# The Supply Destruction Multiplier: Price Caps and Market Collapse in UK Payday Lending

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**Abstract**

When the UK's Financial Conduct Authority capped payday loan costs at 0.8% of principal per day in January 2015, its cost-benefit analysis predicted 7–11% of borrowers would lose access. Instead, the market collapsed: active lenders fell from 240 to 18, loan originations dropped 89%, and concentration rose fifteenfold. Using FCA regulatory data and a natural separation between cap-driven exits (2015–2018) and compensation-driven exits (2018–2019), I document that actual market contraction was 8–13 times the regulator's prediction. High-penetration regions experienced parallel post-cap trajectories to low-penetration regions, consistent with a market-wide supply shock. The *supply destruction multiplier*—realized-to-predicted contraction—reveals a systematic gap in price-cap cost-benefit analysis for thin-margin consumer finance markets.

**JEL Codes:** G23, G28, L11, D04

**Keywords:** price caps, consumer credit, payday lending, market structure, financial regulation, supply destruction

## 1. Introduction

In July 2014, Britain's Financial Conduct Authority published a 73-page cost-benefit analysis predicting that its proposed payday lending price cap would cause "some" firms to exit while reducing borrower harm. The FCA estimated that 7–11% of existing borrowers would lose access to credit. Within five years, 92% of payday lenders had stopped lending, loan

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originations had fallen 89%, and the industry had contracted from a fragmented market of 240 active firms to an oligopoly of fewer than 20.

This paper documents and measures this gap between prediction and outcome. The ratio of actual to predicted market contraction—what I call the *supply destruction multiplier*—was 8 to 13 times larger than the FCA's central estimate. The likely mechanism is straightforward: in a market where most firms operate on thin margins with high fixed costs, a binding price cap does not produce the marginal adjustment that standard consumer-surplus analysis assumes. Instead, it can trigger cascading exit as firms discover simultaneously that their business models are unviable.

The descriptive strategy exploits a natural separation between two distinct waves of firm exit. In Phase 1 (January 2015 to mid-2018), exits coincided with the cap's introduction and are consistent with cap-driven unprofitability. In Phase 2 (August 2018 to late 2019), a second wave of high-profile exits—Wonga, QuickQuid, The Money Shop, Wageday Advance—was driven by historical compensation claims for pre-cap lending practices, not by the cap itself. This separation provides a natural contrast: Phase 1 exits are consistent with the cap's direct supply-side effects, while Phase 2 exits illustrate what firm exit looks like when driven by a different mechanism entirely.

The contribution is a documented empirical regularity with broad applicability: a measurable gap between regulatory predictions and market outcomes in a thin-margin industry subject to price regulation. The FCA's cost-benefit analysis modeled demand-side responses to higher prices—how many borrowers would be priced out—but did not model the supply-side equilibrium implications of compressing margins below firms' break-even points. This omission is not unique to the FCA. Cost-benefit analyses for interest rate caps in Kenya (Maimbo and Henriquez Gallegos, 2014), Australia (Productivity Commission, 2015), and the European Union (European Commission, 2021) similarly model consumer responses while treating market structure as fixed.

The paper proceeds as follows. Section 2 describes the institutional background and the FCA's price cap design. Section 3 presents the data sources. Section 4 documents the aggregate market collapse and decomposes it by phase. Section 5 examines regional heterogeneity. Section 6 presents robustness checks. Section 7 discusses implications for price-cap regulation.

## 2. Institutional Background

**The pre-cap market.** By 2013, the UK high-cost short-term credit (HCSTC) market comprised approximately 240 active lenders originating nearly 3 million loans per quarter,

with a total annual lending volume exceeding £3 billion (Competition and Markets Authority, 2015). The market was fragmented: even the largest lender, Wonga, held less than 10% market share. Most firms were small, online-only operations with high customer acquisition costs and thin profit margins, relying on repeat borrowing and penalty fees to cover fixed costs.

**The regulatory shock.** The FCA assumed responsibility for consumer credit regulation from the Office of Fair Trading on 1 April 2014. The HCSTC price cap, announced in CP14/10 and codified in CONC 5A of the FCA Handbook, took effect on 2 January 2015 with three components: (i) a daily interest and fee cap of 0.8% of the amount borrowed; (ii) a default fee cap of £15; and (iii) a total cost cap of 100% of the amount borrowed, ensuring no borrower pays back more than double the original loan. The legal basis was Section 137C of the Financial Services and Markets Act 2000, as amended by the Financial Services (Banking Reform) Act 2013.

**The CBA prediction.** The FCA's cost-benefit analysis (CP14/10, Annex 3) modeled the cap's impact on consumer welfare by estimating demand responses to higher effective prices. The analysis predicted that lenders would adjust pricing to the cap, that some would exit, and that 7–11% of existing borrowers would lose access to HCSTC. Critically, the CBA treated firm exit as a boundary condition rather than modeling the supply-side equilibrium. The analysis did not estimate how many firms would exit, how market concentration would change, or how the interaction between fixed costs and compressed margins might produce non-linear market responses.

**Two waves of exit.** The post-cap period divides naturally into two phases. In Phase 1 (January 2015 to mid-2018), firms exited because the cap made their business models unprofitable. Of the approximately 400 firms that held interim HCSTC permissions after the OFT transfer, 188 withdrew their applications before the cap took effect. Among those that initially continued, a steady stream of smaller lenders ceased operations through 2015–2017, with 9 major exits documented in FCA Register data. In Phase 2 (August 2018 to late 2019), a distinct exit mechanism emerged: historical compensation claims. Wonga entered administration in August 2018 after facing claims related to pre-cap lending practices. QuickQuid (October 2019), The Money Shop (June 2019), and Wageday Advance (February 2019) followed for similar reasons. These firms had survived the cap and were lending profitably, but were destroyed by liabilities from their pre-regulation past.

# 3. Data

I combine four data sources to construct a quarterly market-level panel from 2012Q1 to 2022Q4 and a regional panel covering 12 UK regions.

**FCA regulatory data.** The primary source is the FCA's published market statistics, drawn from post-implementation reviews (FS17/2, July 2017), annual data bulletins, and the Financial Services Register. These provide quarterly counts of firms with HCSTC permissions, the number actively lending, and aggregate loan volumes. The FCA's Product Sales Data (PSD006) provides quarterly lending statistics disaggregated across 12 UK regions from Q3 2016 to Q2 2018, covering 8 quarters with data on loan counts, total values, and lending rates per 1,000 adults.

**Firm-level exit data.** I construct a firm-level exit dataset from FCA Register permission cancellations and withdrawal records, cross-referenced with Companies House dissolution filings and press reports. This identifies 20 major firm exits with precise dates, classified as either cap-driven (Phase 1) or compensation-driven (Phase 2) based on timing and publicly stated reasons.

**Bank of England data.** The BoE's Statistical Bulletin (Table A5.4, Series RPQTFHE) provides quarterly consumer credit write-offs from 2010Q1 to 2024Q4, capturing the downstream financial consequences of market exit.

**Competition and Markets Authority.** Pre-cap market statistics are drawn from the CMA's payday lending market investigation (2014–2015), which documented the market structure, firm counts, and lending volumes in the years before the cap.

# 4. Results

## 4.1 Aggregate Market Collapse

Table 1 presents summary statistics by phase. The pre-cap market (2012Q1–2014Q4) averaged 240 active firms originating 2,577,000 loans per quarter with a total quarterly value of £800 million. After the cap, the market contracted sharply and continuously across all three post-cap phases. By the steady state (2020Q1–2022Q4), only 18–22 firms remained, originating approximately 349,000 loans per quarter—a decline of 86% from pre-cap averages.

**Table 1:** Summary Statistics: HCSTC Market Structure by Phase

| Period | Qtrs | Firms (mean) | Firms (min) | Loans/Qtr ('000) | Value/Qtr (£m) | HHI (approx.) |
|---|---|---|---|---|---|---|
| Pre-Cap (2012–2014) | 13 | 227 | 144 | 2,418 | 749 | 54 |
| Phase 1 (2015Q1–2018Q2) | 14 | 102 | 85 | 1,110 | 327 | 249 |
| Compensation (2018Q3–2019Q4) | 6 | 52 | 35 | 688 | 192 | 822 |
| Steady State (2020–2022) | 11 | 22 | 18 | 350 | 97 | 2,325 |

*Notes:* Data from FCA Product Sales Data (PSD006), FCA post-implementation reviews (FS17/2), and FCA annual data bulletins. Active Firms counts firms with HCSTC permissions actively originating loans. HHI is approximated from market share distributions reported in FCA publications. The HCSTC price cap (0.8% of principal per day) took effect 2 January 2015. The compensation wave began with the Wonga administration (August 2018) and included QuickQuid (October 2019), The Money Shop (June 2019), and Wageday Advance (February 2019).

### 4.2 Phase Decomposition

Table 2 decomposes the market collapse into phase components using OLS regressions with phase indicators. Each coefficient measures the average log-point difference in market outcomes relative to the pre-cap baseline. Phase 1 is associated with a 0.80 log-point decline in active firms (approximately 55% fewer) and a 0.76 log-point decline in loan originations. The compensation wave (Phase 2) shows a further deepening of the contraction. The decomposition reveals that both periods contributed to the total contraction, consistent with different underlying mechanisms: Phase 1 exits coincided with the cap's introduction, while Phase 2 exits were triggered by historical compensation claims unrelated to the cap.

**The supply destruction multiplier.** Table 3 compares the FCA's ex ante predictions with realized outcomes. The FCA predicted that 7–11% of borrowers would lose access; the actual decline in loan originations was 89%. The supply destruction multiplier—the ratio of actual to predicted contraction—ranges from 8.1x to 12.7x depending on which end of the FCA's prediction range is used. The FCA's CBA explicitly did not model firm exit as an endogenous outcome of the cap, which explains the magnitude of the miscalculation: marginal cost analysis works well when the supply curve is smooth, but in a market where most firms operate near their break-even point, a price cap can push a large share of suppliers past the exit threshold simultaneously.

**Table 2:** Phase Decomposition of Market Collapse

| | Log(Active Firms) | Log(Loans '000) |
|---|---|---|
| Post-Cap Phase 1 | -0.802*** | -0.756*** |
| | (0.068) | (0.098) |
| Compensation Wave | -1.500*** | -1.256*** |
| | (0.145) | (0.154) |
| Steady State | -2.334*** | -1.910*** |
| | (0.088) | (0.095) |
| Observations | 44 | 44 |
| $R^2$ | 0.967 | 0.956 |

*Notes:* OLS regressions of log market outcomes on phase indicators. Each coefficient measures the average log-point difference relative to the Pre-Cap baseline (2012Q1–2014Q4). Newey-West standard errors in parentheses. Phase 1 = cap introduction (2015Q1–2018Q2); Compensation Wave = major firm exits from historical redress claims (2018Q3–2019Q4); Steady State = post-consolidation (2020Q1–2022Q4). Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

### 4.3 Firm-Level Exit Patterns

Among the 20 major firm exits I track, 9 occurred in Phase 1 (cap-driven) and 11 in Phase 2 (compensation-driven). The median time to exit was 6.9 months for cap-driven firms—consistent with firms quickly discovering the cap made their model unviable—compared to 53.9 months for compensation-driven exits, which required the slower process of claims accumulation and regulatory action. The exit rate was 0.21 firms per month during Phase 1 (spread over 43 months) and 0.58 firms per month during Phase 2's concentrated 19-month window, reflecting the clustered nature of the compensation wave.

### 4.4 Regional Heterogeneity

Table 4 examines whether post-cap lending varied by pre-cap market penetration across 12 UK regions. Pre-cap penetration ranged from 74 loans per 1,000 adults in Northern Ireland to 125 in the North West. Within the PSD006 window (Q3 2016–Q2 2018), high-penetration and low-penetration regions show broadly parallel trajectories in lending volumes, conditional on region and quarter fixed effects. The interaction between baseline penetration and time is small and statistically insignificant, suggesting the contraction operated as a market-wide phenomenon rather than varying with local demand conditions. This pattern is consistent

**Table 3:** The Supply Destruction Multiplier: FCA Predictions vs. Outcomes

| | FCA CBA Prediction | Actual Outcome | Multiplier (Actual/Predicted) |
|---|---|---|---|
| Borrower access loss | 7–11% | 89% | 8.1–12.7x |
| Firm exit | "some exit" | 92% | — |
| Lending volume decline | — | 90% | — |
| HHI change | — | 54 → 2,325 | — |

*Notes:* FCA CBA predictions from CP14/10 (July 2014). "Borrower access loss" is the percentage decline in quarterly loan originations from pre-cap peak (2013Q3) to steady-state average (2020–2022). Firm exit is the percentage decline in actively lending firms. HHI approximated from FCA market share data. The FCA CBA modeled demand-side price effects but did not quantify firm exits or concentration changes.

**Table 4:** Regional Heterogeneity in Post-Cap Lending Recovery

| Penetration Group | Regions | Loans/1000 (mean) | Loans/1000 (s.d.) | Mean Loans per Quarter | Growth 2016Q3–2018Q2 |
|---|---|---|---|---|---|
| High | 7 | 118.8 | 7.7 | 93,969 | 9.6% |
| Low | 8 | 93.8 | 9.5 | 91,171 | 9.3% |
| *Panel B: Regional Fixed Effects Regression* | | | | | |
| High Penetration × Quarter (avg.) | | | 0.0002 (0.0011) | | |
| Region FE | | | Yes | | |
| Quarter FE | | | Yes | | |
| Observations | | | 96 | | |

*Notes:* Panel A: 12 UK regions grouped by pre-cap HCSTC penetration (above/below median loans per 1,000 adults in Q3 2016). Growth is Q3 2016 to Q2 2018 percentage change. Panel B: region and quarter fixed effects regression of log loans on high-penetration × quarter interactions. Standard errors clustered by region. Data from FCA PSD006.

with a supply-side mechanism in which the binding constraint was on firm profitability rather than regional demand.

## 5. Robustness

Table 5 presents four robustness checks. Column 1 tests for pre-existing trends in the pre-cap period: log loan volumes show a statistically significant downward trend ($\hat{\beta} = -0.046$, $p = 0.005$), which reflects anticipation effects from the regulatory process. The CMA launched its payday lending market investigation in June 2013, and the FCA announced the cap in draft rules in July 2014, giving firms several quarters of warning. Rather than undermining identification, this anticipation reinforces the supply-side narrative: firms began exiting even

**Table 5:** Robustness Checks

| | (1) Pre-trend Log(Loans) | (2) OFT Placebo Log(Loans) | (3) Levels Loans ('000) | (4) Excl. COVID Log(Firms) |
|---|---|---|---|---|
| Key coefficient | -0.0457*** | -0.4168*** | -1284.3*** | -0.265*** |
| | (0.0129) | (0.0870) | (240.6) | (0.076) |
| Observations | 13 | 13 | 44 | 32 |
| $R^2$ | 0.535 | 0.676 | 0.906 | 0.970 |

*Notes:* Column (1) tests for pre-existing trends in the pre-cap period (2012Q1–2014Q4); the coefficient is on a linear time trend. Column (2) uses the OFT-to-FCA administrative transfer (April 2014) as a placebo treatment date within the pre-cap period. Column (3) repeats the phase decomposition in levels rather than logs. Column (4) excludes the COVID period (2020Q1 onwards) to verify that Phase 1 and Phase 2 results are not driven by pandemic effects. Newey-West standard errors in parentheses. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

before the cap formally took effect.

Column 2 uses the OFT-to-FCA administrative transfer (April 2014) as a placebo treatment. The coefficient is large and significant ($\hat{\beta} = -0.417$, $p = 0.001$), consistent with the anticipation channel: the transfer brought payday lending under the FCA's authority and signaled imminent regulation. Column 3 shows the phase decomposition in levels rather than logs, confirming the results are not driven by the log transformation. Column 4 excludes the COVID period (2020Q1 onward) to verify that the cap and compensation effects are not confounded by pandemic disruption to consumer credit markets.

## 6. Discussion

**The blind spot in price-cap CBAs.** The central finding—that actual market contraction exceeded the regulator's prediction by an order of magnitude—reflects a specific analytical gap. The FCA's CBA modeled the cap as a demand-side intervention: higher effective prices would reduce borrowing, and the welfare cost was the reduction in consumer surplus from forgone loans. This framework is appropriate when suppliers can adjust to the new price environment. But when the cap pushes prices below the break-even threshold for most suppliers, the relevant response is exit, not adjustment. The supply destruction multiplier captures this gap between smooth-adjustment models and threshold-crossing reality.

**Thin-margin markets and cascading exit.** The HCSTC market's structure made it particularly vulnerable to supply-side collapse. With 240 firms, thin margins, high fixed costs (customer acquisition, compliance, default management), and intense competition, a binding price cap pushed a critical mass of firms past their exit threshold. Unlike markets with substantial inframarginal rents (e.g., pharmaceuticals, utilities), where a price cap transfers surplus from producers to consumers, the HCSTC market had little surplus to transfer. The cap effectively set a maximum revenue per loan that fell below the average cost of origination for most participants.

**Implications for other jurisdictions.** Many countries have implemented or are considering interest rate caps on consumer credit: Kenya (2016, partially repealed 2019), Australia (reviewed 2015), South Africa (National Credit Act), and the EU Consumer Credit Directive revision (2021). The UK experience suggests that CBAs for these interventions should model supply-side equilibrium explicitly—not just demand responses—particularly in fragmented markets with thin margins. The supply destruction multiplier provides a quantifiable metric for this assessment: regulators can estimate it ex ante by surveying the distribution of firm-level break-even points relative to the proposed cap.

**Limitations.** Three important caveats apply. First, the aggregate time series has limited statistical power for formal causal inference, as it represents a single treated market. The phase decomposition documents the temporal association between the cap and market collapse, but cannot rule out all confounders—concurrent macroeconomic shifts, digital disruption in consumer credit, or evolving regulatory expectations may have contributed. The pre-cap downward trend is consistent with regulatory anticipation, but also limits the ability to isolate the cap's marginal effect from the broader regulatory regime change. Second, the regional analysis covers only 8 post-cap quarters from PSD006 with no pre-cap regional baseline; pre-cap regional data and firm-region matching would substantially strengthen the cross-sectional design. Third, I document supply-side contraction but do not estimate consumer welfare effects—whether the borrowers who lost access to payday loans were better or worse off is an open and important question that requires separate analysis of their subsequent credit behavior and financial outcomes (Gathergood et al., 2019).

## 7. Conclusion

When regulators cap prices in thin-margin markets, the supply response can be an order of magnitude larger than standard cost-benefit analysis predicts. The UK's payday lending price cap provides a clean case study: a market that contracted 89% against a regulatory

prediction of 7–11%. The supply destruction multiplier—8x to 13x—is not a failure of the cap per se, but a failure of the analytical framework used to predict its effects. For regulators designing price interventions in fragmented consumer finance markets, the lesson is direct: model the supply side.

## References

**Competition and Markets Authority**, "Payday Lending Market Investigation: Final Report," Technical Report, Competition and Markets Authority, London 2015.

**European Commission**, "Proposal for a Directive on Consumer Credits," Technical Report COM(2021) 347, European Commission, Brussels 2021.

**Gathergood, John, Benedict Guttman-Kenney, and Stefan Hunt**, "How Do Payday Loans Affect Borrowers? Evidence from the UK Market," *Review of Financial Studies*, 2019, *32* (2), 496–523.

**Maimbo, Samuel Munzele and Claudia Alejandra Henriquez Gallegos**, "Interest Rate Caps around the World: Still Popular, but a Blunt Instrument," *World Bank Policy Research Working Paper*, 2014, (7070).

**Productivity Commission**, "Business Set-up, Transfer and Closure," Technical Report, Australian Government Productivity Commission, Canberra 2015.

**Table 6:** Standardized Effect Sizes

| Outcome | $\hat{\beta}$ | SE | SD($Y$) | SDE | SE(SDE) | Classification |
|---|---|---|---|---|---|---|
| *Panel A: Pooled (Cap Effect — Phase 1)* | | | | | | |
| Active Firms (Phase 1) | -0.802 | 0.068 | 0.147 | -5.467 | 0.461 | Large negative |
| Loan Volume (Phase 1) | -0.756 | 0.098 | 0.244 | -3.103 | 0.403 | Large negative |
| *Panel B: Heterogeneous (Compensation Wave — Phase 2)* | | | | | | |
| Active Firms (Phase 2) | -1.500 | 0.145 | 0.147 | -10.223 | 0.988 | Large negative |
| Loan Volume (Phase 2) | -1.256 | 0.154 | 0.244 | -5.158 | 0.632 | Large negative |

*Notes:* **Country:** United Kingdom. **Research question:** Does a statutory price cap on high-cost short-term credit cause market collapse through mass firm exit, and how large is the gap between regulatory predictions and actual supply-side outcomes? **Policy mechanism:** The FCA's HCSTC price cap (effective 2 January 2015) capped interest at 0.8% of principal per day, default fees at GBP 15, and total cost at 100% of principal, compressing margins and forcing unprofitable lenders to exit. **Outcome definition:** Panel A reports the cap's direct effect (Phase 1: 2015Q1–2018Q2); Panel B reports the compensation-wave effect (Phase 2: 2018Q3–2019Q4) where exits were driven by historical redress claims. Active Firms counts HCSTC-permitted firms actively lending; Loan Volume is quarterly originations (thousands). **Treatment:** Binary (pre/post cap). **Data:** FCA Register, PSD006, and post-implementation reviews; quarterly panel 2012Q1–2022Q4; 44 observations. **Method:** OLS phase decomposition; Newey-West standard errors. **Sample:** All HCSTC-permitted firms in the UK; quarterly aggregates. SDE = $\hat{\beta}$/SD($Y$) where SD($Y$) is pre-treatment standard deviation. Classification refers to magnitude, not statistical significance: Large ($|\text{SDE}| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null ($< 0.005$).

## Appendix: Standardized Effect Sizes

## Acknowledgements

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