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NDSU AGRICULTURAL RISK POLICY CENTER

# Updated Evidence on the Impact of Proposition 12 on Pork Prices, Wholesale Segmentation, and Consumption

ARPC White Paper 2026–06

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## Key Insights

- **Retail Pork Price Premiums Remain Elevated Two Years After Full Enforcement.** From January 2024 to January 2026, the pooled retail price gap between compliant-state markets and the conventional benchmark market averaged 85.4 cents per pound, up from a pre-enforcement average of 14.2 cents per pound. This implies an overall widening of 71.2 cents per pound, with state-specific estimates of 72.7 cents per pound in California and 62.8 cents per pound in Massachusetts.
- **Proposition 12-Compliant Pork Remains a Small but Higher-Priced Share of Wholesale Markets.** At the wholesale level, ACL-compliant pork accounted for an average of 5.3% of reported volume from January 2024 to January 2026, peaking at about 7.2%. Over the same period, the volume-weighted ACL price premium averaged 51.6 cents per pound, compared with 27.4 cents per pound before enforcement, implying a full compliance-attributable wholesale premium of 24.2 cents per pound.
- **Retail Price Increases Are Nearly Three Times Larger Than the Wholesale Compliance Premium.** The retail price gap widened by 71.2 cents per pound, while the wholesale compliance premium widened by 24.2 cents per pound relative to the same pre-enforcement baseline. This yields an amplification factor of 2.95 overall, with corresponding estimates of 3.01 for California and 2.60 for Massachusetts, indicating substantial amplification between the wholesale and retail levels.
- **Higher Consumer Costs Coincide With Lower Pork Purchases and a Large Retail Burden.** California's share of U.S. pork purchases declined from 8.5% to 7.1% in the post-implementation period. Estimated additional consumer spending totals $403.1 million at retail in California and Massachusetts combined, compared with $184.7 million in wholesale compliance costs. Of the $403.1 million retail burden, 54.1% is attributable to retail amplification, 30.2% to the producer premium, and 15.7% to packer net margin, indicating that most of the burden arises after the packing plant and before the final retail sale.
- **Retail Cost Estimates Likely Understate the Full Consumer Burden.** Retail scanner data capture only grocery-channel sales. Comparing wholesale ACL volume with retail scanner ACL volume implies that about 199 million pounds, or 26% of total reported ACL production, clears through non-retail channels, such as foodservice, further processing, and institutional sales. Applying the wholesale compliance premium to this volume implies an additional $48.1 million in compliance costs not captured in the retail estimate, suggesting that total consumer costs across all channels exceed the reported $403.1 million retail burden.

## Background

Proposition 12 changed the economics of pork marketing by making access to the California market contingent on compliance with production standards applied throughout the supply chain. Because the law governs the sale of pork in a large consuming state rather than production within a single region, its effects are not confined to farms. They extend to segregation, certification, product allocation, and pricing decisions from the packing plant to the retail shelf. The policy, therefore, raises a broader question than whether compliance is costly. It asks how a retail market access rule reorganizes trade and pricing in a nationally integrated pork market.

Early evidence showed that these effects emerged quickly. Hawkins et al. (2024) documented sharp increases in California retail prices for covered pork products during partial implementation and the first stage of full enforcement, together with a decline in California's share of national pork purchases. Lwin et al. (2025) then extended the retail evidence with additional post-implementation data and found that these patterns persisted through mid-2025. Higher prices for covered cuts did not return to pre-policy relationships, and California's purchase shares remained below earlier levels. Taken together, these studies suggest that Proposition 12 produced a durable change in market outcomes rather than a short-lived adjustment during the transition to compliance.

What remains less clear from the retail evidence alone is how those observed price increases map into costs and margins along the supply chain. Retail premiums may reflect farm-level compliance costs, but they may also reflect wholesale market segmentation, limited availability of compliant products, and the extent to which upstream costs are passed through and amplified before reaching consumers. For that reason, a retail-only account is incomplete. Understanding the economic burden of Proposition 12 requires linking consumer prices to wholesale pricing and market shares for compliant product.

This white paper extends earlier work in two ways. First, it updates the California retail analysis through January 2026, providing a longer view of whether post-implementation price premiums and purchase declines have moderated. Second, it adds a wholesale-level analysis using USDA Livestock Mandatory Reporting data. We measure the share of Proposition 12-compliant pork in wholesale markets, estimate the premium for compliant relative to conventional product, and compare it with the retail price gap in California and Massachusetts. At the wholesale level, the analysis directly compares ACL-compliant and conventional pork using LMR data, with ACL-labeled pork serving as the wholesale indicator of Proposition 12 compliance. Other specialty categories are excluded. At the retail level, compliant markets (California and Massachusetts) are compared with the rest of the United States as a conventional benchmark.

Because Massachusetts enforces similar animal confinement requirements, the cost calculations include both California and Massachusetts, though the descriptive retail analysis focuses on California, the dominant compliance market.

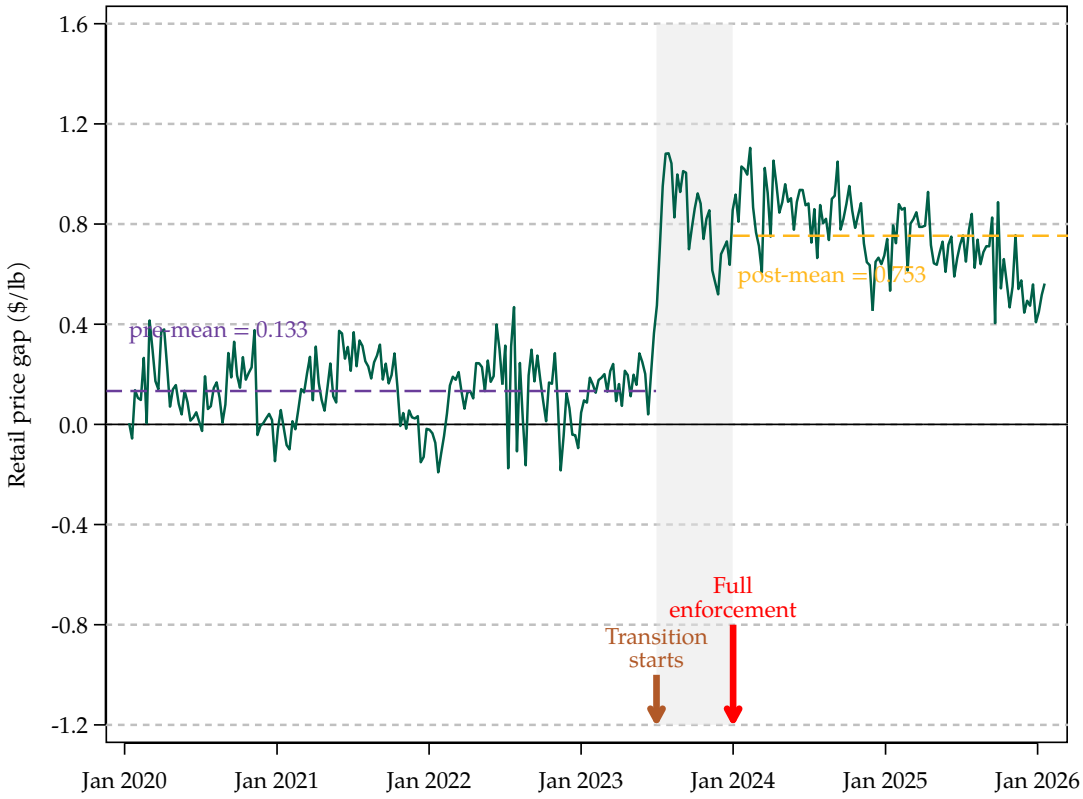
## Pork Retail Market Outcomes

Using weekly retail scanner data from Circana from January 2020 to January 2026, we examine in Figure 1 how Proposition 12 affected pork prices and purchase patterns in California retail markets. We begin by documenting the aggregate retail price gap between California and the rest of the United States, excluding California and Massachusetts, and then turn to cut-specific price premiums and market shares. This sequence allows us to move from the broad market-level response to the more detailed product-level adjustments that followed implementation. Across these measures, the empirical evidence points to the same conclusion. After full enforcement on January 1, 2024, covered pork products remained persistently more expensive in California, and California's share of national pork purchases remained below its pre-policy level.

The data show a clear break in California's retail pork price relationship with the rest of the United States. Before implementation, the California-minus-rest-of-U.S. gap fluctuated around a much lower level, with no indication of a sustained premium of the size observed after enforcement. Beginning around the implementation period and continuing after full enforcement, the series shifts upward and remains elevated through the end of the sample. Relative to the pre-policy baseline, the aggregate California retail price gap widens by 72.7 cents per pound. The central result is therefore not a temporary spike, but a durable upward shift in the relative price of pork sold in California.

The persistence of the gap matters. If Proposition 12 had generated only short-run disruption, the California premium would be expected to narrow as supply chains adjusted. Instead, the gap remains high for two full years after full enforcement, indicating that the policy changed the ongoing pricing relationship between California and the broader U.S. market rather than producing a brief transition effect. This aggregate result also motivates the cut-level analysis that follows. A stable increase in the overall California premium can arise either because all covered products move together or because some cuts respond more strongly than others. The next set of tables and figures shows that the latter is the case.

**Figure 1:** ***California Retail Pork Price Gap Relative to the Rest of the United States.***




*Note:* Weekly retail pork price gap, measured as California minus the rest of the United States excluding California and Massachusetts, January 2020 through January 2026. Positive values indicate higher retail pork prices in California. Shaded area denotes the transition period (July–December 2023); vertical line denotes full enforcement (January 2024). Dashed lines show pre-enforcement mean (January 2022–June 2023) and post-enforcement mean (January 2024–January 2026).

Table 1 reports cut-specific retail price premiums in percentage terms, comparing California with the rest of the United States, excluding California and Massachusetts, before and after policy enforcement. The table shows that Proposition 12 did not affect all cuts equally. Loins exhibit the largest increase in California's relative premium, rising from -2.0% before the policy to +29.8% after enforcement, a change of 31.8 percentage points. Ribs show the next largest increase, followed by bacon and shoulders. Ham behaves differently: its California premium remains negative even after enforcement, but the discount narrows substantially, from -31.8% to -18.0%. The implication is that Proposition 12 raised California relative prices broadly across covered cuts, but the magnitude of the effect depended on the product.

**Table 1:** ***Average California Retail Pork Price Premiums by Cut Before and After Proposition 12 Enforcement.***

| Cut | Pre-policy premium (%) | Post-policy premium (%) | Pre-to-post change (percentage points) |
|---|---|---|---|
| Aggregate | -0.6 | +14.2 | **+14.8** |
| Bacon | +7.9 | +24.1 | **+16.2** |
| Ham | -31.8 | -18.0 | **+13.8** |
| Loins | -2.0 | +29.8 | **+31.8** |
| Ribs | -5.1 | +16.8 | **+21.9** |
| Shoulders | +0.5 | +16.8 | **+16.3** |
| *Exempt product (benchmark)* | | | |
| Sausage | +8.6 | +8.6 | **0.0** |

*Note:* Entries report average California retail price premiums for selected pork cuts relative to the rest of the United States, excluding California and Massachusetts. These are geographic comparisons between California and the rest-of-U.S. benchmark, not direct product-level comparisons between compliant and conventional pork. Premiums are expressed as percentage differences in average retail prices, with positive values indicating higher prices in California and negative values indicating lower prices in California relative to the comparison market. The final column reports the pre-to-post change in the California premium in percentage points. Sausage is included as an exempt product benchmark; unlike covered cuts, it was not subject to Proposition 12 compliance requirements and shows no pre-to-post change in its California price premium. Estimates are based on Circana weekly scanner data.

This cross-cut variation is economically informative. Products such as loins and ribs appear to have absorbed the largest relative price adjustments, suggesting tighter compliant supply, stronger pass-through, or both. Bacon and shoulders also show sizable and persistent increases, though smaller than those for loins and ribs. Ham is the clearest reminder that Proposition 12 did not simply add a uniform markup to every covered product. Even with a meaningful post-policy increase in its relative premium, ham remained discounted in California compared with the rest of the country. That pattern is consistent with the idea that product-specific demand conditions, merchandising practices, and cut-level supply adjustments continued to matter after enforcement.

Table 2 shows the quantity side of the retail response. California's share of total U.S. pork purchases fell from 8.5% to 7.1%, a decline of 1.4 percentage points. At the cut level, the largest decline occurs for ribs, followed by ham, shoulders, and loins, while bacon shows the smallest decline. These reductions indicate that higher California relative prices were accompanied by weaker relative purchases, consistent with consumers and retailers adjusting to a more expensive, compliant product mix.

**Table 2:** ***California Share of Total U.S. Retail Pork Purchase Volume by Cut Before and After Proposition 12 Enforcement.***

| Cut | Pre-Policy Market Share (%) | Post-Policy Market Share (%) | Pre-to-post change (percentage points) |
|---|---|---|---|
| Aggregate | 8.5 | 7.1 | **-1.4** |
| Bacon | 7.8 | 6.8 | **-1.0** |
| Ham | 18.3 | 16.0 | **-2.3** |
| Loins | 6.6 | 4.7 | **-1.9** |
| Ribs | 11.8 | 8.8 | **-3.0** |
| Shoulders | 9.7 | 7.6 | **-2.1** |
| *Exempt product (benchmark)* | | | |
| Sausage | 7.4 | 7.0 | **-0.4** |

*Note:* Entries report California's share of total U.S. retail purchase volume for selected pork products before and after Proposition 12 enforcement. Shares are expressed as percentages, and the final column reports the pre-to-post change in California's share in percentage points. Sausage is included as an exempt product benchmark; unlike covered cuts, it was not subject to Proposition 12 compliance requirements. Estimates are based on Circana weekly scanner data. Ground pork is excluded.

Taken together, the analysis shows that price and quantity adjustments moved in the expected direction, but not in a one-for-one way. Cuts with the largest increases in California price premiums often also experienced large declines in California purchase share, but the relationship is not exact. Ribs fit that pattern closely, with both a large price increase and the largest quantity decline. Bacon is different. Its premium rises substantially, but its market share falls by only 1.0 percentage point. That heterogeneity sug-

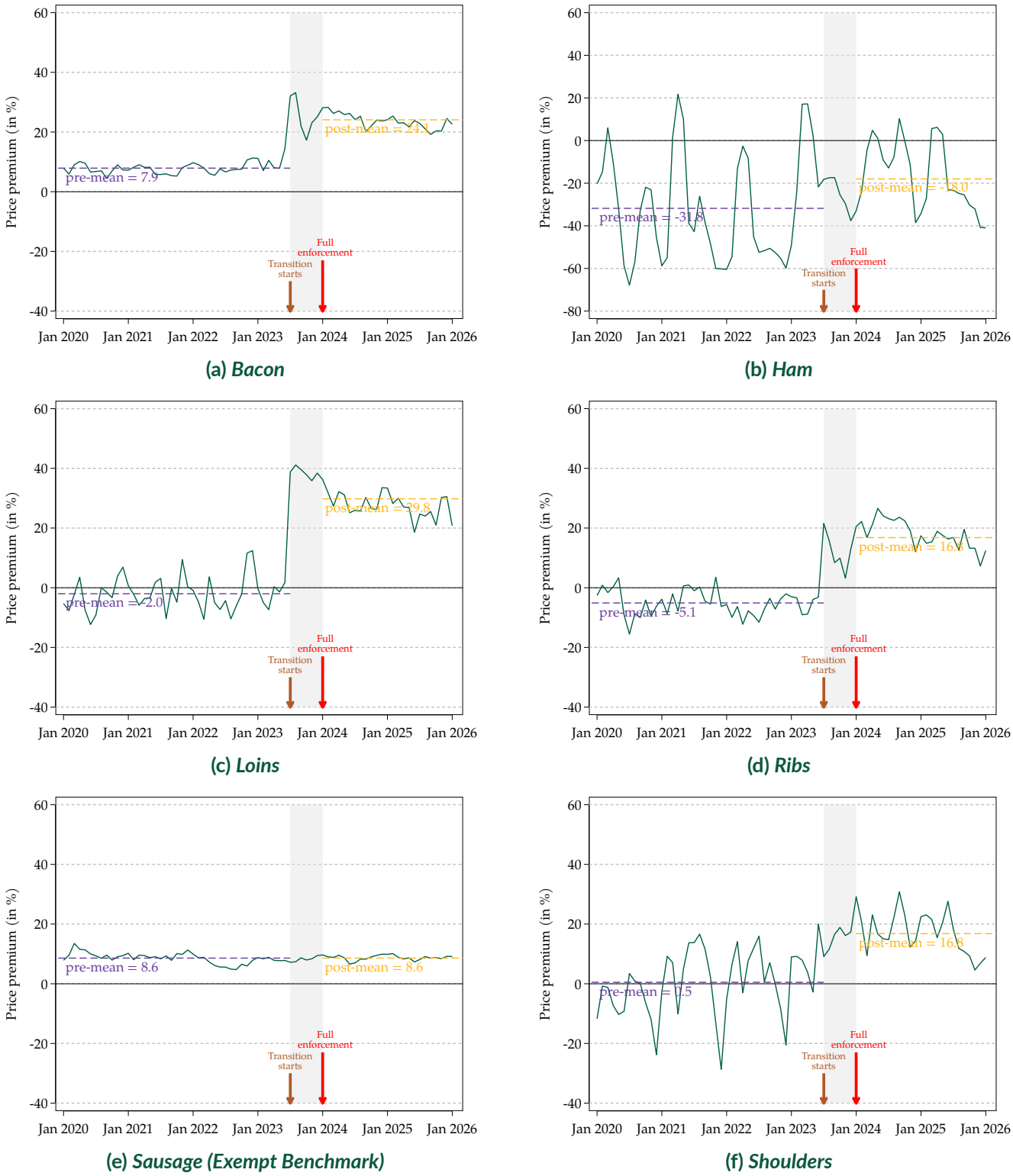
gests that Proposition 12 altered both supply conditions and consumer substitution patterns, with the resulting market response differing across covered products.

Figure 2 provides a dynamic view of the price results and shows that the post-policy increase in California's relative prices was not driven by a few unusual weeks. For loins and bacon, the series shifts upward around implementation and remains at a higher level thereafter. Ribs and shoulders are more volatile, but their post-enforcement means also remain clearly above pre-policy levels. Ham remains negative for most of the sample, though its post-policy premium is noticeably less negative than before. By contrast, sausage shows almost no change in its pre- and post-policy means. That contrast is important because sausage provides a useful within-market comparison: unlike the covered cuts, it shows no clear break around enforcement, reinforcing the interpretation that the observed price shifts are concentrated in products subject to Proposition 12 compliance requirements.

Figure 3 provides the time-series evidence for purchase shares. Here too, the pattern is consistent with Proposition 12 generating a sustained retail adjustment rather than a short-lived disruption. Loins, ribs, and shoulders all show visible downward shifts in California's share of U.S. purchases after implementation, with post-policy levels remaining below their earlier averages. Bacon declines more modestly. Ham is noisy in levels but still shows a lower post-policy mean. Once again, sausage provides a useful benchmark. Its California purchase share remains broadly stable across the pre- and post-policy periods.

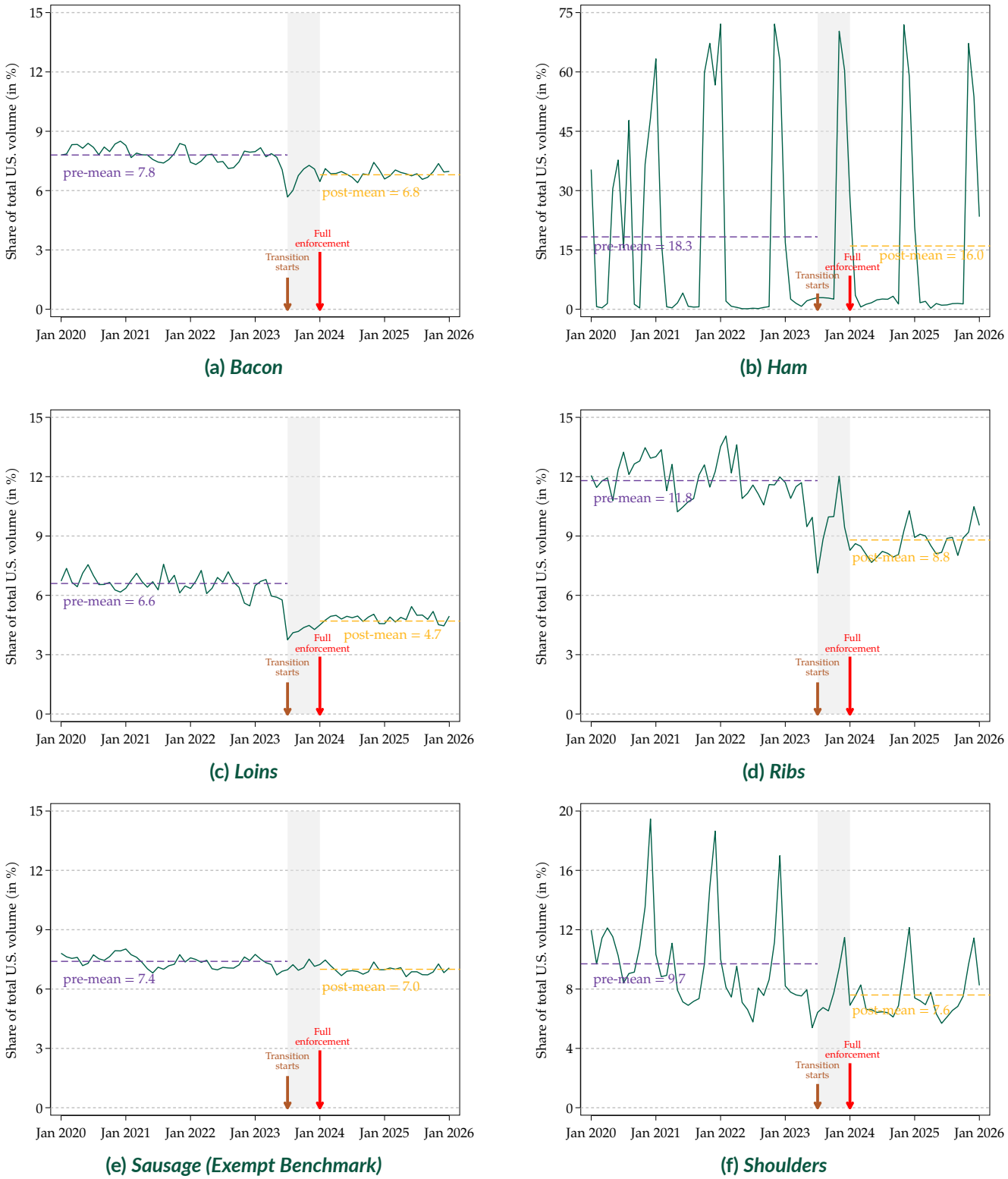
The combined message is that Proposition 12 changed both the price and quantity margins of the California retail pork market. Covered products became persistently more expensive in California relative to the rest of the country, and California's share of national purchases for those products moved lower. The fact that exempt sausage shows neither pattern reinforces the interpretation that the observed changes are policy-linked rather than part of a broader drift in California food markets. Overall, the retail evidence indicates a durable re-pricing of covered pork products and a corresponding contraction in California's relative purchases after full enforcement.

## Figure 2: *California Retail Price Premiums Before and After Proposition 12.*




*Note:* Monthly retail pork price premiums from January 2020 through January 2026, measured as percentage differences between California and the rest-of-U.S. benchmark excluding California and Massachusetts. The shaded area denotes the transition period (July–December 2023) and the vertical line denotes full enforcement (January 2024). The blue dashed line indicates the pre-enforcement mean (January 2022–June 2023) and the orange dashed line indicates the post-enforcement mean (January 2024–January 2026).

**Figure 3:** ***California's Share of U.S. Retail Pork Purchases for Selected Pork Products.***




*Note:* Monthly California share of total U.S. retail pork purchase volume from January 2020 through January 2026. The shaded area denotes the transition period (July–December 2023) and the vertical line denotes full enforcement (January 2024). The blue dashed line indicates the pre-enforcement mean (January 2022–June 2023) and the orange dashed line indicates the post-enforcement mean (January 2024–January 2026).

## Pork Wholesale Market Outcomes

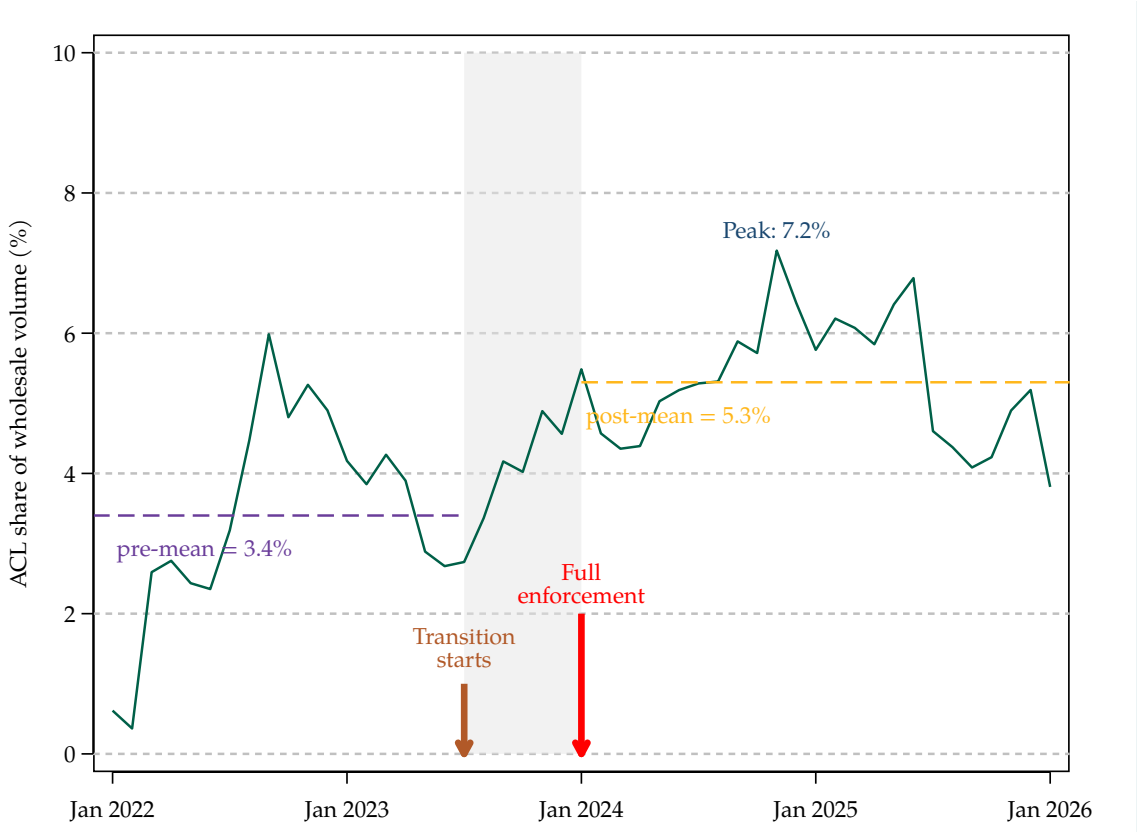
The retail evidence shows that Proposition 12 raised California pork prices relative to the rest of the United States, but retail data alone cannot show how much of that increase originated upstream. To examine that question, we turn to Livestock Mandatory Reporting (LMR) data, which allows a direct comparison between compliant and conventional pork, independent of any geographic retail benchmark. We classify ACL-designated pork as the compliant segment of the wholesale market and use that distinction to measure the scale of market segmentation and the price premium associated with compliance.

Figure 4 shows that ACL-compliant pork remained a small but persistent share of reported wholesale trade throughout the post-enforcement period. From January 2024 to January 2026, ACL product accounted for an average of 5.3% of reported wholesale volume and peaked at roughly 7.2%. This implies that Proposition 12 created a distinct compliant wholesale channel rather than a short-lived transition category. In addition, that channel remained limited. Even after full enforcement, most wholesale pork continued to move through conventional channels. The wholesale market,therefore, appears segmented rather than fully converted, with compliant supply consistently present but still relatively scarce.

That scarcity is also visible in the price data. Even before full enforcement, ACL pork sold at a premium to conventional pork, with a volume-weighted average differential of 27.4 cents per pound from January 2022 through June 2023. This pre-existing gap suggests that compliant product was already differentiated and costly to supply before Proposition 12 became fully binding. After full enforcement began in January 2024, the average ACL premium rose to 51.6 cents per pound. Subtracting the pre-enforcement baseline yields a compliance-attributable wholesale premium of 24.2 cents per pound. This comparison is important because it isolates the additional price effect associated with full enforcement rather than attributing the entire ACL premium to Proposition 12.

Figure 5 shows that this wholesale premium was not uniform across products. Price differences between ACL-compliant and conventional pork vary substantially across major cuts and fluctuate over time, with some cuts exhibiting much larger and more volatile premia than others. This heterogeneity indicates that Proposition 12 did not impose a single common markup across the carcass. Instead, market segmentation operated unevenly across products, likely reflecting differences in compliant supply availability, cut-specific demand, and packer allocation decisions. The aggregate wholesale premium of 24.2 cents per pound should therefore be interpreted as a volume-weighted average over a set of highly uneven cut-level premia.

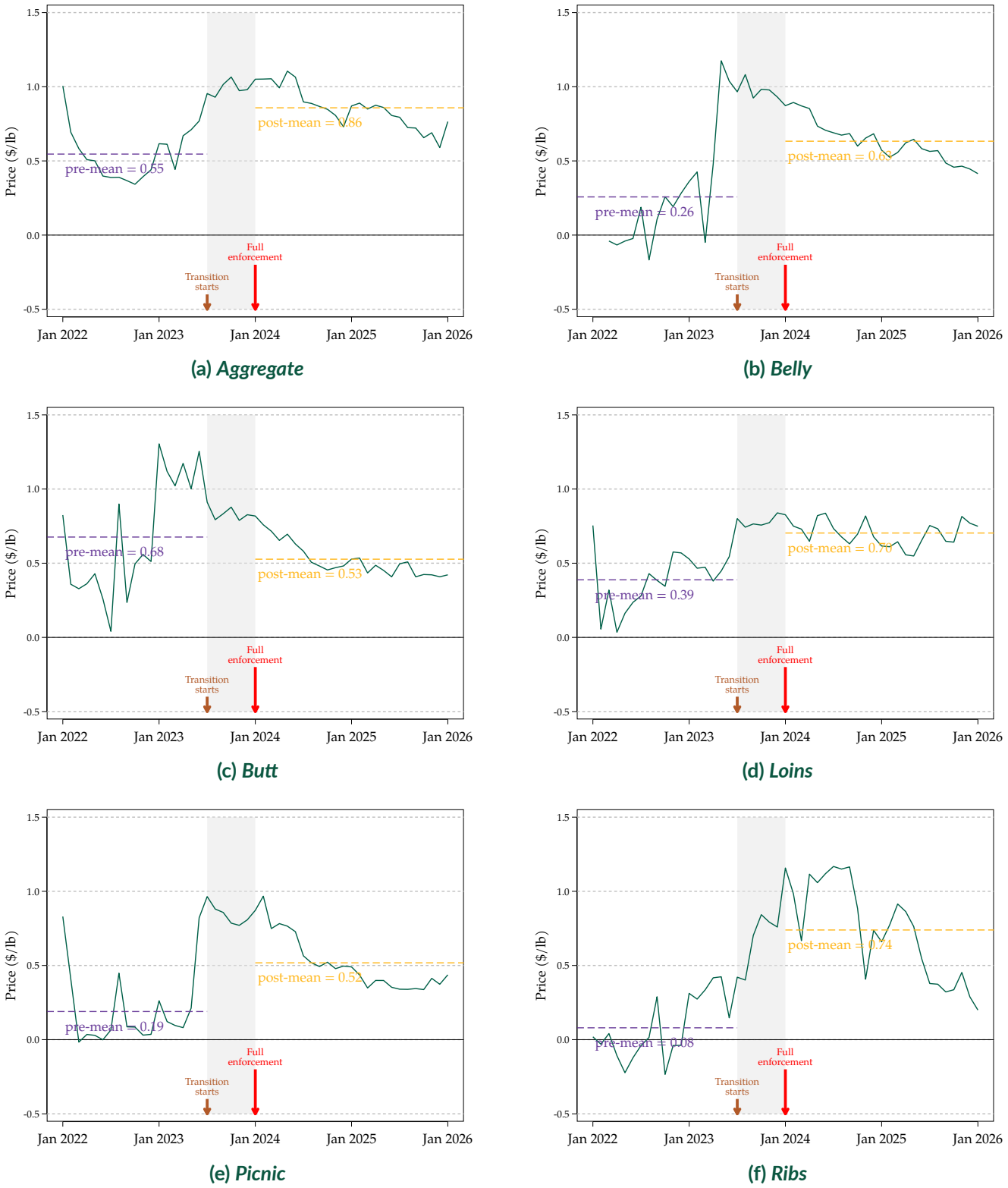
**Figure 4:** ***Share of ACL-Compliant Pork in Reported Wholesale Volume.***




*Note:* Monthly share of ACL-compliant pork in total reported wholesale pork volume, January 2022 through January 2026. ACL-labeled pork serves as the wholesale indicator of Proposition 12 compliance. Shaded area denotes the transition period (July–December 2023); vertical line denotes full enforcement (January 2024). The blue dashed line indicates the pre-enforcement mean (January 2022–June 2023), and the orange dashed line indicates the post-enforcement mean (January 2024–January 2026).

The wholesale evidence indicates a segmented market in which Proposition 12-compliant pork remained a relatively small share of total volume but consistently sold at a premium to conventional product. That premium increased after full enforcement, and the cut-level patterns show that it was not distributed uniformly across products. This unevenness at wholesale helps explain why the retail effects are both persistent and heterogeneous.

**Figure 5:** ***Wholesale Price Differences Between ACL-Compliant and Conventional Pork by Cut.***




*Note:* Monthly wholesale price differences between ACL-compliant and conventional pork for major cuts, January 2022 to January 2026. Positive values indicate a premium for ACL-compliant product. The shaded region denotes the transition period (July-December 2023), and the vertical line denotes full enforcement (January 2024). The aggregate panel (a) reports the simple average across reported cuts and is not volume-weighted.

## Wholesale-to-Retail Price Amplification

A central question is how the wholesale compliance premium associated with Proposition 12 compares with the retail price effects observed in compliant consumer markets. To address that question, we compare two economically parallel measures over the full enforcement period from January 2024 to January 2026: the wholesale price premium for ACL-compliant pork relative to conventional pork, and the retail price premium in California and Massachusetts relative to the rest of the United States. Both measures are expressed relative to the same pre-enforcement baseline, so the comparison isolates how much larger the observed retail price effect is than the corresponding wholesale compliance premium.

At the wholesale level, the relevant measure is the compliance-attributable ACL premium. This premium is defined as the post-enforcement ACL–conventional price differential of 51.6 cents per pound minus the pre-enforcement differential of 27.4 cents per pound, yielding a wholesale compliance premium of 24.2 cents per pound. At the retail level, the California price gap relative to the rest of the United States widened by 72.7 cents per pound relative to the same baseline, while the Massachusetts gap widened by 62.8 cents per pound. Pooling the two compliant retail markets yields an average retail price gap of 71.2 cents per pound.

Comparing these two wedges implies substantial amplification between wholesale and retail markets. The ratio of the retail price effect to the wholesale compliance premium is 3.01 for California, 2.60 for Massachusetts, and 2.95 overall. In descriptive terms, retail price increases in compliant markets were therefore roughly three times larger than the wholesale compliance premium observed for ACL pork.

This amplification ratio should be interpreted as a descriptive benchmark rather than a structural pass-through estimate. The two measures are not identical transaction-level objects, but they are conceptually aligned. The wholesale measure compares ACL-compliant and conventional pork directly within national wholesale markets, while the retail measure compares compliant-state consumer markets with a conventional benchmark market at retail. In both cases, the underlying distinction is the same: compliant pork marketed under Proposition 12 versus conventional pork sold outside the compliant channel. Therefore, the comparison provides a useful summary of how modest wholesale segmentation and premiums translated into much larger retail price effects.

## Quantifying the Economic Burden of Proposition 12 Across the Supply Chain

The following cost estimates cover the post-implementation period from January 2024 to January 2026 and include both California and Massachusetts, as both states enforce animal confinement legislation. Estimates are reported at the wholesale and retail levels of the supply chain and decomposed across producers, packers, and retailers in Table 3.

### *Wholesale Compliance Costs*

The economic cost of Proposition 12 implementation is estimated at each level of the supply chain using volume-weighted price premiums applied from January 2024 to January 2026. At the wholesale level, the ACL compliance premium is estimated at 24.15 cents per pound (reported as 24.2 cents per pound when rounded in prose throughout this paper); applied to 764.7 million pounds of reported ACL wholesale volume, this yields an estimated wholesale-level cost of $184.7 million. This estimate captures only domestically produced ACL pork reported through USDA LMR. It excludes ACL-compliant pork imported from certified foreign producers, such as Canadian farms that have pursued Proposition 12 certification, which would appear at California and Massachusetts retail but not in domestic LMR wholesale records. The $184.7 million figure represents a partial measure of wholesale compliance costs, reflecting only the domestic production program captured by mandatory reporting.

### *Retail Consumer Burden*

At the retail level, the price gap between California and the rest of the U.S. widened by 72.7 cents per pound relative to the pre-policy baseline (January 2022–June 2023). The Massachusetts price gap widened by 62.8 cents per pound over the same baseline. Applying these state-specific retail price premiums to 485.5 million pounds of California retail pork volume and 80.2 million pounds of Massachusetts retail pork volume for the period of January 2024 to January 2026 yields a combined retail-level economic cost of about $403.1 million ($352.8 million for California and $50.3 million for Massachusetts), as reported in Table 3. These estimates measure additional consumer expenditure at the post-policy consumption level, estimating how much more California and Massachusetts consumers paid for the pork they actually pur-

chased under Proposition 12 compliance. Because consumers also reduced pork purchases (California market share fell from 8.5% to 7.1%), this approach does not capture the foregone value associated with reduced consumption. A consumer welfare framework, which incorporates both the higher prices paid on remaining purchases and the deadweight loss from reduced consumption, would yield a larger total impact.

Accordingly, the $403.1 million estimate should be interpreted as a partial measure of consumer burden, reflecting observed spending at the new, lower consumption level, rather than a comprehensive measure of total welfare effects. Notably, the observed retail price increases during the post-policy implementation period average about 20 percentage points above the pre-policy baseline across the five covered cuts (Table 1), about three times larger than the 7.7% ex ante price increase assumed in Lee et al. (2021), who projected annual welfare losses of approximately $320 million under full enforcement. The $403.1 million in additional retail expenditure observed here covers roughly 25 months and measures spending at the new, lower consumption level rather than full welfare loss; on an annualized basis, the observed spending increment alone averages approximately $193 million per year. A full welfare calculation incorporating both the price increase on remaining purchases and the deadweight loss from reduced consumption would yield a higher annual figure, suggesting that the $403.1 million figure reported here understates rather than overstates the full consumer welfare impact of Proposition 12.

The $184.7 million wholesale estimate and the $403.1 million retail estimate are not additive, as the retail figure already embeds the wholesale compliance cost passed through and amplified at the retail level. Each figure measures compliance costs at a different level of the supply chain: the wholesale estimate captures the additional cost incurred at the packing plant, while the retail estimate captures the total additional expenditure borne by consumers in California and Massachusetts grocery channels.

### *Non-retail Channels and System-wide Cost Estimates*

Note that these retail-level cost estimates are based on grocery scanner data and capture only the portion of ACL-compliant pork sold through retail channels. Comparing wholesale ACL volume (764.7 million pounds) to retail scanner ACL volume (565.7 million pounds) indicates that about 199 million pounds, or 26% of total wholesale ACL production, clears through non-retail channels such as foodservice, further processing, and institutional sales. This non-retail share is broadly consistent with USDA estimates that at least 22% of U.S. pork consumption occurs away from home (Davis and Lin, 2005), with the higher whole-

sale residual likely reflecting additional volumes destined for further processing, institutional sales, and exports that do not appear in retail scanner data. Applying the wholesale compliance premium of 24.2 cents per pound to this non-retail volume implies an additional $48.1 million in compliance costs not captured by the retail estimate. Because foodservice prices are not directly observed in the data, total consumer costs across all channels are likely higher than the $403.1 million retail estimate reported here.

### *Implied Compliant Hog Throughput*

To estimate the number of ACL-compliant hogs slaughtered, we use the binding-cut method based on wholesale-level ACL data from USDA LMR. Because a single hog yields all primal cuts in fixed anatomical proportions, observed ACL labeled volumes for any cut imply a minimum number of compliant hogs: implied hogs = (labeled pounds of that cut) ÷ (pounds of that cut per hog), where the pounds per hog = 215 × the cut's carcass yield share. The carcass yield share for each primal cut, expressed as a percentage of the standard 215-lb carcass weight, is reported in USDA AMS (2026b). The spareribs account for 4.8% of the standard 215-lb carcass, or about 10.34 lbs per hog, the smallest share among all major primals, compared to 24.59% for ham (52.9 lbs per hog), 25.17% for loin (54.1 lbs per hog), and 16.28% for belly (35.0 lbs per hog). Labeled ACL volumes, however, are not proportional to carcass shares because packers choose which cuts to sell through the ACL-labeled channel. Cuts commanding higher premiums tend to have high labeled shares, meaning most of their implied volume appears as labeled ACL product. Cuts with lower premiums, such as ham, have low labeled shares, meaning most companion volume clears outside the labeled channel, and therefore implies far fewer hogs than their carcass share would suggest.

The binding cut is the cut whose labeled volume implies the largest number of compliant hogs and therefore provides the tightest lower bound on total compliant throughput. Spareribs are the binding cut here because virtually all sparerib volume implied by compliant throughput appears as labeled Proposition 12 product, making their implied hog count the highest among all reported primals (USDA AMS, 2026b). Dividing the total labeled ACL sparerib volume by 10.34 lbs per hog recovers the minimum compliant hog throughput consistent with reported wholesale transactions. Over the January 2024 to January 2026 post-policy period, this calculation implies about 11.95 million compliant hogs in total. Unlike the retail-based approach of dividing California scanner volumes by an assumed covered-cut yield per hog, this wholesale-level method captures the full compliant production program at the packing-plant level, including companion-cut volumes that clear through non-labeled channels such as out-of-state sales, foodservice, further processing, and exports.

**Table 3:** ***Post-Enforcement Wholesale and Retail Pork Market: Volume, Value, and Economic Cost of Animal Confinement Legislation (January 2024–January 2026).***

| Level | Volume (Million pounds) Conventional | Volume (Million pounds) ACL (CA+MA) | Value (Million $) Conventional | Value (Million $) ACL (CA+MA) | Economic Costs (Million $) |
|---|---|---|---|---|---|
| Wholesale[a] *(ACL vs. conventional)* | 12,296.4 | 764.7 | 15,915.3 | 1,648.1 | 184.7 |
| Retail[b] *(CA+MA vs. rest-of-US)* | 6,236.9 | 565.7 | 25,726.0 | 2,727.3 | 403.1 |
| Hog equiv.[c] | | | 11.95 million head | | |

| Year/Share | Consumer Cost (Million $) | Retail Amplification (Million $) | Producer Received (Million $) | Packer Net Margin (Million $) |
|---|---|---|---|---|
| Jan 2024–Jan 2026[d] | 403.1 | 218.4 | 121.6 | 63.1 |
| Share | 100% | 54.1% | 30.2% | 15.7% |

| State | Volume (Million pounds) | Value (Million $) | Market Share (%) | Retail Premium ($/lb) | Economic Costs (Million $) |
|---|---|---|---|---|---|
| California | 485.5 | 2,327.4 | 85.8 | 0.727 | 352.8 |
| Massachusetts | 80.2 | 399.9 | 14.2 | 0.628 | 50.3 |
| Total (CA+MA) | 565.7 | 2,727.3 | 100.0 | 0.712 | 403.1 |

[a] Wholesale ACL data from USDA LMR (all reported alpha codes); conventional pork data from USDA AMS DataMart (LM610/LM620); both covering January 2024–January 2026. Wholesale economic cost = ACL volume × $0.242/lb, the compliance-attributable price premium computed as the post-enforcement ACL–conventional price differential ($0.516/lb, January 2024–January 2026) minus the pre-enforcement baseline differential ($0.274/lb, January 2022–June 2023).

[b] Retail from Circana weekly scanner data, total observed volume January 2024–January 2026. ACL = CA + MA; conventional = rest of U.S. excluding CA and MA. State-specific retail premiums are computed as the post-enforcement (January 2024–January 2026) price gap between the state and the rest-of-U.S. benchmark minus the pre-enforcement (January 2022–June 2023) price gap, where the benchmark excludes both CA and MA in both periods. Economic costs ($352.8 million for California, $50.3 million for Massachusetts, $403.1 million combined) are computed from unrounded premiums; the rounded values displayed in the table (CA = $0.727/lb; MA = $0.628/lb; overall = $0.712/lb) do not exactly reproduce these totals due to rounding.

[c] Binding-cut method: 11.95 million hogs implied by total ACL spareribs throughput (4.8% yield, 10.34 lbs/hog) over the full period January 2024–January 2026.

[d] Decomposition is nested: wholesale premium ($184.7 million) embeds producer received and packer net margin. Producer received = $4.73/cwt (volume-weighted ACL premium) × 2.15 cwt/hog = $10.18/head; multiplied by 11.95 million binding-cut hogs yields $121.6 million (range $4.85–$24.14/cwt; simple average = $4.80/cwt; volume-weighted over 102 weeks (USDA AMS, 2026a)). Packer net margin = wholesale premium − producer received ($184.7 million − $121.6 million = $63.1 million). Retail amplification = retail consumer burden − wholesale compliance premium ($403.1 million − $184.7 million = $218.4 million). The CA+MA combined retail premium ($0.712/lb) is computed directly from pooled CA+MA volume versus the rest-of-U.S. benchmark (excluding both CA and MA). CA amplification factor = 3.01 (CA retail premium $0.727/lb ÷ wholesale premium $0.242/lb; computed from unrounded values). MA amplification factor = 2.60. CA+MA amplification factor = 2.95.

*Note:* The partial enforcement transition period (July–December 2023) is excluded from both pre- and post-enforcement periods in the wholesale and retail calculations. Exempted products; sausage and ground pork, are excluded from retail.

We further decompose the $403.1 million consumer cost across the supply chain in three steps, working from the farm level up to the retail level.

The wholesale ACL premium of $184.7 million represents the total additional cost at the plant level, which itself embeds two components: the amount received by producers and the packer's net margin. Using the ACL premium from the USDA LMR Swine Non-Carcass Merit Premiums report (USDA AMS, 2026a), specifically the ACL premium, we estimate that producers received about $121.6 million, representing 30.2% of consumer cost. This is the additional amount packers paid above conventional hog prices for Proposition 12-compliant hogs over the January 2024 to January 2026 period. The remaining portion of the wholesale premium, which is about $63.1 million (15.7%), represents the packer's net margin retained within the wholesale channel.

The largest component of consumer cost is retail amplification. The per-pound amplification ratio of 3.0 is the primary characterization of this amplification, computed as the average retail premium ($0.712/lb) divided by the wholesale ACL premium ($0.2415/lb, rounded to 0.242), as it does not depend on matching volume bases. In dollar terms, retail amplification is reported as $218.4 million (54.1%), computed as the difference between retail consumer cost ($403.1 million over 565.7 million retail pounds) and the full wholesale premium ($184.7 million over 764.7 million wholesale pounds). As a robustness check, scaling the wholesale premium to the retail volume base (565.7 million lbs × $0.242/lb = $136.9 million) implies retail amplification of about $266.2 million, or roughly 66% of consumer cost. This volume-consistent figure is higher than the $218.4 million reported in Table 3 because the latter subtracts the full wholesale premium measured over 764.7 million wholesale pounds, which includes non-retail channels not captured in retail scanner data. The $218.4 million figure is therefore the preferred decomposition estimate, as it is internally consistent with the full wholesale volume base reported earlier.

## Conclusion

Two years after full enforcement, Proposition 12 continues to shape pork market outcomes in California and Massachusetts. At retail, the price effects remain large and persistent. Relative to the pre-policy baseline, the retail price gap widened by 72.7 cents per pound in California and 62.8 cents per pound in Massachusetts, with a pooled increase of 71.2 cents per pound. These effects extend across major covered cuts, and California's share of national pork purchases remains below its pre-policy level, declining from 8.5% to 7.1%, a relative reduction of approximately 16%.

At the wholesale level, Proposition 12-compliant pork remained a small but consistently higher-priced segment of the market. From January 2024 to January 2026, ACL-compliant pork accounted for an average of 5.3% of reported wholesale volume, while the compliance-attributable wholesale premium averaged 24.2 cents per pound. The wholesale evidence therefore points to a segmented market in which compliant product remained limited in volume but persistently more expensive than conventional pork.

Comparing wholesale and retail price effects shows that the consumer burden associated with Proposition 12 was substantially larger than the upstream compliance premium alone. The retail price effect in compliant markets was nearly three times the size of the wholesale compliance premium, implying an amplification factor of about 3.0. This pattern indicates that the economic effects of Proposition 12 intensified as compliant product moved from the packing plant to the retail shelf.

Over the January 2024 to January 2026 period, the estimated burden of Proposition 12 totaled about $184.7 million at wholesale and $403.1 million at retail in California and Massachusetts. Decomposing the retail burden across the supply chain shows that producers received an estimated $121.6 million in compliance premiums, packers retained about $63.1 million in net margin, and retail amplification accounted for the largest share at $218.4 million. Therefore, the largest component of the consumer burden arose after the wholesale stage, between the packing plant and the final retail sale.

Overall, the evidence shows that Proposition 12 created a segmented market for compliant pork, sustained higher retail prices in compliant states, reduced relative purchases, and generated consumer costs that substantially exceeded the corresponding wholesale premium. The central implication is that the burden of compliance was shaped by supply chain transmission as much as by upstream production costs, with the largest effects emerging at the consumer end of the market.

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The Agricultural Risk Policy Center at North Dakota State University conducts independent, evidence-based economic research to inform agricultural policy and strengthen the farm safety net. Our work focuses on evaluating risk management tools such as crop insurance and disaster assistance, analyzing market disruptions, and providing timely insights that support agricultural producers, policymakers, and industry leaders.

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