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Integrating Consumer Behaviour Insights in Competition Enforcement – Note by Chile

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Experience of the Mergers Division

1. Introduction

1. Since 2020, and as established on its Horizontal Mergers Guidelines, the Mergers Division of the *Fiscalía Nacional Económica* (FNE), i.e., the Chilean Competition Authority, has introduced the in-house design and implementation of consumers surveys in its investigations.¹ This tool has been mainly used in complex Phase II cases, with the purpose to achieve a better understanding of the market under analysis and to incorporate consumers' points of view.

2. In general, for the competition assessment in merger cases is necessary to understand consumers' preferences and behavior and substitution patterns. This information is useful to define relevant markets or to assess how close are the merging parties and whether consumers have other competing alternatives in the market or not. In addition, sometimes it is important to define which are the main features of a given product or service that consumers value the most, in order to assess closeness of competition or to define possible theories of harm.

3. In principle, identifying consumers' behavioral biases has not been the focus of these surveys. However, the design of questionnaires has (at least indirectly) taken into account the possibility that some biases may exist. For instance, in the assessment of the merger between Fiat and Peugeot, we explicitly considered the possibility that consumers' "declared preferences" and "revealed preferences" may substantially differ. In this case, answers to questions as "*would you consider products A and B as substitutes?*" (i.e., a proxy question to a declared preference), were different to answers to questions as "*in the past, when you bought A, did you consider B as an alternative?*" (i.e., a proxy question to a revealed preference).² Section 2.i of this note, presents and summarizes the FNE's experience in this case.

4. In addition, in some cases, surveys have revealed surprising elements of consumer behavior or substitution patterns that were not anticipated by the initial qualitative assessment of the case. For instance, in the acquisition of Cornershop by Uber –a merger between two digital platforms–, the survey's results suggested that consumers considered in-store shopping in a physical supermarket as the closest alternative to the on-line

¹ FNE's Horizontal Mergers Guidelines. Available in Spanish at: <https://www.fne.gob.cl/wp-content/uploads/2021/05/Guia-para-el-Analisis-de-Operaciones-de-Concentracion-Horizontales-mayo-VF.pdf>

² Merger between Fiat Chrysler Automobiles N.V. and Peugeot S.A., docket number FNE F233-2020 (Fiat/Peugot). Conditional Clearance Report available in Spanish at: https://www.fne.gob.cl/wp-content/uploads/2021/02/inap2_F233_2020.pdf

shopping offered by Cornershop.³ Section 2.ii of this note contains a brief summary of our experience in this case.

5. Finally, in some cases, even if survey results are not related to behavioral biases, they have been essential to the competition assessment of the different cases. For instance, in the acquisition of OK Market by Oxxo –a merger between two local convenience store chains–, survey results were important to define the scope of the relevant geographic market and for the assessment of the degree of closeness of competition between the merging parties vis-à-vis its competitors.⁴ Section 2.iii of this note presents our experience in this case.

2. Mergers Division' cases

2.1. Fiat/Peugeot

2.1.1. The Case

6. In 2020 the FNE cleared conditioned to remedies, the transaction consisting on the international merger of two car manufacturers, Fiat Chrysler Automobiles N.V. (FCA) and Peugeot S.A. (PSA).⁵⁻⁶ The FNE carried out an in-depth investigation of the market with special emphasis on the light commercial vehicle segment (LCV), which was the segment that showcased high degrees of market concentration in Chile.

2.1.2. The Survey

7. In this context, the FNE undertook a market survey that assessed consumer preferences, regarding certain product characteristics such as engine type and the degree of substitution between new and used LCVs. The survey questionnaire included questions that were proxies for declared and revealed preferences.⁷ This allowed to draw conclusions on the effective substitutability among different products and the closeness of competition among different brands in the market.

8. The survey was sent separately to PSA and FCA customers. In total, the sample included 3,000 end consumers that bought LCVs commercialized by the merging parties between 2019 and 2020. The response rate was close to 15%.

³ Acquisition of Cornershop by Uber Technologies, Inc., docket number FNE F217-2019 (Uber/Cornershop). Clearance Report available in Spanish at: https://www.fne.gob.cl/wp-content/uploads/2020/06/inap2_F217_2020.pdf

⁴ Acquisition of OK Market S.A. by Cadena Comercial Andina SpA and Comercial Big John Ltda., docket number FNE F250-2020 (Oxxo/OK Market). Conditional Clearance Report available in Spanish at: https://www.fne.gob.cl/wp-content/uploads/2021/12/inap1_F250_2020.pdf

⁵ For more information, the FCA/PSA Conditional Clearance Report is available at: https://www.fne.gob.cl/wp-content/uploads/2021/02/inap2_F233_2020.pdf

⁶ FCA is an Italian-American automotive business group that manufactures and markets components and vehicles worldwide, under the brands Abarth, Alfa Romeo, Chrysler, RAM, Dodge, Fiat, Jeep, Lancia and Maserati. PSA is a French business group that manufactures and markets components and vehicles worldwide, under the Peugeot, Opel, Citroën, Vauxhall and DS brands.

⁷ For instance, in the case of declared preferences, survey respondents are asked how much they value a given attribute. In contrast, revealed preferences' questions, ask respondents to reveal their actual decisions on a certain matter in the past.

2.1.3. Survey Results and Case Assessment

9. The results showed that declared preferences were generally more optimistic than revealed preferences. For example, regarding substitutability between used and new LCVs, the survey respondents were initially asked whether they considered used LCVs to be an alternative option to new LCVs. Close to 32% of PSA customers and 42% of FCA customers declared that they would consider both alternatives to be substitutes. Later in the survey, respondents were asked whether when buying a new LCV they considered a used LCV as an alternative option. To this latter question, a lower proportion of respondents answered affirmatively (i.e., only 19% of PSA customers and 15% of FCA customers responded that they did consider both alternatives). As a result, the FNE was able to discard that used LCVs could exert sufficient competitive pressure in the market of new LCVs, in accordance to additional consistent evidence.⁸

10. Another aspect investigated in the survey was consumer preference for a particular engine type. Indeed, certain case files and industry interviews consistently showed the importance of diesel engine as a product characteristic common to both FCA and PSA LCV brands.⁹ For this purpose, survey respondents were asked to qualify various product characteristics from “very important” to “not important at all”. Results showed that around 56% of FCA customers and 83% of PSA customers qualified diesel engine as a very important attribute.¹⁰

11. Subsequently, respondents were asked to name three characteristics that were crucial to choose a brand when buying their new LCV. Diesel engine was the characteristic with the most mentions among PSA customers and the second most mentioned attribute by FCA customers.

12. In fact, according to industry interviews, consumers preferred diesel engines in commercial vehicles due to the significantly lower price of diesel fuel and the lower costs of maintenance of diesel engines.¹¹ This latter conclusion was also confirmed by an econometric exercise carried-out by the FNE. In particular, using a hedonic price regression model, results suggested that on average consumers would be willing to pay about a 25% to 30% higher price for a diesel engine LCV compared to a gasoline engine LCV.¹²

2.2. Uber/Cornershop

2.2.1. The Case

13. In 2020, the FNE assessed the acquisition of Cornershop Technologies LLC (“Cornershop”) by Uber Technologies Inc. (“Uber”), a merger that involved two multi-sided platforms that operate different services through apps.¹³ This case required a framework of analysis that considered the different elements and characteristics that are specific to digital markets.

⁸ FCA/PSA Conditional Clearance Report, paragraph 61.

⁹ *Íbid.*, paragraphs 118 to 123.

¹⁰ *Íbid.*, paragraph 118.

¹¹ *Íbid.*, paragraph 119.

¹² *Íbid.*, paragraph 121.

¹³ The final report of the merger (“Uber/Cornershop Clearance Report”) is available in the following link: <https://www.fne.gob.cl/wp-content/uploads/2020/06/inap2_F217_2020.pdf>

14. In particular, Uber is a company dedicated to the development of multi-sided platforms, providing the service of intermediation of different products and/or services among different users. In Chile, it operates as Uber Rides in the ride-sharing market and as Uber Eats in the food delivery market. The other party, Cornershop, is a company that operates in the grocery delivery market.

15. Based on the evidence collected in the first stage of the investigation (“Phase 1”), the FNE identified three theories of harm, one of those being the existence of conglomerate effects, mainly linked to the potential use of mixed bundling and increased data collection capabilities. These theories were scrutinized by the FNE in a Phase 2 in-depth investigation.¹⁴

2.2.2. *The Survey*

16. In this case, the FNE carried out a consumer survey (directly designed and implemented by the FNE to consumers of both Cornershop and Uber) which main objectives were: (i) to evaluate whether there was a relevant group of consumers that acquired both products from grocery delivery platforms and from food delivery platforms or ride-sharing platforms (i.e., degree of consumer overlap); (ii) to evaluate whether consumers use one or more apps for the same services (i.e., single homing or multihoming); and (iii) to evaluate consumer behavior patterns and the degree of substitution among different alternatives in the market.¹⁵⁻¹⁶

17. For this case, two equivalent surveys were sent; one to 400 Uber Eats users and a second one to 400 Cornershop users. The response rate was around 30%.

2.2.3. *Survey Results and Case Assessment*

18. Regarding market definition, the consumer survey was useful to determine which alternatives were part of the same relevant markets within the grocery delivery and the restaurant delivery services. In the grocery delivery services, the majority of the answers stated that supermarkets own pick-up services were not close substitutes of delivery services.¹⁷⁻¹⁸ In addition, survey results suggested that supermarkets that have developed their own delivery services belonged to the same relevant market with Cornershop.¹⁹ The above, since customers who switched to alternative grocery delivery services (in case of

¹⁴ Uber/Cornershop Clearance Report, pp.55-89

¹⁵ The annex describing the methodology of the consumer survey, its objectives, and its answers (“Uber /Cornershop Consumer survey annex”) is available in the following link <https://www.fne.gob.cl/wp-content/uploads/2020/06/anexo_F217_2020.pdf>

¹⁶ Uber /Cornershop Consumer survey annex p1.

¹⁷ Market definitions in both the grocery delivery and restaurant delivery services were finally left open, but from the results of the consumer survey it was possible to conclude regarding some options that were not part of the same relevant market as the services provided by the parties (e.g., restaurant pick-up services). Uber/Cornershop Clearance Report, pp. 31-39.

¹⁸ The question was framed as follows: “Q 5: *Have your order grocery using supermarket’s pick-up service between December 1st 2019 and March 1st 2020?*” As a result, 85% (N=191) of respondents answered that they did not use this type of service. Uber/Cornershop Consumer survey annex p.12.

Of the 10.47% that stated that they had used this service, the majority of respondents answered that this service is not a substitute of grocery delivery services. Uber/Cornershop Consumer survey annex p.14.

¹⁹ Uber/Cornershop Clearance Report p. 34.

Cornershop's unavailability) preferred to shop through supermarkets delivery services, despite delivery times being higher at the time of the investigation.²⁰⁻²¹

19. Regarding food delivery services, the survey's answers made clear that restaurants own pick-up services were not a close substitute to app food delivery services.²² Furthermore, even though a relevant fraction of consumers declared to use restaurant's own delivery services (orders placed by phone or via the restaurants' own web pages/apps), for purpose of the competitive analysis the FNE excluded these services from the relevant market. Conclusions would not vary in each scenario and because there were plausible reasons to conclude that these services were not part of the same relevant market as food delivery platforms. These reasons were that Uber Eats and other food delivery apps indicated that they compete to a lesser extent with restaurants own sales channels, which was consistent with the results of the survey indicating that in case of unavailability of Uber Eats most users would switch to other food delivery apps.²³⁻²⁴

20. Additionally, the survey was quite helpful in addressing the conglomerate effects' assessment. The answers highlighted that a relevant fraction of restaurant delivery users did multi-homing –with over a half of respondents indicating that they used at least two platforms in a given month–, the same being true for ride-sharing services.²⁵ In addition, survey results suggested that Cornershop users did not have a strong valuation for a loyalty program that would hypothetically bundle Cornershop and Uber services and benefits.²⁶

²⁰ Indeed, of those users that answered that they would use other grocery delivery services in case Cornershop was unavailable, 75% stated that they would use the delivery services offered by the two main supermarkets active in Chile (i.e., "Jumbo" and "Líder").

The question was framed as follows: "Q 12: Based on your last answer, from which app or website would you order grocery?" Uber/Cornershop Consumer survey annex p. 21.

²¹ Cornershop offered to schedule the delivery as soon as up to 90 minutes since the order was sent, while supermarkets own delivery services usually offered the next day as the soonest possible time slot and with wider time windows.

²² The question was framed as follows: "Q 20: In normal conditions, how would you order from a restaurant in case Uber Eats was unavailable?" Only 5.3% (N=132) of respondents answer that they would use restaurants own pick-up services Uber/Cornershop Consumer survey annex p.33.

²³ Uber/Cornershop Clearance Report pp. 38-39.

²⁴ Of the 65% of consumers that answered that in case of unavailability of UberEats they would order from another app or website, 90% stated that they would order from another food delivery app, while only 9% answered that they would order via the restaurants' own web pages/apps.

The question was framed as follows: "Q 21: Based on your previous answer from which other app or website would you order?" (N=86) Uber/Cornershop Consumer survey annex pp. 33-35.

²⁵ In the case of food delivery services, the question was framed as follows: "Q 16: Indicate how frequently did you order food using delivery services from the following apps or web sites", Uber/Cornershop Consumer survey annex p.27. In addition, in the case of ride-sharing services the question was framed as follows: The question was framed as follows: "Q 23: Indicate how frequently did you use ride-sharing services from following apps", Uber/Cornershop Consumer survey annex p.38.

²⁶ The question was framed as follows: "Q 30: In normal conditions, how much are you willing to pay for Cornershop Pop if this subscription allowed you to obtain free delivery services for all your Uber Eats orders?" Uber/Cornershop Consumer survey annex p.48.

"Cornershop Pop" is the Cornershop membership service that offers free delivery services for all orders of over 20.000 Chilean pesos (23 USD approx.).

2.2.4. *Unexpected Results*

21. A surprising result was that, in a hypothetical scenario of unavailability of Cornershop, nearly half of respondents answered that they would choose in-store shopping in a physical supermarket as a substitute.²⁷ This answer was not necessarily consistent with other evidence from the same survey and with other pieces of evidence of the investigation.²⁸ In particular, survey results suggested that the main drivers for using grocery delivery services were convenience and time saving, so *a priori* it would be reasonable to expect that only a handful of clients should switch to in-store shopping in the case of an unavailability of Cornershop on-line services.

22. However, since other qualitative and quantitative evidence collected during the investigation provided sufficient proof that in-store grocery and on-line delivery services were used by consumers due to quite different purchase motives and drivers, it was concluded that both services were not part of the same relevant market.²⁹

23. From this particular result, we highlight some interesting facts regarding consumer behavior. It seems that in the grocery delivery services Cornershop users may have a bias regarding their perceptions about the different options. Indeed, while grocery delivery services offered by supermarket chains, were much more similar to the Cornershop on-line shopping compared to in-store shopping, survey results suggested that consumers did not consider them as the closest alternative. This could have been explained by consumers not exploring other on-line shopping options and not acquiring information about these options.

24. Lastly, other relevant aspect to address is the practical framing of the questionnaires. A correct framing affects the agency's ability to obtain useful information about consumer behavior and thereafter, how to interpret it. The consumer survey was carried out in late March and early April of 2020, period of high uncertainty due to Covid-19. Since at that time there was not an accurate prediction about the length of the pandemic and its expected consequences, most of the questions were framed in a way that consumers were told to situate themselves under hypothetical "normal conditions". In a merger within the context of a pandemic, possibly framing questions differently, would have shown diverse results, probably with much less people preferring in-store grocery shopping over other on-line alternatives.

2.3. **Oxxo/OK Market**

2.3.1. *The Case and Survey*

25. Oxxo, the largest convenience store in Chile, acquired OK Market, the second largest player in the market. In this context, the parties seemed to be the closest competitors,

²⁷ The question was framed as follows: "Q 11: *In normal conditions, how would you do grocery shopping in case Cornershop was unavailable?*" (N=171) Uber/Cornershop Consumer survey annex p.20.

²⁸ In the same survey, respondents stated that the main reason to use Cornershop was that the delivery service time was adequate, Uber/Cornershop Consumer survey annex p.18. Also, several internal documents accompanied by the parties showed that consumers preference for delivery services and firms efforts depend on factors specific to these services, as delivery times and consumer experience. Additionally supermarket chains monitor directly their performance on delivery services.

²⁹ Uber/Cornershop Clearance Report, pp.34-35.

which raised the concern that the merger could substantially lessen competition if cleared unconditionally, without a structural remedy.³⁰

26. The main objectives of the survey were: (i) to verify whether online shopping exerted competitive pressure on in-store shopping; (ii) to estimate the degree of closeness of competition between the merging parties and other alternatives in the market; (iii) to obtain diversion ratios; and (iv) to estimate the size of the geographic relevant market.

27. In this case, two equivalent surveys were sent, one to 4,000 OK Market clients and another one to 4,000 Oxxo's online survey respondents, with a response rate of around 11% and 18%, respectively. The survey queries were structured into six main themes: (i) questions related to input filters, to find out if the respondent has made purchases in the last 3 months; (ii) characterization of the purchase, in terms of shopping frequency, ticket size, type of purchase, and factors that led the person to make the decision to buy in a given store; (iii) diversion questions due to the unavailability of a given store; (iv) closeness of competition questions, where respondents were asked to rank how replaceable were both brands by different alternatives available in the market; (v) questions about the effects of the pandemic on shopping behavior; and (vi) respondent characterization questions, related to age, gender, work and commune of residence, among others.

2.3.2. Survey Results and Case Assessment

28. Regarding the relevant product market, the first element to be evaluated was whether online shopping was a substitute to in-store shopping. Results of the survey suggested that both alternatives were not part of the same relevant market.³¹ In particular, it was identified that convenience store consumers mainly valued shopping speed and geographic proximity, and that most of the purchases made in these stores were not planned in advance (i.e., spontaneous shopping).³²⁻³³⁻³⁴ In addition, only 6%-7.2% of respondents indicated that they would shop in the online channel in response to a hypothetical unavailability of their preferred store.³⁵

³⁰ For more information, please visit the case press release available in Spanish at: <https://www.fne.gob.cl/en/fne-aprueba-la-compra-de-ok-market-por-parte-de-oxxo-sujeta-a-la-desinversion-de-16-locales-y-otras-medidas-de-mitigacion/>; and the Clearance Report, available in Spanish at: https://www.fne.gob.cl/wp-content/uploads/2021/12/inap1_F250_2020.pdf

³¹ Oxxo/OK Market Clearance Report, paragraphs 89 et seq. Available at: https://www.fne.gob.cl/wp-content/uploads/2021/12/inap1_F250_2020.pdf

³² Here the question asked was framed as follows: "*Considering the last 3 months. Indicate the following decision attributes of your purchase at Oxxo/OKM, according to their degree of importance. Decision attributes evaluated were: proximity, speed, variety, brand, price, food, cleanliness, possibility of paying with Sodexo. Degrees of importance to be selected by the respondent were: very relevant, relevant, not very relevant, irrelevant, do not know.*"

³³ Oxxo/OK Market Clearance Report, paragraphs 32, 70, and 89 et seq.

³⁴ Here the question was framed as follows: "*Considering the last 3 months, which statement best represents the type of shopping you have done at Oxxo/OKM? a. Purchases made at Oxxo/OKM are generally unplanned or on the fly (i.e., it is determined by the circumstances or needs of the moment and has not been planned in advance by you); b. Purchases made at Oxxo/OKM are generally planned (i.e., whose date, occasion or periodicity is defined in advance by you); c. Do not know; d. Other.*"

³⁵ Here the question was framed as follows: "*Considering the last 3 months, what would you have done if at the time of purchase, the Oxxo/OKM store was closed?*" And the possible answers were: "*(i) Would have gone to another physical store, (ii) Would not have made any purchase, (iii) Would have purchased online, (iv) Do not know*". And those who responded that they would have gone to another physical store were offered different alternatives to indicate which other store they would have gone to. Among the options were: convenience stores, minimarkets, supermarkets, gas

29. In order to assess the competitive closeness between the parties and other alternatives, different questions were included with the purpose of identifying consumers' motivation for shopping in a convenience store, and different questions aimed at estimating diversion ratios. In addition, respondents were asked how replaceable the parties were with respect to other alternatives in the market.

30. Additionally, with respect to the geographic scope of the relevant market, survey results suggested that proximity was the most valued attribute for consumers³⁶. In addition, respondents were asked about their willingness to walk in the event of unavailability of a given merging party's store. Results indicated that between 46.2% and 48.8% of respondents would not be willing to walk more than 5 minutes.³⁷⁻³⁸

Experience of the Market Studies Division

1. Chilean Annuities Market: When a Complex Choice Environment Weakens Competition

31. In May of 2017 the Chilean Competition Authority (henceforth FNE or the Authority) began a market study on the annuities insurances for retirement—or, simply, the annuities—sector. Its working hypothesis was that there were significant distortions in the market that lowered the pensions that retirees received.³⁹ The FNE analyzed individual level choice information provided by the Financial Market Commission (or CMF: the financial sector regulator) and the insurance companies participating in the market, between 2004 and 2017. After nine months of work, the Authority concluded that several informational issues in the sector made it difficult for prospective retirees to decide among annuities options, which lowered competition intensity and retirees' pensions.⁴⁰ The FNE's findings triggered a number of regulatory changes which sought to simplify the market's decision environment, improving the quality of retirees' choices and, by doing so, fostering competition among insurance providers.

stations, and other similar stores. Also included was the option of pointing to another non-listed option, and specifying.

³⁶ Here the question was framed as follows: "*Considering the last 3 months. Indicate the following decision attributes of your purchase at Oxxo/OKM, according to their degree of importance. Decision attributes evaluated were: proximity, speed, variety, brand, price, food, cleanliness, possibility of paying with Sodexo. Degrees of importance to be selected by the respondent were: very relevant, relevant, not very relevant, irrelevant, do not know.*"

³⁷ Here the question was framed as follows: "*Considering your purchases made in the last 3 months, how long would you be willing to walk to another store?*"

³⁸ Clearance report, paragraphs 109 et seq. Available at: https://www.fne.gob.cl/wp-content/uploads/2021/12/inap1_F250_2020.pdf

³⁹ See *Minuta de Lanzamiento del Estudio de Mercado de Rentas Vitalicias*, FNE, 2017, available [here](#).

⁴⁰ All analysis and recommendations are documented in the report *Estudio de Mercado sobre Rentas Vitalicias*

(EM01-2017), FNE, 2017, available [here](#).

2. Chilean Pensioning Process and Annuities Market Organization

32. In Chile, employees in the formal sector have to save a 10% of their income in a private retirement account managed by a Pension Fund Administrator (PFA). In the months before their retirement, each future pensioner, that saved above a threshold, access an exchange that centralizes the purchasing process of annuities insurances. The prospective retiree interacts with the system on his own, with the help of a financial adviser or an insurance sales agent, following a three-stage process. In the first stage, insurance companies are notified of the prospective retiree demographic and socioeconomic information, as well as of her preferences for annuities contracts types, which are combinations of the fraction of savings to annuitize, a guarantee period (months paid out regardless of death), a deferral period (months without payment), and whether a deferred annuity includes a temporal rent, financed with a fraction of her savings and administered by her PFA. Next, in the second stage, the insurance companies compete for the prospective retiree bidding pensions in all or some of the annuity contract types of her preference. The outcome is a document that the future pensioner receives which contains details of the offers: the *offers certificate*; for each bid, this document indicates the monthly pension (in real terms), the *rate of the guarantee period*⁴¹ (if it applies), the name of the insurance company and its credit rating. Finally, in the last stage, the prospective retiree selects one offer.

3. The Diagnosis of the FNE: A Complex Choice Environment that Probably Weakens Competition

33. In its analysis of the sector, the FNE started by looking at its competitive strength from a supply side perspective. In the period studied, the market was not concentrated, having on average 15 insurance companies, an annually measured HHI below 1.500 for most population segments, and the three largest firms did not have a combined market share greater than 40% in any given year. In addition, in the same period, the Authority observed that the firms market shares fluctuated importantly, several entered and others exited the market. An analysis of the regulation further substantiated the absence of significant entry or exit barriers, except for the minimum credit rating requirement, deemed a reasonable safeguard for guaranteeing retirees' pensions. In sum, the FNE concluded that the market seemed healthy from a supply side perspective.

34. The Authority did not reach the same conclusion when examined the demand side of the sector. Because in the pensioning process all offers are systematized and easily accessible to the future pensioner, the FNE expected that prospective retirees should have no problems to evaluate them. Further, because within contract types annuities insurances are homogenous products, the Authority thought that a reasonable outcome would be that the firms offering the highest pensions would be chosen, if not always, most of the time. However, the FNE did not observe such behaviors. On the contrary, an important fraction of the prospective retirees did not choose the offer with the highest pension within a contract type. The median future pensioner sacrificed more than a 2% of her pension, and a quarter of the population more than 3.4%, both relevant magnitudes given that the median premium was approximately USD\$ 69,100. These choices could have been explained by risk or brand preferences. However, a plausible alternative explanation was that the complexity of the choice environment could have confused prospective retirees, a

⁴¹ This annuity attribute is described later in the text.

phenomenon well documented by research in the field of behavioral economics.⁴² In its analysis, the FNE identified three characteristics of the annuities market choice environment supporting the latter explanation.

35. First of all, an annuity is a financial product and, as such, inherently complex and prone to agency problems. In contrast to what happens in other sectors, in the annuities market the consumer makes its purchasing choice only once in her lifetime. Moreover, the good to be acquired is a financial product with several features. As a result, she needs to have a degree of financial literacy in order to understand the trade-offs involved in her decision. Because this is not often the case, typically, the prospective pensioner will opt to be assisted by a financial adviser or an insurance company sales agent, both (specially the second) having incentives not necessarily aligned with the former. Indeed, in the FNE sample, only 15% of future pensioners bought their pension with no assistance, 30% with the aid of a financial adviser and the remaining 55% assisted by sales agent. Within a contract type, those that had no assistance practically did not sacrificed pension. On the other hand, the median sacrifice—or the difference between the highest and the pension purchased—was 1.7% for the population aided by a financial adviser, and 3% for those individuals a sales agent helped.

36. A second characteristic of the market's choice environment, that compounded its complexity, was the design of the offers certificate. Firstly, in this document the pensions were expressed in UF—a Chilean unit of account indexed to the inflation. Although the UF is often used in real estate transactions, most individual level transactions are made in Chilean pesos (CLP). Thus, in general, future pensioners are not familiar to magnitudes expressed in UF. Further, because 1 UF is close to 37 USD,⁴³ or a sixth of the basic guaranteed pension, the FNE was concerned that a pension change when expressed in UF could be perceived less strongly than when expressed in CLP, as research has suggested.⁴⁴

37. Another design element that concerned the Authority was the visual relevance of some technical attributes of the annuities, which seemed more likely to confuse than help future retirees make their decisions. One of these was the credit rating of the insurance company, which provided the prospective pensioner with a proxy of the likelihood that a company could default its obligations during the annuity payment period. It was not clear to the FNE how this rather complex attribute could be of use to most part of the population, considering that there was a minimum credit rating requirement to be able to participate in the market, and that if an insurance company were to default, the Chilean State would cover an important portion of the retirees' pensions—up to approximately four times the minimum wage. Despite these facts, 69% of the individuals in the sample selected a company offering a lower pension but having a higher credit rating. To evaluate whether lower default likelihoods compensated lower pensions, the FNE computed the expected net present value for all the annuities in the sample—offered and purchased, since 2008 to 2017, accounting for the credit rating of the corresponding insurance company. After this correction, the difference between the best offer and the one purchased diminished but did not disappear. There remained a 25% of the population sacrificing more than 3% of the premium paid, and the correction was less pronounced in segments with lower savings, that concentrated more that 75% of the population, because the State covered to a larger extent their pensions in case of defaults.

⁴² See Grubb, M. D. (2015). *Failing to Choose the Best Price: Theory, Evidence, and Policy*. *Review of Industrial Organization*, 47(3), 303–340, and references therein.

⁴³ Considering UF value as of May 9 of 2022, and the CLP-USD exchange rate in the same date.

⁴⁴ Chetty, R., Looney, A., & Kroft, K. (2009). *Saliency and Taxation: Theory and Evidence*. *American Economic Review*, 99(4), 1145–1177.

38. The other technical attribute that concerned the FNE, which had the same visual relevance as that of the companies' credit ratings or the pensions, was the interest rate of the guarantee period. This feature of the annuities becomes relevant when three conditions are met. First, a pensioner must die within the guaranteed period; second, all legal beneficiaries⁴⁵ must either die or, in the case of the direct descendants, lose their right to receive a survivor's pension; and, third, the designated beneficiaries⁴⁶ must decide to receive the unpaid pensions of the guarantee period in a cash payment. When all these requirements are satisfied the insurance company uses the rate of the guarantee period to compute the present value of the unpaid pensions, which becomes the amount that the designated beneficiaries receive. It was the opinion of the FNE that, with respect to the credit rating, this attribute was even more difficult to understand. However, it was presented in the offers certificate as if prospective pensioners were going to assess the tradeoff between a lower rate and a lower pension. Furthermore, given that it would be used under very specific conditions, it was not clear to the Authority that it could have a relevant impact on the economic value of the annuities. In order to assess the validity of this presumption, the FNE conducted an exercise similar to that undertaken in the case of the credit ratings. The results were similar. There remained a significant fraction (25%) of future pensioners sacrificing more than 3% of the premiums paid.

39. Expressing the pensions in UF, and informing the credit ratings and rates of the guarantee period next to each pension offer could make sense in the absence of behavioral biases. However, once accounted for, it resulted less obvious to the FNE whether this information was beneficial for prospective retirees, even more so in the presence of agency problems. Indeed, the FNE conducted a series of interviews with sales agents, asking which were their key selling points. The majority of the respondents indicated that both the credit ratings and rates of the guarantee period were crucial to differentiate their companies offers from the ones of the competitors. This was concerning to the Authority given that in its assessment of the financial impacts of these attributes it found them to be rather small.

40. A third and final characteristic of the annuities market choice environment, that the FNE highlighted in its analysis, was how financial advisers and sales agents were compensated for their advisory services. If a prospective retiree did her annuity purchasing processes with the assistance of a third party, she would be presented with pensions offers net of the maximum advisory compensation fee, equal to 2% of their pensions or, in absolute terms, close to three times the average pension. While the offers certificate included a note informing that the pensions had been diminished by 2% and that they could increase if the advisory compensation decreased, the Authority was concerned that the way the information was presented could have an impact on the willingness to pay for advisory services. The FNE was able to find some evidence substantiating this presumption. The Authority exploited the fact that the maximum allowed compensation changed in October of 2008, from 2,5% to the current 2%. Right before and after the regulation entered into force, one should not have expected to observe a significant change in prospective pensioners willingness to pay for advisory services, because the groups of individuals should have been similar. This was not the case, however. The fraction of individuals willing to pay 2% or more changed significantly after the regulation was in place,

⁴⁵ In this context, the beneficiaries are individuals that are legally entitled to receive a fraction of the pension of an individual once she dies. There are two groups. Those that the law stipulates—or legal beneficiaries, which include the individual's spouse, direct descendants (up to a certain age) and ascendants, and second group, including people the individual designates. A person in the latter group is entitled to receive part of the pension of a deceased once there are no legal beneficiaries.

⁴⁶ See *supra* note 42.

decreasing from 80 to 70%, a fraction that remained stable until April of 2017, the last month of the studied period.

4. The Recommendation of FNE and its Implementation

41. All these features of the annuities market choice environment gave grounds to the Authority to propose a battery of recommendations that sought to simplify the purchasing processing process, limiting the impact that behavioral biases could have on the market's outcomes. The majority of these recommendations were implemented by the financial market regulator. A brief revision of the most important proposals and their actual implementations follows.

42. In order to deal with the inherent complexities of financial products such as the annuity insurance, and the agency problems that may emerge in these environments, the FNE suggested to simplify the annuities purchasing system, with the objective of minimizing the interaction between the future pensioner and financial advisers or sales agents. The authority proposed removing some functionalities that were in practice never used, together with the implementation of defaults. An important example is the proposal of automatically assigning a prospective retiree the annuity with the highest pension, within a preferred contract type, if she did not actively switch to an alternative offer within a certain time window. It was the FNE's opinion that this suggestion could achieve two goals: reducing the interaction between the pensionable and third parties, and fostering competition in the pension attribute among insurance companies. The CMF partially agreed with the simplifications and defaults proposed by the Authority. For instance, in the case of the default mechanism for assigning annuities to prospective pensioners, the implementation of the regulator was such that a retiree who did not select the offer with the highest pension had to sign a declaration stating her acknowledgment of the financial implications of her choice. The CMF estimated that this mechanism was similar to a default rule but less invasive.

43. To tackle the offers certificate design issues, the FNE, first, recommended to inform the annuities offered showing the corresponding pensions in CLP, and making explicit how much was sacrificed, over the lifetime of the annuity, when choosing an alternative not having the highest pension; the Authority considered that the information presented in this manner would make more palpable the financial implications of the different alternatives. Second, with regard to the credit ratings of the insurance companies, the FNE suggested to report them in an appendix, and making it explicit, salient and easily understandable the fact that the State covered an important fraction of the retiree pension in case an insurance company defaulted. Third, as for the rate of the guaranteed period, the Authority proposed that the regulator determined this rate, so companies focused on competing in pensions; as an alternative, it proposed that the offers certificate showed a proxy of the present values of the annuities, accounting for the rate. It was the Authority's opinion that a metric of this nature would make more direct the comparison among alternative annuities. The CMF adopted these recommendations, with the exception of the one corresponding to the rate of the guaranteed period. It was the opinion of the regulator that this was a relevant attribute, and that it was a desirable trait of the market that insurance companies had an incentive to compete on it. Still, as in the case of the credit ratings, this attribute is now informed in an appendix of the offers certificate.

44. A final set of proposals sought to limit the biases that could introduce the manner in which the compensation of financial advisory services was informed. The FNE suggested that, at the beginning of the purchasing process, the pensionable received a document informing her that the compensation for advisory services could be zero if she

bought her annuity without assistance. The Authority proposed too that this document expressed the maximum payable amount for the financial assistance as an absolute magnitude and in CLP, instead of as a fraction of the future retiree's premium, and that it contained instructions on how to conduct the purchasing process, with a list of online resources an individual could consult when in need. A final proposal was that the advisory services compensation should be agreed before the prospective pensioner received the offers certificate and in absolute terms, in CLP. It was the Authority's opinion that this would make more palpable the compensation and would simplify her decision as offers would be stated without discounting the advisory services maximum fee. These recommendations were considered relevant but implemented with slight variations by the financial authority.