# Empirical Evidence on All-Units Discounts and Full-line Forcing

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**Conditional Pricing Practices:**
**An FTC - DOJ Workshop**

# Effects of Conditional Pricing Practices

**Importance of Empirical Work:**

- Potential efficiency gains may be offset by anti-competitive effects, such as foreclosure
- If vertical contracts induce both foreclosure and efficiency gains, their overall welfare effects must be examined empirically

**Challenges:**

- Data are proprietary
- Lack of exogenous variation in prices/choice sets makes demand estimation difficult
- Downstream actions are endogenous and hard to measure (e.g., effort, choice of product assortment, non-price actions), which makes supply-side estimation difficult
- Every industry, every contract is different in important ways

# Multi-product, Limited Retail Competition

## Two Studies:

- All-Units Discounts in the Confections Industry
- Full-line Forcing in the Video Industry

## Bottom-line Conclusion in both Studies:

- Welfare effects depend on substitutability between products (Demand estimation is important.)
- Retail features (e.g., capacity constraints, fixed pricing), may make it unnecessary to contractually reference rivals
- AUDs & FLFs induce both efficiency gains & partial foreclosure
- FLF combines quantity force with efficient two-part tariff pricing
- Welfare effects for both are positive: social surplus is higher with the contracts, but does not achieve socially-optimal outcome

# AUDs in Confections: The Contract

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## 2010 Vend Operator Program

**Gold Rebate Level**

- **Continuously stock 6 Singles or King Size items**
  - Reduction from 7 must-stock items in 2009!
    - *SNICKERS® Bar singles or king size*
    - *M&M'S® Peanut Chocolate Candies singles or king size*
    - *M&M'S® Candies – any other variety (Milk Chocolate, Almond, Peanut Butter or Coconut) singles or king size*
    - *TWIX® Cookie Bar single – any variety singles or king size*
    - *3 MUSKETEERS® Bar or MILKY WAY® Bar- any variety singles or king size*
    - *SKITTLES® Bite Size Candies or STARBURST® Fruit Chews – any variety singles or king size*
- **Index >90 versus 2009**
  - Quarterly case index of 90 versus 2009

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MARS chocolate north america

| Performance | Items | | $ Per Bar (singles) |
|---|---|---|---|
| *GOLD Rebate* | SNICKERS® and M&M'S® Peanut | 3% | $ 0.015 |
| Index 90 | All other MARS vend items | 8% | $ 0.040 |

# AUDs in Confections: Empirical Approach

## Detailed Data from One Retailer:

- Wholesale prices, rebate payments, field experiment
- Two ways to qualify for rebate (We see both):
  - Provide high level of effort or re-stocking (efficiency)
  - Stock Mars products at a “high” rate, and highly substitutable competing products at a “low” rate (partial foreclosure)
  - Note: “high” stocking rate for non-substitutable competing products

## Important Elements of the Study:

- Structural model of demand (importance of substitution patterns)
- Dynamic model of endogenous retail effort (restock all products)
- Retail effort: substitutable across upstream firms. Higher effort has a negative impact on upstream competitors.

# AUDs in Confections: Results

## Field Experiment:

- Without AUD, Mars bears 90% of cost of stock-outs
- With AUD, Mars bears 50% of cost of stock-outs
- Competing products are highly substitutable

## Structural Model:

- Without AUD, Retailer effort is lower than Mars wants
- With AUD, Mars-Retailer re-stocks “too often” from perspective of industry/society (effort is found to be substitutable)
- At current wholesale prices, social welfare improves with AUD
  - Consumers benefit from greater retail effort
  - Substitutability of products: partial foreclosure does little harm to consumers
- But, AUD does not achieve socially-optimal effort or assortment

# FLF in Video: The Contracts

## Retailers Choose Assortment and Contract:

- Assortment: 42% of all new titles (avg.)
- À la carte single-product contracts:
  - Linear pricing (high upfront fee, retailer keeps rental revenues)
  - Revenue-sharing (a low upfront, plus a share of rental revenues) with a quantity force
- Full-line forcing:
  - Requires purchasing a studio's full-line of products with a quantity force
  - Payments include a low upfront, plus a share of rental revenues
  - 80% of retailers use at least one FLF contract

## Studios Choose Contracts to Offer:

- Can't eliminate linear pricing (monitoring requirements)
- Five of nine major studios offer a FLF contract

# FLF in Video: Empirical Approach

## Detailed Data for Industry:

- Retail assortment and inventory choices, contract choices and terms, retail prices and quantities
- Studio contract offerings and revenues
- Broad coverage: over 6,000 retailers for four years

## Important Elements of the Study:

- Structural model of demand, accounting for product churn, and substitution across products and over time (stock-outs)
- Supply-side model of value/cost of holding additional products and/or inventory (the impact of the force)
- Contract combines vertical bundling with lower upfront fees
- Largest studios don’t offer FLF (retailers already buy full line)

# FLF in Video: Results

**Retailers choose the profit-maximizing contract**

**Studios offer profit-maximizing set of contracts**

**Three effects:**

- Efficiency: revenue-sharing form of FLF reduces double-marginalization and leads to higher inventories
- Market Coverage: retailers carry more products (greater variety)
- Leverage: FLF crowds out competing products

**Efficiency and Market Coverage effects dominate**

# Conclusion

## These studies focus on:

- Multi-product cases
- Settings for which retail competition is not a crucial feature

## Other industries and settings will differ, but:

- Important to understand the details of each industry and each contract to understand the potential welfare effects
- Linear pricing (i.e., less flexible contracts) may achieve worse outcomes