformation in Brazilian companies: Recommendations to accelerate digital maturity

Brazilian companies increasingly recognize the value of digital transformation, yet barriers still exist.

Hugo Ferreira Braga Tadeu, Director and Professor, Fundação Dom Cabral, Belo Horizonte, Brazil | Jersone Tasso Moreira Silva, Associate Professor, Fundação Dom Cabral, Belo Horizonte, Brazil | Denise Pinheiro, Guest Professor, Fundação Dom Cabral, Belo Horizonte, Brazil | Bruna Dias Diniz Silva, Researcher, Fundação Dom Cabral, Belo Horizonte, Brazil | Kauã Kenner, Researcher, Fundação Dom Cabral, Belo Horizonte, Brazil

74. Beyond the hype: In what sense are algorithmic technologies transforming regulation?

Claims of transformation through regtech and GenAI often mask the reproduction of established hierarchies and regulatory habits.

Malcolm Campbell-Verduyn, Faculty of Arts, Center for International Relations Research (CIRR), University of Groningen, Groningen, Netherlands | Marc Lenglet, Strategy and Entrepreneurship Department, NEOMA Business School, Mont-Saint-Aignan, France

Secular shifts

84. Private equity: Default source of capital for business and preferred asset class for investors?

The rise of private equity signals a shift in capital formation, with implications for both companies and investors.

Anthony Gahan, Executive Fellow, King's Business School & Co-Founder, Wyvern Partners

94. The evolving secondary market: An integral part of the private markets ecosystem

Once a niche liquidity outlet, secondary markets for private assets are opening up via new funding mechanisms.

Nick Paulussen, Executive Director, Capco

106. "Fix one problem, create another?"

MiFID II and the hidden costs of regulating markets

MiFID II's reforms to improve transparency in capital markets unintentionally weaken sell-side research and corporate broking.

Kenneth Lee, Professor, Loughborough Business School, Loughborough University, U.K. | Mark Aleksanyan, Professor, Adam Smith Business School, University of Glasgow, Glasgow, U.K. | Subhash Abhayawansa, Professor, Swinburne Business School, Swinburne University of Technology, Hawthorn, Australia

116. Nature as an asset class: Unlocking financial value in a changing world
Natural ecosystems are gaining financial relevance as tools for resilience, revenue, and long-term economic stability.

Eoin Murray, CIO Rebalance Earth

Structural challenges

- 126. Healthy purposeful culture in finance: Instrumentalization and key drivers**
How do financial firms define “culture” and what challenges exist for putting a healthy culture into practice?
Dr Anat Keller, Reader in Law, Dickson Poon School of Law, King’s College London, U.K. | Dr Andreas Kokkinis, Associate Professor of Law, University of Birmingham, U.K.
- 132. Chasing alpha: Can better psychological safety within investment teams lead to more robust cultures, faster innovation and better investment returns?**
How can investment firms foster psychological safety to improve culture, innovation, and performance?
Aofinn Devitt, PhD candidate, King’s College London and CIO, Moneta Wealth Management
- 140. Habits and routines in financial markets**
How can financial leaders disrupt entrenched habits and routines to unlock value?
Yuval Millo, University of Warwick, U.K. | Crawford Spence, King’s College London, U.K. | James Valentine, Analyst Solutions, U.S.
- 150. Future proofing adoption strategies with behavioral science**
Behavioral science offers financial firms a powerful framework to overcome biases in the adoption of new services.
Martha Lucía Férez Blando, Managing Principal, Capco
- 160. Shared value in cocoa farming: Value for whom? And who gets the lion’s share?**
The disconnect between production and financial speculation in West African cocoa farming.
John Dumay, Professor of Accounting, Macquarie University, Australia
- 172. Europe at a crossroads: East-West financial networks in a context of geopolitical polarization**
How are European-American-Chinese financial networks being disrupted by growing geopolitical tensions?
Adam Leaver, Professor of Accounting & Society, Accounting & Financial Management Group, Sheffield University Management School, University of Sheffield, Professor of Accounting, Copenhagen Business School, Denmark. Director of the Centre for Research on Accounting & Finance in Context (CRAFiC), Director of the Audit Reform Lab, Sheffield University Management School | Daniel Tischer, Senior Lecturer in Accounting, University of Sheffield
- 186. Gender differences in financial advice: Lessons from a secret shopper study**
Financial advice is often gendered depending on the client due to unconscious bias.
Utpal Bhattacharya, Hong Kong University of Science and Technology | Amit Kumar, Singapore Management University | Sujata Visaria, Bayes Business School, City St. George’s, University of London | Jing Zhao, Hong Kong Polytechnic University

2025, Edition 61

JOURNAL

Value dynamics

Welcome to the 61st edition of the Journal of Financial Transformation.

I am delighted to announce our new partnership with King's College London, a world-renowned leader in education and research, marking a new chapter in the Journal's long and distinguished history.

In this edition focusing on Value Dynamics, we explore a critical – and ever more pressing – challenge: how institutions across financial services create, distribute and sustain value.

As Professor Crawford Spence, our editor from King's College highlights in his own introduction, the forces shaping value dynamics across financial services are myriad, encompassing technological transformations, secular shifts, political and social structures.

As a firm that has been at the cutting edge of innovation for over 25 years, these value drivers intersect directly with the work Capco does every day, helping our clients around the globe transform their businesses for sustained growth.

The integration of innovative new technologies including generative and agentic AI models, the digitalization of currencies and payments infrastructures, the reimagining of customer experiences, the relentless evolution of market ecosystems, the vital role of culture as a value driver: these imperatives are where we see – first-hand – clear opportunities for our clients' future growth, competitive differentiation and success.

We are excited to share the perspectives and insights of many distinguished contributors drawn from across academia and the financial services industry, in addition to showcasing the practical experiences from Capco's industry, consulting, and technology SMEs.

It is an immense source of pride that Capco continues to champion a creative and entrepreneurial culture, one that draws on the deep domain and capability expertise of thousands of talented individuals around the world.

We do not take our hard-earned status as a trusted advisor lightly, nor our responsibility to make a genuine difference for our clients and customers every single day – placing excellence and integrity at the forefront of everything we do.

I hope the articles in this edition help guide your own organization's journey as you navigate the many complexities and opportunities ahead.

As ever, my greatest thanks and appreciation to our contributors, readers, clients, and teams.



A handwritten signature in black ink that reads "Annie Rowland". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Annie Rowland, Capco CEO

2025, Edition 61

Editor's note



**KING'S
BUSINESS
SCHOOL**

This 61st edition of the Journal of Financial Transformation is the first with a new editorial team in place, and is the product of a formalized collaboration between Capco and King's College London. This collaboration – a leading financial services consultancy and a prestigious academic institution – embodies the Journal's ethos: a balance between academic rigor and practical accessibility.

Traditional academic journals often deal with more prosaic conceptual matters. Even when they focus on more practical concerns, the timelines and mechanics of double-blind peer review processes can mean that the insights that they offer risk being out of date by the time they are published. Conversely, traditional op-ed articles in the financial press are all too often heavy on opinion and pre-conceived ideas and can lack the heft that comes with thoroughly researched pieces of work.

The Journal we've published strikes a vital balance between these two approaches.

This edition has an overarching focus of Value Dynamics. Specifically, the various articles look at how value is created, distributed and sustained across financial services. In turn, the submissions are grouped into three broad themes.

Technological transformations are explored in terms of how these can bolster or hinder value dynamics if not managed effectively. A number of secular shifts are also discussed – these being long-term changes that are impacting value dynamics in the sector. Finally, structural challenges are highlighted that emphasize the importance of sticky, tricky social and behavioral issues that surround the execution of financial services.

Overall, these themes highlight challenges and opportunities in the sector and encourage us to think differently.

It has been a pleasure working on this issue with such a fantastic and diverse array of different contributors.

A handwritten signature in black ink, appearing to read "C. W. Spence".

Professor Crawford Spence

King's College London

Sending out an SMS:

How text alerts are transforming consumer finance

Authors | **Michael D. Grubb** | Associate Professor of Economics, Boston College
Darragh Kelly | Data Scientist, Google
Jeroen Nieboer | Experiment and Machine Learning Platform Manager, Deliveroo
Matthew Osborne | Associate Professor of Marketing, University of Toronto
Jonathan Shaw | Technical Specialist, U.K. Financial Conduct Authority and Research Associate, Institute for Fiscal Studies

Abstract

Until recently, overdraft charges cost bank customers billions of pounds annually, disproportionately affecting a small share of heavy overdraft users. This paper summarizes Grubb et al.'s (2025) findings from large-scale field experiments at two major U.K. banks, showing that automatically enrolling customers into timely overdraft alerts significantly reduces charges. Just-in-time alerts cut unarranged overdraft charges by 17% to 19% and arranged overdraft charges by 4% to 8%. Required since 2019 for all customers at large U.K. banks, the alerts generate estimated annual consumer savings of £170 million to £240 million across the U.K. Most savings result from consumers transferring available funds rather than substantially changing their spending habits. While early-warning alerts also encouraged timely account checks and fund transfers, there were no statistically significant savings beyond just-in-time alerts alone. While effective and broadly supported by consumers, automatic enrollment in alerts alone cannot entirely stop consumers from paying high overdraft charges unnecessarily. Consequently, regulators complemented automatic enrollment with reforms that simplified overdraft pricing starting in 2020, making borrowing costs clearer and comparable to credit card rates.

1. Introduction

Overdrafts are one of the most common forms of short-term borrowing, but they are also among the most expensive. Until recently, U.K. banks charged a mix of per-transaction, per-day, per-month, and interest-based fees, sometimes exceeding 10% in effective daily interest for unarranged overdrafts. In 2017, U.K. consumers paid an estimated £2.6 billion in overdraft and unpaid item fees, with

more than half of these costs borne by just 5% of customers, many of whom were financially vulnerable [FCA (2018)].

For years, U.K. regulators have tried to reduce unnecessary overdraft fees, but most interventions had little to no effect. Research showed that many overdraft users had sufficient funds available in savings or lower-cost credit card accounts, yet still incurred fees [Stango and Zinman (2009), FCA

(2018)]. A major reason? Inattention – customers simply weren't aware they were overdrawing their accounts [CMA (2016)].

To address the problem, under the auspices of the FCA, we worked with two major U.K. banks to test a simple but powerful solution: automatic text alerts. This article summarizes our results and was adapted from our earlier publication [Grubb et al. (2025)]. Text alerts had been available on an opt-in basis at all major U.K. banks since 2012. But now, instead of requiring customers to opt-in, these banks automatically enrolled a random sample of customers in overdraft alerts. The experiments, run in 2017 and 2018, included a combined sample of 1.1 million banking customers. They automatically enrolled current (checking) account customers in a variety of “just-in-time” alerts, triggered by entry into overdraft or when a pending transaction is poised to be declined, and “early warning” alerts, triggered by low balances before the overdraft threshold.

Each alert was designed to warn of either a declined transaction called an unpaid item (UI) or one of the two types of overdraft facilities offered in the U.K.: arranged and unarranged. An **arranged overdraft (AOD) facility** is a line of credit with a borrowing limit pre-agreed between bank and consumer, equal to £1,000 on average for the two collaborating banks, which consumers automatically use when their current account balance drops below zero. An **unarranged overdraft (UOD) facility** is used when a bank approves a transaction that takes the consumer past their AOD limit or, if they do not have an AOD, below zero. These experiments were complemented by a follow-up survey in which we directly asked customers whether they found the alerts helpful.

The results are striking. After automatic enrollment in just-in-time alerts:

- Unarranged overdraft and unpaid item fees fell by 17-19%.

- Arranged overdraft fees fell by 4-8%.
- The estimated annual consumer savings across the U.K. market was £170-240 million.
- Alerts eliminated less than half of consumers' overdraft “mistakes.”

Our findings encouraged two policy shifts: in 2019, based on the benefits of alerts, U.K. regulators expanded the requirement for automatic enrollment, and in 2020, based on the limitations of alerts, they restructured overdraft pricing, making fees more transparent and comparable to credit card rates. The following sections explain the history behind overdraft alerts, the automatic enrollment experiments, the effectiveness of alerts, why alerts work, how customers respond, and resulting implications for policy.

2. The search for an effective nudge

U.K. regulators have long struggled to keep overdraft charges in check without restricting consumer access to short-term borrowing. Overdraft charges are often far higher than those for other forms of credit, with markups three times those of credit cards after adjusting for the risk of default [FCA (2018)]. However, strict fee caps could make high-risk overdraft loans unprofitable and lead banks to restrict overdraft access, potentially harming customers who genuinely need it. Instead of strict price controls, U.K. regulators sought a behavioral “nudge” – a way to encourage consumers to manage overdrafts more effectively without disrupting credit availability. Unfortunately, their first two attempts failed:

1. Annual Fee Summaries (2008): Major U.K. banks agreed to send customers yearly account statements detailing overdraft fees. The result? Zero impact – likely because customers need real-time actionable information, not a once-a-year report [Hunt et al. (2015)].

2. **Opt-In Overdraft Alerts (2012):** Banks were required to offer text alerts for overdrafts and low balances. The problem? Fewer than 10% of customers enrolled, with some banks seeing sign-up rates as low as 1% [Caflisch et al. (2018)].

Hoping that increasing participation would make text alerts a success, the CMA tried again – this time, flipping the system from opt-in to opt-out. Instead of waiting for customers to sign up, banks were required to automatically enroll them in key alerts by early 2018.

Would this new approach work? The hope came from research by Hunt et al. (2015) showing that UOD charges fell by an average of 5% to 8% after consumers signed themselves up for alerts. However, the evidence was not conclusive that the alerts themselves drove the savings. Because consumers often enrolled in alerts after experiencing costly overdrafts, they might simultaneously adopt other strategies – like tighter budgeting or larger buffer savings – to prevent future charges. This made it impossible to tell whether alerts alone were responsible for the observed fee reductions. Getting to the bottom of this question motivated the large-scale randomized field experiments that followed.

3. The experiment: automatic enrollment in overdraft alerts

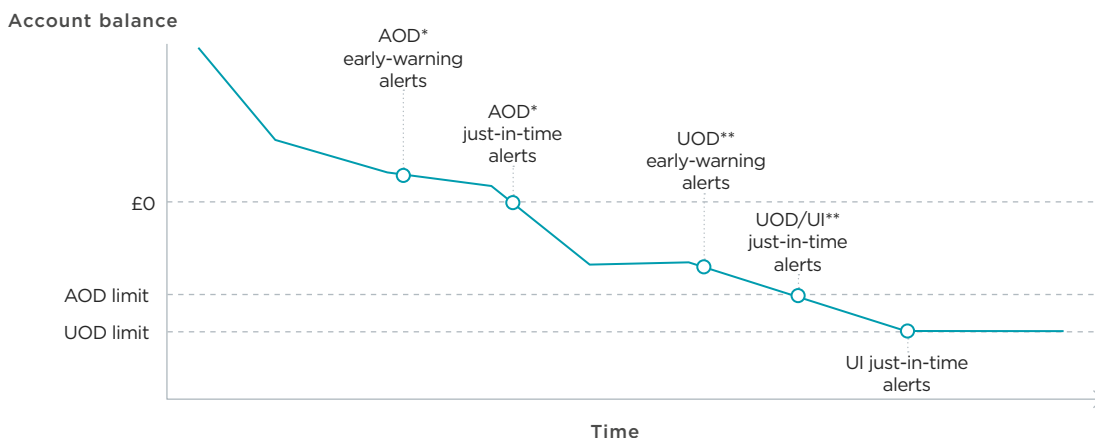
Would automatically enrolling customers in overdraft alerts actually help them avoid charges? And if so, which alerts would be most effective and who would benefit most? To find out, we conducted a series of randomized field experiments between 2017 and 2018 in collaboration with two of the U.K.'s six major banks. These banks serve a broad cross section of consumers, broadly representative of the overall market, and included a combined total of 1.1 million customers in the experiment.

The study was structured to test the effectiveness of two primary types of alerts:

1. **Just-in-time alerts:** These alerts were sent immediately when a customer entered an overdraft or when a transaction was about to be declined. An existing same-day grace period let consumers avoid charges by restoring a positive balance by the end of the day (making these alerts “just-in-time” rather than “just-too-late”).
2. **Early-warning alerts:** These alerts were sent before an overdraft, when a customer's balance fell below a threshold of £50 or £100, offering an opportunity to take preventive action, such as reducing spending or shifting spending to a credit card.

For a hypothetical consumer who has AOD and UOD facilities and is enrolled in all alerts, Figure 1 illustrates when just-in-time and early-warning alerts are sent as the consumer's account balance decreases. We say that the alert labeled “UOD/UI early warning” provides early warning for UI in addition to UOD because extension of credit through a UOD facility is at the bank's discretion and is typically limited – meaning that any account on the verge of incurring UOD charges is also on the verge of incurring UI charges.

In each trial, customers were randomly assigned to a control group, with no change in policy, or to a treatment group, in which customers were automatically enrolled in one or more alerts. Randomizing customers into alert groups allowed us to confidently determine the effectiveness of the alerts without confounding factors. Treatments were designed so that we could measure the effect of different alert timings (receiving alerts just-in-time, with early warning, or both), and measure the effect of alerts warning of different events (AOD, UOD, or UI). Finally, our last treatment did not automatically enroll customers in alerts, but rather emailed them encouraging them to self-enroll.

Figure 1: Illustration of balance thresholds at which alerts are sent

Note: Acronyms: arranged overdraft (AOD), unarranged overdraft (UOD), and unpaid item (UI). The AOD limit is pre-agreed between bank and consumer, whereas the UOD limit is unknown to the consumer. * = If the consumer does not have an AOD facility, this will be a UOD/UI alert. ** = If the consumer does not have a UOD facility, this will be a UI alert.

Alerts were sent with the same message text banks already incorporated in the alerts they offered on an opt-in basis, ensuring our results correspond to the actual messages banks send. Representative message text from each bank (which we refer to as banks A and B) are shown in Table 1.

Banks provided us with all current account transaction data for customers in the experiment over an eleven-month period, six months

leading up to the intervention, and five months following automatic enrollment in the alerts. Key metrics include:

- Opt-out rates from the alert system
- Frequency and duration of overdrafts and resulting OD fees
- Frequency of declined transactions and resulting UI fees
- Frequency of logins, spending, and account transfers following alerts.

Table 1: Representative alert message text

No.	Type	Target	Bank	Representative text
1	just-in-time	AOD	A	You are now using your overdraft and may incur charges
2	just-in-time	AOD	B	Your balance is now below £0
3	just-in-time	UOD	B	You are now using your unarranged overdraft. Transfer funds before cut-off to avoid charges
4	just-in-time	UI	B	A scheduled payment will go unpaid. Transfer funds before cut-off to avoid charges
5	early warning	AOD/UOD/UI	A/B	Your balance is now below £X (For X= 100 or 50)
6	early warning	UOD/UI	B	You are approaching your arranged overdraft limit

Note: This table reports representative text of alerts tested in our experiments. Exact text cannot be reproduced to protect bank anonymity. The bank's name appears as the sender of each text message, so recipients recognize alerts as coming from their bank. Acronyms: arranged overdraft (AOD), unarranged overdraft (UOD), and unpaid item (UI).

Finally, after the experiment, a survey directly asked a sample of customers in the study about their experiences with alerts.

4. Results

4.1. Opt-out enrollment dramatically boosts participation

Default settings strongly influence consumer decisions, and automatic enrollment in overdraft alerts is no exception. Previously, when consumers had to actively opt-in, enrollment rates across the six major banks were extremely low – at most 8% [Caflisch et al. (2018)].¹ By contrast, fewer than 10% of consumers opted out after being automatically enrolled during our experiment, increasing enrollment by over 90 percentage points at both banks. Even when opting out was made extremely easy (requiring only a reply to a notification text), most consumers remained enrolled. In stark contrast, a separate trial encouraging voluntary enrollment via email achieved less than one-tenth of this effect, raising enrollment rates by fewer than nine percentage points.

4.2. Just-in-time alerts substantially reduce overdraft fees

Our experiments clearly demonstrate that just-in-time alerts help consumers save money by reducing overdraft charges. We find that these alerts reduce AOD charges by 4% to 8% and reduce UOD and UI charges by 17% to 19%. (We provide ranges of estimates because results vary by bank and treatment group.) When scaled up to the entire U.K. market using total 2017 charges as a baseline, this implies potential consumer savings between £170 million and £240 million annually.

The impact of early-warning alerts is less clear. When used instead of just-in-time alerts, early-warning alerts appear somewhat less

effective, but we cannot rule out comparable benefits. When used alongside just-in-time alerts, our results suggest a modest additional benefit, but this was statistically inconclusive – even with a large sample of 1.1 million customers.

Based on these findings, in 2019 the FCA expanded the CMA's existing policy mandate for automatic enrollment into just-in-time alerts to include all overdrafts (arranged as well as unarranged) and to cover more banks (by reducing the size threshold for which the policy applies). In addition, they decided against mandating automatic enrollment in early warning alerts [FCA (2018)].

4.3. Alerts prompt consumers to check accounts and transfer funds

Text alerts help consumers avoid overdraft charges primarily by prompting immediate action. Our analysis uses three data sources – login activity, survey responses, and detailed account transactions – to understand precisely how consumers respond.

Login data reveal that alerts prompt consumers to actively check their accounts. On average, every ten just-in-time alerts trigger about five additional customer logins.

What do consumers do after checking their accounts? Survey responses indicate that 61%–73% take additional action. Most consumers respond by transferring money from savings accounts (50%–64%), borrowing informally from family or friends (25%–43%), or reducing spending (31%–48%). Far fewer delay bill payments (8%–24%), used credit cards (2%–7%), or borrowed from other formal sources (0%–7%).

Detailed transaction data support these survey responses, but emphasize the importance of fund transfers over spending reductions. Each

¹ Personal experience of one coauthor at two of the major banks indicates opting-in was difficult, involving locating a hard-to-find setting online without an in-person or telephone option.

just-in-time alert prompted an average increase in transfers of £126 per event, with roughly one-quarter of alerts triggering a transfer averaging £465. In contrast, the average reduction in spending per alert was minimal – around £4. Thus, most savings resulted from consumers leveraging available liquidity rather than significantly altering their spending patterns.

We hoped early warning alerts would give consumers more time to cut spending (or shift it to a credit card), giving even those without available funds for transfer an alternative way to avoid overdraft charges. Early-warning alerts did conclusively prompt consumers to log into their accounts and make transfers earlier. Unfortunately, while some evidence is suggestive of additional reductions in spending or overdraft charges compared to just-in-time alerts alone, none is statistically conclusive.

One possible reason for the underwhelming impact of early warning alerts is that sending alerts £50 to £100 before an overdraft often translated into only one or two days of warning time. Unfortunately, while raising low balance thresholds would give more advanced warning, it would likely also dilute alert effectiveness by creating too many “false alarms.” In the future, early warnings may be more effective if artificial intelligence can be used to forecast overdraft risk earlier and more precisely than a simple low balance threshold.

4.4. Consumer benefits are broadly shared

An essential question for policymakers is whether overdraft alerts benefit vulnerable groups, including heavy overdraft users and low-income customers. A concern is that alerts will benefit these groups little because they have limited available cash to transfer into an overdrawn account or are already aware of their balances.

On the contrary, however, we found that alerts provided substantial benefits across all customer segments studied – including both frequent and infrequent overdraft users and those with high and low incomes. Benefits were notably larger for customers with a history of:

- frequent overdrafting
- low average balances
- near-overdraft experiences (“close calls”)
- infrequent account logins (low account engagement).

These groups benefit most because they are at greater risk of overdrafting or because they find alerts particularly informative, given their lower initial account engagement.

4.5. Consumers appreciate automatic alerts

Following the field experiment, the FCA employed a market research firm to conduct a 10 to 15 minute telephone survey with 2,000 trial participants from each bank. We asked consumers about their attitude towards alerts. Of the small minority who opted out of alerts, roughly half (40% to 58%) did so primarily because the alerts were “not useful” or “not needed,” with a smaller share (27% to 40%) opting out to avoid some psychological discomfort (such as irritation, anxiety, or embarrassment).

A possible downside of automatic enrollment is that it could unintentionally irritate consumers who do not like alerts but find it too much of a hassle to opt out. Fortunately, among customers who remained enrolled, the vast majority were positive about the alerts: 54%–64% liked receiving them, 84%–92% found them helpful, and only a small minority (3%–8%) disliked them. Most respondents (87%–91%) felt the frequency of alerts was “about right,” while only 2% to

5% reported receiving alerts “too often.” Finally, 69%–81% agreed that automatic enrollment was best, although 20%–28% would have preferred a choice to enroll voluntarily.

4.6. Alerts are not a panacea

The fact that just-in-time alerts could reduce overdraft borrowing charges by £170 million to £240 million shows that, in the absence of alerts, a substantial portion of overdraft borrowing is unintentional due to lack of awareness about account balances. Unfortunately, although highly effective at reducing this problem, alerts do not resolve all the problems with overdraft borrowing.

In 2016, prior to alert auto-enrollment policies, the FCA (2018, Technical Annex Chapter 5, Table 1) estimated that more than half of days in overdraft could have been avoided if consumers used their savings or shifted spending to their credit cards – which notably had much lower effective interest rates. Automatic enrollment in just-in-time alerts eliminated fewer than half of these avoidable overdrafts, shrinking days in arranged overdrafts by 4%-9% and days in unarranged overdrafts by 15%-21%. Thus, despite their large benefits, alerts cannot entirely eliminate consumers’ financial management challenges leading to unnecessary overdrafts.

5. Policy implications and regulatory changes

Based on our headline prediction of £170–240 million in consumer savings from automatic enrollment in just-in-time alerts, in 2019 the FCA expanded the CMA’s 2018 opt-out mandate for just-in-time UOD and UI alerts to cover more banks (by reducing the size threshold for which the regulation applies) and added a mandate for just-in-time AOD alerts. Based on our failure to find statistically detectable benefits from

additional early warning alerts, the FCA let banks continue to offer early-warning alerts on an opt-in basis [FCA (2018)].

Moreover, our finding that alerts are not a panacea for all overdraft borrowing “mistakes” encouraged the FCA to enact additional regulations effective in 2020. Historically, overdraft charges in the U.K. were complex and difficult to compare. Banks used a mix of per-day, per-month, per-transaction, and interest-rate based charges, making it challenging for consumers to understand how much they were paying for overdraft borrowing. This may be why consumers rarely shifted their current account spending to their credit cards after receiving early warning alerts – they didn’t realize credit card interest charges would be cheaper than the corresponding overdraft charges. The FCA responded by requiring banks to structure overdraft charges as a simple interest rate, and encouraged them to disclose the interest rate to consumers in the same format as credit card interest rates (as an effective annual rate or EAR) [FCA (2019)].

The FCA’s new overdraft pricing reform reflects smart policy making. The reform avoids capping charges in a way that could inadvertently restrict credit. Instead, by making the overdraft borrowing costs easily comparable both across banks and with credit cards, it harnesses consumer comparison shopping and the forces of market competition to limit overdraft charges. Prior to the policy, effective daily interest rates on overdraft borrowing regularly exceeded 10% per day [FCA (2018)]. After implementation of the new rule, large banks began charging dramatically lower effective interest rates – in 2023 the largest six banks all offered overdraft ERAs below 40%. It is now easier for consumers to recognize that their credit cards offer lower-cost credit, and is less costly when they don’t.

Since the FCA's 2019 opt-out mandates for alerts were implemented, consumer adoption of mobile banking apps has continued to grow – from 63% in 2019 to 73% in 2024.² Because the FCA allows banks to deliver mobile app push alerts instead of SMS text alerts if customers have the app installed [FCA (2025, Section 8.4.8)], this trend increasingly positions push notifications as an important channel for just-in-time alerts. This shift offers several potential benefits, including lower messaging costs for banks, improved consumer responsiveness to alerts, and a reduced risk of fraud, as push alerts may be harder to spoof compared to SMS messages.³ Nevertheless, even as digital channels evolve, the ongoing necessity of the FCA's alert mandate remains clear. Santander's recent decision to cease sending five non-mandated text alerts (low balance,

high balance, high deposit, high withdrawal, and weekly summary) starting May 12, 2025,⁴ clearly demonstrates the limitations of relying solely on voluntary bank practices and consumer opt-in, underscoring the enduring importance of regulatory oversight.

Our experimental tests of alerts do not reveal if or how banks might try to recoup lower overdraft revenue by raising charges for other products or services. Nevertheless, we are optimistic that U.K. retail banks will respond similarly to U.S. retail banks, which did not adjust prices to offset 2009 CARD Act reductions in hidden credit card charges [Agarwal et al. (2015)]. Investigating whether our optimism is borne out in practice is left for future work.

References

- Agarwal, S., S. Chomsisengphet, N. Mahoney and J. Stroebel, 2015. "Regulating Consumer Financial Products: Evidence from Credit Cards," *Quarterly Journal of Economics* 130: 1, 111–164
- Caflich, A., M.D. Grubb, D. Kelly, J. Nieboer and M. Osborne, 2018. "Sending out an SMS: The Impact of Automatically Enrolling Consumers into Overdraft Alerts," *Financial Conduct Authority Occasional Paper No. 36*, <https://tinyurl.com/7ks9hfnv>
- Competition and Markets Authority (CMA), 2016. "Retail Banking Market Investigation, Final Report," August, <https://tinyurl.com/5ys8wrm6>
- Financial Conduct Authority (FCA), 2018. "High-Cost Credit Review: Overdrafts Consultation Paper and Policy Statement," consultation paper CP18/42, <https://tinyurl.com/37bkb9yz>
- Financial Conduct Authority (FCA), 2019. "High-Cost Credit Review: Overdrafts Policy Statement," policy statement PS19/16, June, <https://tinyurl.com/3j5kdhe>
- Financial Conduct Authority (FCA), 2025. "Banking: Conduct of Business Sourcebook," <https://tinyurl.com/mfz8m5v4>
- Grubb, M.D., D. Kelly, J. Nieboer, M. Osborne and J. Shaw, 2025. "Sending Out an SMS: Automatic Enrollment Experiments for Overdraft Alerts," *The Journal of Finance*, 80: 1, 467–514
- Hunt, S., D. Kelly and F. Garavito, 2015. "Message Received? The Impact of Annual Summaries, Text Alerts and Mobile Apps on Consumer Banking Behaviour," *Financial Conduct Authority Occasional Paper No. 10*, <https://tinyurl.com/z272dtp>
- Stango, V. and J. Zinman, 2009. "What Do Consumers Really Pay on Their Checking and Credit Card Accounts? Explicit, Implicit, and Avoidable Costs," *American Economic Review: Papers and Proceedings*, 99:2, 424–429

² <https://www.statista.com/statistics/1395159/mobile-banking-penetration-in-the-uk/>

³ <https://www.ic3.gov/PSA/2022/PSA220414>

⁴ <https://www.santander.co.uk/personal/support/understanding-our-services/account-alerts>

© 2025 The Capital Markets Company (UK) Limited. All rights reserved.

This document was produced for information purposes only and is for the exclusive use of the recipient.

This publication has been prepared for general guidance purposes, and is indicative and subject to change. It does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (whether express or implied) is given as to the accuracy or completeness of the information contained in this publication and The Capital Markets Company BVBA and its affiliated companies globally (collectively "Capco") does not, to the extent permissible by law, assume any liability or duty of care for any consequences of the acts or omissions of those relying on information contained in this publication, or for any decision taken based upon it.

About Capco

Capco, a Wipro company, is a global management and technology consultancy specializing in driving transformation in the financial services and energy industries. Capco operates at the intersection of business and technology by combining innovative thinking with unrivalled industry knowledge to fast-track digital initiatives for banking and payments, capital markets, wealth and asset management, insurance, and the energy sector. Capco's cutting-edge ingenuity is brought to life through its award-winning Be Yourself At Work culture and diverse talent.

To learn more, visit www.capco.com or follow us on LinkedIn, Instagram, Facebook, and YouTube.

Worldwide offices

APAC

Bengaluru - Electronic City
Bengaluru - Sarjapur Road
Bangkok
Chennai
Gurugram
Hong Kong
Hyderabad
Kuala Lumpur
Mumbai
Pune
Singapore

MIDDLE EAST

Dubai

EUROPE

Berlin
Bratislava
Brussels
Dusseldorf
Edinburgh
Frankfurt
Geneva
Glasgow
London
Milan
Paris
Vienna
Warsaw
Zurich

NORTH AMERICA

Charlotte
Chicago
Dallas
Houston
New York
Orlando
Toronto

SOUTH AMERICA

São Paulo

About King's Business School

King's Business School is a triple-accredited business school in the heart of London. It ranks amongst the top 10 business schools for research in the UK, based on the Research Excellence Framework 2021, and is consistently ranked in the top ten in the UK for business by the Times and Sunday Times Good University Guide, the Complete University Guide and the Times Higher Global University rankings.

The School advances world-leading education and research across four knowledge frontiers: (1) developing a modern workplace, (2) creating sustainable and socially responsible business, (3) Improving health and public services organisation and (4) strengthening economic and financial systems.

It is the ninth faculty of King's College London, leveraging interdisciplinary potential across the College. It drives pioneering thinking and engages the limitless energies of the city's businesses, policymakers, entrepreneurs and change-makers. King's Business School puts its commitment to drive positive change at the heart of its life-changing research and "London as a classroom" experiential education.

