Sellers' inflation beyond collusion: Schumpeter meets Lerner

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Abstract

The relationship between firm markups and inflation remains contested. We develop a demand-side explanation for markup dynamics in times of inflation that distinguishes two opposing effects of price dispersion on consumer search. Higher dispersion can raise the cost of comparing sellers, but it can also raise the inclusive-value benefit of searching more broadly because low-price options become more valuable. We develop a two-stage random-utility formulation that yields cost-dominant, neutral, and benefit-dominant search regimes. Depending on which channel dominates, consumers' consideration sets shrink or grow following an increase in price dispersion. We embed these regimes in an agent-based model with heterogeneous firms, variable markups, and firm-specific exit tolerance. Following a heterogeneous cost shock, sellers' inflation—operationalized as an excess pass-through of an input cost shock to output prices—emerges in the cost-dominant and, more moderately, in the neutral regime, but disappears or reverses when the benefit channel expands consideration sets. The benefit-dominant regime also generates the highest aggregate productivity and market concentration, while markups and profits are lowest. Concentration is therefore benign in this regime: it reflects stronger selection toward productive, low-price firms rather than greater discretionary pricing power. The model consequently provides a microfoundation for why concentration, market power, and allocative efficiency need not move together during cost shocks.

Keywords: Inflation, Markups, Agent-based modeling, Consumer behavior, Price dispersion

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1. Introduction

The relationship between firm markups and inflation remains contested (Gwin & van Hoose, 2011), and the potentially outsized role of corporate profits and markups during the latest inflationary episode has added fuel to a fiery debate among both academics and policymakers alike (Lagarde, 2024; Weber et al., 2025). While recent empirical studies on markup and profit dynamics reveal large heterogeneities among industries, regions, and periods under investigation, many suggest that a substantial share of firms maintained or increased markups in response to wide-ranging cost shocks (Nikiforos et al., 2024). This begs the question whether firms do so despite risking a loss of market share and absolute profits – or whether they are in fact able to preserve or increase their markups without impeding their market share and profitability. While much of the empirical evidence points to the latter, existing explanations for this phenomenon – often referred to as a profit-led or sellers' inflation – are either limited in their applicability or fall short in explaining *why* firms that previously competed for market share via prices i) now raise prices in proportion or even excess of the initial cost shocks and ii) do so without impeding their market share and profitability.

To address this shortcoming, we suggest a demand-based mechanism that builds on a textbook inflation cost: price dispersion changes the informational environment in which consumers compare sellers. We model heterogeneous firms and consumers in a two-stage choice process. Consumers first choose how many firms to consider and then select one seller from that set using a logit rule, which maps relative prices into choice probabilities while allowing for idiosyncratic tastes. Both stages arise from the same random-utility framework: the ex-post logit probabilities also generate the ex-ante log-sum, or inclusive value, from searching more broadly. Price dispersion can therefore affect consideration sets through two channels. It can raise comparison costs, but it can also increase the option value of finding an unusually low-price seller.

This distinction produces three regimes. In the cost-dominant regime, comparison costs rise more than marginal inclusive-value benefits and consideration sets contract. In the neutral regime, their size remains fixed. In the benefit-dominant regime, the option value of additional search dominates and consideration sets expand. Our simulations show that strong excess pass-through, rising markups, and rising profits emerge in the cost-dominant regime. In the neutral regime, a smaller sellers' inflation response remains because consumers still search within a restricted set. Excess pass-through disappears or becomes negative in the benefit-dominant regime. Intriguingly, the benefit-dominant regime displays both the highest productivity and the highest concentration, which in our model is an endogenous consequence of effective selection toward low-price, productive firms rather than a sufficient statistic for market power.

The remainder of this paper is organized as follows. Section 2 summarizes the related literature and motivates the two-channel approach. Section 3 presents the model, the random-utility microfoundation of consideration-set formation, and the simulation regimes. Section 4 reports the benchmark results, the relationship between search and excess pass-through, the concentration-efficiency findings, and parameter sensitivity. Section 5 concludes. Appendix C develops the full random-utility microfoundation of consideration-set formation and derives the comparative statics implemented in reduced form in the simulations.

2. Related Literature

2.1 Background and Empirical Evidence

Our work relates to several different strands of literature. Most prominently, it adds to an ongoing contention about the relationship of firms' markups and inflation (see Gwin and van Hoose (2011) for an overview of earlier contributions). Building on the foundational work of

Weber and Wasner (2023), firms' markups and profits have come under scrutiny once again for potentially driving inflationary pressures. Indeed, several empirical studies suggest firms to have maintained or even increased markups in the latest inflationary episode (e.g. Storm, 2023; Nikiforos et al., 2024, for the U.S.; Acharya et al., 2023, for the Euro area), while enjoying robust or increasing profits (Glover et al., 2023a; Guschanski and Onaran, 2025; Konczal and Lusiani, 2022; Storm, 2023). See Appendix A for a full overview of this literature, including studies that report mixed results on the relationship of markups and inflation.

This phenomenon is often referred to as a profit-led or sellers' inflation. The latter term was initially coined by Lerner (1958) to describe inflationary pressures resulting from firms' or workers' attempts to increase their shares of income through price and wage setting, rather than by excess demand. Unlike buyers' inflation, which occurs when prices rise due to consumers bidding for scarce goods, sellers' inflation results from autonomous price hikes by sellers and wage pressures, even in the absence of demand pressures. The recent debate on the existence and relevance of such a sellers' inflation dynamic saw some contention about the definition and application of this concept. At the core of the discussion is the role and relationship of firms' markups versus profits and the question whether a profit-led or sellers' inflation requires (non-cyclical) increases in markups and/or profits following a cost shock, or, if constant markups and (non-cyclical) increases in profits already warrant such a classification. In this paper, we operationalize sellers' inflation as excess pass-through: the response of the sales-weighted consumer price index beyond the response of producer costs. We use the accompanying movements in sales-weighted markups and aggregate profits to distinguish a genuine sellers' inflation mechanism from a mechanical increase in prices caused by higher costs.

It is often overlooked that an excess pass-through presupposes that demand has become sufficiently inelastic. Otherwise, consumers would punish the cost pass-through by substituting away from the now more expensive good, and, in doing so, mitigate increases in profits or the overall price level (Amiti, Itskhoki & Konings, 2019). Under the standard oligopoly benchmark, firms would instead shoulder a part of the burden by decreasing their markups following a cost shock (Weyl & Fabinger, 2013). With this theoretical rationale in mind, we contend that the focus on firms' markups has obscured the fact that firms' price-setting is constrained by the substitution behavior of customers. From this perspective, the question is not so much why firms increase markups in the wake of a cost shock, but rather why demand for their products has apparently become sufficiently inelastic to allow them to do so. This does not mean, however, that the initial question of why firms decide to pass-through cost increases in proportion or even excess of cost increases is a trivial one. As Weber and Wasner (2023) point out, this at first seems to go against established insights on firms' pricing strategies, which suggest firms to refrain from raising prices to protect their market share.

A satisfactory explanation for the phenomenon of sellers' inflation must thus answer the two central questions of why firms that previously competed for market share through prices i) now decide to raise prices in proportion or even excess of an initial shock and ii) are able to do so without impeding their market share and profitability. Notably, many of the studies affirming an outsized role to markups and corporate profits in driving the recent inflationary pressures remain vague in their answers to these questions. Usually, these studies revert to some notion of market power, implicit collusion or consumers' perceived legitimacy for price hikes but fail to map out a detailed and congruent mechanisms to answer the questions raised above.

2.2 Existing Explanations for Sellers' Inflation

The most comprehensive explanatory attempt can be found in the foundational study of Weber and Wasner (2023). They propose a three-stage process – impulse, propagation and conflict – of which we focus on the first two, since these address the role of profits and markups. The conflict stage instead concerns workers' attempts to regain real wage losses. At the impulse stage, rising prices in upstream sectors due to bottlenecks or commodity dynamics create windfall profits. As pointed out by Weber et al. (2025) these profit dynamics of individual firms or sectors may or may not be large enough to move measures of aggregate markups. At the propagation stage, price increases pass downstream via intermediate input costs. Weber and Wasner (2023) argue that such shocks function as an implicit coordination mechanism, prompting firms that would otherwise compete on price, to raise prices jointly, each expecting rivals to do the same. Yet this leaves open why such firms would fully – or more than fully – pass through cost increases rather than undercut rivals. To this end, the authors provide a further qualification of their initial argument: In times of industry-wide supply constraints, firms are unable to gain market share from competitors. This is convincing where physical shortages or capacity constraints bind, as in shipping or semi-conductors and empirical evidence supports this channel (Acharya et al., 2023, Weber et al., 2025). But where supply constraints raise costs without binding quantities, as with the energy shock, question i) persists: since competitors face no physical constraint, full or excess pass-through still risks losing market share and/or profits, contradicting established pricing-strategy logic (Weber and Wasner, 2023).

Prior studies attribute this change in pricing-strategy to market power, but – beyond the supply-constrained case – remain vague on the underlying mechanism. This is a serious shortcoming since the well-documented pre-shock rise in markups and market power did not produce a comparable increase in the aggregate price level (De Loecker et al., 2020). Moreover, while some studies do suggest that higher pre-pandemic markups correlate with markup growth in the recent inflationary spell (e.g. Acharya et al., 2023), Davis (2024) documents growth at both the highest and lowest markup percentiles among publicly listed U.S. firms and Guschanski and Onaran (2025) even find large but low-markup firms to be the driver of markup growth in the

UK since 2019. Finally, explaining markup increases via market power risks tautology when market power is itself measured by markups.

Other studies point to implicit collusion among firms as a potential generating mechanism for sellers' inflation (Weber and Wasner, 2023; Weber et al., 2025). However, the applicability and scope of this mechanism is hard to assess. While both studies find some suggestive evidence for this channel by analyzing corporate earnings calls, many of their results point more broadly to a positive sentiment of executives towards industry-wide cost shocks and price volatility, leaving open the possibility of different explanatory attempts. Given the ample empirical evidence across a diverse set of industries and countries for remarkably robust or increasing markups, both physical supply constraints as well as implicit collusion appear too narrow to explain the extent of this dynamic. Supply-side explanations, while not to be ruled out, thus appear insufficient to answer the questions raised above.

It is again Weber and Wasner (2023) who suggest another, this time demand-based mechanism of amplification for profit-fueled inflationary pressures: consumers' perceived legitimacy for price hikes in times of inflation reducing their elasticity of demand. However, this moral economy consideration is difficult to validate and has been largely neglected in subsequent investigations of profit-led inflation. With the notable exceptions of Caruso Bloeck (2024) and Scanlon (2024), which will be discussed below, explorations into demand-based explanations of sellers' inflation remain missing.

2.3 A Novel Explanation

In this paper, we aim to address this gap. We do not assume that a higher aggregate inflation rate mechanically makes price comparison harder. The mechanism is instead triggered by heterogeneous price changes: when relative prices move asynchronously, previously learned rankings become less reliable and consumers must update more information to compare offers. Broader search can nevertheless become more valuable because a dispersed price distribution offers a greater chance of finding a low-price option. This argument complements research on scarce attention and restricted consideration in market models (Caruso Bloeck, 2024; Eliaz & Spiegler, 2011; Caplin et al., 2019; Scanlon, 2024). It is also consistent with the notion that attention and choice are distinct margins of consumer behavior (Kepp & Männasoo, 2025) and that limited attention can sustain transaction-price dispersion even for identical goods in a thick online market (Morgan et al., 2018). Our model allows the direction of the consideration-set response to be determined by the relative strength of the cost and benefit channels.

This connects to a longstanding strand of literature discussing the role of search costs in modulating the relationship between inflation and firms' markups (Benabou, 1992; Benabou & Gertner, 1993; Diamond, 1993; Gwin & Taylor, 2004; Gwin & Van Hoose, 2011). Waldeck (2008) shows that the relationship between consumer information, search intensity, price levels, and dispersion need not be monotone, which reinforces our decision not to impose a one-way effect of dispersion on search. Of particular interest is the work of Gwin and Taylor (2004), who investigate the effect of search costs on profit margins in times of inflation in the US. Their results suggest markups increase during inflation if search costs become sufficiently high, while inflation lowers markups in industries characterized by relatively low consumer search costs. While we do not model search costs as a literal pecuniary fee, our mechanism is closely related: heterogeneous price movements make previously learned relative-price rankings less reliable and require more frequent information updating. We refer to this more broadly as an increase in informational comparison costs, encompassing the cognitive and practical frictions associated with navigating a volatile and dispersed price environment.

Remarkably, the role of search and informational costs has gone unnoticed in the recent debate on the nexus of markup dynamics and inflation with two notable exceptions: First, Caruso Bloeck (2024) develops a search model in which inflation uncertainty reduces the informativeness of prices about relative costs. This negatively affects consumers' search behavior, rendering them less responsive to individual price signals. As a response, firms raise their markups. Ultimately, the increased informational costs of inflation uncertainty result in significant welfare losses through reduced allocative efficiency. Second, Scanlon (2024) presents a model comprising a representative consumer and a continuum of monopolistically competitive firms. Here, price volatility obscures price signals for consumers, complicating their decision making. This results in a reduced elasticity of demand on the consumer side which in turn increases firms pricing power.

Our model of consumer search behaviour is based on a two-stage consumption model. In the first stage, consumers choose the size of a consideration set, which represents a restricted subset of all available market options. In the second stage, consumers evaluate and choose only among firms in that set. The two stages are connected through a common random-utility object: the logit rule governing ex-post seller choice generates an ex-ante inclusive value from enlarging the set. Marginal inclusive-value gains are diminishing, but the effect of greater price dispersion on those marginal gains is generally ambiguous. This yields a cost-dominant regime in which sets shrink, a neutral regime in which they remain fixed, and a benefit-dominant regime in which they expand. The first regime nests the informational-cost mechanism emphasized in the current manuscript; the third provides its theoretically natural counter-regime.

The dynamics of our model reveal two results. First, sellers' inflation is conditional on the search response: excess pass-through emerges when consideration sets contract or remain restricted, but not when the benefit channel induces sufficiently broad search. Second, concentration has no direct mapping into market power. Under the benefit-dominant channel, broader search shifts market shares toward low-price and productive firms. Concentration consequently increases together with allocative efficiency, while markups and profits fall. Under the cost-dominant channel, weaker effective demand elasticity masks productivity differences, reduces the alignment of market shares with productivity, and permits higher markups despite lower concentration. The model therefore provides a microfoundation for the critique of a simple Structure-Conduct-Performance interpretation: concentration is itself an endogenous outcome of consumer search, the causal direction can run from conduct and selection to structure, and even the sign of the relationship between concentration and market power can reverse (Demsetz, 1973; Peltzman, 1977). Thus, concentration is an endogenous outcome of productivity heterogeneity and market-share as in Terranova & Turco (2022). Our contribution isolates a countercase to the usual market-power interpretation: concentration rises while markups and profits fall when broader search strengthens selection.

3. Model Setup

Methodologically, we opt for an agent-based model in our analysis, which appears as the most appropriate framework for explicating our theoretical mechanism for three reasons: First, we are interested in the potentially out-of-equilibrium response and adjustment of economic agents to a massive cost-push shock in time, which would be obscured by a mere comparative-statics exercise comparing equilibria before and after the cost shock. Second, modelling the individual information set available to each agent in each period is crucial for our proposed mechanism, which might prove difficult to achieve with a purely analytical model. Third, agent-based models have proven to be a suitable tool for studying the dynamics and outcomes of heterogeneous, strategically interacting agents, such as firms and households (Steinbacher et al., 2021). While sellers' inflation is understood as precisely such a phenomenon, formal simulation models that focus specifically on that strategic interaction between firms and households in inflation scenarios are rare. Closest comes the work of Ciambezi et al. (2025), who develop a large-scale macroeconomic agent-based model to investigate the interplay of demand and supply factors in driving inflationary dynamics under imperfect information. As in our model, firms set prices according to a markup rule. However, in their setup, consumer demand depends negatively on the price and positively on firm size, without incorporating informational frictions on the demand side. As market concentration increases, inflationary pressures become increasingly driven by rising markups, potentially giving rise to sellers' inflation. In contrast, our deliberately smaller model isolates a specific informational mechanism: heterogeneous price changes can make relative-price rankings obsolete, thereby hindering the matching of demand to low-price suppliers when consideration sets contract. The mechanism is not driven by the number of active firms, which remains fixed through entry; concentration changes through market-share reallocation.

Our model setup builds upon a simplified version of the goods market of the canonical, agent-based *Schumpeter meets Keynes* model (Dosi et al., 2010) as well as the bare-bones variant of a replicator dynamics framework with stochastic productivity improvements as in Dosi et al. (2017). Advancing on their work, we introduce micro-founded consumer-firm interactions which replaces the replicator dynamics as a market selection mechanism. The model setup is discussed in detail in the following section.

The model consists of two sectors: (i) a goods market with N firms producing a homogeneous consumption good and (ii) a household sector with K consumers. Consumers make a two-stage purchasing decision. They first choose the size of the set of firms they consider and subsequently choose one seller within that set according to a logit rule, as in the Eurace@Unibi model (Dawid et al., 2019). The first-stage set-size decision is disciplined by the inclusive value generated by the same random-utility object as the second-stage logit choice (see discussion below). On the supply side, we retain the learning, variable-markup, and market-selection structure of Dosi et al. (2017), introduce raw-material costs into firms' pricing, and allow firms to survive a heterogeneous number of consecutive non-positive-profit periods before exiting.

3.1 Sequence of Events

Figure 1 summarizes the order of events within each simulation period. The input-cost shock is introduced at the beginning of period 100 and remains embedded in firms' raw-material costs thereafter.

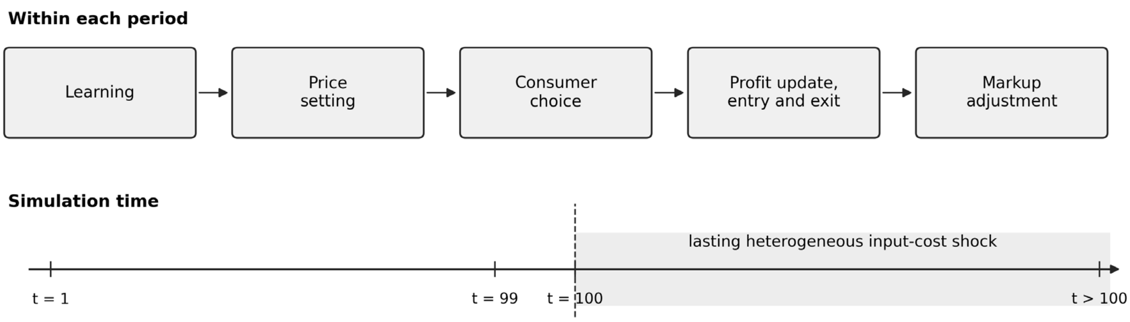

Figure 1: Sequence of events within each simulation period and timing of the lasting input-cost shock.

Learning: Firms receive idiosyncratic productivity shocks that update their capabilities and variable unit costs.

Price setting: Firms apply their current markup to raw-material and variable unit costs.

Consumer choice: Consumers update the target size and composition of their consideration sets depending on the dominant regime, i.e., cost-dominant, neutral, or benefit-dominant. They then select one seller from the realized set using the logit probabilities in Equation (5) and spend their predetermined expenditure on that firm's good.

Entry and exit: Firms update profits and count consecutive periods without positive profits. A firm exits only when this count reaches its firm-specific tolerance, drawn once from a discrete uniform distribution on {3, 4, 5}; entrants replace exiting firms immediately—so that the number of active firms in the market stays constant—and draw their own tolerance.

Markup adjustment: Surviving firms update markups for the next period according to sales growth. When current or lagged sales are zero, the markup is carried forward rather than applying an undefined growth rate.

3.2 Learning

Firms produce a homogeneous consumption good. Firms are endowed with capabilities that can evolve through learning (Dosi et al., 2000; Teece et al., 1997). These capabilities determine their productive efficiency. Learning at the firm level includes innovations in product design, production efficiency, supply-chain management, and marketing (Schulz & Mayerhoffer, 2021). We adopt the firm-specific learning mechanism from Dosi et al. (2017), first proposed in Dosi et al. (1995). For this multiplicative stochastic process, firm *i* determines its productivity as follows:

$$A_{i,t} = A_{i,t-1} \cdot (1 + \lambda_{i,t}) \tag{1}$$

where the firm-specific learning shock is drawn from a Laplace distribution with location -0.01 and scale 0.01. The negative location offsets the positive selection effect generated by the exit and reallocation mechanism, keeping aggregate productivity and the CPI approximately stationary before the cost shock. This parameterization is a detrending device that allows us to isolate the response to the cost-push shock rather than a claim that aggregate technological progress is negative. All firms start with capability one.

3.3 Price Setting

Firms set prices ($P_{i,t}$) applying a variable markup ($\mu_{i,t}$) over unit costs, following empirical evidence that markup pricing is the dominant strategy in practice (Alvarez et al., 2006; Fabiani et al., 2006). Unit costs consist of unit raw material costs ,($R_{i,t}$) which are homogeneous until the price shock and firm-specific variable unit costs :($V_{i,t}$)

$$P_{i,t} = \left(1 + \mu_{i,t}\right) \cdot (V_{i,t} + R_{i,t}) \tag{2}$$

Variable costs are affected by firms' capabilities:

$$V_{i,t} = V_{i,t-1} \cdot (1 - \lambda_{i,t}) \tag{3}$$

where more productive firms have lower variable unit costs. Note that firms in our model are not capacity-constrained and are able to meet whatever demand they are facing.

3.4 Consumer Choice

Consumer expenditures are initialized by draws from a log-normal distribution, which is an empirically sensible approximation for actual consumption expenditures (cf. Schulz and Mayerhoffer, 2023, for a review). Each consumer's nominal expenditure is constant over time. Aggregate nominal demand is therefore fixed, ruling out inflation caused by excess demand; all effects arise from changes in the composition and price elasticity of demand.

Consumer choice has an extensive and an intensive margin. Utility from purchasing from a firm consists of a deterministic component that decreases with its price and an idiosyncratic match value. These match values are independently Type-I extreme-value distributed. Ex post, this random-utility model produces the logit probabilities in Equation (5). Ex ante, before match values are realized, it produces the log-sum inclusive value of a realized consideration set.

Let the period-specific price-dispersion state be measured by the coefficient of variation of market prices. Conditional on this state, a consumer who chooses a set of a given size receives an expected inclusive-value benefit from the sampled sellers and incurs a consideration cost. The optimal set size is therefore:

$$S_{k,t}^{\mathrm{opt}} = \underset{S}{\mathrm{argmax}}[B_S(\sigma_t) - C_S(\sigma_t)]. \tag{4}$$

The expected marginal inclusive-value gain from adding a seller is diminishing in S under independent sampling. Greater price dispersion can nevertheless shift the marginal benefit schedule outward because the option value of finding a particularly low-price seller increases. At the same time, dispersion can raise the marginal cost of comparing sellers. A dispersion shock is cost-dominant when the increase in marginal cost is at least as large as the increase in marginal benefit at every feasible expansion margin; it is benefit-dominant when the reverse inequality holds. The neutral case leaves the net marginal value of set expansion unchanged.

Figure 2 provides a continuous graphical approximation to the consumer's discrete choice of consideration-set size. The downward-sloping schedules show the expected marginal benefit, MBS;σ, of adding one further seller when the consumer already considers S firms. Marginal benefits decline with S because the first additional options are most likely to reveal a substantially better match or a lower price, whereas the incremental value of another draw becomes progressively smaller once the set is already large. The horizontal schedules show the marginal comparison cost, MCσ, of considering one additional firm. Solid lines refer to the lower-dispersion state σ', while dashed lines refer to the higher-dispersion state σ″>σ'. The intersections identify the continuously approximated optimum, and the vertical dotted lines indicate the corresponding optimal set sizes. The curves are illustrative; the simulations use the reduced-form regime equations specified below, each of which is consistent with the comparative statics derived from the full consideration-set microfoundation in Appendix C.

Higher price dispersion affects both sides of the consideration decision. First, a more dispersed system of relative prices can make comparisons more difficult and raise the marginal informational cost of considering another seller. Second, dispersion can increase the option value of search because another draw is more likely to uncover an unusually inexpensive firm. Panel (a) depicts the cost-dominant regime. Although the higher-dispersion state also shifts the marginal-benefit schedule outward, the upward shift in marginal costs is larger. The new intersection therefore lies to the left of the old one, and optimal consideration-set size falls, $S^*(\sigma'') < S^*(\sigma')$. Consumers consequently compare fewer firms after the shock. Panel (b) depicts the benefit-dominant regime. Here, the increase in the option value of broader search dominates the increase in comparison costs. The new intersection lies to the right, so that $S^*(\sigma'') > S^*(\sigma')$. Consumers consequently compare more firms after the shock. The neutral regime, which is not shown, is the intermediate benchmark in which the two effects leave consideration-set size unchanged. Appendix C states the assumptions and propositions formally.

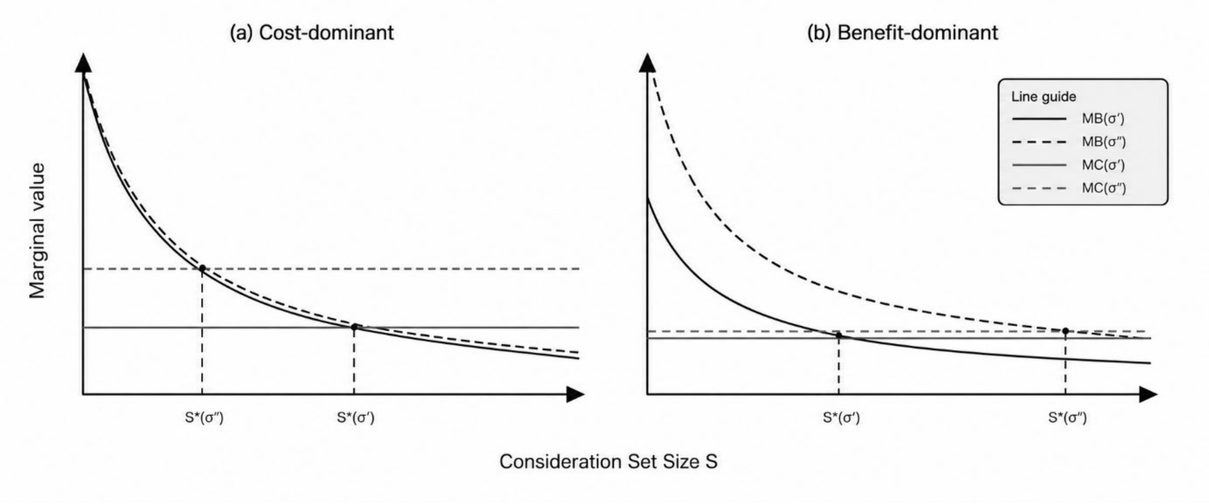

Figure 2: Marginal cost and marginal benefit schedules for the cost- and benefit-dominant cases and the corresponding effects on optimal consideration set sizes.

The simulation implements, in reduced form, the comparative statics derived from the full consumer-search microfoundation in Appendix C. That appendix defines the consumer's set-size problem using the same random-utility object as the within-set logit choice and establishes conditions under which greater price dispersion reduces, leaves unchanged, or expands the optimal consideration set. The equations below translate these three theoretically admissible responses into transparent regime-specific target rules; they are not separately estimated structural equations for consideration costs and benefits.

$$\sigma_t = \frac{\mathrm{sd}_i(P_{i,t})}{\mathrm{mean}_i(P_{i,t})}. \tag{5}$$

Here, $P_{i,t}$ is the price charged by firm i in period t. The coefficient of variation measures relative price dispersion: A proportional increase in every firm's price leaves σ_t unchanged, whereas heterogeneous price movements change it. The implementation then transforms dispersion according to

$$f_t = \min\left\{1, \max\left\{0, \frac{\sigma_t}{\sigma_t + |\rho|}\right\}\right\}. \tag{6}$$

For the non-negative coefficient of variation and the positive benchmark value of ρ, the clipping operation is normally inactive, but it makes the numerical implementation robust. The transformation maps dispersion into the interval $[0,1]$, is increasing and concave, and prevents the response of consideration-set size from becoming unbounded. The sensitivity parameter ρ determines how quickly the transformation approaches one. In particular, $f_t = 1/2$ when $\sigma_t = \rho$. A smaller value of ρ therefore makes consideration-set size react strongly at relatively low levels of dispersion, while a larger value dampens the response. The benchmark calibration sets $\rho = 0.01$.

Let N denote the total number of firms and $S^{\min}$ the minimum permissible consideration-set size. The width of the feasible adjustment interval is

$$W = N - S^{\min}. \tag{7}$$

In the benchmark simulations, $N = 50$ and $S^{\min} = 5$, so consideration-set size can vary over a range of $W = 45$ firms. The cost-dominant target is

$$T_t^C = N - Wf_t. \tag{8}$$

When price dispersion is close to zero, f_t is close to zero and the target approaches the entire market, N. As dispersion rises, f_t increases and the target moves toward $S^{\min}$. Hence, this specification directly implements the negative comparative static represented in panel (a):

$$\frac{\partial T_t^C}{\partial \sigma_t} = -W\frac{|\rho|}{(\sigma_t + |\rho|)^2} < 0. \tag{9}$$

The neutral regime is implemented as a fixed target,

$$T_t^N = S^{fix}, \tag{10}$$

with $S^{\text{fix}} = 17$. Price dispersion can still affect choices within the set through firms' prices, but it does not change the number of firms considered.

The benefit-dominant regime is centered on a reference dispersion σ^{ref}. Define

$$f^{ref} = \frac{\sigma^{ref}}{\sigma^{ref} + |\rho|} \quad and \quad S^{ref} = N - Wf^{ref}. \tag{11}$$

The benefit-dominant target is

$$T_t^B = S^{ref} + bW(f_t - f^{ref}), \tag{12}$$

where $b > 0$ is the benefit-gain scale. Thus, the target rises when current dispersion exceeds the reference level and falls when current dispersion lies below it. Its marginal response is

$$\frac{\partial T_t^B}{\partial \sigma_t} = bW \frac{|\rho|}{(\sigma_t + |\rho|)^2} > 0. \tag{13}$$

The simulations use $\sigma^{\text{ref}} = 0.0275$. With $N = 50$, $S^{\text{min}} = 5$, and $\rho = 0.01$, this implies

$$f^{\text{ref}} = \frac{0.0275}{0.0275 + 0.01} = 0.733\overline{3} \quad \text{and} \quad S^{\text{ref}} = 50 - 45\big(0.733\overline{3}\big) = 17.$$

Accordingly, all three regimes have the same target of 17 considered firms at the reference dispersion: $T_t^C = T_t^N = T_t^B = 17$ when $\sigma_t = \sigma^{\text{ref}}$. This centering is important because it means that the regimes differ in their reaction to a change in dispersion rather than in their benchmark level of search. The main benefit-dominant specification sets $b = 2.5$; the sensitivity analysis also varies the strength of this channel.

For illustration, an increase in the coefficient of variation from 0.0275 to 0.0375 changes the continuous cost-dominant target from 17 to approximately 14.47 firms, whereas the benefit-dominant target with $b = 2.5$ rises to approximately 23.32 firms. After rounding, these targets correspond to 14 and 23 considered firms, respectively, while the neutral target remains 17. Because the number of firms must be an integer and must remain within the feasible interval, the continuous target for regime $r \in \{C, N, B\}$ is converted into the implemented set size according to

$$S_t^r = min\Big\{N, max\big\{S^{min}, round(T_t^r)\big\}\Big\}. \tag{14}$$

At $t = 1$, every consumer initially considers all $N = 50$ firms. From $t = 2$ onward, the model calculates σ_t from the prices set in the current period and then determines the regime-specific target S_t^r. Each of the $N_k = 1{,}000$ consumers has an individual consideration set. If a consumer's existing set is larger than the new target, the required number of firms is sampled from that existing set and retained. If the existing set is smaller than the target, firms not currently included are sampled at random and added until the target is reached. Consideration sets are therefore path-dependent: a change in the target modifies the consumer's previous set rather than generating an entirely new set in every period. When a firm exits, it is removed from every consumer's set; its replacement becomes eligible to be added in subsequent set updates. Conditional on the resulting set $\mathcal{C}_{k,t}$, consumer k chooses a firm according to the logit probability

$$Pr(i \mid \mathcal{C}_{k,t}) = \frac{exp(-\gamma P_{i,t})}{\sum_{j \in \mathcal{C}_{k,t}} exp\,(-\gamma P_{j,t})}, \tag{15}$$

where the benchmark sets $\gamma = 12$. Consumer expenditures are drawn at initialization from a log-normal distribution with $m = 4.5$ and $\sigma = 0.2$ and remain fixed over time. After selecting one firm, consumer k spends the entire predetermined nominal amount C_k there and therefore purchases $C_k/P_{i,t}$ units. The regime-specific consideration-set rule changes the extensive margin of competition—which firms have a chance of being chosen—while γ governs the intensive price response among the firms that enter the set. Expanding sets exposes more firms to direct comparison and allows price and productivity differences to be translated more accurately into market shares. Contracting sets masks these differences and lowers the effective elasticity of demand faced by firms even though the conditional logit rule is unchanged.

3.5 Entry and Exit

Based on their performance in each time step, firms update their markup and the number of consecutive periods without positive profits. As in the markup equation in Dosi et al. (2010), firms update their markups for the next period according to:

$$\mu_{i,t+1} = \mu_{i,t} \cdot \left(1 + \zeta \cdot \frac{(Q_{i,t} - Q_{i,t-1})}{Q_{i,t-1}}\right) \tag{16}$$

where the quantity sold by firm i in period t enters the sales-growth term and ζ is an elasticity parameter describing the effect of sales growth on the markup. If either current or lagged sales are zero, the markup is carried forward. This prevents an undefined growth rate and ensures that a zero-sales period affects selection through profits and the exit counter rather than through an arbitrary markup reset. Firms' profits are given by

$$\Pi_{i,t} = (P_{i,t} - (V_{i,t} + R_{i,t})) \cdot Q_{i,t}. \tag{17}$$

Firms do not exit after a single bad period. At initialization, each firm independently draws an exit tolerance from the discrete uniform distribution on $\{3,4,5\}$; the draw remains fixed for that firm. A firm's counter increases by one in every consecutive period with zero or negative profits and resets to zero after a positive-profit period. The firm exits once the counter reaches its tolerance. This reduced-form persistence captures heterogeneity in retained earnings, access to finance, and other buffers that allow firms to withstand temporary losses. Each exiting firm is immediately replaced by a new entrant, keeping the number of firms constant as in Dosi et al. (2017). Entrants start with capability one, draw an initial markup from the initialization distribution, and draw a new exit tolerance from the same uniform distribution. After period 100, entrants also draw a raw-cost shock from the same distribution as incumbents.

3.6 Shock

Raw-material costs remain homogeneous at φ until period 100. At the shock date, every incumbent receives a firm-specific draw that permanently raises its raw-material cost exogenously. Entrants arriving after the shock receive an independent draw from the same distribution:

$$R_{i,t} = \begin{cases} \phi, & t < 100, \\ \phi(1+\omega_i), & t \geq 100, \end{cases} \qquad \omega_i \sim \text{Beta}(0.4,3). \tag{18}$$

The beta distribution produces many small cost increases and a smaller number of large increases. The shock is orthogonal to the pre-shock cost structure and therefore raises cross-firm cost and price dispersion. Differential import intensity and production-network exposure make heterogeneous responses to a common global disturbance plausible (Cavallo and Kryvstov, 2023; Alvarez-Blaser et al., 2025). The reduced-form shock captures both direct supplier effects and the indirect propagation emphasized by Weber et al. (2024) and Ipsen et al. (2025).

3.7 Initialization and Parameter Benchmark

Table 1 summarizes the benchmark calibration used for the three main regimes. Except for the rule mapping price dispersion into consideration-set size, the cost-dominant, neutral, and benefit-dominant simulations are identical and use the same random seeds. The benchmark exit tolerance is heterogeneous and fixed at the firm level after being drawn from {3,4,5}; robustness checks use {4,5,6} and a homogeneous tolerance of four periods.

Table 1: Baseline parameterization used in the simulations.

Parameter	Symbol	Baseline value
Number of firms	N	50
Number of consumers	K	1,000
Simulation horizon	T	150 periods
Monte Carlo runs	MC	100
Shock period	t shock	100
Price sensitivity	γ	12
Markup adjustment speed	ζ	0.05
Initial raw and variable unit costs	φ	6 each
Firm learning shock	λ	Laplace(location = -0.01, scale = 0.01)
Raw-cost shock	ω	Beta(0.4, 3), persistent after period 100
Consideration-set sensitivity	ρ	0.01
Minimum / maximum set size	Smin, Smax	5, 50
Neutral set size	$\bar{S}$	17
Reference price CV	σ ref	0.0275
Benefit-channel scale	b	2.5
Exit tolerance	L	Discrete uniform on {3, 4, 5}
Initial markup	μ	Uniform(0.01, 0.10)
Consumer expenditure	C	Lognormal(m = 4.5, σ = 0.2)

4. Results

We compare three otherwise identical regimes: a cost-dominant response in which price dispersion contracts consideration sets, a neutral response in which the size of consumers' consideration sets is unaffected by dispersion, and a benefit-dominant response in which dispersion expands the set. All figures report averages over 100 Monte Carlo simulations unless stated otherwise. Recall, that we operationalize sellers' inflation as excess pass-through—the percentage-point response of the sales-weighted CPI beyond the response of producer costs—and use markups and aggregate profits as corroborating outcomes.

Three consideration-set regimes

Figure 3 provides the central comparison. Before the shock, the three regimes have similar consideration-set sizes and aggregate dynamics. At period 100, sets contract sharply in the cost-dominant regime, remain fixed in the neutral regime, and expand strongly in the benefit-dominant regime. These opposite search responses translate directly into pass-through. The cost-dominant regime generates a large and persistent positive excess pass-through response.

Notably, the neutral regime also generates a smaller yet positive response: even though dispersion does not further reduce search, consumers still compare only a restricted subset of firms. Each consumer can therefore switch only among firms already in the set, while excluded firms exert no competitive pressure. By contrast, excess pass-through becomes negative on impact in the benefit-dominant regime and subsequently remains around or below zero. Sellers' inflation therefore emerges only when the benefit from broader search fails to offset the restricted-search environment.

The markup and productivity panels reinforce this interpretation. The sales-weighted markup rises most in the cost-dominant case, rises more modestly in the neutral case, and falls in the benefit-dominant case. Aggregate productivity moves in the opposite order. Broader search directs expenditure toward firms offering lower prices because of higher productivity or more favorable cost realizations, whereas contracting sets weaken this selection mechanism.

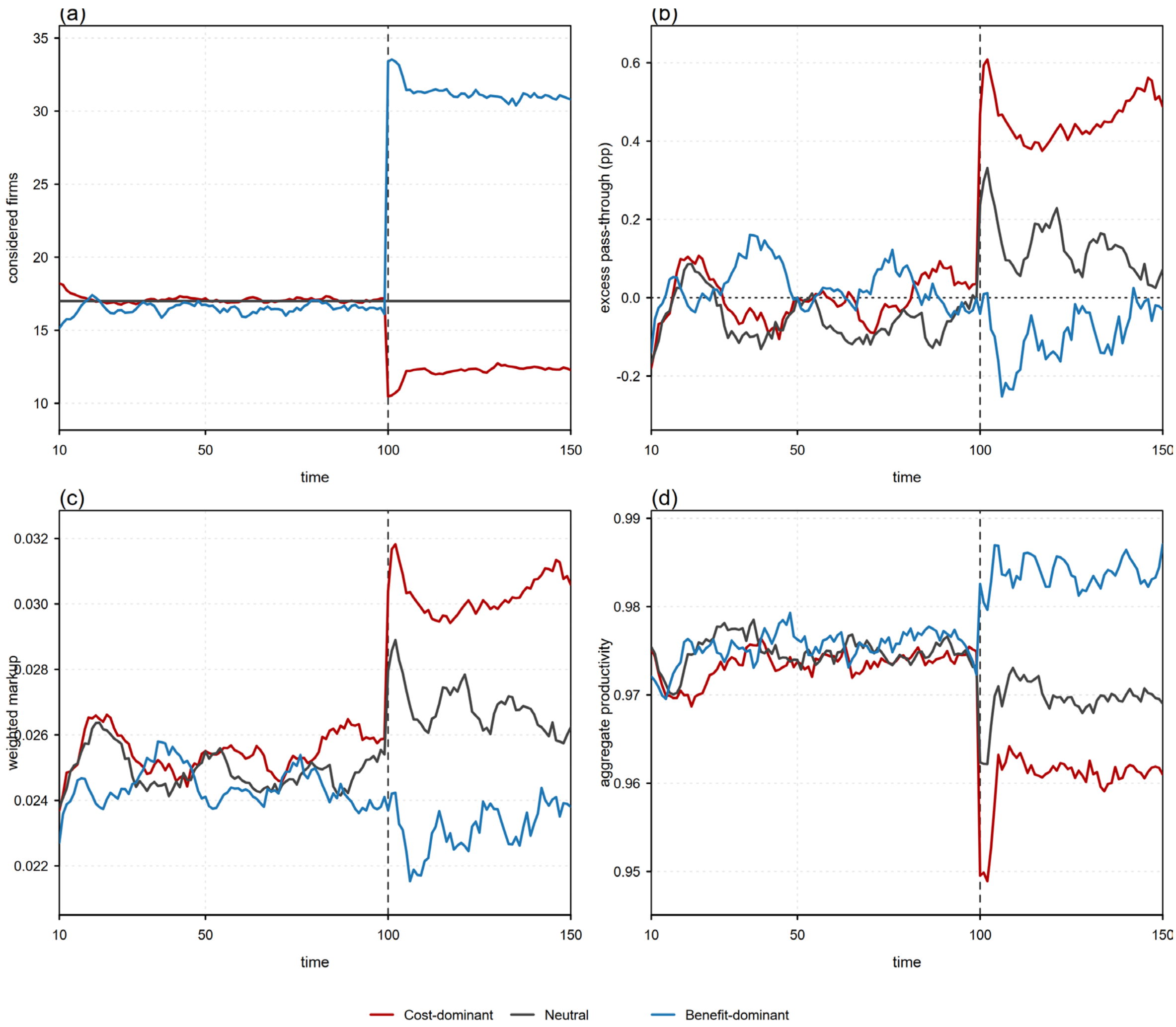

Figure 3: Benchmark dynamics under the cost-dominant, neutral, and benefit-dominant consideration-set regimes. Panels show (a) considered firms, (b) excess pass-through, (c) the sales-weighted markup, and (d) aggregate productivity. The vertical dashed line marks the cost shock in period 100. The benchmark firm-specific exit tolerance is drawn uniformly from {3,4,5}.

Benefit strength and the search-pass-through relationship

Figure 4 varies the benefit-channel scale and three specifications of firms' exit tolerance. A stronger benefit channel produces a monotonic expansion of consideration sets and a corresponding decline in excess pass-through. The relationship is robust to drawing exit tolerance from {4,5,6}, or assigning all firms a tolerance of four periods. The confidence intervals in panel (a) show that the qualitative result is not driven by Monte Carlo noise.

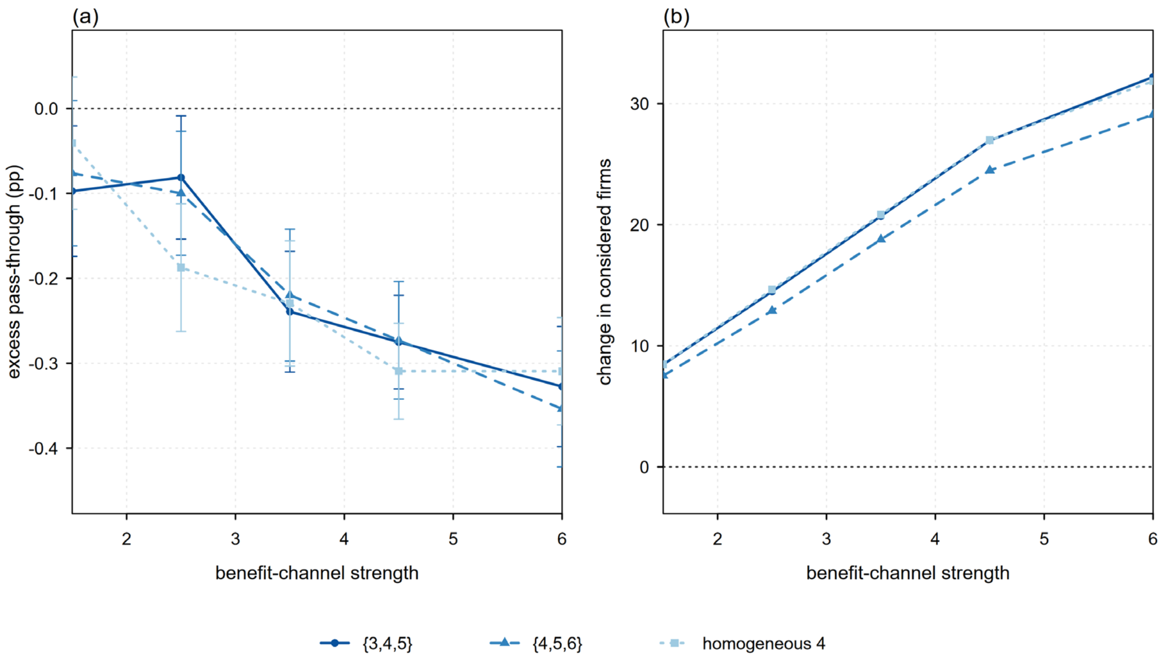

Figure 4: Benefit-channel dose response. Panel (a) reports mean excess pass-through with 95% Monte Carlo intervals; panel (b) reports the change in considered firms. Line types and markers distinguish the exit-tolerance specifications {3,4,5}, {4,5,6}, and homogeneous 4.

Figure 5 pools the cost-dominant, neutral, and benefit-dominant simulations across benefit strengths and exit-tolerance specifications. The resulting pattern is striking: changes in consideration-set size and excess pass-through are strongly negatively related. Cost-dominant observations occupy the upper-left quadrant, neutral observations lie on the vertical axis with positive pass-through, and benefit-dominant observations trace a downward-sloping locus in the lower-right quadrant. This pooled relationship identifies the mechanism within the model: the sign and magnitude of sellers' inflation are governed by the extensive margin of consumer search rather than by the cost shock alone.

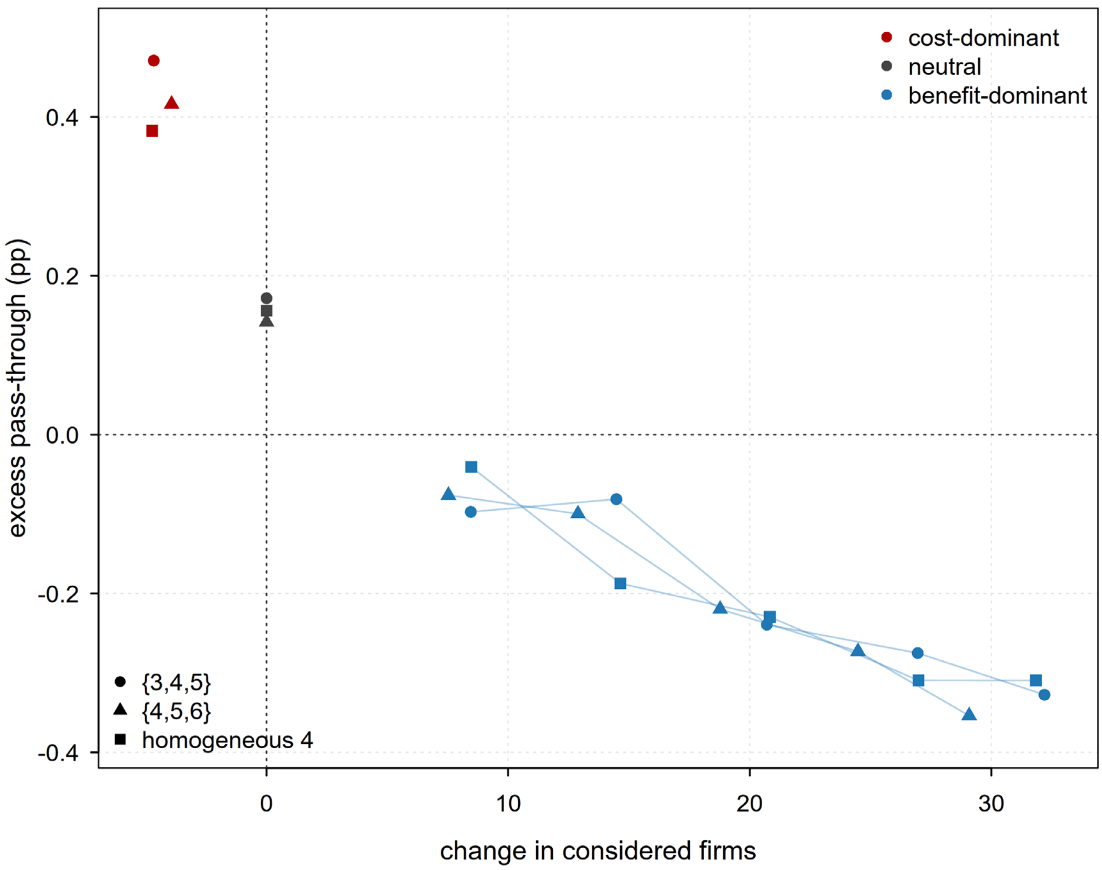

Figure 5: Change in considered firms and excess pass-through across consideration-set regimes, benefit-channel strengths, and exit-tolerance specifications. Colors distinguish regimes; marker shapes distinguish exit-tolerance schemes.

Concentration, profits, and allocative efficiency

Figure 6 shows that the regimes reverse the usual interpretation of concentration. Following the shock, concentration is highest in the benefit-dominant regime and lowest in the cost-dominant regime. Yet aggregate profits are highest in the cost-dominant case and lowest in the benefit-dominant case. Exit is also strongest under the benefit channel, reflecting more intense market selection rather than greater price-setting power. Price dispersion rises in all regimes and remains somewhat higher when consumers continue to discriminate strongly among firms; dispersion itself is therefore not sufficient for sellers' inflation. What matters is whether it contracts or expands the set over which consumers compare prices.

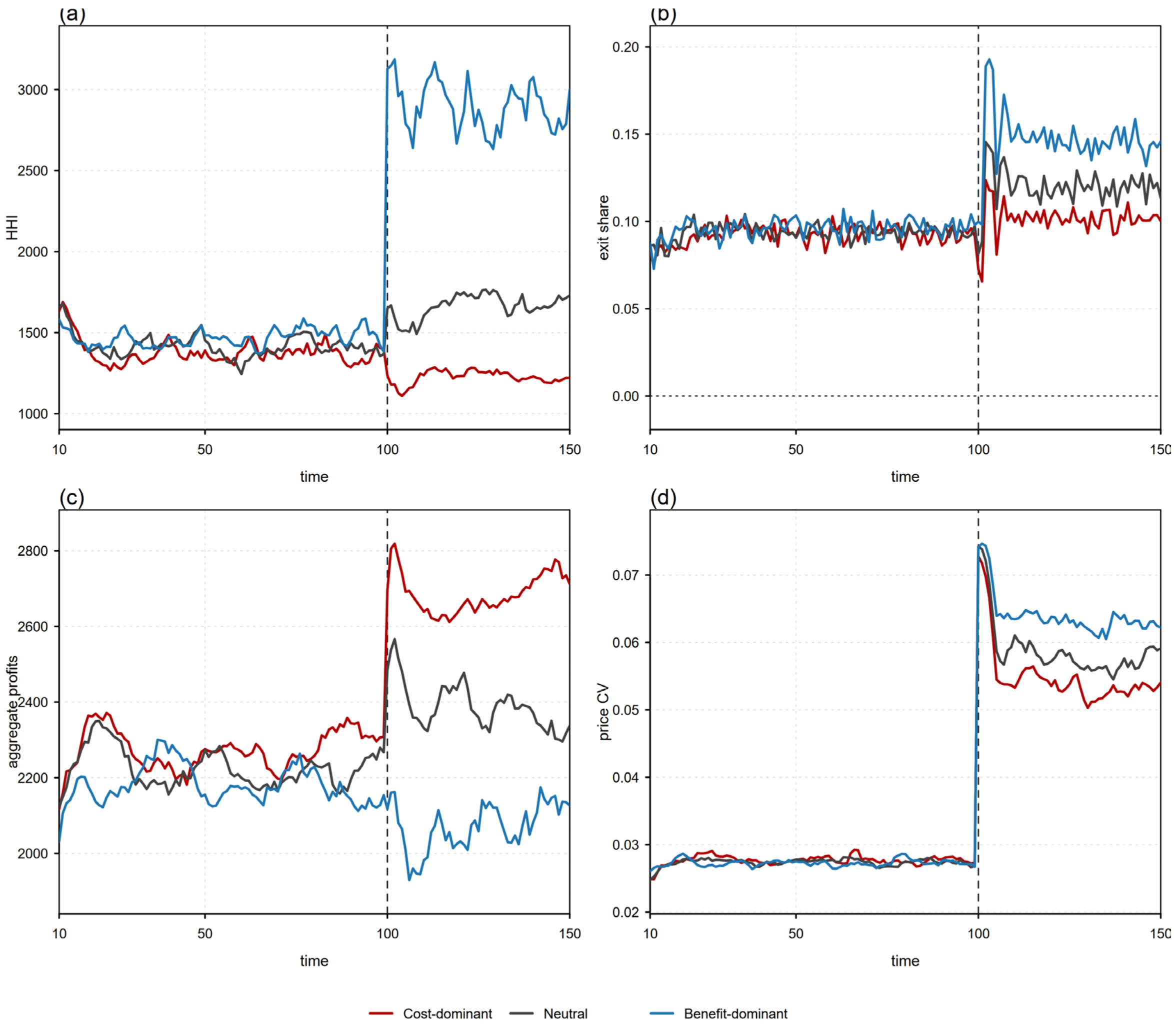

Figure 6: Market selection across regimes. Panels show (a) the Herfindahl-Hirschman Index, (b) the exit share, (c) aggregate profits, and (d) the coefficient of variation of prices. The vertical dashed line marks the shock.

This result speaks directly to the Structure-Conduct-Performance paradigm. In the benefit-dominant regime, concentration is benign: broader search rewards productive, low-price firms with larger market shares, so structure reflects efficient selection. In the cost-dominant regime, weaker effective demand elasticity prevents market shares from fully revealing productivity differences. Concentration falls relative to the benefit benchmark even as profits and markups increase. The causal direction therefore runs partly from consumer conduct and firm selection to market structure, and the sign of the correlation between concentration and discretionary pricing power can be negative during a cost shock. This logic is compatible with the evidence in Amiti et al. (2019) that large firms may absorb a greater part of international cost shocks through variable markups in order to defend their market share. An allocation toward such firms can raise concentration while reducing the aggregate markup response.

The dynamic productivity decomposition in Figure 7 clarifies the source of the efficiency ranking. Negative within-firm productivity growth is present by construction in all three regimes, but it is offset by reallocation and net entry. During the impact window, reallocation is strongest in the benefit-dominant regime and weakest in the cost-dominant regime, producing positive total productivity growth only under the benefit channel. The same ordering remains in the later post-shock window, although total changes become smaller. Hence, the regime with the highest concentration is also the regime in which market shares most closely track productivity.

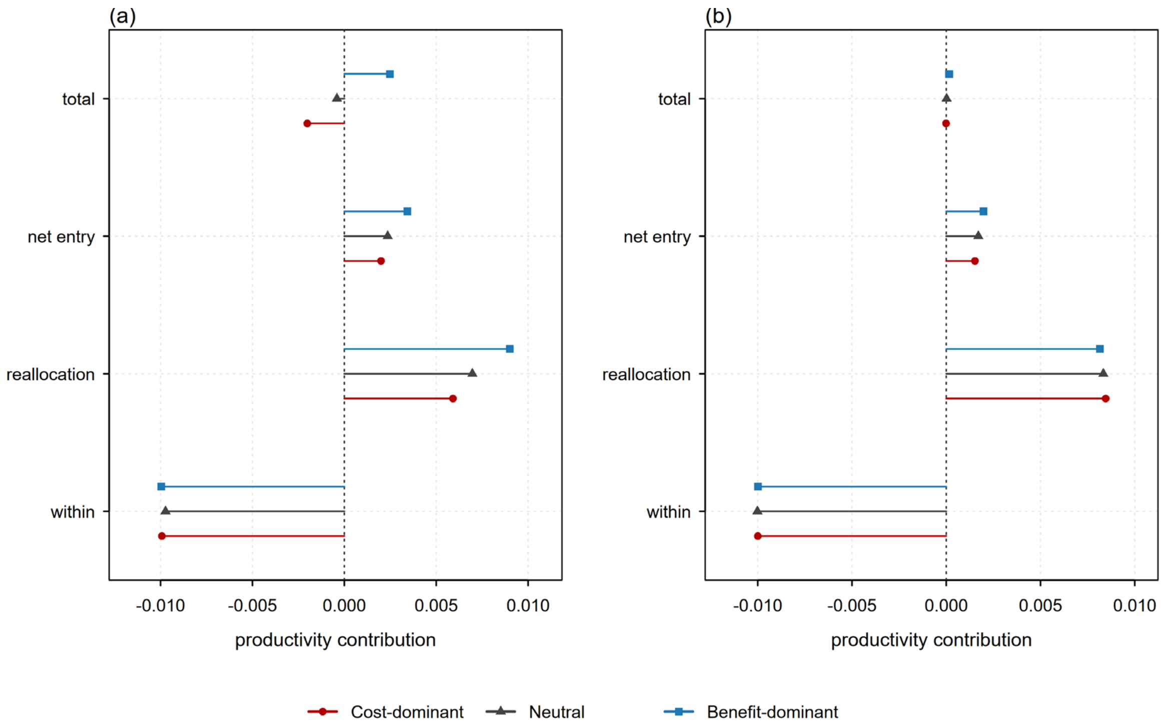

Figure 7: Dynamic Olley-Pakes productivity contributions averaged over (a) the impact window, periods 100-105, and (b) the later post-shock window, periods 120-150. Net entry combines entry and exit contributions.

The role of price sensitivity and dispersion sensitivity

Figures 8-14 vary consumers' price sensitivity γ and the dispersion-sensitivity parameter ρ. Across all heatmaps, columns vary the dispersion-sensitivity parameter ρ, while rows vary the within-set price-sensitivity parameter γ. Red cells indicate a positive post-shock response, blue cells a negative response, and white cells a response close to zero. The dominant variation occurs across ρ: the mechanism is strongest at intermediate values, whereas very small or very large values make the consideration-set rule comparatively insensitive because the transformation of price dispersion is close to one of its bounds.

Figure 8 summarizes the resulting excess pass-through for different parameter constellations. In the cost-dominant regime, excess pass-through is positive across most parameter combinations and is particularly pronounced around $\rho = 0.01$. When rising dispersion contracts consideration sets, firms face a less elastic effective demand schedule and can raise prices by more than the increase in their costs. In the benefit-dominant regime, by contrast, excess pass-through is substantially weakened and becomes negative in the central parameter region in which consideration sets expand most strongly. Sellers' inflation is therefore not an automatic consequence of heterogeneous cost shocks: it depends on whether dispersion restricts or broadens consumers' effective choice sets.

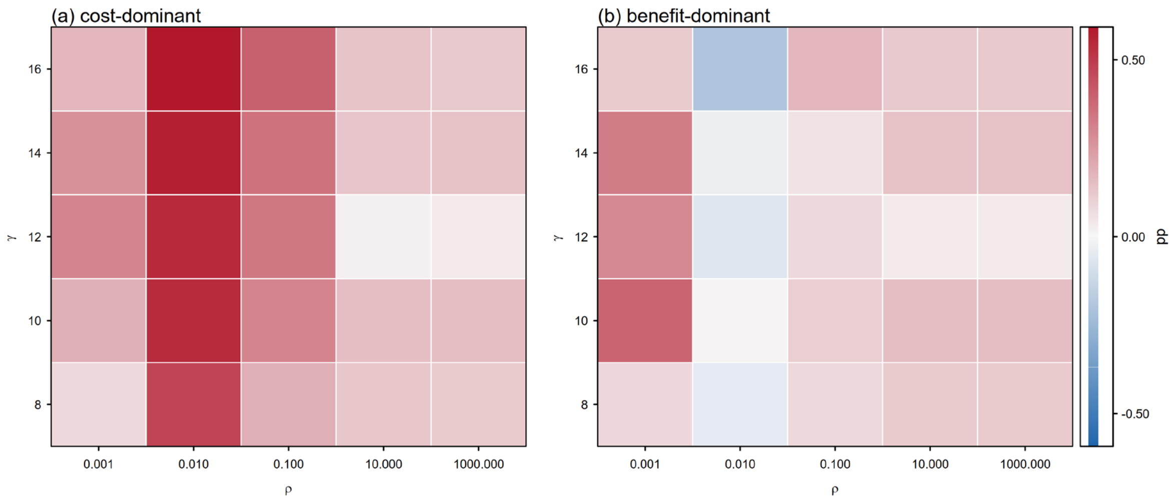

Figure 8: Impact response of excess pass-through over the (ρ, γ) grid. The left panel is cost-dominant and the right panel benefit-dominant; red denotes a positive and blue a negative response.

The heatmap for Figure 9 confirms that the two regimes generate the intended opposing extensive-margin responses. Consideration sets contract in the cost-dominant case and expand substantially in the benefit-dominant case, with the largest changes occurring at intermediate values of ρ. At the extreme values of ρ, the response is close to zero because the bounded dispersion transformation is either already close to saturation or changes only weakly. The limited (essentially zero) variation across γ is also expected, since γ governs choice among considered firms, while ρ primarily determines how many firms enter the set.

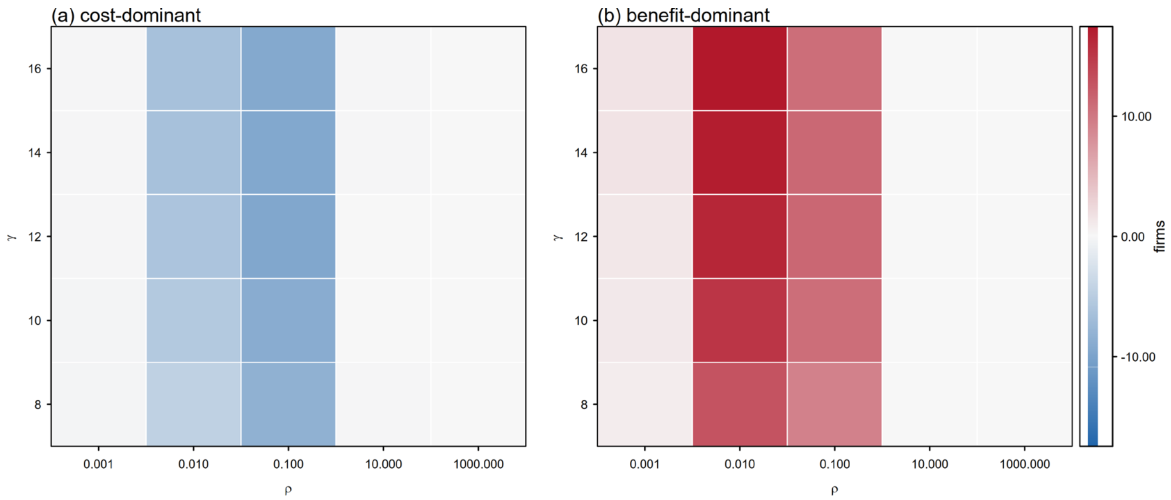

Figure 9: Impact response of the number of considered firms over the (ρ, γ) grid. Negative values indicate contraction and positive values expansion.

Figure 10 shows the effect on weighted markups. Weighted markups increase throughout much of the cost-dominant parameter region, closely mirroring the pattern for excess pass-through. Smaller consideration sets reduce the effective elasticity of demand and allow firms receiving favourable sales signals to increase their markups without being punished as strongly by substitution. Under the benefit-dominant regime, this markup response is much weaker and can turn negative where consideration sets expand most strongly. Broader search therefore restores competitive discipline even though firms follow the same pricing rule in both regimes.

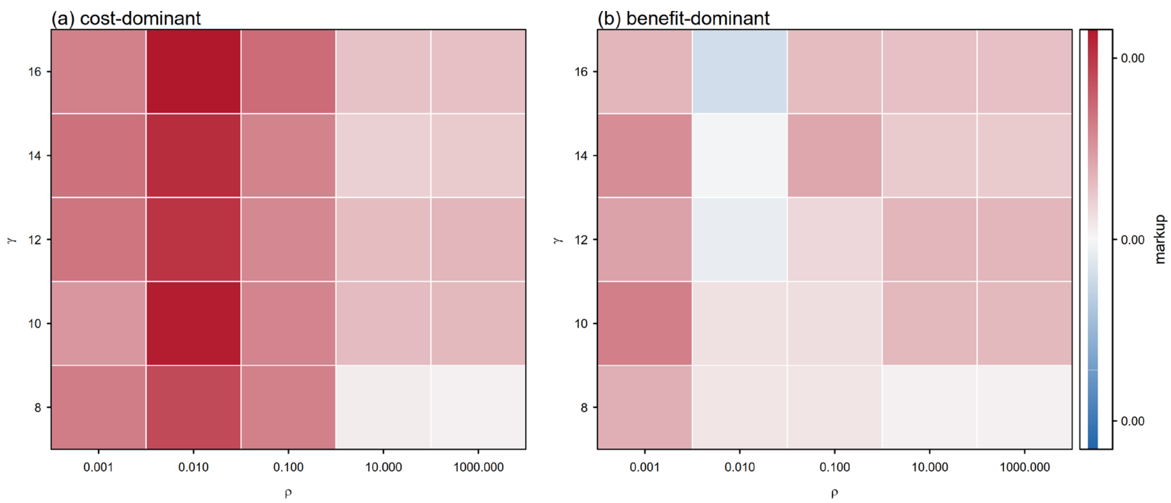

Figure 10: Impact response of the sales-weighted markup over the (ρ, γ) grid.

Figure 11 shows that aggregate profits rise robustly in the cost-dominant regime, especially around the parameter values at which consideration sets contract most clearly. The weakening of consumer substitution allows firms not only to pass through costs but also to preserve or increase the surplus earned above those costs. In the benefit-dominant regime, these profit gains are sharply attenuated and may become negative in the central parameter region. The comparison shows that the profit response is generated by the endogenous change in demand elasticity rather than by the cost shock alone. This is important, as empirically, corporate profits indeed rose during the period of sellers' inflation, rendering the cost-dominant case a plausible candidate mechanism for the observed behavior.

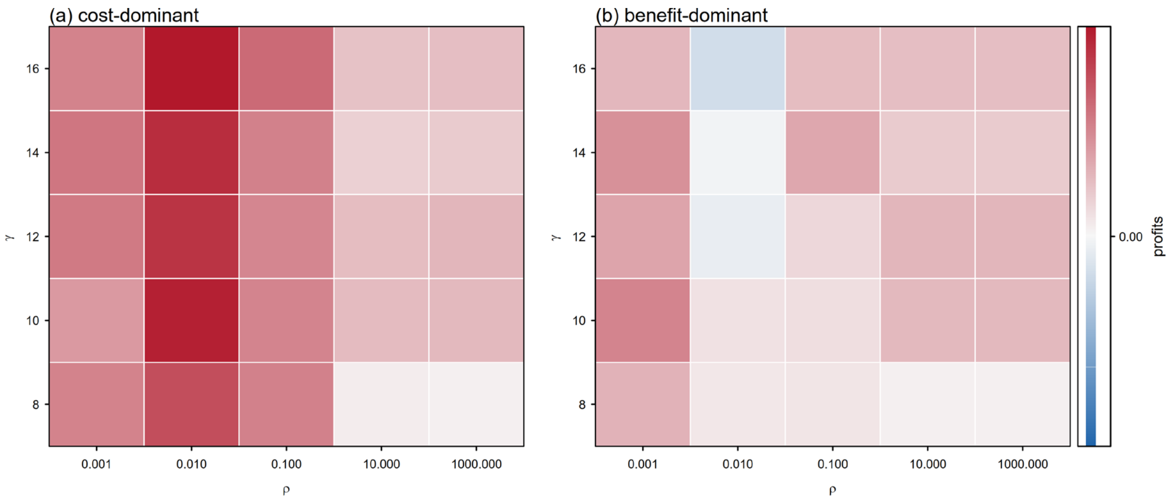

Figure 11: Impact response of aggregate profits over the (ρ, γ) grid.

This rise in profits is accompanied by a decrease of productivity due to misallocation, as Figure 12 shows. The cost-dominant regime generally produces a decline in aggregate productivity, most clearly where the contraction in consideration sets is strongest. When consumers compare fewer firms, market shares become less closely aligned with firms' underlying productivity and relatively inefficient producers retain demand that would otherwise shift toward better-performing competitors. The benefit-dominant regime reverses this result around the central calibration: broader consideration sets improve the selection of firms and raise aggregate productivity. The efficiency consequences of the shock therefore depend on the quality of the allocation across firms, not merely on the number of active firms.

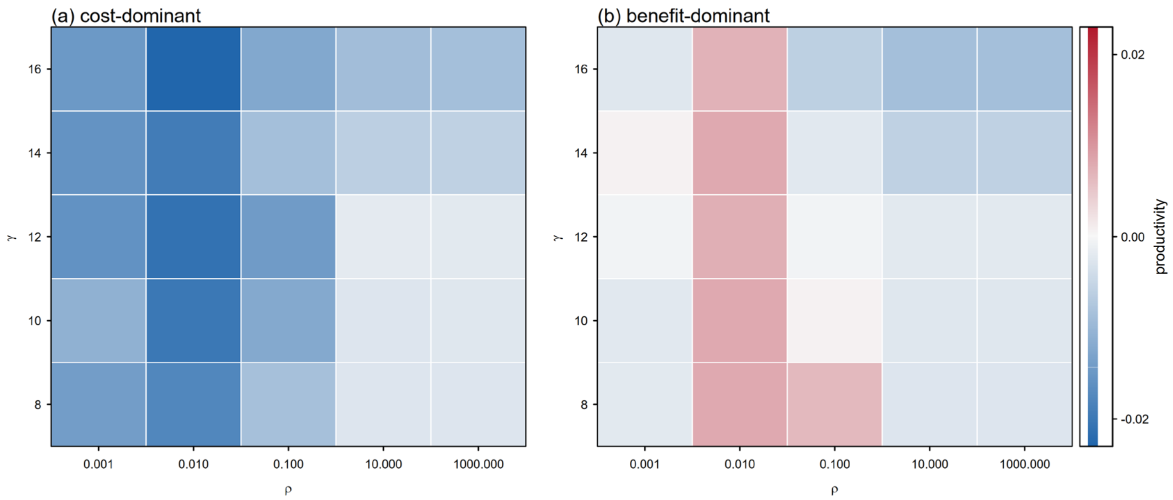

Figure 12: Impact response of aggregate productivity over the (ρ, γ) grid.

The heatmap in Figure 13 shows that concentration increases most strongly in the benefit-dominant regime, particularly where consideration sets expand and aggregate productivity improves. Consumers who compare more firms direct a larger share of demand toward the relatively productive and competitively priced producers, making the market more concentrated even though markups and excess pass-through are lower. In the cost-dominant regime, concentration is smaller and may even decline in the parameter region where consideration sets contract. This is the central qualification to the Structure–Conduct–Performance interpretation: concentration is endogenous to consumer search and can reflect efficient selection rather than greater market power. Our results thus suggest that there is no mechanical relationship between concentration and market power (or excess profits) in our model setup.

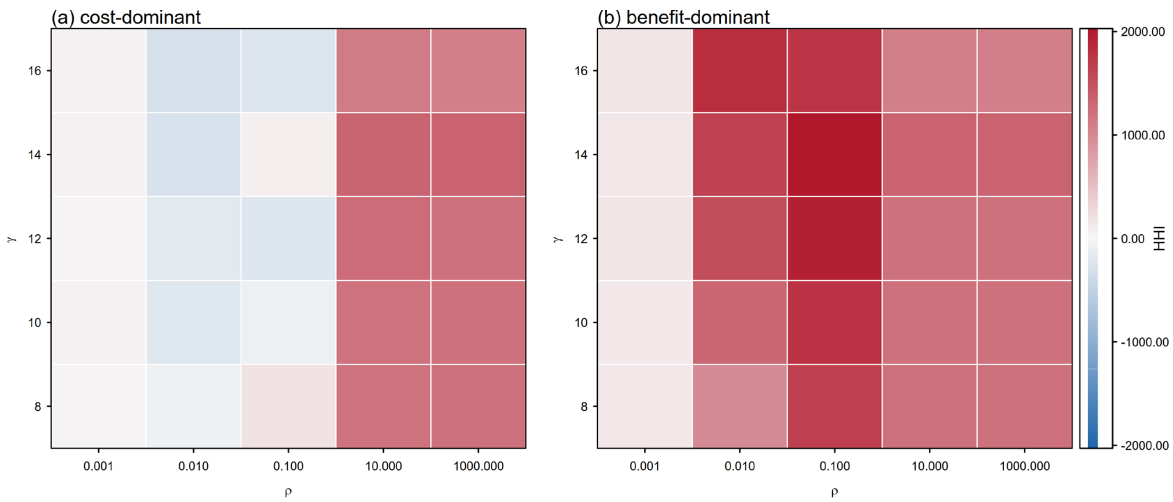

Figure 13: Impact response of the Herfindahl-Hirschman Index over the (ρ, γ) grid.

One major channel for the productivity-enhancing effects of a broader market search in the benefit-dominant case is the exit of unproductive firms, as Figure 14 shows. Firm exit rises after the shock in both regimes, but the increase is generally stronger in the benefit-dominant case. Expanded consideration sets intensify the reallocation of demand toward more competitive firms, causing poorly performing producers to accumulate the consecutive non-positive-profit periods required for exit. The higher exit rate is therefore consistent with stronger competitive selection and higher aggregate productivity, rather than necessarily indicating a less efficient market. By contrast, the cost-dominant mechanism protects some relatively inefficient firms from immediate competitive pressure, even while increasing markups and profits for the firms that remain successful.

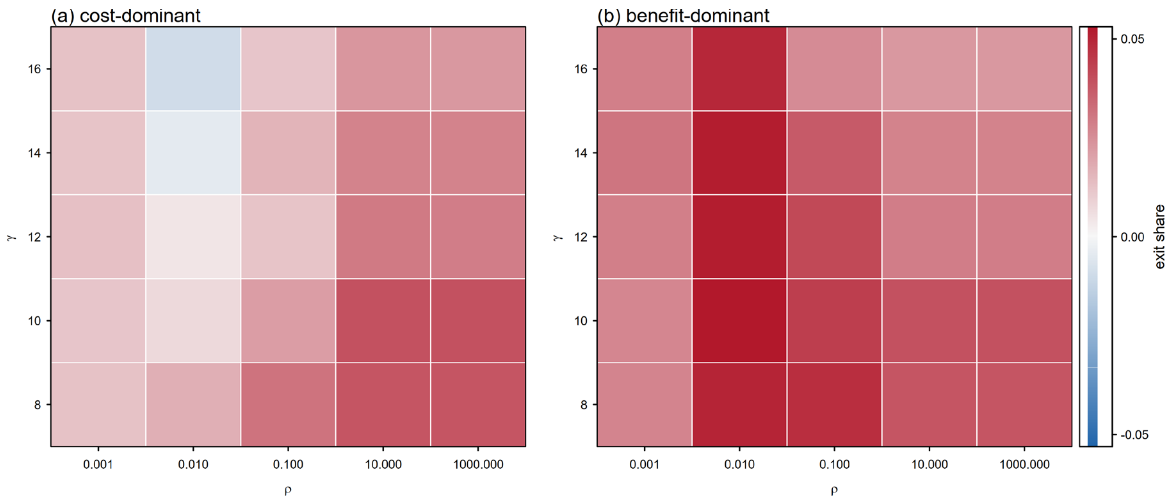

Figure 14: Impact response of the firm exit share over the (ρ, γ) grid.

5. Conclusion

This paper develops a two-channel account of consumer search during heterogeneous cost shocks. A common random-utility object connects the ex-ante choice of consideration-set size to ex-post logit choice within the set. Price dispersion can raise comparison costs, but it can also increase the inclusive-value benefit of searching more broadly. Sellers' inflation is therefore not a mechanical implication of dispersed prices. It emerges when the cost channel of consumer search dominates or when consumers remain restricted to a fixed subset of firms, but it disappears or reverses when the benefit channel expands consideration sets. In the simulations, the cost-dominant regime generates the strongest excess pass-through, markup, and profit responses; the neutral regime generates smaller positive responses; and the benefit-dominant regime yields negative or approximately zero excess pass-through together with lower markups and profits.

The second result concerns market structure. The benefit-dominant regime generates both the highest concentration and the highest aggregate productivity because broader search reallocates demand toward productive, low-price firms. The cost-dominant regime instead weakens the effective elasticity of demand and masks productivity differences in market shares. Concentration is therefore not a sufficient statistic for market power in our model. It can be benign and efficiency-enhancing, while a less concentrated market can display greater discretionary pricing power and stronger sellers' inflation. This provides a microfoundation for the critique of a simple Structure-Conduct-Performance interpretation: market structure is endogenous to consumer search and selection, and its relationship with markups can change sign during cost shocks.

The following policy implications can be drawn from our model: Given our findings that market concentration does not provide a sufficient explanation for sellers' inflation, policies focused solely on reducing market concentration through antitrust measures may be of limited effectiveness in curbing the emergence of sellers' inflation. Instead, our results suggest that alternative approaches targeting informational costs could prove more effective. Specifically, policies aimed at reducing informational costs for consumers and enhancing their price sensitivity where possibilities of substitution exist, may help mitigate sellers' inflation. Real-time price-comparison websites exemplify one such initiative for market transparency. Several countries, including Germany, France, and Austria, have implemented such platforms for gasoline markets, with evidence suggesting that displaying an optimal number of nearby low-price options to consumers can effectively reduce prices (Martin, 2024). By utilizing market design principles to present only the cheapest goods available in a given area, consumers' rational inattention could be leveraged as an advantage, incentivizing firms to compete not only on price but also for consumers' limited attention.

Declaration of generative AI and AI-assisted technologies in the manuscript preparation process

During the preparation of this work, the authors used OpenAI Codex for language revision and preparation of submission materials. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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Appendix A: Empirical Studies on Sellers' Inflation

Study	Sample	Findings on Markups	Main Channel (if applicable)	Findings on Sellers' Inflation
Acharya et al. (2023)	EU Business and Consumer Surveys, ECB Consumer Expectations Survey, Compustat Global	Markups increased significantly, especially for firms with strong price-setting power.	Supply constraints; firms' price-setting power	Inflation primarily driven by supply constraints and firms' pricing power.
Alvarez et al. (2024)	Global manufacturing data, online pricing data (PriceStats)	Markups and pricing strategies along supply chains adjusted significantly.	-	No evidence that increased markups drove inflation.
Arquié & Thie (2023)	France (INSEE data, energy sector data, FICUS-FARE sectoral data)	Markups increased notably, particularly in sectors with high concentration.	Excess pass-through; market structure	Energy costs significantly passed through, supporting sellers' inflation.
Bijnens et al. (2023)	Belgium (non-financial firm-level data)	Markups increased notably post-COVID.	Firm-specific markup strategies	Inflation partly driven by rising markups.
Bilyk et al. (2023)	Firm-level financial statements (Canada)	Markups of non-financial firms increased from 10% to 13%.	Corporate profitability; pricing power	Inflation linked to increasing corporate markups post-COVID.
Bräuning et al. (2023)	Industry-level US data (producer prices, markups, HHI concentration)	Cost shocks increased prices beyond initial shocks, particularly in concentrated markets.	Market concentration	Sellers' inflation significant in highly concentrated markets.

Colonna et al. (2023)	Italy (national accounts data)	Markups rose sharply in 2022, driven mainly by industry and construction sectors.	Industry structure; sector-specific effects	Inflationary pressures partly driven by markup increases.
Conlon et al. (2023)	Compustat annual revenue and costs (US)	Markups increased over the analyzed period.	Corporate pricing power	Indications of inflation driven by increased corporate markups.
Cucignatto et al. (2023)	OECD ICIO data (France, Italy, Spain)	Markups rose significantly, especially in France (38 of 44 sectors).	Market structure	Evidence of inflation strongly linked to increased markups.
Davis (2023)	Compustat data (US non-financial firms, 1950-2022)	Aggregate markups increased post-pandemic.	Firm-level profitability	Inflation strongly correlated with rising markups and profits.
Glover et al. (2023)	US aggregate economic data (1948-2021)	Corporate profits contributed to inflation significantly, especially post-pandemic.	Corporate profitability	Inflation substantially driven by high corporate profits.
Guschanski & Onaran (2025)	UK listed and private firms (2014-2022)	Markups increased by approximately 31% during the period.	Firm-specific pricing behavior	Sellers' inflation linked explicitly to rising markups and profit margins.
Konczal & Lusiani (2022)	US financial account data (1955-2021)	Markups and profits reached historical highs.	Corporate profits; pricing power	Inflation strongly driven by corporate markups and profits.
Koppenberg et al. (2025)	EU firm-level balance sheets, food and beverage industry (2013-2022)	Markups generally decreased, especially in 2022.	-	Negative relationship between markups and input prices. No evidence of sellers' inflation.

Matamoros (2024)	AMECO, Haver Analytics, OECD data (1970-2022)	Markup inflation relevant in the context of corporate power.	Corporate power dynamics	Inflation correlated with corporate power and markup increases.
Nikiforos et al. (2024)	Compustat annual dataset (1962-2022)	Markups increased moderately; limited evidence for extensive markup-driven inflation.	Profit-driven inflation	Moderate support for sellers' inflation driven by profit increases.
Scanlon (2024)	US CPI and product prices (2001-2023)	Price level uncertainty masked relative price changes, enabling higher markups.	Informational frictions; price uncertainty	Sellers’ inflation driven by increased price-level uncertainty.
Storm (2023)	US data on prices, costs, profits per unit of output (2020Q1-2022Q4)	Growth in US GDP deflator driven primarily by profit-per-unit output, not labor costs.	Profit-led pricing power	Strong empirical evidence for profit-led (sellers’) inflation.
Uxó et al. (2025)	Spain (Observatorio de Márgenes Empresariales data, 2021-2023)	Increased markups observed only in roughly 30% of analyzed goods.	Sector-specific markup dynamics	Did not find widespread sellers' inflation but some evidence for specific sectors.

Appendix B: Dynamic Olley-Pakes Decomposition

We use the decomposition of aggregate productivity proposed Melitz & Polanec (2015) to decompose relative changes in productivity levels following closely the derivations in the appendix of Melitz and Polanec (2015). The authors extend the traditional Olley and Pakes (1996) decomposition of aggregate productivity (Φ_t)

$$\Phi_t = \sum_i \phi_{i,t} \; s_{i,t} \tag{i}$$

where s_{it} is the market share for a firm i at time t and ϕ_{it} is the productivity of firm i. Following Olley and Pakes (1996) aggregate productivity can be decomposed as follows:

$$\begin{aligned}\Phi_\mathrm{t} &= \bar{\phi}_t \sum_i \left(s_{i,t} - \bar{s}_t\right)(\phi_{i,t} - \bar{\phi}_t) \\ &= \bar{\phi}_t + cov\left(s_{i,t}, \phi_{i,t}\right)\end{aligned} \tag{ii}$$

Where $\bar{\phi}_t$ is the unweighted productivity mean at time *t* and $\bar{s}_t$ is the mean market share at time *t*. This decomposition does not consider firms entering or exiting the market and Melitz & Polanec (2015) propose an extension to the decomposition. Let *S, E,* and *X* denote the sets of surviving, entering, and exiting firms. s_{Gt} represents the aggregate market share of group G of firms and define $\Phi_{G,t} = \sum_i \left(\frac{s_{i,t}}{s_{G,t}}\right) \phi_{i,t}$ as that groups' aggregate market-share weighted productivity. The aggregate productivity of each period can be expressed as:

$$\begin{aligned}\Phi_1 &= s_{S1}\Phi_{S1} + s_{X1}\Phi_{X1} = \Phi_{S1} + s_{X1}(\Phi_{X1} - \Phi_{S1}) \\ \Phi_2 &= s_{S2}\Phi_{S2} + s_{E2}\Phi_{E2} = \Phi_{S2} + s_{E2}(\Phi_{E2} - \Phi_{S2})\end{aligned} \tag{iii}$$

From this the relative change can be expressed and decomposed as:

$$\frac{\Phi_2-\Phi_1}{\bar{\Phi}} = \frac{\Phi_{S2}-\Phi_{S1}}{\bar{\Phi}} + s_{E2}\frac{\Phi_{E2}-\Phi_{S2}}{\bar{\Phi}} + s_{X1}\frac{\Phi_{S1}-\Phi_{X1}}{\bar{\Phi}}$$

$$= \frac{1}{1-\overline{\widetilde{\mathrm{cov}}}_S}\frac{\bar{\Phi}_S}{\bar{\Phi}}\left(\frac{\Delta\bar{\phi}_S}{\bar{\Phi}_S} + \Delta\widetilde{\mathrm{cov}_S}\right) + s_{E2}\frac{\Phi_{E2}-\Phi_{S2}}{\bar{\Phi}} + s_{X1}\frac{\Phi_{S1}-\Phi_{X1}}{\bar{\Phi}} \quad \text{(iv)}$$

Here, $\bar{\Phi} = \frac{1}{2}\,(\Phi_1+\Phi_2)$; $\overline{\Phi}_S = \frac{1}{2}(\Phi_{S1}+\Phi_{S2})$; $\overline{\widetilde{\mathrm{cov}}}_S = \frac{1}{2}(\widetilde{cov}_{S1}+\widetilde{cov}_{S2})$ represent time averages and $\widetilde{cov} = \frac{cov(s,\phi)}{\Phi}$ a scale-independent covariance measure between market shares and productivity.

Appendix C: Microfoundation of Consideration-Set Formation

This appendix develops the full random-utility microfoundation of consideration-set formation used in Section 3. Consumers choose set size by maximizing the expected log-sum inclusive value generated by potential sellers net of consideration costs, while the same random-utility object generates the within-set logit choice. We derive diminishing marginal benefits and the conditions under which greater dispersion contracts, leaves unchanged, or expands the optimal set. The simulation equations in Section 3 are reduced-form mappings consistent with these analytical results rather than numerical solutions of the structural set-size problem in every period.

C.1 Common random-utility object

Consumer *k*'s utility from firm *i* in period *t* is

$$U_{i,k,t} = -\gamma P_{i,t} + \varepsilon_{i,k,t}. \tag{C.1}$$

where the taste shocks are independently Type-I extreme-value distributed with unit scale. Prices are strictly positive and the price-sensitivity parameter is positive. The period-specific dispersion state is summarized by the coefficient of variation

$$\sigma_t = \frac{\mathrm{sd}\left(P_{i,t}\right)}{\mathrm{mean}\left(P_{i,t}\right)}. \tag{C.2}$$

Given a realized consideration set, the consumer chooses the option with the highest realized utility. The same object has an ex-ante interpretation before taste shocks are realized: The expected maximum is an additive constant plus the inclusive value

$$IV\left(J_{k,t}\right) = \ln \sum_{i \in J_{k,t}} \exp\left(-\gamma P_{i,t}\right). \tag{C.3}$$

C.2 Choice of consideration-set size

Stage 1 is a choice over set size rather than a deterministic list of sellers. Conditional on the dispersion state, potential sellers are represented by draws from the corresponding market-price distribution, and a sampling rule generates a realized set of the chosen size. The expected inclusive-value benefit and the optimal size are

$$B_S(\sigma_t) = \mathbb{E}[IV(J_S) \mid \sigma_t]. \tag{C.4a}$$

$$S^{\text{opt}} = \underset{S}{\operatorname{argmax}}[B_S - C_S]. \tag{C.4b}$$

The same price-dependent deterministic utility thus disciplines both stages. The additional object on the extensive margin is the cost of considering more options.

C.3 Diminishing expected marginal benefits

For a set of independently sampled options, define the exponentiated deterministic utility of each option and let their sum over the existing set be the denominator in the log-sum. The realized inclusive-value gain from adding one further option is

$$\Delta IV_S = \ln\left(1 + \frac{X_{S+1}}{A_S}\right), \qquad A_S = \sum_{j=1}^{S} X_j. \tag{C.5}$$

Conditional on the sum for the existing set, the incremental log-sum is strictly decreasing in that sum. Because the sum grows almost surely with set size and the newly added draw is independent of the existing options, the expected marginal gain

$$\Delta B_S(\sigma_t) = \mathbb{E}[\Delta IV_S \mid \sigma_t]. \tag{C.6}$$

is strictly decreasing in S under the independent-sampling rule. Hence an interior optimum is characterized by the last expansion margin at which the expected marginal benefit weakly exceeds the marginal cost.

C.4 Dispersion, costs, and benefits

A mean-preserving spread of the price vector weakly raises the expected level of the log-sum because log-sum-exp is convex in the vector of deterministic utilities. This level result does not sign the change in the marginal benefit of one additional draw: Dispersion affects both the new option and the already sampled set. Consequently, price dispersion has two conceptually distinct effects on set formation. It can shift the marginal-benefit schedule through the option value of low-price realizations and it can shift marginal consideration costs. For transparency, write consideration costs as

$$C_S(\sigma_t) = S\,c(\sigma_t), \qquad \Delta C_S(\sigma_t) = c(\sigma_t). \tag{C.7}$$

and define the net marginal value of expanding from S to S+1 as

$$N_S(\sigma_t) = \Delta B_S(\sigma_t) - \Delta C_S(\sigma_t). \tag{C.8}$$

For compactness, let the delta operator denote the change caused by an increase in the dispersion state. The shock is cost-dominant when the cost response weakly exceeds the benefit response at every feasible expansion margin, with a strict inequality at least at one margin relevant to the optimum:

$$\delta_\sigma \Delta B_S \leq \delta_\sigma \Delta C_S. \tag{C.9}$$

It is benefit-dominant when the reverse weak inequality holds at every feasible expansion margin, again with a strict inequality at least at one margin relevant to the optimum:

$$\delta_\sigma \Delta B_S \geq \delta_\sigma \Delta C_S. \tag{C.10}$$

If the two responses are equal at every feasible margin, the regime is neutral. With a decreasing marginal-benefit schedule and the convention that the consumer selects the largest maximizing set, cost dominance weakly reduces the chosen set size and benefit dominance weakly increases it. A strict inequality at a margin adjacent to the old optimum produces a strict change. The neutral case leaves the set of justified expansion margins unchanged.

C.5 Intensive-margin choice

After the set is realized, integrating over the Type-I extreme-value shocks gives the familiar logit probability

$$\Pr\left(i \mid J_{k,t}\right) = \frac{\exp\left(-\gamma P_{i,t}\right)}{\sum_{j \in J_{k,t}} \exp\left(-\gamma P_{j,t}\right)}. \tag{C.11}$$

Thus, broader consideration sets strengthen the opportunity to substitute toward low-price firms without changing the intensive-margin choice rule.

C.6 Reduced-form simulation mapping

The simulations translate the sign of the net marginal response into continuous target set sizes. Define

$$f(\sigma;\rho) = \frac{\sigma}{\sigma+\rho}, \qquad \rho > 0. \tag{C.12}$$

Write f for the current value of this function and f^{ref} for its value at the reference dispersion. The cost-dominant, neutral, and benefit-dominant continuous targets are:

$$T^C = N - (N - S^{\min})f. \tag{C.13a}$$

$$T^N = S^{\text{fix}}. \tag{C.13b}$$

$$T^B = S^{\text{ref}} + b(N - S^{\min})(f - f^{\text{ref}}). \tag{C.13c}$$

The actual set size is obtained by rounding and clipping these targets to the feasible integer interval. The reference target aligns the pre-shock levels of the cost- and benefit-dominant regimes, while a positive scale parameter controls the benefit-channel strength. Away from clipping boundaries, the local slopes are

$$\frac{\partial T^C}{\partial \sigma} = -(N - S^{\min})\frac{\rho}{(\sigma+\rho)^2} < 0. \tag{C.14a}$$

$$\frac{\partial T^B}{\partial \sigma} = b(N - S^{\min})\frac{\rho}{(\sigma+\rho)^2} > 0. \tag{C.14b}$$

The benchmark calibration has 50 firms, a minimum set size of five, a dispersion-sensitivity parameter of 0.01, a reference price coefficient of variation of 0.0275, a neutral set size of 17, and a benefit-channel scale of 2.5. The resulting reference set size is approximately 17 firms before rounding. The neutral case fixes the set at this value. At the boundaries, rounding and clipping attenuate the continuous response, which explains why extremely small or large values of the dispersion-sensitivity parameter approach a neutral limiting case in the heatmaps.

Appendix D: Additional Simulation Results

Figure D1 plots the two productivity-decomposition components that are most informative about the efficiency mechanism around the shock. Figure D2 reports the full time path of consideration sets for alternative benefit-channel strengths under the benchmark heterogeneous exit tolerance.

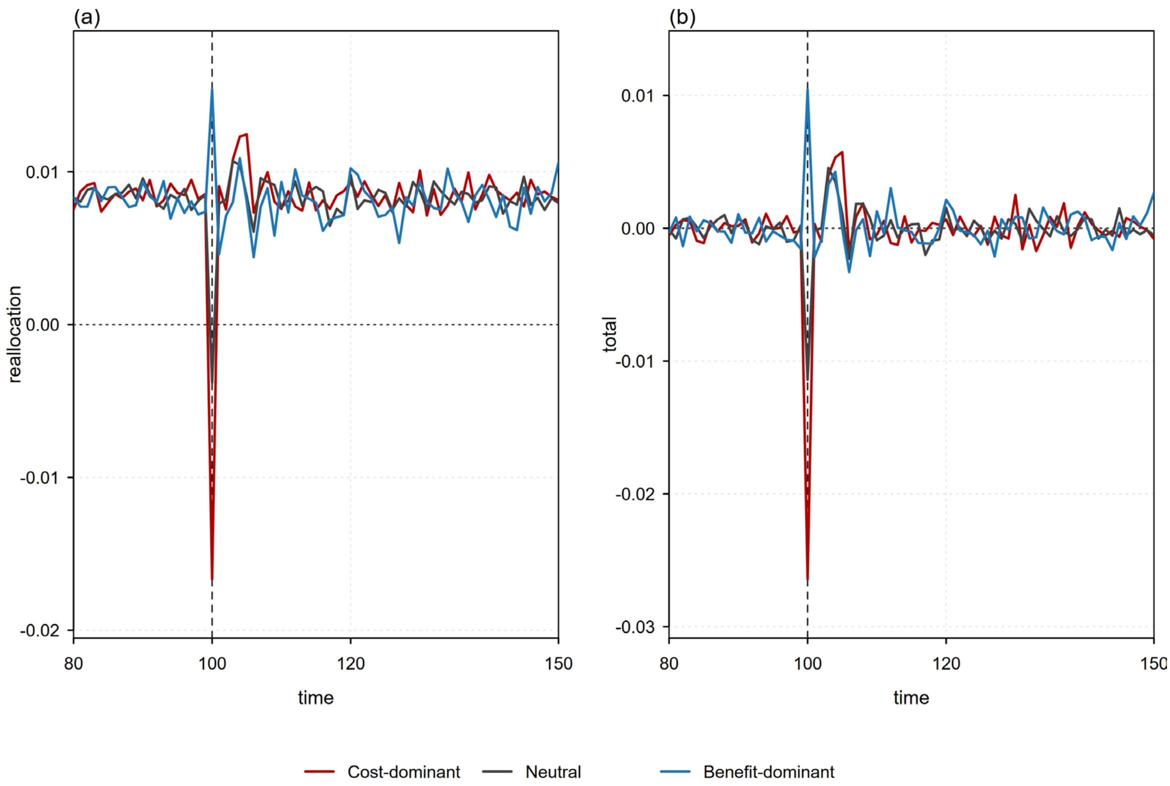

Figure D1: Post-shock time paths of (a) the reallocation contribution and (b) total productivity growth for the cost-dominant, neutral, and benefit-dominant regimes.

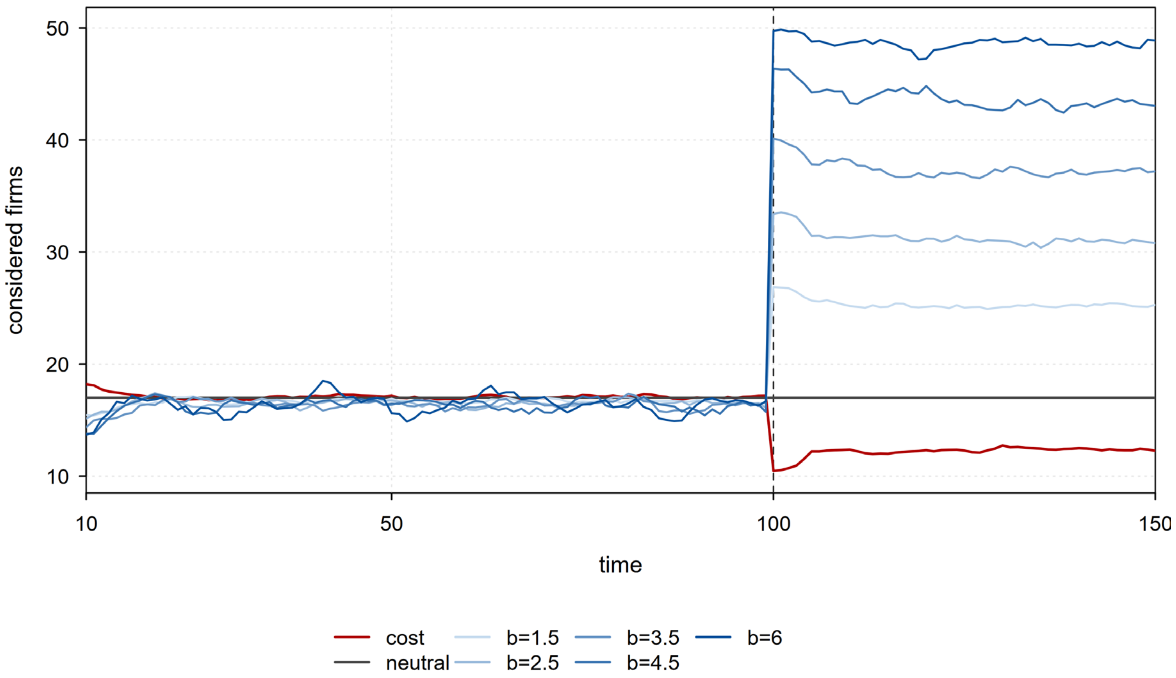

Figure D2: Consideration-set dynamics under the cost-dominant and neutral regimes and under benefit-dominant regimes with benefit-channel scale b∈{1.5,2.5,3.5,4.5,6}. The vertical dashed line marks the shock.