

COLLUSION IN PRIVATE HEALTH INSURANCE COVERAGE IN CHILE: COMMENT

*Raimundo Soto**

ABSTRACT

In an article published in 2011 by the *Journal of Competition Law & Economics* entitled “Collusion on Private Health Insurance Coverage in Chile,” Claudio Agostini, Eduardo Saavedra, and Manuel Willington presented a critical analysis of the 2007 pronouncement by the Chilean antitrust authority rejecting an accusation of collusion against the five largest health insurance companies in Chile. Given the lack of direct evidence of collusion, the accusation against the health insurance providers was based mainly on economic and econometric evidence provided by these authors during the trial. This article shows that, when properly assessed, such empirical evidence does not support the claim of collusion. This article concludes that the Chilean antitrust authority did not make a mistake in rejecting the accusation.

JEL: L41; D43; I11

I. INTRODUCTION

In an article published in 2011 by the *Journal of Competition Law & Economics*, Claudio Agostini, Eduardo Saavedra, and Manuel Willington—hereinafter “ASW”—presented a critical analysis of the 2007 pronouncement by the Chilean antitrust authority (Tribunal de Defensa de la Libre Competencia, hereafter “TDLC”) rejecting an accusation of collusion against the five largest health insurance companies in Chile.¹ According to the majority vote, there was not enough evidence of collusion, and it found reasonable that some cost shocks and other factors triggered the parallel behavior of the accused companies.²

While agreeing with the important issue raised by ASW regarding the lack of instruments and resources of the Chilean antitrust authority (Fiscalía Nacional Económica, hereafter “FNE”) to deal effectively with potential

* Professor of Economics, Universidad Católica de Chile. Email: rsotom@uc.cl. This article is based on an expert report written for Colmena and presented as an exhibit during the antitrust hearings and trial for collusion. This work is the sole responsibility of the author.

¹ Claudio A. Agostini, Eduardo Saavedra & Manuel Willington, *Collusion on Private Health Insurance Coverage in Chile*, 7 J. COMPETITION L. & ECON. 205 (2007).

² Sentencia N° 57/2007 del Tribunal de la Libre Competencia de Chile, Rol C N° 77-05 (July 12, 2007).

collusion cases, this article shows that, when properly assessed, the empirical evidence presented by ASW and FNE during the trial does not support the claim of collusion. This article concludes that the Chilean antitrust authority did not make a mistake in rejecting the accusation.

It is important to clarify, before proceeding with the analysis, that this article does not take any position on whether or not private health insurance companies colluded. In a previous publication, I provide econometric evidence that the downturn of the Chilean economy as a result of the Asian crisis of 1998, the significant increase in health costs, and an important reduction in subsidies to private health all coalesced to reduce significantly the profitability of the private health insurance sector.³ Economic theory indicates that the most efficient way to control mounting health costs is by raising insurance costs. Therefore, although that publication does not rule out collusion, it indicates that the behavior of private firms during the period could reflect the adjustment of a competitive market. The regulator of private health insurers (generically known as Isapres)⁴ also supports this interpretation of the events.⁵ ASW, on the other hand, completely neglect these macroeconomic aspects.

In what follows, I briefly review the main facts, the contending issues in trial, the econometric evidence presented by ASW, new econometric evidence using their data, and a critical assessment of their methodology and the conclusions they reach.

II. FACTS AND CONTENDING ISSUES

During 2002, the five largest private health insurance companies stopped offering plans with a nominal coverage of 100 percent of hospitalization and 80 percent for ambulatory care (popularly called 100/80 plans) and started issuing plans with a reduced coverage of 90/70 instead. As a result, effective coverage reduced from 67 percent to 63 percent. The difference between nominal and real coverage is due to caps on reimbursements of health costs and expenses. As noted by ASW, the plans with 100/80 coverage were never eliminated, but Isapres stopped offering them to new members in 2002, and therefore consumers were not forced to switch from any existing 100/80 plan to the new 90/70 plan. Competition in the Chilean private health insurance market is mainly in coverage and service quality since workers are forced to contribute a fixed 7 percent of their monthly earnings for health insurance, be it in private or public insurance.

The FNE took the view that such a reduction in nominal coverage was a concerted action aimed at reducing competition and increasing profits. The

³ Raimundo Soto, *Ciclo Económico y el Mercado de Seguros de Salud en Chile* [Economic Cycles and the Health Insurance Market in Chile] (submitted as exhibit during the proceedings for this trial).

⁴ ISAPRE is an acronym for Institución de Salud Previsional.

⁵ Superintendencia de Isapres, Oficio 3418 en Respuesta a la Petición de la Fiscalía Nacional Económica Contenida en el Oficio 319 (Nov. 8, 2005).

accused Isapres replied that the change in coverage was the logical response to rising costs and a marked decline in the number of affiliates as a result of worsening economics in the aftermath of the Asian crisis. The increase in copayments resulting from the reduced coverage was also needed to reduce the obvious moral hazard problems affecting full coverage plans. Furthermore, private companies argued that they lacked market power—even if coordinated—because the relevant market included the public health insurance provider (FONASA),⁶ which served around 66 percent of Chile's population vis-à-vis only 17 percent covered by the private health insurance sector (of which the accused companies represented around four-fifths).

As described by ASW, the main contending issues of this collusion case relate to (1) the definition of the relevant market (particularly if FONASA competes with the Isapres) and (2) whether the parallel actions of the accused insurers were the result of a concerted action or the rational response of private firms adjusting to costs shocks and changing market conditions.

The FNE argued and provided empirical evidence that FONASA was not part of the relevant market. This issue was hardly fought by private companies on the grounds that there had been a massive migration from the private to the public sector since the late 1990s (around 400,000 individuals from a total of 1.5 million holding private insurance) as a result of changing labor market conditions and increased subsidies in public health. The TDLC ruled in favor of FNE on this matter on the grounds that the market is markedly segmented so that the poor quality of FONASA services deters upper income families from switching to public insurance while the high costs of private insurers inhibit the less affluent families from purchasing private health insurance. While the issue is debatable, it is not important for the main point of this article, which concentrates on the empirical evidence of collusion presented by the FNE on the basis of the work of ASW.

The second contending issue is the main concern of this article. ASW correctly point out that it is difficult to obtain tangible evidence of collusion and that the accusation against the health insurance providers was based then mainly on economic and econometric evidence. In the following sections, I scrutinize ASW's results and show that (1) they are not robust and therefore cannot support the hypothesis of collusion and (2) in some cases, they actually lend support to an alternative hypothesis of competition.

III. THE EMPIRICAL EVIDENCE

ASW adapt the imperfect competition model proposed by Stephen Salop to the case of health insurance whereby the strategic variable of insurers is not the

⁶ FONASA is an acronym for Fondo Nacional de Salud, which is the health insurance managed by the government.

price of insurance but its coverage.⁷ This is justified since there is a minimum health contribution rate of 7 percent. From such a model, ASW derive the following testable implications, which I scrutinize below:⁸ (1) A positive structural change in the profitability of all Isapres should have occurred from the time period in which the dominant Isapres colluded; (2) The reduction in rivalry brought upon by the collusive agreement should reduce advertising expenditures; (3) The reduction in rivalry brought upon by the collusive agreement should reduce sales force expenditures.

A. The Profitability of Colluded and Non-Colluded Firms

The evidence of increased profitability after the alleged start of the collusion agreement presented by ASW is based on a simple regression using dummy variables to separate the pre- and post-collusion periods. They estimate a model for the operating margin rate (OMR) of the Isapres with the following structure:

$$\begin{aligned} OMR = & \alpha_0 + \alpha_1 Trend + \alpha_2 D_{ProfCollusion} \\ & + \alpha_3 D_{ProfCollusion} \times Trend + \alpha_4 D_{ProfCollusion} \\ & \times D_{Colluded}, \end{aligned} \quad (1)$$

where *Trend* is a linear trend, $D_{ProfCollusion}$ is a dummy variable taking a value of 0 before the collusive agreement allegedly started and 0 afterward, and $D_{Colluded}$ is a dummy variable taking a value of 1 if the firm is one of the accused companies and 0 if not. Fixed individual effects are included to capture idiosyncratic characteristics of each firm, while fixed time effects capture shocks common to all Isapres.

In order to allow for slow market adjustments, the authors test for a break in behavior in the first quarter of 2003—that is, around 9 months after the change in plans of May 2002. They report that a positive coefficient of $D_{ProfCollusion} \times Trend$ indicates a structural change in the market profitability trend starting in 2003. The structural change shows a statistically significant increase in profitability after the change in health coverage, with 95-percent confidence, which rejects the null hypothesis of competition and does not reject collusion as the alternative hypothesis. Consistently, the variable $D_{ProfCollusion}$ which is equal to 1 for the period from 2003 to 2004, is negative and significant. The insignificance of the variable $D_{ProfCollusion} \times D_{Colluded}$ is explained by ASW as reflecting that non-colluding insurers also profited from the eventual collusive agreement.

As shown in Table 1, however, this econometric evidence is not robust to changing the start of the collusive agreement (that is, the location of the break). Using the ASW database, I obtained qualitatively the same results when moving the break toward the date of the change in health plans (2002

⁷ Stephen C. Salop, *Monopolistic Competition with Outside Goods*, 10 BELL J. ECON. 141 (1979).

⁸ A fourth testable implication of ASW's model, namely that the number of affiliates transferred under collusion would fall due to an agreed-upon reduction in rivalry, could not be tested because I was unable to replicate their results.

Table 1. Tests of the robustness of the operating margin rate model of ASW

	<i>Trend</i>	<i>D_{ProfCollusion}</i>	<i>D_{ProfCollusion} × Trend</i>	<i>D_{ProfCollusion} × D_{Colluded}</i>	<i>Constant</i>
ASW break in 2003.q1	−0.008*	−0.183*	0.015*	−0.012	0.325*
Break in 2002.q2	−0.002	−0.417*	0.017*	0.094	0.200*
Break in 2002.q1	−0.004	−0.231**	0.011*	0.071	0.208*
Break in 2001.q4	−0.004	−0.169**	0.008*	0.051	0.211*

Note: * indicates significance at the 5-percent level, and ** at the 10-percent level.

Source: Own calculations.

quarters 1 or 2), indicating that ASW's presumption of slow adjustment does not hold. I obtained qualitatively the same results even if the break is located *before the starting date for the collusion* (that is, locating the break in the last quarter of 2001), indicating that such dummy variables capture anything but the alleged collusion.

The lack of robustness of ASW results is not surprising if one considers that their model neglects the important role of excluded variables affecting the profitability of private insurers—in particular, the changes in income levels or unemployment. The macroeconomic recovery in Chile after the 1998–1999 recession linked to the Asian crisis was very vigorous in 2003 and 2004, with GDP growing at 3.3 percent and 5.8 percent respectively. Since employment and wages grew strongly after 2003, OMR would have increased even without any collusive agreement. Note, in addition, that the trend variable in the original ASW specification in Table 1 is negative and significant, indicating *declining secular profits* prior to the collusive agreement, thereby providing support to the Isapres thesis of declining profits as a reason for coverage adjustment.

B. The Reduction in Advertising Expenditures

The empirical evidence of the alleged reduction in rivalry brought upon by the collusive agreement is based on splitting the sample of insurers between colluded and non-colluded companies, and a study if there has been a reduction in advertising expenditures (AE) using the following model:

$$\begin{aligned}
 AE = & \alpha_0 + \alpha_1 Trend + \alpha_2 D_{Colluded} \times Trend \\
 & + \alpha_3 D_{AdCollusion} \times Trend + \alpha_4 D_{AdCollusion} \\
 & \times D_{Colluded} + \alpha_5 D_{AdCollusion},
 \end{aligned} \quad (2)$$

As shown in the first row in Table 2, ASW obtain a negative sign for parameters α_2 , which, according to them, indicates that advertising expenditures

Table 2. Tests of the robustness of the advertising and sales force models of ASW

<i>Colluded insurers</i>	<i>Advertising expenditures</i>		<i>Sales Force expenditures</i>	
	<i>Trend break in colluded firms</i>	<i>Level break in colluded firms</i>	<i>Trend break in colluded firms</i>	<i>Level break in colluded firms</i>
Banmedica, Colmena, Consalud, ING & Vida Tres	41.89*	-772.09*	231.63*	-3724.7*
Banmedica, Colmena, Sfera, ING & Vida Tres	12.05	-430.09*	65.79*	-584.19
Banmedica, Colmena, Normédica, ING & Vida Tres	13.45	-455.22*	41.52	-346.67
Banmedica, Colmena, Más Vida, ING & Vida Tres	14.33	-477.35*	3.724	311.44
Banmedica, Colmena, Mas Vida, ING, Consalud	16.89	-374.89*	100.48*	-1887.19*
Banmedica, Consalud, Sfera, ING & Vida Tres	15.45	-409.75*	89.26*	-1252.91*
Banmedica, Consalud, Más vida, ING & Vida Tres	17.37	-434.94*	34.18	-790.39*
Banmedica, Consalud, Normedica, ING Vida Tres	16.84	-434.87*	64.99	-1015.38*
Colmena, Consalud, Normedica, ING Vida Tres	17.83	-453.31*	74.78*	-620.03
Colmena, Consalud, Sfera, ING Vida Tres	16.43	-428.19*	99.05*	-857.55*
Colmena, Consalud, Más Vida, ING Vida Tres	18.53	-464.61*	39.00	-87.78
Consalud, Banmedica, Colmena, Normedica, ING	16.76	-399.68*	125.07*	-1727.15*
Consalud, Sfera, Banmedica, Colmena, ING	15.37	-374.75*	149.35*	-1964.67*
Banmedica, Colmena, Sfera, Vida Tres, Consalud	22.08*	-386.86*	102.27*	-1774.78*
Banmedica, Colmena, Consalud, Normedica & V. Tres	24.85*	-444.08*	65.75	-1251.56*
Consalud, Colmena, Banmedica, V. Tres & Más Vida	25.47*	-436.42*	21.99	-706.76

Note: * indicates significance at 5%.

Source: Own calculations.

for the collusive Isapres started decreasing before the collusive period started; a positive α_3 , which they interpret as indicative that the declining trend stopped altogether after the alleged start of the collusion; and a negative parameter α_5 , which would reflect that as of the second semester of 2002, there was a significant drop in the advertising expenditures of the Isapres accused of collusion, something that did not happen in the case of non-collusive Isapres.

These results are not robust as shown in Table 2. Each row in the table shows the estimated parameters of interest when running exactly the same specification of equation (2) using ASW's data but interchanging the companies belonging to the group of colluded and non-colluded Isapres. It can be seen that, for every permutation of firms in the colluded and non-colluded groups, the estimated α_5 parameter is negative and significant, and that parameter α_3 is always positive, although occasionally statistically insignificant. These regressions actually indicate that the original trend-break model is not informative.

C. The Reduction in Sales Force Expenditures

The econometric tests of ASW regarding expenditures in sales force utilize a similar specification as that of equation (2). Again, I replicate their equation interchanging the Isapres belonging to the colluded and non-colluded groups and report the results in the last two columns of Table 2. It can be seen that in most permutations of firms, one obtains qualitatively the same results as those obtained by ASW for the insurers accused of collusion. Consequently, the econometric evidence presented by ASW is not robust and not informative.

IV. CONCLUSION

ASW indicate that they present econometric evidence consistent only with the hypothesis of collusion: the accused insurers reduced sales efforts and marketing expenses relative to the non-accused insurers; the monthly transfer rates of insurees among accused insurers decreased during the period of the alleged agreement relative to the rate of the non-accused insurers; and profits of both accused and non-accused insurers increased after the coverage reduction.

This article shows that such evidence is not robust in two of the three components needed to build the case of collusion against Isapres. Methodologically, the article by ASW only shows that there was a change in the behavior of Isapres in 2003, but it does not prove that the only possible explanation was that of collusion. Therefore, the pronouncement by the TDLC was not unjustified.