Intermediaries and Market Competition in Health Insurance*

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Abstract

We study how private and public intermediaries affect consumer demand and market competition in a market-based public program. We use administrative enrollment data from California's health insurance marketplace linked with intermediary identifiers, containing information on individual characteristics, plan choices, and choices of intermediaries. We begin by showing evidence that the use of public and private intermediaries reduces the likelihood that consumers choose dominated plans. Next, we develop and estimate a model of consumer demand with search frictions where consumers decide whether to use an intermediary and which plan to purchase. Our estimates suggest that private agents steer consumers toward plans with higher commission fees, while public assisters direct consumers toward lower-premium plans. Furthemore, by estimating an equilibrium model with insurer price competition, we find that private-agent steering increases the dispersion of insurer markups, reflecting market power created through intermediary behavior. We also examine how changes in access to public assisters affect equilibrium prices and enrollment, and discuss implications for the design of the size of public intermediaries.

Keywords: Intermediaries, health insurance, competition

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1 Introduction

Intermediaries, such as brokers, agents, and platforms, play a central role in many product markets. Policymakers and regulators are increasingly concerned with how these intermediaries influence market competition. On the one hand, intermediaries can enhance competition by reducing consumer frictions, such as search or information costs. On the other hand, they may distort allocations through agency problems, particularly when their incentives are misaligned with those of a social planner.

Understanding the role of intermediaries is also crucial for the design of market-based public programs, in which governments rely on competition among private providers to deliver essential benefits. Many countries have adopted such programs, including health insurance markets in the United States, the Netherlands, Germany, and Colombia, as well as pension systems in Chile and Mexico. A distinctive feature of these programs is the coexistence of *private agents* and *public assisters* as intermediaries. Compared with private agents, public assisters may have different objectives and be less prone to agency problems, but they are often more resource-constrained. Their coexistence raises new policy questions about how to design and balance public and private intermediation.

In this paper, we study how intermediaries shape market competition in the context of the Affordable Care Act (ACA) health insurance exchanges. Using detailed administrative enrollment data with intermediary identifiers, we first document the prevalence and heterogeneity of intermediaries and their relationships with plan choices. We then develop and estimate an equilibrium model of the ACA marketplace in which consumers choose whether to use an intermediary, select plans, and insurers set prices in imperfect competition. We use the model to analyze how private and public intermediaries affect consumer sorting and market power, and to evaluate the equilibrium effects of policies targeting intermediaries.

We first document that about 40% of enrollees use private agents, while 20% use public assisters. Consumers using intermediaries tend to be younger and have higher incomes than those who enroll directly. The likelihood of using an assister increases with local assister availability. Consumers assisted by intermediaries also make systematically different plan choices—not only in generosity (e.g., metal tiers) or network breadth (HMO vs. PPO) but also in insurer selection.

Next, using geographical variation in the availability of intermediaries, we show that

consumers who receive assistance from either private agents or public assisters are less likely to select dominated plans than unassisted consumers. Under the ACA, consumers with incomes below 200% of the federal poverty level (FPL) receive cost-sharing subsidies when they select silver plans. Because these subsidies make silver plans more generous while keeping their premiums lower than those of gold plans, choosing silver plans dominates choosing gold plans. Thus, our finding suggests a possible benefit of consumers of using these assisters.

We then develop a structural demand model in which consumers choose both intermediaries and insurance plans under search frictions. Consumers encounter different types of intermediaries (private or public) probabilistically, depending on local availability. Conditional on access, consumers decide whether to use an intermediary, and conditional on that decision, they choose a plan. Although using intermediaries reduces application and learning costs, it also affects consumers' plan choices: on the one hand, intermediaries may help consumers avoid choice mistakes that unassisted consumers make; on the other hand, they may steer consumers toward certain products that reflect the intermediaries' preferences. The model allows for rich heterogeneity in consumer preferences and intermediary effects. Identification exploits geographic and time variation in exposure to private agents and public assisters.

Consistent with our reduced-form evidence, our demand estimates indicate that intermediaries increase the selection of subsidized Silver plans and reduce the incidence of dominated plan choices. Interestingly, private agents steer consumers toward insurers offering higher commission fees and away from dominant insurers, while public assisters steer consumers toward insurers offering lower-premium, narrow-network (HMO) plans. In contrast, private agents steer consumers toward higher-premium, broad-network (PPO) plans.

We then embed the demand estimates in an equilibrium pricing model. Insurers engage in Bertrand–Nash competition in prices, and we estimate the supply-side parameters following Berry et al. (1995). Simulations show that private-agent steering alters the distribution of insurers' price markups: it raises markups for insurers with large PPO enrollments and for smaller insurers, while reducing markups for large HMO-focused insurers. The overall effects are sizable—private-agent steering shifts insurer market shares by about 15%.

Finally, we conduct counterfactual analyses of policies expanding access to public assisters. Such policies lower prices for many insurers and benefit even consumers who do not directly use assisters, suggesting that public intermediaries can mitigate market power created through private-agent steering.

This paper contributes to three strands of literature. First, it relates to the empirical literature on intermediaries in product markets, including Gavazza (2016), Egan (2019), Robles-Garcia (2019), Allen et al. (2024), Bhattacharya et al. (2025), and Boehm (2025). In the context of health insurance, Gruber et al. (2020) compare agents with a sophisticated machine learning-based decision support tool for their impact on the selection of the consumer's plan. Our analysis adds to this literature by studying the distinct roles of public and private intermediaries.

Second, this paper belongs to the literature on competition in health insurance markets, including Lustig (2011), Starc (2014), Handel et al. (2015), Duggan et al. (2016), Aizawa and Kim (2018), Cabral et al. (2018), Polyakova and Ryan (2019), Shepard (2022), Tebaldi (2025), and Vatter (2025). We contribute to this literature by demonstrating how intermediaries affect competition and market outcomes.

Third, we contribute to studies on information provision and program take-up in public programs, such as Finkelstein and Notowidigdo (2019), Domurat et al. (2021), Goldin et al. (2021), and Aizawa and Kim (2025). Our paper is most closely related to Hastings et al. (2017), who study how insurers' own private agents (or capitave agents) affect pricing competition in pension markets. Our analysis illustrates the role of both independent private agents and public assisters on consumers' plan selection and insurer's pricing behaviors.

The rest of the paper is organized as follows. Section 2 describes the institutional background. Section 3 presents our data and summary statistics. Section 5 shows the evidence of the effect of assisters on dominated plan choices. Section 6 introduces the demand model, and Section 8 discusses the estimates. Section 9 presents the supply-side model and counterfactual analyses. Section 10 concludes.

2 Background

2.1 Covered California

We examine the impact of intermdiary in the context of California's state-based health insurance marketplace, Covered California, which shares many structural features with other ACA marketplaces. Established in 2014, Covered California is one of the largest state-

based health insurance exchanges created under the Affordable Care Act (ACA). In 2025, it enrolled roughly two million individuals, representing approximately 10% of total national participation in the ACA marketplaces. In Covered California, private insurers offer four standardized tiers of coverage[1], including Bronze, Silver, Gold and Platinum, which are ranked by their actuarial value: 60% for Bronze, 70% for Silver, 80% for Gold, and 90% for Platinum plans. The actuarial value of a plan, which encapsulates deductibles, out-of-pocket maximums, and copayments, reflects the plan's generosity. The benefit details for each coverage tier are standardized, as presented in Panel A of Table 1. However, plans may still differ across insurers in terms of brand, provider network, and specific cost-sharing features. Premiums are set by insurers but cannot vary based on observable characteristics of buyers, except for age and rating area.

Consumers select and purchase insurance plans during an open-enrollment period at the end of each year. Coverage remains in effect for the following calendar year as long as enrollees continue to pay their premiums. Consumers typically enroll through Covered California's website or by telephone, either independently or by delegating the process to certified assisters, whose contact information is publicly available online. We describe the different types of assisters in detail in Section 2.2.

Low-income households are eligible for premium and/or cost-sharing subsidies in the ACA marketplace. Households with annual incomes below 400% of the FPL are eligible for premium subsidies. Subsidy amounts are determined by household income (expressed as a percentage of the FPL) and family size. These subsidies are tied to the premium of the second-lowest-cost Silver plan (the benchmark plan) offered by insurers in each rating area, with a cap on the share of income that households are required to contribute toward this plan.

In addition to premium subsidies, In addition to premium subsidies, households with incomes below 250% of the FPL qualify for cost-sharing reduction (CSR) subsidies, but only when they select Silver-tier plans. The actuarial value of these enhanced Silver plans rises from 70% to 95% for enrollees with incomes between 100–150% of the FPL, to 88% for those between 150–200%, and to 74% for those between 200–250%.

[1]Some insurers also offered Minimum Coverage plans with high deductibles, which were not available to subsidized buyers or those over age 35; these plans are excluded from our analysis.

2.2 Assisters and Consumer Assistance

We next provide further details on the intermediaries operating within Covered California. As noted in a Covered California report (California, 2014), many consumers were new to health insurance and required substantial education on insurance terminology, enrollment procedures, and plan utilization. To facilitate enrollment, Covered California launched multiple consumer assistance programs, including public assisters/navigators, certified agents and brokers, and service center representatives.

Public Assisters/navigators. Covered California directly funds several programs to reach and assist consumers. These efforts include enrollment assistance and navigator programs. Although funding sources differ slightly, their roles and requirements are very similar. Therefore, we collectively refer to these as public assisters. Public assisters are drawn from local community organizations across the state with experience serving California's diverse populations. Participating entities include community-based organizations, health clinics, labor and business associations, tax preparers, school districts, and community colleges.

Their key responsibilities include informing eligible individuals about available coverage options and affordability programs, assisting consumers in comparing and enrolling in plans, and providing post-enrollment guidance and support.[2] Assisters are required to provide fair, impartial, and accurate information, but they may neither select a plan on behalf of a consumer nor recommend specific plans or insurers. Navigators are compensated by Covered California directly: $58 per successful application and $25 per successful renewal.

Private Agent and Broker. Covered California Certified Insurance Agents offer free expert assistance with eligibility determination, applications, and enrollment. They hold licenses from the California Department of Insurance. Licensed agents who wish to sell Covered California plans must apply for and obtain marketplace certification, which requires completion of online training, passage of an examination, and submission of an agent agreement and supporting documentation. Covered California established an Agent Code of Conduct to promote ethical sales practices and to preserve the integrity of its mission and the trust of its consumers.[3] Agents are required to promote Covered California health plans fairly and accurately to consumers. Unlike navigators, agents receive their compensa-

[2] See https://www.hbex.ca.gov/navigator/ for detials.

[3] See https://www.coveredca.com/agents/become-an-agent/code-of-conduct/ for details.

tion through commissions from insurers. Commissions are set by insurers independently.[4] During our sample period, the marketplace includes approximately 7,000–9,000 agencies employing between 9,600 and 12,600 agents each year. Most agents are self-employed, with only one agent per agency. As a result, intermediaries' market power is limited and dispersed. We discuss these in greater detail in Section 4.4. in more details in Section 4.4.

Service Center Representative. The Service Center provides a wide range of pre- and post-enrollment services and support to Covered California consumers via telephone and the website. It manages inquiries, assists with the enrollment into health plans, and actively resolves any challenges that consumers face in accessing benefits, ensuring that issues are addressed promptly and effectively. All services are provided remotely - interactions occur via telephone or online—allowing Covered California to reach a broader audience without requiring in-person assistance.

Other Channels Covered California has also developed additional programs to expand outreach and education efforts across the state. For instance, it hosts health insurance assistance events on designated days at multiple locations, facilitating direct interactions between consumers and public assisters. In addition, state and county agencies also participate in consumer assistance efforts. County Human Services Agencies serve roles similar to public assisters, with only one agency operating at each county level. Covered California has also implemented a variety of online, television, radio, and messaging campaigns to educate and engage consumers. These media initiatives aim to provide accessible and timely information about available health coverage options. This multi-channel strategy ensures that vital information reaches diverse audiences statewide, enhancing public understanding of coverage options and encouraging informed decision-making.

3 Data

Covered California enrollment data. We obtained Covered California enrollment data for 2014–2017 through a public records request (e.g., Saltzman 2019; Tebaldi 2025). The dataset contains detailed enrollment records for all individuals who selected a health plan through Covered California. For each enrollee, we observe the selected product, age, and net premium paid. We also observe whether consumers received assistance and, if so, through which channel—public assister, private agent, or service center representative. For

[4] Commission structures vary across insurers. Some pay flat fees (e.g., $100 for each new member and $50 for renewals at Kaiser), while others apply percentage-based commissions (e.g., 1%–5% at Blue Shield).

enrollees assisted by agents, the data include the unique identifier of the assisting agent.

Assister data. We obtained complete directories of certified enrollment counselors and certified insurance agents through an additional public records request. These directories include each assister's five-digit ZIP code, certification date, current status, and the languages in which services are provided, both spoken and written. We only keep active and certified councelors and agents for our analysis.

American Community Survey data To estimate the population of potential marketplace buyers, we use the American Community Survey (ACS) Public Use Microdata Sample accessed via IPUMS (Ruggles et al. 2025) and follow the methodology of Finkelstein et al. (2019) and Tebaldi (2025), accessed via IPUMS (Ruggles et al. 2025), and follow the methodology of Finkelstein et al. (2019) and Tebaldi (2025). Specifically, we restrict the sample to individuals who are either uninsured or privately insured and smooth the estimates of potential buyers using a flexible regression across year, rating area, age, and income groups.

Additionally, we collect three-digit ZIP code level characteristics generated by the ACS data. These variables capture factors that may influence assisters' entry decisions and availability, including the population aged 18–64; the shares of the uninsured, the privately insured who purchased directly from insurers, and Medicaid recipients; the shares of residents with incomes between 100–200% and 200–400% of the FPL; the racial and ethnic composition (White and Hispanic); the share with an associate degree or higher; and the share of limited English speakers.

Insurer-product-level commission data. We hand-collected insurer-level commission data from several sources, including insurers' commission schedules and interviews with agents. For cases where information was unavailable, we calibrated the commission amounts based on comparable plans and industry standards.

4 Descriptive Analysis

We start with the descriptive analysis. We present key features about enrollment patterns, agency and broker distributions.

4.1 Summary Statistics

Table 1 presents the characteristics of the household, the characteristics of the chosen plan and the choice of the intermediary. The average household is around 45 years old, with

most households being single-member (median size = 1). The distribution of income levels, as measured by the FPL category, varies, with 26% of households with income between 150-200% of FPL. 26% of households are White, 16% are Latino, and 13% are Asian. Most households report English as their primary language, while 9% primarily speak Spanish. Regarding insurance plans, the average gross premium is approximately $642, with a net premium significantly lower at $205 due to subsidies. Among plan types, Silver plans are the most common (63%), and HMO plans (54%) are more popular than PPO plans (39%). Assistance in selecting plans is varied, with 42% of households using agents, 5% of households using public assisters, 13% receiving assistance from service center representative, and 39% enrolling without assistance.

4.2 Intermediary Choice.

Top panel of Table 2 displays the summary statistics of household characteristics by intermediary. It shows notable differences in household and plan characteristics across assistance channels. Households that enrolled without assistance tend to be younger and have higher incomes, whereas public-assisted households are the oldest and have the lowest income levels . Racial composition also varies significantly: unassisted enrollees are predominantly White (46%), while public-assisted households have the highest proportion of Latino enrollees (51%) and the lowest percentage of English speakers (50%).

Table 3 presents regressions of access to private agents and public assisters on geographic and individual characteristics. Both types of intermediaries increase consumers' use of their respective channels. A one–standard-deviation (SD) increase in agent density (0.0004822) raises the likelihood of receiving any assistance by 1.65 p.p. (2.7% of the baseline mean), increases agent assistance by 3.0 p.p. (7%), and reduces public assistance and self-conducted registration (SCR) by 0.64 p.p. (12.7%) and 0.67 p.p. (5.1%), respectively. Conversely, a one-SD increase in public-assister density (0.0003435) lowers the likelihood of any assistance by 0.6 p.p. (1%), decreases agent assistance by 0.64 p.p. (1.5%), increases public assistance by 0.38 p.p. (7.7%), and reduces SCR by 0.37 p.p. (2.9%)

4.3 Product Choice by Intermediary

The bottom panel of Table 2 displays the summary statistics of plan characteristics by intermediary . In terms of chosen plan characteristics, those using agents or public assistance are more likely to enroll in Silver plans (70%+), while unassisted enrollees show a higher

Table 1: Summary Statistics of Household

Variable	Mean	SD	P10	P25	P50	P75	P90
Household Characteristics							
Household Mean Age	45.328	12.011	28.500	34.000	46.000	56.000	61.000
Household Size	1.412	0.703	1.000	1.000	1.000	2.000	2.000
FPL <138	0.024	0.153	0.000	0.000	0.000	0.000	0.000
FPL 138-150	0.118	0.322	0.000	0.000	0.000	0.000	1.000
FPL 150-200	0.255	0.436	0.000	0.000	0.000	1.000	1.000
FPL 200-250	0.137	0.343	0.000	0.000	0.000	0.000	1.000
FPL 250-400	0.143	0.350	0.000	0.000	0.000	0.000	1.000
FPL 400+	0.113	0.316	0.000	0.000	0.000	0.000	1.000
White	0.260	0.439	0.000	0.000	0.000	1.000	1.000
Black	0.019	0.135	0.000	0.000	0.000	0.000	0.000
Latino	0.163	0.369	0.000	0.000	0.000	0.000	1.000
Asian	0.128	0.334	0.000	0.000	0.000	0.000	1.000
English Speaking	0.639	0.480	0.000	0.000	1.000	1.000	1.000
Spanish Speaking	0.091	0.287	0.000	0.000	0.000	0.000	0.000
Plan Characteristics							
Gross Premium	641.732	385.908	256.700	345.720	549.900	818.480	1165.150
Net Premium	205.337	232.845	6.880	62.330	136.640	270.030	458.078
Anthem	0.163	0.369	0.000	0.000	0.000	0.000	1.000
Blue Shield	0.215	0.411	0.000	0.000	0.000	0.000	1.000
Kaiser	0.209	0.407	0.000	0.000	0.000	0.000	1.000
HealthNet	0.113	0.317	0.000	0.000	0.000	0.000	1.000
Molina	0.040	0.195	0.000	0.000	0.000	0.000	0.000
Other Insurers	0.261	0.439	0.000	0.000	0.000	1.000	1.000
Silver	0.632	0.482	0.000	0.000	1.000	1.000	1.000
Bronze	0.270	0.444	0.000	0.000	0.000	1.000	1.000
Gold	0.058	0.234	0.000	0.000	0.000	0.000	0.000
Platinum	0.039	0.195	0.000	0.000	0.000	0.000	0.000
EPO	0.057	0.232	0.000	0.000	0.000	0.000	0.000
HMO	0.424	0.494	0.000	0.000	0.000	1.000	1.000
PPO	0.308	0.462	0.000	0.000	0.000	1.000	1.000
Assistance Characteristics							
Unassisted	0.392	0.488	0.000	0.000	0.000	1.000	1.000
Agent	0.423	0.494	0.000	0.000	0.000	1.000	1.000
Public	0.052	0.222	0.000	0.000	0.000	0.000	0.000
SCR	0.133	0.340	0.000	0.000	0.000	0.000	1.000

Note: The table reports household, chosen plan and assistance characteristics using household level enrollment data from enrollment year 2014-2018. Total number of observations = 4,760,418.

Table 2: Summary Statistics of Household by Assistance Channel

Variable	Unassisted	Agent	Public	SCR	Total
Household Characteristics					
Household Mean Age	43.44	46.39	47.42	46.69	45.33
Household Size	1.34	1.47	1.48	1.41	1.41
FPL <138	0.03	0.02	0.05	0.04	0.03
FPL 138-150	0.10	0.20	0.14	0.12	0.15
FPL 150-200	0.30	0.32	0.42	0.35	0.32
FPL 200-250	0.17	0.17	0.20	0.19	0.17
FPL 250-400	0.18	0.19	0.14	0.18	0.18
FPL 400+	0.21	0.09	0.05	0.13	0.14
White	0.46	0.23	0.15	0.36	0.33
Black	0.03	0.01	0.03	0.04	0.02
Latino	0.20	0.16	0.51	0.26	0.21
Asian	0.13	0.21	0.13	0.10	0.16
English Speaking	0.89	0.77	0.50	0.82	0.81
Spanish Speaking	0.07	0.11	0.43	0.14	0.12
Plan Characteristics					
Gross Premium	586.78	679.99	677.32	668.40	641.73
Net Premium	222.34	199.95	137.10	198.88	205.34
Anthem	0.20	0.21	0.21	0.19	0.21
Blue Shield	0.24	0.32	0.18	0.23	0.27
Kaiser	0.34	0.19	0.20	0.32	0.26
HealthNet	0.12	0.16	0.20	0.13	0.14
Molina	0.04	0.06	0.10	0.06	0.05
Other Insurers	0.06	0.06	0.10	0.06	0.06
Silver	0.53	0.70	0.71	0.68	0.63
Bronze	0.34	0.23	0.22	0.21	0.27
Gold	0.07	0.05	0.04	0.06	0.06
Platinum	0.06	0.02	0.02	0.04	0.04
EPO	0.08	0.07	0.06	0.06	0.07
HMO	0.57	0.48	0.62	0.59	0.54
PPO	0.36	0.44	0.32	0.35	0.39
Proportion	39.2	42.3	5.2	13.3	100.0

Note: Household level enrollment data from enrollment year 2014-2018. Mean are reported for each variable within each category.

preference for Bronze plans (34%). Kaiser is more commonly chosen by unassisted and SCR-assisted enrollees, whereas Blue Shield is more frequently selected by those using agents. Lastly, unassisted enrollees have the lowest gross premiums but pay the highest net premiums ($222), while publicly assisted individuals receive the most subsidies, with the lowest net premium ($137).

We show the evidence that the chosen plan characteristics across channels can only be partially explained by observed individual characteristics. We present the results for insurer

Table 3: Geographical Access to Private Agents and Public Assiters

	(1) Any assisted	(2) Agent	(3) Public	(4) SCR	(5) Uninsured
Agent density	12.8***	18.3***	-2.92**	-2.52*	-7.02***
	(1.23)	(2.3)	(1.37)	(1.41)	(2.24)
Public assister density	-.694	-1.88	2.74**	-1.55*	-7.3***
	(2.16)	(3.05)	(1.12)	(.747)	(2.4)
Share of Medicaid	.0601***	.0707***	.00058	-.0112	-.0317**
	(.0175)	(.0237)	(.00625)	(.00661)	(.0132)
Share of Medicare	.00066	-.00174	.0381***	-.0357***	.131***
	(.0324)	(.0373)	(.012)	(.0122)	(.0324)
Share of SNAP	-.201**	-.32**	.061	.0577	.167*
	(.0939)	(.126)	(.0411)	(.0345)	(.0795)
Number of HHs	4.27e-09	4.01e-09	1.53e-09	-1.26e-09	1.57e-09
	(5.69e-09)	(9.14e-09)	(1.73e-09)	(2.58e-09)	(3.72e-09)
N	1,053,306	1,053,306	1,053,306	1,053,306	1,053,306
R-squared	0.27	0.18	0.03	0.05	0.39
Mean Y	0.14	0.10	0.01	0.03	0.77
F-val(All)	36.03	24.50	13.12	4.54	10.76
Rating Area FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

a

[a]**Note:** The table reports results for the regressions of access to private agents and public assiters on geographical factors as well as individual characteristics. Standard errors reported in parentheses are clustered at county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

choice in Table 2. Panel A only controls year and three-digit ZIP code fixed effects. The coefficients confirms the findings: agents are less likely to enroll consumers into Kaiser, but more likely to enroll consumers into Blue Shield, Anthem, Health Net and Molina; while public assisters steer consumers from big three to smaller firms. SCR shows similar but smaller effects as public assisters. When controlling pricing factors, i.e. household size, household average age, and FPL, the agent effects are very similar as before. However, the effects of public assisters are slightly smaller, but are still very large. When further controlling household characteristics, i.e. ethnicity and languages, the agent and public assister effects get smaller.

Similarly, Table 3 and Table 4 report similar results for metal tier, plan type and premiums. Both agents and public assisters steer consumers to Silver plans, and controlling household characteristics reduced the size of effects. It is notable that the effects of public assisters drop more compared to those of agents. Households are more likely to enroll in PPO and EPO and less likely to enroll in HMO plans, but the public assisters show opposite effects. Controlling household effects reduce the effects of public assisters, but not the

effects of agents. Last, we analyze the effects on premiums. Interestingly, both agents and public assisters steer consumers to more expensive plans, but controlling household characteristics almost removes the effects. However, due to subsidies, the net premiums paid by consumers are lower. The effects are much larger among consumers enrolled through public assisters.

4.4 Agent Markets

There are many agencies participating in the Covered California marketplace, with about 7,900 agencies serving customers in 2014 and growing to nearly 9,800 by 2018. However, the average agency size is quite small: the mean number of agents per agency is only around 1.2, and more than 90% of agencies consist of a single agent (i.e., self-employed). The distribution is highly skewed, with a few large agencies employing hundreds of agents (the maximum ranges from 500 to nearly 950).

Table 4: Distribution of Agents per Agency by Year

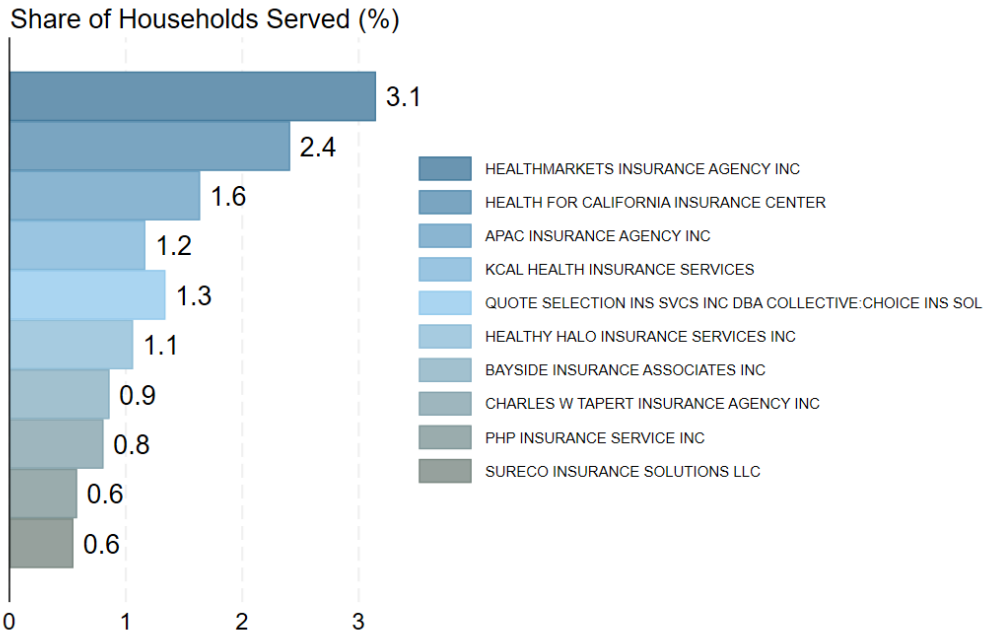
Number of agencies	2014	2015	2016	2017	2018
Observations	7,875	9,229	9,800	9,849	9,641
Mean	1.22	1.25	1.28	1.28	1.27
Std. Dev.	5.98	7.68	10.27	9.42	7.64
Variance	35.73	58.95	105.56	88.71	58.43
Skewness	76.70	81.28	84.94	80.61	75.68
Kurtosis	6336.34	7155.05	7741.26	7084.98	6344.95
Min	1.0	1.0	1.0	1.0	1.0
1%	1.0	1.0	1.0	1.0	1.0
5%	1.0	1.0	1.0	1.0	1.0
10%	1.0	1.0	1.0	1.0	1.0
25%	1.0	1.0	1.0	1.0	1.0
Median	1.0	1.0	1.0	1.0	1.0
75%	1.0	1.0	1.0	1.0	1.0
90%	1.0	1.0	1.0	1.0	1.0
95%	2.0	2.0	2.0	2.0	2.0
99%	4.0	4.0	4.0	4.0	4.0
Max	503.0	692.0	958.0	858.0	672.0

Note: The table reports the distribution of agents per agency in Covered California from 2014 to 2018.

Figure 1 shows the share of households served by the top 10 agencies in the market. The largest agency accounts for only about 3% of all households, indicating that market power is limited and no single agency dominates the market.

At the same time, we also find the non-exclusive nature of insure agency relationship.

Figure 1: Share of Households Served by the Top 10 Agencies

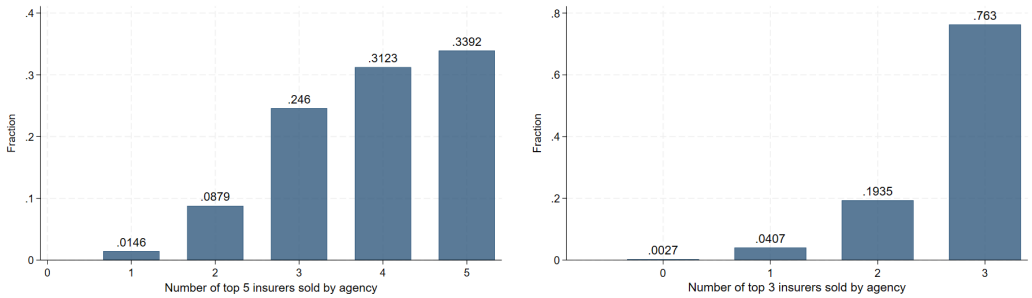


Note: The figure plots the share of households served by the top 10 agencies in the marektplace.

Figure 2 shows the share of agency (with 11+ enrolless, >25th pctile) serving top3 or 5 insurers . For 34% agency selling all top 5 insurers at the same time, 31% sold 4 out of top 5. 25% sold 3 out of top 5. The bottom shows that 76% selling the products of top 3 insurers at the same.

Figure 2 shows that most agents represent multiple large insurers simultaneously. To be specific, the top panel shows that among agencies (with more than 11 enrollees, i.e., above the 25th percentile), 34% sell plans from all top five insurers, 31% from four of the five, and 25% from three of the five. The bottom panel shows that 76% of agencies sell products from all top three insurers simultaneously, underscoring the prevalence of multi-insurer representation. This pattern suggests that exclusivity is uncommon and agents generally operate across several major insurers, allowing them to offer consumers a broader choice set.

Figure 2: Most Agents Serve Multiple Major Insurers Simultaneously



(a) Fraction of agents serving top 5 insurers (b) Fraction of agents serving top 3 insurers

Note: The left panel plots the histogram of agents serving the top five insurers, while the bottom panel shows the distribution for the top three insurers.

5 Effects of Intermediaries on Consumer's Choice of Donominated Plans

Next, we show the causal evidence that intermediaries may improve product choice. Combining post-subsidy premiums and subsidized cost-sharing schemes, individuals with incomes below 200% of the FPL enjoy higher cost-sharing with Silver plans than with Gold plans. The advertised actuarial value is 88% or 95% after CSR subsidies for Silver plans, compared to 79% of Gold plans. Moreover, every benefit, except for annual deductible, is lower for consumers with incomes below 200% of FPL choosing the Silver plans. Further, households pay less, due to the lower price of the Silver plan. Therefore, Gold plans are dominated by Silver plans for households with the FPL below 200%. Similarly, for households with income lower than 150% of the FPL, Platinum plans, in addition to Gold plans, are dominated by Silver. As a result, a rational consumer whose income below 200% of FPL should never choose a Gold and/or Platinium plan, which gives us a clear indicator of low quality choice.

In our sample, we find that about 2% of households with income below FPL 200% choose dominated plans. Then, our natural question is whether assisters can reduce the occurance of choice of dominated plans. For this purpose, we use two stage least squares, where we use the density of intermediaries as instrunments for intermediary status.

Table 5 reports the effects of receiving assistance on the plan selection for consumers with income below 200% of FPL. Columns (1) and (2) show the OLS and 2SLS estimates of choosing dominated plans. The 2SLS estimate of -0.061 implies that each percentage

point increase in the share of consumers receiving assistance decreases the probability of choosing dominated plans by 0.061 p.p. (3% of baseline mean).

This result suggests that intermediaries can help lower-income consumers avoid clear decision-making errors and potentially select higher-quality plans.

Table 5: Effects of Receiving Assistance on Consumer Choice - FPL < 200

	Dominated		Silver		Bronze	
	(1) OLS	(2) 2SLS	(3) OLS	(4) 2SLS	(5) OLS	(6) 2SLS
Assisted	-0.008***	-0.061***	0.080***	0.233***	-0.065***	-0.141*
	(0.000)	(0.009)	(0.006)	(0.086)	(0.005)	(0.082)
N	1,364,660	1,364,660	1,364,660	1,364,660	1,364,660	1,364,660
R-squared	0.01	-0.03	0.09	-0.03	0.10	-0.00
Mean Y	0.02	0.02	0.83	0.83	0.14	0.14
1st stage F-val		25.12		25.12		25.12
HH contrls	Yes	Yes	Yes	Yes	Yes	Yes
ZIP contrls	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: 1st stage F-value reports the F-value of a hypothesis test of null hypothesis H_0 that agent density + navigator density =0 in the first stage. HH controls include variables such as age, FPL, gender and size. ZIP controls include the ZIP characteristics discussed in the main text. County fixed effects and year fixed effects are included in each model. Standard errors, reported in parentheses, are clustered at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

6 Demand Model

This section presents a consumer demand model of intermediary and health insurance plan choices to examine how intermediaries affect consumer sorting. Each market is defined as a rating area (m) year (t) pair. Within each market, consumers make sequential decisions involving both intermediary use and insurance plan selection.

Each consumer faces a two-stage decision problem. In the first stage, the consumer may encounter an intermediary and decides whether to use it to purchase a plan, purchase unassisted instead, or take the outside option. In the second stage, conditional on deciding to purchasing health insurance, the consumer selects a specific plan by own or through the intermediary.

The intrinsic value of plan j offered by insurer k, which is common across intermediary

channels a, is given by

$$v_{ij} = \alpha_i \tilde{p}_{ij} + \beta_i z_{ij} + \gamma_k + \gamma_{n(j)} + \xi_{ij} + \varepsilon_{ij}, \tag{1}$$

where $\tilde{p}_{ij}$ is the net premium faced by consumer i, z_{ij} represents plan characteristics, and γ_k and $\gamma_{n(j)}$ capture insurer and plan-type fixed effects, respectively.

The utility from choosing plan j through channel $a \in \{\text{Unassisted, Agent, Public, SCR}\}$ is

$$U_{ija} = v_{ij} + \underbrace{\gamma_{ak} + \gamma_{an(j)} + \gamma_{akx} + \gamma_{an(j)x}}_{\text{intermediary effects on perception/choice}}. \tag{2}$$

Here, $\gamma_{ak(j)}$ represents how intermediary a affects perceptions of insurer $k(j)$, and $\gamma_{an(j)}$ captures how intermediary a influences perceptions of plan type $n(j)$ (e.g., PPO versus HMO and Gold vs Silver plans). These effects may also vary with consumer characteristics x.

As shown earlier, intermediaries can help consumers avoid clear decision mistakes. However, they may also steer consumers toward plans with higher commission fees, which do not necessarily improve the quality of choices. Rather than fully modeling these mechanisms, we infer their potential roles based on our empirical estimates.

6.1 Search Process

Consumers face complexity in the insurance choice process and may seek assistance. Consumer i encounters an intermediary of type a with probability $\rho^a(x_i, l_i)$, where l_i reflects local market characteristics such as the number of available agents and the prevalence of public or social insurance programs. If consumer i meets intermediary a, they decide whether to use it to purchase insurance. If the consumer opts to remain unassisted, they incur an application or search cost ψ_i.

Formally, the consumer's first-stage decision is represented as

$$\max_{a \in \mathscr{A}_i \cup \mathscr{O}} \mathbb{E}[U_{ija}] - \psi_i \mathbf{1}_{a=NI} + \varepsilon_{ia}, \tag{3}$$

where the choice set $\mathscr{A}_i \cup \mathscr{O}$ depends on the intermediaries encountered. Consumers face a tradeoff between the fixed cost of applying unassisted and the potential gains from using intermediaries who may affect perceived product quality or suitability. Choosing the

outside option ($\mathcal{O}$) does not require paying ψ_i.

After intermediary status is realized, product values are revealed, and the application cost (if any) is sunk. The consumer then selects the plan that maximizes indirect utility:

$$\max_j U_{ija} = v_{ij} + \gamma_{ak} + \gamma_{an(j)} + \gamma_{akx} + \gamma_{an(j)x}. \tag{4}$$

The menu of products available to each insurer is defined by the combination of metal tiers and provider networks.

7 Estimation

7.1 Identification Assumptions

The key primitives in our demand model are the parameters governed for intermediary choices and the parameters governed for plan preference. To separately identify each of parameters, we make the following identification assumptions. First, note that both meeting rates with intermediary ρ and application costs ψ influence the choice of intermediaries. To separately identify these parameters, we assume that assume an exclusion restriction in ρ, namely that there is variation in l_i conditional on the application cost ψ_i. These variation, l_i, include the density of agents or the density of public assisters, or the number of social insurance program takeups. We assume that these characteristics, which vary across markets over time, affect the exposure to these intermediaries, but do not affect the cost of applications when consumers apply by own.

Second, we assume that we assume that the unobserved preference for applying to a plan, denoted by ε_{ia}, and the individual application cost, ψ_i, are not correlated with the unobserved preference for products, ε_{ij}. Although this assumption is hard to verify, we mitigate the potential bias arising from this assumption by controlling for a lot of individual characteristics that may lead to these correlations.[5]

7.2 Estimation Procedure

The estimation of the demand model proceeds in two steps. In the first step, we estimate the parameters included in v_{ij} and the γ's using within-market shares by consumer type x_i, defined by age and income. Because ε_{ij} follows a type-I extreme value distribution, we can

[5] We are currently extending the model to relax this assumption by incorporating permanent unobserved types.

recover the deterministic component of the choice-specific utility as a function of the log of inside market share (Berry, 1994). The utility of one of the inside goods is normalized to be zero. Moreover, because there are many estimates of the price elasticity in this market, we do not attempt to estimate it within our model. Instead, after estimating the full parameter in the demand model (including the parameters for intermediary choices), we calibrate the price coefficient so that the model implied price elasticity is similar to thoe reported by prior studies such as Tebaldi (2025) and Saltzman (2021): especially, we target the price coefficients so that young individuals have higher elasticity (approximately 2.7) while older (50 or older) individuals have lower elasticity (approximately 1.7).

In the second step, we estimate the parameters ρ^a, ψ_i, and the value of the outside option using maximum likelihood. The value of the outside option is modeled as the sum of market and year fixed effects specific to each consumer type. We allow ψ_i to vary with observed consumer characteristics. To estimate the parameters ρ^a, we must specify their functional form. We make the following two assumptions. First, consumers may meet at most one type of intermediary. Second, consumers may first meet with private agents; if they do not, they may meet with public agents; and if they do not meet with public agents either, they may meet with SCR. We impose these two assumptions because we do not observe the actual meeting information with assisters for each individual, while we do observe the actual choice of intermediary.

To estimate this process, we first specify the following logistic function of local market characteristics and consumer attributes for each a:

$$\tilde{\rho}_a^i = \frac{\exp(\alpha_{a,i}^1 + \alpha_{a,i}^2 l_i)}{1 + \exp(\alpha_{a,i}^1 + \alpha_{a,i}^2 l_i)}, \tag{5}$$

where l_i captures local availability of intermediaries and population characteristics. Then, the probability of meeting with private agents, ρ_{Agent}^i, is given by

$$\rho_{\text{Agent}}^i = \tilde{\rho}_{\text{Agent}}^i. \tag{6}$$

Similarly, the probability of meeting with public assisters is given by

$$\rho_{\text{Public}}^i = (1 - \tilde{\rho}_{\text{Agent}}^i)\tilde{\rho}_{\text{Public}}^i, \tag{7}$$

and the probability of meeting with SCR is given by

$$\rho^i_{\text{SCR}} = (1 - \tilde{\rho}^i_{\text{Agent}})(1 - \tilde{\rho}^i_{\text{Public}})\tilde{\rho}^i_{\text{SCR}}. \tag{8}$$

If an individual does not meet any agents, they must decide whether to purchase health insurance on their own by paying the fixed cost ψ_i or remain uninsured.

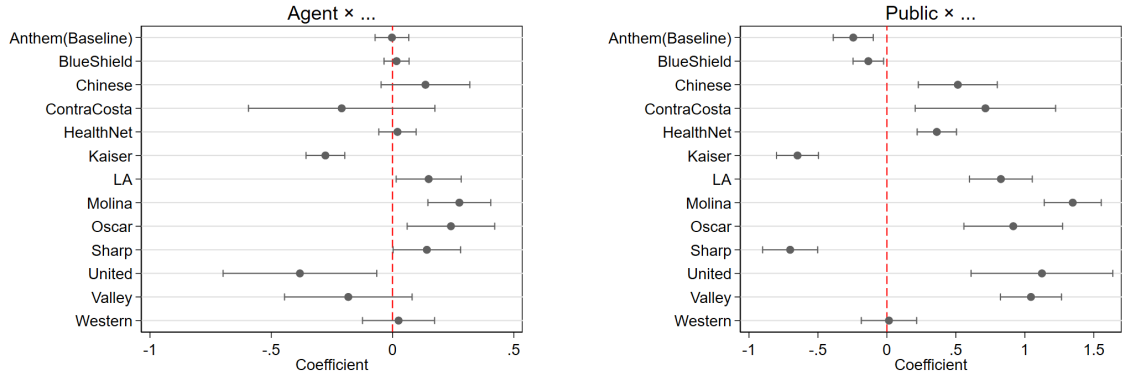
8 Demand Estimates

This section presents the demand-side estimates, focusing on the heterogeneous effects of private agents and public assisters across insurers and plan characteristics.

8.1 Heterogeneous Effects Across Insurers

We first present the estimates of insurer–agent and insurer–public fixed effects, which capture how the presence of private agents and public assisters influences enrollment across insurers. Each coefficient is measured relative to the unassisted group. Figure 3 plots these fixed effects for private agents (left panel) and public assisters (right panel). We find systematically positive coefficients for insurers with smaller baseline enrollments, while coefficients for insurers with larger baseline enrollments are small or even negative. These results suggest that both private and public assistance channels play a disproportionately stronger role in reallocating consumers from larger to smaller insurers. This pattern implies that both private and public intermediaries have important effects on the degree of competition between insurers.

Figure 3: Heterogeneous effects of agents and public assisters across insurers. Each coefficient is relative to the unassisted group.



(a) Private agents

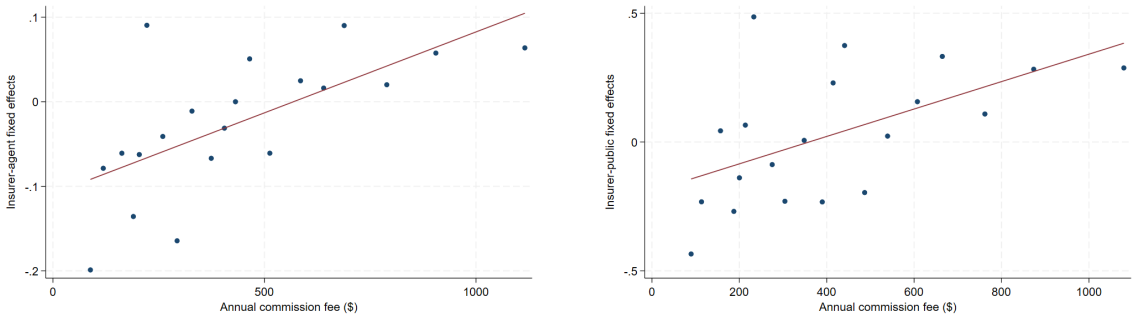
(b) Public assisters

8.2 Correlation with Commission Fees

To further explore the mechanisms behind these heterogeneous effects, we examine the relationship between insurer–agent and insurer–public fixed effects and the commission fees offered by insurers. The left panel of Figure 4 shows a clear positive correlation between commission fees and the corresponding insurer fixed effects for private agents. This pattern is consistent with the view that commission structures create monetary incentives for agents.

Interestingly, we also find a similar positive correlation for public assisters, who are not directly compensated by insurers. This result suggests that even publicly funded assistance organizations may respond to similar underlying demand conditions. One possible explanation is that insurers offering higher commissions may also be those whose products public assisters find more attractive or easier to recommend to consumers.

Figure 4: Positive correlation between commission fees and insurer fixed effects for private agents and public assisters.



(a) Private agents

(b) Public assisters

8.3 Heterogeneous Effects by Plan Characteristics

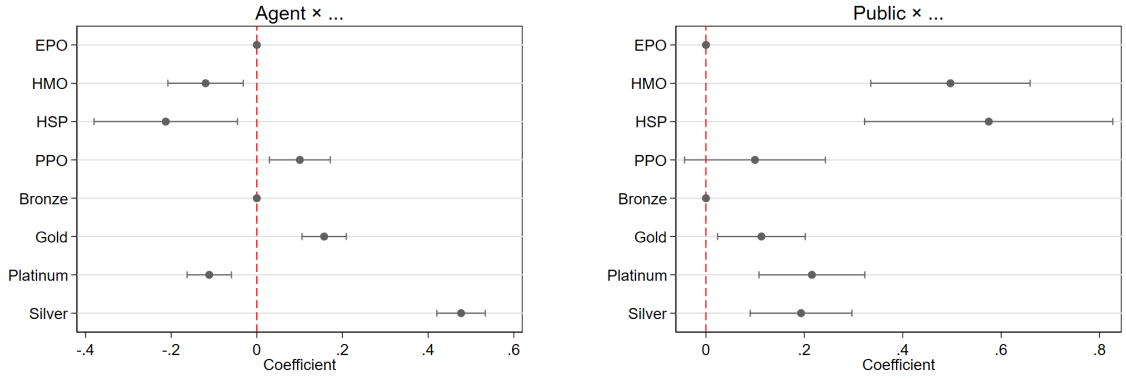
We next examine how agents and public assisters differentially influence consumers' sorting across plan types. Figure 5 plots plan–agent and plan–public fixed effects across major plan characteristics. First, we find that both types of intermediaries increase the take-up of Silver plans relative to Gold plans, consistent with our reduced-form evidence that intermediaries raise the selection of subsidized Silver plans and reduce the incidence of dominated plan choices. This effect is especially pronounced for consumers who use private agents.

Unlike the insurer-level fixed effects, the results reveal substantial differences in sorting patterns between the two intermediary types. Private agents are more likely to steer con-

sumers toward preferred provider organization (PPO) plans, while public assisters tend to direct consumers toward health maintenance organization (HMO) plans. Because insurers tend to offer different mixes of PPO and HMO plans, these two intermediaries may also steer consumers toward different insurers.

This divergence likely reflects differences in their incentives. Private agents' commission-based compensation may align more closely with PPO products, which are typically more expensive and offer broader provider networks. Public assisters, in contrast, tend to encourage consumers to enroll in HMO plans to better control overall health costs. Moreover, many public assisters also help elderly consumers make health insurance decisions. Because the primary market-based health insurance program for the elderly (Medicare Advantage) predominantly offers HMO plans, these assisters may have stronger incentives or familiarity that lead them to recommend HMO plans. These patterns remain robust even after accounting for interactions between intermediaries and household characteristics such as income, age, and family size.

Figure 5: Heterogeneous effects of agents and public assisters across plan characteristics.



(a) Private agents

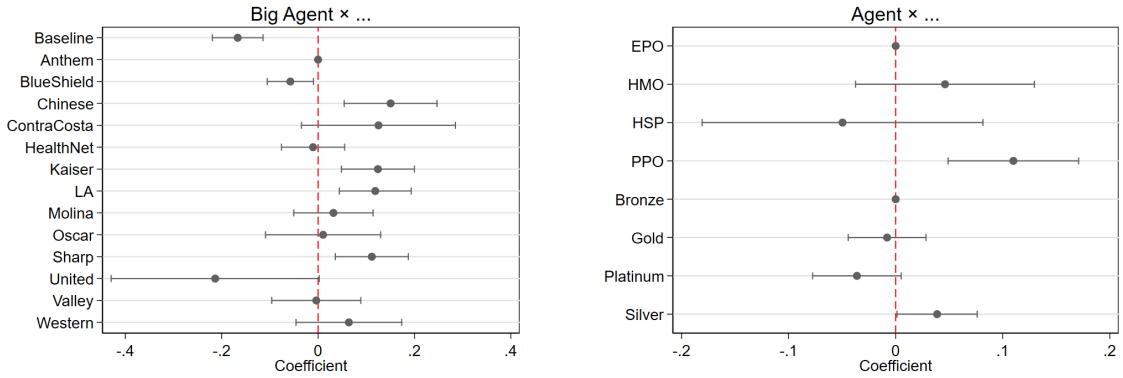
(b) Public assisters

8.4 Role of Large Agents and Insurers

We also assess whether large agents, i.e., those handling a substantial share of marketplace enrollments, exert distinct effects on insurer outcomes and plan sorting. As shown in Figure 6, there is modest evidence that large agents have additional effects in steering consumers toward PPO plans. They also increase the take-up of silver plans, suggesting a potential reduction in choice mistakes.

Relative to their effects on plan selection, the additional effects of large agents on insurer selection appear to be much more limited. These results suggest that, while large agents may facilitate coordination and reduce transaction costs, their presence does not substantially alter the overall structure of demand heterogeneity captured by our baseline estimates.

Figure 6: Additional effects of large agents on insurers and plan characteristics.



(a) Insurer effects

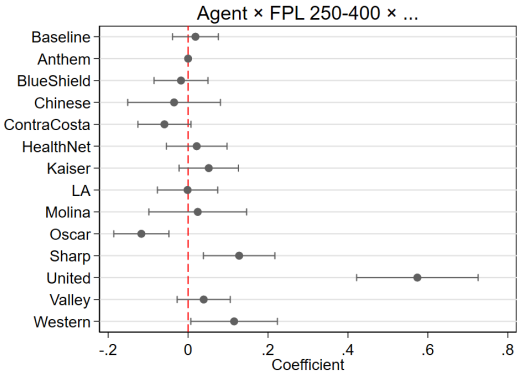
(b) Plan characteristics

8.5 Heterogeneity by Consumer Income and Age

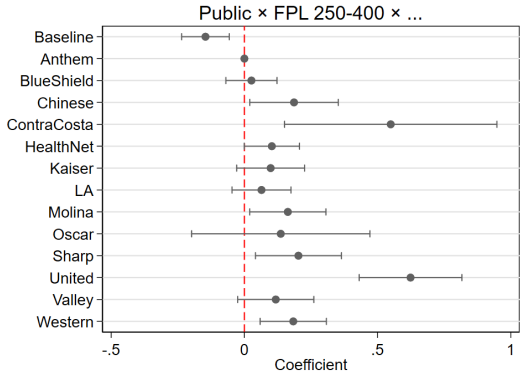
We further explore heterogeneity across consumer groups. For consumers with income above 250 percent of the federal poverty line (FPL), we find little evidence of heterogeneous effects of either private agents or public assisters on insurer choice (Figure 7). A similar pattern holds for older consumers (age above 50), as shown in Figure 8.

These results indicate that intermediary effects are less heterogeneous conditional on the assister's choices. The small variation in plan selection across consumer types may also reflect the fact that agents' incentives, such as commission fees, do not vary with consumer characteristics. Instead, heterogeneity across consumers may arise from differences in access to assisters, a result highlighted in the next section. For example, for public assisters, their primary influence may stem from reaching different types of consumers.

Figure 7: Heterogeneous effects of agents and public assisters across insurers for consumers with FPL > 250.

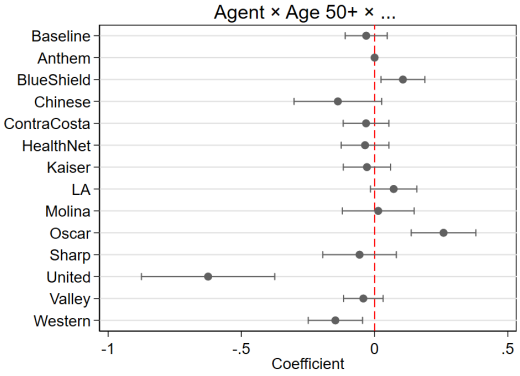


(a) Private agents

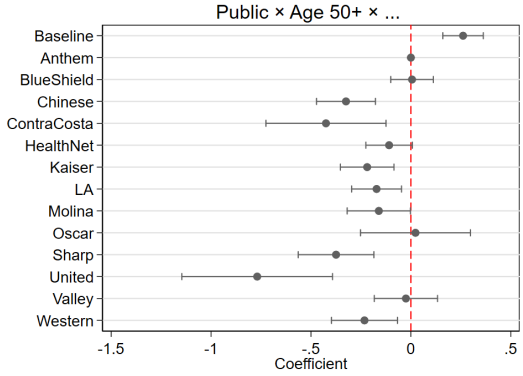


(b) Public assisters

Figure 8: Heterogeneous effects of agents and public assisters across insurers for consumers aged above 50.



(a) Private agents



(b) Public assisters

8.6 Estimated Parameters for Agent Choice and Application Costs

Table 6 reports the estimated parameters governing the probabilities of meeting with private agents, public assisters, or SCR. Low-income consumers are substantially more likely to meet with either private agents or public assisters when the local density of these intermediaries is higher. For example, the estimated coefficients on the number of private agents and public assisters are larger for the low-income group, reflecting their greater reliance on assistance. Population size also has a modest positive association with meeting probabil-

ities among lower-income individuals, consistent with stronger outreach capacity in more populated areas.

Application costs (ψ_i) exhibit clear demographic gradients: both low-income and older consumers face higher costs of application, as reflected in the positive income and age effects. This aligns with the interpretation that these groups experience greater administrative or cognitive burdens in navigating the enrollment process.

Table 6: Estimated Parameters for Agent Choice and Application Costs

Parameter	Low Income	High Income
Meeting with Private Agents		
Constant	-2.02	-2.11
# Private Agents	1.23	0.53
Population Size	0.20	0.00
Meeting with Public Agents		
Constant	-3.87	-3.98
# Public Agents	0.45	0.33
# Public Insurers	0.31	0.00
Meeting with SCR		
Constant	-2.91	-2.87
Application Cost (ψ_i)		
Income Effect	5.44	4.22
Old Dummy	2.00	

Taken together, the demand estimates highlight an important role of intermediaries in shaping consumer choices in the marketplace. Private agents and public assisters not only influence which insurers and plan types consumers select, but also contribute to mitigating concentration by enhancing the visibility of smaller insurers. The correlation between intermediary effects and commission fees suggests that both monetary and non-monetary incentives play an important role in guiding consumer behavior. The strong differential sorting patterns between PPO and HMO plans underscore how intermediary incentives interact with product design to shape market outcomes.

9 Supply-Side Model and Equilibrium Analysis

Understanding the equilibrium effects of intermediaries on pricing and market outcomes requires modeling not only consumer demand but also insurers' supply-side behavior. In this section, we forumulate and estimate a model of insurer competition that rationalizes the observed market outcomes in equilibrium. We follow Tebaldi (2025) and Polyakova

and Ryan (2019) that insurers engage in Bertland-Nash comeptition to set premiums to maximize profits given consumers' equilibrium demand, holding intermediary commission schedules fixed. We then use the estimated parameters to perform counterfactual experiments that quantify how changes in intermediary access and steering incentives impact the market via price and enrollment adjustments.

9.1 Insurer Behavior and Pricing Competition

Consider an insurer k in market mt who offers N_k products. Each insurer chooses the base premium p_n for a plan n. We specify the objective function of the insurer as

$$\sum_{n \in N_k} \sum_{x} \sum_{a} [\lambda_x(p_n) - f_{nax}(p_n) - c_{xn}] S_{naxk}(p_n), \tag{9}$$

where $\lambda_x(p_n)$ denotes the premium charged to consumers of type x enrolled in plan n. Note that the premium charged to consumers explicitly depend on their ages, where older consumers are charged higher premiums due to the age-based premium regulation. The term f_{nax} represents the commission fee paid to intermediaries (private agents) associated with consumer type x and intermediary (assister) channel a, and c_{xn} denotes the expected reimbursement cost incurred by insurer n for consumer type x. The term $S_{naxk}(p_n)$ denotes the predicted market share of plan n for each (a,x) group, conditional on the premium vector p_n.

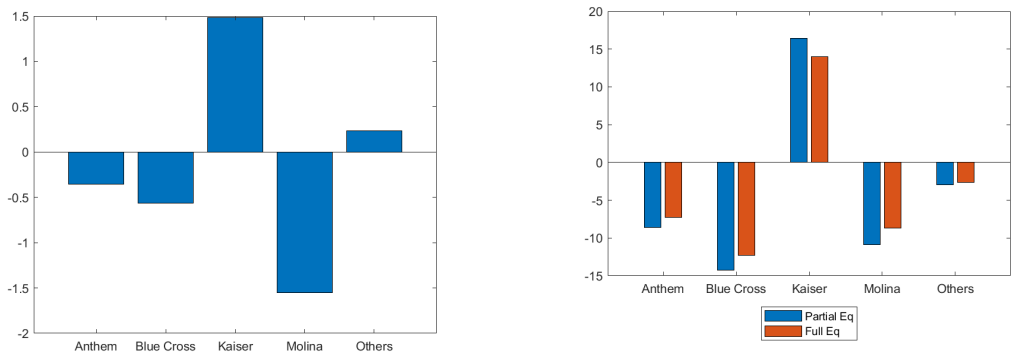
Premiums are determined under a Bertrand–Nash pricing equilibrium, holding the commission structure $f_{nax}(p_n)$ fixed across counterfactual scenarios. This allows us to isolate the general equilibrium effect of changing the demand-side environment, such as consumer steering by private agents or outreach by public agents, without conflating it with changes in intermediary compensation rules.

Following Polyakova and Ryan (2019), we model plan costs as separable between insurer and consumer types:

$$c_{xn} = \kappa_x c_n, \tag{10}$$

where c_n represents the plan-specific cost component, and κ_x captures the relative cost heterogeneity across consumer types x. We calibrate κ_x using data from the Medical Expenditure Panel Survey (MEPS), which provides age- and income-specific medical spending profiles. The structural cost parameters c_n are estimated to rationalize observed equilibrium premiums given the demand-side estimates, thereby ensuring internal consistency between

Figure 9: Equilibrium Impacts of Eliminating Private Agents' Demand Effects



(a) Changes in Premiums

(b) Changes in Market Shares

observed premiums and market equilibrium in the model.

9.2 Counterfactual Experiments

We conduct two main counterfactual experiments to assess the equilibrium implications of intermediaries' influence on consumer choices. These simulations isolate the effects of (i) removing private agents' steering effects and (ii) expanding access to public assisters.

First, we simulate an equilibrium where private agents' effects on consumer demand are eliminated, while keeping commission fees unchanged. This captures how the market would adjust if consumers no longer received private-agent guidance in plan selection. The analysis focuses on equilibrium changes in premiums, enrollment, and insurer market shares.

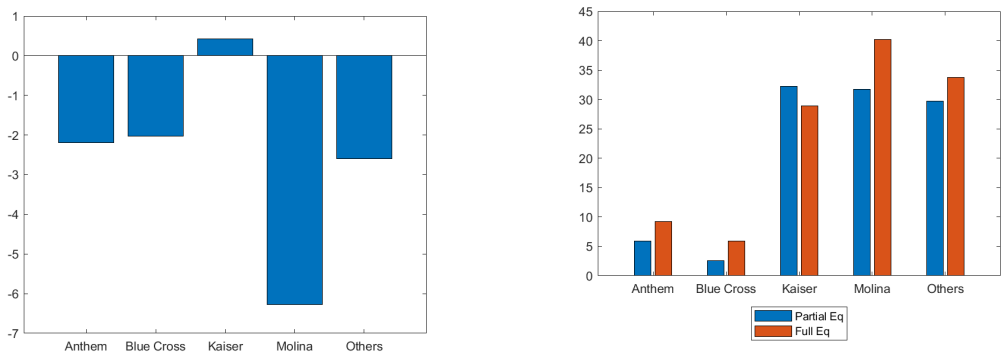
Second, we evaluate an expansion in the availability of public assisters. Specifically, we increase the probability of consumers meeting with a public assister by a magnitude that raises the aggregate market share of public-assisted enrollees by 15% under partial equilibrium (holding prices fixed).[6] We also confirm that results are qualitatively robust under smaller increases (5–10%), indicating that our findings are not driven by extreme shifts in demand composition.

9.3 Equilibrium Effects of Removing Private Agents

Figure 9 reports the effect of eliminating private agents' demand effects. We find large shifts in market shares across insurers. Panel (b) of Figure 9 presents changes in enroll-

[6] See Myerson and Li (2022) who show evidence that government spending on public assisters increase enrollment in health insurance marketplaces.

Figure 10: Equilibrium Effects of Increasing Access to Public Agents



(a) Changes in Premiums

(b) Changes in Market Shares

ment both when premium is fixed under the benchmark level (Partial equilibrium simulation) and when premium is determined in a new equilibrium (Full equilibrium simulation). We find that, without agents' demand effects, Kaiser's enrollment increases by 15%, while Blue Cross's enrollment decreases by 15%. These changes arise not only from agents' preferences over insurers, but also from differences in the types of products offered by each insurer. For example, Kaiser offers only HMO plans, while Blue Cross offers both HMO and PPO plans. Most large adjustments in enrollment occur among major insurers. Despite these cross-insurer shifts, the overall market size—i.e., the share of insured consumers—remains largely stable, because it is primarily affected by the degree of search frictions, which is held fixed in this simulation.

Panel (a) of Figure 9 presents the corresponding equilibrium premium adjustments. We find that the distribution of premium markups adjusts heterogeneously across insurers: those that previously benefited from private-agent steering tend to reduce premiums, while insurers that were disadvantaged by agent influence tend to increase them. As shown in panel (b) of Figure 9, once these premium changes are incorporated, the effect of private agents on enrollment becomes smaller than under the fixed-premium, partial-equilibrium simulation. These results highlight that private agents significantly influence competition across insurers and shape the equilibrium distribution of premiums and enrollment.

9.4 Equilibrium Effects of Expanding Access to Public Assisters

Next, Figure 10 reports the effect of expanding access to public assisters. Panel (b) of Figure 10 presents the enrollment effects. We find that such expansions generate substantial

enrollment gains for Kaiser and Molina, which offer HMO plans aligned with the preferences of public assisters. Similarly, smaller insurers also experience increases in market share due to public assisters' preferences for those insurers. In contrast, other large insurers such as Anthem and Blue Cross see little change in enrollment. These results suggest that expansions in public-assister access lead to asymmetric impacts on enrollment gains across insurers.

Panel (a) of Figure 10 presents the effects on premiums. Interestingly, the expansion of public-assister access leads most insurers to lower their premiums in equilibrium, reflecting intensified price competition across insurers. This benefits not only consumers who interact directly with assisters but also those who do not. Overall, these findings highlight the indirect competitive spillover effects of public-assister outreach on market efficiency and consumer welfare.

10 Conclusion

This paper has demonstrated that both private agents and public assisters play distinct but economically significant roles in shaping health insurance market outcomes. We first show the evidence that intermediaries can lower the consumer's choice mistake, by reducing the rate of dominated plan choices. By estimating our demand model, we show that private agents tend to steer consumers toward insurers with high commission fees, while while public assisters tend to steer consumers toward insurers with narrow network plans. From our equilibrium analysis, we find that private agents significantly alter the distribution of markups across insurers. In contrast, public assisters icnrease price competition and therefore lower premiums, benefiting consumers even without using assiters. These results suggest a potential benefit of expanding the size of public assisters, which is currently very limited.

There are several important extensions. First, our framework can be extended to incorporate unobserved consumer heterogeneity and potential inertia in plan choice, which would allow for richer counterfactuals involving long-term market dynamics. Another avenue of future work is to distinguish between vertically integrated brokers—who are affiliated with specific insurers—and independent brokers, whose incentives and impacts on equilibrium outcomes may differ substantially.

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Online Appendix (Not For Publication)

A Appendix Table

Appendix Table 1: Coverage details of tier plans as of 2014

	Annual deductible	Annual max out-of-pocket	Primary visit	ER visit co-pay	Specialist visit co-pay	Preferred drugs co-pay	Actuarial value[a]
Panel A. Insurance coverage before cost-sharing redusctions							
Bronze	$5,000	$6,250	$60	$300	$70	$50	60%
Silver	$2,250	$6,250	$45	$250	$65	$50	70%
Gold	$0	$6,250	$30	$250	$50	$50	79%
Platinum	$0	$4,000	$20	$150	$40	$15	90%
Panel B. Silver coverage after cost-sharing reductions							
Silver, >250% FPL	$2,250	$6,250	$45	$250	$65	$50	70%
Silver, 200-250% FPL	$1,850	$5,200	$40	$250	$50	$35	74%
Silver, 150-200% FPL	$550	$2,250	$15	$75	$20	$15	88%
Silver, 100-150% FPL	$0	$2,250	$3	$25	$5	$5	95%

Note: Source: http://www.coveredca.com/PDFs/2015-Health-Benefits-Table.pdf.
Table describes the features of different levels of coverage in the Covered California.
[a] Advertised actuarial values are computed by each insurer using a representative sample of claims provided by Covered California.

Appendix Table 2: Effects of Assistance Channel on Insurer Choice

Panel A: Year and ZIP code Fixed effects						
	Blue Shield	Kaiser	Anthem	HealthNet	Molina	Other Insurers
Agent	0.069***	-0.122***	0.017***	0.026***	0.009**	0.002
	(0.010)	(0.006)	(0.006)	(0.007)	(0.004)	(0.004)
Public	-0.054***	-0.114***	-0.031**	0.085***	0.068***	0.045**
	(0.018)	(0.011)	(0.012)	(0.016)	(0.016)	(0.018)
SCR	-0.005	-0.016***	-0.023***	0.015***	0.020***	0.008
	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.005)
R-squared	0.067	0.175	0.236	0.131	0.103	0.078
Panel B: Controlling HH size, HH age, and FPL						
	Blue Shield	Kaiser	Anthem	HealthNet	Molina	Other Insurers
Agent	0.069***	-0.113***	0.021***	0.014***	0.009**	0.000
	(0.008)	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)
Public	-0.046***	-0.103***	-0.024**	0.066***	0.066***	0.042**
	(0.015)	(0.010)	(0.011)	(0.013)	(0.015)	(0.016)
SCR	-0.001	-0.010**	-0.020***	0.005**	0.020***	0.006
	(0.003)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
R-squared	0.072	0.180	0.237	0.140	0.104	0.079
Panel C: Controlling HH size, HH age, FPL, Ethnicity and Languages						
	Blue Shield	Kaiser	Anthem	HealthNet	Molina	Other Insurers
Agent	0.075***	-0.105***	0.017***	0.009***	0.006*	-0.003
	(0.007)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
Public	0.009	-0.092***	-0.015*	0.030***	0.035***	0.032**
	(0.010)	(0.008)	(0.007)	(0.008)	(0.012)	(0.013)
SCR	0.009***	-0.010***	-0.019***	-0.000	0.015***	0.005
	(0.003)	(0.004)	(0.002)	(0.002)	(0.003)	(0.004)
R-squared	0.086	0.184	0.238	0.149	0.120	0.082

Appendix Table 3: Effects of Assistance Channel on Metal Tier Choice

Panel A: Year and ZIP code Fixed effects				
	Silver	Bronze	Gold	Platinum
Agent	0.156***	-0.106***	-0.020***	-0.030***
	(0.007)	(0.004)	(0.002)	(0.002)
Public	0.173***	-0.117***	-0.025***	-0.031***
	(0.007)	(0.006)	(0.003)	(0.002)
SCR	0.143***	-0.126***	-0.004**	-0.013***
	(0.002)	(0.003)	(0.002)	(0.001)
R-squared	0.044	0.033	0.013	0.009
Panel B: Controlling HH size, HH age, and FPL				
	Silver	Bronze	Gold	Platinum
Agent	0.104***	-0.075***	-0.009***	-0.020***
	(0.004)	(0.003)	(0.001)	(0.001)
Public	0.092***	-0.068***	-0.008***	-0.016***
	(0.006)	(0.006)	(0.002)	(0.001)
SCR	0.106***	-0.104***	0.004***	-0.006***
	(0.001)	(0.002)	(0.001)	(0.001)
R-squared	0.172	0.100	0.040	0.026
Panel C: Controlling HH size, HH age, FPL, Ethnicity and Languages				
	Silver	Bronze	Gold	Platinum
Agent	0.107***	-0.085***	-0.006***	-0.017***
	(0.004)	(0.003)	(0.001)	(0.001)
Public	0.097***	-0.087***	-0.001	-0.008***
	(0.004)	(0.004)	(0.002)	(0.001)
SCR	0.107***	-0.107***	0.005***	-0.005***
	(0.002)	(0.002)	(0.001)	(0.001)
R-squared	0.172	0.103	0.041	0.028

Appendix Table 4: Effects of Assistance Channel on Plan Type and Premiums

Panel A: Year and ZIP code Fixed effects					
	HMO	PPO	EPO	Gross Premium	Net Premium
Agent	-0.085***	0.080***	0.004*	95.518***	-22.048***
	(0.008)	(0.009)	(0.003)	(3.818)	(2.781)
Public	0.086***	-0.072***	-0.013*	94.036***	-75.367***
	(0.025)	(0.019)	(0.007)	(7.193)	(3.802)
SCR	0.034***	-0.022***	-0.012***	81.508***	-20.014***
	(0.003)	(0.003)	(0.002)	(3.218)	(1.414)
R-squared	0.178	0.168	0.068	0.097	0.031
Panel B: Controlling HH size, HH age, and FPL					
	HMO	PPO	EPO	Gross Premium	Net Premium
Agent	-0.092***	0.086***	0.006**	-1.970	-3.728**
	(0.006)	(0.007)	(0.003)	(1.511)	(1.647)
Public	0.067***	-0.057***	-0.009	-26.741***	-34.319***
	(0.021)	(0.016)	(0.006)	(3.720)	(2.547)
SCR	0.025***	-0.015***	-0.010***	4.446***	-3.312***
	(0.003)	(0.003)	(0.001)	(1.290)	(0.689)
R-squared	0.184	0.173	0.069	0.772	0.389
Panel C: Controlling HH size, HH age, FPL, Ethnicity and Languages					
	HMO	PPO	EPO	Gross Premium	Net Premium
Agent	-0.095***	0.089***	0.006**	2.866**	3.558***
	(0.005)	(0.005)	(0.003)	(1.122)	(1.132)
Public	0.001	0.002	-0.003	-4.983**	-8.959***
	(0.013)	(0.010)	(0.005)	(2.195)	(1.360)
SCR	0.013***	-0.004	-0.009***	7.784***	0.266
	(0.004)	(0.003)	(0.002)	(1.176)	(0.497)
R-squared	0.200	0.187	0.070	0.775	0.401