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Collaborative Housing in Chile

Policy, Precedents, Scenarios and Long-term Implementation Strategies

Valentina Cortés Urra

Collaborative Housing in Chile

Policy, Precedents, Scenarios, and Long-term Implementation Strategies

Valentina Cortés Urra

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Collaborative Housing in Chile

Policy, Precedents, Scenarios and Long-term Implementation Strategies

Dissertation

for the purpose of obtaining the degree of doctor
at Delft University of Technology
by the authority of the Rector Magnificus, prof.dr.ir. T.H.J.J. van der Hagen
chair of the Board for Doctorates
to be defended publicly on
Wednesday 21 May 2025 at 10:00 o'clock

by

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This dissertation has been approved by the promotors.

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To my mother Muriel Beatriz and my husband Tim
for their unconditional support in life and on this PhD journey...

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Preface & Acknowledgements

From the beginning of my professional career as an architect and urban planner in Chile, I set myself the goal of investigating alternatives to the conventional housing model that could respond to the multiplicity of challenges associated with housing and the lack of it. With this motivation in mind, I became familiar with the concept of Collaborative Housing (CH) and the opportunities that this model could represent for its residents and the surrounding built environment.

My path to arrive in Delft was a long one that I decided to follow because doing a PhD is one of my childhood dreams. This rocky path started in Chile, where, although I knew from my master's that I wanted to continue researching and expanding my knowledge towards new horizons, I faced many obstacles along the way. I was constantly questioned by other people about why I wanted to continue studying if I was a woman and told that I would never be able to do it because of the language and the loneliness that changing countries would entail, but this did not stop me. Despite these moments, I followed my heart; I decided to challenge myself more every day. As I sensed before arriving in Delft, the path of my PhD has been a great challenge that involved learning new and new feelings that helped me grow. On the one hand, the excitement of learning something new and feeling that I was capable of achieving everything I set out to do, and on the other, moments of confusion, loneliness for being away from part of my family, and feeling at times the ‘impostor syndrome’. Along this path, both filled with joy for each milestone unlocked, and also with difficulties where I lost myself and found myself again, I had many people supporting me in the process.

I would like to thank my greatest inspiration for being part of my life, the woman who fought against heaven and earth to educate me, who, since my preschool years, has encouraged me to go for more and be a better version of myself every day, learn from my mistakes and get up resiliently after each fall. Muriel Beatriz, with all my love I tell you that you have been my inspiration in life, although I learned to be a very self-demanding person, I learned that self-determination from you, thank you for supporting me unconditionally. Knowing that when I want something, I can achieve it if I put in 200% more than others would keep me resilient. I hope you know that part of this great achievement is a tribute to your teachings. I thank you for pushing me to fly, and I love you.

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I would like to thank my Chilean family. Although we have been living far away for years, I think of them fondly, and they have inspired and supported me at important moments in life: Aunt Nubia, thank you for inspiring me since I was a kid, Nancy, Rebeca, Uncle Jose and Erwin. I also thank my Dutch family, Carla, Oma, Dolf, Laurie, Nick, and the rest of the family for being present on this path. As well as to my friends Camila, Ninoska, Claudia, Alejandra, Margarita, Angela, Joyce and Daniel, who are part of the family I chose for their support and love. To some teachers in Chile who have inspired my love for teaching and academia: Claudia Lima, Claudia Hempel, Fanny Lavanchy, Ricardo Utz, Bernardo Suazo, Juan Carrasco, Ana Flores and Lilian Uriarte.

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My reflection at the end of this journey: the PhD is not only learning about the content of our research and field of study. But it is also a life lesson that helps you grow as a professional and person, which involves teamwork, collaboration, and the involvement of many people who make it possible. I thank you all for being part of this stage, and I also thank myself for staying resilient. The PhD period is a stage full of learning that I will never forget and has materialized in me to continue forging my academic career in the future.

Here I come, to continue achieving new goals and dreams…

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List of abbreviations

Abbreviation	Word full meaning in English and Spanish
ANID	National Agency for Research and Development Agencia Nacional de Investigación y Desarrollo
BID	Inter-American Bank Banco Interamericano
CAF	Development Bank of Latin America and the Caribbean Banco de Desarrollo de América Latina y el Caribe
CASEN	National Socioeconomic Characterisation Survey Encuesta de Caracterización Socioeconómica Nacional
CEPAL	Economic Commission for Latin America and the Caribbean Comisión Económica para América Latina y el Caribe
CEHU	Housing and Urban Studies Commission Comisión de Estudios Habitacionales y Urbanos
CLT	Community Land Trusts Fideicomisos de Tierras Comunitarias
CH	Collaborative Housing Vivienda Colaborativa
CNDU	National Council for Urban Development Consejo Nacional de Desarrollo Urbano
CNDT	National Council for Territorial Development Consejo Nacional de Desarrollo Territorial
COES	Centre for Studies on Conflict and Social Cohesion Centro de Estudios de Conflicto y Cohesión Social
CORVI	Housing Corporation Corporación de la Vivienda
DESTEP	Demographic, economic, socio-cultural, technological, ecological and political factors Factores demográficos, económicos, socioculturales, tecnológicos, ecológicos y políticos
DIPRES	Chilean Budget Directorate Dirección de Presupuestos de Chile
DFL	Decree with Force of Law Decreto con Fuerza de Ley
DMP	Data Management Plan Plan de Gestión de Datos
DOM	Municipal Works Department Dirección de Obras Municipales
DS	Supreme Decree Decreto Supremo
EGIS	Social Real Estate Management Entities Entidades de Gestión Inmobiliaria Social

>>>

Abbreviation	Word full meaning in English and Spanish
ENHR	European Network for Housing Research Red Europea de Investigación en Vivienda
EP	Sponsoring Entity Entidad Patrocinante
FSEV	Housing Choice Solidarity Fund Fondo Solidario de Elección Vivienda
FUCVAM	Uruguayan Federation of Mutual Aid Housing Cooperatives Federación Uruguaya de Cooperativas de Vivienda por Ayuda Mutua
GN	Global North Norte Global
GS	Global South Sur Global
HREC	Human Research Ethics Committee Comité de Ética de la Investigación en Seres Humanos
LAC	Latin America and the Caribbean América Latina y el Caribe
MINVU	Ministry of Housing and Urbanism Ministerio de Vivienda y Urbanismo
MOI	Movement of Occupants and Tenants Movimiento de Ocupantes e Inquilinos
MPL	Movement of Settlers in Struggle Movimiento de Pobladores en Lucha
OGUC	General Ordinance on Urban Planning and Construction Ordenanza General de Urbanismo y Construcciones
PC	Small Condominiums Pequeños Condominios
PEH	Housing Emergency Plan Plan de Emergencia Habitacional
PET	Special Workers Program Programa Especial de Trabajadores
PNDU	National Urban Development Policy Política Nacional de Desarrollo Urbano
PQMB	Neighbourhood Regeneration 'I Like My Neighbourhood' Program Programa de Regeneración de barrios 'Quiero Mi Barrio de Mejoramiento de Barrios'
PRACAM	Self-construction and Mutual Help Program Programa de Autoconstrucción y Ayuda Mutua
RSH	Social Registry of Households Registro Social de Hogares
SDH	Social Deficit of Housing Deficit Social de Vivienda
SELVIHP	Latin American Secretariat for Popular Housing Secretaría Latinoamericana de Vivienda Popular
SEREMI	Regional Secretaries of the Ministry Secretaria Regional Ministerial
SERVIU	Housing and Urbanisation Services Servicios de Vivienda y Urbanización

Summary

In Chile, in response to a housing shortage that has persisted over the last decades, including habitability and quality issues, the government has formulated various housing policies and programs. Although these programs, based on social housing policies via subsidies, have been considered in the Latin American region as an example of addressing the quantitative deficit, or the number of homes needed for the existing population, they have also given rise to new housing challenges (Rodríguez & Sugranyes, 2005). These challenges include the lack of available and affordable housing for the existing population from a quantitative dimension and the lack of material quality and habitability conditions from a qualitative dimension. There are also challenges related to the distribution and location of homes that affect accessibility to services and urban amenities from the urban dimension. Furthermore, there are problems affecting the *social dimension of housing*, which refers to the non-physical aspects supported by the architecture that are necessary to allow its residents to live in close proximity and build social ties so that housing is considered adequate (Borja, 2018; Jarvis, 2015; Paidakaki & Lang, 2021). Some research attributes part of these challenges to demographic changes, such as population growth and migration. Population growth increases housing demand and could influence economic factors, such as an increase in housing prices, and construction material costs (Brain et al., 2010; CAF, 2022; MINVU et al., 2024; Rajagopal, 2023). This could lead to reduce access to finance for middle—and low-income households. Other studies attribute these challenges to the housing provision models and their economic approach focused on massive construction, which has been criticised for leading to commodifying housing, speculation on its prices and reduction of its quality (Angelcos & Pérez, 2017; Castillo & Hidalgo, 2007; Greene & Mora, 2020, P.155).

Faced with these challenges, in Latin American countries such as Chile, groups of inhabitants have shown interest in creating alternative housing options to conventional housing to address their needs. This can be seen in projects where groups of future residents have self-organised to produce a more collaborative alternative to mainstream housing to respond to part of these challenges under different motivations. Self-organisation in housing has been present in Chile for decades. For example, informally since the 1950s through *tomas de terreno* (land-takeovers), and the *Movimiento de Pobladores* from the 1960s and formally through housing committees for obtaining social housing and *vivienda progresiva*

(incremental housing) programs (Brain et al., 2010; Gilbert, 2008; MINVU, 2004). Currently, also there is some interest in these initiatives from resident groups, the government, and private actors such as the third sector and small-scale developers. So far, self-organisation in housing through collaborative processes has been conceptualised from a Global North perspective as *Collaborative Housing* (CH). CH is an alternative housing model in which inhabitants collectively produce their homes through collaborative processes with external stakeholders. Some research on CH argues that, unlike conventional housing, these initiatives have social characteristics that could address issues related to the social dimension of housing, such as promoting neighbourhood social cohesion, solidarity relationships, and social interactions (Fromm, 2012, P 364; McCamant, 1999). Hence, this dissertation arises from the hypothesis that CH could address social challenges of housing experienced by some Chilean families, which we label as the *'Social Deficit of Housing'* (SDH). We conceptualise the SDH as the lack of non-physical or intangible social characteristics experienced among project residents that make housing adequate, such as social cohesion, trust, and a sense of attachment, belonging and community.

However, although CH has been researched from the Global North perspective, these models and their potential have not yet been explicitly studied under this label in the Latin American or, more specifically, Chilean context. Moreover, housing alternatives to address issues related to the social dimension have received limited attention in academic research in Chile. This doctoral dissertation contributes to filling this gap in the Chilean context by exploring the potential implementation of *Collaborative Housing* (CH) in the single-case of Chile. This dissertation investigates the potential of CH models to contribute to tackling the *Social Deficit of Housing* in Chile, by conducting policy analysis, exploring the concept, its opportunities, and barriers to addressing the SDH, defining the implementation conditions, and proposing future scenarios, policy strategies, and recommendations to support long-term implementation of CH in Chile. The policy recommendations aim to enhance and strengthen CH governance and guide interested stakeholders in Chile and other similar urban contexts.

Research findings per study

This research seeks to answer the following question: **What Collaborative Housing models have the potential to address Chile's Social Deficit of Housing, and what conditions are favourable for their implementation?** To this end, we conducted four separate studies that together answered the main research question of this dissertation. Chapters 2 to 5 are the four studies that guide this research, and Studies 1 and 3 presented in Chapters 2 and 4 take the form of published peer-reviewed scientific articles. The first study presented in Chapter 2 historically explores housing policies in Chile and their approach to what we term the 'Social Deficit of Housing' (SDH). The second study proposes an analytical framework to distinguish CH from conventional housing. Applying it builds a timeline of housing initiatives and identifies possible (in)formal CH initiatives in Chile. The following Studies, 3 and 4, are multiple-case analyses of models and projects of CH. Study 3 empirically investigates the relationship between CH and SDH in two Chilean cases: the collective social housing *Maestranza* project and *pequeños condominios*. Finally, Study 4 proposes scenarios and policy strategies for three CH models in Chile. These models are *cooperativas de vivienda cerradas* (closed housing cooperatives), *pequeños condominios* (small condominiums) and *vivienda social colectiva* (collective social housing). Each study presents a different objective and a unique research design that answers the research sub-question addressed in each, which we summarise below.

Study 1 focuses on understanding Chile's housing provision system, housing policies, and housing deficit dimensions. This study first conceptualises the deficit from a multi-dimensional perspective by identifying four dimensions (quantitative, qualitative, urban, and social). It also carries out a historical review of Chilean housing policies and programs. Later, it conducts a policy analysis using an adapted framework of policy action classification proposed by Doling in 1997, including *Exhortation, Regulation, Taxation, Subsidy* and *Provision*, and two actions added for the Chilean case, *Deregulation* and *Partial Provision*. Finally, this study explores how each housing policy objective from 1906 onwards addressed each dimension of the housing deficit. The policy review findings show that despite government efforts, housing policies still lack structural changes and do not treat housing as a multi-dimensional phenomenon. Although some of the deficit's dimensions have been treated independently, the SDH has been sparsely addressed in policies and specific housing programs. The study recommends that housing policies consider including and strengthening the social dimension by creating participatory tools and exploring alternative models, such as CH, because they could help achieve a cohesive society and social sustainability. Thus, this study starts connecting the social dimension with CH and presents the underlying arguments for the following studies.

After exploring how the housing policies have addressed the deficit's dimensions, **Study 2**, through the lens of CH, explores the concept meaning, precedents and current CH initiatives. This study adapts the CH definition and proposes an analytical framework which defines the features that distinguish it from conventional housing and analysis variables. These framework variables are *Drivers and Motivations*, *Initiators, Financing, Tenure, Spatial features, Social organisation*, and *Collaboration and participation*. This framework is used to conduct a historical analysis of housing. Furthermore, through 63 interviews with residents, academics, officials, designers, developers and civil society professionals, this study sheds light on the main barriers and enablers CH models experience in their development. Study 2's outcomes suggest there are (in)formal initiatives that could be considered CH. Within the formal initiatives, we identified *cooperativas*, *vivienda colectiva*, and *pequeños condominios* as CH due to their features. We also found one informal initiative called *allegamiento*, which, when developed as a *co-residencia strategy*, has the potential to be identified as CH. Our findings also provide evidence of some interest in CH from residents' groups, the private sector, and the government. Although this recent interest might imply certain development opportunities for CH in Chile, this study's findings suggest that these initiatives are starting to develop and are a marginal phenomenon that faces barriers, including the lack of policies, regulations, and financing frameworks.

Study 3 is based on the hypothesis that CH could contribute to improve Chile's social dimension of housing. Thus, this study empirically explores CH's potential, opportunities, and limitations in addressing the SDH based on households' experience living in two case studies. To this end, it proposes a theoretical framework for CH, operationalising its four defining features: *drivers and motivations, collaboration, shared spaces,* and *joint activities*. In parallel, the social dimension and its indicators are defined*: Social networks, Social interactions, Interpersonal trust,* and a *Sense of community and attachment*. Also, it develops a conceptual model establishing theoretical assumptions about CH potential for the SDH, which is tested in *Maestranza* and *pequeños condominios* through 22 in-depth semi-structured interviews with academics, developers and residents. Study 3's empirical findings confirm the initial assumptions that CH reinforces and strengthens the social dimension compared to mainstream housing and, therefore, presents opportunities to tackle the SDH in Chile. In both cases, interviewee participants perceived that, despite some limitations, the projects' distinctive features influenced increased social aspects, such as networks, sociability and trust, encouraged social interactions, and reinforced their sense of community.

After finding in Study 3 that CH presents opportunities to tackle the SDH, the last study of this dissertation with a normative approach departs from the hypotheses that CH could have the potential to grow in Chile. Thus, **Study 4** investigates the possibilities of CH implementation by exploring possible future scenarios for three models and determining which model could present a development opportunity in this context. To this end, it applies the Delphi-based scenario mixed method technique and the four steps proposed by Nowack et al. (2011). The steps are *Framing,* performed by the researchers to identify analysis variables, and the stages of *Scanning*, *Forecasting* and *Visioning,* where the expert panel is included to comment, modify, and validate each proposal. Study 4, in three iterative rounds with 21 housing experts, proposes four scenarios and general and model-specific long-term policy strategies for *pequeños condominios, cooperativas de vivienda,* and *vivienda social colectiva*. In line with our assumption, Study 4's findings show that Scenario 2, which envisioned a collective-oriented society and stable economic context, presents Chile's most favourable conditions for CH. Scenario 3 is the least favourable, and Scenarios 1 and 4 are relatively unfavourable because they lack interest in CH or economic resources. We also found that *pequeños condominios* could prosper in most scenarios, regardless of the societal trend and economic context. Also, there are slight chances for *cooperativas* and *vivienda colectiva* in Scenarios 1, 2 and 3. Finally, Study 4 concludes that regardless of the possible scenario, the opportunity for CH to flourish in Chile would depend on creating housing programs, regulations, financing options, and promoting the models.

Main conclusions and implications

This dissertation explores *collaborative housing* as a central topic of study by defining its dimensions, characteristics, and analysis variables, as well as applying the concept to the single-country case of Chile. Thus, this research sheds light on CH models that can potentially develop in Chile. It also identifies the opportunities and constraints of these models in addressing the '*Social Deficit of Housing*'. In addition, it defines the conditions, plans possible scenarios and proposes strategies and policy recommendations to guide stakeholders in their implementation. The research employed a variety of methods, ranging from desk research and literature review to empirical studies, including case studies, historical studies, semi-structured interviews, Delphi questionnaires and scenario planning, to predict possible futures and policy implementation strategies.

This dissertation confirmed findings from earlier research (Arroyo et al., 2021; Fromm, 2012; Jarvis, 2015; Lang & Novy, 2014; Sørvoll & Bengtsson, 2018) that CH has features that differentiate it from mainstream housing, which could potentially address problems related to the social dimension of housing. CH is conceptualised as an umbrella term that includes self-organised and self-managed collective initiatives stemming from both grassroots and top-down approaches. Unlike mainstream housing, CH is characterised by future residents' motivation to live together in close proximity in these projects, collaborative processes in housing development at any project stage, including shared indoor or outdoor spaces, and residents regularly undertaking joint activities while living in the projects. This research shows that despite government efforts and the proposal of various housing programs, policies in the Chilean case study have scarcely addressed the *social dimension of housing*. Our findings show that CH can significantly strengthen this dimension, as perceived by the interviewees from the case studies investigated. This happens when future residents collaborate with external stakeholders, including public and private actors, such as local governments, non-profit organisations and professionals, to produce their homes. Also, having shared spaces, such as gardens, patios, kitchens, dining rooms and multi-use spaces, fosters sociability. In addition, the project's future residents have shared values about how they want to live in the projects, and after the delivery stage, they carry out shared activities, such as caregiving, eating together, and doing maintenance tasks.

Additionally, this research found evidence that collaborative processes around housing have been and continue to be present in both informal and formal housing initiatives in Chile. While the current presence of some emerging models shows some interest in CH from specific groups and actors, this interest remains marginal. According to this research, these initiatives currently face barriers to

their development, such as the lack of policies, regulations and financing. In line with this, our last study suggests that the most favourable conditions for CH models are those with a collective-oriented society and a stable economic context. However, the research also shows that, within the emerging formal initiatives, the *pequeños condominios* model, followed by *cooperativas de vivienda*, would be more likely to be implemented in Chile regardless of the country's social trend and economic stability. Finally, the research shows that, for any CH model to have opportunities for implementation in the Chilean context, changes will be necessary in policies, regulations, financing systems and model promotion. Furthermore, these models must be adapted to different local contexts through specific strategies for each model.

This dissertation provides scientific and practical knowledge. On the one hand, it contributes to theory development in the field of CH. Although CH research has grown in recent years, these models have received limited scientific attention in countries of the Global South and, more specifically, Latin America. Thus, to contribute to knowledge exchange and decentralisation towards a Southern epistemological approach, this research fills this scientific gap by exploring and adapting the CH concept to Chile as a single-country case. Therefore, it contributes to expanding and connecting knowledge between contexts by investigating conceptual and theoretical links, similarities and differences between initiatives. On the other hand, it contributes with practical research that, through exploring an alternative housing model, seeks to respond to some of the multi-dimensional housing problems that afflict Chile's population. Therefore, it conceptualises the housing dimensions and proposes indicators to begin discussing housing alternatives that could influence social cohesion and social sustainability in Chilean society. Finally, this dissertation's findings have derived a set of policy recommendations that can guide CH implementation in Chile. Together with the strategies proposed in Study 4, these recommendations provide guidelines for supporting stakeholders before, during, and after the housing delivery stage of projects and creating specific CH policies and housing programs.

TOC

Samenvatting

In Chili heeft de overheid, als reactie op een woningtekort dat al decennia aanhoudt, verschillende programma's en huisvestingsbeleid geformuleerd. Hoewel deze programma's, gebaseerd op sociaal woningbeleid via subsidies, in de Latijns-Amerikaanse regio worden beschouwd als een voorbeeld van het aanpakken van het kwantitatieve tekort, oftewel het benodigde aantal huizen voor de huidige bevolking, hebben ze ook geleid tot nieuwe uitdagingen in huisvesting (Rodríguez & Sugranyes, 2005). Deze uitdagingen omvatten het gebrek aan beschikbare en betaalbare woningen voor de bestaande bevolking vanuit een kwantitatieve dimensie en het gebrek aan materiële kwaliteit en bewoonbaarheid vanuit een kwalitatieve dimensie. Er zijn ook uitdagingen gerelateerd aan de distributie en locatie van woningen die de toegankelijkheid van diensten en stedelijke voorzieningen vanuit de stedelijke dimensie beïnvloeden. Verder zijn er problemen die de sociale dimensie in huisvesting beïnvloeden, die betrekking hebben op de niet-fysieke aspecten ondersteund door architectuur die nodig zijn voor bewoners om in nabijheid te wonen en voldoende sociale banden op te bouwen zodat huisvesting als adequaat wordt beschouwd (Borja, 2018; Jarvis, 2015; Paidakaki & Lang, 2021). Sommige studies schrijven deze uitdagingen toe aan demografische veranderingen, zoals bevolkingsgroei en migratie. Deze bevolkingsgroei vergroot de vraag naar huisvesting en kan economische factoren beïnvloeden, zoals huizenprijzen en bouwkosten (Brain et al., 2010; CAF, 2022; MINVU et al., 2024; Rajagopal, 2023). Dit kan weer leiden tot ongelijke toegang tot huisvesting voor lage- en middeninkomens. Andere studies schrijven deze uitdagingen toe aan huisvestingsmodellen en hun op massaproductie gebaseerde benadering, die bekritiseerd is vanwege het leiden tot commodificatie van huisvesting, speculeren met huizenprijzen en het verminderen van de kwaliteit (Angelcos & Pérez, 2017; Castillo & Hidalgo, 2007; Greene & Mora, 2020, P.155).

Geconfronteerd met deze uitdagingen hebben verschillende groepen inwoners in Latijns-Amerikaanse landen zoals Chili interesse getoond in het creëren van alternatieve huisvestingsopties om aan hun behoeften te voldoen. Dit is te zien in projecten waar groepen van toekomstige bewoners zichzelf hebben georganiseerd voor een meer collaboratief alternatief voor reguliere huisvesting om een deel van deze uitdagingen aan te pakken vanuit verschillende motivaties. Zelforganisatie in huisvesting is decennia aanwezig in Chili, zowel informeel sinds 1950 in *tomas de terreno* (landovernames) en de *Movimiento de Pobladores* (Beweging van Kolonisten) vanaf 1960 de formeel in huisvestingscomités voor het verkrijgen

van sociale huisvesting en *vivienda progresiva* (incrementele huisvesting) (Brain et al., 2010; Gilbert, 2008; MINVU, 2004). Er is momenteel ook interesse in deze initiatieven van enkele bewonersgroepen, de overheid en particuliere actoren zoals de derde sector en kleinschalige ontwikkelaars. Deze zelforganisatie in huisvesting via collaboratieve processen is vanuit het Mondiaal Noorden geconceptualiseerd als *Collaborative Housing* (*collectief wonen*). Collectief wonen is een alternatief huisvestingsmodel waarin bewoners gezamenlijk hun woningen produceren via samenwerkingsprocessen met externe belanghebbenden. Sommige onderzoeken naar collectief wonen betogen dat deze initiatieven, in tegenstelling tot conventionele huisvesting, sociale kenmerken hebben die problemen in de sociale dimensie van huisvesting zouden kunnen adresseren, zoals het bevorderen van sociale cohesie in de buurt, solidariteitsrelaties en sociale interacties (Fromm, 2012, P 364; McCamant, 1999). Daarom volgt dit proefschrift uit de hypothese dat collectief wonen de sociale uitdagingen in de huisvestingservaring die ervaren worden door sommige Chileense families kan aanpakken, hetgeen wij het *'Sociale tekort in huisvesting'* noemen. We conceptualiseren dit sociale tekort in huisvesting als het ontbreken van niet-fysieke of ontastbare sociale eigenschappen ervaren door inwoners van projecten die huisvesting adequaat maken, zoals sociale cohesie, vertrou-wen en een gevoel van verbinding en gemeenschap.

Hoewel collectief wonen vooral is onderzocht vanuit het perspectief van het Globale Noorden, zijn deze modellen en hun potentieel nog niet expliciet bestudeerd onder dit label in de Latijns-Amerikaanse of, specifieker, Chileense context. Bovendien hebben huisvestingsalternatieven om kwesties aan te pakken die verband houden met de sociale dimensie, beperkte aandacht gekregen in academisch onderzoek in Chili. Dit doctorale proefschrift draagt bij aan het opvullen van deze leemte door de potentiële implementatie van collectief wonen in Chili te onderzoeken. Dit onderzoek beschouwt ook de het potentieel van collectieve huisvestingsmodellen om bij te dragen aan het aanpakken van wat we het *'Sociale tekort in huisvesting'* noemen in Chili, door het uitvoeren van beleidsanalyse, het concept te onderzoeken, de mogelijkheden en obstakels van het aanpakken van de problematiek, de voorwaarden, mogelijke scenario's, algemene en specifieke strategieën en aanbevelingen om de implementatie van collectief wonen in Chili te begeleiden. De beleidsaanbevelingen, kunnen helpen het bestuur van collectieve huisvestingsmodellen te versterken en dienen als leidraad voor de geïnteresseerde belanghebbenden van de onderzoekscasus en andere stedelijke contexten met vergelijkbare kenmerken.

Onderzoeksresultaten per studie

Dit onderzoek zoekt naar een antwoord op de vraag: ***Welke collectieve huisvestingsmodellen hebben het potentieel om bij te dragen aan het oplossen van het sociale tekort in huisvesting in Chili, en welke voorwaarden zijn gunstig voor implementatie?*** Hiervoor hebben we vier afzonderlijke studies uitgevoerd die samen de belangrijkste onderzoeksvraag van dit proefschrift beantwoorden. Hoofdstukken 2 tot en met 5 zijn de vier studies waar dit onderzoek uit bestaat, en studies 1 en 3 die in hoofdstukken 2 en 4 worden gepresenteerd, betreffen gepubliceerde wetenschappelijke artikelen. De eerste studie, die in hoofdstuk 2 wordt gepresenteerd, onderzoekt de historie van het huisvestingsbeleid in Chili en de benadering van het sociale tekort in huisvesting. De tweede studie stelt een analytisch raamwerk voor om collectief wonen te onderscheiden van conventionele huisvesting. Door dit raamwerk toe te passen, wordt een tijdlijn van huisvestingsinitiatieven opgebouwd en worden mogelijke (in)formele collectieve huisvestingsinitiatieven in Chili geïdentificeerd. De volgende studies, 3 en 4, zijn analyses van meerdere collectieve huisvestingsmodellen en -projecten. Studie 3 onderzoekt empirisch de relatie tussen collectief wonen en het sociale tekort in huisvesting in twee Chileense cases: het collectieve sociale huisvestingsproject *Maestranza* en *pequeños condominios* (kleine appartementencomplexen). Tot slot stelt studie 4 scenario's en beleidsstrategieën voor, voor drie collectieve huisvestingsmodellen in Chili. Deze modellen zijn *cooperativas de vivienda cerradas* (gesloten wooncoöperaties), *pequeños condominios* (kleine appartementencomplexen) en *vivienda social colectiva* (collectieve sociale huisvesting). Elke studie heeft een ander doel en onderzoeksontwerp dat antwoord geeft op de betreffende onderzoekssubvraag, hieronder samengevat.

Studie 1 richt zich op het begrijpen van het huisvestingssysteem, huisvestingsbeleid en dimensies van het huisvestingstekort in Chili. Deze studie conceptualiseert het tekort eerst vanuit een multidimensionaal perspectief door vier dimensies te identificeren (kwantitatief, kwalitatief, stedelijk en sociaal). Het geeft ook een historisch overzicht van het Chileense huisvestingsbeleid en programma's. Hierna wordt een beleidsanalyse uitgevoerd met behulp van een aangepast raamwerk van beleidsactieclassificatie voorgesteld door Doling in 1997, inclusief *aansporing, regulering, belasting, subsidie en voorziening*, en twee toegevoegde acties voor de Chileense casus, *deregulering* en *gedeeltelijke voorziening*. Tot slot onderzoekt deze studie hoe elk huisvestingsbeleid vanaf 1906 elke dimensie van het huisvestingstekort aanpakte. De bevindingen laten zien dat ondanks de inspanningen van de overheid, het huisvestingsbeleid nog steeds structurele veranderingen mist en huisvesting niet behandelt als een multidimensionaal fenomeen. Hoewel sommige dimensies van het tekort wel onafhankelijk zijn behandeld, is het sociale tekort

slechts spaarzaam aangepakt in beleid en huisvestingsprogramma's. De studie beveelt aan dat huisvestingsbeleid overweegt de sociale dimensie op te nemen en te versterken door participatieve gereedschappen te creëren en alternatieve modellen te verkennen, zoals collectief wonen, omdat deze vormen kunnen helpen een samenhangende samenleving en sociale duurzaamheid te bereiken. Zodoende verbindt deze studie de sociale dimensie met collectief wonen en presenteert het de onderliggende argumenten voor de volgende studies.

Na te hebben onderzocht hoe het huisvestingsbeleid de dimensies van het tekort heeft aangepakt, onderzoekt **Studie 2**, door de lens van collectief wonen, de betekenis van het concept, precedenten en huidige initiatieven. Deze studie past de definitie van collectief wonen aan en stelt een analytisch raamwerk voor dat de kenmerken en analysevariabelen definieert die het onderscheiden van conventionele huisvesting. Deze raamwerkvariabelen zijn *Drijfveren en Motivaties*, *Initiatief*, *Financiering*, *Bezit*, *Ruimtelijke kenmerken*, *Sociale organisatie* en *Samenwerking en participatie*. Dit raamwerk wordt gebruikt om een historische analyse van huisvesting uit te voeren. Bovendien werpt deze studie, door middel van 63 interviews met bewoners, academici, ambtenaren, ontwerpers, ontwikkelaars en professionals, licht op de belangrijkste barrières en enablers die collectieve huisvestingsmodellen ervaren in hun ontwikkeling. De uitkomsten van Studie 2 suggereren dat er (in) formele initiatieven zijn die als collectieve huisvesting kunnen worden beschouwd. Binnen de formele initiatieven identificeerden we *cooperativas* (coöperaties), *vivienda colectiva* (collectieve huisvesting) en *pequeños condominios* (kleine appartementencomplexen) als collectief wonen vanwege hun kenmerken. We vonden ook een informeel initiatief genaamd *allegamiento*, dat, wanneer ontwikkeld als een *co-residencia*-strategie (co-residentie), het potentieel heeft om te worden geïdentificeerd als collectief wonen. Onze bevindingen leveren ook bewijs van enige interesse in collectief wonen van groepen bewoners, de particuliere sector en de overheid. Hoewel deze recente interesse bepaalde ontwikkelingsmogelijkheden voor collectief wonen in Chili zou kunnen impliceren, suggereren de bevindingen van deze studie dat deze initiatieven slechts in begin van ontwikkeling en een marginaal fenomeen zijn dat te lijdt onder barrières, waaronder het gebrek aan beleid, regelgeving en financieringskaders.

Studie 3 is gebaseerd op de hypothese dat collectief wonen zou kunnen bijdragen aan het verbeteren van de sociale dimensie van huisvesting in Chili. Daarom onderzoekt deze studie empirisch het potentieel, de kansen en beperkingen van collectief wonen bij het aanpakken van de sociale dimensie van het tekort op basis van de ervaringen van huishoudens die in twee casestudies wonen. Om dit doel te bereiken, stelt het een theoretisch kader voor, dat de vier bepalende kenmerken van collectief wonen operationeel maakt: *drijfveren en motivaties, samenwerking,*

gedeelde ruimtes en *gezamenlijke activiteiten*. Tegelijkertijd worden de sociale dimensie en de indicatoren ervan gedefinieerd: sociale netwerken, sociale interacties, interpersoonlijk vertrouwen en een gevoel van gemeenschap en gehechtheid. Ook ontwikkelt het een conceptueel model dat theoretische aannames vastlegt over het potentieel van collectief wonen voor het sociale tekort, dat wordt getest in *Maestranza* en *pequeños condominios* door middel van 22 diepgaande semi-gestructureerde interviews met academici, ontwikkelaars en bewoners. De empirische bevindingen van Studie 3 bevestigen de initiële aannames dat collectief wonen de sociale dimensie versterkt in vergelijking met reguliere huisvesting en daarom kansen biedt om het sociale tekort in Chili aan te pakken. In beide gevallen ervaarden de geïnterviewde deelnemers dat, ondanks enkele beperkingen, de onderscheidende kenmerken van de projecten de sociale aspecten zoals netwerken, gezelligheid en vertrouwen positief beïnvloedden, sociale interacties aanmoedigden en hun gevoel van gemeenschap versterkten.

Na de bevinding in Studie 3 dat collectief wonen kansen biedt om het sociale tekort in huisvesting aan te pakken, neemt de laatste studie van dit proefschrift met een normatieve benadering de hypothese aan dat collectief potentieel zou kunnen hebben om te groeien in Chili. Daarom onderzoekt **Studie 4** de mogelijkheden van implementatie van collectief wonen door mogelijke toekomstige scenario's voor drie modellen te verkennen en te bepalen welk model in deze context een kans op ontwikkeling zou kunnen hebben. Hiervoor worden de op Delphi gebaseerde mixed-method scenario-techniek en de vier stappen voorgesteld door Nowack et al. (2011) toegepast. De stappen zijn *Framing*, uitgevoerd door de onderzoekers om analysevariabelen te identificeren, en *Scannen*, *Voorspellen* en *Visievorming*, waarbij het deskundigenpanel wordt betrokken om elk voorstel te becommentariëren, te wijzigen en te valideren. Studie 4 stelt vier scenario's en algemene en modelspecifieke langetermijnbeleidsstrategieën voor in drie iteratieve ronden met 21 huisvestingsexperts, voor *pequeños condominios*, *cooperativas de vivienda* en *vivienda social colectiva*. In lijn met onze aanname laten de bevindingen van Studie 4 zien dat Scenario 2, een collectief georiënteerde samenleving en een stabiele economische context, de meest gunstige omstandigheden voor collectief wonen in Chili zijn. Scenario 3 is het minst gunstig en Scenario's 1 en 4 zijn relatief ongunstig omdat er geen interesse is in collectief wonen of geen economische middelen voor handen zijn. We ontdekten ook dat *pequeños condominios* in de meeste scenario's kunnen floreren, ongeacht de maatschappelijke trend en economische context. Ook zijn er kleine kansen voor *cooperativas* en *vivienda colectiva* in Scenario's 1, 2 en 3. Tot slot concludeert Studie 4 dat, ongeacht het mogelijke scenario, de kans voor collectief wonen om in Chili te floreren afhankelijk zou zijn van het creëren van huisvestingsprogramma's, regelgeving, financieringsopties en het promoten van de modellen.

Belangrijkste conclusies en implicaties

Dit proefschrift onderzoekt collectief wonen als een centraal onderwerp van studie door de dimensies, kenmerken en analysevariabelen ervan te definiëren, en het concept toe te passen op één land, Chili. Daarmee werpt dit onderzoek licht op collectieve huisvestingsmodellen die zich mogelijk in Chili kunnen ontwikkelen. Het identificeert ook de kansen en beperkingen van deze modellen door problemen in het *'Sociale tekort van huisvesting'* aan te pakken. Daarnaast definieert het de voorwaarden, plant het mogelijke scenario's en stelt het strategieën en beleidsaanbevelingen voor om belanghebbenden te begeleiden bij de implementatie. Dit onderzoek gebruikt verschillende methodes, van bureaustudie en literatuuronderzoek, tot empirische studies, waaronder casestudies, historische studies, semi-gestructureerde interviews, Delphi-vragenlijsten en scenarioplanning, om mogelijke toekomsten en strategieën voor beleidsimplementatie te voorspellen.

Dit proefschrift bevestigt de uitkomsten van eerder onderzoek (Arroyo et al., 2021; Fromm, 2012; Jarvis, 2015; Lang & Novy, 2014; Sørvoll & Bengtsson, 2018), dat collectief wonen kenmerken heeft die het onderscheiden van reguliere huisvesting die mogelijk problemen met betrekking tot de sociale dimensie van huisvesting kunnen aanpakken. Collectief wonen is geconceptualiseerd als een overkoepelende term die zowel zelfgeorganiseerde en zelfbeheerde bottom-up als top-down initiatieven omvat. Anders dan conventionele huisvesting, wordt collectief wonen gekarakteriseerd door de motivatie van toekomstige bewoners om in nabijheid te wonen met andere bewoners, collaboratieve processen in de ontwikkeling in verschillende projectfases, het toepassen van gemeenschappelijke ruimtes zowel binnen als buiten, en het regelmatig ondernemen van gemeenschappelijke activiteiten door de bewoners. Dit onderzoek toont aan dat, ondanks pogingen van de overheid en verschillende huisvestingsprogramma's, de sociale dimensie van huisvesting nauwelijks beschouwd is door beleid in Chili. Onze bevindingen tonen aan dat, volgens de ervaringen van de geïnterviewden in de case studies, collectief wonen de sociale dimensie van huisvesting aanzienlijk kan versterken. Dit gebeurt wanneer toekomstige bewoners samenwerken met externe actoren, zowel publiek als privaat, zoals lokale overheden, non-profit organisaties en experts, om hun huisvesting te produceren. Ook het hebben van gedeelde ruimtes zoals tuinen, keukens, eetzalen en multifunctionele ruimtes bevordert gezelligheid. Daarnaast hebben toekomstige bewoners van het project gedeelde waarden over hoe ze in de projecten willen leven, en voeren na de opleveringsfase gedeelde activiteiten uit, zoals zorg verlenen, samen eten en onderhoudstaken.

Bovendien vond dit onderzoek bewijs dat samenwerkingsprocessen rond huisvesting aanwezig zijn in zowel informele als formele huisvestingsinitiatieven in Chili.

Hoewel de huidige aanwezigheid en opkomst van enkele modellen aantoont dat er enige interesse is in collectief wonen van specifieke groepen en actoren, blijft deze interesse marginaal. Volgens dit onderzoek ondervinden deze initiatieven momenteel barrières bij hun ontwikkeling, zoals het gebrek aan beleid, regelgeving en financiering. In lijn hiermee suggereert onze laatste studie dat de meest gunstige omstandigheden voor collectieve huisvestingsmodellen die zijn met een collectief georiënteerde samenleving en een stabiele economische context. Het onderzoek toont echter ook aan dat binnen de opkomende formele initiatieven het *pequeños condominios*-model, gevolgd door *cooperativas de vivienda*, waarschijnlijker in Chili zal worden geïmplementeerd, ongeacht de sociale trend en economische stabiliteit van het land. Tot slot toont het onderzoek aan dat, om een CH-model kansen te bieden voor implementatie in de Chileense context, veranderingen nodig zullen zijn in beleid, regelgeving, financieringssystemen en promotie van deze vormen. Bovendien moeten deze modellen worden aangepast aan verschillende lokale contexten door middel van specifieke strategieën voor elk model.

Dit proefschrift biedt wetenschappelijke en praktische kennis. Enerzijds draagt het bij aan de ontwikkeling van theorie in het veld van collectief wonen. Hoewel onderzoek naar collectief wonen de afgelopen jaren is gegroeid, hebben deze modellen beperkte wetenschappelijke aandacht gekregen in landen in het Mondiale Zuiden en, meer specifiek, Latijns-Amerika. Dus, om bij te dragen aan de kennisuitwisseling en decentralisatie naar een zuidelijke epistemologische benadering, vult dit onderzoek deze wetenschappelijke leemte door het collectief wonen-concept te onderzoeken en aan te passen aan Chili. Daarmee draagt het bij aan het uitbreiden en verbinden van kennis tussen contexten door conceptuele en theoretische verbanden, overeenkomsten en verschillen tussen initiatieven te onderzoeken. Aan de andere kant draagt het bij met praktisch onderzoek dat, door een alternatief huisvestingsmodel te verkennen, probeert te reageren op enkele van de multidimensionale huisvestingsproblemen die een deel van de populatie van Chili treffen. Daarom conceptualiseert dit proefschrift de dimensies van huisvesting en stelt het indicatoren voor om te beginnen met het analyseren van huisvestingsalternatieven die sociale cohesie en sociale duurzaamheid kunnen beïnvloeden in de Chileense samenleving. Tot slot hebben de bevindingen van dit proefschrift geleid tot een reeks beleidsaanbevelingen die de implementatie van collectief wonen in Chili kunnen begeleiden. Samen met de strategieën die in Studie 4 zijn voorgesteld, bieden deze aanbevelingen richtlijnen voor het ondersteunen van belanghebbenden vóór, tijdens en na de oplevering van huisvesting van projecten en het creëren van specifiek collectief wonen-beleid en programma's.

TOC

PART I

Introduction

TOC

1 Introduction

In recent decades, societal and academic interest in researching new housing alternatives worldwide has sparked due to the housing shortage, societal challenges and the lack of affordability (BID, 2018; Greene & Mora, 2020; Rajagopal, 2023; UN-Habitat, 2019). These housing challenges are multi-dimensional and include physical quality, location, access to urban amenities, and the social dimension of housing (Brain & Sabatini, 2008; Garay et al., 2020; Paidakaki & Lang, 2021; Rodríguez & Sugranyes, 2005). In *Latin America and the Caribbean* (LAC) countries, many governments have formulated different housing policies and programs to develop housing alternatives to respond to some of these challenges. Most of these policy approaches have focused on building a large number of homes per government period to address the deficit quantitively and gradually improve the homes' physical quality (Greene & Mora, 2020; ONU-Habitat, 2015). In LAC, around 120 million people, or approximately 23 people per 100, lived in inadequate or informal housing by 2022 (CAF, 2022). Within the LAC region, the Chilean case is not alien to these challenges, where scholars attribute this housing deficit to economic and demographic factors such as population growth, migration and rising costs of construction materials (CAF, 2022; Ducci, 1997; Fuster-Farfán, 2021; MINVU et al., 2024). The quantitative housing deficit in Chile decreased to its historical low at the end of the 1990s and began to increase with the 'qualitative turn' of the 2000s. This deficit reached 641,421 homes in 2021 and is expected to increase to 750,000 in 2025 (Déficit Cero, 2022; Durán, 2024; Fuster-Farfán, 2021).

Similarly to other LAC countries, the Chilean government has pioneered the implementation of a series of social housing policies based on subsidies as an alternative to respond to the deficit since the 1970s (Ducci, 1997; Fuster-Farfán, 2021; Gilbert, 2002, 2008; Simian, 2010). Under this approach, the State delegates housing production functions to private real estate (Angelcos & Pérez, 2017; Hidalgo et al., 2016). This approach to housing production, due to its focus on solving the growing deficit quantitatively, was considered an example and replicated or imported to other LAC countries, such as Mexico, Argentina, Brazil, Colombia and Peru (Greene & Mora, 2020; Lentini, 2005; Monkkonen, 2018). However, as it focused on building a large mass of homes from a quantitative perspective and economic approach, it was criticised by some academics as it led to inadequate housing and the emergence of challenges linked to the physical quality

of housing and its environment (Borja, 2018; Castillo, 2014; Rodríguez et al., 2018). The authors stated that beyond obtaining a material home, this approach neglected some housing aspects and affected housing's physical quality, affordability, location, and social dimension (Brain & Sabatini, 2008; Rodríguez & Sugranyes, 2005). The latter refers to the non-physical or intangible aspects necessary for adequate housing, which allow its residents to live together and build social bonds, trust, social cohesion, and attachment to neighbourhoods and homes (Borja, 2018; Paidakaki & Lang, 2021).

Scholars in the built environment refer to this 'social dimension of housing' as one of the dimensions to consider to achieve housing and urban social sustainability (Dempsey et al., 2011; Dixon & Woodcraft, 2013; Eizenberg & Jabareen, 2017; Shirazi & Keivani, 2017). The social dimension of housing refers to the non-physical social structures of communities at the housing and local neighbourhood scale, including non-physical factors such as inclusion, social capital, social networks, and social interactions that contribute to community sustainability (Dempsey et al., 2011; Shirazi & Keivani, 2017). Specifically, studies in LAC countries have suggested that some socio-geographic problems negatively affect this social dimension. At the macro-urban scale, problems such as city fragmentation and residential segregation, as well as some housing programs, have influenced the (un) forced eradication of low— and medium-income families in the city's peripheries (Borsdorf, 2014; Sabatini, 2006). At the local scale, the distribution and location of housing has often led to the lack of accessibility to urban amenities, feelings of social exclusion and isolation, and the lack of inhabitants' neighbourhoods' social cohesion (Greene & Mora, 2020; Hidalgo & Borsdorf, 2005; Hölzl, 2018; Turner et al., 1985; Wormald & Sabatini, 2013). In this research, we conceptualise this combination of social challenges of housing as the *Social Deficit of Housing* (SDH). The SDH, refers to the lack of non-physical or intangible social aspects experienced among project residents, such as the lack of interpersonal trust, social cohesion, networks and interactions, and a sense of community, identity and belonging between residents, necessary for housing to be considered adequate.

In other parts of the world faced with some of these societal challenges, such as Global North countries, groups of inhabitants have self-organised to provide new housing alternatives, motivated by different reasons ranging from pragmatic to idealistic (Czischke et al., 2023; Lang et al., 2020). Researchers conceptualise these collective, participatory and self-organised housing provision initiatives as *Collaborative Housing* (CH) (Czischke et al., 2020, 2021; Fromm, 2012). CH research suggests that these initiatives could help strengthen the *Social Dimension of Housing* due to its features, which include a high level of stakeholder collaboration that transcends the project delivery stage, community life, and shared spaces to socially

interact (Carrere et al., 2020; Coudroy, 2015; Fromm, 2012; Lang et al., 2020; Lang & Novy, 2014; Sørvoll & Bengtsson, 2018). Also, this self-organisation has been present in LAC and Chile, informally through *tomas de terreno* (land-takeovers) from the 1950s, *campamentos* (camps), and the Movimiento de Pobladores en Lucha (settler movement in struggle) from the 1960s. Formally, it has been present through the same settlers movement, which aimed to develop collective social housing and some incremental housing programs, where housing is built in stages by the government and families (Brain et al., 2010; Giannotti & Schmeisser, 2021; Gilbert, 2008; MINVU, 2004). Currently, Chilean policies, future residents and private actors, such as developers and NGOs, have also shown interest in developing CH, such as *pequeños condominios, cooperativas de vivienda,* and *collective housing projects* (MINVU, 2022b). However, although some models could be identified as CH in Chile and some scholars have focused on them (Ruiz-Tagle et al., 2021; Vergara et al., 2019), these initiatives as potential alternative housing models that could address problems affecting the *social dimension of housing* and the SDH have received limited academic attention.

Thus, this dissertation takes a two-fold approach. Firstly, it investigates the hypothesis that *Collaborative Housing* (CH), due to its distinguishing features, could contribute to reducing the *Social Deficit of Housing* (SDH) present in the Chilean context. To this end, it theoretically and empirically investigates the opportunities and limitations of existing CH models in addressing the SDH. Secondly, this dissertation investigates the potential of these CH models to be developed in Chile in the long term by exploring housing policies and precedents, barriers and enablers for implementation, identifying implementation conditions, and proposing scenarios, policy strategies and recommendations to help strengthen the governance and support stakeholders interested in these models. These policy strategies and recommendations address future residents and external stakeholders such as policymakers, central, regional and local governments, and private actors such as small-scale developers and not-for-profit organisations facing challenges in accessing financing, social support, and lack of technical capacity and resources for CH development. This introductory chapter is structured in five sub-sections. Section 1.1 of the conceptual framework introduces the concepts and theories central to this dissertation. Section 1.2 defines the research and presents the problem formulation, the research gap and assumptions, objectives, and research questions. Then, Section 1.3 presents the philosophy and paradigm, research approaches and data collection, methodological choices and data management, and research and validation strategies adopted in this research. This section also explains the geographic scope and selection of the case studies. Thereafter, Section 1.4 describes this research's expected societal and scientific impact. Finally, Section 1.5 presents the outline of the thesis.

1.1 Conceptual framework: the social dimension of housing and collaborative housing

Housing influences the inhabitants' quality of life through physical and non-physical characteristics. This is because the spatiality and location of housing impact the environment in which social relationships between residents and their families and neighbours are built, both at a local and urban scale (Khatibi, 2022; Pasca, 2014; Williams, 2005). Some researchers recognise that housing to be considered adequate is composed of both physical dimensions and a 'social architecture', 'soft infrastructure' or 'non-physical' dimension experienced when social ties are built (Borja, 2018; Jarvis, 2015; Paidakaki & Lang, 2021). However, in Chile, the social dimension of housing is generally not formally considered a component in the housing provision system, public policies, and academic literature. International research shows that *Collaborative Housing* (CH), due to its characteristics and features, could be a possible alternative that can influence the creation of a 'strong social dimension of housing' (Arroyo et al., 2021; Fromm, 2012; Sørvoll & Bengtsson, 2018; Williams, 2005). This implies that residents may experience a higher sense of belonging (McCamant, 1999), social cohesion, bonding social capital (Bresson & Labit, 2019; Lang & Novy, 2014) and a sense of security (Carrere et al., 2020).

In this context, the hypotheses and assumptions guiding this dissertation are first, that *collaborative housing* could contribute to tackling the *social deficit of housing* in the Chilean case, and second, that it could potentially grow and be implemented in Chile. The challenge of this research lies in applying the concept of CH to the Chilean context, identifying its dimensions, and researching the collective self-organised housing initiatives that have been developed historically and currently in Chile. Another challenge is investigating the relationship between the concept of social dimension and collaborative housing and the opportunities and limitations of CH in facing the *Social Deficit of Housing*. An additional challenge is identifying possible scenarios in which the Chilean context becomes favourable to implementing Collaborative Housing and proposing strategies for its implementation. Thus, the following sub-sections conceptualise the social dimension of housing, the social deficit of housing, and collaborative housing concepts. Finally, the theoretical streams of arguments found in the literature on collaborative housing and its potential to strengthen and address issues of the social dimension of housing are discussed.

1.1.1 The social dimension and the social deficit of housing

'Housing' is a complex concept that has had different definitions over time due to the large number of variables involved, including physical, personal and social aspects (Amérigo & Pérez-López, 2010; Pasca, 2014; Rugiero, 2000; Sixsmith, 1986). Rugiero (2000), based on Merton's (1963) sociology of housing perspective, defines housing as a physical structure that satisfies 'some' of the cultural, social and biological needs of families and the consequences on the social life of its residents. Thus, he proposes an ideal guideline for *'adequate housing'* (Rugiero, 2000). In line with this, some academics suggest that housing is considered adequate when it fulfils different functions for its residents (Dabove, 2019; Guity Zapata & Stone, 2022; Rugiero, 2000). Under this conception, Dabove (2019) states that housing is first constituted as a 'house' from a material assessment as a habitable enclosed space. Second, from a symbolic assessment, housing is a 'home' where affective and biographical meanings are given. Finally, from its functionality that conditions the development of life, it is constituted as a 'habitat', which includes roots in the neighbourhood, intimacy, affective relationships, and contact with family and neighbours.

In line with this, Borja (2018) states 'that housing is much more than housing' and that it is the place where residents build social ties, live together, and access citizenship. In line with this argument, Pasca (2014) recognises that housing is also composed of a *social dimension*, which interviewees in their empirical study recognise as the most important. Based on the presented ideas, 'housing', in addition to being a physical place, is a component of the social infrastructure composed of the natural or built environment that surrounds people and its residents. 'Housing' is a social concept that relates the actions occurring in the place to the conceptions that its residents have of it (Jarvis, 2015). This social place refers to housing and its spatiality as a platform and extension of the family nucleus with different degrees of privacy that facilitate and support residents' social relationships and impact their quality of life (Pasca, 2014). This spatiality refers to the (shared) spaces in the home where residents can carry out their daily activities, the built environment and the neighbourhood where the home is located. These are the places in their homes and neighbourhoods at the local scale, where the inhabitants can socially interact, communicate and get to know each other (Amérigo & Pérez-López, 2010; Pasca, 2014; Williams, 2005).

In Chile, part of the social value of housing was recognised in the 1990s using the term 'social interest housing', which connotes a sense of solidarity and a desire for equal opportunities (Rugiero, 2000). Fuster-Farfán (2021) points out that since the 2000s, Chilean policies have had a 'qualitative' turn focused on solving habitability problems and housing material quality. This has mainly addressed the quantitative deficit and has neglected, for example, the *social dimension of housing*

(Borja, 2018; Garay et al., 2020; Rodríguez & Sugranyes, 2005). This research focuses on what we conceptualise as the '*Social Dimension of Housing'*. The social dimension refers to the social architecture or non-physical aspects and the design and environment necessary for housing to be considered adequate (Borja, 2018; Paidakaki & Lang, 2021). This dimension considers aspects of habitability, such as a home's shared spaces and their effect on its inhabitants' quality of life and relationships beyond its physical characteristics. It also considers the ability of the home's design to be 'socially sustainable'. The latter refers to housing as a built environment that promotes well-being and considers residents' needs through spaces that allow them to interact, build bonds and provide them with privacy and security (Alaie et al., 2022; Eizenberg & Jabareen, 2017; Janssen et al., 2021). The social dimension in housing encompasses indicators of *social sustainability* (Dixon & Woodcraft, 2013; Shirazi & Keivani, 2017) and *quality of life* that includes cohesion, inclusion and social capital, self-determination, interpersonal relationships and a sense of community (Barranco et al., 2010; Cerreta & La Rocca, 2021; Dempsey et al., 2011; Rolfe et al., 2020).

In this dissertation, based on a policy review by Cortés-Urra et al. (2023), we define the four leading indicators that compose the social dimension of housing (See full definitions in section 4.2.3 and Figure 4.3).

- **Social Networks (bonding social capital, contacts and networks):** Social ties between families and neighbours who share similar demographic characteristics within a group (Bram, 2010; Méndez et al., 2021; Woolcock, 2002).
- **Social interactions (sociability):** Everyday encounters, conversations and activities shared amongst members of the community (Goodchild, 2000; Williams, 2005).
- **Interpersonal trust (Solidarity or social support, strong ties):** The degree of solidarity, social support, and trust between people living in a community (CEPAL, 2022; Méndez et al., 2021).
- **Sense of community and attachment (cultural adaptation, sense of belonging and identity, physical rootedness):** The extent to which residents adapt and identify themselves as belonging to a place or a community (Méndez et al., 2021; ONU-Habitat, 2015; Rodríguez et al., 2018).

Shortcomings related to these indicators of the social dimension of housing is what we conceptualise as the *Social Deficit of Housing* (SDH). It refers to the lack of the abovementioned social characteristics among project residents, which are necessary for housing to be considered adequate. The SDH could occur or be perceived for a variety of reasons, including, but not limited to, the location of homes and residents' lack of accessibility to their social networks and urban amenities at the macro scale, the lack of adequate urban spaces to socially interact at the neighbourhood or local scale, and the lack of adequate spaces in homes to interact with family or neighbours at the micro-scale.

In the academic literature, from a habitability paradigm perspective, some authors emphasise the importance of investigating the person's relationship with the space they inhabit and how it is inhabited (de Hoyos & Albarrán, 2022). Rolfe et al. (2020) argue that housing is more than a shelter; it influences residents' social well-being and health. For example, it influences access to drinking water or mental health due to the security it represents, the feeling of status and the quality it provides to their environment. Rolfe et al. (2020) conclude in their research that when the housing experience is positive, residents are likely to perceive an improvement or maintenance of their health and well-being. Dewilde (2022) claims that housing can address social justice and inclusion, life satisfaction, and affordability by guaranteeing access and considering the needs of inhabitants from different socioeconomic groups. Likewise, Cerreta and La Rocca (2021) suggest that housing can contribute to transforming and regenerating communities by empowering its residents and increasing the possibilities of social interaction. In its negative effect, deprivations around housing can be considered a dimension of poverty arising from its residents' lack of social and cultural material resources (Dewilde, 2022). Following these approaches, we investigate *Collaborative Housing* models as possible housing alternatives to address the social aspects discussed in this section.

1.1.2 Collaborative housing

The concept of collaborative housing has been developed mainly by scholars in the Global North and has had different conceptualisations and definitions over time (Czischke et al., 2020; Fromm, 1991, 2012). Lang et al. (2020) state that there is no single unifying label to describe this field and that there is a wide range of terms to describe similar housing initiatives with commonalities and differences between them all. Recently, there has been some consensus on the definition of Collaborative Housing (CH), understanding it as those self-organised, self-managed and self-provided collective housing initiatives where future residents with a common goal collaborate with external actors to produce housing more than in conventional housing (Czischke et al., 2021; Fromm2012; Twardoch, 2017; Vestbro, 2010). CH is conceptualised by Czischke et al. (2020) and Lang et al. (2020) as "a general term encompassing a variety of housing forms characterised by varying degrees of collective self-organisation. These forms [or initiatives] are distinguished by collaboration between future residents and external stakeholders interested in realising housing projects". Collaboration between interested stakeholders is central to CH and could help distinguishing these models from conventional housing. This collaboration between stakeholders can take place at any stage of the project, including conception, planning, management, co-design, development,

and construction. Often, these collaborative processes extend between residents or households post-delivery stage of housing projects, into their management, administration and maintenance (Brysch, 2019; Czischke et al., 2020; Fromm, 2012; Thompson, 2020).

CH has emerged, driven by various motivations in countries such as the Netherlands, Denmark, Germany, Spain, the United States, Sweden, England and France as a form of collective, participatory and self-organised housing provision as a response to different problems in existing housing provision systems (Ache & Fedrowitz, 2012; Droste, 2015; Fromm, 2012; Jarvis, 2015; Lang et al., 2020; Palm, 1992; Scanlon & Fernández, 2015). CH encompasses a wide variety of initiatives, such as *Community Land Trust* (CLT), cohousing, housing cooperatives, experimental communities, eco-villages, living groups, collective self-development and self-help initiatives (Czischke et al., 2021; Lang et al., 2020). Characteristics can vary between these initiatives, including initiators, group size, social organisation, tenure, financing, level of collaboration, legal frameworks and spatial features (Arroyo et al., 2021; Bresson & Labit, 2019; Jarvis, 2015; Krantz & Linden, 1994; Lang et al., 2020; Thompson, 2020; Twardoch, 2017). However, CH has other defining features along with the degrees of collaboration between stakeholders, such as having shared spaces and performing joint activities (see Table 4.1 Chapter 4). Generally, in CH, design strategies are adopted so that residents share spaces and facilities to perform joint activities and build social relationships. These shared spaces may include outdoor areas, such as patios, terraces, and urban gardens, and indoor spaces, such as co-working and meeting areas, kitchens and living and laundry areas (Bossuyt, 2022; Palm, 1992; Rolando, 2023; Vestbro, 2010). Joint activities include performing social activities and support between residents to facilitate daily tasks. These activities may encompass mutual support, having regular meals, and sharing responsibilities for household tasks such as child and older adults care (Czischke, 2018; Fromm, 2012; Vestbro & Horelli, 2012).

Unlike conventional housing, another CH feature is the commonality in the households' intents, motives, drivers, shared values, and vision that guide the project development and life together in the projects with other households. While CH initiatives are intrinsically driven by addressing pressing issues of today's society and future residents' housing needs, the reasons different stakeholders engage with these initiatives vary case by case (Czischke et al., 2020; Lang et al., 2020). One driver central to CH is future residents' driving force and shared motivation to live intentionally and collectively together (Bossuyt, 2022; Czischke et al., 2023; Jarvis, 2015). The shared drivers and motivations that shape CH vary widely by projects, local contexts and country, ranging from pragmatic reasons for accessing housing to more radical idealistic intentions (Czischke et al., 2023; Lang et

al., 2020). Motivations include citizen empowerment, community life and networks, self-determination and ecological sustainability (Coudroy, 2015; Czischke et al., 2020; Fromm, 2012), and motivations around affordability, mutual aid, solidarity, social inclusion and social cohesion (Bresson & Labit, 2019; Brysch et al., 2023; Carriou, 2012; Chatterton, 2015; Czischke et al., 2020; Sørvoll & Bengtsson, 2018). These motivations are accompanied by community values, goals, and social vision, where collaboration, agency, and residents' participation in housing processes are emphasised (Fromm, 2012; Urban, 2018; Vestbro & Horelli, 2012). These internal values and project features often extend to their surrounding neighbourhoods and the built environment (Sørvoll & Bengtsson, 2018). Although CH is not a typology to replace conventional housing (Droste, 2015; Fromm, 2012), due to its distinctive characteristics, it has the potential to solve housing problems that affect its social dimension and the built environment. We explain the relationship between CH and the social dimension of housing in the next section of this dissertation.

In this dissertation, we refer to *Collaborative Housing* as those collective initiatives adhering to the following four defining key features and inclusion criteria (See Figure 4.2).

- **Motivations and drivers:** Future residents' reasons for getting engaged in these initiatives include the intention to live in close proximity with other households in a project. They also shared goals and values on how to live.
- **Collaboration and participation between stakeholders:** Future residents collaborate and/or participate with different external actors (governmental, not-for-profit, private, and others) in developing and producing their homes at any project stage.
- **Spatial characteristics:** The projects include shared (interior or exterior) spaces and facilities.
- **Joint activities:** Residents are organised and carry out joint activities regularly.

1.1.3 Collaborative housing and the social dimension of housing

In line with the abovementioned arguments about the motivations that drive CH development and its distinctive characteristics, this dissertation is based on the hypothesis that CH could contribute significantly to addressing problems related to the social dimension of housing in the Chilean context. More specifically, CH can contribute to tackling the SDH. In the CH literature and academic reseach, two intertwined theoretical streams of arguments or stances discuss the potential of CH in the social aspects that make up the social dimension of housing. The first comprises research arguments that advocate these initiatives as an alternative system of housing since they emphasise the idea of social contact between inhabitants. These arguments support the hypothesis and assumption that CH

could positively influence the social dimension to these projects and can, therefore, help tackle some of the problems that affect this dimension of housing (Arroyo et al., 2021; Fromm, 2012; Jarvis, 2015; Lang & Novy, 2014; Palm, 1992; Sørvoll & Bengtsson, 2018). The second stream encompasses arguments that take a critical stance on CH, pointing out that models should not be idealised as they may present limitations influencing the social dimension and aspects of housing. Some studies argue that the positive effects of CH on social interactions, solidarity and social inclusion may not be long-lasting or may not extend to all project residents leading to risks of exclusion or undermining lasting solidarity (Bresson & Denèfle, 2015; Lietaert, 2010; Lis et al., 2022; Sørvoll & Bengtsson, 2018; Vestbro, 2010; Williams, 2005). According to Lietaert (2010), these positive effects will depend on each particular case and group of residents, their degrees of participation, community activities, and the type of spaces for social interaction.

The first theoretical stream of arguments is put forward by some scholars who have conducted research focused mainly on Global North countries. The arguments recognise some positive effects of CH as living arrangements derived from the social qualities of self-organisation, self-management and self-provision of the housing process that they imply. Trapani (2018) highlights, citing McCamant et al. (1994), that models of collective living, such as cohousing, are contemporary intentional community housing models that focus on the social sustainability of housing. Fromm (2012) and McCamant (1999) suggest from their empirical findings that CH is a social repair and regeneration strategy within the project and outside the neighbourhoods. Jarvis (2015), who studied co-housing cases in the UK, USA, and Australia, suggests that these models address the social dimension or social architecture through a system that cultivates intentional sharing, mutuality, and living together. The author highlights that, unlike conventional housing in CH, this social architecture supported by the design occurs through invisible affective dimensions and the interrelations of people in a 'continuum of privacy to share'. Sharing housework responsibilities, childcare, mutual support, and regular meals are some of the activities that can generate interdependence between residents and could contribute to making life easier in everyday tasks (Czischke, 2018; Fromm, 2012; Vestbro & Horelli, 2012). Research on collective housing and co-housing in Scandinavian countries shows that residents value collective life and intense social relationships in projects because they foster solidarity and mutual support (Krantz & Linden, 1994; Vestbro & Horelli, 2012).

Other claims state that CH, when developed through collaborative processes, leads residents as managers from their communities to create internal links that can promote relationships between neighbours, social inclusion and networks that consolidate the group (Droste, 2015; Ruiu, 2016). For example, these links can

be created through the organisation, co-design and administration of their homes (Brysch, 2019; Fromm, 2012; Lang et al., 2020; Thompson, 2020). Likewise, the CH social organisation can create alliances with external actors that transcend the project's post-delivery period, promoting a sense of belonging and external networks (Lang & Novy, 2014; Ruiu, 2015, 2016). In addition, other research shows that the presence of flexible shared spaces creates a social architecture that encourages social interactions, community life and joint activities and that these, in turn, can be potential sources of solidarity between residents and with the broader community (Carrere et al., 2020; Lang & Novy, 2014; Oosterlynck et al., 2016; Sørvoll & Bengtsson, 2018; Williams, 2005). Subsequently, Carrere et al. (2020) show that carrying out activities together with other residents, such as caring and eating together regularly, increased the residents' sense of well-being and trust. These social indicators are positively influenced if the architectural design encourages social architecture with shared spaces and facilities (Jarvis & Bonnett, 2013; Khatibi, 2022). In this way, some of the publications suggest that CH has social qualities that could foster and promote social cohesion, a sense of belonging and community, trust, solidarity and bonding social capital (Arroyo et al., 2021; Bresson & Labit, 2019; Guity-Zapata et al., 2023; Lang & Novy, 2014; Sørvoll & Bengtsson, 2018; Ruiu, 2015; Van de Berg et al., 2021; Williams, 2005). Therefore, it could potentially strengthen the social dimension of housing.

The second stream of arguments argues that CH shows some limitations in its development processes and in addressing aspects of the social dimension, and contributing to tackling the SDH. Fromm (2012) mentions that CH during the development process may face limitations, such as creating a cohesive group before future residents live in the project. Other research shows that CH development is often limited due to the lack of governance, resources and financing, tools, tensions and conflicts of interest between actors, and knowledge and capacity from stakeholders to support projects from their formation to the post-delivery stage (Czischke et al., 2023; Lis et al., 2022; Semzo et al., 2019; Sørvoll & Bengtsson, 2018; Vestbro, 2010). These practical limitations could lead to problems in project management and replicability, and regarding social aspects, they could translate into long periods of the social development process, hindering community consolidation and weakening solidarity support relationships (Fromm, 2012; Vestbro, 2010). Other limitations include the lack of policy and legal frameworks that allow communities to select a project's future residents, considering their preferences and intent to live in the projects rather than limiting the decision based on income level or subsidies (Fromm, 2012). Internally, there are some limitations regarding the possible transferability of the models related to the requirements for living in CH that can attract specific population segments such as young people, older adults, and intergenerational groups. The interest in CH from some groups

could be hindered due to these projects requiring residents' cultural adaptation, regular participation in joint activities and the maintenance of the projects (Fromm, 2012; Lang et al., 2020).

Additionally, some research suggests that one challenge related to the social dimension of CH is maintaining residents' internal and external social relations over time after the project delivery stage. Some researchers on CH have shown that positive effects on social aspects such as trust, solidarity, networks, and social cohesion are limited and could be fragmented within the residents' group and do not extend beyond the projects with the local and broader community (Sørvoll & Bengtsson, 2018). Also, as CH future residents share motivations and tend to be homogeneous in socioeconomic background, education and race, there is a risk that the projects may become exclusive 'gated or closed communities' (Bresson & Denèfle, 2015; Droste, 2015; Williams, 2006). While this homogeneity promotes social interaction, cohesion and group solidarity, possible negative effects could include feelings of isolation and exclusion of some residents or external people who are not part of the social network or have a different cultural background (Bresson & Labit, 2019; Ruiu, 2014; Williams, 2005). For example, some of CH's shared spaces may be for its residents' exclusive use and exclude internal and external people, which may generate conflicts that reduce the use or maintenance of these spaces (Chiodelli, 2015, P. 2577; Williams, 2005, P. 211). Other challenges include the residents' perception that only a minority participates in shared activities (Vestbro, 2010), overburdened with the new responsibilities that living in a community entails (Czischke et al., 2023) and feelings of fatigue that could lead participants to withdraw from communities (Williams, 2005, P. 224). Therefore, these challenges can cause difficulties in achieving internally cohesive communities, solidarity, and social mix and, over time, the maintenance of participation, social ties, linkages and networks beyond the project delivery (Bresson & Labit, 2019; Lang & Novy, 2014; Williams, 2005).

Similarly, research on self-organised and collective housing in the LAC context also recognises these initiatives' limitations, as well as possible positive effects on the social dimension. Some research shows that neighbourhood struggles and formal and informal collective housing initiatives may not lead to lasting solidarity among residents since they could end when the struggle's main goal is achieved (De Mattos et al., 2004, P. 161; Gilbert & Ward, 1985; Soto, 2020). Gilbert and Ward (1985), in their book on Colombian and Mexican cases, argue that collaboration among residents may not continue after habitable infrastructure installation. The same seems to happen with some housing committees for social housing, cooperatives and projects derived from the *social production of habitat* practices, which refer to self-organised practices to collectively develop alternatives to conventional housing provision with high degrees of inhabitant participation (Carroza, 2020; Ibarra, 2018).

Di Virgilio & Rodríguez (2014) show that these *social production* initiatives of self-management of the habitat are a broader concept than CH, where self-organised residents can develop urban interventions at different scales, such as creating community gardens, organising for waste collection or environmental improvements, and building housing using informal or formal approaches. In these initiatives, residents perceive that it is challenging for the community to remain consolidated and continue participating after the homes' delivery (Soto, 2020). At the same time, research on some cases in Latin American, European, Asian, and African countries mentions that these experiences could advance aspects linked to the collective and social dimension of housing by promoting self-provision, self-organisation, and self-management (Di Virgilio & Rodríguez, 2014; Ortiz & Zárate, 2004). Likewise, these initiatives are understood as more than 'just a housing solution'. Therefore, they can strengthen the social dimension through residents' involvement in housing production and the presence of shared spaces and activities (Carroza, 2020; Ortiz & Zárate, 2004; Soto, 2020) and help address the *Social Deficit of Housing*.

1.2 Research definition

The research definition section discusses the problem formulation, research gap, and assumptions. It also presents the aim, objectives, and research questions that guide this dissertation.

1.2.1 Problem formulation

As explained earlier, housing faces multi-dimensional challenges, including problems related to its physical quality, location, and social dimension. The latter refers to the non-physical or intangible aspects of housing, which allow its residents to live together and build internal and external social bonds (Borja, 2018; Paidakaki & Lang, 2021). The challenges that affect this dimension, we conceptualise as the *Social Deficit of Housing* (SDH), understanding it as 'the lack of non-physical or intangible social characteristics experienced among residents, such as trust, social cohesion, and a sense of community, necessary for housing to be considered adequate'. In the LAC context, the social dimension of housing has been scarcely investigated despite scholars focusing on some of the problems and aspects of

this dimension. More specifically, in the Chilean case, research on housing and the city has focused mainly on diagnosing problems and recognising problems associated with the social dimension. This includes research on the relationship between segregation and social cohesion (Wormald & Sabatini, 2013) and the social structure of neighbourhoods (Méndez et al., 2021). Other studies report problems of relocating inhabitants to new social housing neighbourhoods in urban peripheries (Brain & Sabatini, 2008; Castillo & Hidalgo, 2007; Hidalgo et al., 2008), or focus on the consequences of relocating inhabitants to the peripheries, which include the breakdown of inhabitants' networks, links, social ties and disintegration, and their feelings of loneliness (Angelcos & Pérez, 2017; Beswick et al., 2019; Ducci, 2009; Rodríguez et al., 2018).

In other urban contexts, inhabitants facing similar societal housing challenges have self-organised to develop, manage, design, and produce their homes (Lang et al., 2020). From a Global North perspective, these initiatives, characterised by collaborative processes between future residents and external stakeholders in housing production, are called *Collaborative Housing* (CH) (Czischke et al., 2020; Fromm, 2012). Research shows that CH is driven by pragmatic reasons as a response to the deficit, for example, to access affordable housing, to more radical ideas of seeking new alternatives due to dissatisfaction with the current system (Czischke et al., 2023; Lang et al., 2020). These initiatives address pressing issues around the social dimension, such as population ageing, concerns of loneliness and community life (Jolanki & Vilkko, 2015; Pedersen, 2015). Research on CH claims that, unlike conventional housing and despite some limitations, these initiatives have characteristics associated with the social dimension, which are strategies that could socially repair neighbourhoods (Fromm, 2012, P 364; McCamant, 1999). These characteristics include promoting social cohesion (Van den Berg et al., 2021), solidarity (Sørvoll & Bengtsson, 2018), social interactions (Williams, 2005), mutual aid (Arroyo et al., 2021), and a sense of belonging and community (Guity-Zapata et al., 2023; Ruiu, 2015). Also, research suggests that carrying out joint activities, collaborating, co-designing projects and having shared spaces could increase residents' feeling of trust and promote projects social architecture (Brysch, 2019; Carrere et al., 2020; Jarvis & Bonnett, 2013; Khatibi, 2022; Oosterlynck et al., 2016).

Research from LAC also shows that self-organisation and self-management practices for housing are present in countries such as Chile. Examples of this self-organisation include the *Movimiento de Pobladores en Lucha* (MPL) in Chile, which inspired the beginning of the *Federación Uruguaya de Cooperativas de Vivienda por Ayuda Mutua* (FUCVAM) in Uruguay. Other examples include the *Movimiento de Ocupantes e Inquilinos* (MOI) in Argentina, the urban popular movement in Brazil, and the *Pobladores* in Venezuela (Angelcos & Pérez, 2017; Di Paula, 2008; Ruiz-Tagle et

al., 2021; Valadares et al., 2018). In Chile, some research focuses on investigating these movements and models, which could be identified as CH in Chile (Ruiz-Tagle et al., 2021; Vergara et al., 2019). In parallel, some scholars recognise aspects, such as residents' proximity, community organisation, social networks and belonging, as important to restoring the social dimension (Borja, 2018; Carroza, 2020; Di Virgilio & Rodríguez, 2014; Ortiz & Zárate, 2004; Tapia et al., 2019). In addition, reports from the *Ministry of Housing and Urbanism* (MINVU) have implied that housing challenges might require integrating the social aspects in programs to achieve socially cohesive communities (DIPRES, 2020; MINVU, 2004, 2022b; MINVU & CEHU, 2009). However, although some studies focused on CH models in LAC, these initiatives, as an alternative model that could address some of the problems affecting the *social dimension of housing*, have been scarcely investigated in the Chilean context.

1.2.2 Research gap and assumptions

Based on the studies mentioned above, two scientific research gaps are identified, and two assumptions arise and are addressed in this dissertation. First, the academic discussion on housing in the LAC region shows a growing housing deficit and the need to diversify housing solutions that respond to the existing demand. More specifically, some Chilean studies report that the housing deficit comprises different dimensions, including *'the social dimension'*, which has received little academic attention in this context. In parallel, research developed mostly by researchers from the Global North shows that one possible advantage of CH compared to conventional housing is that due to its features, it could help address problems from the *social dimension*. These features include collaborative housing production processes, residents' social interactions, solidarity, and community life. Thus, since *Collaborative Housing* is intrinsically social, the first underlying assumption of this dissertation is that CH could contribute to tackling what we term the *Social Deficit of Housing* (SDH) in Chile. However, the evidence to determine whether CH could contribute to reducing SDH in the Chilean context is a research gap in the existing housing literature and publications.

Second, in the period prior to the dictatorship and in recent years in Chile, groups of residents, third sector organisations, some private developers, and the current government have shown some interest in promoting self-organised initiatives through specific housing programs. This recent interest leads to the second assumption, namely, that CH could have opportunities for implementation and growth in the Chilean context. The latter refers to exploring scaling-up and applicability opportunities for current CH models, institutionalising these models

within national policies, and creating spaces for other CH initiatives to be further implemented. However, despite ongoing international research on CH, this concept has been investigated mainly from the perspective of the Global North and has received limited attention in academic research in Global South countries, such as Chile. Thus, there is a gap in the scientific knowledge about CH and its characteristics, dimensions, and possible models or initiatives in the Chilean context. Furthermore, it is unknown whether CH could be implemented in the country which possible models have the greatest adaptability and the necessary conditions for this to occur. Therefore, this research contributes to filling these knowledge gaps by applying the CH concept in Chile, studying its opportunities and limitations in addressing the Social Deficit of Housing (SDH), planning scenarios and proposing policy strategies for its implementation. This research highlights the social dimension of housing by studying a case study in the LAC context that has received limited previous scientific attention. Furthermore, this dissertation sheds light on possible alternatives for adequate housing that consider the inhabitants' preferences, contribute to the diversification of the current housing supply and stimulate the social dimension of housing.

1.2.3 Research aim and objectives

Based on the proposed assumptions and the abovementioned research gap, the aim of this research is twofold. First, it seeks to determine which collaborative housing models have the potential to grow and be implemented in Chile and contribute to solving the country's current housing challenges related to the social dimension of housing. Second, it aims to define the conditions, possible scenarios, and general and specific strategies for stakeholders interested in CH implementation in Chile. The dissertation's main deliverable is the proposal of policy recommendations that help strengthen the governance of CH models and serve as a guide to the interested actors of the study case and other urban contexts with similar characteristics in CH implementation.

The secondary objectives, which are connected to each of the research sub-questions (see Section 1.2.3), are the following:

1 To carry out a historical review of the Chilean housing system, its policies, and programs, conceptualise housing deficits from a multi-dimensional perspective and analyse how housing policies and programs address the housing deficits.

2 To investigate the historical precedents and current Chilean housing initiatives through the lens of *Collaborative Housing* and identify the main barriers and enablers for these initiatives to be implemented in Chile.

3 To analyse how *Collaborative Housing* addresses the *Social Deficit of Housing* and empirically determine the opportunities and limitations of these housing models in addressing this deficit in Chile.

4 To explore the possible scenarios and conditions for the development of *Collaborative Housing* in Chile, the models with potential implementation opportunities in this context, and to propose strategies to guide the development of these models in each proposed scenario.

1.2.4 Research questions

This dissertation is mixed research of a *descriptive* and a *means-end knowledge* project type that envisions a pre-defined goal and suggests how to act to attain this goal in the given context (De Zwart and Vries, 2016). The first two studies of this research seek to obtain *descriptive knowledge* through historical studies and housing policy review (Study 1), the construction of a housing timeline in Chile, the identification of possible CH initiatives in Chile and the proposal of an analytical framework (Study 2). The final products of both studies are the variables and possible case studies for the following studies. Subsequently, under the *means-ends of knowledge* approach, the relationship between CH and SDH is empirically investigated (Study 3), and scenario and policy strategies for CH in Chile are proposed (Study 4). De Zwart and Vries (2016) explained that the final deliverable under this approach is often translated into guidelines for designing artefacts in a specific context (see Figure 1.7). Therefore, this research aims to deliver a set of scenarios, strategies, and recommendations for collaborative housing to guide implementation in Chile. In line with this approach and the scientific and societal gaps previously posed, this dissertation proposes a main question and sub-questions to achieve the research aim.

Main research question

What Collaborative Housing models have the potential to address Chile's Social Deficit of Housing, and what conditions are favourable for their implementation?

The research sub-questions addressed by each study are:

SQ1: **How do housing policies and programs in Chile address the multi-dimensional challenges of the housing deficit?**

- What are the dimensions of the housing deficit in the Latin American and Chilean context?
- How do the existing housing policies and programs address the Social Deficit of Housing in Chile?

SQ2: **What are the precedents and current initiatives that could be called Collaborative Housing in Chile?**

- What is collaborative housing, and what are its dimensions and variables of analysis?
- What are the barriers and enablers for collaborative housing development in Chile?

SQ3: **How can Collaborative Housing address the Social Deficit of Housing in Chile?**

- What are the opportunities and limitations of collaborative housing when addressing the Social Deficit of Housing?
- What lessons can be learned from the Chilean collaborative housing experiences?

SQ4: **What are the scenarios in which the Chilean context becomes favourable for implementing Collaborative Housing?**

- What collaborative housing models or initiatives are likely to flourish in these scenarios?
- What long-term policy strategies can be implemented to support collaborative housing development in Chile?

1.3 Research philosophy, approach and methodological choices

This section presents the philosophy, approach, paradigm, and methodological choices adopted in this research. It also explains the definition of the case study by presenting the selection of the geographic scope and multiple-case studies as projects and CH models. Finally, this section describes the research strategies and methods and details the steps followed in the four studies. Each study has its independent research design, and together, they contribute to answering the main research question and objective (see Section 1.2.3).

1.3.1 Research philosophy and paradigm

This dissertation adopts an epistemological approach and a pragmatic-pluralist perspective on how to see the world and how knowledge about the investigated problem and phenomenon of study is constituted (Creswell & Creswell, 2018; Yin, 2018; Saunders et al., 2019). We adopted these philosophical ideas and worldviews to identify the approaches, define the research questions, methodological choice, strategies, data collection techniques and data procedures followed in this research (Crotty, 1998; Saunders et al., 2019; Yin, 2018). Figure 1.1 summarises the adopted research philosophy, approach to theory, methodological choices, research strategies, time horizon, and techniques.

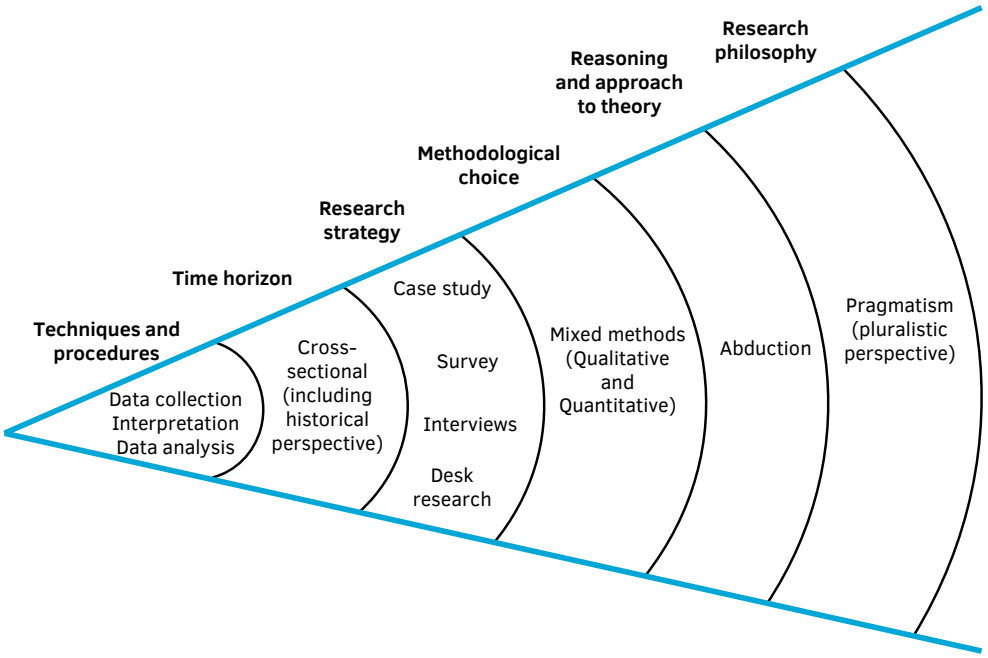

FIG. 1.1 Research framework (Source: Author based on Saunders et al. 2019)

In this research, a pragmatic perspective is applied to the problem described, as well as the analysis and interpretation of the findings. However, as stated by Saunders et al. (2019), the researcher could not adopt a system of beliefs and assumptions about the development of knowledge that encompasses the entire research but rather 'takes more than one image' to obtain knowledge. In line with this argument and under a pluralistic perspective, each study in this dissertation tends more toward one vision of reality that is not exclusive to other visions. Studies 1 and 4 adopted a realist world vision (Yin, 2018). Study 1, with the proposal of a review of housing policies in Chile and its approach to the SDH, assumes that reality exists independently of the observation of its existence. Thus, it uses theory to strengthen explanatory power by assessing housing policies. Using the same approach, Study 4 draws on the theory and evidence developed in previous studies to plan normative scenarios and strategies for CH, contributing policies formulation and practice in Chile. Studies 2 and 3 adopted an interpretive orientation and consider that the findings have multiple realities and meanings depending on the observer. Both studies capture the perspectives of different participants and how they illuminate the research topic. Study 2 analyses the CH phenomenon and its context, identifying possible CH initiatives and the enablers and barriers of these initiatives

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in Chile. This is explored through desk research and interviews with stakeholders, including CH residents, officials, academics, and developers. Study 3, under a phenomenological lens, empirically analyses the experience of different stakeholders on the relation between CH and the SDH in two CH case studies.

1.3.2 Research approach and data collection

Following the pragmatic paradigm, this research follows the abductive scientific reasoning approach, which combines inductive and deductive approaches (Mitchell, 2018; Peirce, 1998; Saunders et al., 2019; Suddaby, 2006). Under this reasoning, we moved from deduction, or from a theory to data, to induction, or from data to theory, considering experts' opinions and the users' vision (Hurley et al., 2021). We followed Kovács and Spens's (2005, P. 139) steps for abductive reasoning, which starts with applying a new theory or framework to an existing phenomenon to understand it and identifying patterns and theories that are later interrogated, stretched or empirically tested using deductive reasoning to build new theories and logical inferences. More specifically, we started this research similar to inductive reasoning, from observations of real life, pre-perceptions, and theoretical knowledge that led us to our hypothesis, which was redefined in the research process (Kovács & Spens, 2005; Peirce,1998). We did this in an iterative process of conceptualising, analysing, and comparing the data to adapt and redefine our hypotheses and research (Saunders et al., 2019). This research applied methodological pluralism to find the '*best answer'* to our research question, and it was supported by deductive and inductive evidence for it to be considered credible and valid (Awuzie & McDermott, 2017; Mitchell, 2018).

This dissertation investigates the phenomenon of *Collaborative Housing* (CH) in the single-case of Chile and its housing policies, exploring the concept, its opportunities, and barriers in addressing the *Social Deficit of Housing* (SDH) and concluding by proposing future scenarios and policy strategies for its long-term implementation. Before this study started, no research had yet been conducted on the connection between self-organised housing initiatives in the Chilean case and CH under this terminology, nor had the housing deficit been conceptualised as a multi-dimensional phenomenon. This research starts by understanding these phenomena. Also, the existing literature on housing in Chile had not yet raised hypotheses or assumptions about CH and SDH that linked theory and data. For these reasons, we began this research with informed observations to understand the phenomena, derive a possible explanation of the influencing mechanisms and construct plausible theories or explanations (Awuzie and McDermott, 2017). Thus, as explained in Section 1.1.3,

the hypothesis arises that CH is a model that could potentially tackle the social deficit of housing in Chile. This is based on the international theoretical stream of arguments on CH that states that this model, due to its distinctive characteristics, has a 'strong social dimension' or a positive effect in this dimension compared to conventional housing (Arroyo et al., 2021; Droste, 2015; Fromm, 2012; Jarvis, 2015; Krantz & Linden, 1994; Lang & Novy, 2014; McCamant et al., 1994a; Sørvoll & Bengtsson, 2018; Vestbro & Horelli, 2012; Williams, 2005). Finally, as housing is socially complex and constantly evolving in Chile, abductive reasoning based on the data collection steps of Kovács and Spens (2005, P.139) and Mitchell (2018, P. 105) is used to adapt and revise the research over time. These steps are explained below.

As shown in Figure 1.2, this research begins with a deductive phase that precedes empirical data collection. (0) In this stage, the observations and theoretical knowledge on CH and the case are obtained from desk research and used to formulate initial assumptions and testable hypotheses. Based on the literature, the theoretical stances and arguments on CH's possible effects on the social dimension and the Chilean housing system are explored. Furthermore, the housing deficit is conceptualised from a multi-dimensional perspective, and an analytical framework is proposed to distinguish CH from conventional housing and apply it in the empirical study. (1) Based on these initial assumptions, the CH phenomenon is empirically observed in the first fieldwork in Chile through interviews and direct observation of possible cases. This study applies the CH concept to the case study and observes patterns of possible CH initiatives. (2) Using the data from this empirical observation and previous theoretical knowledge, an exchange is generated between theory and data, where the assumptions are redefined, and the research is repositioned. Thus, theories about the possible effects of CH on the social dimension are compared between contexts, the concept's definition is adapted to the LAC context, and a conceptual model of CH and SDH indicators is proposed. (3) Then, the hypothesis derived from theoretical streams of arguments on CH's opportunities to tackle the SDH is empirically tested in the case using the proposed conceptual framework. This is done in a second fieldwork through case studies of two CH projects, interviews, and direct observation. (4) Subsequently, the empirical observations are interpreted and used to interrogate and stretch the theories on CH and the social dimension in the case, and a hypothesis is suggested based on the previous steps to explain the initial proposition (see Section 6.3.3). Thus, data collection was iterative in inductive and deductive phases in a process fed back over time to validate the explanation of the studied phenomenon. (5) Finally, the conclusions derived from the previous step were applied in proposing scenarios and policy strategies through Delphi-based scenarios for the implementation of CH in the case study.

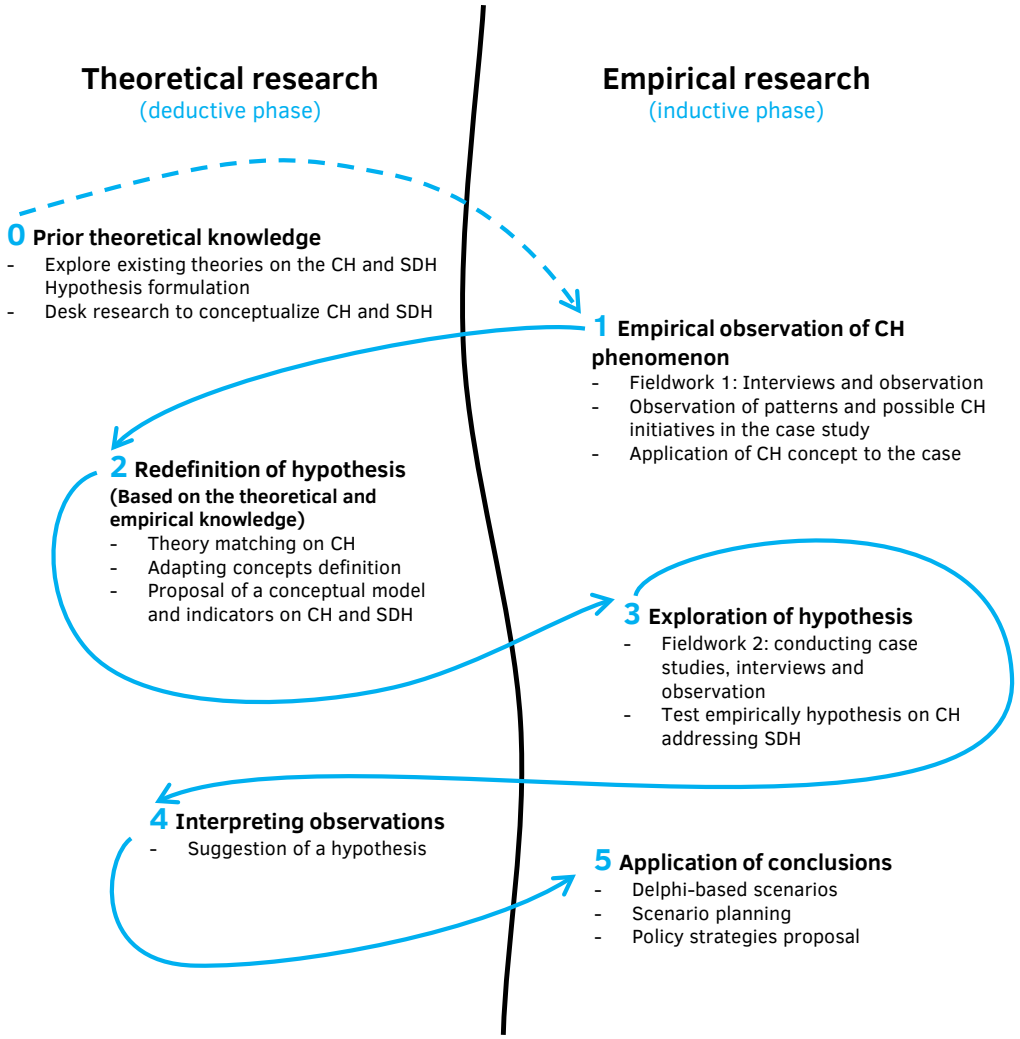

FIG. 1.2 Research approach and data collection (Source: Author adapted from Kovács and Spens (2005) and Mitchell (2018))

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1.3.3 Methodological choices and data management

A pragmatic-pluralist approach is appropriate in research because it is possible to mix methods for studies with exploratory, descriptive, and explanatory purposes (Yin, 2018). This approach allows a wide range of methodological choices to be applied in research, such as quantitative, qualitative, and mixed methods for data collection and analysis. This approach includes, and is not limited to, a subjective or objective interpretation of the investigated phenomena to generate knowledge. In line with this, to take advantage of the strengths and minimise weaknesses of separate traditional approaches, this research applies mixed methods of data collection and analysis for the research studies, including narrative or qualitative data in Studies 1, 2 and 3 and numerical or quantitative data in Study 4 (Mitchell, 2018). These studies consisted of original empirical research with primary data collection through two cross-sectional field studies, case studies, project visits, direct observation, semi-structured interviews with stakeholders, and (online) Delphi questionnaires for scenario and policy strategy planning. In addition, a policy review and secondary data desk research were included.

These data collections were planned individually for Studies 2, 3, and 4 in a *'Data Management Plan'* (DMP). The data management processes were discussed with the thesis supervisors and carried out under the guidance of the data steward from the Faculty of Architecture and the Built Environment. The DMP was drawn up for each conducted study to ensure the secure processing and storage of the data collected. The DMP was part of an application for approval to the *Human Research Ethics Committee* (HREC) of TU Delft University of Technology, which included documentation explaining the risks associated with research with human participants and how the risks were mitigated. The HREC process also included templates for interview and questionnaire questions, consent processes, and the anonymisation of research data as personal data. The HREC approved applications for all three studies involving human participation in this dissertation with dates 29 March 2022 (letter number: 2040), 10 June 2022 (letter number: 2275) and 27 January 2023 (letter number: 2711). Approval letters can be requested from the PhD candidate. During the research, the anonymised data from interviews and questionnaires were stored on the TU Delft Project Storage server. The questionnaire templates and interview protocols are available at the international data repository for science, engineering and design *4tu.researchData* and are shown in detail in Appendix 3C, 3D, and 4C for the interview protocols and 5A for the three rounds of Delphi-based scenarios questionnaires.

1.3.4 Selection of case studies

In line with the pragmatic-pluralistic approach adopted in this dissertation, we applied a case study strategy for data collection (Creswell & Creswell, 2018; Yin, 2018). This sub-section explains the selection of case studies for this dissertation, distinguished at two levels in two parts. The first part explains the geographical scope and the case study at the broad level addressed in this thesis. This framing case is Chile's single-country case. The second part explains the criteria for selecting the second level of multiple-case studies corresponding to two Chilean collaborative housing projects (Study 3) and three housing models (Study 4). The selected cases are derived from the analysis and findings of Study 2. They are investigated in depth in Study 3 to create cross-case connections and synthesis about CH's opportunities and limitations in addressing housing deficits (Yin, 2018).

Selecting the geographic scope

This research's geographical scope is in the LAC region and focuses on a single-country case study, Chile. This dissertation investigates an in-depth single-country case study to maintain a holistic perspective of the real world around housing as a complex social phenomenon. One of the reasons for selecting this single-case study is that the term *Collaborative Housing* (CH) has been mainly studied and conceptualised by researchers with a Global North (GN) perspective (Czischke et al., 2020; Fromm, 2012). Meanwhile, in countries of the Global South (GS), bar some notable exceptions of studies focused on CH models in the Latin American region (see studies by Cortés-Urra et al., 2024; Czischke et al., 2025; Guity & Stone, 2022; Ruiz-Tagle et al., 2021; Vergara et al., 2019), CH has been scarcely researched academically. In parallel, the Chilean case has a long tradition of self-organisation in housing and self-managed experiences, which in some cases have served as inspiration for the development of housing cooperatives in countries such as Uruguay and Argentina (Centro Cooperativista Uruguayo, 2016; Garrido & Kornbluth, 2015; Ruiz-Tagle et al., 2021).

Another reason is that Chile is considered a relevant case regarding housing policies because since the 1970s, with the implementation of the Chilean social housing policies and its subsidy-based model, it has been considered successful as the '*Joya de la política social'* (Jewel of social policy) (Brain et al., 2010; Ducci, 1997). Thus, Chile has been a pioneer in subsidised mass-produced social housing policies to address the housing deficits, and these policies and provision model have been replicated with different variations in LAC countries (Gilbert, 2002; Lentini, 2005; Monkkonen, 2018; Ortiz & Zárate, 2004). Some of these policies include housing

programs such as land liberalisation in Mexico and mass double-up relocation in Argentina (Castillo & Hidalgo, 2007; Greene & Mora, 2020). Research in the region shows that these policies have led to problems of a similar nature in LAC countries. Some of these problems include residential segregation, urban fragmentation (Cortés-Urra, 2016; Janoschka, 2002; Pérez & Edison, 2005; Sabatini, 2006; Tapia et al., 2012), the production of inadequate social housing (Rodríguez & Sugranyes, 2005), and problems associated with the social dimension of housing (Borja, 2018; Cortés-Urra et al., 2023, 2024). In this context, another assumption in this research is that studying possible alternative housing solutions in Chile that respond to part of these growing problems around housing yields relevant findings that can be considered an example to other contexts.

Thus, this dissertation was restricted to investigating the Chilean case, which can be considered a common case and relevant within the housing context in Latin America. In a *common* case, conditions of an everyday situation can be captured to provide lessons on some social processes related to theoretical interest (Yin, 2018). The author claims that a single-case study involving conditions relevant to the case can contribute to insightful qualitative generalisations that could transcend different periods. Furthermore, the value of studying single-case studies also lies in the topic developed and the particularities of the context where the phenomenon is investigated (Creswell & Creswell, 2018). Therefore, the contribution of a broad single-case study can be significant in building a theory by expanding, questioning, or confirming it, implying a contribution to knowledge that can reorient future research. Finally, there are normative reasons for choosing the case, which are related to our motivation of contributing to crossing the abyssal line of the knowledge generated mainly in the GN and conducting research from a Southern epistemological approach accessible 'to' and 'from' a developing country in Latin America as a first step towards exchange and decentralisation of knowledge (De Sousa, 2018). Another motivation is to continue investigating solutions to the housing deficit in Chile. Lastly, there are pragmatic reasons related to data access, the network of contacts, the PhD candidate's native language, and the possibility of conducting field studies.

Selecting multiple-case studies as projects and CH models in Chile

This research has a holistic and real-world perspective based on total integration concerning a concept or phenomenon. This is related to Aristotle's writing that *"the whole is greater than the sum of its parts"*. As a practical example, a '*bicycle'* is more than the sum of its parts; without connecting them, these parts can never move. In addition, for the bicycle to move, it is necessary to know how to ride it. From this perspective, this dissertation investigates the concept of CH in Chile, including case

studies, desk research, direct observation, interviews, and questionnaires. It also considers the physical characteristics and components, as well as the intangible aspects present in *housing* (see Studies 1 and 3). One of the intrinsic aims of this research is to explore the CH phenomenon and understand how it works and interacts in its real-world contextual environment (Yin, 2018). To this end, variables and an analytical framework were proposed to apply the CH concept to Chile (see Section 3.3). Connections or patterns of these variables in the Chilean housing system were then identified, which shed light on a possible typology of CH initiatives in Chile. Thus, based on these outcomes, a multi-case study of existing CH models in Chile was developed, where the cases were investigated in depth and compared in the following studies (see Studies 3 and 4).

According to Herriott and Firestone (1983), the multi-case study presents advantages over the single-case study, as the evidence is considered robust and solid. Therefore, this research includes case studies of CH projects and models in line with this approach. Case study research allows explaining causal assumptions that arise from theoretical and practical studies, which, when applied to real-world interventions, are more likely to shed light on the research questions posed (see Section 1.2.3). The multiple-case study of this research is carried out to analytically expand and generalise theories around CH's possible effects on the social dimension of housing and housing in the Chilean context. As Sørvoll and Bengtsson (2018) pointed out, regardless of collaborative housing' distinctive features, the patterns and problems observed in specific cases could be similar to those in other urban contexts. Therefore, new cases in these contexts can learn from the failures or successes of these previously studied cases when addressing similar issues. This can lay the groundwork for further cross-analysis and synthesis between contexts (Yin, 2018).

The selection of the multi-case study of CH projects and models in Chile investigated in depth in Studies 3 and 4 was made as follows. In the research for Study 2 of this dissertation, information on possible CH cases in Chile was collected. To identify the cases, this research first adapted CH's definition to the study context and proposed an analytical framework to distinguish CH from conventional housing (see Section 3.3). This framework was then applied to informal and formal housing initiatives developed in Chile from 1880 onwards. These initiatives were reduced by considering the CH defining criteria proposed in the same Study (see Section 3.4). These criteria are that (1) future residents' driver or motivation is the intention to live (together) with other households in a project; (2) there is a high level of participation where residents collaborate with different external actors (governmental, non-profit, private, and others) in developing and producing their homes (at any project stage), (3) the projects include shared (interior or exterior) spaces, and (4) residents

perform joint activities regularly (Figure 4.1 and Table 4.2). Study 2's study found that 15 Chile housing (in)formal initiatives contained some CH dimensions. However, only three CH models met all the inclusion criteria. In addition to these criteria, the selection of cases was pragmatically justified by the possibility of accessing sufficient data and contacts to access the projects and conduct the interviews, literature and public policy documents (Yin, 2018). Thus, this dissertation considers the study of three CH models, namely, *pequeños condominios* (small condominiums), *cooperativas cerradas de vivienda* (closed housing cooperatives) and *vivienda social colectiva liderada por residentes* (resident-led collective social housing) as cases to be investigated in Studies 3 and 4.

Specifically, in Study 3, as the objective was to empirically investigate the relationship and causal links between CH and the *Social Deficit of Housing* (SDH) and the perception of the informant residents and actors involved in managing these cases, a fifth criterion was added. This criterion only included built projects from the selected models where residents have been living there for at least two years (see Section 4.4.1). When applying this last criterion (specific to Study 3's study), only two out of three CH models had built projects older than two years to meet this criterion. These two were a project of *vivienda social colectiva* called *Maestranza,* shown in Figures 1.3 and 1.4, and some built projects for *pequeños* condominios shown in Figure 1.5. The first arises as a vindication of the *Movimiento de Pobladores en Lucha* (MPL) from the 1960s and the collective social housing projects built in the 2000s. The second comes from families living in *allegamiento* (double-up) in the plots derived from the *Operación Sitio* from the 1965s. As presented in Figure 1.6, both case studies are located in Santiago, Chile. These cases are also presented in Figure 4.6 with a map of *Maestranza's* location in Santiago and Figure 4.7 with a map of areas of *Operación Sitio* plots in Santiago, which have the potential to be developed as *pequeños condominios* and a map of their current development in the Peñalolen district. Therefore, these two models and projects were adopted as case studies in Study 3. In Study 4, no case study at the project level was carried out, but rather a broader study at the level of transversal CH models in Chile as a case study. This study planned scenarios and proposed strategies for the three models under development in the country. Thus, in addition to small condominiums and collective social housing, the final study also includes the model of *cooperativas cerradas de vivienda* (see Section 5.2.2). Finally, the methods and strategies to analyse each case study have an independent research design per study, which we explain in the following sub-section of this introduction.



FIG. 1.3 Case study 1: Maestranza project front view (Source: Photo taken by the author)



FIG. 1.4 Case study 1: Maestranza project exterior shared spaces (Source: Photo taken by the author)

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FIG. 1.5 Case study 2: Pequeños condominios initial and current typology (Source: Photos taken by the author)

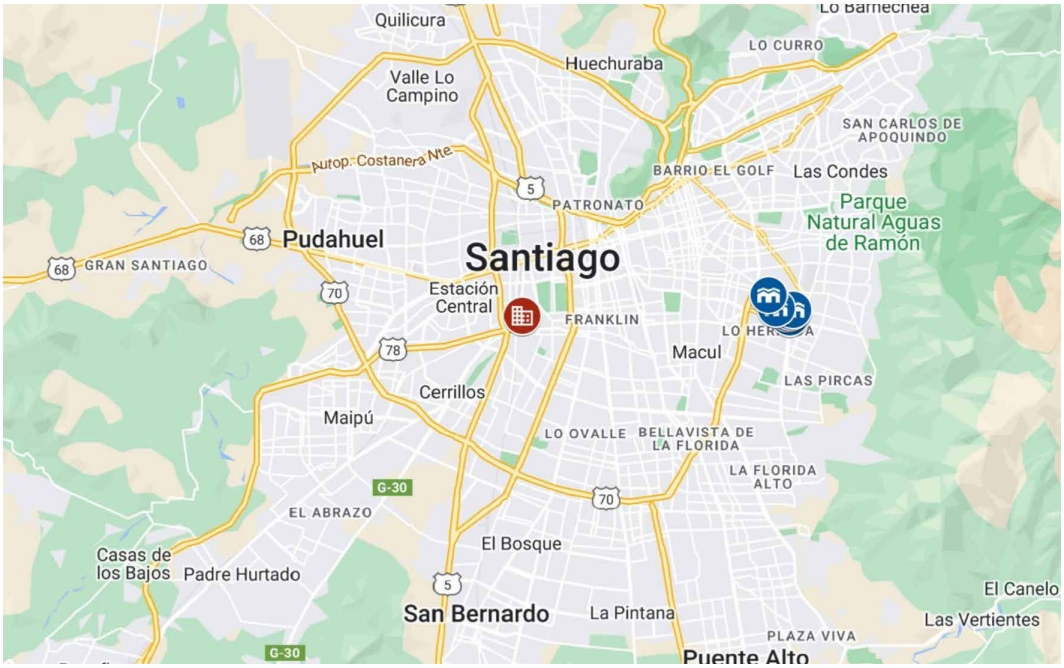

FIG. 1.6 Location project case studies in Santiago (Source: Author based on Google Maps image)

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1.3.5 Research strategy and methods

This sub-section provides an overview of the four studies conducted in this dissertation. The methodological designs of each study are described in detail in Sections 2.4, 3.2, 4.4, and 5.3. The data collection and analysis for this thesis were conducted in four independent studies that intertwine and deconstruct the main question of this research. While the studies can be reviewed independently, each is conducive to the following study. For example, the knowledge acquired in Study 1 (Chapter 2) on conceptualising the housing deficit and its dimensions is used to build studies 2, 3 and 4. Another example is the operationalisation of CH and the identification of possible case studies from Study 2 (Chapter 3), which was used to define the cases to be analysed in Studies 3 and 4 (Chapters 4 and 5). Each study is summarised with its research questions in Table 1.1, and the relationship between these studies, including research questions, objectives, and methods, is presented in Figure 1.7 of the methodological scheme of the research. Next, the studies are presented in the order in which the data was collected. Each study is described with the research question answered, the method and steps followed in conducting the study, and the main deliverables per study.

TABLE 1.1 Overview studies and research questions (Source: Author)

Study / Chapter	Research questions
Study 1 (Chapter 2) Addressing Housing Deficits from a Multi-dimensional Perspective: A Review of Chilean Housing Policy	**SQ1: How do housing policies and programs in Chile address the multi-dimensional challenges of the housing deficit?** – What are the dimensions of the housing deficit in the Latin American and Chilean context? – How do the existing housing policies and programs address the social deficit of housing in Chile?
Study 2 (Chapter 3) Collaborative Housing in Chile: Precedents, Barriers, and Enablers	**SQ2: What are the precedents and current initiatives that could be called collaborative housing in Chile?** – What is collaborative housing, and what are its dimensions and variables of analysis? – What are the barriers and enablers for collaborative housing development in Chile?
Study 3 (Chapter 4) The Potential of Collaborative Housing to Tackle the Social Deficit of Housing: The Chilean Case	**SQ3: How can collaborative housing address the social deficit of housing in Chile?** – What are the opportunities and limitations of collaborative housing when addressing the social deficit of housing? – What lessons can be learned from the Chilean collaborative housing experiences?
Study 4 (Chapter 5) Towards the Development of Collaborative Housing in Chile: Scenario Planning and Policy Strategies	**SQ4: What are the scenarios in which the Chilean context becomes favourable for implementing collaborative housing?** – What collaborative housing models or initiatives are likely to flourish in these scenarios? – What long-term policy strategies can be implemented to support collaborative housing development in Chile?

Study 1

This study sought to answer sub-question 1: ***How do housing policies and programs in Chile address the multi-dimensional challenges of the housing deficit?*** To answer research question 1, this study focused on understanding Chile's housing provision system, housing policies, and housing deficit dimensions. First, it conceptualised the housing deficit from a multi-dimensional perspective by identifying four dimensions: quantitative, qualitative, urban, and social. These dimensions are defines as follows: (1) quantitative dimension: the number of exclusive homes that need to be produced to satisfy the housing needs of the current population; (2) qualitative dimension: the quality of construction material and availability of basic services such as drinking water, sewage and electricity; (3) urban dimension: availability of urban spaces, infrastructure and access to facilities or amenities, such as hospitals, schools, and parks, that contribute to the quality of life in residential areas; (4) social dimension: the non-physical or intangible aspects, such as the feeling of integration and social cohesion at the level of the neighbourhood or building. Second, it carried out historical desk research on the Chilean housing system and reviewed its housing policies and programs from 1906 onwards. The policy analysis was conducted using the policy action classification framework proposed by Doling in 1997, which included the actions: *Exhortation, Regulation, Taxation, Subsidy* and *Provision*. This study proposed adding the policy options *Deregulation* and *Partial Provision* to adapt them to the Chilean housing context. Finally, the policy review explored how each housing policy objective addressed each dimension of the housing deficit, focusing on what this study terms the *Social Deficit of Housing* (SDH).

The methods of Study 1 consisted of:

- Desk research and scoping literature review of Spanish and English publications on housing deficits to conceptualise the dimensions of the deficit.
- Desk research and historical analysis of the Chilean housing policies based on policy documents from the MINVU and available publications on the subject.
- Policy analysis of Chilean housing policies and housing programs, based on policy action classification framework from Doling (1997).

The deliverables of this study are:

- Overview of the Chilean housing system's historical context and housing policies from the first *Workers' Rooms Ordinance* of 1906 onwards.
- Conceptualisation and definition of the housing deficits from a multi-dimensional perspective, considering quantitative, qualitative, urban, and social dimensions.
- Analysis of housing policies and their response to the challenges associated with the social dimension of housing from 1970, the policies' neoliberal turning point.

Study 2

After exploring the dimensions of the housing deficit and how different housing programs have addressed each dimension, this dissertation focused on exploring collaborative housing in the Chilean context. More specifically, Study 2 addressed sub-question 2: ***What are the precedents and current initiatives that could be called Collaborative Housing in Chile?*** As secondary questions, ***What is collaborative housing, and what are its dimensions and variables of analysis? and What are the barriers and enablers for collaborative housing development in Chile?*** Study 2 explored historical precedents and current Chilean housing initiatives through the lens of CH and identified the main barriers and enablers for these initiatives. The study answered the research questions through a historical analysis of housing and the proposal of an analytical framework that defines CH and its features that distinguish it from conventional housing. This framework proposes seven variables: *Drivers and Motivations, Initiators, Financing, Tenure, Spatial features, Social organisation, and Collaboration and participation.* Furthermore, this study sheds light on the main barriers and enablers that CH experiences in its development through 63 semi-structured interviews conducted in two cross-sectional fieldworks with stakeholders in Chile, including residents, academics, officials, developers and civil society professionals. Of these interviews, 22 were conducted in December 2019 and January 2020 and 41 between June and August 2022 (see Section 3.2).

The methods used in Study 2 were:

- Desk research on CH to propose collaborative housing concept definition and the analytical framework.
- Historical analysis and desk research of Chilean context and housing initiatives from 1880 onwards.
- Two cross-sectional fieldworks in Chile, including project visits, direct observation, and semi-structured interviews, to collect empirical data on the possible CH study cases and to identify the main barriers and enablers to these initiatives.
- Qualitative analysis of transcripts by coding the interviewees' responses with the analysis tool Atlas Ti.

The deliverables of this study are:

- Operational definition and analytical framework to distinguish CH initiatives from conventional housing.
- Analysis and identification of possible CH initiatives in Chile and possible study cases to be analysed in Study 3.
- Historical overview of the formal and informal collaborative housing initiatives in Chile.
- Identification of barriers and enablers for CH development in Chile.

Study 3

After obtaining the results of Study 1 on the mostly exhortative response of policy actions to the *Social Deficit of Housing* (SDH) and emerging *Collaborative Housing* (CH) models in Chile from Study 2, multiple-case study research was conducted to empirically explore the potential of CH addressing the social dimension of housing issues. The sub-question addressed in this study is: ***How can collaborative housing address the social deficit of housing in Chile?*** To answer this question, Study 3 explored the opportunities and limitations of CH addressing the SDH by conducting a theoretical and empirical study that analysed households' experience living in two Chilean CH case studies. Based on Study 2's outcomes, Study 3 proposed a theoretical framework in which CH and its four main defining features are operationalised: *drivers and motivations, collaboration, shared spaces,* and *joint activities*. In parallel, the social dimension of housing and its indicators were defined: *Social networks, Social interactions, Interpersonal trust,* and *Sense of community and attachment*. This framework from the literature informed the proposed conceptual model, hypothesis and assumptions on CH's potential for the SDH. Under a phenomenological-hermeneutic approach, this hypothesis was empirically tested by analysing two Chilean CH cases for each social indicator and comparing them to the residents' previous homes. This was done through fieldwork, direct observation of residents in their homes, case study visits and 22 in-depth semi-structured interviews with academics, developers and residents from a *resident-led collective social housing* project called *Maestranza* and *pequeños condominios* (small condominiums) projects.

The methods used in Study 3 were:

- Desk research on CH and housing deficits to develop the theoretical framework and build the conceptual model.
- Multiple-case study of two CH projects in Chile: Fieldwork with project visits, direct observation and semi-structured interviews with residents, developers, academics, and officials related to the two case studies.
- Comparative analysis of participants' responses from the two case studies to analyse the relation between CH and SDH in the Chilean context.
- Qualitative analysis in Atlas Ti of the interviewees' responses by coding the responses.

The deliverables of this study are:

- Operationalisation and conceptualisation of CH and SDH and proposal of analysis indicators.
- Proposal of a conceptual model to empirically analyse collaborative housing influence on the social dimension of housing.
- Analysis of the opportunities and limitations of CH addressing the housing deficits in the case studies.

Study 4

After finding that Collaborative Housing presents opportunities to address the Social Housing Deficit (Study 3), the last study of this dissertation investigates the future implementation possibilities of CH in Chile. The main question addressed in Study 4 is: ***What are scenarios in which the Chilean context becomes favourable for implementing Collaborative Housing?*** and the sub-questions: ***What collaborative housing models or initiatives are likely to flourish in these scenarios? and What long-term policy strategies can be implemented to support collaborative housing development in Chile?*** Under a normative approach, this study explored possible future scenarios for three CH models in Chile. Also, it determined which CH model could represent a development opportunity as an alternative compatible with its context. Furthermore, this study proposed general and model-specific long-term policy strategies to increase Chile's opportunity to implement each CH model. To this end, the Delphi-based scenario technique was conducted with 21 Chilean housing experts from different housing sectors in three rounds of questionnaires. This study systematically planned four possible scenarios and proposed strategies with the expert panel to develop three CH models in Chile: *Pequeños condominios* (small condominiums), *cooperativas cerradas de vivienda* (closed housing cooperatives), and *vivienda social colectiva liderada por residentes* (resident-led collective social housing). The strategies were proposed for each CH model in each scenario, aiming to support decision-making on housing policies and stakeholders interested in their development.

The methods used in Study 4 were:

- Desk research on the trends, uncertainties, and Chilean housing developments around housing in the Chilean context.
- DESTEP analysis (Demographic, Economic, Socio-cultural, Technological, Ecological and Political variables) is used to classify trends, uncertainties, and developments.
- Three rounds of the Delphi-based scenarios with Chilean housing experts were applied to narrow and classify trends and uncertainties, narrow and validate analysis factors for the cross-analysis model, develop the predictability and impact analysis, plan scenarios and propose strategies for CH in Chile.
- Analysis of the three Delphi rounds in Qualtrics Survey tool.

The deliverables of this study are:

- Identification and classification of contextual trends, uncertainties, and developments around housing in Chile.
- Proposal of four possible scenarios for *pequeños condominios* (small condominiums), *cooperativas cerradas de vivienda* (closed housing cooperatives), and *vivienda colectiva liderada por residentes* (resident-led collective housing) CH models in Chile.
- Proposal of a set of long-term general and validated specific policy strategies for implementing the three CH models in Chile with the Delphi expert panel.

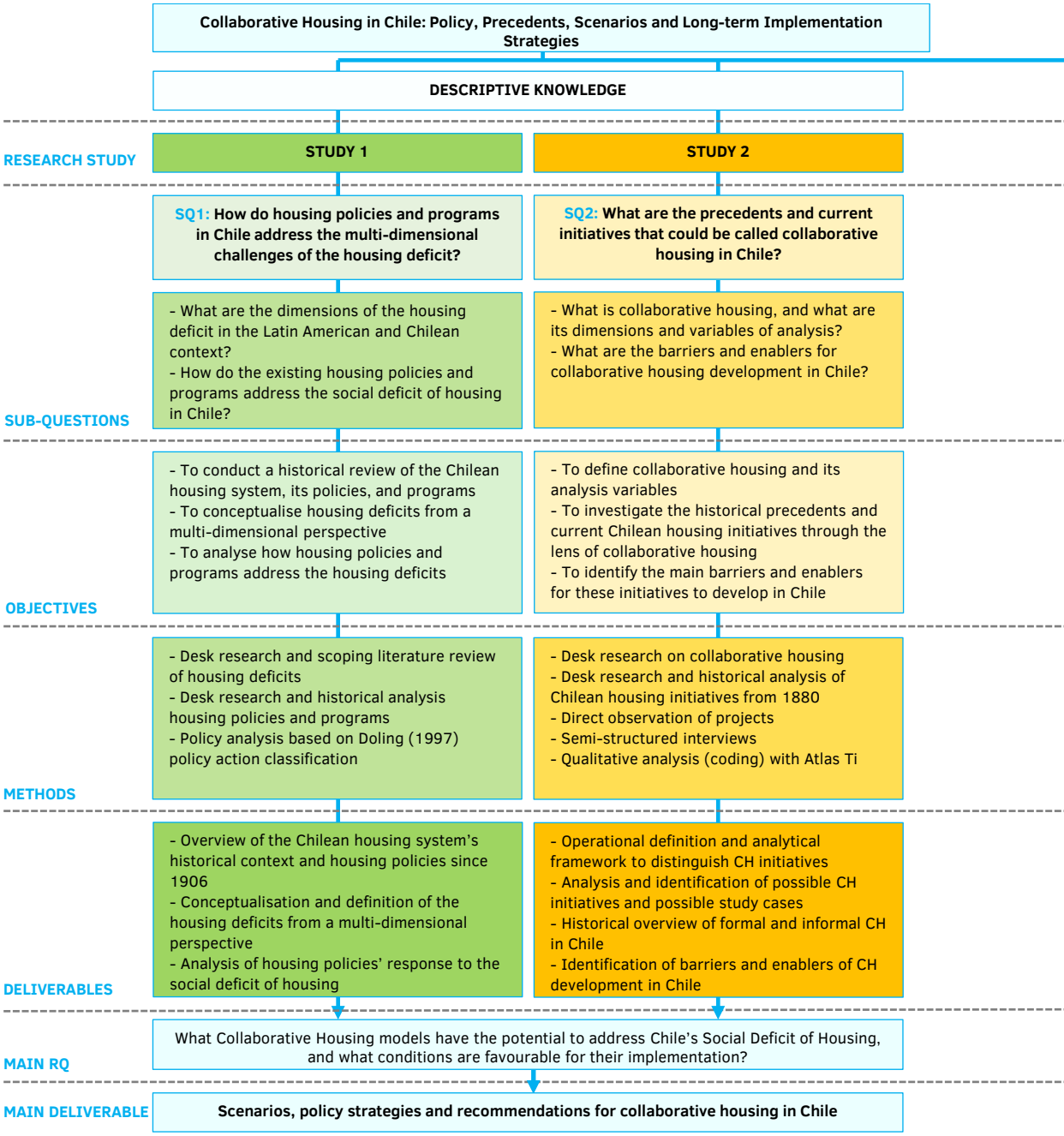
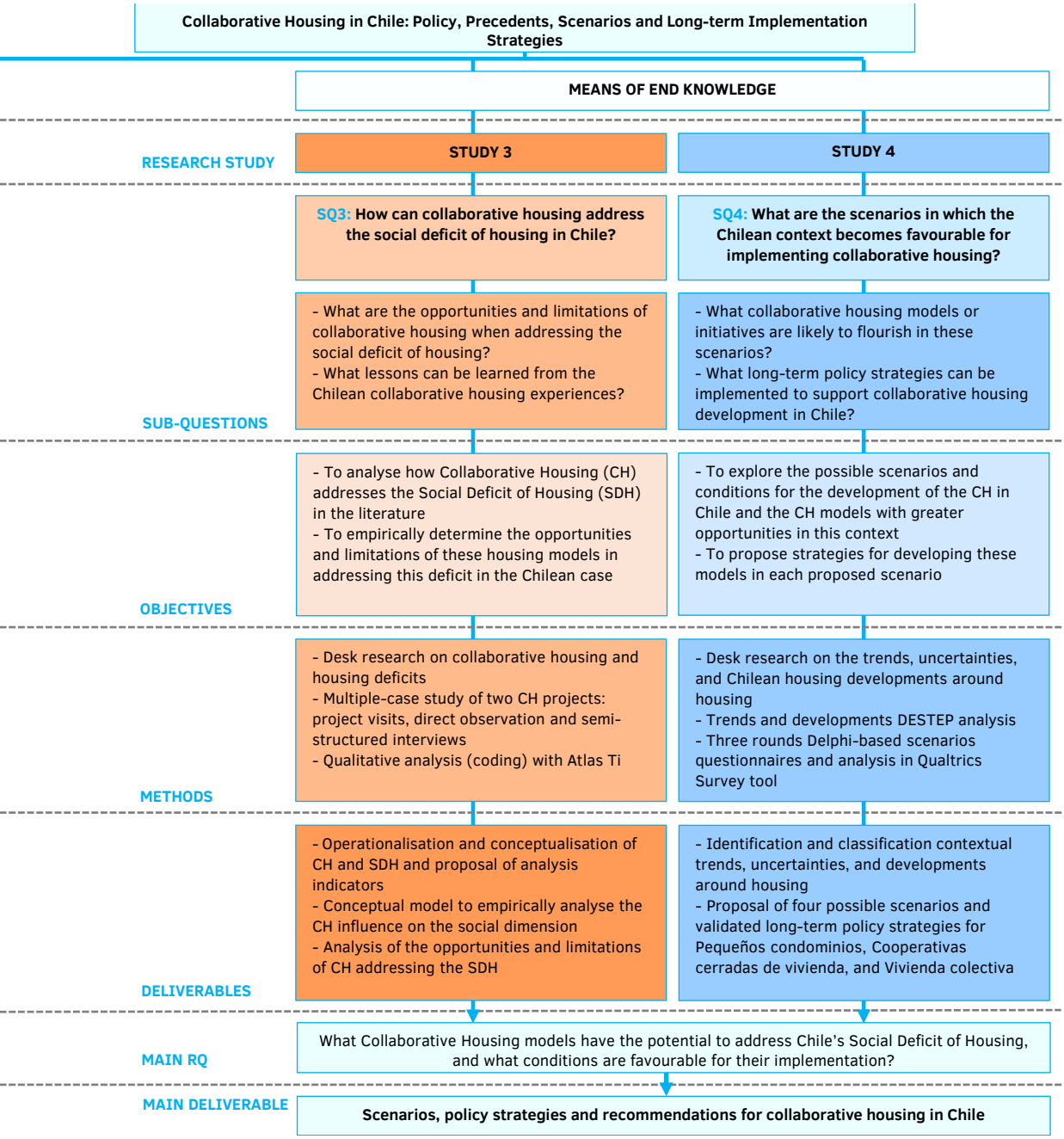


FIG. 1.7 General studies and deliverables (Source: Author)


Collaborative Housing in Chile: Policy, Precedents, Scenarios and Long-term Implementation Strategies
MEANS OF END KNOWLEDGE
RESEARCH STUDY
STUDY 3
STUDY 4
SQ3: How can collaborative housing address the social deficit of housing in Chile?
SQ4: What are the scenarios in which the Chilean context becomes favourable for implementing collaborative housing?
SUB-QUESTIONS
- What are the opportunities and limitations of collaborative housing when addressing the social deficit of housing?
- What lessons can be learned from the Chilean collaborative housing experiences?
- What collaborative housing models or initiatives are likely to flourish in these scenarios?
- What long-term policy strategies can be implemented to support collaborative housing development in Chile?
OBJECTIVES
- To analyse how Collaborative Housing (CH) addresses the Social Deficit of Housing (SDH) in the literature
- To empirically determine the opportunities and limitations of these housing models in addressing this deficit in the Chilean case
- To explore the possible scenarios and conditions for the development of the CH in Chile and the CH models with greater opportunities in this context
- To propose strategies for developing these models in each proposed scenario
METHODS
- Desk research on collaborative housing and housing deficits
- Multiple-case study of two CH projects: project visits, direct observation and semi-structured interviews
- Qualitative analysis (coding) with Atlas Ti
- Desk research on the trends, uncertainties, and Chilean housing developments around housing
- Trends and developments DESTEP analysis
- Three rounds Delphi-based scenarios questionnaires and analysis in Qualtrics Survey tool
DELIVERABLES
- Operationalisation and conceptualisation of CH and SDH and proposal of analysis indicators
- Conceptual model to empirically analyse the CH influence on the social dimension
- Analysis of the opportunities and limitations of CH addressing the SDH
- Identification and classification contextual trends, uncertainties, and developments around housing
- Proposal of four possible scenarios and validated long-term policy strategies for Pequeños condominios, Cooperativas cerradas de vivienda, and Vivienda colectiva
MAIN RQ
What Collaborative Housing models have the potential to address Chile's Social Deficit of Housing, and what conditions are favourable for their implementation?
MAIN DELIVERABLE
Scenarios, policy strategies and recommendations for collaborative housing in Chile

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1.3.6 Validity, reliability and bias

In line with the external and internal validation and reliability strategies (Creswell & Creswell, 2018; Yin, 2018), this research included multiple strategies and procedures to verify the findings' accuracy, credibility, validity and qualitative reliability. The validation and qualitative reliability of the studies developed in this thesis occurred during the research design (Creswell, 2009; Creswell & Creswell, 2018). Qualitative reliability ensures reducing possible errors and biases and demonstrates that the data collection and analysis operations can be repeated by other researchers to obtain the same findings and conclusions (Yin, 2018). Based on this, we documented the procedures and methodological steps to ensure the approaches are feasible and externally valid. The methodological steps followed in each study were made explicit and explained in detail in Sections 2.4, 3.2, 4.4 and 5.3. Likewise, we established clear protocols that guide the interviews and questionnaires, making the templates public and available for replication in other cases in the same or other urban contexts (Yin, 2018). These protocols are available in the appendices of each study and on the 4tu.researchData repository for other researchers to access. Furthermore, the PhD candidate recorded and transcribed all interviews and developed the databases to analyse the case studies. During this process, it was checked that the transcriptions and codes made in the qualitative analysis software Atlas Ti did not have 'obvious errors' or deviations in their definition (Creswell & Creswell, 2018; Johnson, 1997; Yin, 2018). Also, during the analysis period, for example, in Study 4 of scenario development, periodic documented meetings were held by the PhD candidate, and the analysis was shared with the research team of this research, comprised of the PhD thesis supervisors.

On the other hand, internal validation or the relationship between events in each study was ensured using different procedures (Creswell, 2009, P. 199; Yin, 2018). First, different sources of data and evidence were used in the studies, including different sources to obtain primary and secondary data, evidence from desk research, semi-structured interviews and questionnaires applied to different stakeholders. For example, in Studies 2, 3 and 4, different participant perspectives in interviews and questionnaires were included to build a coherent rationale for the themes (Creswell & Creswell, 2018). Secondly, the research included what Creswell (2009) calls 'member checking', particularly in Study 4, in developing scenarios and strategies for the three CH models investigated, which was done during the 3 Delphi rounds. These consisted of online questionnaires that were answered by participants anonymously (see Section 5.3 for a detailed review of the steps). After the completion of each round and after two to three weeks, the principal investigator sent a summary and interim analysis of the responses to the participants so they could review the analysis process. Participants could comment on this analysis

and findings (Creswell & Creswell, 2018). The PhD candidate then sent the new round with the improved proposal that took into account the consensual comments of the participants and, to ensure transparency in data management, explained where discrepancies or contradictions occurred between participants. Thus, the process was repeated successively until round 3, followed by the same procedure. At the end of Round 3, the Delphi participants validated the final scenarios and strategies proposed.

Third, this research used the strategy of describing the findings in a rich, dense, and detailed way while considering different perspectives. Examples of this occur in Studies 2 and 3, which have an interpretive perspective, where quotes from participants are added and in Study 3, when the findings explain the possible opportunities of CH on the social dimension of housing and its limitations (see Section 4.3). Finally, in the case of Study 2, cross-sectional interviews were conducted in two different periods to gain more knowledge and a deeper understanding of the studied phenomenon. Fourth, we gradually reflected on the possible biases that we, as researchers, could unintentionally bring to the study, the possible biases in interpreting the findings and the biases of the research participants. Examples of reducing these risks of bias were including secondary literature to verify the classification proposed for the analysis of housing policies and programs in Study 1, incorporating the research team in the review of the interview protocols and questionnaires to be carried out in all studies and incorporating the participants online in the Delphi to avoid bias among participants in Study 4. Fifth, as this research takes a normative approach, we as researchers might tend to have an idealistic view of CH's potential benefits and opportunities in social aspects. This is why, in the theoretical conceptual framework, the model's limitations were made explicit by considering both evidence in the literature and empirical evidence (Creswell, 2009). In addition, to address the interpretive validity, realism and precision of the findings, we included different participants' perspectives and reported negative information, discrepancies and contradictions in the participants' responses (Creswell & Creswell, 2018; Johnson, 1997). An example of this can be seen in the data feedback given in each round of the Delphi applied in Study 4.

1.4 Research impact

This section discusses the impact of this research in two parts. First, the societal relevance is discussed, followed by the scientific relevance.

1.4.1 Societal relevance

This dissertation is developed with the normative objective of exploring Collaborative Housing (CH) as an alternative to the conventional housing system with the potential to contribute to solving physical and non-physical housing problems in the Chilean context. Likewise, it seeks to explore CH as an alternative to diversify the housing supply with a solution that could adapt to the needs and preferences of future residents, for example, middle and lower-income groups, older or young adults who have difficulty accessing housing (Déficit Cero, 2022). Recent Chilean studies show that the quantitative housing deficit reached 641,421 homes in 2021 (Déficit Cero, 2022). According to a 2024 study based on MINVU data, the quantitative deficit will continue to grow, projecting an estimated deficit of 750,000 homes by 2025 (Durán, 2024). The quantitative deficit includes informal housing, families experiencing homelessness, and households living in *hacinamiento, allegamiento,* and *campamentos*. Some of these groups have significantly increased in the last five years. Studies by MINVU (2022a), MINVU et al. (2024), and TECHO-Chile & Déficit Cero (2024) show that, for example, the number of campamentos made up of groups of 8 or more households informally living on land that lack access to at least one of the basic services (e.g., electricity, sewage, or drinking water) increased from 1,091 in 2022 to 1,432 in 2024. In parallel, the qualitative deficit of homes requiring improvement reached 1.2 million in 2020 (DIPRES, 2020), and this number has continued to rise to with 1,263,576 homes in 2024 (MINVU et al., 2024).

The housing crisis and increase in the housing deficit in Chile are partly related to the difficulty of policies in responding to the population's needs and to the unaffordable private housing market for both rental and ownership (MINVU, 2022b). The deficit affects Chileans and the country's growing migrant population, which currently stands at 8.7% of the total population (Centro de Estudios e Investigación LyD, 2023; Fundación Vivienda, 2018). Likewise, the deficit not only involves affordability problems that make access to housing difficult or a lack of typologies that address the needs of different users, but as mentioned above, it also affects households that have a home, but its physical and non-physical qualities are

inadequate. In other words, housing may have problems with physical materiality and problems related to the urban dimension related to accessibility to amenities, equipment and urban environment (Garay et al., 2020; MINVU & CEHU, 2009; Monkkonen, 2018). Furthermore, Chilean research reports that some of the inhabitants who have been relocated into new homes and neighbourhoods away from their social ties experience problems in the social dimension (Borja, 2018). These inhabitants face the lack of neighbourhood social cohesion, the breakdown of their family social ties and community life, and feelings of loneliness influenced by housing (Beswick et al., 2019; Rodríguez et al., 2018). These issues show that housing faces multi-dimensional problems.

Academic publications emphasise social and urban problems that persist even after a century of housing policies and programs (Castillo & Hidalgo, 2007; Rodríguez & Sugranyes, 2005). Likewise, housing debates by public and private actors in the third sector focus their discussion on the housing deficit and the affordability crisis at the national level, questioning whether the current housing provision model approach provides 'adequate housing' considering multiple aspects. In line with this, from a housing urgency, calls are made for diversification and the development of housing models that respond to the deficit (MINVU, 2022b). In response to the deficit, groups of inhabitants have shown some interest in CH. They have done this in part as a way of showing discontent with the existing provision system, as a pragmatic route to access housing, or out of an intrinsic interest in maintaining a community social life and staying close to their social and family networks (Consolida, 2021; Garrido & Kornbluth, 2015; Ruiz-Tagle et al., 2021). Also, some non-profit third sector actors are interested in starting to research CH as an alternative for the older adults or elderly groups (Fundación Cohousing Chile, 2020). In line with this, during the research development of this thesis, small institutional changes and interventions through pilot projects were taking place that indicate some government interest in CH. The recent *Plan de Emergencia Habitacional* (PEH) proposed by the *Ministerio de Vivienda y Urbanismo* (MINVU) in 2022 emphasises the need to incorporate new housing programmatic lines, which diversify access to housing via innovative financing and management mechanisms that make its production more effective. In line with this, PEH proposes to develop some CH models in Chile, including 2,000 cooperativas *de vivienda* and 4,000 pequeños condominios, which are currently in starting the development phase.

The societal relevance of this research is justified by the urgent need to investigate housing alternatives that respond to the diverse needs of population groups with approaches other than the mainstream housing provision system. This research seeks to recognise and contribute to the current discussion that housing is more than a target of speculation and 'consumer good' (Castillo & Hidalgo, 2007). To

this end, it explores CH as a potential alternative to solving some of the current challenges around housing that have not been addressed by the country's existing housing provision system. These challenges include, for example, considering the housing dimensions from a multi-dimensional perspective and collaborative housing production processes between residents and stakeholders to improve inhabitants' quality of life. Furthermore, by proposing possible future scenarios, practical strategies and policy recommendations, this dissertation seeks to provide a tool for improving the governance of housing provision and housing policies and a guide to support actors interested in implementing CH models and projects in Chile. The knowledge acquired can support the formulation of housing policies, regulations, and specific programs for CH in Chile and as a reference in LAC countries with a similar housing provision system. In addition, the findings advance knowledge about the CH model, which is helpful for policymakers, developers, architects, academics, and private third sector organisations specifically interested in collaborative housing.

1.4.2 Scientific relevance

As mentioned in the problem formulation, although collectively self-organised and (in)formal housing that includes collaborative processes in its production is present in some Latin American countries of the Global South, *Collaborative Housing* (CH) under this terminology has received limited academic attention. In recent years, research from *Latin America and the Caribbean* (LAC) that connects with CH research has focused on specific CH models, local designations, and contexts. This means that some CH models have been studied individually and, in many cases, have not been connected to CH as a broad umbrella terminology. Examples are research on the cooperative model in Uruguay (Di Paula, 2008; Nahoum, 2008), Brazil (Valadares et al., 2018), Guatemala, El Salvador, and Honduras (Guevara & Arce, 2016; Guity-Zapata et al., 2023) and *Community Land Trusts* in Central America (Davis et al., 2020). Also, some research focuses on investigating self-organised housing movements, including the *Movimiento Popular la Dignidad* in Argentina and the *Pobladores* in Venezuela (Garrido & Kornbluth, 2015), and the *Social Production of Habitat* as a practice from future residents as executors and end-users of housing (Ortiz & Zárate, 2004).

A study from Guity-Zapata and Stone (2022) states that scientific knowledge of CH comes mostly from social democratic countries and that these models have been scarcely researched in LAC countries. The authors argue that the lack of research on these models does not necessarily represent the number of possible CH cases and models in these countries. They take Uruguay's case as an example, which has

historically led the development of housing cooperatives in LAC and has a permanent management program for the model. However, their scoping review found only three scientific articles focused on cohousing and cooperatives. Similarly, De Sousa (2018) argues from the perspective of the *epistemologies of the South* that the *epistemologies of the North* have positioned the scientific knowledge developed in the Global North as a representation of the world that is commonly recognised as the 'only source of valid knowledge' regardless of the context in which it is produced. This influences the tendency to devalue the knowledge of the South. The author explains that the concepts of the 'North' are transformed into a dominant Eurocentric and hegemonic knowledge, which tends to create false universalisms based on the experience of metropolitan and non-colonial societies. In response to this coloniality of knowledge, the epistemology of the South emerges, represented not only by its geography but also as a form of struggle to overcome the hierarchical North-South dichotomy.

De Sousa (2018) argues that North and South knowledge are not necessarily opposites and do not mean a single valid knowledge for another; therefore, research must cross the 'abyssal line between the North and the South'. In line with this, some CH researchers call for future research to 'pay attention' to current self-organised housing movements in the Global South to stimulate knowledge exchanges between contexts (Czischke et al., 2020; Lang et al., 2020). Following these ideas, this research seeks to cross the abyssal line between the North and the South as a first step towards decolonising knowledge by recognising new perspectives, creating knowledge exchange about CH and bringing it to unexplored contexts, focusing on Chile as a case. Although Chile within the Latin American region is considered a country with a relatively high well-being index and a high *Human Development Index* (Guity-Zapata et al., 2023; Naciones Unidas, 2020), self-organised collective initiatives, with some exceptions, have received little academic attention. Some exceptions include the book by Vergara et al. (2019) focused on (in)formal collaborative processes, research on housing cooperatives (Ruiz-Tagle et al., 2021), social production of habitat (Carroza, 2020), co-residency (Urrutia, 2019) and some master's theses on cooperatives among others (Fernández, 2022; Ibarra, 2018; Soto, 2020).

Therefore, this dissertation's scientific relevance lies in covering the previously mentioned gaps in scientific research focused on three central themes. First, although some key stakeholders have shown practical interest in collaborative housing models in the last ten years, research that embraces this terminology and conceptually links existing CH research with the Latin American case of Chile is still underdeveloped. Thus, this research aims to expand knowledge and theories of collaborative housing by investigating whether there are conceptual connections,

similarities, and differences between contexts and initiatives. To this end, it adapts the collaborative housing definition to the Latin American context, proposes an analytical framework and distinctive characteristics, identifies precedents and current collaborative housing initiatives in Chile, and analyses models that have the potential for long-term development when considering the contextual variables. Second, although the scientific research on Chilean housing focuses on policies and the housing deficit, the latter has not yet been recognised as a multi-dimensional phenomenon that includes a social dimension and considers the *Social Deficit of Housing* (SDH). Thus, this research conceptualises the deficit's dimensions, establishes analysis indicators, and investigates how Chile's housing policy context has responded to each dimension. Finally, this research explores the relationship and potential of *Collaborative Housing* addressing the *Social Deficit of Housing* to expand existing theories of CH's possible effects on social aspects and contribute this knowledge to the broader context.

1.5 Thesis outline

As presented in Figure 1.8, this dissertation is organised into six chapters. Chapter 1 of the *Introduction* presents the research, from its theoretical framing, research definition, philosophy, approach, methodological choices and data collection to its theoretical and scientific impact. Chapters 2 to 5 are the four studies that guide this research, and Chapters 2 and 4 take the shape of peer-reviewed scientific published articles.

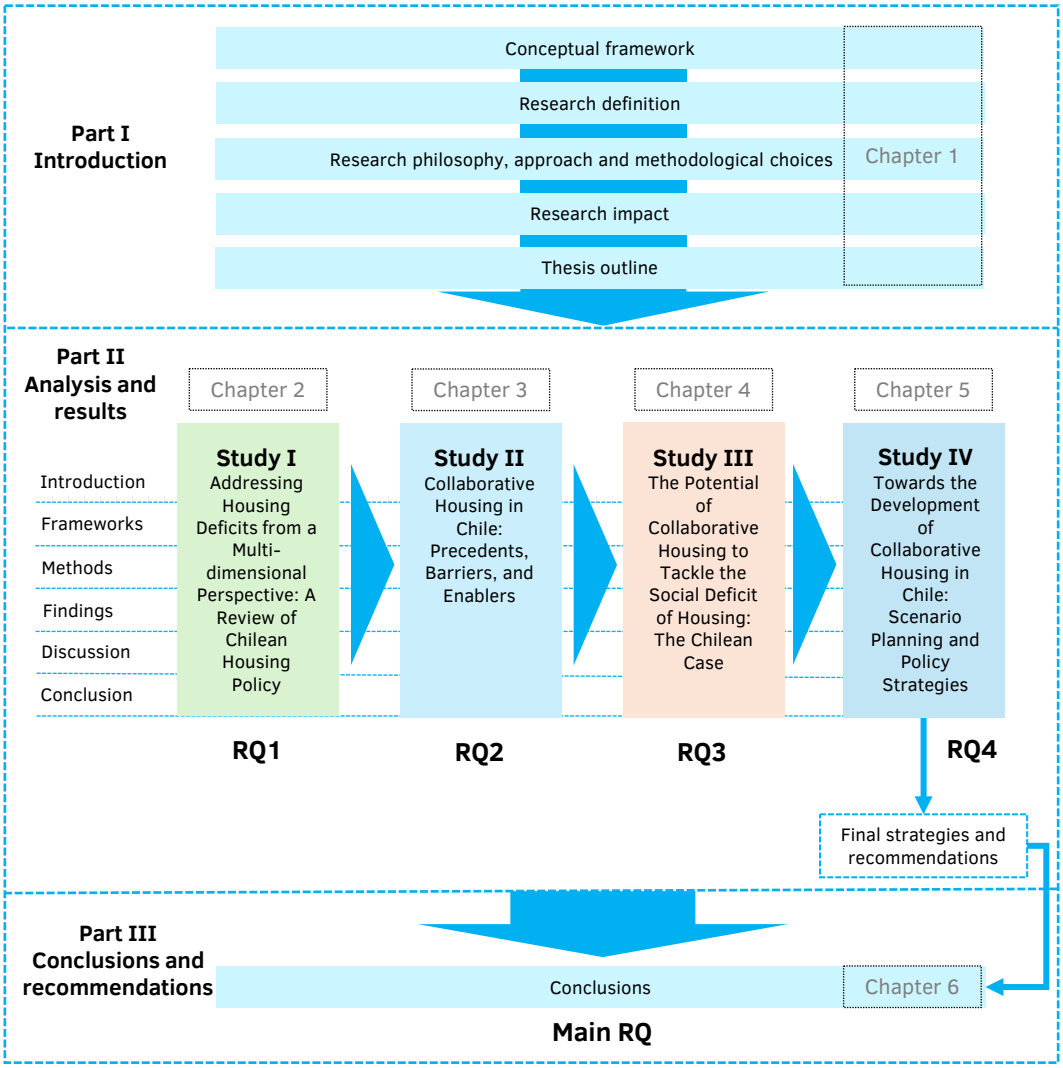

FIG. 1.8 Thesis outline (Source: Author)

TOC

Following the introduction, Chapter 2 presents Study 1 paper: "*Addressing Housing Deficits from a Multi-dimensional Perspective: A Review of Chilean Housing Policy*". This study reviews the Chilean housing system, policies, and programs and their response to housing deficits from a multi-dimensional perspective. Subsequently, Chapter 3 presents Study 2: "*Collaborative Housing in Chile: Precedents, Barriers, and Enablers*". This study proposes an operational definition of *Collaborative Housing* (CH) adapted to the Latin American and Chilean context and an analytical framework that can be used to recognise these initiatives. It also explores CH's possible initiatives in Chile and the barriers and enablers to their development. Chapter 4 presents the Study 3 paper "*The Potential of Collaborative Housing to Tackle the Social Deficit of Housing: The Chilean Cases*". This study theoretically and empirically explores the opportunities and limitations of CH when addressing the *Social Deficit of Housing* (SDH) in two Chilean case studies. To this end, a conceptual model is proposed that relates both concepts and an empirical study carried out in fieldwork, including direct observation, visits to the case studies and in-depth interviews. Then, Chapter 5 presents Study 4: "*Towards the Development of Collaborative Housing in Chile: Scenario Planning and Policy Strategies*". This study proposes four possible future scenarios for three CH models and strategies for their development in each scenario. Finally, Chapter 6 presents the *conclusions* of this thesis by synthesising the research findings of the four studies conducted, which jointly answer the main question of this research. It also discusses this thesis's scientific and societal contributions and limitations. Finally, it proposes recommendations for stakeholders to consider when developing collaborative housing in Chile.

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PART II

Analysis and results

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2 Addressing Housing Deficits from a Multi-dimensional Perspective

A Review of Chilean Housing Policy

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ABSTRACT After decades of battling the quantitative and qualitative housing deficits, Latin American countries are seeing new types of challenges in housing. Neoliberal policies favouring individual (low-cost) homeownership have weakened social trust and solidarity between neighbours, and some housing areas face poor urban amenities. An example of this is Chile, where housing policy measures have brought adverse effects such as deteriorating housing quality and the relocation of families to peripheral areas. This has caused the breakdown of family ties, community life, and social cohesion. Although various studies on the housing deficit in Chile have been carried out, these studies have not comprehensively addressed the multiple dimensions of housing. Therefore, this review explores how Chilean housing policies have addressed the housing deficit from four dimensions: quantitative, qualitative, urban, and social. To this end, we reviewed Chilean housing policies and programs and their response to the housing deficit from the neoliberal period onwards. We found that these policies and interventions have focused on solving the quantitative and, to a lesser extent, qualitative and urban deficits while sparsely addressing

the non-physical or intangible social dimension. We conclude this article with recommendations to address the social deficit of housing in future policies.

KEYWORDS Housing policies; Policy review; Multi-dimensional housing deficit; Social deficit of housing; Chile.

2.1 Introduction

In recent decades, the housing deficit has become a global problem that has increased significantly (BID, 2018; Monkkonen, 2013) and extended to multiple dimensions. There is a quantitative deficit in Latin America and the Caribbean (LAC), which refers to the lack of numerical supply of houses produced for the current population (MINVU & CEHU, 2009). There is also a qualitative deficit regarding the lack of physical quality (Ducci, 2009). Of the urban population in LAC, 6% of the population experience homelessness, 94% of homes have qualitative deficits, and 30% live in overcrowding (CEPAL, 2021). Chile is not alien to this situation, as the total quantitative deficit reached 641,421 homes in 2021 (Déficit Cero, 2022), and more than 1.2 million homes need to be qualitatively improved (DIPRES, 2020).

Governments in LAC have focused on developing housing policies to combat this deficit (ONU-Habitat, 2015). Nevertheless, these policies have shown deficiencies since implementation (Fuster-Farfán, 2021). Moreover, new challenges have emerged beyond quantitative deficits (Monkkonen, 2018). These challenges extend to social problems, including social exclusion and overcrowding (Rodríguez & Sugranyes, 2005) and urban problems related to the lack of public spaces, infrastructure and urban amenities (Monkkonen, 2018). A focus on the quantitative deficit, albeit essential to tackle, could neglect other dimensions of the housing deficit. Therefore, we recognise that the housing deficit is a multi-dimensional phenomenon comprising four dimensions: quantitative, qualitative, urban, and social.

Although many researchers have studied the housing deficit, there have not been studies on how policies address all of these four dimensions. This review explores how housing policies and programs in Chile have addressed the multi-dimensional challenges of the housing deficit. We present this review in three sections. First, we show an overview of Chile's housing policies. Second, we define the deficits and their indicators. Finally, we present our findings on how policies have addressed the housing deficit from a multi-dimensional perspective.

2.2 Background: understanding housing provision and policies in Chile

Chile has a long history of housing policies and programs focused on addressing the housing deficit. From the first *Workers' Rooms Ordinance* of 1906 onwards, the state held a producing role and mainly regulated construction and rental prices (Hidalgo, 2005). From the '40s, the first *slums* and *land takeovers* emerged due to rural-urban migration leading to increasing demand (Rodríguez & Sugranyes, 2005). In response, the state changed its logic towards a policy of quantitative interventions, incorporating the private market and boosting housing production. From the 1960s onwards, the state's objective was to replace informal housing with subsidised housing located in the periphery (Hidalgo, 2005).

From the '70s, the period of a facilitating role and neoliberal state began (Gilbert, 2002), with Chile being the first county to implement this regime. The new intrinsic ideology became that the private market was considered to be more efficient in housing production than the state, marking a radical policy change (Fuster-Farfán, 2021). Thus, housing was commodified, and a subsidiary system was created for vulnerable inhabitants. From 1979, land was not considered a scarce good, and land use was deregulated (Tapia, 2011). Subsequently, policies privileged quantity over quality (Fuster-Farfán, 2019).

This subsidiary model was maintained during the following decades, significantly reducing the quantitative deficit (Ruiz-Tagle et al., 2021). This model was considered successful in Chile and replicated in LAC (Lentini, 2005). Towards the end of the 1990s, the policy showed signs of exhaustion and was no longer capable of satisfying housing needs, leading to a housing crisis of quality and location (Tapia, 2011). Since 2000, policies have made a 'qualitative turn' (Fuster-Farfán, 2021). In 2006, the *Urban-Housing Policy* was implemented to improve construction quality, building location and fight social exclusion through social integration policies and participatory methodologies. However, despite these interventions, policies did not change structurally (Fuster-Farfán, 2019).

In the last 15 years, *exceptional interventions*[1] have become frequent, and some have been considered good practices regarding inhabitant participation, location, and quality. However, these exceptions have depended on the stakeholders' capacity and not on housing policies (Fuster-Farfán, 2021).

2.3 A multi-dimensional perspective on the housing deficit in Chile

The *housing deficit* or *shortage* in LAC academic literature is understood as 'the multiplicity of deficiencies associated with aspects necessary for an adequate housing quality' (Sepúlveda et al., 2005, P. 20). This deficit is diverse, complex and coexists with social problems such as socio-spatial inequality (Santoro, 2019). Thus, focusing interventions only on the quantitative and qualitative deficits is insufficient. To address structural inequalities, policy solutions must respond to different dimensions and social contexts (Lentini, 2005). We, therefore, analyse the housing deficit comprising four dimensions: quantitative, qualitative, urban, and social.

The quantitative and qualitative deficits are relatively easy to measure through indicators related to physical characteristics. However, this is difficult for urban and social deficits because some aspects lack quantifiable indicators. In this paper, we employ an initial framework and indicators of the dimensions to analyse whether policies address these deficits in Chile.

2.3.1 Quantitative and qualitative deficits

International literature shows that the definitions of quantitative and qualitative deficits and their components have been widely discussed (Marcos et al., 2018). There seems to be a consensus on the general ideas of both concepts. Monkkonen (2013) states that the qualitative deficit estimates the number of homes below normative quality

1 Alternative governance strategies that oppose standard policies resulting from the pressure of resident movements (Fuster-Farfán, 2021).

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standards. The quantitative deficit calculates the availability of homes in relation to the number of current households. In the Chilean case, both deficits are intertwined.

In 2004, the Ministry of Housing and Urbanism (MINVU) proposed three categories of housing: acceptable, recoverable and irrecoverable homes. In analogy with this distinction, we refer to the *quantitative deficit* as 'the number of exclusive homes that need to be produced to satisfy the housing needs of the current population'. This includes *irrecoverable homes*[2] and families living in *allegamiento*[3] or *hacinamiento*[4] (Déficit Cero, 2022). In line with the LAC definitions (BID, 2018), we understand the *qualitative deficit* as the 'lack of quality of the construction material and availability of basic services such as drinking water, electricity and sewerage.' This corresponds to *recoverable homes* that need constructive improvements or a connection to basic services (MINVU, 2004b). Indicators for these deficits are shown in Table 2.1.

2.3.2 Urban deficit

In LAC, neoliberal housing policies have displaced families from informal settlements to the periphery, segregating inhabitants (Gilbert, 2002). In the global context, housing solutions have produced similar problems, such as a lack of infrastructure, public spaces and urban amenities (Monkkonen, 2018). In 2009 in Chile, the MINVU and the Housing and Urban Studies Commission (CEHU) stated the existence of an urban housing deficit defining it as a 'set of urban and housing deprivations that significantly affect the residential development and the quality of life of the population.' In addition, the Inter-American Bank (BID), in 2018, proposed that qualitative problems extend to the city's attributes available to the inhabitants.

In analogy with the previous approaches, we refer to the *urban deficit* as 'the lack of availability of urban spaces, infrastructure and access to amenities that contribute to the quality of life in residential areas'. The concept of the urban deficit is still a challenge in the methodological and conceptual construction (MINVU & CEHU, 2009). This is because adequate variables and indicators are not yet available to measure it in its full complexity (Garay et al., 2020). For this policy review, we propose indicators, such as the accessibility of homes to urban spaces and amenities (Table 2.1).

2 Homes that require replacement (MINVU, 2004b).

3 Living arrangement where multiple households coexist within one home (Fuster-Farfán, 2021).

4 Occurs when more than 2.5 people per bedroom live in a home (Déficit Cero, 2022).

TABLE 2.1 Dimensions of housing deficit and indicators (Source: Authors)

Housing deficit	Definition	Indicators
Quantitative	The number of exclusive homes that need to be produced to satisfy the housing needs of the current population	– Availability of exclusive homes – Affordability – Allegamiento – Overcrowding
Qualitative	Lack of quality of construction material and availability of basic services such as drinking water, sewage and electricity	– Habitability – Availability of services – Quality of construction – Availability of bathroom and kitchen inside the house – Privacy
Urban	Lack of availability of urban spaces, infrastructure and access to facilities or amenities, such as hospitals, schools, and parks, that contribute to the quality of life in residential areas	– Availability of urban spaces and infrastructure – Quality of the urban spaces – Accessibility and availability from homes to amenities and facilities – Safety
Social	Lack of non-physical or intangible aspects, such as the feeling of integration and social cohesion at the local level of the neighbourhood or building	– Social networking – Social interaction – Sense of community – Sense of belonging – Bonding social capital – Interpersonal trust – Solidarity – Neighbourhood attachment – Neighbourhood social cohesion

2.3.3 Social deficit

In Chile, relocating households from different origins to new settlements has caused socio-spatial segregation and the breakdown of original social ties (Rodríguez et al., 2018). The same pattern is visible in Brazil, Colombia (Santoro, 2019) and Argentina (Lentini, 2005), when inhabitants of informal housing reject new homes located on the periphery to maintain their prior social fabric (Beswick et al., 2019, P. 12). Relocated families experience feelings such as isolation, weakened solidarity (Castillo & Hidalgo, 2007) and lack of social cohesion and community life (Wormald & Sabatini, 2013). The underdevelopment of these social aspects is what we propose to call the *Social Deficit of Housing (SDH)*.

Paidakaki & Lang (2021) explain that although housing is considered a physical resource, it also includes a non-physical social dimension. According to Borja (2018, P. 245), 'housing is something more than housing; it is the place to live together (…) and build social ties'. Based on this, we refer to the SDH as the 'lack of non-physical or intangible aspects such as the feeling of integration and social cohesion at the local level of the neighbourhood or building'. This social dimension shows similarities to the concept of *social sustainability*, which focuses on the physical and non-physical dimensions of the social structures of communities (Janssen et al., 2021) and therefore has similar indicators.

We propose SDH indicators, including elements of social sustainability such as *sense of community, social networking, and interactions*. We also include *bonding social capital* (Woolcock, 2002), *trust*, *solidarity* and *neighbourhood attachment* (Méndez et al., 2021). In addition, we include *neighbourhood social cohesion*, defined by the *Economic Commission for Latin America and the Caribbean* (CEPAL) in 2022 as 'the capacity of a society to (…) generate a sense of belonging and an orientation towards the common good.'

2.4 Methods: classification of policy options in addressing the housing deficit

This policy review explores the response of policies to the housing deficit, loosely adapting the criteria and analysis model from Weimer & Vining (2017). First, we reviewed European, LAC, and Chilean literature to understand the problem. Our review was of a scoping nature as we rapidly mapped key concepts of the housing deficit (Arksey & O'Malley, 2005). Inclusion criteria were that the publications focused on the *housing deficit* or our four dimensions in Spanish and English. Based on this review, we identified definitions for the deficits and analysis indicators.

Second, we established a timeline (from 1906 to the present) of the policies based on policy documents from the MINVU (2004a) complemented with available publications from Chilean housing academics, e.g. Hidalgo (2005) and Greene & Mora (2020). Third, we analysed the nature of Chilean policies using our indicators, starting from 1970, the policies' neoliberal turning point onwards. We classified policy objectives using our indicators as keywords to see whether a policy responds to a deficit. We reviewed secondary literature from the aforementioned authors to verify our classification and avoid bias. Finally, we formulated recommendations to tackle the SDH.

For this analysis, we understand *policy* using Doling's (1997) definition as 'the reaction of governments to problems, such that the objective is to increase the well-being [or] welfare (…) of the citizens.' Additionally, we adapted Doling's policy action classification framework to the Chilean context as follows.

- **Exhortation (E):** Exhort individuals and organisations to behave in ways consistent with their policy aims, e.g. publicity campaigns, educational or resident support workshops.
- **Regulation (R):** Regulation of a specified behaviour, e.g. standards of construction or behaviour.
- **Taxation (T):** Taxes on goods and services whose consumption the government wants to reduce, e.g. tax on sales, property or income, expropriations of land.
- **Subsidy (S):** The reverse of taxation, e.g. voucher, subsidy, tax benefit.
- **Provision (P):** Direct provision of goods or services, e.g. land or house allocation.

Based on Doling's suggestion of adapting policy options to specific housing contexts, we chose not to include *Non-action*, as we were interested in the policies that did address housing deficits. Additionally, we added two policy actions, *Deregulation* and *Partial provision,* as they also occur in Chile. Examples are the *National Urban Development Policy* (PNDU) in 1979 and the *Eradication program* (1982). We define these actions as follows:

- **Deregulation (D):** Eliminate regulations, e.g. land limits for urban expansion.
- **Partial provision (I):** Partial provision of goods or services, e.g. part of the home or urban amenities developed by the state.

An example of our analysis is the following. We analysed the 2006 *Neighbourhood Regeneration Program* (Appendix 2A). First, we used the proposed indicators, e.g. *social* or *urban amenities*, as keywords to review the policy objectives. Second, we analysed the program's objective, e.g. 'recover deteriorated public spaces, improve environmental conditions, strengthen social relations, and promote more integrated neighbourhoods', and the actions proposed for each deficit. In this case, the policy proposed specific actions for qualitative, social and urban deficits, e.g. construction of urban amenities, improvement of basic services and collective spaces, and training for residents. Then, using Doling's framework, we classified these actions in the qualitative and urban dimensions as *Subsidy* and *Provision* since the program's objective is to improve the quality of the services and urban amenities. Also, some actions are classified as *Exhortative* in the social dimension since the program provides workshops for the residents to strengthen neighbourhood networks and community life. We repeated this process for each housing program and policy.

2.5 Findings: housing deficits and policy options addressed in Chilean policies

We analysed housing policies in Chile for if and how they address the four deficits defined in the previous sections. Figure 2.1 shows the number of occurrences of policy actions per deficit for every decade since 1970. Appendix 2A in Table 2.2 shows the complete timeline of the Chilean policies and our classification of the policy actions.

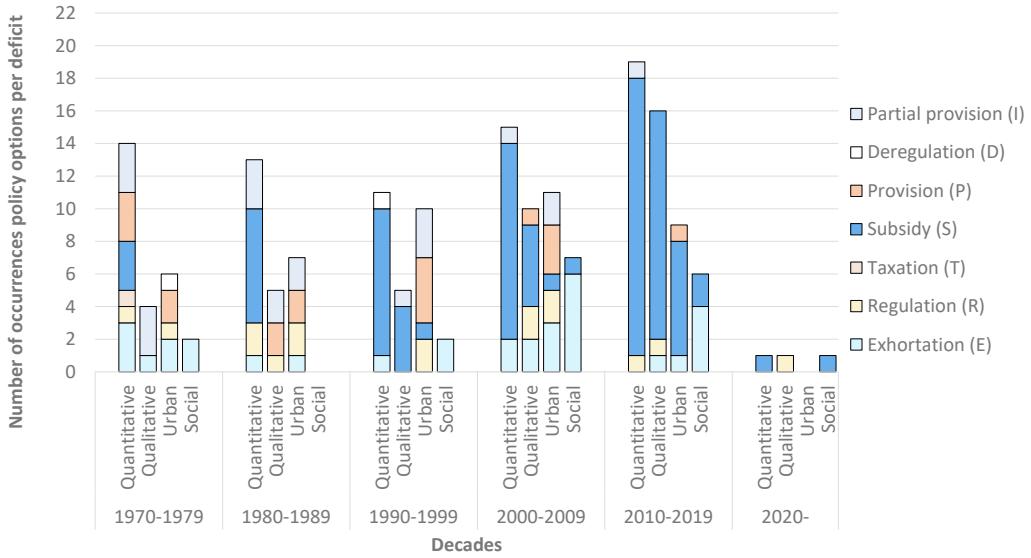

FIG. 2.1 Housing policies addressing housing deficits (Source: Authors)

2.5.1 Quantitative and Qualitative deficits

Since their first interventions, housing policies in Chile have focused on reducing the quantitative deficit. Appendix 2A shows that policy programs mainly regulated (R) the livability of the homes and partially (I) and fully (P) provided housing. As shown in Figure 2.1, since the 1970s, policies have taken a neoliberal turn, in which interventions change from a provision (P) to a subsidiary system (S). Under this neoliberal ideology, policies focused on achieving economic efficiency

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(Peñafiel, 2021) and maximum densification through industrialised production (Beswick et al., 2019). Since the 2000s, policies have changed from quantitative to qualitative approaches to improve homes' quality and basic services. This change began in 2006 with the *I Like My Neighbourhood* program. From this period until now, the qualitative dimension has been addressed through subsidies (S) and, to a lesser extent, partial provision (I) and regulations (R).

Our analysis shows that Chilean policies have significantly addressed both deficits in the last 30 years. This is in line with the *Urban Quality of Life Survey* (CEHU, 2018), which shows that a population sample's perception of housing quality has increased from 74% to 81% between 2015 and 2018, based on interviews and questionnaires. However, policies still dictate minimal quality standards followed to the minimum by real estate developers (Imilan, 2016). This system causes rapid deterioration of homes, reducing their useful life.

Although housing programs have improved housing conditions, it is still not considered a constitutional right, and policies try to correct problems on the fly without making structural changes (Fuster-Farfán, 2021). Therefore, recognising housing as a right[5] and improving the quality of homes still requires attention.

2.5.2 Urban deficit

Policies have created plans to regulate (R) and fully (P) or partially (I) provide urban amenities. Figure 2.1 shows that the provision of public spaces (P) has occurred more frequently since the 1990s. Later, towards the 2000s, these urban programs were varied (I, S and P) and responded to the new approach of minimising the deterioration of cities and generating equipped neighbourhoods (PNDU, 2014). Since the proposal by MINVU & CEHU to consider the urban dimension as part of the deficit in 2009, policies focused on granting subsidies (S) to improve urban facilities. Our review shows policies' progress in addressing the urban deficit. However, the inhabitants still perceive urban problems, such as the lack of accessibility to urban amenities and insecurity in public spaces MINVU (2018). There is a lack of integration and dialogue between urban and housing programs. These problems cannot be improved substantially if homes and the neighbourhood are not considered an integrated system (Tapia et al., 2019).

5 Currently, housing is part of the constitutional debate (Vergara-Perucich et al., 2020).

2.5.3 Social deficit

Housing policies have tried to respond to what we call the SDH (Figure 2.1). However, these attempts have been primarily symbolic. The *Self-build Operation Program* for assisted self-construction from the 1970s encouraged (E) collective housing production by residents (Beswick et al., 2019). While this contributed to strengthening the social fabric of communities, the government at the time eliminated the program. In the 1980s, although social aspects such as strengthening social networks were mentioned in some collective application programs, there was no tangible action. In the 1990s, policies mostly responded to this deficit through exhortative solutions, including resident training (MINVU, 2004a).

Since the 2000s, social aspects such as *cohesion*, *integration* and *social mix* have become more frequent in policy narrative. However, the programs' response has been of a similar nature (E) while including subsidies to a lesser extent (S). One of this period's exceptional programs was the *Chilean Neighbourhood Program*, which incorporated support for integrating families into their new homes (E) (Fuster-Farfán, 2019). Currently, policy approaches have been chiefly exhortative (E) and, to a lesser extent, subsidiary (S).

A study on social capital by MINVU (2004a) showed that about 20% of surveyed households felt a lack of identity, trust and neighbourly relationships. Furthermore, families expressed the need to strengthen community ties and neighbourhood identity (Castillo & Hidalgo (2007) with tools that facilitate organisation and coexistence (Peñafiel, 2021). Our analysis shows that although exceptional interventions subtly addressed the social dimension, the necessary support tools to build a sense of community and neighbourhood social cohesion have not been developed yet.

2.6 Conclusions and recommendations

This Policy Review explored how housing policies in Chile have addressed the housing deficit from a multi-dimensional perspective. From the policy analysis presented here, we conclude that despite government efforts, housing policies still lack structural changes and do not treat housing as a multi-dimensional phenomenon. Although the dimensions have been treated independently, an integrated policy approach is still lacking. In summary:

1 Policies have mostly addressed quantitative housing demands. However, the focus has been on efficiency and minimum cost, neglecting other housing dimensions.

2 Although there has been a qualitative turn in policies, the associated solutions have been exceptional and have not been part of structural changes.

3 Housing policies have progressed in addressing the urban dimension, but urban programs remain independent from housing, maintaining socio-spatial segregation.

4 The social dimension of housing has been partially included in the policy narrative but sparsely addressed by policy actions. The associated actions have not been of a practical nature but mostly symbolic and exhortative.

In conclusion, this review indicates that policies have focused on solving quantitative and, to a lesser extent, qualitative and urban deficits while sparsely addressing the non-physical or intangible social dimension. Practically addressing social aspects is relevant for housing policies since neglecting this dimension could increase homes' and neighbourhoods' social and physical degradation. Our recommendations to address the social deficit are twofold.

First, we suggest that policies consider housing in its multi-dimensionality since housing problems are not solved only by giving the inhabitants a house but by considering comprehensive solutions that adapt to different geographical contexts and needs. Including a social dimension could lead Chilean housing policies to help achieve a cohesive society and social sustainability.

Second, we suggest strengthening the social dimension by creating participatory tools and exploring new housing models. Some national examples of participatory programs are the *Micro-settlement 'Here I Stay'* and *Housing Cooperatives Pilot*. In these projects, residents are integrated into housing development by local governments. An international example is *Collaborative Housing* (CH), a form of self-managed housing where residents collectively produce homes by collaborating with stakeholders (Lang et al., 2018). Some examples of CH are housing cooperatives in Uruguay, Argentina, and Spain and Community Land Trusts in Central America (Davis et al., 2020). Exploring these models and tools could contribute to integrally addressing the housing deficit and its social dimension in Latin America and Chile.

Appendix 2A

Appendix 2A presents in Table 2.2 the results of the policy analysis carried out in this article. It provides an overview of each housing policy and program from 1906 onwards in Chile and its response to each dimension of the housing deficit.

TABLE 2.2 Overview of housing policies addressing housing deficits[6] (Source: Authors)

Year	Policies and housing programs	Quantitative						Qualitative						Urban						Social						
1906	Council Programs for Workers	E	R		S	P		E	R		P								I							
1936	Direct Program of the People's Habitations Organisation		R	T		P																				
1949	Emergency Housing Foundation					P			R																	
1951	Self-construction and Mutual Help Program						I	E					I													
1953	Direct and Indirect Labor Program		R	T		P			R					E												
1958	Eradication Plan for Urbanised Land				S	P	I		R				I						I							
1959	Housing Plan Chile (DFL 2)	E		T		P			R																	
1965	Site or Chalk Operation						I						I				P									
1967	People's Savings Plan					P	I				P		I						I							
1970	20,000/70 Self-build Operation					P	I						I							E						
1971	Emergency Plan	E			S	P	I						I				P									
1972	Transitory Slums Operation						I																			
1972	Housing Program		R	T		P							I				P			E						
1975	Basic Housing Program	E			S			E						E												
1978	Housing Subsidy on Demand: General Unified				S																					
1979	National Urban Development Policy (PNDU)	E												E	R			D								
1981	Variable Housing Subsidy		R		S																					
1980	Housing Subsidy on Demand (Rural Sector)				S												P									
1982	Lots with Services (Eradication) Program						I				P		I						I							
1982	Neighbourhood Improvement Program						I				P		I						I							
1984	Housing Subsidy (Colonisation Plans)				S																					
1984	Housing Subsidy (SAF)				S																					
1984	Basic Housing Program	E			S				R						R		P									
1984	Basic Housing for Special Care for the Elderly						I																			
1985	PNDU		R											E	R											
1985	Special Workers Program (PET)				S																					
1986	Rural Housing Subsidy Program				S							S														

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6 The names of each policy were translated from Spanish into English by the authors.

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TABLE 2.2 Overview of housing policies addressing housing deficits[6] (Source: Authors)

Year	Policies and housing programs	Quantitative						Qualitative						Urban						Social					
1990	Progressive Housing Program	E			S						S														
1990	Progressive Housing SERVIU Modality				S						S														
1990	Progressive Housing Private Modality				S						S														
1990	Progressive Housing Property Densification				S																				
1990	Urban Emergencies Program (Urban amenities)													R			P		I	E					
1991	Urban Renewal and Priority Development Program				S									R											
1992	National Urban Parks Program																P								
1994	Free Choice Basic Housing Program				S																				
1994	Participatory Paving Program																		I						
1995	Housing Mobility Program				S		D																		
1995	Complementary Housing Equipment Program																P								
1995	Housing Leasing				S																				
1996	Community Improvement Program																P								
1998	Chilean Neighbourhood Program				S						S					S				E					
1998	Financial Assistance Program for Condominium (DS.127)												I						I						
2000	The New Housing Policy	E						E						E											
2001	Urban Megaprojects				S						S								I						
2001	Solidarity Fund I				S						S			R											
2002	A Neighbourhood for My Family Program (accompaniment)																			E					
2002	Basic New Housing Program				S		I		R										I						
2002	Bridge Program: Between the Family and their Rights																			E					
2002	Dynamic Social Housing Without Debt	E			S						S														
2002	Community Life Program																			E					
2002	Bicentennial Program																P								
2002	Competitive Program for Works in Public Spaces																P								
2004	Heritage Rehabilitation Subsidy				S									E											
2004	Housing Subsidy (General Subsidy) (DS.40)				S																				
2004	Housing Subsidy: Territorial Interest Subsidy				S																				
2005	Housing and Surroundings Improvement Program										S														
2006	Neighbourhood Regeneration "I Like My Neighbourhood" Program										S	P				S	P			E					
2006	Social Enabling Plan																			E					
2006	Urban-Housing Policy for Quality Improvement and Social Integration							E	R					E						E					
2006	Solidarity Fund II				S																				
2006	Localisation Subsidy				S									R											
2006	Social Integration Subsidy																					S			
2009	Extraordinary Housing Subsidy (DS.04)				S																				
2009	Subsidy for Residential Debtors (short-term loans) (DS.44)				S																				

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TABLE 2.2 Overview of housing policies addressing housing deficits[6] (Source: Authors)

Year	Policies and housing programs	Quantitative						Qualitative						Urban						Social					
2009	Subsidy for Residential Debtors in Situation of Vulnerability (DS.51)			S																E					
2010	Pilot Program Demolition of Ghettoised Neighbourhoods	R		S							S														
2011	Subsidy for Residential Debtors (DS.12 and DS.67)			S																					
2011	Social Condominium Improvement Program										S					S				E					
2011	Family Wealth Protection Housing Expansion										S														
2011	Protection of Family Patrimony Improvement of Community Equipment															S									
2011	Protection of Family Patrimony Repair and Improvement of Housing										S														
2011	Eradication of Emergency Villages			S			I													E					
2011	Reconstruction Program: Home Reparation			S							S														
2011	Social Condominiums Reconstruction Program			S							S														
2011	Territorial, Urban, and Patrimonial Program of Reconstruction			S							S														
2011	Integrated Housing Subsidy System - Emerging groups (DS.1)			S																					
2011	Integrated Housing Subsidy System - Medium groups (DS.1)			S																					
2012	Housing Choice Solidarity Fund (DS.49)			S																					
2012	National Slums Plan			S													P								
2012	Thermal Isolation										S														
2014	PNDU							E						E						E					
2014	Rent Subsidy			S																					
2015	Social Condominium Regeneration Program			S							S					S									
2015	Extraordinary Housing Subsidy for Social Integration Projects (DS.116)			S																		S			
2015	Economic Reactivation Program with Social Integration (PREIS)			S																					
2016	Housing Program for Social and Territorial Integration (DS.19)			S					R													S			
2016	Rural Habitability (DS.10)			S							S					S									
2017	Small Towns Program										S					S									
2017	Housing Complex Regeneration Program										S					S									
2017	Housing Cooperatives Pilot Program			S																E					
2018	Micro-settlement Program "Here I Stay" (Small Condominiums)			S																		S			
2018	Energy Efficiency for Housing (DS.27)										S														
2019	Housing and Neighbourhood Improvement Program "Better Home"										S					S									
2020	Intervention in Heritage Constructions and Existing Buildings								R																

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TABLE 2.2 Overview of housing policies addressing housing deficits[6] (Source: Authors)

Year	Policies and housing programs	Quantitative	Qualitative	Urban	Social

E = Exhortation, **R** = Regulation, **T** = Taxation, **S** = Subsidy, **P** = Provision, **D** = Deregulation, **I** = Partial Provision

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3 Collaborative Housing in Chile

Precedents, Barriers, and Enablers

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ABSTRACT

Housing faces challenges such as unaffordability, commodification, and a growing deficit worldwide. In the Global North, self-managed and self-organised initiatives, referred to as Collaborative Housing (CH), have emerged partly in response to these problems and are often driven by community life, sustainability goals, and social inclusion. In countries in the Global South, such as Chile, self-organisation in housing arises from the inhabitants' struggle for housing in the face of the deficit. Recent empirical research in Chile shows that CH could contribute to tackling problems around the social dimension of housing, and there is currently some interest from the government in supporting these housing initiatives. However, despite ongoing research on CH, these initiatives have received limited academic attention in this context. This chapter explores Chilean housing models and (in)formal initiatives through the lens of CH. It discusses the CH precedents in Chile and identifies barriers and enablers for its development. To this end, we proposed an analytical framework to distinguish CH initiatives and conducted 63 interviews with stakeholders to identify barriers and enablers. We found precedents and current emerging formal CH initiatives in Chile, namely *cooperativas de vivienda, vivienda colectiva* and *pequeños condominios*. However, until now, these initiatives are in the starting phase of development in Chile and are a marginal phenomenon that faces barriers. We conclude that CH could have development opportunities in Chile if barriers such as lack of openness in policies and financial and regulatory frameworks become facilitators.

KEYWORDS

Housing deficits; Collaborative Housing; Enablers and Barriers; Global South; Qualitative Methods; Historical study; Interviews; Chile.

3.1 Introduction

In recent years, self-organised and self-managed housing initiatives have attracted increasing interest from researchers worldwide (Brouwer & Bektas, 2014; Jarvis, 2015; Lang et al., 2020). These housing initiatives have emerged partly as resistance to gentrification and a response to social problems such as segregation, urban austerity, and housing commodification (Hammami et al., 2022; Schipper & Schönig, 2016). Self-organised housing provision broadens options for middle-income future residents, as seen in the housing supply in North America, Scandinavia, and Western Europe (Brouwer & Bektas, 2014; Duncan & Rowe, 1993). In Global South countries, this self-organisation appears from the struggle of low and middle-income families for the right to housing in the face of different dimensions of the housing deficit (Cortés-Urra et al., 2023; Garrido & Kornbluth, 2015). Cortés-Urra et al. (2023) conceptualise the housing deficit as a multi-dimensional phenomenon encompassing four dimensions: quantitative, qualitative, urban, and social. In response to this deficit, some self-organised practices of social production of the habitat have emerged in Latin America. These self-organised practices for housing seek to collectively develop alternatives to conventional housing provision with high degrees of inhabitant participation (Carroza, 2020; Ibarra, 2018). Examples of this self-organisation for housing are the Movimiento de Ocupantes e Inquilinos (MOI) in Argentina, the *Federacion Uruguaya de Cooperativas de Vivienda por Ayuda Mutua* (FUCVAM) in Uruguay, and the *Movimiento de Pobladores* (MPL) in Chile (Garrido & Kornbluth, 2015; Ruiz-Tagle et al., 2021).

From a Global North perspective, the variety of self-organised housing is conceptualised as Collaborative Housing (Lang et al., 2020). Collaborative Housing (CH) is an umbrella concept encompassing a wide range of collectively self-organised initiatives where future residents co-produce their homes in collaboration with external stakeholders (Czischke et al., 2020; Fromm, 2012). Unlike conventional housing, these initiatives are driven by various motivations concerning collective living, ranging from pragmatic, for example, the desire to create affordable solutions or alternative sustainable lifestyles, to radical motivations, for example, as a political expression against the deficiencies of the housing system (Czischke et al., 2023; Lang et al., 2020). Global North researchers have stated that CH could improve social aspects of housing, such as solidarity, community life, and group cohesion (Arroyo et al., 2021; Lang & Novy, 2014; Sørvoll & Bengtsson, 2018; Vestbro, 2010). Similarly, in Latin America, more specifically in Chile, a recent empirical study by Cortés-Urra et al. (2024) on Chilean cases has shown that CH

could help to solve part of the social deficit of housing. In parallel, the Chilean government and some self-organised groups are interested in CH (MINVU, 2022). However, despite the growing scientific research on CH, this concept has been mostly applied from a Global North perspective, and, with some notable exceptions (Cortés-Urra et al., 2024; Vergara et al., 2019), the potential and meaning of CH in the context of the Global South has received limited attention in academic research. Our study contributes to filling this gap by applying the concept of CH to Chile.

The main research question of this study is: What are the precedents and current initiatives that could be called collaborative housing in Chile? This main question is followed by two sub-questions: What is collaborative housing, and what are its dimensions and variables of analysis? and What are the barriers and enablers for collaborative housing development in Chile? To answer these questions, we explored housing initiatives and applied the CH concept in the Chilean context. In addition, we investigated the barriers and enablers of these CH initiatives in Chile. To this end, we first proposed an analytical framework based on desk research of CH, where we defined its dimensions and features and explored the main motivations for people to engage in these initiatives. Second, through historical desk research and semi-structured interviews, we analysed the possible CH initiatives in Chile through this lens. To collect primary data about housing initiatives in Chile and the barriers and enablers in their development, we conducted fieldwork between December 2019 and January 2020 and between June and August 2022. We obtained data from direct field observation of 4 projects and 63 interviews with stakeholders in Chile, including residents, academics, officials, developers and civil society professionals.

This chapter is structured as follows. First, we explain the research steps in the *research design* section. Second, we present the *analytical framework*, explaining the underlying concept of CH and variables that help distinguish CH from conventional housing. Third, we present the outcomes from our analysis, including a timeline and historical overview of CH in Chile, the precedents and current CH classified by formal and informal initiatives and the enablers and barriers of these initiatives in the Chilean context. Fourth, in the *discussion* section, we reflect on our findings and the housing initiatives we term CH in Chile. Finally, we put forward the *conclusions*, reflecting on the implications of our outcomes for CH in the wider Latin American context and the research field by providing suggestions for future research.

3.2 Research design

We applied a qualitative approach to explore precedents and current housing initiatives in Chile through the lens of CH. Also, we investigated the reasons for CH initiatives' appearance and the barriers and enablers for their development. To this end, we collected and analysed the data through a mixed-method analysis in an iterative process that consisted of four general steps. As shown in Figure 3.1, in Steps 1 and 2, we deductively initiated the study with desk research on CH and Chilean housing to build our assumptions and analytical framework. Then in Step 3, inductively, we conducted a first round of fieldwork with project visits, direct observation, and semi-structured interviews. In an iterative process, we obtained new empirical knowledge to reposition our research. Based on this new knowledge, we refined the question protocols and conducted a second fieldwork and round of interviews (See question protocols of the two fieldworks in Tables 3.5 and 3.6, Appendix 3C and 3D). Finally, in Step 4, we analysed and combined the data from desk research, field observation, and interview responses to build our research outcomes. Next, we explain each research step in detail.

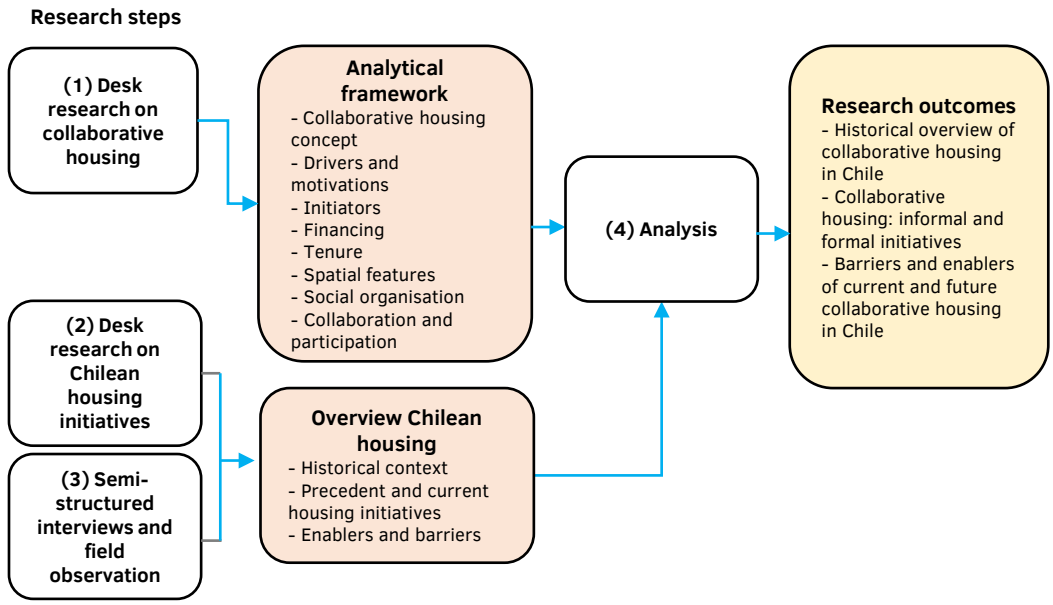

FIG. 3.1 Research design and methodological steps (Source: Authors)

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1 First, we carried out desk research and a general review of the CH literature to build our analytical framework for applying the CH concept in Chile. The analytical framework explained the concept and proposed variables to distinguish CH from conventional housing.

2 Second, we conducted desk research on the Chilean housing system and initiatives to carry out our historical analysis of these initiatives, build our timeline and determine the existence of collaborative precedents in this context. Our review covered initiatives from 1880 onwards and current developments in Chile until 2024, including journal articles and secondary sources such as reports and government documents. These documents were selected from the *Centro de Documentación* of the *Ministry of Housing and Urbanism* (MINVU) and through a snowballing review of Chilean articles that investigated housing from the period under study. This desk research, in combination with the data obtained from the interview responses of Step 3, informed the historical overview of CH initiatives in Chile and the recognition of each housing model.

3 Third, to obtain qualitative primary data, we conducted an empirical study, which consisted of two fieldworks, visits to projects, direct observation, and semi-structured interviews. The empirical data informed the historical analysis of Chilean initiatives, the proposed timeline, and the barriers and enablers of these initiatives. During the interviews, participants were asked to distinguish possible (in)formal Chilean housing initiatives that met our defining criteria for CH and identify the enablers and barriers that these initiatives face in their development (See questions protocol in Appendix 3C and 3D). The first author conducted the interviews during two fieldworks in Chile with key actors related to possible CH development in Chile. Fieldwork 1 consisted of 22 interviews conducted between December 2019 and January 2020. Fieldwork 2 consisted of 41 interviews conducted between June and August 2022.

In total, 20 academics, 16 housing developers and third sector actors, 6 officials, and 21 residents of self-organised housing projects were interviewed. The question-interview protocol considered two sets with the same questions for all the key actors interviewed: one for the fieldwork in 2019-2020 and one for the fieldwork in 2022. The first set was refined after the fieldwork and used as a base to propose the second set of questions for the second fieldwork. For both fieldworks, the interview question protocols were tested during a mock interview with a rekal participant who an expert on the topic of study is, and then refined. The interviews lasted approximately one hour, were conducted by the first author in the native Spanish language of the interviewees, were recorded with the participants' previous consent, transcribed, anonymised and later in Step 4, codified and analysed in ATLAS.ti.

4 Finally, in analysis Step 4, we combined the data from previous steps of desk research, field observation, and interview responses to report and shed light on our outcomes: the overview and timeline of Chilean housing initiatives, possible CH initiatives and the main barriers and enablers for their development. We started by building our analytical framework with the data on CH desk research. Later, we used the desk research on Chilean housing and interview data to build the timeline and historical overview and to shed light on possible and current initiatives where collaborative processes occur. Then, we used the analytical framework on CH as a lens to identify the initiatives that met our four CH defining criteria and proposed a classification of (in)formal initiatives. Finally, we analysed the interviewees' responses about identifying barriers and enablers for these initiatives. We did this using the research software ATLAS.ti by coding the keywords 'enabler' and 'barrier', which were explicitly asked of each participant. The data from the 63 interviews showed participants' consensus in identifying the main topics of the barriers and enablers for CH initiatives in Chile. Lastly, we summarised our outcomes and classified the barriers and enablers according to the main points of agreement of the interviewees' responses into five topics: *Collaboration, Design, Financing, Policies and Regulations,* and *Socio-cultural.*

3.3 Analytical framework: collaborative housing and distinguishing variables of analysis

In this section, we first define collaborative housing and its features, and later, we explain the analysis variables that distinguish it from conventional housing.

3.3.1 What is collaborative housing?

In recent years, new waves of self-organised housing known as Collaborative Housing (CH) have emerged, along with academic interest from researchers worldwide (Brouwer & Bektas, 2014; Jarvis, 2015; Lang et al., 2020). Although different models of CH can be found in different parts of the world, CH has mainly been investigated under that name from a Global North perspective. Therefore, the first step to applying the concept in Chile is to understand its meaning and the reasons behind the emergence of these initiatives. Based on CH literature, we

put forward an analytical framework that explains the concept and the possible drivers and motivations that lead future residents to engage in developing these initiatives. CH covers a wide range of self-managed and self-organised housing initiatives that underscore collaboration, such as residents producing their homes with external stakeholders (Czischke et al., 2020; Fromm, 2012; Thompson, 2020; Twardoch, 2017a; Vestbro, 2010). It is a broad concept that embodies solidarity, mutual help and reciprocal relationships (Agranoff & Mcguire, 2003; Bresson & Labit, 2019). Lang et al. (2020) state that no single unifying label describes this field, as a wide range of terms describe similar initiatives of collectively self-organised housing. However, these definitions are restrictive since resident participation can vary significantly (Fromm, 2012).

From a Global North perspective, authors such as Czischke et al. (2020) and Lang et al. (2020) define CH "as a general term encompassing a variety of housing forms characterised by varying degrees of collective self-organisation. These forms are distinguished by collaboration between future residents and external stakeholders interested in realising housing projects". More recently, CH has been conceptualised for the Latin American context by adapting its defining criteria (Cortés-Urra et al., 2024). In this study, we adopt the CH definition proposed by Cortés-Urra et al. (2024), drawing on the above conceptualisations by Czischke et al. (2020) and Lang et al. (2020), which defines CH in the Latin American context as an umbrella term that includes self-organised and self-managed collective initiatives stemming from both grassroots and top-down approaches, characterised by four key distinguishing features: (1) Future residents or end-users are motivated by living together in close proximity and sharing visions and values to live together in these projects. (2) Projects must be carried out through collaborative or participatory processes. Although residents' degrees of collaboration and participation vary in each project, these processes can occur at any development stage, such as design, management, and construction, or after the delivery stage in daily life, including the internal project maintenance and administration organisation. (3) The physical and spatial features of the projects include shared spaces so residents can interact socially and develop community life. These shared spaces could be kitchens, living spaces, patios, recreational areas, or multi-use spaces. (4) Future residents must regularly undertake joint activities while living in the projects.

Research on CH shows that its features could differ from conventional housing. Some of these differences are that in CH, there is shared intentionality and values (Jarvis, 2015; Vestbro, 2010), the interest in developing joint activities with other households and the presence of shared spaces (Fromm, 2012; Vestbro, 2010). Variations also occur between cases of CH in aspects such as motivations, initiators, legal frameworks, financing, tenure and governance forms, and social and spatial organisation (Arroyo

et al., 2021; Bossuyt, 2022a; Bresson & Labit, 2019; Lang et al., 2020). Unlike conventional housing, CH development intertwines with daily life (Fromm, 2012). Future residents self-organise, create networks, participate or collaborate in the project's design and shape their community's dynamics (Brysch, 2019). This empowers future residents to become group managers and fosters stakeholder alliances beyond project completion (Ruiu, 2015; Thompson, 2020). These alliances and solidarity relationships can occur internally and externally within the broader community, enhancing networks and preserving social capital (Lang & Novy, 2014; Sørvoll & Bengtsson, 2018). These dynamics are supported by architectural design, creating a social architecture through socially cohesive and sustainable shared spaces (Bossuyt, 2022a; Khatibi, 2022). Empirical studies on CH suggest that it contributes positively to residents' well-being by fostering a sense of belonging and trust, exemplified by mutual support during illness and frequently shared activities, such as communal meals (Cortés-Urra et al., 2024; Fromm, 2012; Vestbro, 2010).

3.3.2 Distinguishing collaborative housing from conventional housing

Given the different possible features and models of CH, we argue that it is necessary to develop qualitative analysis tools to understand CH dimensions and features in broader contexts rather than only from a Global North perspective, if not also from the Global South. In this context, we propose an analytical framework to determine whether housing experiences or models can be recognised as CH in a LAC country, like Chile, and create a dialogue between contexts. We built our framework drawing on CH conceptualisations from Czischke et al. (2020) and Fromm (1991, 2012), the work from Czischke et al. (2023), Lang et al. (2020) and Vestbro (2010), and the defining criteria of CH proposed by Cortés-Urra et al. (2024). These defining criteria of CH are the intention of collectively living together, future residents' participation or collaboration between stakeholders, projects with shared outdoor or indoor spaces and carrying out joint activities. As shown in Figure 3.2, the proposed variables are (1) drivers and motivations, (2) *initiators*, (3) *financing*, (4) *tenure*, (5) *spatial features*, (6) *social organisation*, and (7) *collaboration and participation*. These variables applied to housing help distinguish CH's specific features from conventional housing, covering both informal and formal housing initiatives. For example, a distinction can be perceived when analysing the presence of stakeholder participation or collaboration in housing provision processes. Although conventional housing could include some participatory processes, CH considers future residents' involvement in different project stages that usually transcend the post-delivery stage (Czischke et al., 2020; Fromm, 2012; Lang et al., 2020). Following, we explain each variable in detail.

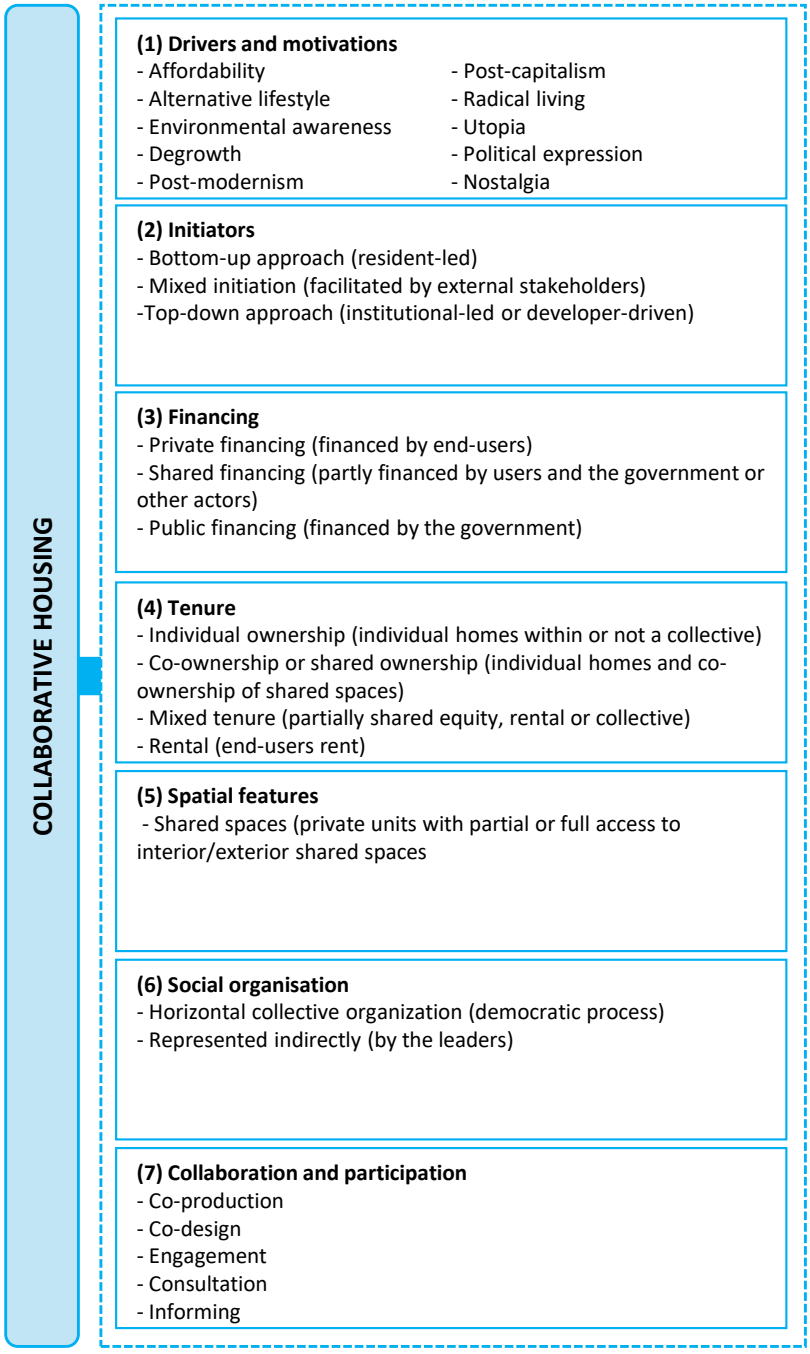

FIG. 3.2 Variables to distinguish collaborative housing (Source: Authors based on Fromm (2012), Czischke et al. (2020) and Cortés-Urra et al. (2024))

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Drivers and motivations

One of the cornerstones distinguishing CH from conventional housing are the motivations and drivers for engaging in it (Lang et al., 2020). This encompasses motivations from future residents and different stakeholders involved in the housing provision process. Conventional housing is generally produced to address the housing deficit with limited residents' participation (Cortés-Urra et al., 2023). Otherwise, CH is driven by a series of motivations and visions of future residents about commonality and on how to live together intentionally (Bossuyt et al., 2018; Czischke et al., 2023; Jarvis, 2015). In addition to the collective living motivation, there are other reasons why people get involved in CH, which vary depending on the projects, contexts, and countries. These motivations are often present from the initial stage and shape the projects. Initially, CH was motivated by goals around sustainability, community life, and citizen empowerment (Khatibi, 2022; Vestbro, 2010). Nowadays, CH is also motivated by affordability, social inclusion, and mutual help (Bresson & Labit, 2019; Chatterton, 2013). As for our study case, despite there being evidence on the motivations of some CH models (Cortés-Urra et al., 2024; Ruiz-Tagle et al., 2021), these have not yet been investigated in Chile.

We adopted the domain ontology for CH motivations proposed by Lang et al. (2020, P.11-12) to investigate why people engage in these housing models in Chile. From their systematic literature review, the authors found that motivations that drive CH vary widely, from the pragmatic to more radical idealistic intentions. As shown in Figure 3.3, the authors recognise nine themes: *Alternative lifestyle, Environmental awareness, Degrowth, Post-modernism, Post-capitalism, Radical living, Utopia, Political expression,* and *Nostalgia*. In line with Lang et al.'s (2020) conclusions about investigating CH's motivations in different geographical and sociopolitical contexts, we proposed including another theme to adapt to the Latin American case. We added affordability as a possible pragmatic motivation for different stakeholders since, in this context, it is difficult for some groups to access housing through the conventional provision system, and CH could represent a cheaper option. We understand this motivation as follows:

- **Affordability:** Seeking a pragmatic alternative route of access to affordable housing options (Moore, 2018). For example, to reduce construction costs, they could incorporate sustainable designs (Chatterton, 2013), create projects based on neighbourhood cooperation or mutual help (Vestbro & Horelli, 2012) or create partial provision of housing that is completed by self-build processes.

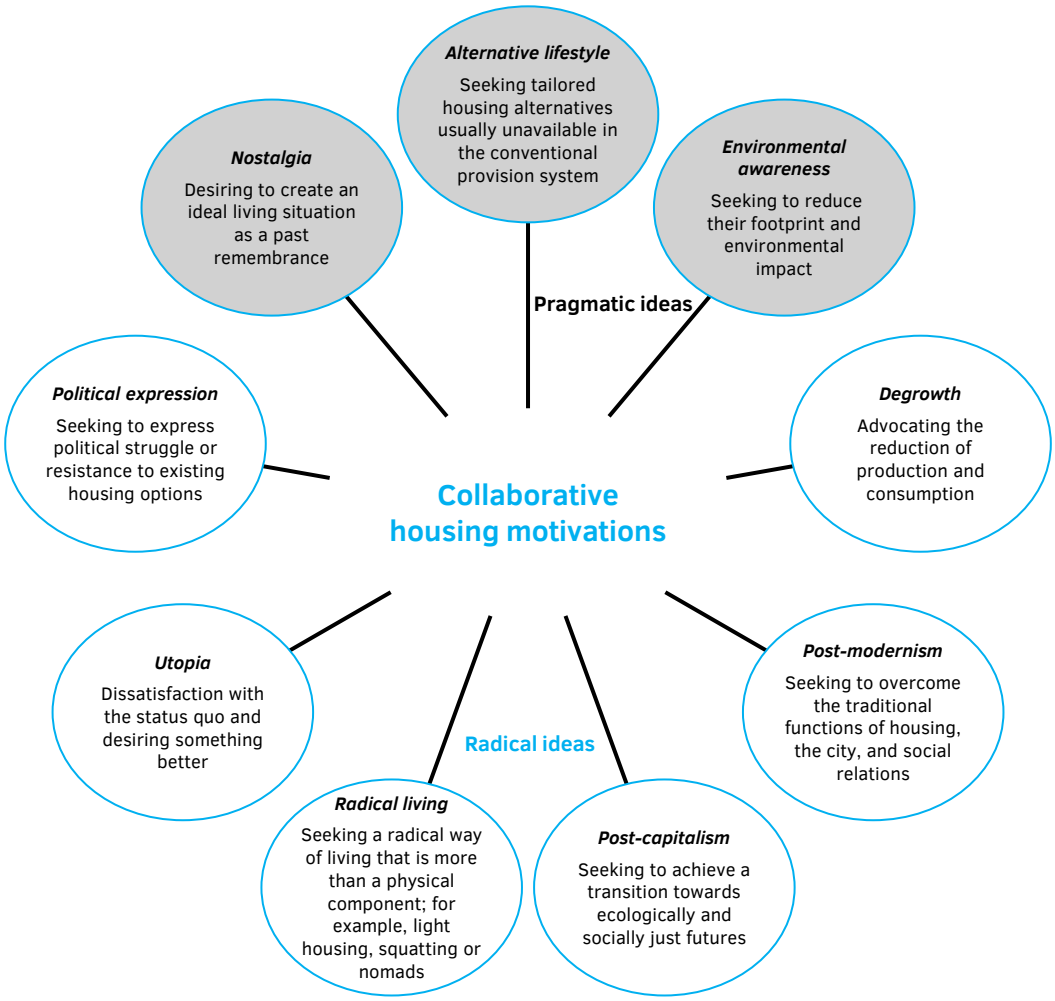

FIG. 3.3 Motivations to engage in collaborative housing (Source: Authors based on Lang et al. (2020, P.11-12))

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Initiators

As *initiators*, we understand the actors or stakeholders who initiated a project. Although self-organisation is one of the key characteristics of CH, these initiatives are flexible and can be initiated by (a combination of) different stakeholders (Arroyo et al., 2021; Czischke, 2018). CH can be initiated from a *bottom-up or resident-led approach*, where the initiators are self-organised future residents (Ache, 2017). This could include informal housing organisations where people live together by necessity, such as squatting movements (Nasiali, 2014). Alternatively, there could be *mixed initiation* by future residents working together with external stakeholders such as established housing providers, third sector organisations, construction companies, or architects (Laine et al., 2020; Lang et al., 2020). Thus, it could be initiated by future residents and facilitated simultaneously by local governments or external organisations (Semzo et al., 2019). For example, some cooperatives are organised with the help of non-profit organisations. Finally, CH could be initiated from a *top-down approach*, led by the government and private or civil society organisations, as in some co-housing projects in France, the Netherlands, and Germany (Ache, 2017; Williams, 2005). Under the same approach, CH can be developer-driven, as is the case in some co-housing projects in Denmark (Jensen & Stender, 2022).

Financing

Financing refers to the financial arrangements to develop housing. In CH, the financing forms vary according to the project and each country's financial sources (Czischke, 2018). In this research, we classified the financial sources into three possibilities. The first is *private financing*, where future residents entirely finance the project with their savings and mortgage loans (Scanlon & Fernández, 2015; Sørvoll & Bengtsson, 2018). Second is *shared financing*, which combines funding from future residents, the government, private organisations, or other stakeholders. In shared financing, the government could provide future residents with partial funding, initial capital or land (Scanlon & Fernández, 2015). The other part is financed by future residents who make an initial investment, pay a monthly fee, or complete the financing with mortgage loans. Also, funding agencies could support residents, as with some Community Land Trusts (CLT) (Moore, 2018). Finally, via *public financing*, the homes are fully financed by the government, as seen in some CH cases studied by Fromm (2012).

Tenure

We understand *tenure* as the ownership structure or property rights related to housing. In CH, tenure includes hybrid arrangements in a broad spectrum of collective and private ownership models (Bossuyt, 2022a; Griffith et al., 2022). Project tenure varies across countries and projects, resulting in numerous combinations (Fromm, 2012; Lang et al., 2020). In this research, we refer to four possible tenures for CH: (1) *Individual ownership:* residents have full ownership rights to their homes. (2) *Co-ownership or shared ownership:* residents share property rights between them or with a private or public organisation. This arrangement includes owner-occupied private units and shared spaces, e.g., condominiums. (3) *Mixed tenure:* residents may rent and own units or have a hybrid property arrangement within housing projects. Examples include shared equity in housing cooperatives, where each resident has property rights from their homes owned by a collective, individual, or public entity. (4) *Rental:* residents rent homes from an individual, collective, or a non-profit, public, or private organisation. An example of collaborative rental cohousing is Centraal Wonen in the Netherlands (Tummers, 2015).

Spatial features

The *spatial features* refer to CH projects' physical layout and spatial organisation. These features vary between projects and according to the end user's needs and the standards of each country (Czischke et al., 2021). The use of the spaces varies. Often, CH contains private individual units combined with interior or exterior shared spaces such as laundry areas, living rooms, kitchens, terraces, parking, patios and gardens (Bossuyt, 2022a; Fromm, 2012; Lang et al., 2020). In line with the adopted definition for CH, we classified the spatial features of CH into shared spaces with many possible combinations. This means future residents could have private units and *partial* or *full access* to interior and exterior shared spaces. For example, residents could have an individual living room and kitchen in their unit and share indoor facilities, such as a workshop area and communal kitchens or outdoor spaces, such as gardens, barbecue areas, and parking (Brysch, 2019; Jarvis & Bonnett, 2013). These common rooms and shared facilities are often designed to foster social relationships, interactions and daily encounters and activities among residents and neighbours (Jarvis, 2011, 2015; Vestbro & Horelli, 2012).

Social organisation

This variable refers to the residents' internal *social organisation*. The degree of self-organisation in CH varies according to country and projects (Czischke et al., 2020). In some projects, residents propose a *horizontal collective organisation* where decision-making is a participatory democratic self-governance process without hierarchies or leadership. This occurs in some eco-villages where workgroups share responsibilities and tasks equally over the project or exchange services (Czischke et al., 2021; Fois & Forino, 2014). Similarly, in some cohousing, CLTs and cooperatives, residents create workgroups to manage daily tasks through democratic processes in general assemblies (Thompson, 2020). In other projects, members could be *represented indirectly* by leaders whose management functions are voluntary (Brandsen & Helderman, 2012). In collective self-development and cohousing, residents could organise themselves through assemblies extending to neighbourhoods beyond the project's limits (Bruun, 2011).

Degree of collaboration and participation

Generally, in CH, future residents collaboratively develop their homes with different stakeholders, embracing the co-production paradigm. Decision-making in CH leans towards consensus through equal and reciprocal collaboration between stakeholders to provide a specific service (Ledent, 2022; Williams, 2005). In CH, participatory processes, which differ from collaboration, can also occur. Arnstein (1969) defines *participation* as a strategy for redistributing citizen power, which involves citizens' opinions, but the decision-making is hierarchical or entirely controlled by citizens. Otherwise, *collaboration* is understood in CH as a 'user participation continuum' where the future residents or end-user involvement begins with 'consultation' and ends in the 'entrepreneurial exit', where residents produce their homes (Czischke, 2018; Gofen, 2015). In CH, collaboration and participation could vary among projects and span any project stage: formulation, design, management, construction, use, maintenance, administration, and distribution of daily tasks (Fromm, 2012; Lang et al., 2020). We propose collaboration and participation degrees for end-users in CH based on Arnstein's (1969) seminal work and other authors' formulations (Gaete Cruz et al., 2022; Manzini, 2016; Rosen & Painter, 2019). As shown in Figure 3.4, in ladder ranks 1-2, citizens are educated or informed about a topic but do not participate. In ladder ranks 3-5, participation in different degrees occurs, from citizens getting informed to engaging in decision-making. In ranks 6-7, collaboration occurs where the decision-making process is shared between professionals and end-users who have agency and participate equally. In rank 8, citizens control the processes autonomously without collaboration.

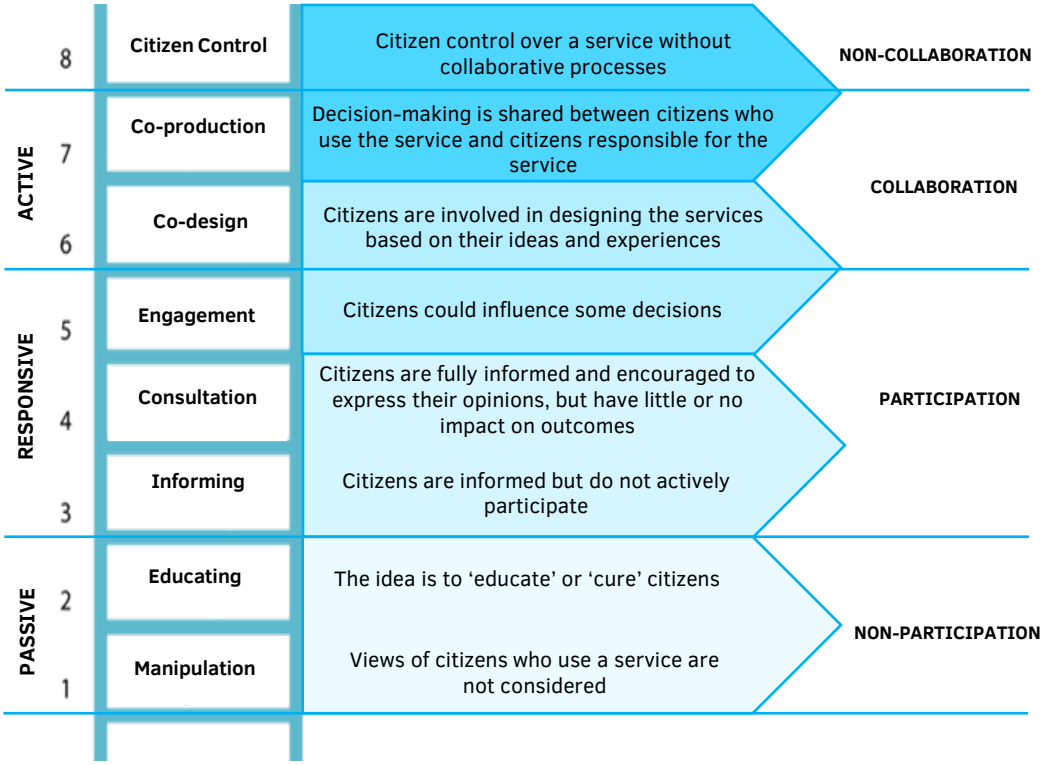

FIG. 3.4 Degrees of collaboration and participation in collaborative housing (Source: Authors based on Arnstein (1969), Gaete Cruz et al. (2022), Manzini (2016) and Rosen & Painter (2019))

3.4 Precedents and current initiatives of collaborative housing in Chile

In this research, we explore the precedents and current initiatives that could be called 'collaborative housing' in Chile. This section presents our research outcomes in three parts. In the first part, we provide a historical overview, and a timeline proposed in Figure 3.5 of collaborative housing initiatives in Chile from 1880 to the present. Secondly, we present the results of applying the descriptive variables from our analytical framework as a lens to the Chilean housing initiatives. Finally, in the last sub-section, we present the barriers and enablers to CH initiatives based on the interviewees' responses.

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3.4.1 Historical overview of collaborative housing initiatives in Chile

Historically, groups of inhabitants in Latin America have collectively self-organised housing in response to the lack of housing supply from the real estate market in the face of the crisis derived from the rural-urban migratory flow (Angelcos & Pérez, 2017; Brain et al., 2010; Greene & Mora, 2020). Some of these initiatives include *housing cooperatives* in Uruguay and Argentina, the *urban popular movement* in Brazil, the *Urban Land Committees* in Venezuela, and the more recent Central American experiences of *Community Land Trusts* (Davis et al., 2020; Garrido & Kornbluth, 2015; Greene & Mora, 2020; Ruiz-Tagle et al., 2021). In Chile, self-organised housing arose at the end of the 19th century due to the rural-urban migration of many low-income workers. In this period, the workers addressed their housing demand by renting rooms in informal collective housing called *conventillos* (Azocar, 2016; Hidalgo, 1999). The *conventillos* were low-quality housing where workers lived in rooms around shared spaces or a central patio (MINVU, 2004). By the 1940s, *conventillos* housed the largest percentage of the working-class population, and although their construction quality improved over time, they still lacked hygiene and good-quality materials (De Ramón, 1990; MINVU, 2004). Since 1890, many *conventillos* were demolished, and in replacement, the construction of *cités* began to improve housing conditions (Castillo, 2018). The *cités* were developer-driven rental or individual ownership collective housing for workers and the middle class, with bedrooms, bathrooms, kitchens, and occasionally an interior patio (Greene, 2004; Hidalgo, 2002). During this period, despite new housing solutions, the shortage increased due to urban migration.

In response to the housing shortage, low and middle-income families organised themselves as *pobladores* (settlers) in developing the first informal housing known as *poblaciones callampas* (shanty towns) (Araos, 2018; Brain et al., 2010; Fuster-Farfán, 2021). These initiatives were sets of self-built homes in the urban peripheries on land whose ownership was unclear (MINVU, 2004a; Quintana, 2014). De Ramón (1990) shows that by 1909, the *poblaciones* housed around 30,000 inhabitants, increasing until the mid-1970s. Given the deficit, the first *cooperativas de vivienda* (housing cooperatives) initiated by public worker associations arose in 1930 (MINVU, 2004). Around 1937, the ley de propiedad horizontal (horizontal property law) was established, which gave the first notions of co-ownership for vivienda colectiva en altura (high-rise collective housing). The first vivienda colectiva for workers with shared outdoor spaces was built in 1943 (Bonomo & Feuerhake, 2019; Peñafiel, 2021). Towards the 1950s, with the deficit estimated at 300,000 homes, illegal occupation became widespread through *tomas de terreno* (land takeovers) as informal settlements (Giannotti & Schmeisser, 2021; MINVU, 2004). The *tomas de terreno* and *autoconstrucción*

(self-build housing) began in the 1940s as a spontaneous family movement. Towards the 1950s-1960s, they took shape as political organisations and they were known as *campamentos* (camps). These initiatives gradually marked a social change from relatively legal rental access to housing to illegal occupation and self-build housing (De Ramón, 1990). This step was considered an act of vindication, which opened the way for low-income self-organised families to institutionally start negotiating housing, not just in Chile but in all of Latin America (Giannotti & Schmeisser, 2021).

In the mid-20th century, collectively organised *pobladores* continued pressuring the State through *tomas de terreno*, and their housing conflict intensified (Angelcos & Pérez, 2017). In response to this pressure, the state programs *Autoconstrucción y ayuda mutua* (self-construction and mutual help) in 1951 and *Operation sitio o tiza* (site or chalk operation) in 1965 were implemented (Giannotti & Schmeisser, 2021). The first provided urbanised land with sanitary facilities where residents self-built their homes with state assistance, and the second was the Chilean version of the 'Sites and Services' strategy, which provided loans or land delimited with chalk or fences and access to services. Also, it could include a sanitary shed, temporary housing or basic services (Aguilera et al., 2020). Over time, these programs were criticised for discriminating against *pobladores* and providing precarious living conditions (Greene & Mora, 2020). Towards the 1960s, informal self-organised housing multiplied. Settlers formed the *Movimiento de Pobladores* under radical and utopic ideas about community life and to challenge evictions from illegal occupations (Forray & Castillo, 2014). In the 1970s, the state program *Operación 20.000/70 de Autofabricación* (self-build operation) was launched to support pobladores in building construction elements to self-build their homes (MINVU, 2004). During the dictatorship (1973-1990), most social movements and self-organised initiatives were demobilised due to neoliberal reforms. A new housing policy based on social housing mass construction emerged, reducing informality and increasing ownership levels to 70% (Ruiz-Tagle et al., 2021).

Between 1983 and 1989, the State reoriented its anti-poverty approach by deregulating the land market, commodifying housing, and limiting itself solely to allocating subsidies for basic housing in individual homeownership (Angelcos & Pérez, 2017). Informal housing was massively eradicated, and the *pobladores* had no option but to live in *hacinamiento* (overcrowding) and *allegamiento* (double-up) conditions (Araos, 2018; Quintana, 2014). In the 1990s, various housing programs were implemented to address the deficit of families living in *allegamiento* and *hacinamiento* (Cortés-Urra et al., 2023). An example of these programs was the *vivienda progresiva* (progressive housing), which provided minimum construction on the city's periphery to be completed by future residents (Mora et al., 2020). At the end of the 1990s, the *Movimiento de Pobladores* reemerged as a way to vindicate the

old settlers' movement from the 1960s and to fight for location and quality through self-management, collective subsidy application, and negotiations with the State for the development of collective social housing projects (Angelcos & Pérez, 2017). In the mid-2000s, the State continued externalising and relegating housing to private entities and created *Entidades de Gestión Inmobiliaria Social* (EGIS) (Social Real Estate Management Entities) or Entidades Patrocinantes (EP) (Sponsoring Entities) to be in charge of the housing provision process or assist applicants in purchasing or building housing (Castillo & Hidalgo, 2007; Ibarra, 2018). *Pobladores* took this opening to become producers of their built environment through collaboration and self-management of homes (Castillo, 2014).

In recent years, Chile has moved towards self-managed housing following the 2015 regulatory change of legal frameworks, which allowed housing cooperatives to act as EPs to control the project's management and design (Ruiz-Tagle et al., 2021). In light of this change, some of these self-managed housing initiatives are currently emerging as a way of channelling democratic participation and externalising and outsourcing housing from the State, as stated by Ruiz-Tagle et al. (2021). Other initiatives are arising in response to the housing deficit and the motivation to remain in their neighbourhoods of origin (Cortés-Urra et al., 2024). One of the current self-organised initiatives is what we term *vivienda social colectiva liderada por residentes* (resident-led collective social housing), which started with the *Maestranza* project development in 2011 as the first project arising from housing demand (as opposed to supply) since the collective projects developed in the 2000s by the MPL after the dictatorship. In 2017, as developer-driven initiatives by Consolida construction company and Sponsoring Entity, the *pequeños condominios* (small condominiums) emerged as a micro-settlement strategy for families living in allegamiento (Consolida, 2021). Currently, 35 condominiums have been built in the country, and 205 homes are planned. Other self-managed initiatives are the *cooperativas cerradas de vivienda* (closed housing cooperatives) that emerged in 2017 from the legal framework modification in 2015 and the MINVU's call through collective application to the DS.49 subsidy (Ruiz-Tagle et al., 2021). Three pilot projects emerged from this call: *Ñuke Mapu, Paihuén* and *Yungay* as part of the collaborative work between the *Secretaría Latinoamericana de Vivienda Popular* (SELVIHP) and some municipalities. From the calls from 2017 onwards, four more cooperatives are developing in different regions of the country, namely *Atas, Vista Puerto, Los Castaños* in Valparaiso and *27 Fortaleza* in Santiago. In total, these cooperatives will supply homes for 211 families.

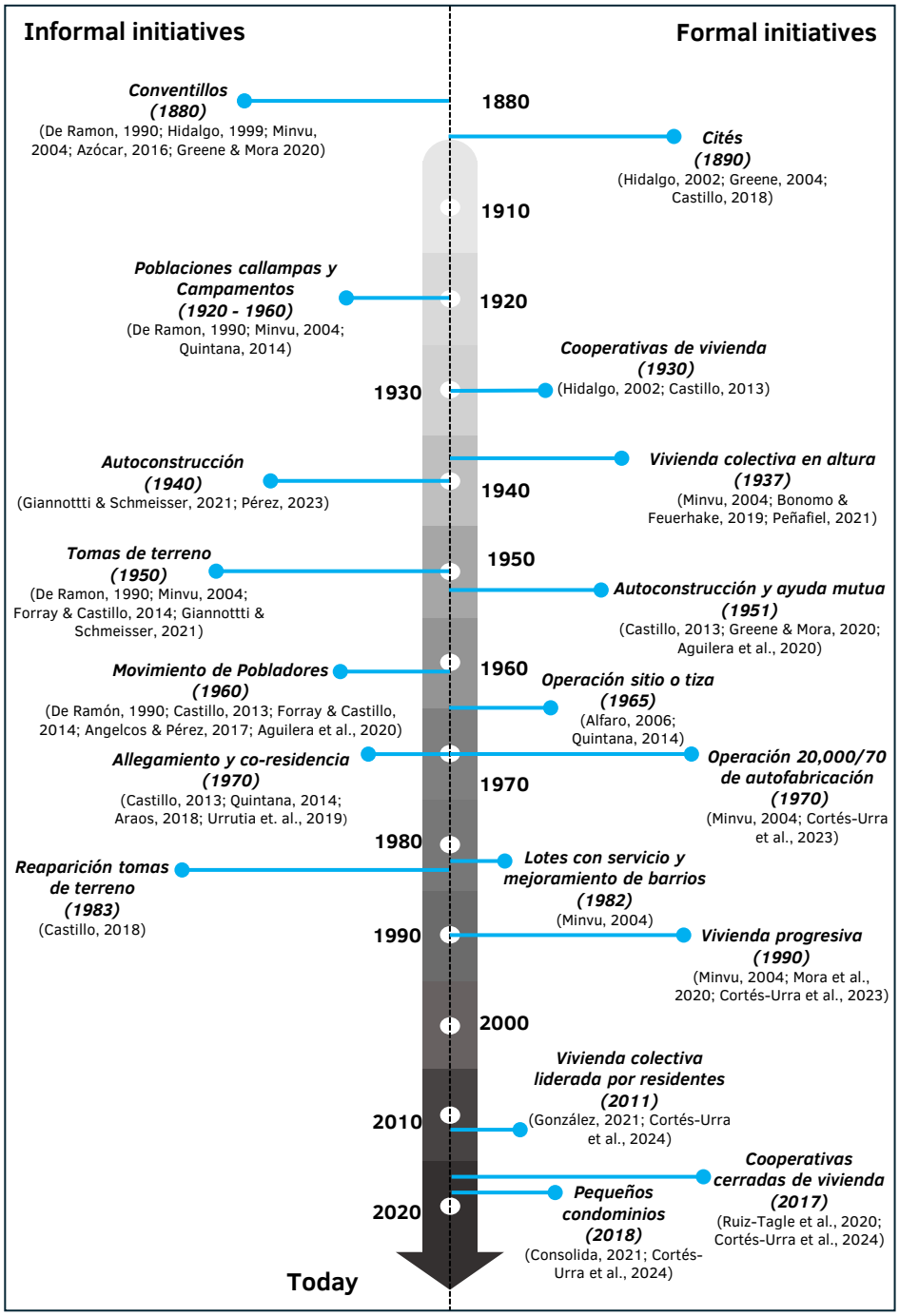

FIG. 3.5 Timeline of collaborative housing precedents in the Chilean context (Source: Authors)

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3.4.2 Collaborative housing in Chile: formal and informal initiatives

This sub-section presents the housing initiatives that could be considered CH in Chile. The identification of CH has resulted from applying our proposed of the analytical framework for the Latin American context to the Chilean housing initiatives and identifying the ones that responded to some dimensions and features of CH. The summary of our outcomes per (in)formal housing initiative and variable are shown in Tables 3.2 and 3.3, Appendix 3A. We present the initiatives by chronologically organising them from 1880 onwards, which we classified into informal and formal, as is shown in our timeline from Figure 3.5. We distinguish between formal and informal initiatives since a large percentage of the housing developed in Chile is made up of both types, and both have characteristic differences that may be little noticeable. From our analysis, we excluded initiatives that did not consist of a housing typology or led to housing initiatives where future residents did not participate in part of the housing process. For example, we left aside programs in which the subsidy application was collective, but the subsequent living situation was not collective, as occurred with many programs developed from the 1980s onwards. Examples are the *Subsidio a la demanda* (subsidy on demand, rural sector) from 1980 and *Programa especial para trabajadores* (special workers program) from 1985, which allowed collective subsidy applications, but future residents were not involved in the housing provision process. We conclude this sub-section by proposing an initial classification for these housing initiatives as CH in Figure 3.6.

Informal initiatives

Conventillos (1880): From the 19th century onwards, the social organisation gradually increased, and future residents spontaneously rented rooms or illegally occupied land. *Conventillos* (tenements) arose in 1880 as collective housing for workers. They consisted of old homes, tents or rooms without windows or natural lighting organised around a small interior patio where families shared a kitchen and bathroom (De Ramón, 1990; Hidalgo, 1999). Literature shows that *conventillos* arose mainly as a pragmatic survival strategy to access and rent economic housing. They were initiated by future tenants or landowners who rented the rooms to households (De Ramón, 1990; F. Pérez, 2023). Most workers rented or occasionally bought *conventillos* using their salaries (De Ramón, 1990; Hidalgo, 2002). In these initiatives, residents maintained internal relationships that involved sharing daily and work life on their patio (De Ramón, 1990).

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Poblaciones callampas and Campamentos (1920 - 1960): According to the *Corporación de la Vivienda* or *CORVI* (Housing Corporation) in a 2004 MINVU study, the oldest *poblaciones callampas* (shanty towns) date back to the 1920s-1930s. The *viviendas callampas* arose as an informal pragmatic strategy for future residents to obtain housing in response to the shortage caused by rural-urban migration and as a political expression for localisation (Brain et al., 2010). The *poblaciones* were groups of informal homes initiated by future residents without much political organisation in the city's periphery on public or private land obtained via government programs (MINVU, 2004a; Quintana, 2014). These initiatives were self-built by the pobladores with their resources and low-quality materials without technical advice or guidance, varying their spatial features (De Ramón, 1990; Quintana, 2014). Towards the late 1960s, with the class struggle for housing intensifying, led by the *Revolutionary Leftist Movement* (MIR) the *poblaciones* integrated a paramilitary logic, organising themselves socially as large political groups under the name of *campamentos* (camps) (MINVU, 2004). In the same way as in *tomas de terreno* (see below), there were high levels of participation, autonomy and self-organisation in *campamentos* and *poblaciones* in the form of citizen control, where citizens completely self-managed housing and defended the land from possible evictions (Aguilera et al., 2020; Giannotti & Schmeisser, 2021; F. Pérez, 2023).

Autoconstrucción (1940): Similarly to the *conventillos*, informal *autoconstrucción* (self-build housing) was initiated by self-organised *pobladores* and their families in the 1940s, who self-built homes on a plot owned by them derived from the *operación sitio* program (De Ramón, 1990; F. Pérez, 2023). Other future residents spontaneously organised to illegally occupy or rent public or private land to build homes with their material resources (De Ramón, 1990; Quintana, 2014). *Autoconstrucción* was a pragmatic strategy for accessing housing, which in the 1960s took the shape of political organisation in the face of the housing struggle. The *pobladores* entirely controlled the housing provision process by self-building and self-managing their homes with low degrees of collaboration between them and other external actors (Aguilera et al., 2020). In the 1950s, these self-building processes were partially formalised with the State program *Autoconstrucción y Ayuda Mutua* launched in 1951 (MINVU, 2004).

Tomas de terreno (1950): Towards the 1940s, the *pobladores* started developing *tomas de terreno* (land takeovers) in the urban peripheries as a pragmatic strategy to access housing. By this period, the *tomas* were a family movement, not yet a political organisation. Around 1960, the *tomas* established themselves as a larger collective political movement by illegally occupying land and demanding well-located housing from the State (Giannotti & Schmeisser, 2021; F. Pérez, 2023). Some leftist political parties, the catholic church, and progressive professionals supported these

initiatives politically and technically by collaborating with the pobladores in their establishment and consolidation (MINVU, 2004a). Utopic and radical ideas of self-organisation of housing drove this movement as a political expression to pressure the State for housing, to exercise their popular power, to confront segregating policies and to continue living close to their networks (Castillo, 2014; Giannotti & Schmeisser, 2021). At that time, self-built informal housing lacked adequate materials and living conditions (De Ramón, 1990; Quintana, 2014). In the 1970s, some *tomas* were evicted to other locations. In other cases, the government improved or technically assisted them in a collaborative process, and tenure was changed to property (Forray & Castillo, 2014). Similarly to the *campamentos*, *tomas de terreno* constituted leasing arrangements that moved between legality and illegality, where the land could belong to an 'owner' who did not have the property title.

Allegamiento and co-residencia (1970): Around the 1970s, the collective organisation through *tomas de terreno* diminished during the dictatorship, shifting towards a family organisation in the form of *allegamiento* (double-up) (Araos, 2018). Literature shows that *allegamiento* emerged from the poorest families who experienced homelessness as a negative consequence of the housing deficit to access relatively affordable housing (Aguilera et al., 2020). These housing initiatives consisted of people experiencing homelessness who established themselves at the land or home of the receiving household with whom they either have or do not have kinship (Araos, 2018; Quintana, 2014). During the 1970s, *allegamiento* was understood as a 'forced coexistence' between households, which affected their privacy and autonomy (Aguilera et al., 2020; Urrutia et al., 2016). However, in the late 1990s, this phenomenon was identified as the best possible alternative for families facing the housing deficit that transcends social classes rather than 'an obligation' (Urrutia & Cáceres, 2019). In recent years, research has argued that within *allegamiento* and its economic and physical constraints, some households decide to live voluntarily as a *co-residencia* (co-residence) strategy. In c*o-residencia*, households are motivated beyond obligation by resisting segregation, valuing support relationships, social networks, residents' agency, and collaboration between families and neighbours (Araos, 2018; Urrutia et al., 2016). The term *co-residencia* has been related by Urrutia & Cáceres (2019) to *cohousing* studied by Vestbro (2010) since households collaborate internally, share spaces of a home or land with other households and regularly carry out joint activities. In *allegamiento,* housing is obtained by an informal arrangement between households, which could involve legal or illegal occupation, self-construction, or state subsidies applied for the homes on the land of the primary household (Castillo, 2014). Their spatial features include shared land and spaces, and tenure can vary and be diffuse. The receiving family who shares their land may or may not own the place and share it with the *allegados* as a way of 'co-ownership' (Castillo, 2014).

Formal initiatives

Cités (1890): The development of *cités* began around 1890 to improve the housing and hygienic conditions of the existing *conventillos* (Castillo, 2018). The *cités* were developer-driven formal housing for workers and the middle class, with bedrooms, bathrooms, kitchens, and occasionally an interior patio (Greene, 2004; Hidalgo, 2002). These initiatives were built with the same spatial logic as *conventillos* but as a formal and better-quality solution regarding materials and spaces (Greene, 2004; MINVU, 2004). Often, they were initiated by the landlords of the homes, real estate companies or future residents. The *cités,* like most housing in Chile, until the 1930s, were rented and privately financed with workers' salaries (MINVU, 2004). This model also was individual ownership within a collective (De Ramón, 1990; Hidalgo, 2002). In a similar way to the *conventillos,* future residents organised themselves as a pragmatic solution against housing deficits and maintained relationships that involved sharing between households (De Ramón, 1990).

Cooperativas de vivienda (1930): In 1930, *cooperativas de vivienda* (housing cooperatives) emerged, initiated by public associations or worker societies, as a pragmatic strategy to obtain affordable housing (MINVU, 2004). They were also developed as *cooperativas de vivienda abiertas* (open housing cooperatives) led by private non-profit actors, such as *Fundación* INVICA and *Instituto de Vivienda Popular de Caritas Chile* (MINVU, 2004). These private organisations developed more than one cooperative project using different state programs and their consolidated resources over time. From the 1930s onwards, formal housing financing was shared between future residents, state loans or subsidies, and other actors' loans. *Cooperativas* could access housing loans and technical advice from the State, having loan allocation priority if they were intended for rental housing (Hidalgo, 2002; MINVU, 2004). The *cooperativas* from the 1930s were the first initiatives that allowed co-ownership, and they could also be rented or individually owned (Bonomo & Feuerhake, 2019). *Cooperativas de vivienda* constituted more developed housing than previous state initiatives, providing individual units with shared spaces for future residents to interact socially, such as patios, lobbies and corridors (Bonomo & Feuerhake, 2019; Peñafiel, 2021).

Vivienda colectiva en altura (1937): The *vivienda colectiva en altura* (high-rise collective housing) was a State-developed program deriving from the *Programa directo de la Caja de Habitación Popular* initiated around 1937 to address the housing deficit of the time by increasing the housing density through formal solutions. Regarding social organisation, in some cases, the group was formed as a juridical person to apply to the program and then dissolved when obtaining housing (Peñafiel, 2021). The evidence found about the degree of stakeholder

collaboration in *cooperativas* and *vivienda colectiva* from this period is not explicit. Similarly to the *cooperatives*, *vivienda colectiva* was financed privately or shared between future residents, the State, and other actors (Hidalgo, 2002; MINVU, 2004). Some developers could access tax exceptions to build collective buildings. The tenure was co-ownership, individual ownership or rental, and the spatial features included buildings with individual units with shared exterior spaces to perform social activities, such as patios and corridors (Bonomo & Feuerhake, 2019; Peñafiel, 2021). An example of this collective model was the *población Huemul II,* consisting of 186 homes built in Santiago in 1943.

Autoconstrucción y Ayuda Mutua (1951): The state *Autoconstrucción y Ayuda Mutua* program or PRACAM (self-construction and mutual help) was launched in 1951 under the government's idea of increasing residents' participation and to provide a cheaper solution against the deficit (MINVU, 2004). Between the 1950s and 1970s, the *pobladores* were organised in housing committees to express their discontent and pressure the State for housing. In response to this pressure, the State created three housing programs involving self-build processes from the future residents (MINVU, 2004). The *autoconstrucción* program was jointly financed, where the State provided (a loan for) land and loans for construction materials with low-interest rates for 5 or 15 years, representing an affordable option for future residents. The program considered a minimum of habitability conditions, including access to urbanised land, urban amenities and sanitary facilities in the first stage and a 49m2 self-build home-owned house in the second stage without shared spaces (Quintana, 2014). Also, it required future residents to contribute 47% of the labour construction cost via self-building their homes, in some cases with state assistance (Aguilera et al., 2020; MINVU, 2004).

Operación sitio o tiza (1965): Similar to *autoconstrucción*, *operación sitio o tiza* (site or chalk operation) state program emerged in 1965 from the social pressure and political expression of *pobladores* to obtain housing (MINVU, 2004). During this period, the organisational processes led by workers in housing committees were maintained over time during the housing programs. However, there is no evidence of whether the organisation was through indirect representation or in horizontal processes. Financing was shared between the families and the State. The State provided (a loan for) 160 m2 of land delimited with chalk or fences, including a latrine, a temporary wooden house of 20 m^2 or access to basic services, such as drinking water, sewage, and electrical distribution and lighting networks (Aguilera et al., 2020; MINVU, 2004). Through collaborative processes between future residents, they self-built the rest of their individually owned homes with their resources or by applying for complementary subsidies for accessing urbanisation and urban amenities or technical assistance for self-construction (MINVU, 2004). Under the same logic as *operación*

sitio, the programs *Lotes con servicios* (lots with services) and *Mejoramiento de barrios* (neighbourhood improvement) were created in 1982. These programs provided a sanitary shed, land, and self-build individual housing (Cortés-Urra et al., 2023).

Operación 20,000/70 de autofabricación (1970): In the 1970s, the state program *Operación 20.000/70 de autofabricación* (self-build operation) was launched to strengthen community organisation by providing permanent jobs to *pobladores* and addressing the deficit with limited resources. The program supported *pobladores* in building construction elements to self-build their homes (MINVU, 2004). Similarly to the two abovementioned programs, *autofabricación* was popular among future residents because it provided affordable solutions compared to conventional housing, where they self-build homes based on needs with State technical, administrative and social State support (Quintana, 2014; Vergara et al., 2019). *Pobladores* were motivated to build their individually owned homes collaboratively and strengthen community life, but this organisation tended to discontinue over time after finishing the self-construction process of the homes (MINVU, 2004). Financing was shared, as the State provided loans for construction materials and the installation of a construction material factory in the *poblaciones* and future residents were required to have savings and work 21 hours per week to produce their individual homes' construction elements (Aguilera et al., 2020; MINVU, 2004). *Autofabricación* consisted of three stages, where future residents could access a basic 36 m^2 house in wooden panels, light concrete panels or masonry (without finishing), which included a bedroom, bathroom of 10 m^2, kitchen and living room (Quintana, 2014).

Vivienda progresiva (1990): The *vivienda progresiva* (progressive housing) was launched in 1990. It is one of the first state programs after the dictatorship period, where the families must self-build part of their homes. Financing was shared between the State, which provided subsidies to obtain basic individual housing without shared spaces of up to 23 m^2, and future residents, who completed the homes by self-building with state technical assistance (Mora et al., 2020). *Vivienda progresiva* aimed to optimise the state-available resources, costing 60% of conventional state housing (MINVU, 2004). This program represented a pragmatic route for housing access for future residents, who organised themselves as a juridical person to apply for the program. The group was dissolved after the home's delivery (Peñafiel, 2021). The spatial features consisted of a house of 13 to 23 m^2 with a bathroom and kitchen on a plot of 100 m^2 with access to basic services without shared spaces (Aguilera et al., 2020; MINVU, 2004). In some cases, the State provided urbanisation, access to facilities or complementary subsidies to expand the homes. Although some 1990s programs, such as *vivienda progresiva,* allowed collective application, the buildings were co-owned, and the houses were individually owned (Hidalgo, 2002; MINVU, 2004).

Vivienda colectiva liderada por residentes (2011): Since the collective housing models led by the MPL in the 2000s after the dictatorship period, the initiatives of what we term in this dissertation as *vivienda colectiva liderada por residentes* (resident-led collective housing) are the first model arising from housing demand instead of supply. Residents often know this model as autogestión (self-management) or autoorganización (self-organisation). Currently, the only *vivienda colectiva* project (*Maestranza*) is driven by end-users' motivations to continue living in their neighbourhoods of origin with their current network, radical and utopic ideas of self-organisation and as political expression to show discontent and pressure the existing housing system (Cortés-Urra et al., 2024). Interviewees stated that this model is socially organised as a horizontal collective organisation with direct democratic decision-making. *Vivienda colectiva* is financed by state subsidies, and future residents pay an initial fee from their savings or a third-party loan. Like *cooperativas de vivienda,* in *vivienda colectiva,* residents maintain high levels of external collaboration with private and public actors during the project formulation, development, and construction. Also, there is internal collaboration, as joint decisions are made about the project administration and maintenance. The spatial features of this model consist of large-scale buildings in co-ownership with individual housing units and shared indoor or outdoor spaces that may include community rooms, recreation areas and other multiple-use spaces for residents to perform joint activities. An example of this model is the *Maestranza* project built in 2011 in Santiago.

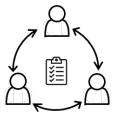
Cooperativas cerradas de vivienda (2017): The *cooperativas de vivienda* (closed housing cooperatives) emerged around 2015 through a top-down initiation between local governments and the SELVIHP, who trained a group of residents interested in the model (Ruiz-Tagle et al., 2021). The *Secretaría Latinoamericana de Vivienda Popular* (SELVIHP) is a network that promotes, supports, and drives self-managed housing initiatives in LATAM. Currently, the cooperatives are bottom-up initiated by future residents who form a cooperative and apply to the yearly call from the MINVU (Cortés-Urra et al., 2024). Our findings show that the cooperatives are motivated by a critical radical rationale, the political expression of the housing struggle, and the desire to live in unconventional alternatives that consider environmental issues. They are also, motivated by their attachment to the past and the historical examples of self-organisation in housing from the MPL in the 1960s (Czischke et al., 2025). In addition, they are driven by the pillars of cooperativism, namely, self-management, collective property, mutual help, and sometimes direct democracy in decision-making through horizontal organisation (Ibarra, 2018; Ruiz-Tagle et al., 2021). In *cooperativas,* future residents collaborate internally and externally in developing and maintaining the projects. Financing is shared between the State, who provide the DS.49 subsidy and loans, and the cooperatives, who pay an initial fee required

by the program from their savings or third-party loans (Ruiz-Tagle et al., 2021). The interviewees explained that *cooperativas* could occur in mixed tenure, co-ownership, and collective or shared equity, where each cooperator has the right to use the homes and shares responsibility for their administration. Regarding the spatial features, the *cooperativas* consist of shared indoor and outdoor spaces to interact socially with individual household units of up to 70 homes. The characteristics of these shared spaces vary according to the number of households and project scale.

Pequeños condominios (2018): The *pequeños condominios* (small condominiums) are a developer-driver initiated model, which emerged in 2017 as a micro-settlement strategy for families living in *allegamiento*, *co-residencia* and *hacinamiento* (Consolida, 2021). In this model, developers and municipalities are motivated to reduce the deficit by consolidating social and neighbourhood networks. Residents are pragmatically motivated to formalise their existing *co-residencia* housing situation through an affordable alternative that allows them to keep living close to their social and neighbourhood networks (Cortés-Urra et al., 2024). In *pequeños condominios,* social organisation could be horizontal or through indirect representation, depending on the group size. In this model, future residents have limited external participation but high degrees of internal collaboration since they organise to distribute the land and share daily meals or care (Cortés-Urra et al., 2024). The financing is shared between the applicant families, who pay an initial fee from their savings and provide their land and the DS.49 state subsidy. The tenure of the *condominios* is co-ownership between the households. The *condominios* consist of buildings of up to 12 households with individual housing units and shared outdoor spaces, such as a shared patio where the families regularly perform joint activities.

Classification of collaborative housing initiatives

This chapter intended to go beyond a descriptive historical analysis of CH in Chile. Therefore, we propose a classification of housing initiatives using our analytical lens and the four defining criteria for collaborative housing: future residents' intention of living together, collaboration or participation in managing the homes, shared spaces, and joint activities (See detailed analysis per CH defining criteria, in Figures 3.7 to 3.10 from Appendix 3B). As shown in Figure 3.6, our categorisation considers each model's most present and specific characteristics. This does not mean that these initiatives exclusively have these characteristics, but it shows what emphasis is present in each model. For example, when an initiative such as *conventillos* shows that the intention of future residents is a pragmatic strategy for accessing housing, this does not imply that in this model, only this motivation is present, but rather that in the evidence found, there is more emphasis on this motivation as a driver.

	 Intention of living together	 Collaboration and participation	 Shared spaces	 Joint activities
Informal initiatives				
Conventillos (1880)	✓		✓	✓
Poblaciones callampas (1920) y Campamentos (1960)	✓			✓
Autoconstrucción (1940)	✓			✓
Tomas de terreno (1950)	✓			✓
Allegamiento y co-residencia (1970)	—	—	✓	✓
Formal initiatives				
Cités (1890)	✓		✓	✓
Cooperativas de vivienda (1930)	✓		✓	
Vivienda colectiva en altura (1937)	✓		✓	
Programa de autoconstrucción y ayuda mutua (1951)	✓	✓		
Operación sitio o tiza (1965)	✓	✓		
Plan 20,000/70 de autofabricación (1970)	✓	✓		
Vivienda progresiva (1990)	✓	✓		
Vivienda colectiva liderada por residentes (2011)	✓	✓	✓	✓
Cooperativas cerradas de vivienda (2017)	✓	✓	✓	✓
Pequeños condominios (2018)	✓	✓	✓	✓

✓ Distinctive criteria present in initiative — Distinctive criteria present in some of initiatives

FIG. 3.6 Classification of collaborative housing initiatives (Source: Authors)

TOC

3.5 Barriers and enablers of current collaborative housing initiatives

Building on the interviewees' input, this sub-section identifies the barriers and possible enablers for CH development in Chile (see summary in Table 3.1). Considering the input and consensus from most interviewees' responses, we classified the barriers and facilitators into five topics: *Collaboration, Design, Financing, Policies and Regulations,* and *Socio-cultural*. Next, we present the barriers and enablers identified by the participants, including quotes that represent the consensus of their responses.

3.5.1 Barriers

Collaboration: Some interviewees mentioned barriers associated with collaborative processes in the development of CH. Most residents agreed on the challenges in creating alliances between different actors who agree to work collaboratively with them in project development. Interviewees perceived that the governance of housing provision does not facilitate collaborative processes between actors and sectors, nor the agency of future residents in developing CH projects. Also, they mentioned that external collaboration is limited by society's individualistic orientation, leading to a distrust in self-organisation and disaffection with housing management processes. One resident from *vivienda colectiva* explained:

One of the barriers is the authorities' distrust of residents' potential to self-manage their projects. In general, there is a priori distrust without listening to [our ideas]. (...) They thought that we [were] not going to do it well, and in the end, we did it well.

Also, some interviewees mentioned that a barrier to collaborating on developing CH projects is the lack of capacity of municipalities in supporting the processes in the long term. An academic referred to this:

One barrier is the capacity of municipalities to support the development of collective [housing] projects. (…) these actors are most likely to support the projects and housing movements. Municipalities have very limited resources and little or no capacity. Is there a lack of [human and resources] investment that is required from them to act as facilitators of managing the projects with the people [future residents] for longer time.

In line with this, it was mentioned that residents have, in some cases difficulties to keep participating or collaborating at any project stages. One developer of *vivienda colectiva* referred to this:

In some projects, only one leader participates; in this project, the difference was that many people participated [in the project's development]. (...) In many cases, at one extreme, there are the most collaborative [people] who believe in collective neighborhood action, and at the other extreme, there are those who do not want to collaborate, or they lose their intention over time.

Design: Many interviewees mentioned that as barriers that affect project design are associated with design regulations that limit their design diversification or variation of spaces. Some of these are projects with limited surface area per home, the lack of parking and the flexibility to innovate from housing programs. Although in some CH cases, the calls may vary from requirements, in general, these are perceived by both residents and developers as restrictive in terms of density, heights, typologies and materiality. One of the developers of *pequeños condominios* pointed out:

[For pequeños condominios] (…) annually, the MINVU creates the call and invites developers to participate; the call establishes (...) the regulations and the decree with complementary regulations. The decree states that you must deliver 3 bedrooms and 55 m2 of housing, but the call says 2 bedrooms and 45 m2, which gives you the possibility of changing. (...) The modifications to the calls have made the processes easier, but they also make them unstable, as we never know what will happen in the next call.

In line with this, one resident from *vivienda colectiva* mentioned:

One problem was the regulations [that limited the project's design]. We wanted corridors that connected the project to a certain number of meters, [but in practice] we had to negotiate it. (…) So, we also had to fight to have 62 m2 apartments.

Financing: Most interviewees recognised financing as one of the most pressing barriers to developing CH initiatives. This includes land prices, land adquisition costs, and construction material prices and the dependence of low- and middle-income families on state subsidies, which in Chile are their only means of obtaining housing. Despite their different roles in the housing processes, most interviewees agreed that another financial barrier is the lack of specific financial frameworks for these housing models. Two future residents of *cooperativas cerradas de vivienda* referred to this:

Obtaining financing is complex because we are not recognised as cooperatives. (…) To request loans, we must do so in the name of the cooperative and apply with the cooperative's capital. We put that capital in with our savings, but we as partners cannot [for example] supplement income. Since [current] cooperatives are pioneers, knowing the minimum capital amounts was difficult and slowed the development process.

Another participant from academia refers to the difficulties in buying land for the projects:

One barrier is the financial barriers, especially regarding land, because you have to buy central land for the projects. (...) In Santiago, the price structure is not applied well since it's a very big city.

In line with this response, officials mentioned that a barrier is that current financing options are not adapted for these types of housing but are prepared to produce a similar model of single-family social housing. One of the municipal official from *Peñalolen district* refers to this:

There is no adequate financing (…) that contemplates many different types of projects. The existing one is based on the logic of decrees and subsidies, and we do not necessarily have selection mechanisms, (...) loans or state guarantees for collaborative housing.

Some academics and developers also mentioned that a financing barrier is the lack of capacity of municipalities and economic resources to support, facilitate and manage CH. Many agree that a financial barrier is that small-scale construction of projects (5 units or less) would not be convenient to handle for small construction companies, compared to large-scale projects where material costs are secured. Investing in small-scale projects without financial backing and delayed payments could represent a developer risk. One developer from a *cooperativa cerrada de vivienda* refers to this:

There is a problem with the construction industry, which is used to building housing on a massive scale through standardisation, and it is not economically profitable for developers to build complexes of 10 homes under the logic of [existing] policies. (…) since it involves the same effort as building a large set of few units.

Policies and regulations: Most interviewees emphasised and agreed that a lack of specific *housing policies, regulations,* and *programs* is a barrier. Today, the same DS.49 subsidy as in conventional social housing, partially finances most CH projects built and under development. This limits the realisation of projects for different users with specific spatial requirements depending on their location since it could imply higher construction costs. Additionally, most interviewees mentioned the lack of openness of housing programs in allowing and promoting self-organisation and tenure options for these models. An official from the MINVU refers to this:

I think the biggest problem or [barrier] is the housing policy, the development of housing policies, the regulations that do not accompany the generation of collective housing and the association with a cultural problem (and the) idea of privately-owned housing. (…) The issue of tenure has also been difficult to navigate. (…) there is no legal framework or instruments adapted for collaborative housing.

Also, some residents mentioned that CH projects are carried out as a regulatory exception, slowing processes. In line with this, some developers have also mentioned that current regulations are incompatible with these projects and that a lack of connection between government actors affects their project development. One developer from *pequeños condominios* highlighted:

Interests from different government actors and little dialogue between them slow down project management. (…) The regulations leave some aspects in a grey area that is free to interpret and depends on the will of the officials regarding the project, which changes from time to time. (…) Furthermore, even though there are changes in the regulations, these processes are slow and can lead to project rejection or delays in their approval.

In line with this, interviewees from the viviendas cooperativas highlighted that a central barrier for the CH projects is the lack of regulations, laws, or policies that recognize housing and the city as a right. Two future residents from *cooperativa Yungay* refer to this:

The regulatory framework is an important issue that must be considered a limitation. There is no law, no recognition of the right to housing or the city. The [current] regulatory frameworks require much regarding project construction and land use in the regulatory plans.

Socio-cultural: Finally, some barriers associated with socio-cultural aspects were mentioned by the interviewees. These include that the country has an individualistic culture rooted in the neoliberal society of the last 40 years that is not conducive to collaborative housing, as it favours individual housing and promotes personal effort as the only way to improve living conditions. Also, there is a lack of knowledge of the models from developers and architects and a lack of recognition of the family dynamics or people who decide to live in a group with certain degrees of intimacy and commonality. One of the academics highlighted:

The idea of living together is associated with poverty, need and lack of privacy. (…) at the other extreme it is seen as hippie communities. (…) This entails a prejudice that is associated with the fact that housing complexes are for the poor. (…) there is no social construction that allows us to visualise a collaborative habitat that is 'decent' where [people] have controlled privacy. (…) then families do not see it as an option to fight for it, nor do developers.

Other examples of these socio-cultural barriers are the lack of institutional and professional knowledge about the models and society's current ideological orientation. A developer of the *cooperativas* referred to this:

There is a lack of professional institutional knowledge and a transversal cultural gap. This is not only in the technical field but also in society. We do not believe in collective housing. The idea of inheritable housing ownership is rooted in the culture because housing is not a right. I think that this issue stems from there.

3.5.2 Enablers

Collaboration: As a facilitator, most interviewees have mentioned different types of external and internal collaboration, which has allowed the development of projects. Residents agreed that a facilitator was the external support of professionals in architecture and construction in document processing processes. Also, the collaboration and will of government institutions and the networks with non-profit organisations. Internally, having trained leaders to manage projects and understand the operation of subsidies, decision-making mechanisms, and management of internal conflicts. One resident from *vivienda colectiva* highlighted:

The architect firm was a facilitator; they [listened and considered] us in doing the project as we wanted to do it, from day 1, showed us what the houses were going to be like and that way, we had the vision of how he was going to make the neighbourhood. (…) that's how we imagined the neighbourhood, and we were able to want this life and live there.

In line with residents' perceptions, officials, academics, and developers mentioned that the gradual opening to these models and the creation of calls from the government, both from the MINVU and the support of the *División de Política Habitacional* (Division of Housing Policy) has been an enabler. Also, some municipalities acted as a facilitating platform for the discussions and, as a guarantor of these initiatives, have been key enablers in developing existing CH projects. One developer from *pequeños condominios* refers to this:

Collaborations with municipalities are relevant actors that can facilitate the processes. [for example] in the case of Peñalolen, there is collaboration through an agreement with the housing department. (…) with this alliance the municipality acts as an articulator in identifying the demand of families needing housing with the developers [facilitating the processes].

Another example of collaboration is mentioned from an architect from one of the *cooperativas de vivienda*, which involves not just public actors and future residents but similar organisations:

Our networks are important facilitators, which are 'networks of friendly organisations'. In our case, other housing cooperatives provided great support, helping us both technically and in our training. (...) these actors include SELVIHP, who created the self-management school, the Coenergia and Trasol cooperatives, with whom we developed the statutes and legal formation of the cooperative, and the Santa Ana space (RPH) and Coordicoop, who helped us at the beginning of the project.

Design: Some developers believe that a design facilitator is the level of quality standard that can be financed with a subsidy, for example, in the case of *pequeños condominios*. Compared to other housing programs, it could imply a better spatial and construction-quality home. One developer from *pequeños condominios* mentioned:

An enabler is the level of quality standard that can be funded by the grant. It offers good quality housing in construction and spatial terms, which is not common [to other housing programs]. (…) now, we can make reinforced concrete homes (…) of durable materiality, considering a family savings of 25 to 30 UF.

Financing: Another facilitator mentioned by interviewees are some aspects of financing. Residents mentioned using the existing subsidies to develop CH as an enabler. An official suggested that the lack of land could facilitate CH since it could create the need to build smaller-sized homes with shared spaces and services. One academic refers to this:

A facilitator has to do with making the [existing] coexistence of the inhabitants evident, especially in terms of land because (...) you can use the existing land since it is very expensive if you must buy it. (…) [For example,] in Santiago, Concepción and Valparaíso, land is available in central areas near services that can be used to [build new projects].

In line with this a developer from the *pequeños condominios* highlighted:

(…) One advantage is to use the existing land, I think it's an opportunity to use central land in Santiago for small condominium projects.

On the other hand, it was recognised that public actors have been facilitators in adapting current finance mechanisms to develop the projects. One future resident of a *cooperativa de vivienda* referred to this:

After much negotiation with the cooperative, SERVIU agreed to create a zero-interest loan for it. (...) This facilitated the purchase of land in the central Yungay neighborhood in Santiago and the payment of the expenses initiated by the cooperative's technical assistance.

Policies and regulations: Some future residents of cooperatives mentioned the adaption of existing mechanisms for carrying out CH projects as enablers of policies and regulations. One future resident from a *cooperativa cerrada de vivienda* mentioned:

Another facilitator was the law decree designed for us [cooperatives] that allowed our application. (…) Leaving aside the criticism, this opening occurred from the MINVU. (…) The decree has been maintained and is not modified, and the calls change every year, allowing us to start the cooperatives.

Socio-cultural: Finally, interviewees pointed out possible socio-cultural enablers for CH in Chile. Among these were the current government's, future residents', and private actors' interest in promoting *cooperativas* and *pequeños condominios*. Most academics and developers also mentioned ongoing CH experiences that can be an example of promoting new projects and motivating inhabitants as enablers. One official from the MINVU refers to this:

Some facilitators are the traditional culture of the popular sectors of solving needs in a supportive and collective manner. The empowerment of groups and communities that demand greater participation in managing their housing solutions gives value to community work as a tool to improve living conditions. (…) [Also], the willingness of authorities to incorporate new modalities that were used in the past with good results (cooperatives, self-construction).

One academic highlighted:

The biggest facilitators for [CH] to work in Chile are that (in)formally cooperatives, communities and intentional groups already exist. (…) In other countries, the international experience with utopian logic, or with groups of older adults or feminist communities, is entering with force. (…) In Chile, communities already live together informally with others and have their rules, like in Allegamiento.

In line with this, one resident from *vivienda colectiva* pointed out:

Opportunities or facilitators [to carry out these projects] well; there is the people's wisdom of a lifetime, the ability of [families] to overcome adversity. (…) [another enabler] has been to see previous [national] experiences, such as what the national cooperative movement and the residents have done. (…) We have accessed [historical] information printed by the Library of Congress Transparency Act.

A future resident from a *cooperativa* referred to this too:

The greatest [socio-cultural] facilitators that have helped us continue the struggle are the national and international experiences. (…) We can see previous experiences, see how the International cooperative movement and [future] residents achieved their cooperativas (…), for example, in Uruguay.

TABLE 3.1 Barriers and enablers for collaborative housing development in Chile (Source: Authors)

Topics	Barriers	Enablers
Collaboration	– Lack of support from external private, non-profit, and public actors to emerging self-organised groups of future residents – Challenge in creating long-lasting collaborative relationships between stakeholders	– Support from some private actors, such as construction companies, architects, and developers interested in CH – MINVU and some local governments, in some cases, acting as articulators between future residents and developers – Internally, the presence of leaders within the self-organised groups
Design	– Lack of specific regulations for architectonic CH project design – Restrictive regulations for project design about m^2 per home, density, typologies, shared spaces, materiality, and residents' preferences – Challenges of incorporating social and sustainable innovations into CH projects	– Some CH projects are developed with spatial changes towards the collective by including exterior or exterior shared spaces – Level of quality standard that can be financed with housing subsidies; for example, new developments of *pequeños condominios* are built with concrete
Financing	– Lack of specific financing frameworks for different scales of CH projects – Dependency and difficulty for low and medium-income groups in accessing subsidies, loans, and mortgage credit – Increased prices of land and construction materials – Lack of capacity and economic resources from local government to facilitate CH development	– Current openings for developing CH by using current financing mechanisms and subsidies – Using existing land of families living in inhabitable homes to develop CH projects
Policies and regulations	– Lack of openness of policies in allowing and promoting self-organisation – Lack of specific housing policies and programs for specific CH models – Lack of tools, technical and social assistance to support organised communities interested in CH – Lack of dialogue between government actors	– Current policy openings for CH in the Plan de Emergencia (housing emergency plan) from 2022, existing mechanisms and yearly calls for *pequeños condominios* and *cooperativas*
Socio-cultural	– Continuity of individualistic society mindset that is not conducive to collective housing, for example, about tenure options – Lack of knowledge of CH models	– Current interest from the government, some future residents, and private actors in CH – Historical memory and ongoing (inter)national experiences of self-organised housing in the form of communities, cooperatives, and housing committees can be an example for new projects

3.6 Discussion

In this section, we first discuss the initiatives and models that have the potential to be considered collaborative housing in Chile (See this classification in Figure 3.6 and detailed analysis in Appendices 3A and 3B). Second, we discuss the connections between housing initiatives by variable using our analytical framework. Finally, we discuss the main barriers and enablers for these initiatives. In line with our assumptions, both our desk and empirical outcomes show there are precedents and current emerging (in)formal initiatives in Chile that we could call collaborative housing since they meet its distinguishing features.

Historically, we have found that *conventillos* and *cités* from the mid-19th century were the first collective housing in Chile, where residents intended to live together for pragmatic reasons, shared spaces, and maintained everyday life. However, these initiatives could not be considered CH because there is no explicit evidence of residents' participation in the home development process. The informal initiatives of the 1940s onwards, including *tomas de terreno*, *campamentos* and *autoconstrucción,* also present some features of CH. In these initiatives, future residents decided to live together as a survival strategy and radical ideas, socially self-organised for housing, and gradually embraced social aspects such as community life (MINVU, 2004). Nevertheless, we do not consider these initiatives CH since, although they contain a high level of future residents' participation, which in some cases could include external collaboration with different professionals and political parties, users controlled the housing processes completely as a way of citizens control. Furthermore, our findings do not explicitly indicate these initiatives had shared spaces or show to what extent residents regularly performed joint activities. The extent to which CH's distinguishing features would materialise in these initiatives would require further research. *Allegamiento,* when taking the shape of a *co-residencia* strategy, is the only informal housing initiative we could consider CH since, in those cases, it would meet our four CH-defining criteria. As Urrutia & Cáceres (2019) state, similarly to *cohousing*, in *co-residencia,* households share land or a home and its spaces. Also, we found that households in *co-residencia* may have voluntary intentions and choose to live together motivated by pragmatic and social reasons that value mutual help, social relations and capital, have agency in collaborative self-building and management of the homes, and perform daily activities. Nowadays, part of *co-residencia* has formally materialised in what is beginning to be developed in Chile as *pequeños condominios*. However, our outcomes question whether informal *co-residencia* could, in all cases, be considered CH or whether there would be variations within initiatives. For example, it is unknown

to what extent collaboration or (voluntary) intentionality to live together occurs or spaces are shared (See Table 3.6, Appendix 3A). Therefore, this hypothesis would require further research.

Within formal housing, we found that *cooperativas de vivienda* and *vivienda colectiva* from the 1930s were the first models to consider community in the building design with 'adequate' shared spaces. These initiatives have some intentionality around affordability and could have had the potential to become CH gradually, but collaborative processes in housing development were not explicit. From 1950 forward, with the *Autoconstrucción, Operación sitio, Autofabricación and Vivienda progresiva* programs, there has been a top-down State attempt to include future residents in the housing provision through self-construction to reduce labour construction costs and accelerate deficit reduction (MINVU, 2004). In the mid-2000s, the MPL developed self-managed and self-organised initiatives to access collective social housing models. Although future residents self-managed or, in other cases, self-built their homes, no explicit evidence shows they perform joint activities in their daily lives or share spaces in all cases to be considered CH. Currently, our findings show three formal housing models that we consider CH in Chile, namely *pequeños condominios* (former *co-residencia* or *allegamiento*), *the initiatives we term vivienda colectiva liderada por residentes* and *cooperativas cerradas de vivienda*. In these models, the initiators vary from bottom-up to top-down, and residents' main motivations include living close to their social networks, showing discontent with the current provision system and accessing affordable housing unavailable in the market (Consolida, 2021; Cortés-Urra et al., 2024; Ruiz-Tagle et al., 2021). These models have high levels of collaboration, although it does not transcend into lasting relationships with external actors in all cases. Finally, these models include interior or exterior spaces where residents regularly interact socially (Cortés-Urra et al., 2024).

Applying our analytical framework variables in Chile to the data obtained from our desk research and interviews, we found the following connections between CH precedents. In line with some research on CH from other urban contexts (Czischke et al., 2023; Lang et al., 2020), what we identified as CH in the Chilean context is driven by two main *motivations*. Firstly, (in)formal self-organised housing has emerged as a *pragmatic strategy,* in many cases bottom-up and top-down approaches to accessing *affordable* solutions in the face of the housing deficit. Unlike other contexts, low-and middle-income families self-organised as *pobladores* motivated not only to create alternative housing, but also as an alternative access route to *affordable* housing in their neighbourhoods of origin (Araos, 2018; Carroza, 2020; Cortés-Urra et al., 2024; Fuster-Farfán, 2021). Secondly, we found they have emerged from *radical intentions* as a *political expression* of future residents for the

right to housing and the city and to challenge the country's dominant top-down models of housing provision, welfare state solutions and systemic inequalities in housing policies (Cortés-Urra et al., 2024; Ibarra, 2018; Urrutia & Cáceres, 2019). Concerning initiators, our findings show that formal initiatives are *initiated* top-down and informal housing is initiated bottom-up by future residents through illegal occupations. The *spatial* and *social organisation* vary per (in)formal initiative.

The *degree of collaboration and participation* between future residents in different housing models has varied over time. Since the 1940s, *pobladores* have self-organised in informal housing with high levels of internal participation between them, in some cases, externally as a pragmatic strategy (Aguilera et al., 2020). However, this participation is a form of citizen control rather than collaboration, as citizens completely self-manage housing (Giannotti & Schmeisser, 2021; MINVU, 2004). In 1950s onwards, the State started collaborating with future residents through technical assistance for self-build, with *autoconstrucción, autofabricación, operación sitio,* assisted *tomas de terreno* and *vivienda progresiva* (Forray & Castillo, 2014). Nevertheless, in practice, collaboration is rather participatory since *pobladores* only influence some decisions. Internally, there is collaboration during the self-construction process, but it tends to discontinue once the home is obtained (MINVU, 2004). Informal housing in the past was developed irregularly by future residents on public and private lands without property rights, and formal housing was developed under state plans with individual or co-ownership *tenure*. Today, some self-organised groups, such as some *cooperativas*, have started questioning current property regimes (Ruiz-Tagle et al., 2021). Regarding *financing*, most (in)formal housing in Chile until the 1930s was rented and financed with workers' salaries and resources. Since then, financing for formal initiatives has been shared between future residents' savings (and land), state loans or subsidies, and other actors' loans.

Regarding the barriers and enablers for these initiatives, as summarised in Table 3.1, our research suggests Chile's most urgent barriers to CH models are the lack of openness for self-organised models in housing policies and the lack of specific programs, regulations and financing frameworks for CH. Current enablers perceived by the participants are the interest in CH from some stakeholders, the adaptation of existing mechanisms to start developing projects and the newly built experiences. Until now, the initiatives are in the initial development phase, a marginal phenomenon in the country. In this context, the perspectives for further development of CH have been challenging to foresee in the long term since they depend on many factors and external actors that must be aligned in developing these projects. We suggest that this challenge includes considering the future residents interest in CH, which differs from what is customary in the country and the country's future direction regarding general economic, political, cultural, and societal issues.

3.7 Conclusion

This chapter explored Chilean precedents and the current housing system through the lens of Collaborative Housing (CH). Furthermore, it sheds light on the main barriers and enablers these initiatives and models experience in their development. Our research outcomes show there is currently one informal initiative called *allegamiento,* which, when developed as a *co-residencia* strategy, has the potential to be identified as CH. This occurs when households intend to live together, have agency and collaborate to manage housing, share spaces and carry out joint activities. However, this new hypothesis would require further research. Also, there are three formal housing models that we could distinguish and identify as CH in Chile. These formal models are *vivienda colectiva liderada por residentes, pequeños condominios* and cooperativas cerradas de vivienda. We found that currently, there is some interest in CH from future residents groups and the government. The government has manifested this interest in the *Plan de Emergencia* or PEH (Housing Emergency Plan) from 2022, which aims to build 4,000 *pequeños condominios* and 2,000 *cooperativas.* From future residents, this interest has translated into a slight increase in CH projects. To date, one *vivienda colectiva* project was built, and two are in development; *cooperativas* started with 3 projects, and now 7 are under development, 35 *pequeños condominios* were built, and 205 more are planned. This recent interest might imply certain development opportunities for CH in Chile. However, until now, CH models have started to develop and are a marginal phenomenon since they face barriers. Interviewees identified the society's social orientation and the lack of openness to self-organisation in policies and regulatory and financing frameworks as the main barriers for CH. We argue that CH could have development opportunities in Chile if the current barriers become enablers. Interviewees' responses suggest reinforcing existing enablers, such as current alliances with key interested stakeholders to manage CH, promote existing projects, and support interested future residents.

While conducting this study, we were presented with some limitations. One of these was accessing historical information about housing in Chile. Although we combined the desk research data with interviews, it was a challenge, for example, to determine the degree of collaboration between stakeholders for the oldest initiatives of our analysis. Therefore, this could have led to data misinterpretation and bias in our results. However, the academic exercise of testing our analytical framework in the Chilean housing initiatives could contribute to the work of researchers who study similar models globally beyond Latin America. More specifically, in the Chilean context, we found elements in the history of self-organisation for housing that could

constitute the building blocks for the Chilean models of CH. Our analytical framework can be applied to qualitative studies in the CH field that seek to find connections, similarities, and distinctions between housing models in different contexts and help transfer analytical and theoretical results between countries. Future research could investigate what policies must change to facilitate CH. This could present possibilities for CH development not only in Chile but in entire Latin America. Based on our findings, our research suggests that formal CH development in Chile is a process that requires transforming policies and stakeholders' willingness. This process implies creating new policies and institutional arrangements to collaborate with future residents and other actors and create regulatory and financial openings and frameworks specific to CH. In parallel, critical mass and knowledge about CH should be generated, encompassing design, tenure aspects and training stakeholders. CH could represent a promising development approach in Chile to address housing deficits, as these initiatives respond to similar housing issues elsewhere. However, until today, it is merely a perspective since existing barriers must be transformed into enablers to implement these models.

Appendix 3A

Appendix 3A summarises the outcomes per (in)formal housing initiatives and analysis variables in two tables, namely Table 3.2 and Table 3.3.

TABLE 3.2 Collaborative precedents and current informal housing initiatives (Source: Authors)

Informal initiatives	Drivers	Initiators	Social organisation	
Conventillos (Tenements housing)	– Pragmatic strategy of living in a community to reduce the price of (rental) access to housing	– Future tenants of the conventillos or landlords of the conventillo	– There is no collective organisation prior to housing, but there is after	
Poblaciones callampas (Slums or shanty towns) **y Campamentos** (Camps)	– Pragmatic strategy for obtaining housing or, in some cases as a political expression for localisation in the face of urban segregation	– Future residents informally	– Settlers and their families spontaneously organise by informally occupying land	
Autoconstrucción (Self-build housing)	– Pragmatic strategy for obtaining housing and political expression in the face of the housing struggle	– Future residents or the landlord of the plots- From the 1950s, they were initiated by the State with the autoconstrucción or operación sitio program in the 1960s	– Settlers spontaneously organise individually or by family groups to illegally occupy, rent or buy public or private land to build informal housing	
Tomas de terreno (Land takeovers)	– Different motivations that respond to different social periods: (1) pragmatic strategy for the housing need, (2) urbanisation strategy, (3) utopic and radical ideas to fight for housing quality location, and (4) political expression as a symbolic form of pressure and negotiate well-located land with the State	– Collectively initiated by future residents	– Settlers collectively self-organise to occupy land and build their homes informally	
Allegamiento y co-residencia (Double-up and co-residence)	– Survival and pragmatic strategy from future residents who are motivated to access cheap housing, continue living in well-located areas and maintain their social networks and fabric	– Initiated by a group of people or households experiencing homelessness who settle by agreement on the land of the receiving household (with or without a degree of kinship)	– The host household takes in allegados (a family without a home), sacrifices its independence, and reorganises its functions to maximise economic, social, and physical resources	

	Financing	Collaboration	Tenure	Spatial features
	– Private financing, the monthly fee is financed by the tenants with their salaries and resources	– There is no collaboration in the design of homes, and collaboration occurs between residents when sharing care, cleaning, daily activities, and worklife in the shared courtyard	– Rental housing or ownership, the worker rents rooms from the building owner or buys a home	– Each family has a room that is part of a set of rooms aligned around a shared small patio – The rooms do not contain windows or natural light; they only have an access door – The interior street has shared facilities such as a water fountain, kitchen, and bathroom
	– Residents use public or private land to build homes with their resources – Over the years, families could request state aid to regularise and improve the homes, or they were evicted and moved to social housing in a new location	– Between 1910-1940, there is a low level of stakeholder collaboration – Internal collaboration between residents occurs mainly as a survival strategy – Since 1940, self-organised residents to fight for housing as a form of citizen control	– Informal housing developed on state or private lands by families who do not have land titles	– Irregular housing developed by future residents, usually with the use of inadequate materials and without technical advice – Some cases derived from *Operación sitio, Vivienda progresiva* or *Autoconstrucción* programs and started with land, sanitary shed, and kitchen
	– Residents illegally rent, buy, or use land to build homes with their resources – Over the years, some pobladores requested state aid to regularise and improve their homes, or they were moved to social housing in a new location	– There is no external collaboration – Internal collaboration occurs between families in the processes of self-management, self-build, and daily life in the homes	– Informal occupation on state or private lands in general by families who do not have property titles to the land – In other cases, families rent, buy, or obtain a small piece of land through the State and self-build their homes	– Irregular housing developed by future residents, usually with the use of inadequate materials and without technical advice – In the 1960s, *Autoconstrucción* also derived from the *Operación sitio* program that provides land or sanitary shed and kitchen
	– Future residents illegally use land to build homes with their resources – Over the years, families could request state aid to regularise and improve the homes, or they were evicted and moved to social housing in a new location	– Certain degree of external collaboration and citizen control over housing provision – Future residents collaborate internally daily in tasks such as care, self-build and defending the tomas from evictions – During the 1970s, assisted tomas de terreno were developed from a collaborative work between the State and residents	– Informal housing developed as an invasion of public or private lands by collectively organised families who do not have property titles	– Irregular housing built by future residents, usually using available and inadequate materials for construction and without technical advice
	– The home or land shared by the households is obtained informally by self-construction subsidy or some state housing program	– Internal collaboration between allegados and the host household forms a family group that interacts daily and, at the same time, has an independent budget from the host household	– The home or land shared by the households may be owned or illegally occupied by the receiving household	– More than one household sharing the same land or house, generally in peri-central areas of the city – The spatial features vary by case and respond in many cases to informality, but in most cases, households shared interior or exterior spaces

TABLE 3.3 Collaborative precedents and current formal housing initiatives (Source: Authors)

Formal initiatives	Drivers	Initiators	Social organisation	
Cité (Collective worker's houses)	– Pragmatic solution for workers to improve living conditions in the face of the housing deficit	– Future tenants of the cité, landlords of the homes or private real estate companies	– There is no prior collective organisation of the workers before living in the cités, but there is after	
Cooperativas de Vivienda (Housing cooperatives)	– Pragmatic route towards affordable housing for future residents and private actors is an option to reduce the deficit – The current pillars of cooperativism are not yet recognised as drivers in literature	– Initiated by cooperators or non-profit private sector institutions such as INVICA or the *Instituto de Vivienda Popular de Caritas Chile*	– Future residents (worker societies, army and state workers) and private actors organise as construction cooperatives to develop housing projects	
Vivienda colectiva en altura (High-rise collective housing)	– Pragmatic solution to reduce the housing deficit for future residents and the State through collective formal housing	– Initiated by the State *Caja de Habitación Popular* institution	– Workers organise to obtain housing, but this organisation is dissolved when the project is delivered	
Autoconstrucción de vivienda y ayuda mutua (Self-construction and mutual help program)	– Political and pragmatic future residents strategy to access affordable housing and reduce construction costs – The State is driven to reduce the deficit and save resources by outsourcing housing to future residents	– Initiated by the State who creates the program in response to social pressure from *pobladores*	– *Pobladores* self-organise in committees of more than 30 families to access housing, but the informed evidence is not explicit about their type of social organisation	
Operación sitio o tiza (Site or chalk operation)	– Political and pragmatic future residents strategy to access affordable housing and reduce construction costs- The State is driven to reduce the deficit and save resources by outsourcing housing to future residents	– Initiated by the State who creates the program in response to social pressure from pobladores	– Future residents are organised as *pobladores* during the housing process, but the evidence is not explicit about their type of social organisation after building the homes	
20.000/70 o Autofabricación (20,000/70 or Self-build operation program)	– State motivation to pragmatically address the deficit by reducing the use of technical, human, and material resources while providing jobs to future residents – Pragmatic motivation from future residents to build their homes and learn the construction trade	– Initiated by the State, which creates the program and builds factories to allow the organised community to self-build the construction elements of their homes	– Future residents are organised as a self-builders community, but the informed evidence shows their social organisation discontinued after the self-construction housing stage	

	Financing	Collaboration	Tenure	Spatial features
	– Private financing, the monthly fee is financed by the workers with their savings and salaries	– There is no external collaboration in the design of homes due to workers rent a room managed by the owner – Internal collaboration occurs when future residents share cleaning, caring, and doing activities in the courtyard	– Rental or individual ownership	– Each household has access to a 1 or 2-level home that has a bathroom, kitchen, bedrooms – The *cités* are made up of 10 or 20 home units organised around a private shared courtyard or interior patio
	– Shared financing between the cooperators, credit associations and the State that provides financial assistance and loans	– The informed evidence mentioned technical assistance from the State but does not refer further to external collaboration – Internally, the future residents collaborate, but after obtaining the homes, they only maintained a formal post-sale link with the cooperative	– Rental housing, owned or co-owned by the members of the cooperative	– Single-family houses in a row or isolated façade of 40 to 100m2, on plots of 100-200 m2 with 3 bedrooms, patio and front garden that visibly connect with the neighbourhood
	– Private and shared financing of workers who access housing loans granted to their institutions by *Caja de Habitación Popular*	– The literature is not explicit about the degree of collaboration of stakeholders in the housing process	– Rental, individual ownership or co-ownership, where the land is co-owned by households and the homes are individually owned	– Buildings with individual housing units and shared spaces, including patios, corridors, lobbies, and (occasionally) access to urban amenities or facilities
	– Shared financing, between future residents who contribute about 47% of the cost of construction labour and the State loans for construction materials	– External collaboration between program participants and the State – Future residents learn the construction trade through state technical-administrative advice	– Individual ownership	– Concrete houses of up to 49 m2 with urbanisation and basic services such as bathroom and kitchen
	– Shared financing between the State, which provides land or loans for purchase, and settlers who pay an initial fee, access to loans, and self-build the homes with their resources – Over the years, settlers could apply for subsidies to improve their homes	– Internal collaboration of residents who self-build their homes for requirement of the state program	– Individual ownership	– Plots of 160 m2 with(out) access to water, electricity and sewage networks generally included a 20 m2 wooden emergency house and a latrine – The program planned access to urban facilities such as schools, community centres, and service areas, but generally, they were not built
	– Shared financing between the State provides access to loans and groups of self-builders who work 21 hours a week to self-build their homes with their material and economic resources	– Internal collaboration between future residents in the construction process that is discontinued after obtaining the homes – External collaboration with the State in the technical, social, and administrative assistance of the projects	– Individual ownership	– Self-build house of 36 m2 in prefabricated wooden panels, lightweight concrete panels or masonry, which includes kitchen, bathroom, two bedrooms, living room and dining room – Occasionally, a 10 m2 sanitary shed is included, and the possibility of expanding it to 18 m2

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TABLE 3.3 Collaborative precedents and current formal housing initiatives (Source: Authors)

Formal initiatives	Drivers	Initiators	Social organisation	
Vivienda progresiva (Progressive housing)	– State motivation to provide housing to allegados, maximising available resources to cover a greater number of people – Pragmatic motivation from future residents to access housing	– The State creates the program in two modalities for individual and collective application	– Initially, *allegados* collectively organise as juridical persons to apply for the program – After home delivery, the literature is not explicit about how the organisation occurred	
Vivienda colectiva liderada por residentes (Resident-led collective social housing)	– Future residents motivation to live in a community close to their social networks as a political expression and radical and utopic ideas of self-organisation to fight for housing and the city in the face of discontent with existing solutions	– Future residents organised into a committee or housing movement	– Generally, horizontal collective organisation through assemblies (1 vote per household) as a democratic process to make project decisions	
Cooperativas cerradas de vivienda (Closed housing cooperatives)	– Cooperators are driven by a political expression in the face of the housing shortage, the ideals of the cooperativism model (pillars: self-management, mutual help, and occasionally, collective property, direct democracy, and good living), environmental awareness, radical living, alternative lifestyle, and the desire to live better like in the past	– Initiated by future residents (bottom-up), the government (top-down) or other civil society organisations such as SELVIHP	– Generally, horizontal collective organisation, as an internal and direct democratic process to make project decisions	
Pequeños condominios (Small condominiums)	– External actors (developers and municipalities) are driven by the aim of improving families' living conditions by consolidating neighbourhoods – Future residents are pragmatically driven to access affordable housing and continue living close to their ties as in the past	– Initiated by developers, central or local governments	– Social organisation depends on the size of the group; it can be an indirect representation or horizontal, depending on the project	

	Financing	Collaboration	Tenure	Spatial features
	– Shared financing between the State, which facilitates the access loans and provides subsidies, and future residents pay the fees required by the program and self-build the homes	– Internal and external collaboration where future residents incrementally build their homes or manage and supervise the construction works together with state technical assistance	– Individual ownership	– Two possible designs: a sanitary unit and a kitchen of up to 23 m2, basic services and a multi-use space for families who cannot self-build their homes, or a sanitary shed and a multiple-use space (suitable for two beds and a kitchen) – Homes can be expanded in later stages
	– Shared financing, future residents provide the savings required by the subsidy, and the State provides a subsidy to purchase land and build housing	– External collaboration between future residents and stakeholders during project formulation, design, management, and construction – Internal collaboration to coordinate maintenance or the organisation of recreational activities	– Co-ownership, where the land is co-owned by households and the homes are individually owned	– Spatial features generally consist of individual housing units and shared indoor or outdoor spaces such as kitchens, dining rooms, recreation areas, social headquarters, and other multiple-use spaces
	– Shared financing between cooperators who pay an initial fee and access to loans, the State that grants a subsidy to buy land and build the project, and complementary contributions from third parties	– High degree of external collaboration, where cooperators associate with public and private actors, such as MINVU, SELVIHP, developers and other cooperatives, to develop the projects – High degree of internal collaboration, the cooperators as *Sponsoring Entities* constitute the cooperative, formulate, co-design, manage, administer, and maintain the project post-delivery	– The land is co-owned or collectively owned (shared equity), and the homes are individually or collectively owned – In collective ownership, the cooperative is the owner, and each cooperator has the right to use the homes and is responsible for their administration	– Spatial features generally consist of individual housing units and shared indoor or outdoor spaces such as recreation areas and other multiple-use spaces
	– Shared financing, future residents provide the land and savings required by the state program, and the State provides subsidies to build the homes	– External collaboration of future residents in project formulation and design is limited, but they participate in managing documentation, attending informative meetings, and sometimes caring for the land during construction – Internal collaboration is high, where future residents share daily tasks, such as care, and share daily meals	– Co-ownership, where the land is co-owned by the households and the homes are individually owned	– One condominium consists of 2 to 12 individual homes, which generally share outdoor parking and a patio and may also include shared indoor spaces depending on the project scale

Appendix 3B

Appendix 3B contains four Figures that summarise the research outcomes resulting from the analysis of each inclusion criteria of collaborative housing in relation to each of the 15 Chilean housing initiatives and models investigated. Figure 3.7 summarises the *intentionality and main motivations* of each initiative, Figure 3.8 shows *collaboration and participation*, Figure 3.9 shows the presence of *shared spaces* and Figure 3.10 shows *joint activities* between residents.

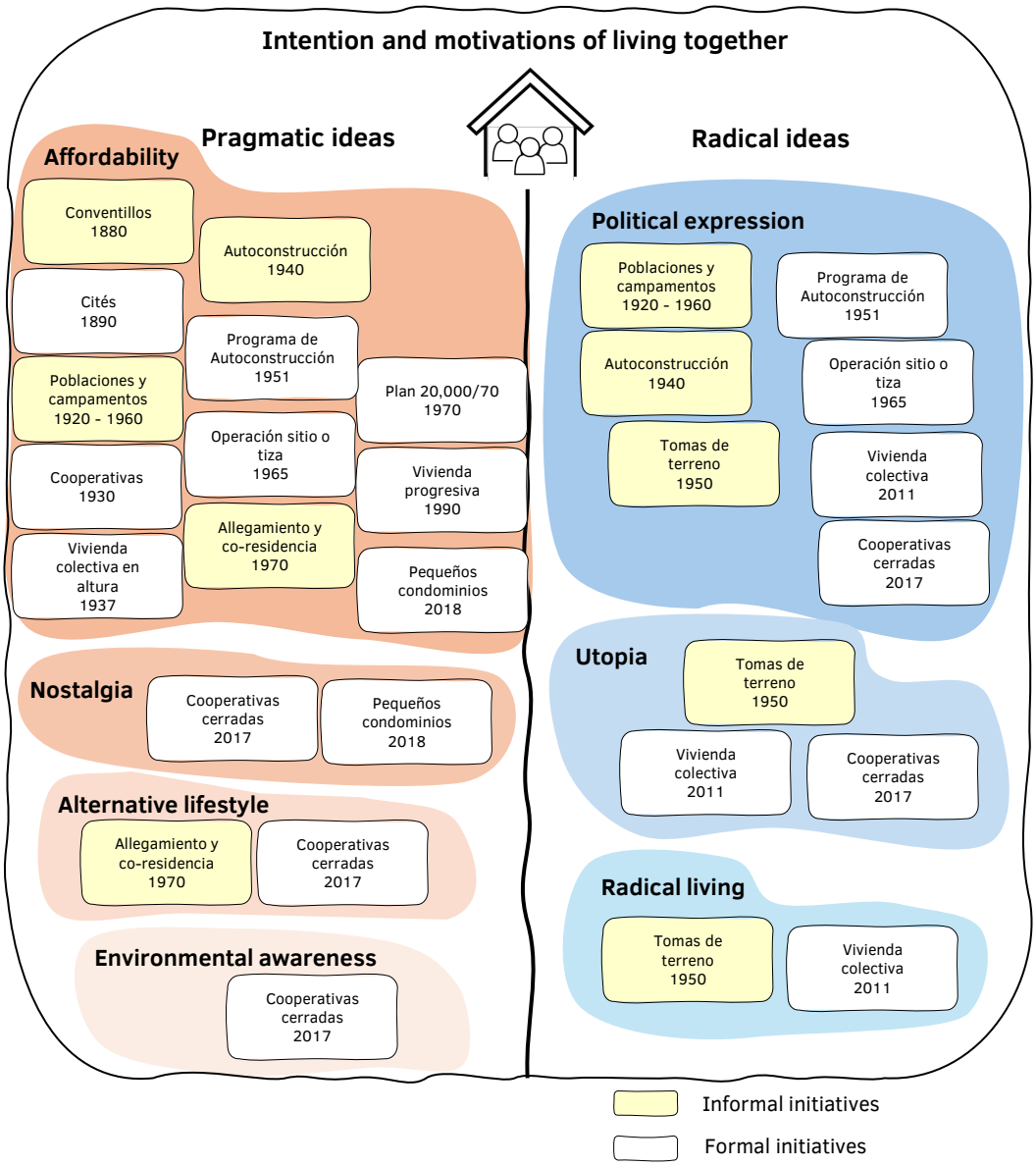

FIG. 3.7 Intentionality and motivations in Chilean (in)formal housing initiatives (Source: Authors)

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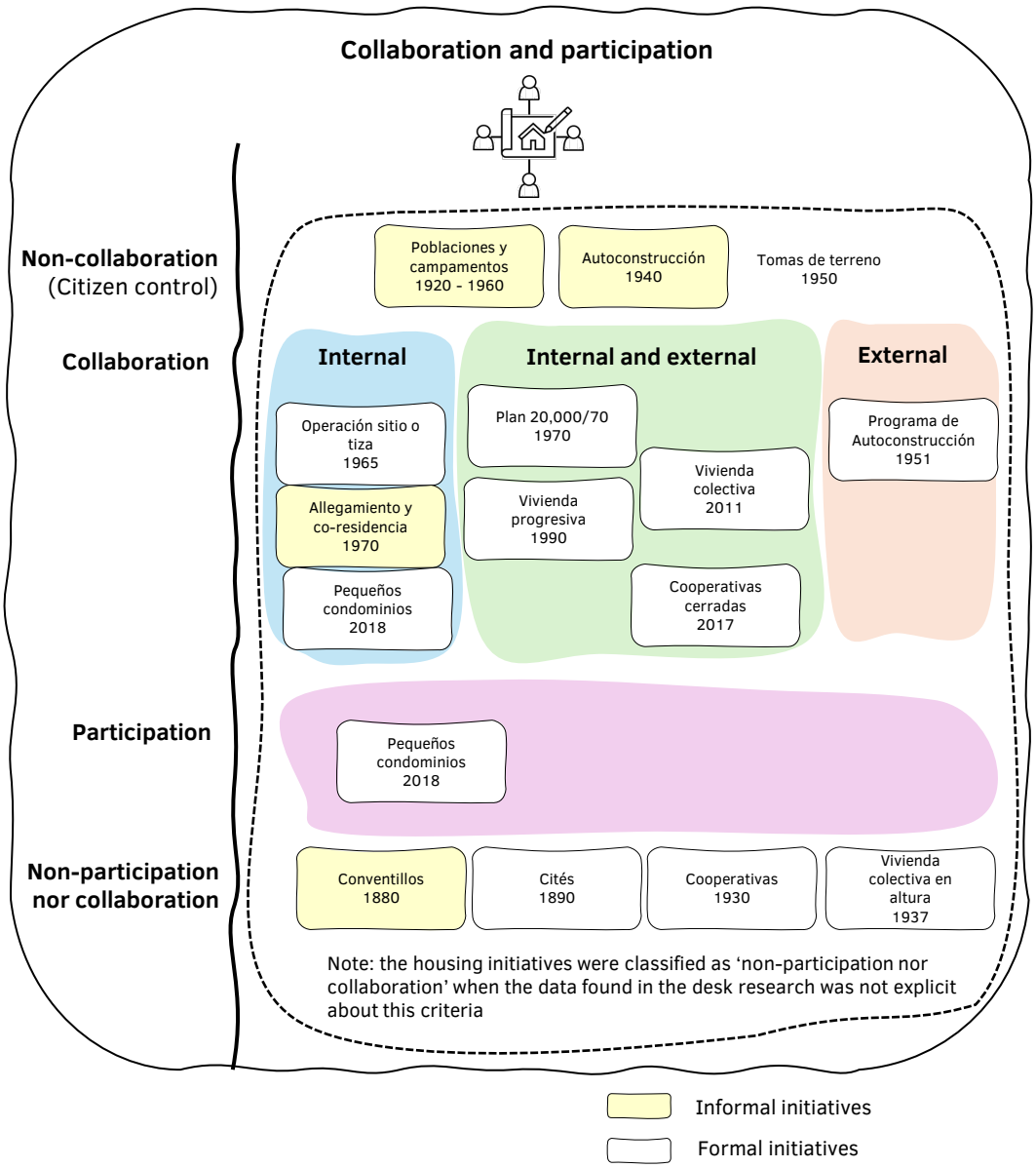

FIG. 3.8 Collaboration and participation in Chilean (in)formal housing initiatives (Source: Authors)

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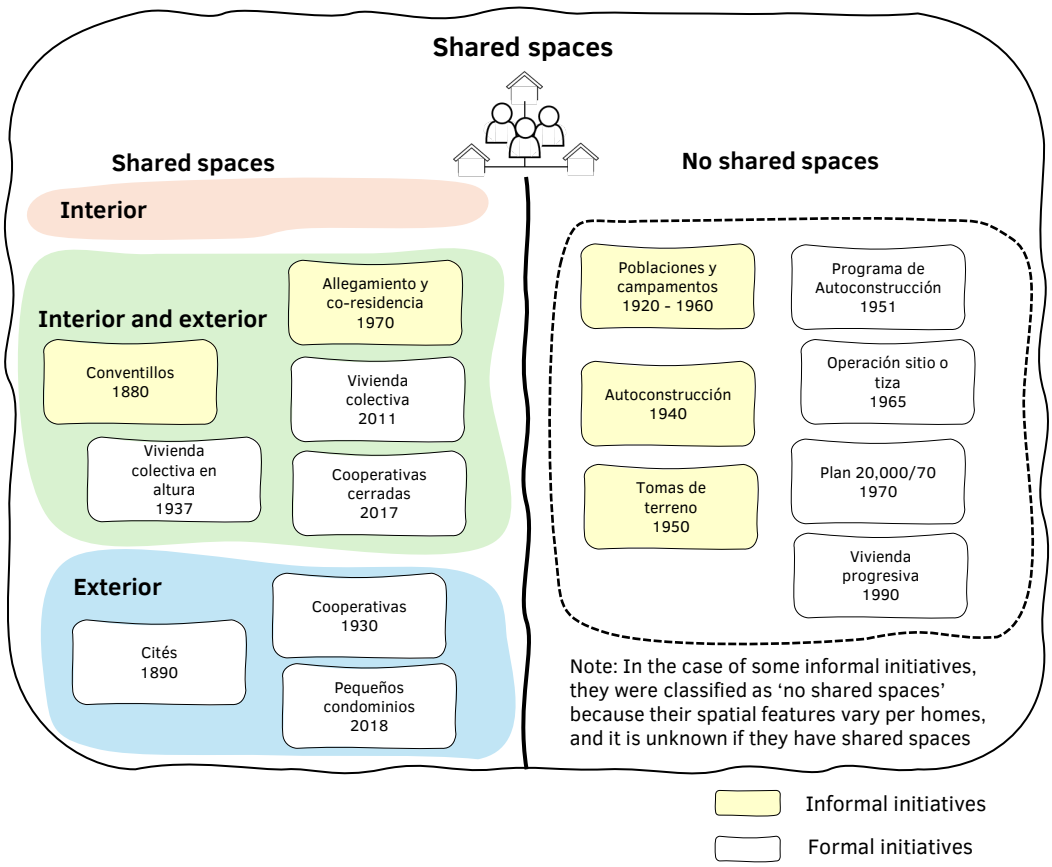

FIG. 3.9 Shared spaces in Chilean (in)formal housing initiatives (Source: Authors)

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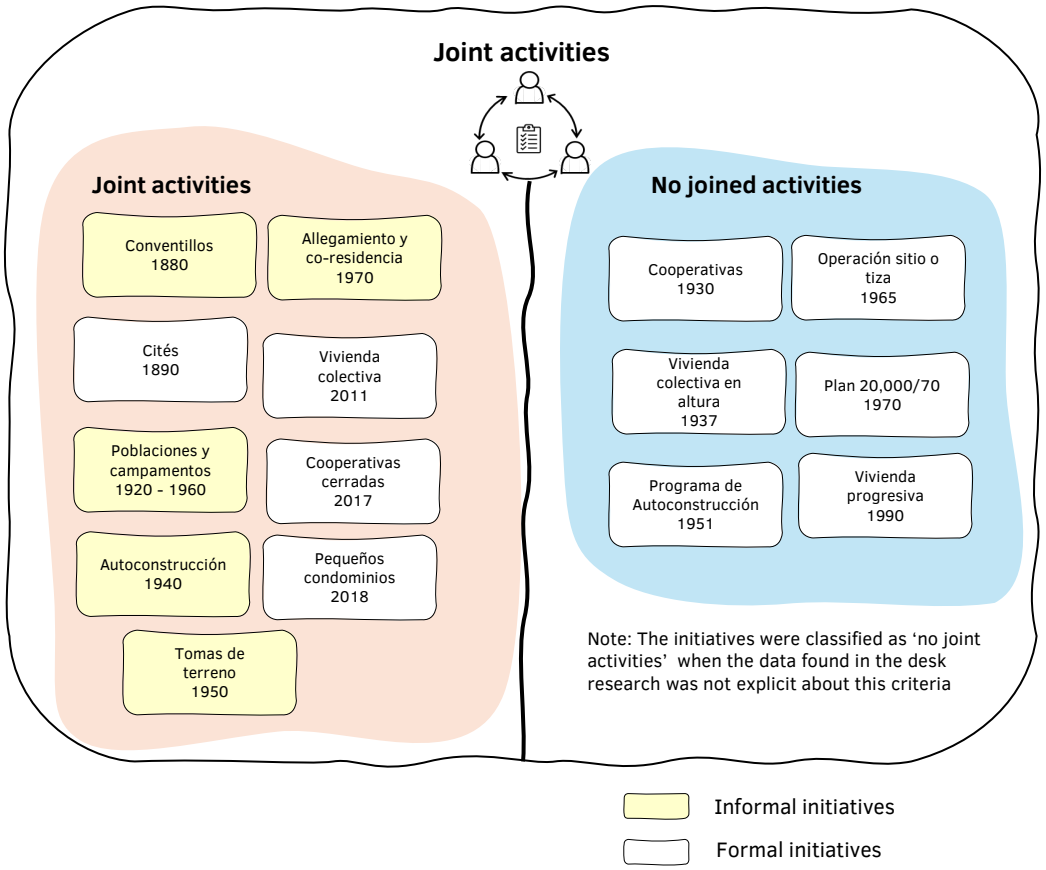

FIG. 3.10 Joint activities in Chilean (in)formal housing initiatives (Source: Authors)

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Appendix 3C

Appendix 3C presents in Table 3.4 the organisation of the interview questions asked of participants in the fieldwork conducted between December 2019 and January 2020, and Table 3.5 details each question by topic. Question Q1 is a general question that aims to understand the background of each interviewee. Questions Q2, Q3, and Q4 seek to understand the current housing system and each stakeholder's level of participation and collaboration in each housing project. Questions Q5, Q6, and Q7 aim to obtain general knowledge about possible precedents and current CH initiatives, as well as their development perspective in the Chilean context. Questions Q8 and Q9 seek to determine the main barriers and enablers to the development of CH in Chile. Finally, Q10 is a closing question to ask the participant if they would like to add something to the interview.

TABLE 3.4 Organisation of interview questions for key actor participants, fieldwork 2019-2020

Interview Question	Introductory question	Topic			Closing question
		Stakeholders' collaboration and participation	Collaborative housing initiatives and perspectives	Barriers and enablers	
Q1	X				
Q2		X			
Q3		X			
Q4		X			
Q5			X		
Q6			X		
Q7			X		
Q8				X	
Q9				X	
Q10					X

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TABLE 3.5 Interview protocol for key actors, fieldwork December 2019 and January 2020

Questions for interviews fieldwork 2019 - 2020	
Introductory question	
Q1	What kind of projects have you developed or participated and what was your role in the project?
Stakeholders' collaboration and participation	
Q2	Which actors participated in the project, and how did they participate or collaborate in it? And what degree of influence do you think the actors had in the housing provision process?
Q3	How important is integrating the inhabitants or future residents of the planning and developing process of the homes?
Q4	What would be an essential support to add (from various actors) in planning and developing the homes with residents? How do you consider the process?
Collaborative housing initiatives and perspectives in Chile	
Q5	Is there any form or initiative of housing in Chile that can be considered "Collaborative Housing" in Chile?
Q6	What do you think about sharing or not sharing spaces and facilities in the homes?
Q7	What elements of collaborative housing would you like to be considered when developing housing projects? Why? *Prompts: planning, construction and designing, collaboration among residents, sharing spaces and facilities, cleaning, cooking or eating together?*
Barriers and enablers for collaborative housing in Chile	
Q8	What opportunities would help the development and growth of collaborative housing in Chile? Which do you think are the main enablers or facilitators? *Prompts: finance, spatial, economic, demographic, social, cultural.*
Q9	What are the main barriers to developing collaborative housing models in Chile? *Prompts: finance, spatial, economic, demographic, social, cultural.*
Closing question	
Q10	We have covered everything. Is there anything you would like to add or comment on about this interview?

Appendix 3D

Appendix 3D presents in Figure 3.11 the organisation of the interview questions asked of participants in the fieldwork conducted between June and August 2022, and Table 3.6 details each question by topic[7]. Question Q1 is a general question that aims to understand the background information of each interviewee regarding the project development process. Questions Q2 and Q3 seek to understand each stakeholder's level of participation and collaboration in the project development process in each housing project explained by the participants. Questions Q4 and Q5 focus on shedding light on the motivations and drivers of people to engage in CH and collaborative aspects and the social dimension of housing, respectively. Questions Q6, Q7 and Q8 aim to obtain general knowledge about possible precedents and current CH initiatives, as well as their development perspective in the Chilean context. Question Q9 seeks to determine the main barriers and enablers to the development of CH in Chile. Finally, Q10 is a closing question to ask the participant if they would like to add something to the interview.

7 Each question was translated from Spanish into English by the author.

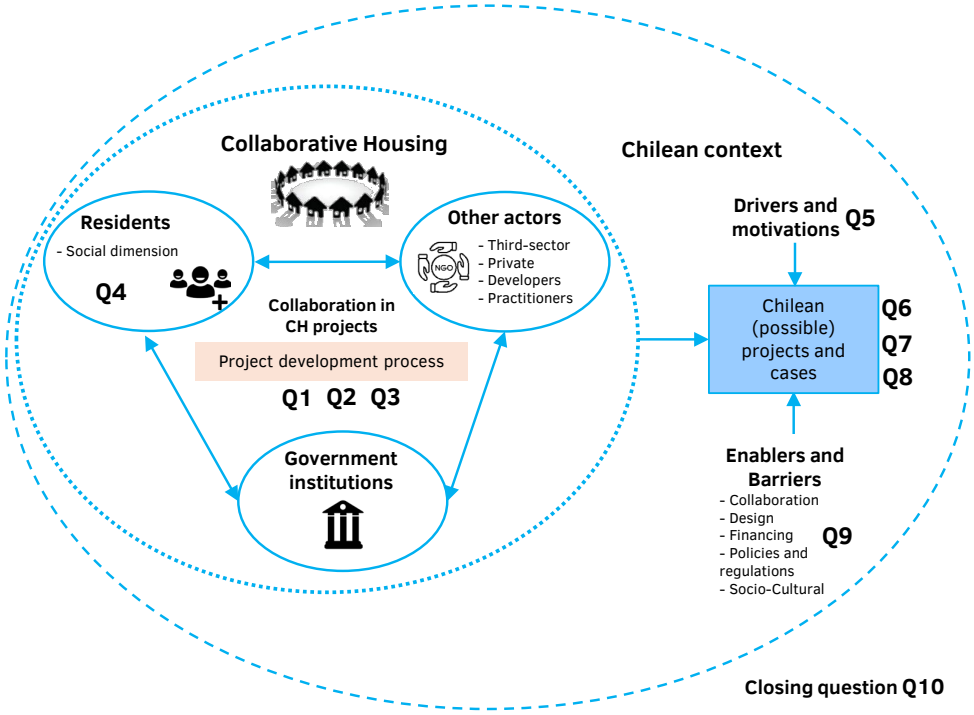

FIG. 3.11 Organisation of interview questions for key actor participants, fieldwork 2022

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TABLE 3.6 Interview protocol for key actors, fieldwork June and August 2022

Questions for interviews fieldwork 2022	
Introductory question	
Q1	Tell me about your experience (studying/developing housing) together with the inhabitants. What kind of housing projects have you (studied/developed)? What was your role in the project?
Project development process: Stakeholders' collaboration and participation	
Q2	What was the development process for these projects? Were any participatory and/or collaborative processes with future residents included in the development of the project? What processes and at what stage? Prompts: initiation, design, consultation, construction, management
Q3	In your vision, what importance do you think the inclusion of the inhabitants has in the process of planning, management, design and/or construction of housing?
Collaborative processes and the social dimension	
Q4	Tell me, how were the participation or collaboration and the relationship of the residents during the decision-making on the housing project? How did you see the neighbours in terms of associativity and social relations?
Drivers and motivations	
Q5	What were the motivations and drivers for developing these projects? Prompts: Alternative lifestyle, Environmental awareness, Degrowth, Post-modernism, Post-capitalism, Radical living, Utopia, Political expression, Nostalgia
Collaborative housing initiatives and perspectives in Chile	
Q6	Under our definition for Collaborative housing in the Latin American context. Do you think there is any model or housing initiative in Chile that can be considered 'Collaborative Housing'?
Q7	What do you think would be a fundamental support to add (from various government entities, the third sector or other external actors) for the development of CH? For example, for projects such as closed housing cooperatives or collective housing led by its residents, how do you consider the current management process and models for these Chilean initiatives?
Q8	What elements of collaborative housing would you like to be considered when developing housing projects? Why?
Barriers and enablers for collaborative housing in Chile	
Q9	We are reaching almost the end of this interview, and I would like you to tell me what you think are the main barriers and enablers to developing this type of housing?
Closing question	
Q10	We have covered everything. Is there anything you would like to add or comment on about this interview?

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4 The Potential of Collaborative Housing to Tackle the Social Deficit of Housing

The Chilean Case

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ABSTRACT In recent decades, various programs have been developed as part of Chile's housing policies to respond to the housing deficit. Most policies have so far focused on addressing the quantitative, qualitative, and urban deficits, neglecting the social dimension of housing. At the same time, the concept of Collaborative Housing has been referred to as a possible alternative to respond to these social challenges by fostering social cohesion, collaboration, and mutual aid. This article explores how Collaborative Housing can tackle the Social Deficit of Housing. Here, we conceptualise this deficit as 'the lack of non-physical or intangible social characteristics given among residents of a project, such as trust, social cohesion, and a sense of community, necessary for housing to be considered adequate.' We examined the relation between these two concepts by developing a theoretical and empirical study. The first consisted of a theoretical framework and a review of literature on Collaborative Housing's response to the Social Deficit of Housing. Second, we interviewed stakeholders from two study cases. We found that residents in both Collaborative Housing cases perceive an improvement in their social

interactions, sociability, trust, and sense of community in their current homes compared to previous homes. Therefore, we conclude that Collaborative Housing presents opportunities to tackle the Social Deficit of Housing.

KEYWORDS Collaborative Housing; Social Deficit of Housing; Study Cases; Housing Policy; Chile; Maestranza; Pequeños Condominios.

4.1 Introduction

A growing global housing crisis has led to an increasing housing deficit. The Latin American context is not alien to this problem. Many studies show that the housing deficit encompasses a quantitative dimension referring to the amount of housing available for the population, a qualitative dimension referring to the material of dwellings, and an urban dimension that encompasses the facilities and urban spaces available to the inhabitants (Ducci, 2009; MINVU & CEHU, 2009). However, the housing deficit not only implies a lack of quantity, quality, and urban spaces but also a lack of social architecture and non-physical characteristics (Borja, 2018; Jarvis, 2015; Paidakaki & Lang, 2021; Rodríguez et al., 2018). This deficit in the social dimension is what we term the *Social Deficit of Housing* (SDH). In recent decades, many programs have been developed by housing policies in the Global North and South to respond to the housing deficit. However, they have focused mainly on the quantitative and qualitative dimensions, neglecting the other dimensions of the deficit (Rodríguez & Sugranyes, 2005).

Housing programs in Latin America, specifically Chile, have seen the same pattern, as policies have mostly focused on the quantitative and qualitative dimensions (Rodríguez & Sugranyes, 2005; Ruiz-Tagle et al., 2021). In Chile, this dimension has been scarcely included in the policy narrative and merely addressed symbolically by the housing programs. In other words, creating housing initiatives that aim to respond to the social dimension are not applied as structural policy changes but are exceptions that are not continuously pursued over time (Cortés-Urra et al., 2023; Fuster-Farfán, 2019). Thus, most programs do not explicitly address the SDH. Currently, the government's *Plan de Emergencia Habitacional* (housing emergency plan) issued by the Ministry of Housing and Urbanism aims to build 260,000 homes within four years, including self-managed housing initiatives such as housing cooperatives (MINVU, 2022). Therefore, we argue that now there is potential to implement new approaches that respond to this social dimension in Chile.

In the international context, new housing approaches have been identified that could potentially tackle the SDH. These alternative forms of resident-led, self-managed and self-organised housing are known under the umbrella term of *Collaborative Housing* (CH) (Fromm, 2012; Lang et al., 2020). Some studies on CH developed in the Global North affirm that these initiatives have social characteristics such as promoting neighbourhood social cohesion, social interactions and mutual aid (Arroyo et al., 2021; Lang & Novy, 2014; Sørvoll & Bengtsson, 2018). This is because, unlike mainstream housing, CH includes social inclusion, solidarity, community life, and collaboration among its explicit values (Van den Berg et al., 2021; Vestbro, 2010). Nevertheless, these housing forms have not yet been conceptualised as CH in Latin America. Moreover, in the Chilean context, it has not yet been empirically investigated whether CH could help tackle the Social Deficit of Housing. Following earlier work by Cortés-Urra et al. (2023), we argue that it is necessary to investigate whether some forms of housing, such as CH, can help reduce this problem. This article aims to explore the opportunities and limitations of CH and addresses the following research question: How can Collaborative Housing address the Social Deficit of Housing in Chile?

We conducted two studies to address this question: (1) theoretical, consisting of the proposal of our framework and conceptual model developed to establish assumptions, and (2) empirical data collection, carried out through fieldwork, direct observation of residents in their homes, study case visits, and in-depth interviews (Morgan et al., 2017; Yin, 2018). Our theoretical and empirical findings show that even if not all Collaborative Housing features strongly influenced each social indicator, it has the potential to help tackle the Social Deficit of Housing. This paper is structured as follows. After this introduction, we present the *Theoretical framework* where we define concepts and propose analysis indicators. The following section puts forward our *conceptual model*, where we review literature on the response of CH to the SDH. The *Methods* section explains the steps followed in this research. Also, we present the two study cases: *Maestranza* and *Pequeños Condominios*. In the *Findings*, we show the results of the in-depth interviews conducted for the two cases and how these projects address the SDH. The *Discussion* section discusses our results, and the lessons learned in this study. Finally, in the *Conclusions* section, we present a series of reflections and the implications of this research.

4.1.1 Background: the Chilean housing system

Since the 1970s, following the dictatorship, Chile has become a neoliberal state and has privatised public services, affecting the housing system (Hölzl, 2018). In this period, a free market model was implemented based on 'subsidiarity', where the State relegates housing production to the private market (Angelcos & Pérez, 2017). The latter develops housing based on a standardised mass production system, mainly pursuing economic interests (Peñafiel, 2021). In this system, the laws leave a wide margin of action to the private market, land prices are the target of speculation and housing is commodified and treated as a 'consumer good', which creates a gap between the affordable supply and demand for housing (Castillo & Hidalgo, 2007). Consequently, private developers buy cheap land on the periphery that lacks infrastructure to build subsidised housing (Rodríguez et al., 2018). Financing is done through a tripartite system considering end-users savings, state subsidies, and mortgages, as in most Latin America (Balchin & Stewart, 2001). Currently, Chilean citizens access housing in two ways, depending on the socioeconomic level of end-users (Figure 4.1). On the one hand, high and middle-income inhabitants purchase homes with their resources and mortgages. On the other hand, low- and middle-income inhabitants access 'social housing' by applying for housing state subsidies (Balchin & Stewart, 2001) such as the *Fondo Solidario de Elección de Vivienda* (FSEV)[8]. These subsidies provide partial economic support complemented by family savings and mortgages for purchasing an individual home (Ruiz-Tagle et al., 2021).

8 Solidarity Fund for Housing Choice is a Chilean subsidy for acquiring social housing.

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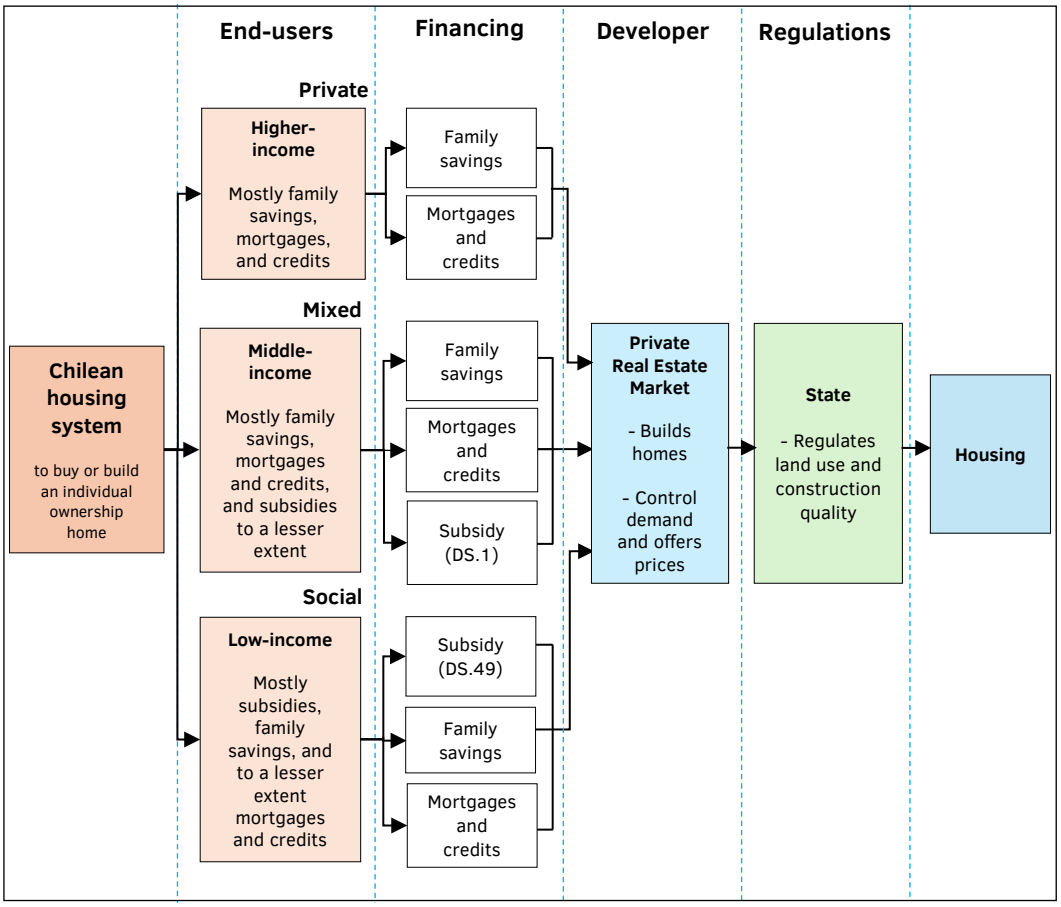

FIG. 4.1 Homeownership Chilean housing system (Source: Authors)

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4.2 Theoretical framework: Collaborative Housing and the Social Dimension of Housing

In this section, we define the concepts and indicators used in this research to identify the research gap and inform the conceptual framework that contributes to answering the research question to fill this gap. This section is structured in two parts. First, we propose the Definition and operationalisation of Collaborative Housing and its features. Second, we define the Social Deficit of Housing and present the Social indicators of housing.

4.2.1 Defining and operationalising Collaborative Housing

The concept of Collaborative Housing (CH) has been developed in the last decades by researchers from primarily the Global North. Fromm (1991) introduced the concept of collaborative communities, a term encompassing a wide variety of forms with shared facilities. In recent years, there has been some consensus, with CH being recognised as an international movement where housing is developed through collaborative processes (Twardoch, 2017; Vestbro, 2010). CH has some features that distinguish it from mainstream conventional housing. Future residents are driven by their conscious intention of sharing and living in close proximity with other households (Jarvis, 2015). In addition, they share visions for living in their homes and collaborate with external stakeholders to develop their homes (Thompson, 2020; Twardoch, 2017). The participation and collaboration levels can vary between projects and occur in the planning, management, design, or construction and extend to using and maintaining homes (Czischke et al., 2020; Fromm, 2012). Besides, the collective can make project decisions through member-based governance and democratic mechanisms. CH generally has spatial characteristics to foster the social dimension. These shared spaces can include patios, corridors, meeting areas, or, in some cases, kitchens and laundry areas (Bossuyt, 2022). In general, in these spaces, residents perform regular joint activities, such as having meals or organising the functioning of the community.

The conceptualisation of CH developed from a Global North perspective is a broad concept. Therefore, we propose an operational definition for the Chilean context to determine which projects can be considered CH. Based on the latest conceptualisation of Czischke et al. (2020, p. 6), we understand CH as follows:

A general umbrella term that includes a wide variety of self-organised and self-managed (initiated from bottom-up and top-down) collective initiatives adhering to the following four defining key features (Figure 4.2). First, future residents' driver or motivation is the intention to live (together) with other households in a project. Second, there is a high level of participation where residents collaborate with different external actors (governmental, non-profit, private, and others) in developing and producing their homes (at any project stage). Third, the projects include shared (interior or exterior) spaces. Fourth, residents perform joint activities regularly.

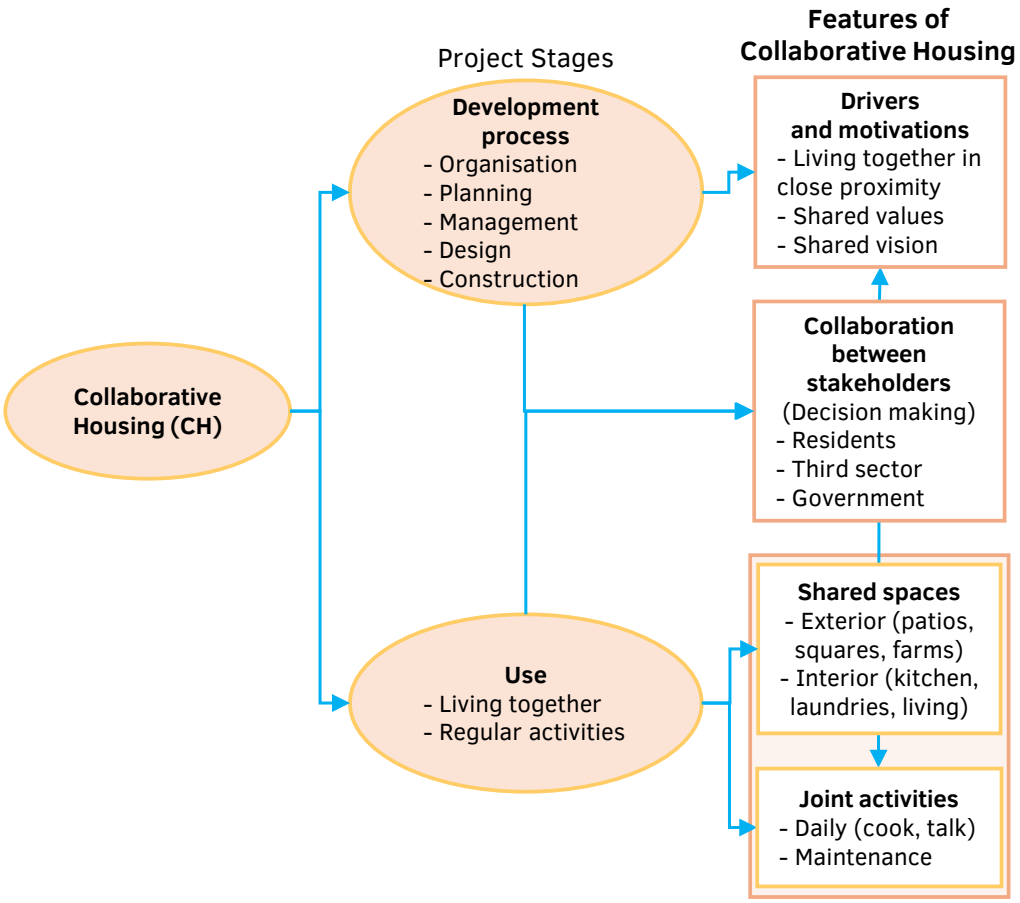

FIG. 4.2 Collaborative Housing features (Source: Authors)

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For example, as shown in Table 4.1, if in the forms there is no resident participation or collaboration in any project stage or future residents did not intend to live in a community, share spaces, or perform joint activities, they are not considered CH.

TABLE 4.1 Inclusion and exclusion criteria to define Collaborative Housing (Source: Authors)

Project stages	Inclusion criteria	Exclusion criteria
Management and development process	**Motivations and drivers**	
	– Future residents intend to live together in close proximity and do activities as a group – Shared goals and values on how to live	– Lack of intention from households to live together – No shared goals
Any project stage	**Collaboration and participation between stakeholders**	
	– Future residents participate and/or collaborate in any project stage. – Collective decisions	– No residents participation or collaboration – No resident's decision power
Project use and joint activities	**Spatial**	
	– Exterior and/or interior shared common spaces and facilities	– Individual housing that has no shared exterior and/or interior spaces
	Joint activities	
	– Residents are organised and carry out joint activities regularly	– There are no joint activities

4.2.2 Social dimension and the Social Deficit of Housing

The broad literature suggests that housing, although composed of physical dimensions, also extends to a non-physical social dimension (Borja, 2018; Paidakaki & Lang, 2021). In this article, building on Cortés-Urra et al. (2023), we understand the *Social Dimension of Housing* as the social architecture or non-physical dimension experienced when inhabiting homes where ties and social relationships are built. Furthermore, the lack of this social dimension is what we conceptualise as the *Social Deficit of Housing* (SDH). In other words, we refer to the SDH as *the lack of non-physical or intangible social characteristics among residents of a project, such as trust, networks, social cohesion, and a sense of community necessary for housing to be considered adequate.* The Social Deficit could occur or be perceived because of a variety of reasons, including but not limited to the location of homes and the lack of residents' accessibility to their social networks and urban amenities at the macro scale, the lack of adequate urban spaces to socially interact at the neighbourhood or local scale, or the lack of adequate spaces in homes to interact with family or neighbours at the micro-scale.

In Chile, the SDH could occur, for example, because of the form of distribution of subsidised housing or specific eradication and re-settlement government programs, which locate families in the urban peripheries far from service areas and social ties. In many cases, the option provided by these programs is either non-voluntary or represents a sub-optimal choice for the residents due to the lack of better opportunities in view of their underprivileged socioeconomic situation. Residents are then forced to redefine their social relations and connection with the built environment (Zumelzu & Barrientos-Trinanes, 2019) and could suffer a breakdown of their social ties (Rodríguez et al., 2018), a weakening of social cohesion and capital (Hölzl, 2018; Wormald & Sabatini, 2013) and isolation (Garrido & Kornbluth, 2015). Since the 1970s, some of these policies have been replicated in Latin America, including plans such as *land liberalisation* in Mexico and *mass double-up relocation* in Argentina (Castillo & Hidalgo, 2007; Greene & Mora, 2020; Rodríguez & Sugranyes, 2005). Given this, for example, in Chile, a significant part of the inhabitants living in informal housing would not apply for state subsidies because this option would imply living on the periphery far from their social ties (Beswick et al., 2019; Greene & Mora, 2020).

4.2.3 Social indicators of housing

We propose our indicators to identify the *social dimension* in housing based on a policy review by Cortés-Urra et al. (2023). In addition, we use studies on *neighbourhood social cohesion* (Méndez et al., 2021) and *social sustainability* concepts (Janssen et al., 2021) to define our indicators, as the social dimension is a concept that shows similarities. We use Latin American studies on *neighbourhood social cohesion* developed by CEPAL (2022), Méndez et al. (2021) and Rodríguez et al. (2018). From this concept, we included characteristics such as a sense of belonging, physical rootedness, strong ties, trust, solidarity, and sociability. From the international literature on *social sustainability* and its non-physical dimension of the social structures of communities, we include social networks, interaction, and a sense of community and attachment (Eizenberg & Jabareen, 2017; Janssen et al., 2021). Furthermore, we also include bonding social capital as a sub-indicator, as referred to by Woolcock (2002). Below we define the four leading indicators that compose the social dimension of housing in this study: *Social networks, Social interactions, Interpersonal trust,* and *a Sense of community and attachment* (Figure 4.3).

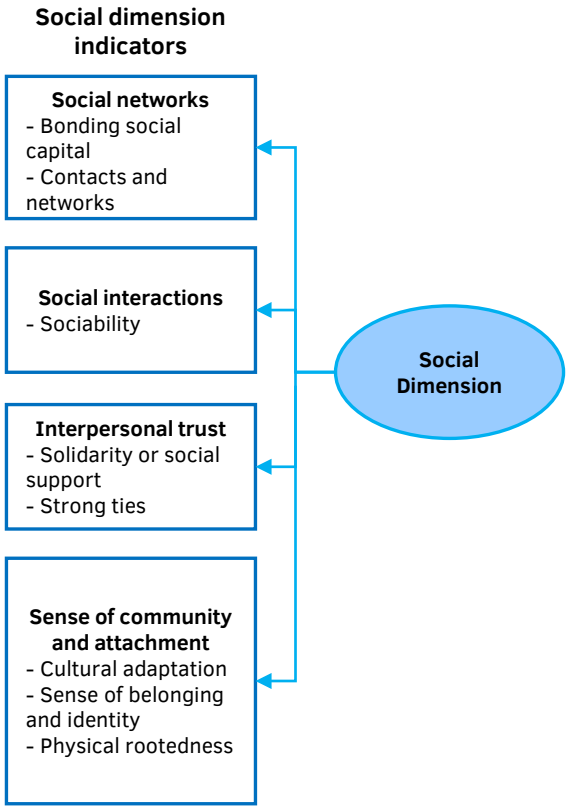

FIG. 4.3 Indicators of the social dimension of housing (Source: Authors)

1 ***Social networks:*** Social ties between families and neighbours who share similar demographic characteristics within a group (Bram, 2010). This indicator can be measured by analysing the frequency of visits, closeness with contacts, and content of relations (Méndez et al., 2021; Woolcock, 2002). In this article, we consider that the measured intensity is proportional to the strength of each social indicator, e.g., a higher frequency of visits and activities than in previous homes means a stronger social network.

2 ***Social interactions:*** Everyday encounters, conversations, and activities are shared amongst community members. This indicator is often measured by analysing the frequency of social interactions and the relationship between shared spaces and the daily encounters or spontaneous meetings among residents (Goodchild, 2000; Williams, 2005). For example, more activities and spontaneous encounters than in previous homes imply stronger social interactions.

3 ***Interpersonal trust:*** The degree of solidarity, social support, and trust between people living in a community. Trust can be measured in terms of shared ideologies and values and the perceived feeling of trust with neighbours when performing regular activities (CEPAL, 2022; Méndez et al., 2021). For example, a stronger feeling of shared ideologies and more collaboration with neighbours than in previous homes implies stronger interpersonal trust.

4 ***Sense of community and attachment:*** The extent to which residents adapt and identify themselves as belonging to a place or a community. The sense of community and attachment can be measured in relation to the feeling of belonging, identification, and people's cultural adaptation to a particular context (Méndez et al., 2021; Rodríguez et al., 2018). For example, a stronger feeling of belonging than in previous homes implies a stronger sense of community and attachment.

4.3 Conceptual model: Collaborative Housing addressing the Social Deficit of Housing

We use our theoretical framework to inform and build our conceptual model and answer our research question. In this section, using the conceptual model, we theoretically explore the opportunities and limitations of Collaborative Housing to address the Social Deficit of Housing. We then explore this relation empirically with the help of interviews. In our conceptual model, we used each of the 'CH features' to cross them with our 'social indicators,' as shown in Figure 4.4. We analysed, e.g., if 'the intention to live together' may influence 'social interactions' or if doing 'joint activities' relates to building 'interpersonal trust' among the residents. Furthermore, we wanted to determine if CH residents feel that social indicators are stronger, less strong, or equally present compared to their old homes.

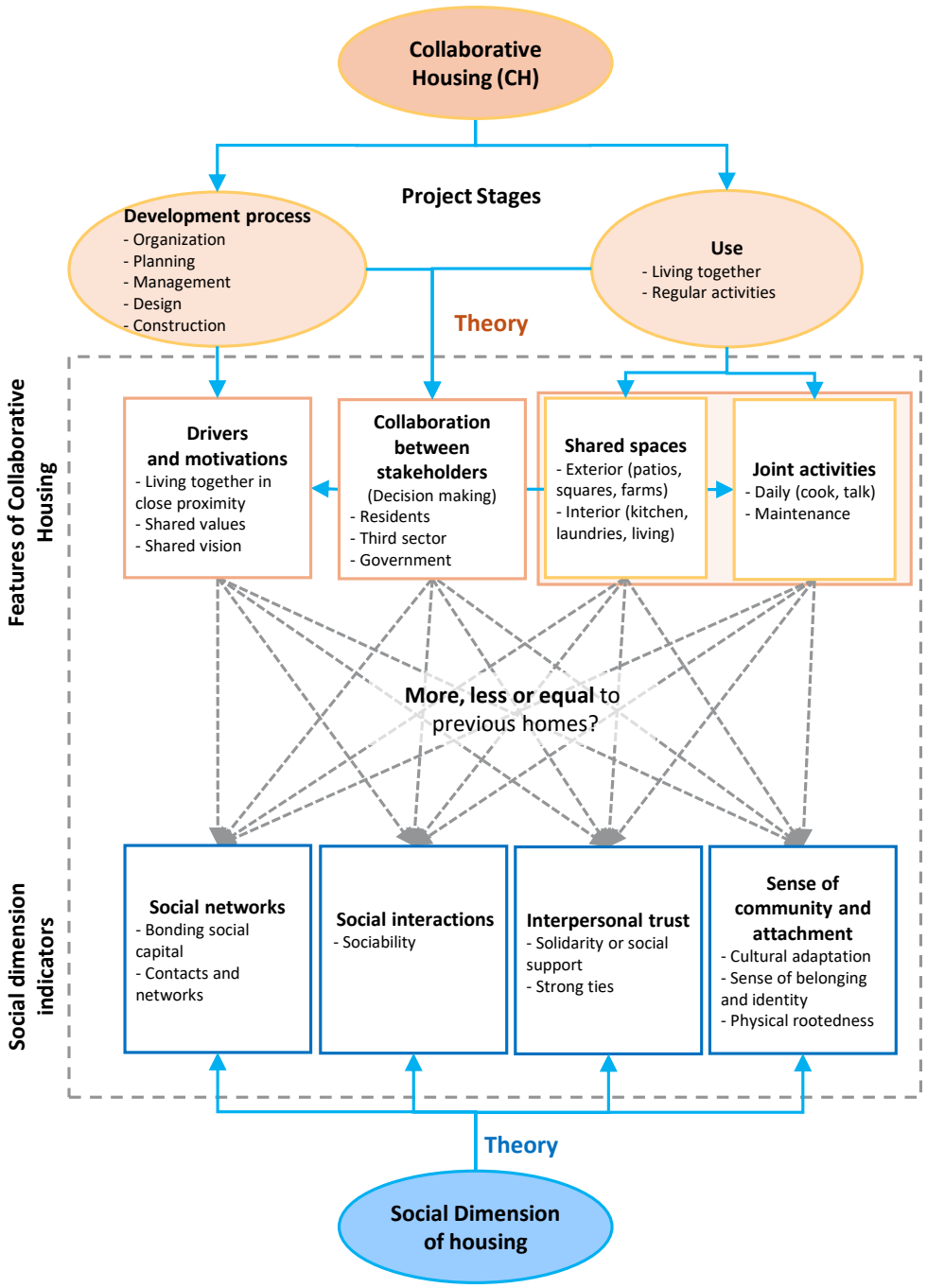

FIG. 4.4 Conceptual Model of Collaborative Housing and the Social Deficit of Housing (Source: Authors)

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International literature shows that CH, unlike mainstream housing, has social characteristics that could tackle the SDH. These characteristics include promoting social cohesion (Van den Berg et al., 2021), solidarity (Sørvoll & Bengtsson, 2018), social interactions (Williams, 2005), mutual aid (Arroyo et al., 2021), and a sense of belonging and community (Guity-Zapata et al., 2023; Ruiu, 2015). In CH, future residents as managers of their homes, organise their community, co-design projects and create networks between actors (Brysch, 2019; Fromm, 2012; Ruiu, 2015). McCamant (1999) and Fromm (2012) conclude from their empirical studies that CH is a strategy for social repair. Oosterlynck et al. (2016) and Sørvoll & Bengtsson (2018) show the presence of internal solidarity within projects and externally with the broader community in CH. Carrere et al. (2020) found in CH that doing joint activities such as caring and eating together regularly increased the residents' sense of well-being and trust. These indicators are positively influenced if the architectural design encourages social architecture with shared spaces and facilities (Jarvis & Bonnett, 2013; Khatibi, 2022).

Besides finding theoretical evidence on opportunities for CH to tackle the SDH, we also found challenges and limitations. Although CH promotes group cohesion and solidarity, the social dimension is limited in some cases because it does not extend to all project residents or expand beyond it. This could create 'closed communities' or a feeling of isolation in residents (Droste, 2015). Sørvoll & Bengtsson's (2018) findings from Danish cases complemented this, showing threats such as 'home-owning individualism' and 'housing market conflict of interest' undermine solidarity. Other challenges are developing affordable projects to achieve internal cohesion and social mix (Bresson & Labit, 2019) and maintaining linkages between residents and external actors over time (Lang & Novy, 2014). Despite these limitations, we assume from our review that CH could significantly increase the social dimension and help address SDH.

4.4 Methods

This article explores the opportunities and limitations of CH to tackle the SDH through a qualitative phenomenological-hermeneutic approach. This research was organised into two studies. An overview of these studies can be seen in Figure 4.5. We collected qualitative data through direct observation and 22 in-depth semi-structured interviews during a field study conducted between June and August 2022. We followed the sample size for phenomenological studies proposed by Guest et al. (2006) and Marshall et al. (2013). We then deductively interpreted the participants' lived experiences and perceptions and applied the analysis indicators (Creswell, 2009; Fuster, 2018). We interviewed key actors face-to-face, including 14 residents, three academics, three developers, one project manager and one official of our two cases. The interview protocol consisted of two types of interviews for residents and external actors with open-ended questions (See Appendix 4C). The interviews were conducted after the affiliation's ethical committee's approval. Each interviewee participated voluntarily in the research and was informed about expectations, the study's objectives and the meaning of the terminologies used. Non-resident participants were recruited personally via email, and residents were recruited with help of developers and managers, using snowballing to recruit more residents. The interviews lasted one hour on average, were conducted by the first author in Spanish (the native language of the interviewees), and were recorded with the participant's written informed consent, transcribed and anonymised. The interviews were complemented with direct observation since the interviews were conducted in the resident's homes.

We first interviewed the academics and developers to obtain shadow data for comprehensive insights beyond residents' individual experiences (Morse, 2012). Second, we verified these perceptions and life experiences with residents (Creswell, 2009). While personal information was not explicitly asked, data such as age and gender were inferred from how residents spoke about themselves (e.g., pronouns, history of housing). The residents were grouped into three age ranges: young adults (18 - 26 years), adults (27 - 59 years), and older adults (above 60 years). The proportion of representativeness for case 1 was 85/15% (women/men), and for case 2 was approximately 67/33% (women/men) (Table 4.2). This difference in proportion is because a greater percentage of women than men live in the cases and were willing to participate in the interviews.

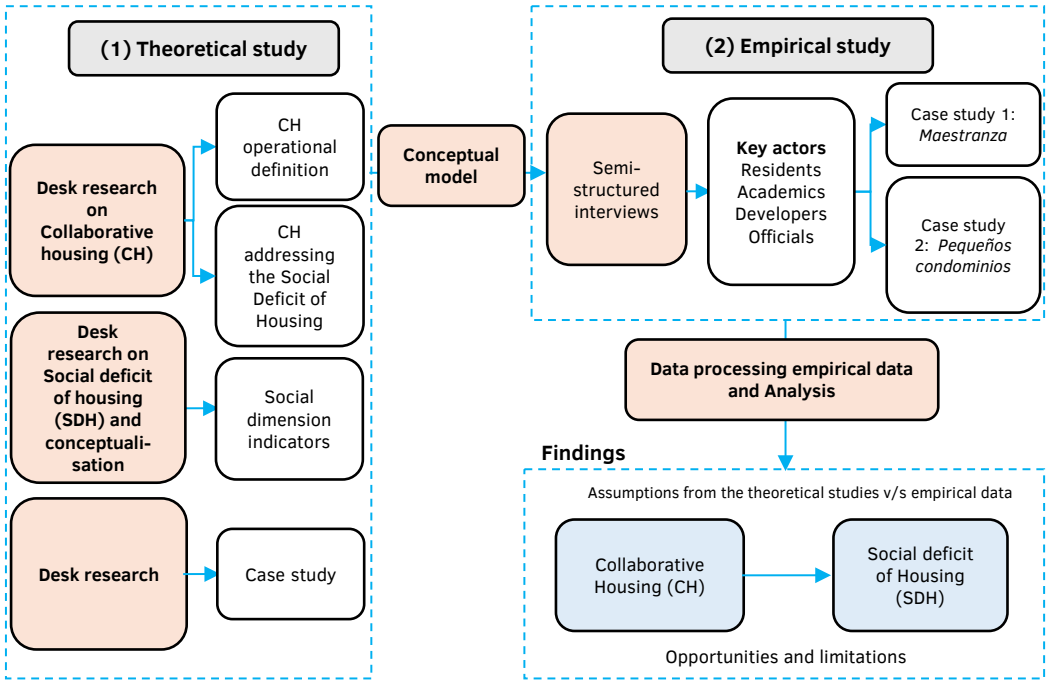

FIG. 4.5 Methods (Source: Authors)

Although interviewees answered considering the situation of their entire family nucleus, it is important to clarify that there is a possibility of bias and distortions in the findings. The interview process stopped for both cases when the collected data reached the saturation point. Subsequently, we classified the collected data using our conceptual model. Then, we analysed and coded this data using the indicators from our conceptual model with Atlas Ti. We interpreted answers about perception of the presence and intensity of each social indicator compared to previous homes. We considered that a stronger intensity of indicators means a positive influence on the social dimension (Figure 4.4). We then interpreted the interviewees' experiences in terms of the social indicators as a proxy for the potential of CH in tackling the SDH in the Chilean context.

TABLE 4.2 Participants interviewed from Collaborative Housing study cases in Chile (Source: Authors)

№	Case	Category	Name	Gender	Age range	Family composition
1	**Case 1: Maestranza**	Residents	Resident 1	Female	Older adult	Resident 1, partner, and child
2			Resident 2	Female	Young adult	Resident 2, parents, and young brother (grandparents live in another apartment)
3			Resident 3	Female	Older adult	Resident 3 (daughter is applying to second project)
4			Resident 4	Female	Adult	Resident 4, partner, and child
5			Resident 5	Female	Adult	Resident 5, son and daughter-in-law
6			Resident 6	Female	Older adult	Resident 6, partner, young son, and elderly father (daughter applying to second project)
7			Resident 7	Male	Adult	Resident 7, partner, and child
8		Ukamau movement	Manager 1	-	-	-
9		Architectural firm	Developer 1	-	-	-
10	**Case 2: Pequeños Condominios (PCs)**	Residents	Resident 8	Female	Older adult	Resident 8 and partner (apartment 2: niece with partner and child)
11			Resident 9	Male	Older adult	Resident 9 and partner (apartment 2: niece with partner and child)
12			Resident 10	Female	Adult	Resident 10, partner, and child (apartment 2: mother-in-law and son)
13			Resident 11	Female	Older adult	Resident 11 and son (apartment 2: son, daughter-in-law, and child)
14			Resident 12	Male	Adult	Resident 12 and mother (apartment 2: brother's family)
15			Resident 13	Female	Adult	Resident 13, young children, and elderly brother (apartment 2: daughter, partner, and children)
16			Resident 14	Female	Older adult	Resident 14 and granddaughter with husband and child (apartment 2: grandson with partner and child)
17		Consolida	Developer 2	-	-	-
18			Developer 3	-	-	-
19	**Key informants in both cases**	Government	Official 1	-	-	-
20		University of Chile	Academic 1	-	-	-
21		Pontifical Cat-holic University of Chile	Academic 2	-	-	-
22			Academic 3	-	-	-

4.4.1 Study cases

We identified the two cases after fieldwork and interviews with stakeholders in 2019 when these projects were under construction. During this fieldwork, our participants identified a pool of six possible Chilean forms with a collaborative approach. From these forms, including housing cooperatives, assisted self-build, self-build and informal housing, and collective and micro-settlement social housing projects, three forms met the defining CH inclusion criteria (Table 4.1). In addition, we added a fourth criterion to measure the social dimension: that residents have been living in their project for at least two years. Only two CH forms had built projects older than two years meet this criterion. These two cases are Maestranza and Pequeños Condominios (PCs), which are located in Santiago, Chile.

Case 1: Maestranza

Maestranza is a resident-driven social housing project initiated in 2011 by the *Movimiento Social de Pobladores Ukamau*[9], comprising low-income families from *Los Nogales* neighbourhood located in the *Central Station* district (González, 2021). The project was financed with the FSEV housing subsidy and the Supreme Decree-Law DS.49[10]. The 424 apartments were completed in October 2020 after 10 years of the resident's struggle (Figure 4.6). Apartments are individually owned, while shared spaces are co-owned. Future residents developed Maestranza in collaboration with stakeholders throughout the project's design, management, and construction stages (González, 2021). This collaboration consisted of democratically deciding on the project, i.e., one vote per household, and co-designing the project with the architectural studio of Fernando Castillo Velasco[11] and Cristián Castillo Echeverría[12]. Finally, Maestranza's design features have been recognised as the 'best social integration project' in 2021 (Premio Aporte Urbano, 2021). The project includes shared spaces and facilities that unite the entire complex, such as meeting rooms, terraces, and a network of horizontal corridors.

9 Movement of Chilean settlers who fight for the right to housing and the construction of a neighborhood as an indispensable social unit (González, 2021).

10 Instrument intended to regulate the FSEV and the subsidy allocation for vulnerable families.

11 National Prize Architect, former mayor of La Reina district and rector of the Pontifical Catholic University of Chile, who focused on developing housing through collaborative processes.

12 Architect and activist for the right to housing in charge of the architectural and construction company Alpinku.

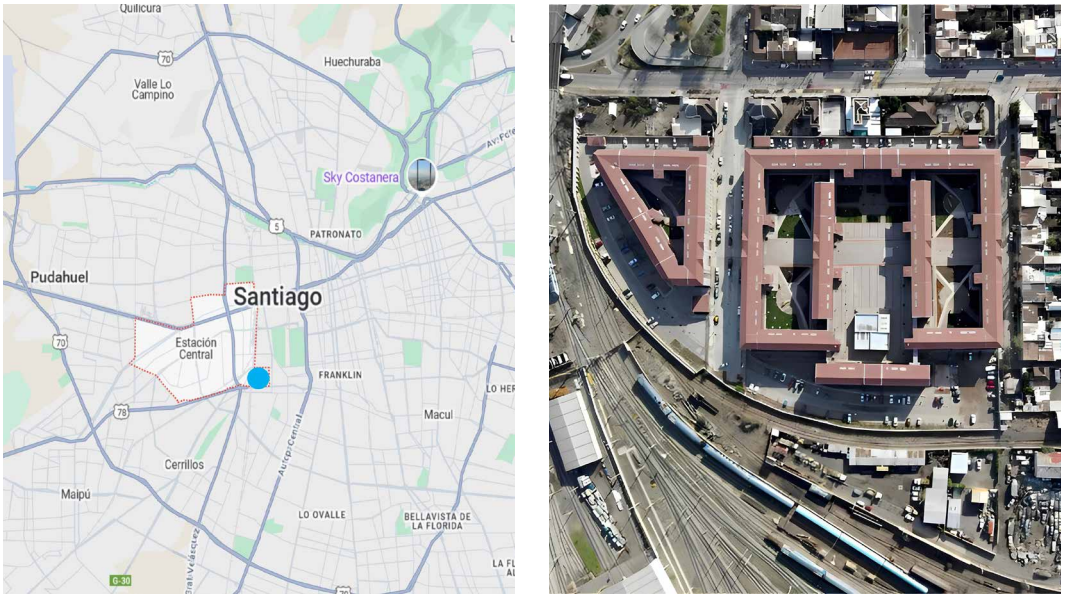

FIG. 4.6 Maestranza project site in Santiago, Chile (Source: Google Maps and Premio Aporte Urbano, 2021)

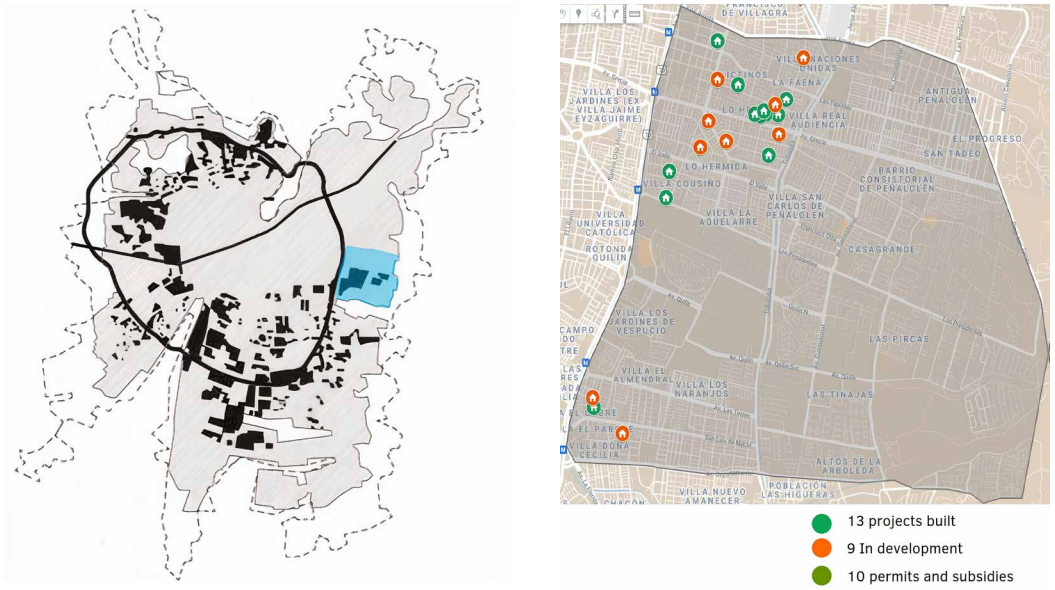

FIG. 4.7 Pequeños Condominios projects site in Santiago, Chile (Source: Consolida, 2021)

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Case 2: Pequeños Condominios

The Pequeños Condominios (PCs) from the Peñalolén district of Santiago (Figure 4.7) were developer-driven and initiated in 2015 by Consolida, a construction company and *Sponsoring Entity* (Consolida, 2021). In 2018 Consolida convoked low-income households interested in living in PCs that met the FSEV requirement of belonging to a low socioeconomic level and the 'Micro-settlement program' requirement of having savings and owning a land site of 9x18 meters. Thus, land is financed by the households (homes are located on their site), and construction is financed by the FSEV and household savings. Furthermore, the current homes should be considered uninhabitable and demolished because they lack adequate quality. Initially, households were reorganised to co-own the land (i.e., shared rights to the land and co-ownership tenure of the future condominium), and the existing homes were declared uninhabitable. Consolida administrated, developed and built the PCs, while households managed the paperwork and, through mutual aid, vacated the old homes, distributed the new homes and organised the maintenance (Consolida, 2021). Although current regulations restrict resident participation in the design, PCs consider shared spaces for households to meet spontaneously in their daily lives. These spaces include shared patios, barbecue areas, parking, and sometimes shared interior spaces.

4.5 Findings: Collaborative Housing and the Social Deficit of Housing

Our Findings are organised based on our analysis by the four features of CH, namely *Drivers and motivations, Collaboration between stakeholders, Shared spaces* and *Joint activities* in relation to the indicators of the social dimension: *Social networks, Social interactions, Interpersonal trust*, and *Sense of community and attachment*. Below, we present our Findings for each case, including quotes from the interviewees that represent the main tendencies of the responses.

4.5.1 Collaborative Housing and the Social Deficit of Housing: Maestranza

This sub-section presents the results of *Maestranza*, which are summarised in the Appendix 4A in Table 4.3.

Residents' motivations and drivers

The primary motivation of Maestranza households was the idea of living as a *community*. Academics 1 and 2 and Manager 1 explained that residents collectively refused to move to the periphery. Developer 1 said that families self-organised around the project to fight for housing. Resident 7 confirmed this:

We all started with a need for housing (…) we fought for this project. [During the process], we realised that living in a community and caring for each other is necessary.

Most participants stated that their motivations were to stay in their original neighbourhood (*sense of attachment*) to keep their *networks* and *social interactions* while preserving their independence. These networks were maintained even when home distribution was based on participation, not their preferences. Residents 5 and 6 referred to this:

My daughter is waiting for the project's new stage to come too. [We wanted] to live with the family in different apartments. (…) We intend to build a community.

Developer 1 explained that the group formed to fight for housing and began to coexist socially and politically, creating *social interactions* and *sociability.* Resident 3 explained:

To [socially]connect and build trust, people must share values, and we share common values.

Finally, according to Manager 1, residents feel proud to live in Maestranza because they feel a *sense of community and attachment* to the project. Resident 4:

We were born and grew up [here], (...) here is where we were formed and belong to this district. (…) We are an organised community that we want to maintain over time.

Collaboration between stakeholders

In the early project stages, households' participation was mandatory. In this process, residents built external and internal collaborative *social networks.* The networks with external actors execute the technical, social, architectural, and political project management. Internally, decisions about the location, financial procedures, and project maintenance are consensually made through voting in assemblies, strengthening most residents' *sense of community.* Resident 2 highlights:

We participated in the project's decision-making, voted for the design, and developed our regulations (…) [this] was essential to creating community.

Currently, *collaboration* and *social interactions* occur naturally compared to previous homes. Resident 1 exemplified their mutual support:

One night, when I had a pre-infarction, the community saved me and took me to the hospital.

Developer 1 and Manager 1 suggested that *interpersonal trust* was built through collaboration, e.g., during the struggle and protests for housing. Residents 4 and 5 explained that the movement had united them:

Before, I knew people for years but did not trust them. (…) Now yes, if something is lost here, people, give it back to you. (...) [There are] several neighbours with whom I became friends and [visit] frequently.

Finally, Developer 1 explained that families collaborate to stay in their area of origin (*sense of attachment*):

Maestranza arises from the [collaborative] process of the community itself; they are the protagonists from the beginning. [They] are the ones who find the space in which they want to settle, which is a space in their original territory.

Shared spaces

Developer 1 affirmed that Maestranza's design encourages community living, trust, social interactions, and cohesion more than mainstream housing. The residents wanted to encourage *community living* and *social networks*. Hence, the building is accessible through horizontal corridors and includes shared spaces such as headquarters, civic areas, squares, and patios. Developer 1:

The homes can be used as a regenerator of the social fabric. One of Maestranza's objectives was that the project would be different. It would not be only housing units, but (...) the centrality would be placed in the shared spaces.

Residents 3, 5, and 6 confirmed the above statements:

Everyone meets in the corridor (...), thus preserving their relationships. You always meet and talk to people, even if you do not participate much. If you need something, everyone is always there. (…) Parents can continue working from home (...) while a neighbour performs the caretaker role, and families' cohesion and sense of community increases.

Although the families have different lifestyles, most coexist well. Some residents previously lived in doubled-up or rentals in overcrowded conditions, and their *sociability* has improved. Residents 3 and 6:

Where I live is quiet, and there are no problems with loud music. (…) Life has improved 100%. Seven families used to live in one house, and now we have an apartment just for us. (…) If we have issues, we discuss them and fix them.

Finally, attachment and families' *community life* have been influenced by collective work, such as improving shared common areas. Resident 4:

Where I originally come from, I could not put even a little plant, and I had to ask permission for everything. Now I am free to do so [and] we organise to improve the shared spaces.

Joint activities

The residents are connected and have a *social network* to help each other. Resident 3:

We all know each other. If you look outside now, it looks like everything is closed (…), but everyone is looking and knows what is happening. Everything is taken care of here; even neighbours are hired to clean and care for the garden.

Most households *socially interact* in shared spaces regularly. In case residents did not want to join, as happened during the COVID-19 pandemic, they were still included. Residents 1 and 7:

We started eating together daily because there was still no gas. We all contributed and ate breakfast and lunch together while the children played. (…) If neighbours did not go down [to share], they could participate in the activities from their balconies.

Manager 1 highlights that during Covid-19, households made communal pots as an element of social unification, which helped residents build and strengthen *solidarity* and *trust*. Resident 1 confirmed this:

Now I have the confidence to say what I need and to help others. I gave up my house long ago to use it as a social headquarters so everyone could eat.

Although not all residents participate in the *community*, most are involved and contribute in the way they can. Resident 2:

Some people do not help cook at charity events, but they buy or publicise the sale.

Furthermore, some participants recognised power issues among the project leaders solved through democratic processes in the monthly assemblies.

4.5.2 Collaborative Housing and the Social Deficit of Housing: Pequeños condominios

In this section, we present the results of *pequeños condominios*, which are summarised in the Appendix 4B in Table 4.4.

Residents' motivations and drivers

The main motivations for the PCs are adequate housing, family *social networks*, and *attachment to the neighbourhood*. However, the intention of living in close proximity or more independently differs for each household. Residents 13 and 14:

In our case, the motivation was to have our own home. Others do it because they intend to continue living together.

Developers and Academics explained that most households are motivated to keep their *networks and family social bonds*, and PCs have reinforced these links internally and externally. Residents 8 and 9:

[In our new home], my social life changed. Now people ask me where to go to have a house like this, so one also forms ties with [people] from other parts. (…) Our PC is 'everyone's home; we like to spend birthdays together and barbecue in the pergola.

Even though families *trust* each other, most do not explicitly mention that motivations to live together build trust but mention the *sense of community*. Residents 10, 11, and 12:

We want to have a life together with the neighbours of the condominium, and each one maintains their privacy and supports each other when needed. (…) Living together helped us. We like [to do] different tasks (…) such as family care.

Academic 3 highlights residents' *sense of community, attachment,* and *social interactions*, which families have created living there for over 30 years. Most residents explained that if they had the opportunity to live in a better neighbourhood far from their district, they would not move. e.g., Residents 10 and 14:

I came to Peñalolen at nine, so I know the neighbours. (...) If they had given me the choice of another piece of land, I would have preferred it here.

Collaboration between stakeholders

Residents' collaboration in the PCs design is limited, initiated, and entirely performed by Consolida because regulations restrict it. Nevertheless, residents redistribute the land, manage maintenance, and know project processes through informative meetings. Residents 8 and 11 said that process *participation* helped build *community* and *networks*, generating opportunities:

I have never participated in a neighbourhood council. However, I did not miss any meetings during this project. I liked participating. (…) We could support each other by giving job information, which is a sense of community.

Most households feel that collaborating has increased *social interactions*, but some isolated cases have tensions. Developer 2 explained that some original landowners limited other households' participation:

Power is ceded by giving part of the land to be co-owned, generating internal conflicts.

Official 1 and Academics 1 and 3 stated that caring and collaborating in the vertical core have strengthened *bonds of trust and solidarity*. Externally, *relationships of trust and bonding social capital* were established with Consolida. Residents 8 and 9:

I feel appreciated, respected, and loved by the neighbours. We integrate [new neighbours] and help them [to adapt]. (…) I would go if [Consolida] asked me to give a talk to encourage other people about PCs. I am very grateful for them doing their best for the poorest people.

A large percentage of the Peñalolen population is not applying for subsidies due to their *attachment to the neighbourhood*. Developer 3:

[Households] prefer to live in poor qualitative conditions than apply for a subsidy for mainstream housing. (…) Families do not want to leave here because [for example] their grandmother cares for their children.

Shared spaces

The new homes have encouraged spontaneous *social interactions and networks* and a *sense of community* in PCs residents. Developer 2 explained that families recognise this influence. Resident 14:

Even though I had the same neighbours before (…), now they visit me, and I feel good. Shared spaces unite us and make everyone from the family visit here spontaneously.

Residents mentioned that *family sociability* has improved because formal (shared) spaces encourage spontaneous interactions. For example, Resident 13 mentioned that in new homes, they fight less, and Residents 8 and 12 agreed:

Our marriage improved because now we have more privacy. (…) Before, there was a bathroom for twelve people. Now we are four, and the bathroom is always unoccupied. (…) We meet every day, [and] we think about what we will cook or buy, which is more than before.

Unlike the previous homes, some residents feel that shared spaces reinforce *internal solidarity* and *trust*, allowing them to care for the sick and children of their condominium neighbours. Even though most residents do not feel shared spaces influence *external solidarity*, they would not move from the neighbourhood if they had the chance. Following this, Residents 10 and 11:

When [the neighbour] was sick, I went with her to the doctor, and she took care of me when I was sick. (…) I would not change my neighbourhood, nobody bothers me here, and I do not [bother] either.

Joint activities

Most residents perceive that performing joint activities regularly increased their *social interactions*, but not all socially interact outside the PCs. Following this, Resident 11:

We greeted each other cordially (…) during project management meetings, but there was no community.

Official 1 explained that parallel to the PCs, the state program *I like My Neighbourhood* (PQMB) was carried out, and this helped consolidate (internal and external) *social networks*. Residents 8 and 13:

People mobilise when there is something to do. When they made the plaza for us, everyone went to see what and how we were doing.

Resident 14, who has not participated in the PQMB, explained:

In our neighbourhood (…), a community feeling is being formed.

PCs households have a family dynamic in which they carry out daily activities, such as family care, reinforcing the *feeling of trust, solidarity,* and *family cohesion* within PCs. Residents 9 and 13:

There are no problems. If there is a sick neighbour, we communicate. (…) We [continue] having lunch and doing things together daily, e.g., my granddaughter comes here daily.

Majority of residents state that doing joint activities has influenced their *sense of attachment, identity,* and *community*. Resident 8 pointed out:

I feel good; I am like the mom of the neighbourhood. If [the neighbours] need something or have any questions, they ask me, and I will answer.

4.6 Discussion

Our empirical findings from the two analysed cases align with our theoretical study on the opportunities and limitations of CH facing the SDH. From our theoretical framework, we conclude that CH shows potential to tackle the SDH in Chile despite some limitations. CH features encouraged sociability, social cohesion and networks, solidarity, and community life (Carrere et al., 2020; Czischke et al., 2020; Fromm, 2012; Sørvoll & Bengtsson, 2018). Our empirical research reinforces this, showing that although some CH features are perceived as weakly influencing social indicators, most residents considered that social indicators were strengthened compared to previous homes where they had lived. In the case of Maestranza, there is a stronger perception of the influence of CH on social indicators than in the PCs, since Maestranza's residents did not live together before. Hence, their intention to live together, creation of networks, collaborative processes, and sharing spaces are perceived more strongly. Our research suggests that the features of Collaborative Housing may positively influence the social dimension of housing, therefore addressing the Social Deficit of Housing (Figure 4.8).

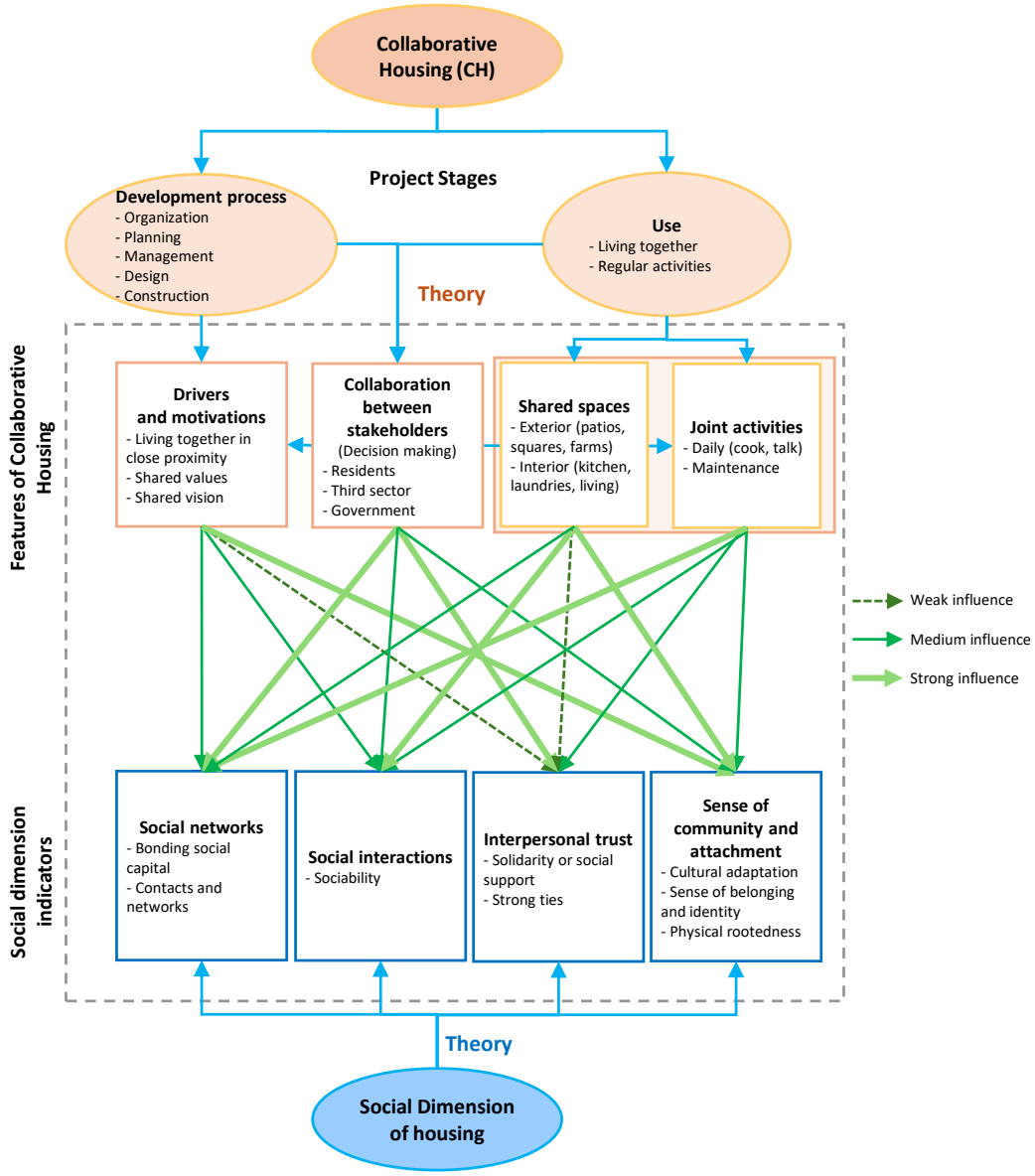

FIG. 4.8 Collaborative Housing addressing the Social Deficit of Housing in two study cases (Source: Authors)

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In both study cases, participants perceived that residents' *participation, collaboration*, and *joint activities* significantly increased internal and external *social networks* (Lang & Novy, 2014). Residents mentioned that having a strong collaborative network could imply opportunities (e.g., job and study). In Maestranza, most residents did not know each other beforehand, and *doing activities* and *collaborating* in assemblies has led to them considering each other as their main support network. In line with Sørvoll & Bengtsson (2018), in PCs, households perceived that family networks were maintained by *shared motivations* and extended to the developers. However, these networks do not always extend to the surrounding neighbourhoods. Finally, in both cases, most residents state that *shared spaces* may have reinforced the social link.

In line with studies from Williams (2005) and Bresson & Labit (2019), in Maestranza, *social interactions* have been influenced by residents' *motivation to live together*. This differs from the PCs perception, where families already lived together. In both cases, spontaneous interactions and sociability are encouraged by having *shared spaces*, which leads them to interact frequently, do activities with neighbours, and in some cases create friendships. *Collaboration* influenced sociability in organisational terms more than creating friendly relationships. Finally, residents' interactions may strengthen when engaging in *joint activities*.

Interpersonal trust seems weakly influenced by the *motivation to live together*, as found in the theoretical study. Otherwise, aligned with Oosterlynck (2016) and Sørvoll and Bengtsson (2018), residents perceived that *trust* was mainly built by *collaboration*. Trust and mutual support already existed among the residents of the PCs. In Maestranza, *trust* was built thanks to the residents' political organisation. In both cases, participants state that *joint activities* such as care for the sick could increase solidarity. Although participants feel higher trust levels than in previous homes, it is still unclear whether *shared spaces* influence this indicator.

Finally, most residents' perception of a *sense of community* for Maestranza was strengthened by the four features of CH. In Maestranza, *collaboration* and *joint activities* led residents to decide to stay in their area of origin, co-design shared spaces, and maintain their new homes (Ruiu, 2015; Sørvoll & Bengtsson, 2018). In PCs, residents feel that their *motivations* to *continue living together* and *sharing spaces* influenced their *sense of belonging* and family *community* compared to previous homes. However, as shown by Sørvoll & Bengtsson (2018), to what extent *spaces* create *external community life* is unclear. Finally, in the PCs, *collaboration* is perceived as barely influencing the existing *sense of community*, unlike in Maestranza.

Shadow data participants' (non-residents) and residents' responses did not show significant discrepancies or misalignments. Non-residents did not perceive how residents might feel in questions focused on trust or regular interactions, and they were curious about our research results. We draw some lessons from our empirical findings. On the one hand, while CH could help tackle the Social Deficit of Housing, existing forms of CH in Chile are still a marginal part of the housing system. Until now, collective forms such as Maestranza and housing cooperatives are still treated as pilot initiatives, except for the PCs, of which Consolida has built 32 units until December 2023, and 205 more condominiums are planned to be executed by the government initiative in other regions of the country. On the other hand, our findings show that existing CH forms could maximise their potential to tackle the Social Deficit of Housing if CH's features are stimulated. This can occur with a top-down approach through policies that encourage collaboration and active residents' participation in the housing process or bottom-up from residents in stimulating joint activities.

We suggest considering the following. First, from a top-down approach for CH to flourish in Chile, the government should recognise the social dimension in public policies, government instruments and housing programs. This can be done through complementary long-term 'social support plans' that are part of a structural policy change targeting existing housing programs or new plans for cooperatives, affordable rental housing, and PCs. Second, from a bottom-up approach, future residents could collaboratively organise joint activities that help them stimulate sociability and community life. Finally, to help tackle the Social Deficit of Housing, existing CH projects could encourage the use of shared spaces through collaboration and joint activities to increase social networks and interactions and create a greater sense of community and trust in the long-term.

4.7 Conclusions

This article aimed to explore the opportunities and limitations of Collaborative Housing in tackling the Social Deficit of Housing. To this end, we analysed the households' experience living in two Chilean CH cases. Participants from both cases perceived an improvement in their social interactions, sociability, trust, and sense of community in their current homes compared to previous homes. Therefore, the social dimension was significantly strengthened. Aligned with the literature, our key findings confirm our initial assumptions. Although we observed some limitations

compared to mainstream housing, CH reinforces the social dimension and presents opportunities to tackle the Social Deficit of Housing in Chile. Based on our empirical study, we conclude the following.

First, *collaboration between stakeholders* and *joint activities* strongly influenced the creation and strengthening of internal and external *social networks*. In CH, internal networks are also influenced to a lesser degree by *shared motivations* and *spaces*. However, not in all cases do these networks expand outside the projects. Second, *social interactions* have been strongly influenced and encouraged by *shared spaces* and to a lesser extent, *joint activities* and *collaboration*. In the case of Maestranza where the households did not live together before, their *motivation* to live together has increased their interactions. In both cases, although CH promotes interactions, this does not expand beyond the project. Third, *interpersonal trust* is not highly influenced by *shared motivation* and *spaces*, contrary to what we expected on the basis of our theoretical study. However, we found that *interpersonal trust* is influenced by *collaboration* in developing and maintaining housing and *joint activities*. Finally, a *sense of community and belonging* is reinforced by the *motivation* of living together and *shared spaces*. For households that did not live together before, their perception is that *collaboration* and *joint activities* present a stronger influence than those who already live together.

Some limitations of this research were the sample variety in terms of gender and age and the length of time resident participants lived in the projects. A valuable contribution of future research would be to measure social indicators of the projects over time, increasing the families' residence period and the spectrum of residents with different characteristics. This could represent a variation in the interviewees' perceptions that reinforces or challenges our findings. Likewise, future research could compare CH cases from different contexts and their response to the Social Deficit of Housing. Another valuable contribution to the field would be exploring scenarios and contextual conditions to propose strategies and policy guidelines for Collaborative Housing development. Finally, Collaborative Housing presents an opportunity to reduce the Social Deficit of Housing in Chile and other contexts. However, for these forms to flourish, a social change is required in the mindsets of stakeholders such as government, resident groups, and private organisations, whereby they consider these forms as an alternative to traditional housing forms. On the one hand, public policies ought to make room for these forms through specific policies and housing programs, new regulations, and forms of financing. On the other hand, the creation of new instruments that facilitate the development of CH is required, considering incentives for developers and tools to support future residents interested in developing these projects, as well as programs that facilitate collaboration amongst residents.

Our research contributes to the current debate on Collaborative Housing developed in the Global North with an empirical study of two Chilean cases from the Global South. On the one hand, our conceptual model contributes to the CH field because it can be used as an analytical framework to study the presence of the social dimension in Collaborative Housing forms in general. On the other hand, our research results might be transferable to contexts with similar issues or characteristics, for example, contexts with similar housing provisions systems, cultures, and types of residents. Therefore, the opportunities and limitations of addressing the Social Deficit of Housing could have potential relevance to Collaborative Housing in other contexts. Regardless of the distinctive features of Collaborative Housing in different places, new projects could learn from the failures or successes of these forms when addressing similar issues.

Appendix 4A

Appendix 4A in Table 4.3 summarises the findings of the case study *Maestranza*. Between parentheses is the number of resident interviewees who mentioned the given statement in some way (e.g. (6/7) means 6 of 7 residents).

TABLE 4.3 Summary findings case 1: Maestranza (Source: Authors)

Social dimension	Motivations and drivers	Collaboration between stakeholders	Shared spaces	Joint activities
Social networks	**Weak influence** While most residents intended to live together and shared similar ideologies, only some (4/7) feel motivation influenced the creation of networks	**Strong influence** Most residents (6/7) feel they collaborate more than in previous homes, and this influences the creation of internal and external social networks	**Strong influence** Most residents (6/7) feel shared spaces encourage them to frequently meet, which leads to strengthened social networks	**Strong influence** All residents (7/7) undertake recreational activities and make decisions periodically; this leads to building alliances, and some feel neighbours as main social network
Social interaction	**Strong influence** Majority of residents (5/7) were motivated to maintain social ties, and while some influence in naturally increasing social interactions was implied, this was not explicitly stated	**Medium influence** Majority of residents (5/7) do activities regularly around organising project maintenance. While collaborating increases social interactions, there are still challenges regarding leadership	**Strong influence** All residents (7/7) interact spontaneously in shared spaces regularly and perceive an improvement in sociability compared to previous homes	**Medium influence** All residents can do activities together, but not everyone does. However, the majority (5/7) socially interact frequently within the projects, creating friendships and social cohesion
Interpersonal trust	**Weak influence** It is not clear to the residents that shared values and motivations have led to increased interpersonal trust	**Strong influence** All residents (7/7) perceive collaboration around the housing struggle, designing and securing the project has led to creating and strengthening trust that was not present in previous homes	**Weak influence** Some residents (3/7) perceived those shared spaces favour meeting, which may create a feeling of trust. However, trust is not associated with these spaces	**Medium influence** Most residents (6/7) feel that regular joint activities may increase trust between neighbours, but this has to be measured over the years
Sense of community and attachment	**Strong influence** Most residents are driven by the idea of living in a community and to fight for stay in the original district, and the majority (5/7) said that this had created a community	**Strong influence** Most residents (6/7) make joint decisions (e.g., stay in the original district) in monthly mandatory assemblies, share tasks, and co-design the project, creating community and a sense of belonging	**Strong influence** All residents (7/7) feel that having shared spaces encourages internal community living, but this does not necessarily extend outside the project	**Strong influence** All residents (7/7) carry out joint activities to preserve shared spaces. Although they do not explicitly perceive those activities have increased their attachment, they feel a strengthened community life

Appendix 4B

Appendix 4B in Table 4.4 summarises the findings of the case study *pequeños condominios*. Between parentheses is the number of resident interviewees who mentioned the given statement in some way (e.g. (6/7) means 6 of 7 residents).

TABLE 4.4 Summary findings case 2: Pequeños Condominios (Source: Authors)

Social dimension	Motivations and drivers	Collaboration between stakeholders	Shared spaces	Joint activities
Social networks	**Strong influence** All residents (7/7) are driven by continuing living in close proximity to their family and neighbourhood. This has influenced the strengthening of their networks	**Strong influence** All residents (7/7) feel collaborating (e.g., managing land co-ownership) has increased internal and external networks	**Medium influence** Most residents (6/7) feel that formal shared spaces consolidate existing social internal networks, but they do not expand outside project	**Strong influence** All residents (7/7) feel that by doing activities, they maintain existing networks within their vertical core in the PCs, and some (4/7) extend externally outside the project
Social interaction	**Medium influence** Although most residents (6/7) do not express explicitly that their motivations increase existing social interactions, they recognise an influence in improving their social dynamics	**Medium influence** Even if there are family conflicts, most residents (6/7) have more social interactions, helping to maintain or care for children and elderly. In some cases (3/7), this extends outside of PCs	**Strong influence** Most residents (6/7) feel that sharing formal exterior spaces in PCs homes has encouraged spontaneous interactions and sociability	**Medium influence** Most residents (6/7) feel that frequent joint activities in PCs lead to increased natural and spontaneous social interactions
Interpersonal trust	**Weak influence** Majority of residents (4/7) do not perceive that shared values and the motivation to live together are influential in creating interpersonal trust	**Strong influence** The ties and trust in vertical core (PCs) were already strong despite some internal conflicts. Most residents feel (6/7) that ties were strengthened during the collaborative process for housing	**Weak influence** Some households (3/7) feel that formal shared spaces could reinforce trust and solidarity internally and, in some cases externally, but unclear to what extent	**Medium influence** Majority of residents (5/7) feel high level of trust within the vertical core, support, and solidarity in caring for children and sick relatives is enhanced in the PCs
Sense of community and attachment	**Strong influence** Most residents (6/7) already live together and are motivated to continue doing so in their original district, which reinforces their feeling of belonging, family community and identification	**Weak influence** All residents maintained existing family community and attachment to the neighbourhoods, but only some (3/7) feel that collaboration has influenced increasing these indicators	**Strong influence** Although shared spaces do not encourage community life outside the project, most residents (6/7) feel that shared spaces helped to maintain a sense of family community	**Medium influence** Majority of residents (5/7) feel that doing activities to maintain the PCs reinforces the existing sense of community and identity but that creating neighbourhood community life requires time

Appendix 4C

Appendix 4C in Figure 4.9 organises the interview questions asked to participants in the fieldwork between June and August 2022. Tables 4.5 and 4.6 detail the interview protocol by topic for case study residents and other actors, respectively. The distribution of questions for all participants is similar, and they represent a semi-structured guide of questions and options to be followed depending on the interviewee's responses[13].

As shown in Figure 4.9, the opening question, Q1, is a general question that aims to identify the degrees of collaboration and participation of each participant in the project development process. Questions Q2, Q3, Q4, and Q5 seek to understand the motivations that drive the interviewees to engage in each case, considering their goals, intentions, shared values, and ideologies. Question Q6 aims to determine the projects' influence on neighbourhood social cohesion. Question Q7 focuses on determining the influence of stakeholders' collaboration on each social indicator. Question Q8 aims to understand the influence of shared values, collaboration, and joint activities on interpersonal trust. Questions Q9 and Q10 focus on determining the influence of shared spaces and joint activities on each social dimension indicator. Question Q11 focuses on shedding light on the general perception of new and old homes regarding the social dimension indicators. Question Q12 aims to identify the main barriers and enablers to developing the two CH case studies in Chile. Finally, Q13 is a closing question to ask participants if they would like to add or comment on anything to the interview.

13 Each question was translated from Spanish into English by the author.

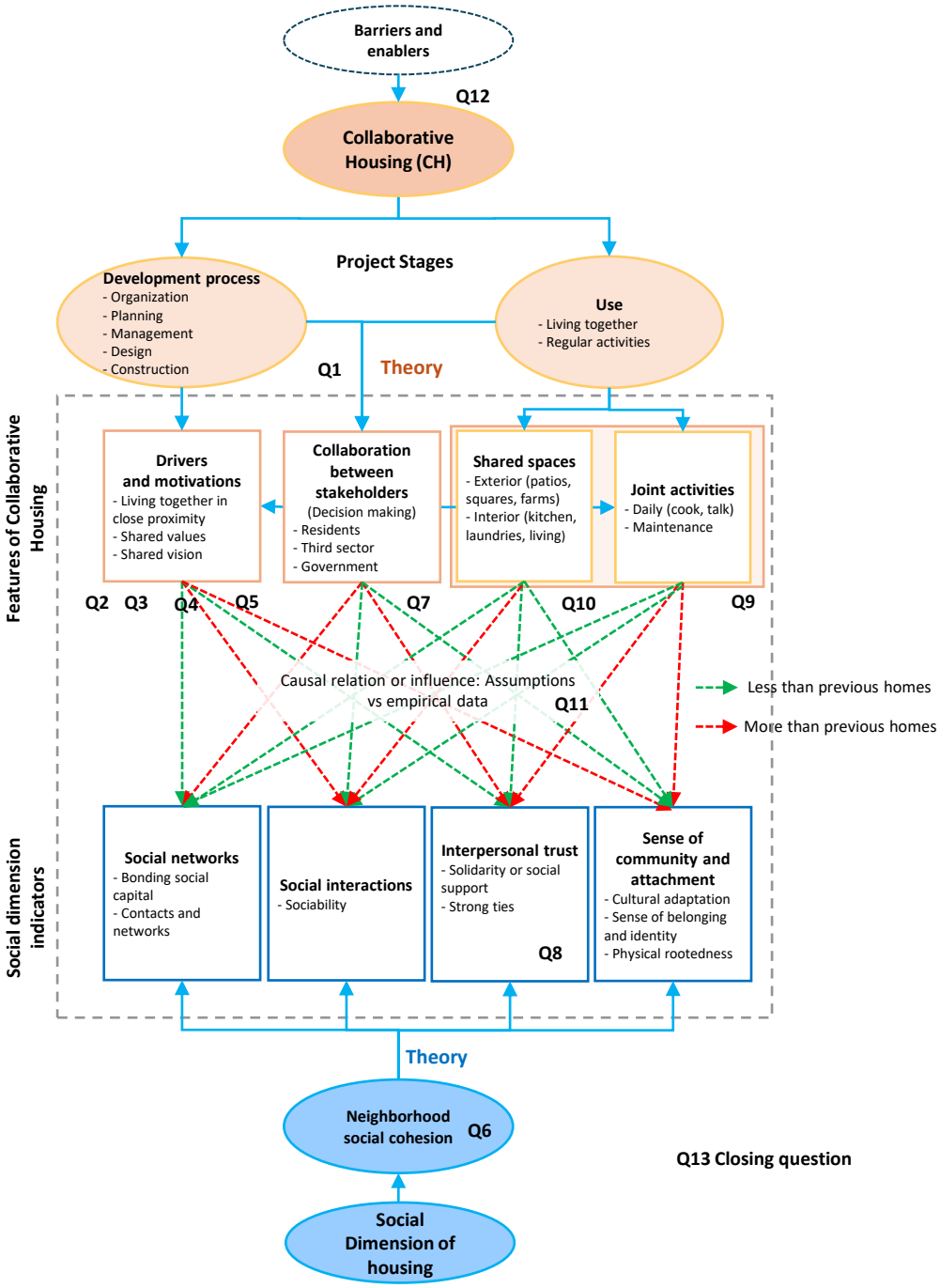

FIG. 4.9 Organisation of interview questions for case study participants, fieldwork 2022

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TABLE 4.5 Interview protocol for case study residents, fieldwork June and August 2022

Questions for resident's interviews fieldwork 2022	
Introductory question: Stakeholders' collaboration and participation	
Q1	Did you participate in any stage of your home's development, management, planning and/or construction? How were you and your neighbours involved in the housing management process? In what stage of the development process? *Prompts: Stages: Planning, management, design, construction, use, maintenance of homes*
Drivers and motivations: Living together goals and shared values	
Q2	What were the drivers and motivations for you and your neighbours to develop this/these projects? *Prompts: alternative lifestyle, environmental awareness, degrowth, post-modernism, post-capitalism, radical living, utopia, political expression, nostalgia*
Q3	What social motivations droved you to develop your housing project? *Please elaborate on your answer.* *Prompts social dimension indicators: social networking, social interactions, interpersonal trust, sense of community and neighbourhood attachment*
Q4	What were the goals that your family group or neighbours of the project had during the management, planning and design stages of the hours? *Please elaborate on your answer* *Prompts: Live together, improving neighbourhood relations, community life, the feeling of belonging and the identity of families*
Q4a	Based on your experience living in Maestranza/Condominiums, how do you think that the intention of living together could increase the possibility of interacting socially and socialising between neighbours? And how do you feel about social relationships with your neighbours? *Prompts: Are they natural, forced*
Q5	What kind of values and ideologies do you share with your neighbours in your housing project? Do you share a similar lifestyle with your neighbours? And how do you think these shared values could help, for example, to build trust between you and your neighbours? *Please elaborate on your answer*
Q5a	Are there neighborhood organisations or resident associations within your project/neighbourhood? What are their goals and interests and/or demands?
Neighbourhood social cohesion: Networks, interactions, trust and sense of community	
Q6	How does it feel to live here? What do you like and do not like about living in a community?
Q6a	How do you feel about your neighbourhood relationships, community life, attachment to the neighbourhood and trust? How do you get along or how is your social relationship with your neighbours/relatives who live in Maestranza/Condominiums?
Stakeholders' collaboration and participation	
Q7	How do you feel about collaborating or participating in housing management with your neighbours/ relatives, project developers and the municipality? During the collaborative or participatory process of your home, how did you feel about making decisions with your neighbours?
Q7a	In decision-making in daily life in the project, how does this collaboration occur? Did you think everyone could give their opinion or participate in the decisions? How? *Prompt: consensus, democratic process, other*
Q7b	How do you think collaboration with different entities could contribute to creating job or study opportunities? How do you think this collaboration has contributed to building strong social networks and ties with your neighbours? Do you feel that these ties and social networks exist more/less or the same with your neighbours in your old neighbourhood?

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TABLE 4.5 Interview protocol for case study residents, fieldwork June and August 2022

Questions for resident's interviews fieldwork 2022	
Shared values, collaboration and joint activities relation to interpersonal trust	
Q8	How do you think shared values, participation in joint activities and collaboration between stakeholders have contributed to generating close relationships and interpersonal trust between neighbours?
Q8a	Do you have friends in (Maestranza/Condominium) you visit frequently? What activities do you do, and how often? Do you consider your neighbours part of your primary support network? How often do you go to your neighbours if you need support? *Prompts: Lending money, companionship, help with housekeeping or illness*
Q8b	How much trust do you feel you have in your neighbours? Is this *trust more/ less or the same as in your former home*? *For example, could you entrust your belongings, letters or wallet to your neighbours? And how do you think your neighbours would act?*
Joint activities	
Q9	How has performing joint activities with your neighbours influenced your perception of your home and neighbourhood? Do you like your neighbourhood, or would you move to another place?
Q9a	How do you feel about performing joint activities with your neighbours? Everyone participates equally, or are there differences?
Q9b	How do you think doing activities together has contributed to a sense of community and neighbourhood attachment to the community? How do these same activities have influenced your sense of belonging and identity? Do you believe there is more/less or the same sense of community as in your last neighbourhood and home?
Shared spaces	
Q10	I understand that your home has shared spaces, in your daily life, do you spontaneously meet your neighbours in these spaces? What activities do you carry out in the shared areas? Do you know your neighbours, and could you easily contact them?
Q10a	Do you think that these spaces help you to interact and socialise with your neighbours? If so, how do you think these spaces have influenced your community and neighbourhood life? And do you meet your neighbours more/less or in the same way as in your previous home?
Social dimension: New homes vs. previous homes	
Q11	We have talked about neighborhood relationships, community life, trust and the feeling of belonging and identity. Do you think that these aspects have improved more/less or in the same way as in your previous home?
Barriers and enablers	
Q12	What are the main barriers and enablers of developing these types of housing projects? *Prompts: finance, spatial, economic, demographic, social, cultural*
Closing question	
Q13	We have talked about neighbourly relations, community life, trust and the feeling of belonging and identity generated in the Maestranza/small condominiums project, covering all the topics raised. Is there anything you would like to add or comment on in this interview?

TABLE 4.6 Interview protocol for case study external actors, fieldwork June and August 2022

Questions other actor's interviews fieldwork 2022	
Introductory question: Stakeholders' collaboration and participation	
Q1	How was the collaborative process between stakeholders in developing this project? Did the community, the families or some leaders of the future residents participate or collaborate in the development of the project? If so, at which stage of the process? *Prompts: Stages: Planning, management, design, construction, use, maintenance of homes*
Drivers and motivations: Living together goals and shared values	
Q2	What do you think were the drivers and motivations for people to develop this/these projects? *Prompts: alternative lifestyle, environmental awareness, degrowth, post-modernism, post-capitalism, radical living, utopia, political expression, nostalgia*
Q3	What social motivations have driven families and other stakeholders to develop these housing projects? *Prompts social dimension indicators: social networking, social interactions, interpersonal trust, sense of community and neighbourhood attachment*
Q4	Do you think that some of the project residents' goals were to live together, individually, or stay close in proximity while keeping their distance? *Please elaborate on your answer*
Q4a	In your experience developing Maestranza/Condominiums, how do you think families' intention to live together could increase social interactions and sociability among residents?
Q5	How did you perceive the neighbours in terms of shared values and ideologies when developing the housing project?
Q5a	How do you think sharing certain social values could influence, for example, trust among residents?
Neighbourhood social cohesion: Networks, interactions, trust and sense of community	
Q6	How do you think the project has influenced neighbourhood relations, community life, attachment to the neighbourhood, and trust between residents and/or families? *Prompts: it is less, more or the same than in the residents' previous homes*
Stakeholders' collaboration and participation	
Q7	When distributing and locating the families in the project, was it considered that the families would maintain their associative networks, if they had similar or different backgrounds?
Q7a	During the collaboration process with the future residents of the projects, how did you perceive the associative networks and social and community relations between them?
Q7b	Do you think the collaboration between the stakeholders in the housing management process has contributed to creating social networks? Are these networks more/less or the same as those in the future residents' previous homes?
Shared values, collaboration and joint activities relation to interpersonal trust	
Q8	How do you think shared values, participation in joint activities and collaboration between stakeholders have influenced the interpersonal trust between residents?
Q8a	How do you think that collaboration between families has influenced their social ties? and In what way participation and shared values have influenced social support or solidarity between families?
Q8b	Do you think these trust bonds are more/less or in the same way as their previous homes?
Joint activities	
Q9	How do you think future residents' participation in the project development and joint activities has contributed to creating a sense of community and attachment to the neighbourhood and homes?
Q9a	Do you know if some of the residents knew each other before settling in the new homes?
Q9b	How do you think the performance of joint activities in the new homes has influenced the attachment, the sense of belonging, identity, and the physical roots of the families?

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TABLE 4.6 Interview protocol for case study external actors, fieldwork June and August 2022

Questions other actor's interviews fieldwork 2022	
Shared spaces	
Q10	Does the project consider shared spaces? If so, were these designed with the objective that residents have greater associativity, meet spontaneously or for other reasons?
Q10a	How do you think these shared spaces have influenced the residents' social interactions? *Prompts: daily meetings, social activities regular encounters, and others*
Q10b	Do you think that social interactions between residents happen more/less or in the same way in the community of the new homes compared to the previous homes?
Social dimension: New homes vs. previous homes	
Q11	We have talked about neighborhood relationships, community life, trust and the feeling of belonging and identity. Do you think that these aspects have improved for the residents more/less or in the same way as in your previous home?
Barriers and enablers	
Q12	What are the main barriers and enablers of developing these types of housing projects? *Prompts: finance, spatial, economic, demographic, social, cultural*
Closing question	
Q13	We have talked about neighbourly relations, community life, trust and the feeling of belonging and identity generated in the Maestranza/small condominiums project, covering all the topics raised. Is there anything you would like to add or comment on in this interview?

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5 Towards the Development of Collaborative Housing in Chile

Scenario Planning and Policy Strategies

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ABSTRACT In many parts of the world, self-organised housing is emerging as an alternative to mainstream housing. From a Global North perspective, these initiatives, in which collectively organised future residents produce their homes with different stakeholders, are known as Collaborative Housing (CH). In Latin American countries, where there is a longstanding tradition of self-organisation in housing, interest in CH is re-emerging to fight for the right to adequate housing. More specifically, in Chile, there is interest from groups of citizens and the current government, which is starting to support initiatives such as housing cooperatives and small condominiums. However, there is little insight into CH's future growth and implementation opportunities in Chile. This research explores possible scenarios for CH development in Chile and which CH models seem most likely to grow in these scenarios. Using the Delphi-based scenarios technique with 21 Chilean housing experts, we built four scenarios and strategies for developing three different CH models: small condominiums, closed housing cooperatives, and resident-led collective housing. We found that in most of the four future scenarios, independent of societal and economic

context, the small condominium model has the greatest development potential in Chile. We also conclude that regardless of the scenario, the opportunity for CH to flourish in Chile would depend on creating specific supportive housing programs, regulations, and a state financing system and promoting the models through training future residents and stakeholders about their characteristics.

KEYWORDS Housing policies; Collaborative Housing; Delphi-based Scenarios; Policy Strategies; Chile.

5.1 Introduction

The housing deficit and affordability challenges are growing problems worldwide (BID, 2018; UN-Habitat, 2019). From a Latin American perspective, Cortés-Urra et al. (2023) claim that this deficit is a multi-dimensional phenomenon, encompassing a lack of quality, access to urban amenities, social architecture or non-physical social characteristics and the quantity of housing for the existing population (Garay et al., 2020; Paidakaki & Lang, 2021; Rodríguez et al., 2018). Some research in both the Global North and South shows that in response to these problems, social movements of inhabitants have self-organised in different parts of the world (Brysch & Czischke, 2021; Greene & Mora, 2020; Lang et al., 2020; Twardoch, 2017b; Vestbro, 2010). From a Global North perspective, the initiatives where future residents produce their homes through collaborative processes with different external stakeholders are known as *Collaborative Housing* (CH) (Czischke et al., 2020; Fromm, 2012; Lang et al., 2020). In parallel, in some Latin American countries, there is a longstanding tradition of self-organisation in housing, which is currently re-emerging as an alternative to conventional housing (Di Paula, 2008; Nahoum, 2008; Ruiz-Tagle et al., 2021). In Chile, these informal housing movements have mainly emerged as part of a struggle and demand for adequate housing and a survival strategy in the face of the housing crisis (Alfaro, 2006; Cortés-Urra et al., 2024; Imilan, 2016). The housing crisis refers to the difficulty of low-medium income inhabitants in accessing affordable and adequate housing, derived from economic factors, such as the increase in mortgage loans and land prices and demographic changes such as residents' preference to live in central areas and the decrease in household size (Déficit Cero, 2022; (PNUD, 2023).

In the last 30 years, Chilean formal housing programs have focused on addressing the demand for housing quantitatively and qualitatively, almost without including

future residents' participation (Cortés-Urra et al., 2023; Ruiz-Tagle et al., 2021). Recently, the Chilean government has been creating opportunities for self-management and self-organisation by supporting *cooperativas cerradas de vivienda* and *pequeños condominios* development, which are also referred to as CH (Cortés-Urra et al., 2024; MINVU, 2022). However, until now, these plans have been mostly in development, and it is unclear whether they will be permanent or involve structural changes to housing policies. Throughout the state programs developed in Chile, it has been argued that many programs are temporary and short-term without proposing structural policy changes (Fuster-Farfán, 2019). This policy response could lead to housing solutions being poorly prepared for the future to face challenges and take advantage of opportunities effectively. In this context, although the current government has some interest in CH models, we argue that there is still no clarity on CH's possible future in Chile since policies operate in a complex environment of high uncertainty. Therefore, considering that CH has the potential to address the social deficit of housing (Cortés-Urra et al., 2024), we explore possible scenarios for CH in Chile to trigger long-term thinking on which strategies to follow to support decision-making in housing policies. Our main research question and sub-questions are: What are the scenarios in which the Chilean context becomes favourable for implementing collaborative housing?, and as sub-questions: What collaborative housing models are likely to flourish in these scenarios? What long-term policy strategies can be implemented to support collaborative housing development in Chile?

To answer these questions, we adopted the Delphi-based scenarios technique proposed by Nowack et al. (2011). We conducted this research in four stages: *Framing, Scanning, Forecasting* and *Visioning*. In the *Framing* stage, we shaped the research, collected data on the Chilean housing system and identified analysis variables. In the *Scanning* stage, we analysed the data to determine the developments and trends that could influence the development of CH in Chile. In the *Forecasting* and *Visioning* stages, we selected the factors to develop scenarios and proposed four possible scenarios and development strategies for the three CH models in Chile. These last three stages were carried out in three Delphi rounds with a panel of Chilean housing experts.

This chapter is structured as follows: after the introduction, we present the *conceptual framework* based on the literature, explore collaborative housing in Chile, and explain the three investigated models. In addition, we define the scenario concept and its typologies in this section. This section concludes with the exploration of three possible techniques for scenario planning. In the *Methods* section, we explain the steps followed in this investigation. In the *Findings*, we show the result of the variables used in scenario planning, propose four scenarios and narratives

for three collaborative housing models in Chile, and propose policy strategies for CH development. In the *Discussion*, we discuss the CH models that are more likely to flourish and the main strategies to follow. Finally, in the *Conclusions* section, we briefly present some reflections and implications of this research.

5.2 Conceptual framework: scenario planning for collaborative housing

This section defines the concepts used in this research and is structured in three parts. First, we explore collaborative housing in Chile and explain the three models that we investigate in this research. Second, we define the concept scenario and its typologies. Finally, we explore the techniques to develop scenarios.

5.2.1 Collaborative housing in Chile

Latin America has a longstanding tradition of self-organisation in housing, dating back to the 19th century. In this period of industrial production, housing was insufficient due to mass rural-urban migration and housing market speculation (Castillo & Hidalgo, 2007; MINVU, 2004). At the beginning of the 20th century, popular urban movements emerged to fight for housing in Argentina, Peru, and Mexico (Greene & Mora, 2020). In Chile, specifically, self-organisation for housing emerged in the 1920s, with a tenant's movement struggling against the housing crisis. From this period onwards, inhabitants became *pobladores* (settlers), understood as producers of urban space (Castillo, 2014; Forray, 2019). Between the 1950s, 1960s and 1970s, a growing housing need derived from rural-urban migration led the settlers to organise themselves as *Movimiento de Pobladores en Lucha* (MPL) to develop informal housing solutions, known in Latin America as land invasions or *tomas de terreno* (land takeovers), and *Poblaciones Callampas* (shanty towns) later known as *campamentos* (camps) (Castillo & Hidalgo, 2007; Forray, 2019). Through a culture of cooperation and coexistence, informal housing spread across the country through mutual aid and self-construction (MINVU, 2004). Informal housing spread until the military dictatorship period of the 1970s, during which social and housing movements were demobilised and repressed, causing these initiatives to stagnate (Ruiz-Tagle et al., 2021).

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Elsewhere in Latin America, some self-organised and self-managed housing models have been maintained over time. Examples are the cooperative movements from the 1960s, known as the *Movimiento de Ocupantes e Inquilinos* in Argentina (Castillo, 2014; Ruiz-Tagle et al., 2021) and the *Federación Uruguaya de Cooperativas de Vivienda por Ayuda Mutua* in Uruguay (Di Paula, 2008; Nahoum, 2008). In Chile, interest in self-organised housing has re-emerged since the late 1990s as a survival strategy and alternative in the struggle for the right to adequate housing (Alfaro, 2006; Araos, 2018; Imilan, 2016). Nowadays, groups of settlers continue to organise for housing. Examples are the *Movimiento Social de Pobladores Ukamau* (González, 2021), social movements with a feminist approach (Soto, 2020) and *Movimiento de Pobladores en Lucha* or MPL (Angelcos & Pérez, 2017). There is also an interest from the current government in supporting some self-organised groups through the development of *closed housing cooperatives* and *small condominiums* (MINVU, 2022b; Ruiz-Tagle et al., 2021). As shown in the study by Czischke et al. (2025), and our findings informed by MINVU in 2024, future residents' interest in the cooperativas model has been slightly increasing, from 3 in 2020 to 7 projects by 2024. These projects are Ñuke Mapu with 36 families, Yungay with 15, and 27 Fortaleza with 30 families located in Santiago de Chile; Paihuén with 8 families, Atas with 19 families, Vista Puerto with 33 families, and Los Castaños with 70 families located in Valparaiso.

Across the world, discussion on the potential of collectively self-organised and self-managed housing has intensified, with these models being defined under a Global North perspective as *Collaborative housing* (CH) (Lang et al., 2020). In the Chilean context, Cortés-Urra et al. (2024) proposed an operational definition of the concept of *Collaborative Housing* for the Latin American context based on the conceptualisations of Czischke et al. (2020), Fromm (1991), Lang et al. (2020), and Vestbro (2010). This adapted definition understands CH as an umbrella term covering various collectively self-managed and self-organised housing initiated from bottom-up, developer-driven, or top-down approaches, where future residents produce their homes in collaboration with different stakeholders. The authors distinguished four inclusion criteria for housing to be considered CH. First, residents are motivated by their intention to live together in a project. Second, residents and external actors collaborate throughout project development. Third, projects incorporate shared outdoor or indoor spaces. Fourth, residents engage regularly in joint activities. In Chile, formal models that fit these four criteria constitute a marginal part of the housing system (Cortés-Urra et al., 2024). Some examples are *closed housing cooperatives, small condominiums, and resident-led collective housing*, which we explain below.

5.2.2 Collaborative housing models

We selected our cases by adopting the abovementioned inclusion criteria for CH in the Latin American context. We identified three models that fit these criteria, which we differentiated by project scale to facilitate the Delphi analysis. This differentiation allows us to compare if there are different opportunities for different CH models in different scenarios (see Table 5.1). These models share some characteristics in terms of users, spatial features, and financing and are social housing. This means that the users belong to the 40-50% most vulnerable population, according to the *Registro Social de Hogares* (Social Household Registry). This percentage could vary per specific housing program. Also, the models are co-financed by future residents' or end-user's savings, state subsidies, and complementary financing such as mortgages or loans from different institutions. Finally, the three models have shared interior or exterior spaces such as kitchens, dining rooms, living rooms, recreational areas, or social headquarters, varying depending on the project scale. The three selected models are the following:

- ***Pequeños condominios (small condominiums):*** small-scale projects with 2-12 co-owned households resulting from settlement strategies of families living in double-up or overcrowded uninhabitable homes. This model is gradually spreading and has 35 projects built by Consolida in the Peñalolen district in Santiago and 205 homes in planning in other regions.
- ***Cooperativas cerradas de vivienda (closed housing cooperatives):*** medium-scale projects of up to 70 households. These can be individually owned after 15 years of prohibition of sale, shared equity, or collectively owned, where the cooperative is the owner, and each resident is a member that has the right to use the homes and share administrative responsibility. To date, there are 7 cooperatives in development for 211 families: Yungay, Paihuén and Atas in the process of technical approval; Ñuke Mapu in the construction stage; and Vista Puerto, Los Castaños and 27 Fortaleza in the process of purchasing land.
- ***Vivienda colectiva liderada por residentes (resident-led collective housing):*** Large-scale projects of approximately 70 or more households under co-ownership tenure regime. This model has one built project, Maestranza, and two more are currently in the planning process.

TABLE 5.1 Three models of collaborative housing in Chile differentiated by project scale (Source: Authors)

	Small condominiums	Housing cooperatives	Collective housing
Project scale	– Small: 2 -12 households	– Medium: up to 70 households	– Large: 70 -more households
Users	Future residents must belong to the 40 - 50% of the most vulnerable population groups		
Tenure	– Homes: ownership – Land: co-ownership	– Homes: individual ownership, shared equity, or collective ownership – Land: co-ownership or collective ownership	– Homes: ownership – Land: co-ownership
Spatial	Private units with shared outdoor and or indoor spaces		
Financing	– Future residents: minimum savings and a land plot that must be shared with the households – State: DS.49 subsidy from the micro-settlement program for small condominiums or another compatible subsidy	– Future residents: minimum savings – State: DS.49 subsidy or another compatible subsidy (e.g., DS.10 subsidy for collective application for rural areas) – Complementary financing: zero-interest rate loan, a complementary subsidy for the purchase of land or contribution from other entities	– Future residents: minimum savings – State: DS.49 subsidy or another compatible subsidy for this model

5.2.3 Scenarios: concept and typologies

The term scenario has been defined by many authors. In 1985, Michael Porter defined it as “a consistent view of what the future might turn out to be, not a forecast” (Ringland, 1988). Similarly, Nakicenovic et al. (2000) defined it as an alternative image of how the future might unfold but not a prediction. Börjeson et al. (2006) explained that scenarios can also describe possible developments or future states. Generally, scenarios are developed assuming the world is unpredictable, but certain events are predetermined. Herman Kahn, the father of modern scenario planning, stated that to develop scenarios, one must “think the unthinkable” (Nowack et al., 2011). Scenario planning is considered a strategic management tool because it incorporates variables unrelated to the topic, allows the detection of changes in the environment, helps to overcome future errors in the decision-making process and prepares a response to these changes (Wack, 1985). However, no scenario can fully describe the future accurately. Scenarios are developed between the reality of the facts and perceptions, and this might not necessarily imply a tangible reality that justifies making changes in a specific organisation (Varum & Melo, 2010; Wack, 1985).

Scenarios come in many shapes but often are described in a narrative accompanied by different visuals such as charts, pictures and graphs (Lindgren & Bandhold, 2003). Regarding scenario typologies, many authors have discussed their conceptualisation with little consensus. Some authors propose categorising scenarios according to their goal as possible, preferable or probable futures (Börjeson et al., 2006; Nowack et al., 2011). Other authors propose classifying them according to their objectives, content or design (Bishop et al., 2007; van Notten et al., 2003). In this research, we determine the type of our scenarios adopting the classification based on the scenario goals and system structure distinguished by Börjeson et al. (2006). As shown in Figure 5.1 and explained below, this classification proposes three types of scenarios: *Exploratory, Normative* and *Predictive*.

- ***Explorative:*** intend to answer the question: What might or can happen? Moreover, they analyse situations considered possible and built to respond to various possible developments. Explorative scenarios are helpful when the user has sufficient knowledge about the current system operation and is built in the long-term, considering allowing time for structural changes in the system. Explorative scenarios can be external to explore what can happen with external developments or strategic to explore users' behaviour.
- ***Normative:*** aim to answer the question: How can a specific target be reached? They focus on future objectives or situations and how these can be achieved. Normative scenarios can be distinguished into two types: preserving, which explores a future where a specific goal seems achievable through small adjustments within the existing system, and transforming, which explores a future where a goal seems unachievable if the existing fixed system is maintained. The latter are long-term scenarios (25 – 50 years), usually used in policy formation when a small adjustment to the prevailing structure is not enough, the current system's structure is part of the problem, and a structural system change is necessary to achieve the objective.
- ***Predictive:*** aim to answer the question: What will happen? Moreover, they foresee the conditions that will change in the short term. This scenario is helpful for short-term forecasts because they are built considering an expected system without great uncertainty about external factors. Predictive scenarios can be What-if scenarios that explore what will happen under specific major external or internal events or Forecasts, that explore what will happen if the most likely development occurs.

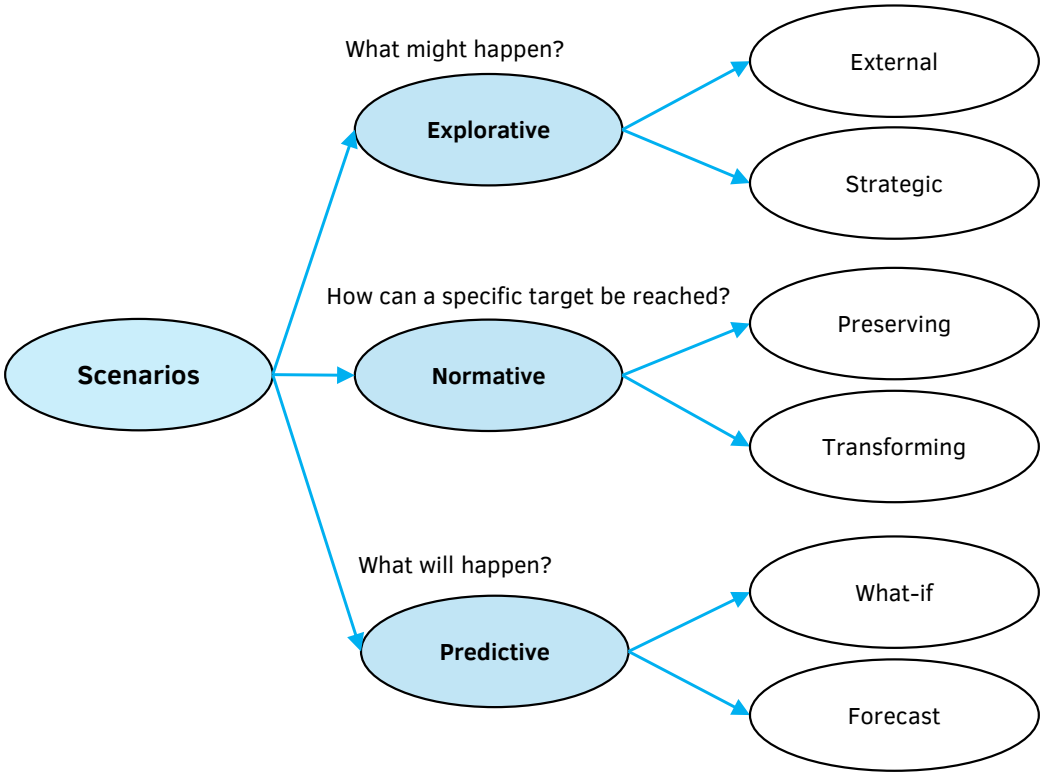

FIG. 5.1 Types of scenarios based on their goals and system structure (Source: Authors, based on Börjeson et al. (2006)

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5.2.4 Techniques for scenario planning

Bishop et al. (2007) stated that various techniques can be used for developing scenarios. In this section, we explain three of these techniques, namely *Scenario planning,* the *Delphi technique*, and the *Delphi-based scenarios technique,* which combines the two.

Scenario planning

Scenario planning is a process-focused strategic approach with different objectives across organisations (Lindgren & Bandhold, 2003; Varum & Melo, 2010). In some organisations, it is used to imagine the effects of alternative decisions. Therefore, it is a speculation about the uncertainty surrounding the future that foresees possible results for an analysis situation or organisation (Varum & Melo, 2010). For other organisations, it is an instrument for making key decisions to deal with future uncertainties, which allows the analysis of different variables, generates concepts and defines strategies for the present and future (Dewulf & Van Der Schaaf, 2004). In research, this technique is used to understand a particular phenomenon's current situation and history, which leads to making assumptions and theories about the relationships between developments and the forces of change. Generally, the steps in this technique include trend analysis, developing an impact diagram, describing key trends, and writing the scenario narratives. However, Bishop et al. (2007) state that there are many possible variations to develop scenarios according to the authors' approaches. The authors describe a generic foresight approach of six steps for scenario planning: (1) *Framing,* where the project plan is shaped; (2) *Scanning,* where trends, uncertainties and drivers are identified; (3) *Forecasting,* where the baselines and scenarios are described; (4) *Visioning,* Where a future is chosen, and strategies are elaborated; (5) *Implementing,* where the plan is communicated and implemented, and (6) *Controlling,* where the implemented plan is monitored.

Delphi technique

The *Delphi technique* is a group-facilitated survey designed to reach a consensus on expert opinion and experience. This technique is often used for decision-making when knowledge is lacking, for example, exploring viewpoints on policy issues when agreement methods are not feasible (Linstone & Turoff, 2002). It also explores future scenarios and forecasts and evaluates complex social problems (Landeta, 2006; Mullins, 2006). The Delphi allows participants to dialogue with experts from different geographical areas, preserve their anonymity, and have a

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multidisciplinary consensus of reliable opinions through controlled feedback (Sekayi & Kennedy, 2017). On the other hand, it allows the identification of discontinuities, overcoming ineffective communication, systematic data collection, minimising the possibility of biases and validation of the researcher's interpretation of the categorisation of variables (Mullins, 2006; Okoli & Pawlowski, 2004; von der Gracht, 2012). Some limitations of the Delphi are associated with the biases of each expert, the interest or involuntary manipulation by the researchers in the written feedback process, and the time required to carry out this technique (Landeta, 2006). This mixed method combines open and closed questions (Sekayi & Kennedy, 2017) in an iterative process of 2 - 3 rounds of questionnaires facilitated by the researchers (Gibson & Miller, 1990; Mullins, 2006). The size of the recommended expert panel is between 10 and 20 participants. The time required for the experts to respond to the survey and the researcher to perform the interim analyses is two to three weeks between rounds (Hsu & Sandford, 2007; Okoli & Pawlowski, 2004).

Delphi-based scenarios

Delphi-based scenarios, proposed by Nowack et al. (2011, P. 1608), combine the above techniques. As concluded in their research, it could increase scenarios' objectivity, creativity, and credibility. The authors state that Delphi has a judgment function in scenario planning. This means that researchers, as facilitators, select, formulate, and propose the issues that the experts will rate, comment, or evaluate. This technique structures a group communication process that effectively allows individuals to face complex problems (Linstone & Turoff, 2002). As shown in Figure 5.2, Nowack et al. (2011) propose integrating the Delphi in the *Scanning stage* via the *Idea-generation function* and in the *Visioning* via the *Judgement function* to increase the creativity, objectivity and credibility of the proposal of variables and scenarios. Finally, the Delphi is integrated into the *Forecasting stage* via the *Consolidation function* to increase objectivity.

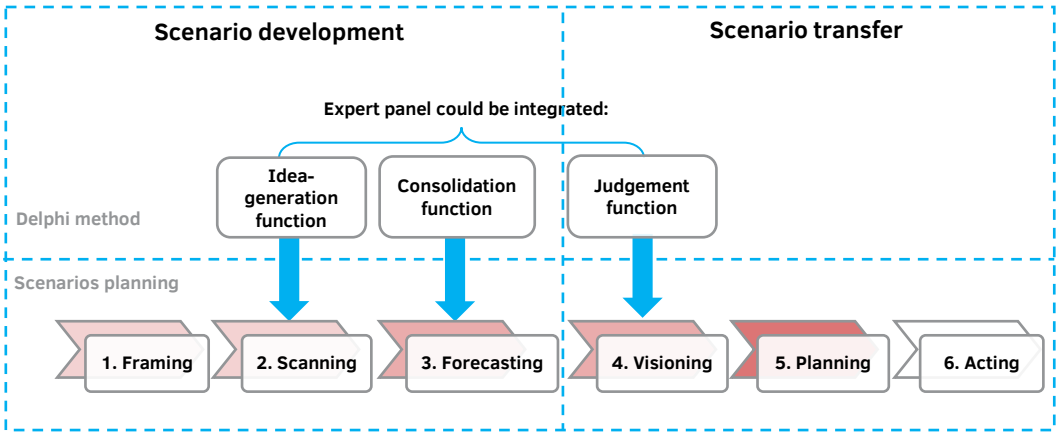

FIG. 5.2 Delphi-based scenarios technique (Source: Authors, based on Nowack et al., 2011)

5.3 Methods

This research aims to develop scenarios and propose policy strategies for three collaborative housing models in Chile. Based on the abovementioned definitions from Nakicenovic et al. (2000), Ringland (1988) and Varum & Melo (2010), we understand a *scenario* as 'an alternative, consistent, coherent, and plausible description of how the possible futures of a system can unfold'. Under this definition and by adopting the scenario typologies proposed by Börjeson et al. (2006), we explore long-term *Normative-transforming scenarios* focused on the specific goal of implementing collaborative housing in Chile. We chose to explore this scenario type because, although a wide variety of housing programs are carried out in the short term in Chile, they are, in many cases, temporary or exceptional and do not last over time. This means that these programs generally do not imply structural or long-term policy changes (Cortés-Urra et al., 2023; Fuster-Farfán, 2019). Therefore, we argue that CH implementation in Chile would seem unachievable because the current system could be part of the problem if the current housing system and its structure were maintained.

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As a methodological strategy to develop normative scenarios, we adopt the *Delphi-based scenarios* mixed method technique proposed by Nowack et al. (2011), which includes the expert panel in the *Scanning*, *Forecasting* and *Visioning* stages. Following this methodology, we organised this research into four stages, which we present below and summarised in Figure 5.3.

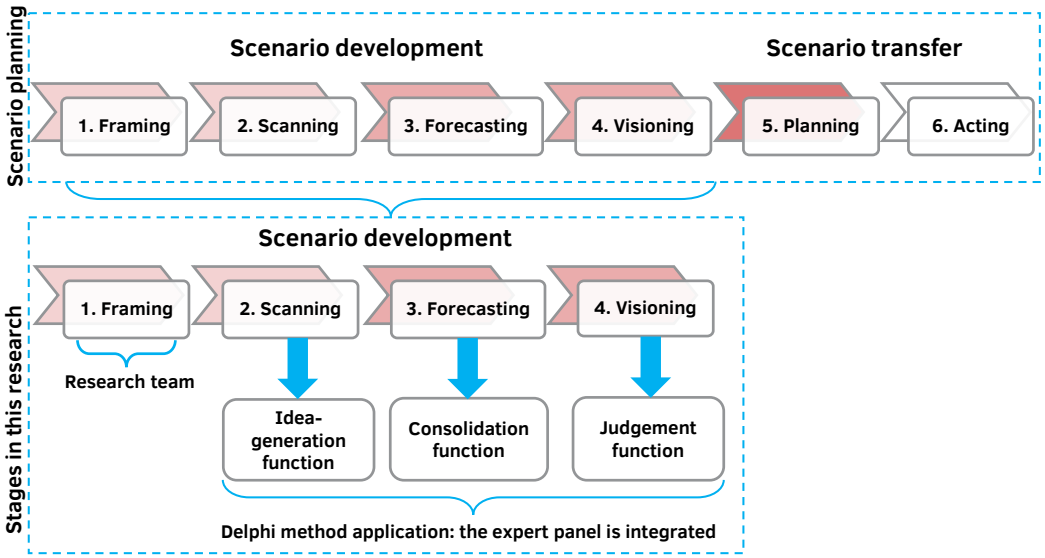

FIG. 5.3 Methodological strategy (Source: Authors, based on Nowack et al., 2011)

1 ***Framing:*** Plan of the project according to the research objective and rationale, work environment and audience. At this stage, the research team also identified and operationalised the variables of the DESTEP model proposed by Van Vliet (2010), encompassing *Demographic, Economic, Socio-cultural, Technologic, Ecologic,* and *Political,* that the experts narrowed in the next stage.

2 ***Scanning and idea-generation function:*** Data collection and classification of historical and contextual information about the system, such as future trends, challenges, and drivers. Experts were incorporated into exploring, narrowing, and classifying trends, uncertainties, and developments and determining their predictability in Delphi Round 1.

3 ***Forecasting and Consolidation function:*** The key factors (trends and developments) are selected for further analysis and systematically integrated into the scenario proposal. The experts helped narrow down the number of factors and classified and combined them to develop the scenarios. This was an iterative process between Delphi rounds 1 and 2, where the experts also commented on the scenario narratives, which the research team revised and reformulated with this input.

4 ***Visioning and Judgment function:*** Development of strategies for facing future challenges built on the consequences of today's decisions. In this stage, normative aspects were integrated as a strategy, goal, objective, or measure to achieve a preferred future. The experts proposed and consolidated strategies through idea generation and judgment functions in Delphi Rounds 2 and 3.

5.3.1 Panel formulation

We formed the panel by selecting experts to participate in the three rounds of questionnaires. We invited a multidisciplinary panel of experts from different sectors to enrich the scenario planning and cover a broad spectrum of responses. We considered the possibility of having a high dropout rate. Therefore, we invited 27 experts in housing policy and self-organised housing in Chile. Of these, 21 experts gave their written consent to participate in the Delphi, and between 17 and 18 responded to each Delphi round. Thus, our sample size included 17 to 18 participants per round, as recommended in the literature (Hsu & Sandford, 2007). As presented in Table 5.2, the participants group included academics, residents, third sector participants, developers, and central and local government officials. This mix made combining the contributions and viewpoints of individuals and private and public sectors possible (Varum & Melo, 2010).

TABLE 5.2 Overview expert panel per Delphi rounds (Source: Authors)

Panel Experts	Area experts	Years of experience	Delphi round 1	Delphi round 2	Delphi round 3
1	Academia and researchers	9	X	X	X
2		15	X	X	X
3		13	X	X	-
4		12	X	X	X
5		-	-	X	X
6	Architects	15	X	X	X
7		10	X	-	X
8	Builder	19	X	-	X
9	Social workers	7	X	X	X
10		12	X	X	X
11	Central government officials	17	X	-	-
12		-	-	X	-
13	Local government officials	17	X	X	X
14		30	X	X	X
15	Residents	40	X	X	X
16		3	X	-	-
17		14	X	X	X
18	Third sector	17	-	X	X
19		38	X	X	X
20		20	X	X	X
21		45	X	X	X
Total			**18**	**17**	**17**

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5.3.2 Delphi rounds

As recommended in the literature, we conducted three iterative questionnaire rounds (Gibson & Miller, 1990; Mullins, 2006). The rounds were carried out between October 2023 and February 2024. The questionnaires were carried out using the survey tool Qualtrics. The survey consisted of closed- and open-ended questions that asked experts to describe, justify, or explain their points of view and suggest modifications to our initial proposal (Mullins, 2006). Each survey round was piloted and tested by the research team before conducting the rounds with the panel. In each round, the process facilitator (the first author) sent the online survey to the experts. They had 2 - 3 weeks to respond anonymously in each survey round (Hsu & Sandford, 2007; Sekayi & Kennedy, 2017). As seen in Figure 5.4, after each Delphi round, in case of doubts, the facilitator asked participants for clarification to narrow the range of answers and converge towards consensus. After the clarification process, the research team performed an intermediate analysis that lasted between 2 and 3 weeks. Later, the facilitator gave the participants a summary report anonymously presenting each participant's responses and opinions (Creamer et al., 2012; Skulmoski et al., 2007). This allowed the participants to compare their responses (Bisson et al., 2010). Each Delphi round was carried out 2 - 3 weeks after processing the responses of the previous Rounds.

Round 1 consisted of experts evaluating and commenting on the proposed classification of contextual trends according to their predictability and impact, the factors of the cross-analysis diagram to develop the scenarios and the initial scenario narratives. The experts indicated their agreement or disagreement with the 5-point scale: '(somewhat) disagree', 'neither agree, nor disagree', and '(somewhat) agree'. We define consensus as the sum of participants responding '(somewhat) agree' (See questions in Table 5.9, in Appendix 5A). In addition, participants were asked to explain their response by proposing changes to the proposal. The consensus in this round reached between 85% and 100% for the proposed factors and between 79 % and 100% for the proposed scenarios. We conducted the next round after revising the proposal with the first round's input.

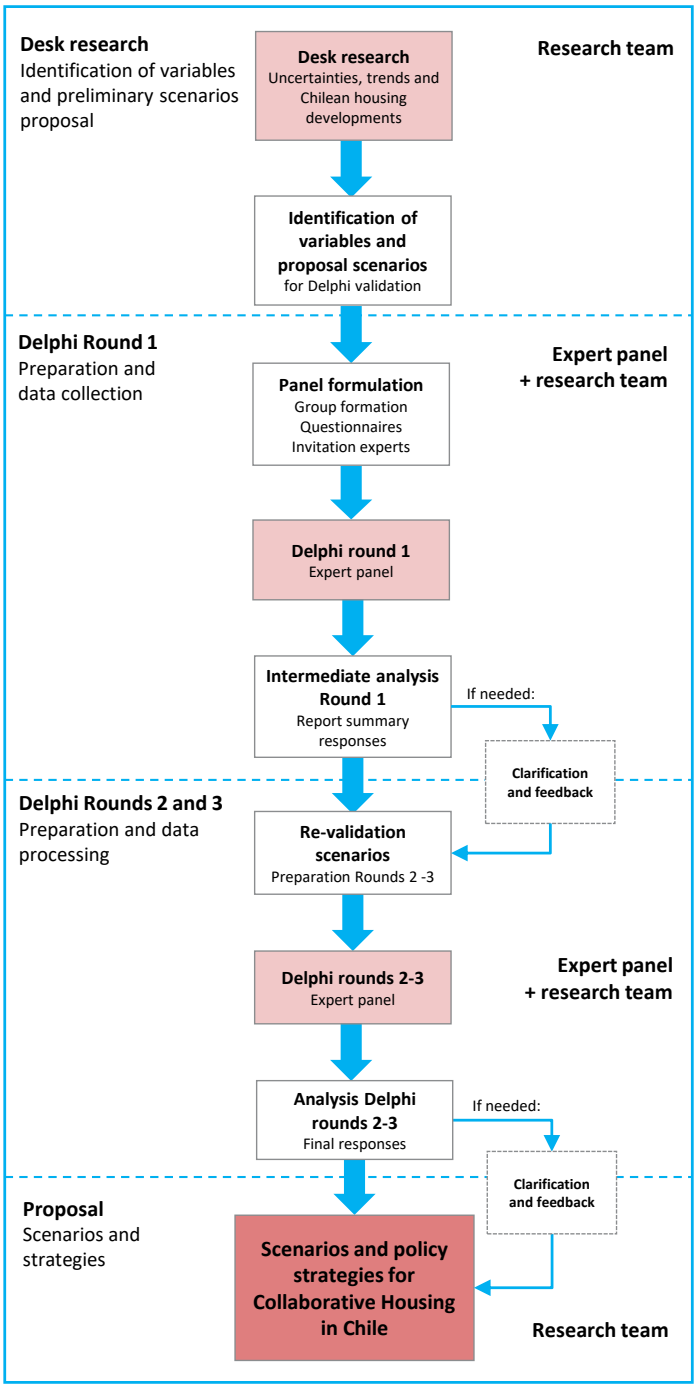

FIG. 5.4 Delphi-based scenarios steps (Source: Authors)

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Round 2 focused on consolidating the knowledge from the previous round and reaching a consensus on the answers that did not reach consensus in Round 1 (See questions in Table 5.10, in Appendix 5A). Experts were asked to validate the narratives of the reviewed scenarios using closed and open questions. Experts indicated their agreement or disagreement with a 2-point scale, explained their response, and proposed changes if necessary. Responses reached a consensus between 76% and 100% for the proposed scenario. In this round, participants were also asked open questions to propose policy strategies for each housing model in each scenario. After Round 2, we analysed and revised the scenario proposal. Round 3 consisted of the validation of the proposed strategies. The experts were asked to comment, propose changes, and validate the proposed strategies for each scenario through open questions (See questions in Table 5.11 in Appendix 5A). Subsequently, we performed a final analysis and reviewed the strategies according to the input obtained. At the end of the Delphi, we obtained a proposal for variables, scenarios, and strategies for CH in Chile.

5.4 Findings: scenarios and policy strategies for collaborative housing development in Chile

The Findings section is organised into four parts, which are presented in Figure 5.5. First, the *Framing* stage identifies variables used in further analysis. Second, the *Scanning* stage shows the classification resulting from the impact and predictability of DESTEP analysis of developments and trends. Third, the *Forecasting* stage presents the combination of factors used to develop scenarios and proposes four possible scenarios for the three CH models in Chile. Finally, the *Visioning* stage summarises the policy strategies to face future challenges of the models in each scenario.

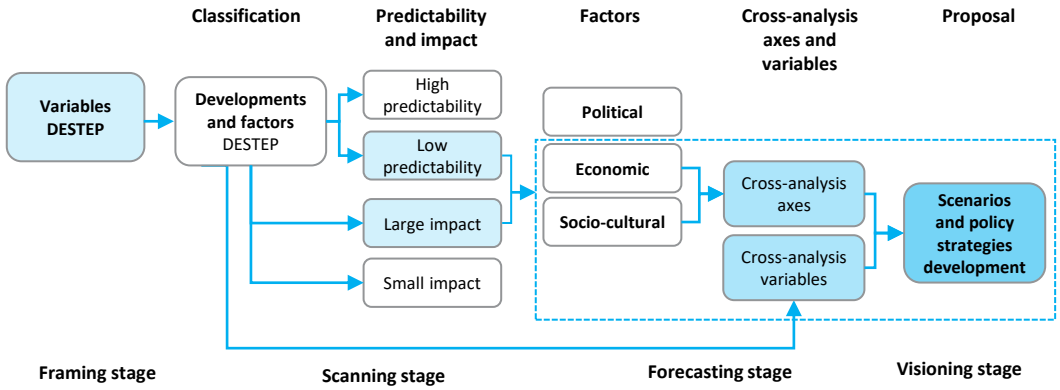

FIG. 5.5 Factor selection process for scenario planning (Source: Authors)

5.4.1 Framing stage: identification of variables

In this section, we identify and operationalise the variables of analysis of the DESTEP model and propose indicators to analyse trends and develop scenarios. The DESTEP model, originally called PEST or STEP analysis, was developed by Aguilar (1967) as a strategic planning tool for environmental analysis or market research. This model originally included the *social, technological, economic,* and *political* variables to analyse the key factors affecting a specific company or system. Later, inspired by this tool, different authors created variations by adding factors to respond to different issues and aims (Thomas, 1974; Van Vliet, 2010). In this research, we use the DESTEP variation of the model proposed by Van Vliet (2010), encompassing *Demographic, Economic, Socio-cultural, Technologic, Ecologic,* and *Political* variables. We define each variable and propose baseline indicators, which we present in Table 5.3 to analyse the trends and developments for the next section.

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TABLE 5.3 Operationalisation of variables using the DESTEP model (Source: Authors)

Variable	Definition	Indicators
Demographic	The context, such as location and geographical area, and the population or demographic characteristics that could influence the development of CH	– Age – Gender – Ethnicity – Birth rate – Growth rate – Households' cycle – Migration – Level of education – Housing supply – Housing demand – Housing quality – Growth of informal housing – Housing location preference – Morbidity projections
Economic	The economic environment and the availability of financial resources, including financing for obtaining land and building housing (state subsidies, loans and public, shared, and private financing) and material resources for CH	– Income level – Unemployment level – Availability of resources – Distribution of resources – Housing market characteristics – Level of economic stability – Levels of economic growth and degrowth – Housing and land prices – Mortgage and loan interest – Level of inflation rate
Socio-Cultural	Social and organisational context, cultural trends, ideology and drivers, lifestyle choices, and social support for CH development	– Ideological orientation of society – Lifestyle choices – Degree of social support and public interest – Social values and standards – Level of collaboration and participation – Cultural and social trends – Social dimension of housing – Social sustainability – Sharing economy
Technologic	Technological and design-build resources, knowledge, advancements, automation, and innovations in technology that can affect and influence the operations to build CH projects	– Research and knowledge of design innovations, new techniques, and materials – Level of maturity of the construction sector – Technological awareness – Availability of material resources for construction – Variation of manufacturing costs – Circularity
Ecologic	Ecological and environmental factors that socially and physically affect the useful life and the contextual environment of the CH projects	– Public interest and environmental awareness – Force majeure (catastrophes) – Impact of natural resources – Climate change – Contextual diversity – Sustainability

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TABLE 5.3 Operationalisation of variables using the DESTEP model (Source: Authors)

Variable	Definition	Indicators
Political	Political factors, including public policies, housing plans, legal frameworks, laws, regulations, governance, and governmental actions that influence and affect the management processes of CH	– Resident's empowerment and social movements – Housing policies and plans – Support programs – Fiscal policies – Legal frameworks and laws – Financing system (e.g., access to land, subsidies, mortgages, and credits) – Regulations (e.g., urban planning, land use, construction, and architectural standards)

5.4.2 Scanning and idea-generation stage: exploration of developments and trends

Based on our desk research, we explored future developments, trends, and uncertainties around housing in the country. We then classified whether they have *high* or *low predictability* using the DESTEP model as a framework. The criteria used to determine the predictability was to imagine whether the development represented a foreseeable future contingency occurring in Chile in the long term, considering decades rather than years. The classification was initially proposed by the research team and revised considering the consensus of the 21 experts' responses from Delphi Round 1. Below, we present and summarise these developments in Table 5.4.

The developments and trends with high predictability include the persistence of birth decline and increasing ageing. Currently, 23% of Chile's population is over 60 (Cámara de Comercio de Santiago, 2019). In line with these trends, there is a decrease in the size of households, which has influenced an increase in housing demand and prices due to low-scale economies (PNUD, 2023). In terms of housing, it is foreseeable that the quantitative housing deficit and the relative demand for rental housing will increase due to the country's affordability crisis and the increase in land prices (Diario Financiero, 2022; Forray & Castillo, 2014). Furthermore, there is continuity in the dependence of the most vulnerable population on a housing provision system based on subsidies to purchase an individually owned home. Predictable socio-cultural changes include growing concern for physical and mental well-being, the preference for short-term over long-term well-being and a slight increase in the visibility of the needs of the older adults population (La Vulca Marketing, 2023; Sánchez & Vivaldi, 2022). The latter refers to the recent change in the mentality of Chilean society towards making the needs of the older adults population visible. The foreseeable technological and ecological trends include

increased sustainability awareness, circularity, and global warming (Peralta, 2022). Finally, some foreseeable political trends are the continuity of the housing policies that address the quantitative and qualitative housing deficits and the discontinuity of housing programs (Cortés-Urra et al., 2023).

TABLE 5.4 DESTEP classification of contextual developments and trends (Source: Authors)

High predictability	Low predictability
Demographic	
– Birth decline – Increasing ageing of the population – Increasing demand for rental housing – Decreasing household size	– Migration rate (international, internal mobility between cities and rural-urban)
Economic	
– Increasing price of urban and rural land – Increasing the quantitative and qualitative housing deficit	– Level of economic stability – Availability of resources from private actors – Availability of public resources (financial support, land, subsidies, and technical assistance) – Inflation rate – Mortgage interest rate – Level of housing supply (different types of housing, providers, and tenure regimes) – Percentage of people experiencing poverty or inequality
Socio-cultural	
– Increasing awareness of the needs and problems of the older adults or elderly population – Increasing interest in physical and mental well-being – Increasing preference for current well-being over long-term well-being – Continuity and dependence on a subsidiary housing system	– Ideological orientation of society towards individuality or collectivity (cultural changes) – Level of certainty about the future (right to housing, regulatory, political, and economic options) – Need for the social dimension of housing – Feeling of meritocracy (value of individual or collective work) – Longing for individual homeownership – Level of trust in the institutions (leaders, academia, the government, private and third sector institutions) – Level of interest in sharing economy
Technologic	
– Increasing awareness of the need for sustainable housing – Increasing interest in circular economy models	– Level of innovation in materials and technologies – Availability of resources and construction materials
Ecologic	
– Global warming and increasing carbon emissions	– Force majeure catastrophes
Political	
– Continuity of policies focused on the quantitative and qualitative housing deficit – Discontinuity of housing programs and urban planning instruments	– Level of institutional support (political constitution, public housing policies, territorial and urban planning, regulatory plans, housing and social support plans, regulations and standards for construction and urban spaces) – Direction of leading political orientation (country-level leadership) – Rise of social movements

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The developments classified as lowly predictable include the migration rate from neighbouring countries and internal rural-urban migration. Currently, 8.7% of the population in Chile is migrant from countries such as Venezuela, Perú, Colombia, and other countries, and 65% of this population is concentrated in the metropolitan region. The migration phenomenon has stressed the need for transitional and rental housing models, influencing the increase in *allegamiento* (double-up) and the informal housing market (Centro de Estudios e Investigación LyD, 2023). Unpredictable economic developments include the level of economic stability since, although the recession has been recently slowed down, it remains without clarity in the long term (Centro de Estudios e Investigación LyD, 2023; Sánchez & Vivaldi, 2022; Venegas et al., 2021). Other unforeseeable trends are the percentage of poverty and inequality, the inflation rate and mortgage interest for home purchases (Diario Financiero, 2022; La Vulca Marketing, 2023; OECD, 2023). The level of housing supply in different models and tenures and the availability of resources and financial support from public and private actors through subsidies and land also have low predictability.

The socio-cultural trends of low predictability include the ideological orientation of society, the certainty about the future regarding the right to housing, the regulatory, political and economic options and the need for the social dimension of housing (La Vulca Marketing, 2023; OECD, 2023). Other unforeseeable developments are the feeling of meritocracy, valuing collective or individual work, and the desire for individually owned housing (La Vulca Marketing, 2023). Although the latter has been maintained for the last 20 years, whether this desire continues for groups attached to collective values is not foreseeable. Another lowly predictable development is the level of trust in institutions, which have taken different directions depending on the governments in power. Since 2019, there has been (active or passive) political opposition against Chilean institutions and forms of authority (Ziccardi & Cravacoure, 2020). Finally, unforeseen political developments include the country's leading political direction, which varies according to the political parties in government, the rise of social movements, and the level of institutional support for housing (Sánchez & Vivaldi, 2022).

5.4.3 Forecasting and consolidation function: scenarios planning for collaborative housing

This section presents the selected factors for developing long-term scenarios for three collaborative housing models in Chile. We built the predictability and impact diagram using the DESTEP classification of developments and trends shown in Table 5.4 as a basis. We classified these developments as factors according to their high or low predictability and large or small impact on the development of collaborative housing in Chile to build the axes for our cross-analysis diagram (Dewulf & Van Der Schaaf, 2004; Lindgren & Bandhold, 2003; Ringland, 1988). The initial classification was carried out qualitatively by the research team based on desk research, the team's experience and the factors considered nominal variables. They were classified by their attributes and possible influence on developing scenarios in the housing field. Later, the diagram was revised according to the consensus between experts in Round 1. As presented in Figure 5.6, our results show that three clusters of economic, socio-cultural, and political factors have less predictability and a larger impact on the possible development of collaborative housing.

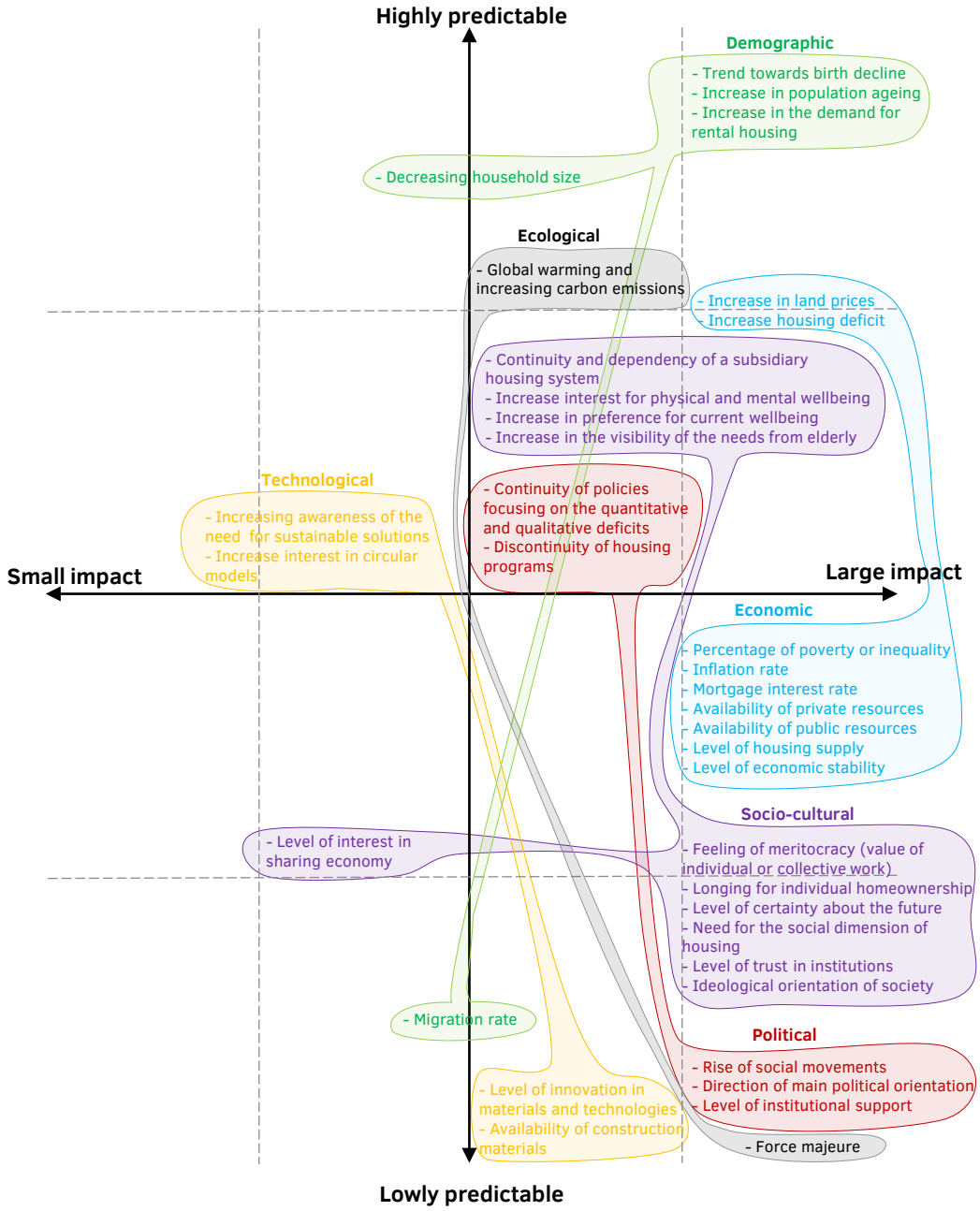

FIG. 5.6 Clusters of developments and trends classified by predictability and impact (Source: Authors)

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Cross-analysis of factors used in scenario planning

The cross-analysis diagram was built on the axes and factors initially proposed by the research team and revised in Delphi Round 1. These factors used as axes are derived from the clusters with higher impact and low predictability from the previous stage, namely *economic* and *socio-cultural* (Figure 5.6). Following the scenario planning methodology, we excluded the *political* factors from our axes since, in this research, we propose *normative scenarios* for policy transformation. We used these factors in the *Visioning* stage to propose policy strategies that could be followed in each scenario. As shown in Figure 5.7, the cross-scenario diagram is composed of two axes that allow our scenarios for collaborative housing to be broadly framed and require long periods of transformation. These axes are the *orientation of society towards the individual* or *the collective* from the socio-cultural cluster and *economic (un)stability* from the economic cluster. Both were considered axes since the availability of economic resources and society's orientation towards the collective or the individual would influence the preference for CH over mainstream housing.

In the socio-cultural axis, a *collective-oriented society* was placed at one end and *an individual-oriented society* at the other. This axis was chosen considering that individuality has prevailed for many decades in Chile, so variations in the orientation of society present nuances and internal complexity. For example, the extreme of the *collective-oriented society* imagines that in the face of the housing crisis, there could be flexibility and interest in the collaborative models from more groups. However, it is not proposed that the majority of society would have a collective orientation, but rather that specific interested groups could emerge within the existing individualistic society. The second axis from the economic cluster considers an *unstable economy* at one end and a *stable economy* at the other. Towards the extreme of economic stability, it is assumed that having more resources could influence the development or preference for some CH models according to its combination with society's different orientations, such as, collective models of large scale for middle income groups. The cross-scenario diagram is the base for building four possible scenarios for CH in Chile (Figure 5.7). The factors are accompanied by (-) and (+) signs, representing the variation of each factor in the quadrants of each scenario. For example, in scenarios 1 and 3, *the level of certainty about the future* is less than in the current contextual situation. In contrast, in scenarios 2 and 4, it is more than in the current situation. Likewise, the *availability of private or public resources* is less in scenarios 1 and 3 and greater in scenarios 2 and 4.

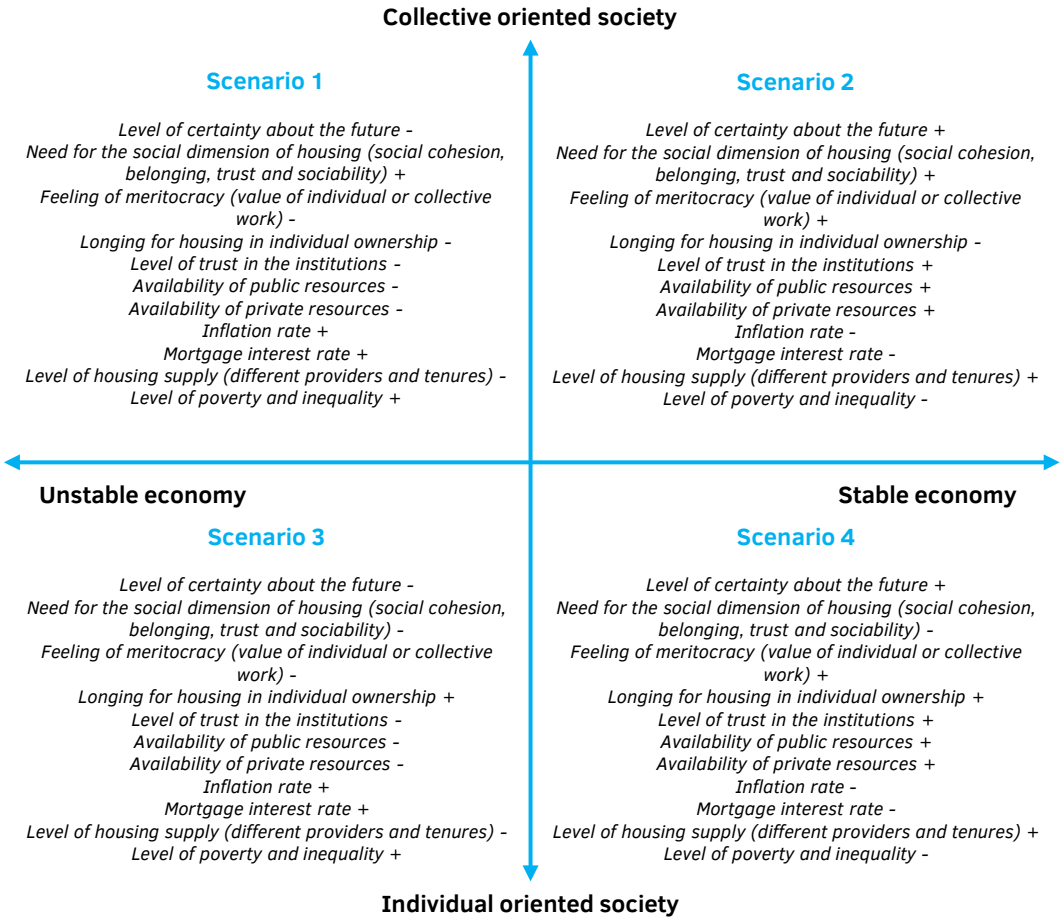

FIG. 5.7 Cross-analysis of factors for collaborative housing scenario planning (Source: Authors)

Current contextual scenario

In this sub-section, we present the narrative of the contextual scenario that reflects Chile's current situation. This narrative is based on our desk research and the experts' suggestions proposed in Delphi's Rounds 1 and 2. In Chilean society, orientation towards individuality and the family prevails rather than towards the collective. Socio-cultural aspects, such as the social dimension of housing (e.g. social cohesion and interactions, the sense of belonging and trust), occur in some CH projects (Cortés-Urra et al., 2024). Furthermore, there is high uncertainty about the future regarding, for example, the promulgation of a new political constitution and

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the right to housing, which were discussed in the constitutional convention and the subsequent plebiscite. In line with this, social changes such as the 'social outburst' for the cost of living and inequality of October 2019 and the 'national plebiscite' of 2020 to determine whether citizens agreed to draft a new Constitution increased distrust in institutions. In recent years, the political opposition towards institutions and authority figures has taken an active or passive direction, depending on the rulers in power (Ziccardi & Cravacoure, 2020). Regarding the belief in meritocracy, the value of individual work has been maintained (La Vulca Marketing, 2023). In terms of demographics, trends show an increase in migration from neighbouring countries, reaching 1,736,691 immigrants and a decrease from 20.3% to 16.9% in multi-dimensional poverty levels between 2017 and 2022 (Centro de estudios e investigación LyD, 2023; Pérez & Palma, 2021).

The economy fluctuates, its growth is low, and inflation rates reach approximately 5% (Bloomberg Línea, 2023; La Vulca Marketing, 2023). Although there is still a recession, it is lower than initially projected (Centro de Estudios e Investigación LyD, 2023; OECD, 2023). There is some interest in developing sharing economies around transport and tourism. The housing supply between 2005 and 2021 has been continuously low, and the demand projected by the MINVU in 2022 reached 643,534 homes (MINVU, 2022). Currently, although housing production and supply have increased, according to data from the latest CASEN survey, the housing deficit reached 552,046 homes. In Chile, part of the formal housing supply focuses on developing individually owned housing for high-income groups that do not suffer a significant deficit. The other part of the supply focuses on developing subsidised social housing for low-income and, to a lesser extent, middle-class groups. Although housing supply has increased recently, it still does not cover the existing demand (CASEN, 2023). Consequently, residential rentals as a tenure regime have increased, even though this solution has not yet been culturally understood in the country (Venegas et al., 2021). Finally, hand in hand with growing migration, there is a tendency to increase self-construction practices and informal housing production, which reached 81,643 *campamentos* or shanty towns in 2021 (Pérez & Palma, 2021).

While most Chileans have preferred and longed for individually owned housing in the last decades, slight changes are observed in this trend. A recent study shows that groups under 35 may be less interested in buying a home due to the lack of affordable homes, access to mortgages, household formation at later life stages and the preference for centrality (Simian, 2023). However, the dependency on the allocation of subsidies for purchasing home ownership has continued to be a structural element of public policies (MINVU, 2022). In recent years, operational adjustments have been made to policies through housing programs focused

on increasing inhabitants' participation (e.g., incorporation of cooperatives as Sponsoring Entities[14]). Some of these social housing programs, which have been promoted nationally by the government, private actors, and different institutions, include the development of *small condominiums*, *closed housing cooperatives* and some resident-led *collective housing* (MINVU, 2022). Although projects of these models have been built as part of parallel programs, these have not yet been implemented in housing policy (Ruiz-Tagle et al., 2021). Most of these programs have been replicated marginally as pilots using the DS.49 subsidy due to the lack of public-private economic resources and interest from the government, potential developers, and future residents.

Scenario 1: collective-oriented society in an unstable economy

Contextual scenario 1: In this scenario, although society's general orientation remains individual, some groups that self-organise around political and social processes show greater interest in the collective. The economy is unstable, experiencing periods of high inflation and mortgage interest rates, stagnant growth, and recession. Public and private resources for housing development are limited, leading to a decrease in supply. Some private actors are interested in developing state housing projects but lack the resources to manage and develop them. Consequently, society distrusts institutions, and people tend to create supportive relationships with peers and communities. High levels of poverty and inequality generate tension and uncertainty in the vulnerable and middle-income population about what they want and can have in the future. The feeling of meritocracy and value for individual or collective work is generally low. Although part of the population maintains its preference for individual ownership, solidarity between inhabitants is sharpening in the search for quick solutions to access housing in the face of the housing crisis in a collective social context. Thus, there is more interest in the collective, which leads to a more significant percentage of the population being interested in collaborative informal and formal housing solutions.

Small condominiums: In this scenario, there is some demand for small condominiums, which is barely addressed due to lack of financing. Faced with the housing crisis, groups of families with and without kinship ties who live in uninhabitable housing, in *allegamiento* (double-up) or internal overcrowding, and who have land in (peri)central or relatively consolidated city areas are interested

14 Entidades Patrocinantes or Sponsoring Entities are private organisations that support future resident groups from the initial stage in managing and developing projects.

in this model. The preference for the model stems from strategic social dynamics of future residents, which include maintaining social fabric, networks, and access to goods and services, the difficulty of finding new land in a better location, and because it could be a quick and direct option to access well-located housing. Small condominiums continue to be developed through the so-called 'micro settlement program'. Private actors could promote the projects by creating alliances with local governments and other entities to manage the land and carry out these projects or by future residents. In this scenario, future residents who meet the requirements established by the program can organise the demand for their sites by extended families, neighbourhoods, or districts to create small condominiums on their land.

Housing cooperatives: In this scenario, there is a social interest in developing housing cooperatives, but they do not prosper due to the lack of resources and the difficulty in transforming institutional instruments to accommodate this housing model. In response to the housing deficit and with the support of external social movements, groups of inhabitants interested in cooperativism arise through self-management and mutual help. Future residents seek economic, technical, and social support from different actors (government, private and third sector organisations) who support them with limited resources. This collaboration between actors leads cooperative members to create a support organisation to obtain financing for cooperatives considering different approaches, formats, tenures, and types of users. The program for cooperatives promoted in previous years at the ministerial level continues in place. In this scenario, the State has limited capacity to support this model regularly, making its development difficult. The few projects developed are carried out using subsidies and existing instruments. Thus, cooperatives slowly meet the demand of a small percentage of the low- and middle-income population.

Collective housing: In this scenario, there is growing interest and demand for collective housing by housing committee groups, but few financial resources and land availability exist. Self-organisation arises in response to the State's low housing production and the long waiting lists for subsidy applications. In this context, some self-organised groups try to create alliances to obtain financing from private and third sector actors. However, these have not progressed due to the lack of resources in these institutions. In this way, these groups request political support, take clientelist actions and exert social pressure as a form of struggle for adequate housing. These groups negotiate the use of scarce existing resources, such as subsidies and land, with the State. For financing new projects, they use individual subsidies to apply collectively. Although this collaborative housing model could grow in this scenario due to its orientation towards the collective and the intrinsic motivation of some groups to live in a community, economic instability, and the limitations in obtaining resources hinder its development.

Scenario 2: collective-oriented society in a stable economy

Contextual scenario 2: In this scenario, although society maintains its individual social orientation, there is more interest in the collective. In general, the inhabitants are willing and motivated to build social networks and solidary relationships and to reinforce the social dimension of housing. Housing tends to be recognised as a right, and resources (financing and land) are available to support new housing projects. Furthermore, the economy is stable, with low inflation and mortgage interest rates, and the housing supply tends to be stable. In this scenario, there is a tendency to reduce poverty levels, a general feeling of security, certainty about the future and a higher level of trust in the institutions. Although the preference and desire for private property remain in this scenario, a larger group of people from different socioeconomic levels adopt collective values. Thus, interest and preference for collaborative housing models increase. The feeling of meritocracy related to the value of collective work focused on well-being is rising. In this scenario, various actors promote and facilitate the management of resources to develop collaborative housing projects.

Small condominiums: In this scenario, specific groups of future residents are interested in small condominiums due to their collective values and the socio-cultural orientation of the society. In a stable economic context, the central and local government continues to promote the 'micro settlement program' through calls, subsidies and land management. The supply of condominiums is supported by collaboration between private actors and third sector organisations, and the demand for condominiums is generally addressed. The program advances towards covering the needs of low- and medium-income sectors as a policy of direct support from the State and co-financing for access to small and medium-scale housing in the families' neighbourhoods of origin. In this scenario, condominiums are part of a densification strategy designed for families and groups without kinship ties. Some groups of inhabitants who own land, experience qualitative deficits, and are interested in collective family life are organised by districts to develop projects. Condominiums can be located on new land or areas of single-family homes and large lots with access to equipment and services. In the latter case, the land could accommodate more homes, spaces, and rental units agreed upon to generate economic return.

Housing cooperatives: Under the collective social approach, various public and private actors align to support the development of closed housing cooperatives. In this scenario, this model flourishes due to demand and growing social interest. The government promotes the model by implementing a specific program to support cooperatives. In parallel, with the support of various local governments, a cooperative school is formally created to train future residents and professionals in

the management and design of this model. Part of the population gradually embraces the values of cooperativism, expanding, for example, to creating productive cooperatives to diversify their activity. Cooperatives are aimed at middle-income sectors and are an accessible solution for vulnerable and low-income groups, who generally face greater difficulty accessing subsidies, mortgage loans and housing directly from the private sector. Cooperatives tend to insert themselves into neighbourhoods as enclaves of collaboration and internal and external social networks. The physical and social connection of the projects occurs through spaces and activities shared with the neighbourhood. Over time, this housing model flourishes and helps improve the social dimension of housing.

Collective housing: In this scenario, there is a growing social interest in developing collective housing. Future residents are motivated by the idea of sharing activities and building community. The government has the resources, such as land and financing, to support and promote projects. Likewise, there is interest and available resources from private actors. Thus, this collective housing model is developed stably due to collaborative work between residents, local governments, and private actors. Most self-organised groups are interested in promoting social integration and cohesion and increasing households' social relations. This model is recognised as a model that creates social integration by mixing different economic situations of families (low and medium-income socioeconomic groups), forms of ownership (rental, real estate co-ownership or other), family compositions (number of rooms per housing) and architectural design. In this context, collective housing projects present a growing demand, which is relatively addressed by private actors (for example, construction companies) and some housing providers.

Scenario 3: individually oriented society in an unstable economy

Contextual scenario 3: In this scenario, society maintains an individualistic social orientation, and the economy is unstable, resulting in high uncertainty levels about the future. There are high percentages of poverty, distrust, and opposition to institutions. The availability of public resources for housing development is low. Likewise, the availability of private resources influenced by high mortgage rates and inflation is generally limited. Faced with an unstable economy, some Sponsoring Entities and medium-scale construction companies are interested in developing housing projects for the State. In general, any model's housing production and supply are low. Due to the individualistic orientation, there is little interest in community or collective life, which generates social problems for inhabitants of all socioeconomic levels. The belief in meritocracy related to individual or collective work tends to decline, and the preference for individual property remains

rooted in society. In this context, society is generally sceptical regarding the role of self-organised collaborative processes. Some future residents perceive the development of collaborative housing as a vehicle for obtaining housing for strategic reasons because they meet the requirements of a specific model, as a political expression, or for a specific intrinsic ideological interest of those who believe in the collective model.

Small condominiums: In this scenario, with an individually oriented social context, small condominiums could be more desirable since the inhabitants would prefer to live in a family environment rather than in a large-scale collective one. However, due to a lack of financial resources and land, only a small demand for these projects is met. Generally, in a context of scepticism regarding self-organisation and collaborative processes, these housing models are initiated from the 'top-down' by local governments and private actors. Despite limited resources, some private actors, such as construction companies, develop small condominiums and are able to satisfy part of the existing demand for them. The groups that apply to this housing model are low- and middle-income *allegados* or double-up families who own land. Some families opt for the model as a co-residence strategy because of the value they give to family and community life and their networks and to materialise their desire to live in close proximity. Other groups are motivated by transitioning to individual housing and settling in their current neighbourhoods, generally in consolidated areas.

Housing cooperatives: In this scenario, fewer economic resources exist to implement housing programs that respond to demand and address the housing deficit. Society, in general, is not interested in collective solutions, and the few housing programs that are implemented are focused on individual property projects. Given the need for housing, specific self-organised groups emerged interested in small and medium-scale cooperatives, which take advantage of the existing mechanisms initiated in 2015. The projects maintain the prohibition of sale and individualisation for 15 years. In this scenario, some groups of inhabitants who are not motivated by the social dimension wait for this period to pass to individualise their housing and achieve individual ownership. Given the unstable situation in the country, the cooperative program, due to its medium scale, could be desirable in a relatively small housing environment. However, due to the lack of public resources and recognition of the collective, cooperative projects generally lose their ideological values, do not prosper, and existing projects dissolve over time.

Collective housing: In this individualistic social context, the collective housing model is barely developed and does not prosper. This is due to the lack of resources to produce housing and social disinterest in living collectively. The housing crisis drives some inhabitants of vulnerable, low and middle socioeconomic groups (e.g.,

organised in housing committees) to collaboratively seek solutions to address housing shortages, insecurity and uncertainty. Some of these projects are executed through exceptional policies and the specific support of private and third sector actors. This model of collaborative housing is difficult to develop in this scenario due to the limited availability of large-scale land for these housing models. In general, the motivation of these groups is the need for housing and, in some cases, the interest in improving the social dimension or opposition to the institutional frameworks. These projects mostly deteriorate over time as they house families who prefer to live individually. In general, with some exceptions, the residents of these projects do not know each other and are not interested in creating ties or social networks with their neighbours.

Scenario 4: individually oriented society in a stable economy

Contextual scenario 4: In this scenario, the economy is relatively stable, and an individualistic social approach prevails. With economic stability, low inflation rates and low-interest rates on mortgage loans, financial resources and land are available from the private and public sectors to develop housing projects. The government develops public policies to support housing production, and its supply is relatively stable. Poverty and inequality levels continue to decrease, and certainty about the future and trust in institutions are relatively higher. In this period of economic prosperity, the need to collaborate with others to access goods and services decreases. Therefore, society tends to reinforce its individualistic orientation and pay less attention to the social dimension of housing. The preference for individual property as an inheritable asset is maintained and tends to increase hand in hand with the feeling of meritocracy or value for individual work. In this context, some specific groups show interest in the development of collective projects, both for strategic reasons due to the need for housing, as a political expression against the individualistic society or due to an intrinsic ideological motivation of the groups for the community. In this scenario, projects could face real estate pressure to privatise their housing units because their market value could be attractive to outsiders interested in these projects.

Small condominiums: In this scenario, a significant percentage of the population has an interest in small condominiums. This interest stems from cultural reasons such as the desire for home ownership, the sense of identity within their neighbourhoods and the value of family work for housing. Given that the economy tends to be stable and economic resources are available to build on existing land in the city, the small condominiums model flourishes and expands. The government continues to support and promote the ‘micro settlement program’ through financing and

resource management. Private actors are also interested in the development of these projects. In line with the continuity of the individualistic ideological orientation of the context, for some future residents, this model represents a strategic solution for formal access to housing where the value of networks is not paramount. The other part of the future residents is intrinsically motivated by the desire to maintain their cohesion and to remain living in their neighbourhoods of origin close to the solidarity and family relationships previously built. The model allows the families to live independently in an individual unit and, at the same time, live near their extended family and networks. In this scenario, small condominiums are in greater demand than medium- and large-scale collective models.

Housing cooperatives: In this scenario, there are financial resources from different actors to produce housing projects, but under an individualistic mentality, the cooperative model is rarely developed. Most inhabitants have little interest in cooperative projects due to their ideologies based on individuality. Specific groups that show interest in cooperatives do so because, compared to the conventional housing provision system, this option could represent a faster or, in some cases, affordable route to access housing. Other groups are interested in their conviction and intrinsic motivation to carry out shared activities and maintain their community networks and collective life. The first groups prefer individual over collective ownership to individualise the projects after the 15-year sales prohibition period. The second group tries to maintain collective property indefinitely. In this scenario, collaborative housing generally has few development opportunities.

Collective housing: In this scenario, the resident-led collective housing model is developed in a limited way due to the lack of interest and promotion of community and collective life, financial support, and social assistance from different actors. Most residents prefer or crave individual-owned projects that do not involve collective self-organisation. Some minority groups, through resident committees, are interested in developing collective housing projects motivated by sharing activities and remaining in their neighbourhoods of origin with their networks. These groups manage to carry out their projects through private and public resources, although the processes are slowed down by scepticism about the model. The motivation of the groups varies from the idea of living in a community way, political reasons such as a struggle against the existing social orientation or strategic reasons due to the need for adequate housing. Some of the strategically organised groups tend to maintain social and collaborative relationships while the projects are developed, but these decrease during their maintenance after their delivery. Thus, some of these projects deteriorate physically and socially over time.

5.4.4 Visioning and judgment: strategies for the three models of collaborative housing

In this section, we propose policy strategies for each collaborative housing model over a long-term period, based on the planned scenarios proposed together with the Delphi participants in Rounds 2 and 3. These strategies aim to increase the development opportunities of each model in each scenario to improve the social dimension of the residents living in these projects They could be followed through collaboration between public and private actors and groups of future residents. We propose general strategies, which are transversal for all housing models, and specific strategies for each CH model. The general strategies are organised by scenario and presented in Table 5.5, and the specific strategies are displayed in separate tables organised by model and scenario, detailed in Tables 5.6 to 5.8. As a theoretical exercise, we grouped the strategies into clusters according to their objectives to facilitate their explanation and further analysis. Based on experts' responses, the proposed clusters are *housing programs, financing, regulations, social innovation, diversification,* and *promotio*n. These clusters are intertwined and, in practice, sometimes mixed. Below, we explain each cluster and summarise the strategies proposed for three collaborative housing models in the four scenarios.

1 **Housing programs:** New public policies or specific programs for housing provision and technical and social support. For example, support programs in training, construction, administration, and maintenance of projects.

2 **Financing:** Availability of financing options for housing construction and access to land and material resources. For example, partial financing from the State through subsidies, access to land and loans.

3 **Regulations:** Legal frameworks, regulations, and standards. For example, building standards, tax incentives and flexibilities, and flexible project construction standards.

4 **Social innovation:** Social arrangements and institutional provisions to achieve social change or meet the inhabitant's needs. For example, the generation of new collaborative practices between different private, public, or third sector actors.

5 **Diversification:** Expanding the availability of architectural models for different users' groups, uses and tenure regimes to address the demand of future residents, for example, through the design of intergenerational or senior projects, projects with mixed uses (e.g. commercial and residential) or projects with hybrid or mixed tenures.

6 **Promotion:** Dissemination and promotion of housing models. For example, advertising campaigns and information or training days on the models for different stakeholders.

Next, we present the policy strategies proposed in the Delphi rounds for collaborative housing implementation in Chile. Table 5.5 presents the general strategies classified by scenario and clusters.

TABLE 5.5 General policy strategies for collaborative housing (Source: Authors)

Scenario 1: Collective-oriented society in an unstable economy		Key actors
Housing programs	1. Create new housing policies, instruments, and programs and calls for competition for the three collaborative housing models to support the growing social demand for these models in this scenario. For example, through (1) creating policies aimed at recognising the State as a preferred buyer in land sales, (2) modifying existing instruments to allow communities to access land financed by the State, and (3) developing a model of technical assistance and social support that accompanies organised groups from the first moment of their formation to strengthen the social ties of communities and help these groups to seek solutions in sectors where they already have a link and sense of belonging.	– Central, regional, and local governments, future residents, academia, and interested private organisations
Financing	2. Create a financing system with state resources and the participation of interested actors so that collaborative housing models can be developed in this unstable economic scenario. For example, expand financing sources through (1) securing financial resources and fiscal land from the State in relatively well-located areas (e.g., recovery of unused state land and the reuse of semi-abandoned or deteriorated buildings), (2) creating a mechanism of economic support for those who direct the organisations during the project management period and state economic incentives to interest private actors and non-profit organisations in the construction of projects, (3) enable the collective financing modality where the capital and debt belong to the collective, (4) create complementary support options in the form of soft loans or interest-free credits to complement the payment of the projects technical assistance, granted by the State directly with the subsidy or by financial institutions with State endorsement as part of a multi-sector collaboration, and (5) expand subsidy options for middle-income groups with debt capacity. For example, applying the DS.01 subsidy and modifying the proportion of the current form of application of the 'DS.19 demand subsidy' where 2/3 of the set is social housing, and 1/3 is housing for middle-income groups.	– Central and local governments, financial institutions (e.g. Banco Estado), private actors and interested non-profit organisations (e.g. Invica foundation in the case of cooperatives)

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TABLE 5.5 General policy strategies for collaborative housing (Source: Authors)

Scenario 1: Collective-oriented society in an unstable economy		Key actors
Regulations	3. Improve the governance and legal structure of the three collaborative housing models, making legal instruments, regulatory frameworks, and their lines of intervention more flexible to improve their coverage locally and regionally in this scenario. For example, through (1) establishing the right to housing as a constitutional guarantee, (2) creating a self-management law to grant power and autonomy to communities in the execution of projects, (3) expanding the application criteria to these models of various social groups (e.g. vulnerable, emerging and middle sectors), (4) creating regulatory and tax incentives to allow the incorporation of new developers in the construction of projects (e.g. private, public and third sector), (5) incorporate regulations associated with making existing instruments more flexible (e.g. 'Communal Regulatory Plans') and possible project densities, and (6) supervise the actor's participation in housing development in this scenario.	– Central and local governments, interested private and third sector organisations
Diversification	4. Diversify the possible tenures and design of collaborative housing models. For example, through (1) developing evolutionary or progressive housing models where the State ensures a minimum of adequate housing that future residents can complete through assisted self-construction, (2) creating varied architectural designs according to the needs of different group's socioeconomic and age groups (e.g. young families, older adults or intergenerational groups), and (3) develop affordable rental housing that is temporary or long-term in the case of the elderly population and older adults groups or rented in a usable condition and, in some cases, inheritable in the long term. These rental units may be managed by municipalities or non-profit organisations.	– Central and local governments, non-profit organisations, and developers
Social innovation	5. Create alliances between public, private and third sector actors to facilitate organisational processes, obtaining economic resources for projects and the chain transmission of models in a scenario of economic instability. For example, through (1) granting greater powers to local and regional governments through regulations, giving them the possibility of defining the territories to intervene, managing land to facilitate the first stage of searching for land and executing projects and (2) create an intermediation or non-profit corporation model from private civil society organisations and the State, aimed at future residents, sponsoring entities and interested actors. The corporation could support the organisation of residents, manage projects and accompany future residents in developing projects.	– Central and local governments, future residents, civil society organisations, interested private actors

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TABLE 5.5 General policy strategies for collaborative housing (Source: Authors)

Scenario 1: Collective-oriented society in an unstable economy		Key actors
Promotion	6. Disseminate information and train citizens nationally about the three collaborative housing models. For example, through (1) promoting the design and development of pilot housing projects of the three models financed by the State that allow them to be replicated (e.g. state rental projects), (2) informing and training organised groups and professionals interested in any form of collaborative housing on the public policy instruments available for access to housing, architecture, management models, administration and maintenance of projects, (3) prioritise part of the existing economic resources in training public officials on the rules and technicalities of these models to improve their technical capabilities and expedite the processes of reviewing permits and approving projects and (4) performing activities directed by municipalities or universities for community organisations to transmit their housing experiences.	– Central, regional, and local governments, community organisations, academia, third sector non-profit organisations and civil society
Scenario 2: Collective-oriented society in a stable economy		**Key actors**
Housing programs	1. Create specific and complementary programs of permanent state support for the three collaborative housing models so that the projects last over time. For example, these complementary programs can focus on (1) supporting and accompanying the self-management, and self-organised processes and autonomy of organised groups from their formation, (2) assisting the technical, management, administration, maintenance and life processes in the projects (e.g., tools for overcoming conflicts), and (3) promote the creation of social capacities and community life through the implementation of shared activities in the improvement of public spaces, green areas, facilities and private residential space.	– Central, regional, and local governments, academia, civil society, and future residents
Financing	2. Increase financing and economic resources to respond to the growing demand of this scenario of the three collaborative housing models. For example, enable their access through (1) having a land bank with well-located land and access to urban amenities, (2) increasing the resources allocated to subsidies, hiring personnel and acceleration of project approval systems, (3) promoting shared or mixed financing between future residents and other interested private actors and institutions as a collective strategy, (4) create economic incentives complementary to State contributions in the form of soft credits and targeted interest-free loans to broad groups of the population, and (5) facilitate access to mortgage loans with group guarantees for the population that is not currently subject to credit.	– Central and local governments, financial institutions, and interested private entities

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TABLE 5.5 General policy strategies for collaborative housing (Source: Authors)

Scenario 2: Collective-oriented society in a stable economy		Key actors
Regulations	3. Modify existing regulations or create regulations that allow for housing self-organisation in the three models and promote their development in this scenario. For example, through (1) recognising the participation of future residents in the development and co-design of projects to reduce dependence on providers through the enactment of a 'Self-Management Law', (2) defining obligations and creating regulations that regulate the participation of the actors in the housing processes, (3) creating tax incentives to encourage private investment in the projects, (4) modify the 'Communal Regulatory Plans' to promote territorial equity and adapt the projects to the different contexts where they are located. For example, by modifying densification standards for neighbourhoods that require urban renewal and creating service provision programs, and (5) reducing project permit approval times in the system or in the entity that grants permits to facilitate their management in a scenario with growing demand.	– Central and local governments, and other organised entities
Social innovation	4. Establish alliances between actors to facilitate the development of projects of the three collaborative housing models. For example, through (1) creating agreements between local governments and the private sector that include the latter in the development and administration of rental units in the projects and (2) granting the role of land management to local and regional governments.	– Central, regional, and local governments, and private non-profit entities
Diversification	5. Diversify the tenure and users' possibilities of the models to increase the offer and address their demand of this scenario. For example, by (1) expanding the tenure possibilities allowed, for example, that the models are developed public rental housing and, cooperatives, (2) developing projects for different ages and socioeconomic groups and (2) developing mixed-use projects with local commerce residential units managed by municipalities or interested private actors.	– Central and local governments, and interested private actors
Promotion	6. Promote and disseminate collaborative housing and its characteristics as an alternative to create sustainable, comprehensive residential living. For example, through (1) training and ongoing education courses for the community and different actors interested in the three models, (2) developing research on possible project development proposals, (3) training professionals on possible architectural design morphologies from universities, and (4) promote existing pilot projects to consolidate these experiences, through the transfer of knowledge between self-organised communities about their opportunities and limitations.	– Central and local governments, academia, and interested private actors

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TABLE 5.5 General policy strategies for collaborative housing (Source: Authors)

Scenario 3: Individually oriented society in an unstable economy		Key actors
Financing	1. Create a financial support system maintained over time for specific groups of interested parties in any of the three collaborative housing models. In this unstable economic scenario, it is argued that the lack of financing hinders vulnerable and middle- and low-income groups interested in developing projects. It is proposed that financial support be expanded through that the State: (1) establishes a commitment in the form of a guarantee of financial support, (2) has relatively stable resources to provide subsidies and loans for the purchase of construction materials as a way to reactivate the manufacturing sector, (3) maintains a stock of land in (peri)central areas where access is guaranteed through concessions, (4) builds on this land and allocates a percentage of the residential stock to social rental housing managed by the State or other organisations focused on, for example, elderly groups or foreign families, (5) facilitates access to mortgage loans and (6) create economic incentives in the format of soft loans.	– Central and local governments, financial entities and interested organisations
Regulations	2. Modify regulation and legal framework for the three models, which is sustainable and transcends time regardless of the governments in power. In the most adverse collaborative housing scenario, changes are proposed to the regulations focused on (1) improving land management through instruments that facilitate preferential purchase for the State to have a relatively stable stock of land, (2) making construction materials prices transparent so that monopolies or collusion do not occur, (3) expand and make flexible the possibilities of tenure regimes for State-subsidised projects (e.g. collective, co-ownership or hybrid mixed tenures), and (4) make some urban-housing standards more flexible, for example, on architectural design and land use where the projects will be located so that the models are affordable for families and attractive to the private sector.	– Central, regional, and local governments, future residents and interested private entities
Social innovation	3. Improve the strategic governance and policy to support collaborative housing so that the models can develop in a decentralised manner in this scenario. For example, through (1) granting powers to private, third sector and civil society actors to promote organised bottom-up initiatives and the development of projects, and (2) establish strategic alliances and intersectoral collaborations between future residents, the State, and interested private actors to develop construction prototypes, new methodologies and ways of construction (e.g. industrialised housing) focused on reducing construction costs of the models.	– Central and local governments, future residents, academia and interested private organisations

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TABLE 5.5 General policy strategies for collaborative housing (Source: Authors)

Scenario 3: Individually oriented society in an unstable economy		Key actors
Promotion	4. Promote and raise awareness about the three collaborative housing models, their characteristics, and possible social, urban, and economic benefits to promote a cultural change towards the models. In an individualistic society and economic instability scenario, developing projects through self-management, self-organisation and collaborative work could represent a strategic possibility of obtaining housing compared to the conventional route and a tool for social change. The promotion of the models could be done through (1) training campaigns focused on self-organisation strategies, the possibility of reducing costs of the models, consolidation of support networks, and project administration and maintenance, (2) the development of a critical mass, research, and knowledge of these housing models, and (3) the dissemination of experiences and specific pilot projects considered as good practices. This promotion can be done by interested local governments or universities.	– Central and local governments, academia, future residents, interested private for-profit and non-profit actors
Scenario 4: Individually oriented society in a stable economy		**Key actors**
Housing programs	1. Create specific programs for each model and complementary technical and social support programs to support the demand of groups interested in one of the three models since, in this scenario, it is expected that the projects could deteriorate physically and socially over time. Accompaniment programs can support any stage of the project (preparation, design, execution, administration, maintenance, and use) with the objective of (1) strengthening learning about community life, (2) resolving conflicts of different natures, (3) maintaining shared spaces, (4) consolidate sustainability aspects of projects and (5) improve neighbourhoods and public spaces.	– Central and local governments, and organised future residents
Financing	2. Maintain a relatively stable financial system and economic resources that allow the development of the existing demand in this scenario and create interest in new groups for one of the three collective housing models. For example, through (1) acquiring land by the State in areas considered well-located or (peri) central with access to urban services and amenities, (2) allowing and promoting shared or mixed financing between the State, future residents and interested private actors, and (3) create economic incentives as a complement to the State's contribution in the format of mortgage loans, soft loans or interest-free loans, subsidies aimed at making demand feasible, incentives for location and amounts adaptable according to projects in technical assistance so that the models are sufficiently attractive compared to individual life.	– Central and local governments, financial institutions and interested private actors
Regulations	3. Create regulatory incentives for those private developers or other actors interested in developing projects in these three housing models. In an individualistic and economically stable context, some exceptions may occur and could encourage some actors to develop the models. For example, these may consider (1) tax flexibilities, and (2) reduction of time in permit management, procedures, and approval of projects.	– Central and local governments

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TABLE 5.5 General policy strategies for collaborative housing (Source: Authors)

Scenario 4: Individually oriented society in a stable economy		Key actors
Promotion	5. Disseminate and promote these models' possible social, urban and economic benefits to increase the critical mass and motivate future residents in this scenario with a tendency towards individuality, for example, through (1) disseminating projects built from the three models that are considered relatively good practices as examples, (2) informing about the different architectural designs, and (3) carrying out educational activities about the social possibilities that the models of social cohesion, community life and support networks for the care of different age groups. The target groups may include organised neighbourhood communities, intergenerational groups or older adults who could be willing to live in one of these models in this scenario.	– Local governments, future residents, private third sector and non-profit actors interested in the models

Following we present the detailed specific policy strategies proposed in the Delphi for each collaborative housing model. Table 5.6 presents the strategies classified by scenario and clusters for small condominiums, Table 5.7 for housing cooperatives and Table 5.8 for collective housing.

TABLE 5.6 Specific policy strategies for small condominiums (Source: Authors)

Scenario 1		Key actors
Regulations	1. Generate regulatory incentives for housing developers by accelerating project execution processes to reduce downtime and loss of resources. For example, through (1) improving the current article 6.2.9 of the 'Ordenanza General de Urbanismo y Construcciones' (OGUC) for small condominiums, (2) creating a bank of possible architectural designs of projects so that families have the possibility of choice and avoid the homogenisation of neighbourhoods and (3) expand the functions of file review and project approval so that it does not depend only on the 'Dirección de Obras Municipales' (DOM) of each district but also include, for example, the Seremi de Vivienda y Urbanismo' or the 'Servicio de Vivienda y Urbanización' (SERVIU). One possibility is that the municipality only carries out the final reception of the plans that SERVIU previously approved.	– Central and local governments
Diversification	2. Diversify the possible tenures and types of target users of the model to cover the demand in this scenario of economic instability. For example, through (1) promoting the program as a solution for groups with and without kinship ties, (2) expanding the architectural design possibilities of the condominiums by adapting it to the needs of the group, For example, having a large dining room or living room shared between the families of the condominium to build more bedrooms or other spaces and (3) expand the possibilities of land ownership, such as hybrid tenures with a percentage of owned and rental housing units, to reduce the resources used in the projects and generate income for the owners. For example, older people can densify their property to obtain additional income and avoid migrating from their neighbourhoods of origin.	– Central and local governments, future residents, and small condominium developers
Scenario 2		**Key actors**
Housing programs	1. Consolidate the small condominium program as a policy of direct support of the State for densification and sustainable, comprehensive intervention for urban regeneration of neighbourhoods. The program can be carried out through (1) establishing potential (peri)central communal and intercommunal zones that require intervention and (2) developing joint actions between future residents and municipalities (like the PQMB program) to strengthen life in the neighbourhood and improve public spaces, green areas, and facilities where small condominiums are inserted.	– Central, regional, and local governments, Consejo Nacional de Desarrollo Territorial (CNDT), and future residents

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TABLE 5.6 Specific policy strategies for small condominiums (Source: Authors)

Scenario 2		Key actors
Financing	2. Create a specific 'social facilitation of demand' subsidy that finances support components aimed at social management to support middle or lower-income socioeconomic groups interested in this model. Currently, there is a rental subsidy for families to live elsewhere during the project's construction. At the same time, the regular subsidy finances land, construction and the work of the sponsoring entity who assumes the organised demand. However, in collaborative housing, the organisation of the demand implies collaborative processes that may differ from those of conventional housing. The subsidy can focus on (1) informing about the program, (2) advising families that show interest, (3) regulating the land ownership situation, and (4) accompanying the project development process.	– Central and local governments, and interested private entities
Diversification	3. Diversify the tenure possibilities and users of the model to increase the offer and address the demand of this scenario. For example, by (1) explaining that the model allows the application of extended family groups and groups without kinship ties to encourage the population to apply to the model, (2) developing mixed-use projects with local commerce on the first floor and rental units managed by municipalities or interested private actors, and (3) expanding the tenure possibilities allowed, for example, that the model is not only developed in co-ownership, but can be cooperative ownership where the life cycle of families is recognised and different stages are addressed such as today's young families and elderly groups of tomorrow or and rental housing on public or private land.	– Central and local governments, and interested private actors
Scenario 3		**Key actors**
Housing programs	1. Develop complementary long-term advisory and support programs for organised groups interested in small condominiums so that the projects have less possibility of deteriorating over time. For example, through (1) social support programs on co-residence for future residents and (2) technical support for project execution and maintenance.	– Central and local governments, and interested private entities
Regulations	2. Define areas of potential public interest for intervention in the execution of small condominiums. In an unstable economic scenario, focusing the use of resources and defining priority areas to facilitate the demand for PCs could represent an opportunity to attract housing developers who build projects directly and expeditiously. Areas can be defined through municipalities with a focus on areas of high concentration of families living in (1) allegamiento or double-up, (2) overcrowding, or (3) uninhabitable housing areas where future residents have land (e.g. areas derived from the 'Operación sitio' program).	– Central and local governments

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TABLE 5.6 Specific policy strategies for small condominiums (Source: Authors)

Scenario 3		Key actors
Diversification	3. Ensure a quota or a percentage of housing for small condominiums intended for affordable or controlled rent. In the context of economic instability, access to housing through renting could be an opportunity for this model. For example, projects could be developed by (1) the state and managed by interested municipalities or private non-profit entities or (2) by households who allocate a rental unit in the condominium managed by the same households. Rental prices could be determined relative to the maximum monthly income of the families, and the ranges would be stipulated in the regulations.	– Central and local governments, and interested private non-profit entities
Scenario 4		**Key actors**
Housing programs	1. Focus the calls and the pequeños condominios program as a renewal plan for urban areas and deteriorated neighbourhoods in sectors that resulted from the 'operación de sitio' program. The call can be complemented with support plans led by the municipalities in a similar way to what has already been carried out in previous years with programs such as the neighbourhood regeneration 'Quiero Mi Barrio' Program (I Like My Neighbourhood Program).	– Central and local governments, and future residents
Regulations	2. Modify the regulations to generate interest in potential future residents. For example, through (1) specifying that the application is open to extended family groups and groups without kinship ties in future calls for the micro-settlement program and (2) creating a protective barrier in the regulations to strengthen the model. and to future residents of vulnerable sectors and means of possible market speculation interested in the commercial attractiveness of well-located sites.	– Central government
Promotion	3. Train future residents on project management, implications of sharing the land, leadership skills, creation of internal and external support networks, project co-design and coexistence in shared project spaces. In this scenario, with a tendency towards individuality and economic stability, the strategy would aim to interest groups with land derived from the 'operación de sitio' program and live in uninhabitable housing in double-up or overcrowding. For example, courses can be organised by municipalities or by interested external institutions.	– Central and local governments, and interested institutions

TABLE 5.7 Specific policy strategies for housing cooperatives (Source: Authors)

Scenario 1		Key actors
Regulations	1. create a specific regulatory framework for the model that goes hand in hand with the creation of the self-management law (see general strategy scenario 1) that recognises the agency of organised communities and cooperative values, namely, mutual aid, self-management, collective property and direct democracy, in politics. For example, through (1) making regulations more flexible to incorporate self-management and mutual help in the housing construction processes through guided self-construction. This change is intended to increase the sense of belonging to the homes and reduce construction costs.	– Central, regional, and local governments, academia, and cooperatives
Promotion	2. Train organised communities on the cooperative model, for example, groups of residents, housing committees and related professionals. Courses can focus on (1) informing about the potential of the model as a regenerator of the social fabric of the city and promoting the model in deteriorated neighbourhoods, sectors of former industries or other areas that were abandoned due to changes in land use and (2) training on the different technical construction stages, architectural design possibilities, forms of financing and management, administration and maintenance models of the projects.	– Central and local governments, cooperatives, universities, and non-profit organisations (e.g. Red Hábitat Popular)
Scenario 2		
Housing programs	1. Consolidate the cooperative program as public policy in a scenario where the circumstances are conducive to the model. The program could be proposed as a comprehensive intervention alternative focused on creating long-term sustainable housing solutions that improve the habitability and community life of the neighbourhoods where they are located. For example, this could be done by creating a complementary plan of joint action between future residents and local governments to improve the public spaces of their neighbourhood.	– Central, regional, and local governments, Consejo Nacional de Desarrollo Territorial (CNDT), academia, and cooperatives
Diversification	2. Expand the tenure possibilities and types of end users for cooperatives to promote the model and increase their demand in this scenario. In a scenario of collective focus and economic stability, hybrid housing solutions could boost the local and solidarity economy of the neighbourhoods. Some possibilities include (1) establishing a rental quota for middle-income and low-income groups in the projects, (2) developing projects with the use of sustainable and circular materials, and (3) expanding the model by diversifying its activity, for example, through mixed-use between housing cooperatives and productive cooperatives.	– Central, regional, and local governments, cooperatives and interested private actors

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TABLE 5.7 Specific policy strategies for housing cooperatives (Source: Authors)

Scenario 1		Key actors
Promotion	3. Create a permanent cooperative school supported by different organisations interested in the model. In this scenario, the consolidation of a cooperative school sustained over time where its members are protagonists of the process could be transformed into a formal training space for the completion of projects. This could be supported by local governments and focus on training stakeholders and citizens on (1) habitability, management, design processes and project administration, and (2) cooperativism and its values, namely, mutual aid, self-management, ownership collective and horizontal or direct democracy.	– Central and local governments, academia, cooperatives, and local interested groups
Scenario 3		
Housing programs	1. Create complementary programs to support groups of future residents interested in cooperatives in carrying out projects. For example, with support programs focused on advising on (1) possible legal contexts, (2) forms of financial management and administration, (3) creation of alliances with key interested actors, (4) co-design of architectural projects and (5) the values of cooperativism, namely mutual aid, self-management, and collective ownership.	– Central, regional, and local governments, cooperatives, interested private actors (e.g. Red Hábitat Popular)
Regulations	2. Make existing regulations more flexible to allow the reuse and recycling of buildings and homes for the development of cooperatives. In a context of economic instability where it is difficult to obtain financing to build new projects, the adaptive reuse of built buildings for cooperative residential use could be an opportunity to develop the model.	– Central government
Scenario 4		
Social innovation	1. Create alliances between the State, third sector and private actors to carry out cooperatives. For example, this can be done by incorporating (1) cooperatives or self-organised future residents as key actors with binding impact as agents in the discussion, preparation, and execution of projects and (2) the private sector or cooperatives of different natures. In this scenario, the private sector could be interested in promoting rental cooperatives, involving working collaboratively with a promoter of this model who could be in charge of group formation, management and administration of the community in the project.	– Central and local governments, cooperatives and interested private actors
Diversification	2. Diversify the model for different users and tenures so that potential future residents become interested in the model in this scenario, and individual property loses prominence. For example, through developing (1) rental cooperatives, (2) intergenerational cooperatives with units for groups of older adults who require care as a mechanism to mitigate the feeling of loneliness and social isolation that may be greater for these groups in an individualistic context, (3) cooperatives for different socioeconomic groups for middle sectors and with public housing quotas or (4) cooperatives for workers organised by companies or production areas.	– Central and local governments, cooperatives and interested private actors

TABLE 5.8 Specific policy strategies for collective housing (Source: Authors)

Scenario 1		Key actors
Regulations	1. Provide regulatory incentives to self-organised groups in housing committees interested in the model to facilitate obtaining land that, due to its scale, is made difficult in this scenario by economic instability. For example, through (1) granting higher selection scores to organised groups over individual applications to recognise the social fabric of the groups, (2) making a regulatory change focused on accelerating the review and approval of large-scale projects and (3) propose regulations that ensure architectural, construction, material standards adequate to facilitate community life.	– Central government, future residents, and interested private actors
Promotion	2. Generate studies and research to support the collective housing model. Possible approaches could aim to (1) facilitate land search processes through state land registries and (2) train local government officials to accelerate project management processes on establishing alliances between public and private actors and improving qualified technical assistance for project execution.	– Central and local governments, academia and interested private civil society actors
Scenario 2		**Key actors**
Housing programs	1. Create a housing policy and a specific program for the collective housing model focused on the social integration of families of different socioeconomic incomes (middle and low income) to increase the opportunities of the model. In this scenario, creating a collective housing program expanded to middle-income groups or mixed groups could improve housing standards through the permanent investment of future residents. For example, the program could be implemented under mixed modalities between DS.49 and DS.1, DS.19 (with mortgage debt) or another specific subsidy created for the model considering monthly payments equivalent to an affordable housing lease payment.	– Central, regional, and local governments, Consejo Nacional de Desarrollo Territorial (CNDT), and organised communities
Diversification	2. Diversify the access possibilities and the collective housing model to respond to the growing interest in the model of this scenario. For example, through (1) considering mixed-income and public interest group housing projects with mandatory social housing quotas, (2) designing different architectural projects for different types of users, such as cohousing-type for older adults or intergenerational groups, (3) expanding the tenure regime to a mixed one that includes owned, temporary and rental housing, and (4) maintaining a percentage of housing as 'housing leasing', in which after renting for a certain period of years, the possibility of buying and owning the home is available.	– Central and local governments, future residents and interested private actors

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TABLE 5.8 Specific policy strategies for collective housing (Source: Authors)

Scenario 3		Key actors
Housing programs	1. Create complementary technical and social support programs that advise cooperatives on the model. In a scenario of scepticism about the model and economic instability, state support programs could foster a cultural change or an interest in the model in vulnerable, medium, and low-income families that cannot access housing. For example, through plans focused on supporting (1) community management, (2) the creation and maintenance of external and internal collaborative networks, and (3) the management, development and maintenance of collective projects in all their stages.	– Central and local governments, and organised communities of future residents
Regulations	2. Generate regulatory flexibilities to allow the transformation, adaptive reuse and recycling of old buildings or disused homes to develop social collective housing. The proposed regulatory flexibility would allow the use of available resources to, for example, develop projects in (peri)central areas connected to urban centres at different scales.	– Central, regional, and local governments
Scenario 4		**Key actors**
Housing programs	1. Create a complementary program to support the development of the collective housing model. For example, a program that includes (1) consultancies monitored by the State focused on supporting the training, management, administration, and maintenance of the projects and (2) specific project maintenance activities focused on strengthening the sense of community and social cohesion of the groups.	– Central and local governments, and non-profit organisations
Regulations	2. Regulate the maximum number of units and the size of common shared spaces per collective housing complex to reduce the internal physical-social deterioration of the projects imagined in this scenario. For example, through (1) calls for this model, (2) financial incentives so that medium and small-scale complexes are not so expensive for developers and consequently for future residents.	– Central government
Social innovation	3. Generate strategic alliances between the private, public, and/or third sector sectors interested in the model to avoid the physical-social deterioration and the loss of added value of the projects imagined in this scenario, for example, through a post-handover administration system supervised or shared between future residents and municipalities or other institutions or actors hired by the State or by the self-organised group.	– Central and local governments, and interested institutions

In Figure 5.8 we summarise the general and specific strategies proposed in each scenario for the three CH models. As mentioned above, we found that there are general transversal strategies that are applicable in all scenarios. These include creating housing programs specific to the models and complementary programs to support technical and social areas of the projects. Also, maintaining a system of (financial) state support regardless of the scenarios, where, for example, the State has land to develop CH projects under lease or concessions. Another general strategy is to promote the models and their characteristics through government dissemination and courses to train actors interested in CH. Finally, another transversal strategy is to generate regulations or standards for each scenario. These can take the form of tax incentives in scarcity scenarios or regulation of obligations in the scenarios most favourable to each model. On the other hand, as we detail in Tables 5.6 – 5.8, this research proposes a series of specific strategies for each model in each scenario. Some of these are creating ways to diversify the financing, tenure, the type of users and the architectural design of the projects in scenarios favourable to these models (e.g., Scenarios 1 and 2). Financially, economic incentives should be created to incorporate private actors in developing projects and facilitate access to loans or mortgages in scenarios of economic instability or the allocation of greater resources through subsidies in contexts of stability.

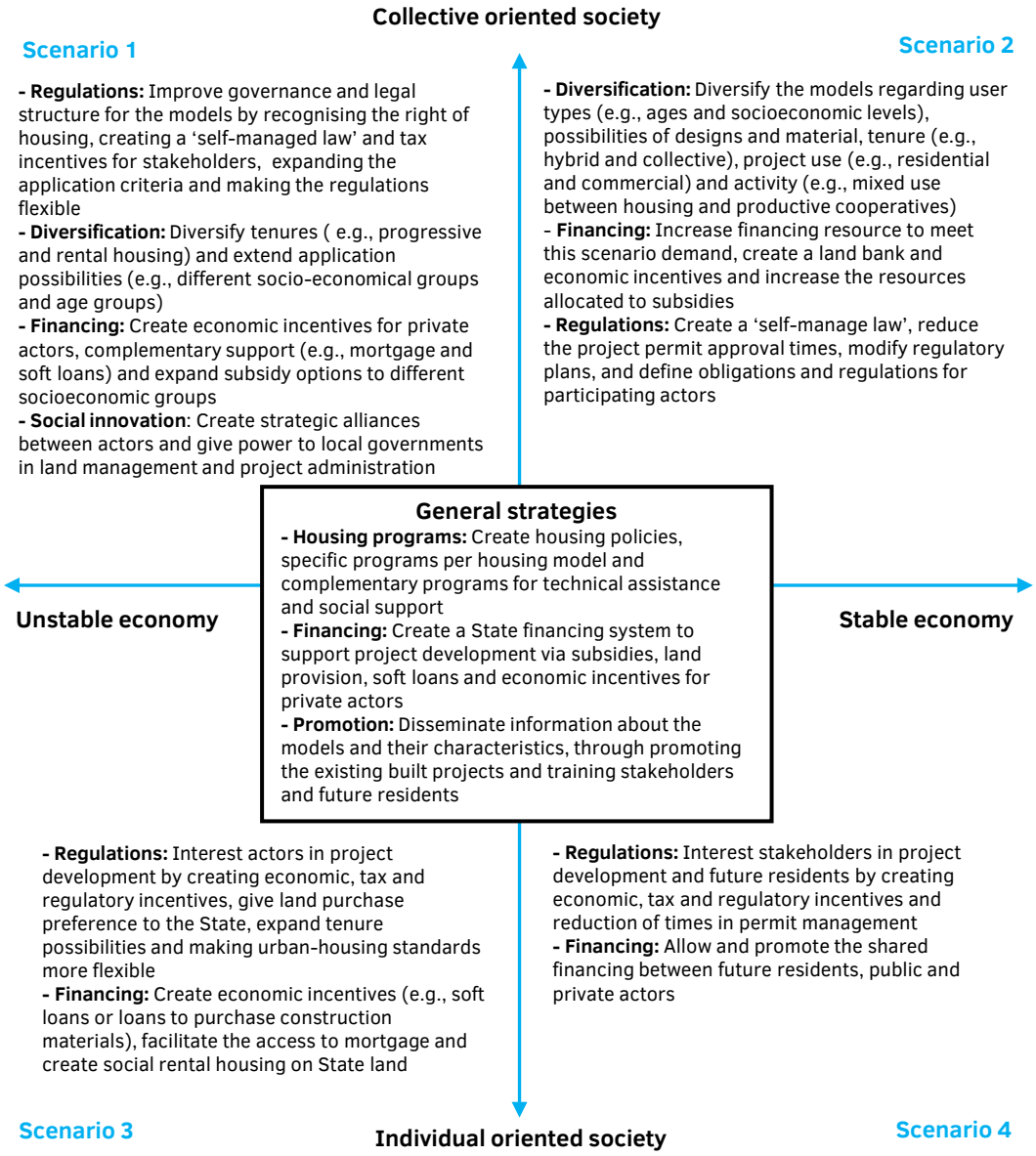

FIG. 5.8 Summary of general and specific policy strategies for collaborative housing in Chile (Source: Authors)

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5.5 Discussion

In line with our assumption, the experts proposed that *housing cooperatives* and *resident-led collective housing* would be more desirable in Scenarios 1 and 2. However, we also found some discrepancies between the experts' responses. Some suggested that, regardless of the collectiveness from Scenarios 1 and 2, interest in collective housing could decline because this model merely presents an emergency solution in the face of the deficit. Other experts suggested that in Scenarios 1 and 3, *cooperatives* could be more desirable for their potential as social fabric regenerators in deteriorated neighbourhoods. Contrary to our initial assumption, we found that in most scenarios, regardless of society's tendency and economic context, the *small condominium* model could have the greatest development potential in Chile. The experts consensually stated that small *condominiums* could be desirable in any scenario. For example, in Scenarios 1 and 3 with less economic stability, having land to develop small-scale projects could facilitate obtaining resources and building. Also, the current State program could be adapted and improved during an economic crisis. In Scenario 4, an individually oriented society with a stable economy, we also observed discrepancies between the experts' responses. Some claim that *small condominiums* could flourish and expand in this scenario. Others argue that in an individualising context, networks are not understood as a value; therefore, the model could lose its social meaning and the closeness between future residents.

From the scenarios proposed in this research, Scenario 2 is the most favourable for CH in Chile, Scenario 3 is the least favourable and Scenarios 1 and 4 are relatively unfavourable because they lack either the interest in CH or the economic resources. Under a normative approach, the experts proposed CH policy strategies for each scenario (Figure 5.8). Our findings show that general conditions need to change to create opportunities for the three CH models in Chile. Therefore, a proposed strategy is creating housing policies, specific programs for each model, and complementary technical and social assistance programs. The latter is proposed as permanent support at any stage, including management, design, execution, administration, and maintenance, so the projects deteriorate less physically and socially. Another strategy is to maintain a state financing system that supports CH through the partial provision of land, subsidies, loans, and economic incentives in periods of economic crisis. This financing system is proposed to be adapted to each scenario's needs. Another general strategy is promoting the models through training to interested actors such as future residents, developers, and government officials. Experts suggest that knowing the models could interest a larger population of CH. Finally, the creation of regulations and changes in the legal structure to improve the governance

of the models are also proposed transversally in the scenarios. It is proposed that the right to housing be recognised, a self-management law be created, stakeholder obligations be defined in collective scenarios, tax incentives be created, and housing standards in scarcity scenarios be reduced.

Our results show some limitations related to the systemic rigidity of some responses that respond to the individualistic socio-cultural tendency that has persisted in Chile over the last 30 years. We observed this limitation while developing scenarios, as some experts emphasised that CH is complex to imagine in an individualistic context. Therefore, the proposed scenarios tend to be more realistic than creative. Another limitation is the imbalance in the number of strategies proposed per model. Some participants focused more on one housing model than others. In response to these issues, we reorganised and revised the strategies to better respond to each scenario's particularities, reflecting on whether these corresponded more to one of the models or were equally a possibility for the others. An example was the proposal to 'create flexibilities in housing standards' in two scenarios. Although most experts agreed with this strategy, some pointed out that the strategy would be more appropriate in an economically unstable scenario than in a stable one.

Furthermore, the Delphi-based scenarios application presented some limitations. Some of these include experts' difficulty imagining long-term normative scenarios and completing the questionnaire online considering the wider range of variables and trends. Although the online questionnaire lowers the risk of bias, using questionnaires in the visioning stage limited the participant's possibility of openly discussing, exchanging, and contrasting visions. Some experts suggested that the proposal would be enriched by carrying out a workshop or focus group, in which participants dialogue with others and reach a consensus. In line with the literature and from the empirical application of this technique, we recognised some advantages when planning scenarios and proposing strategies for housing, such as allowing a multidisciplinary group from different geographic zones to work collaboratively while avoiding influencing their responses. However, the steps proposed by Nowack et al. (2011) could be expanded with a focus group in the visualisation and judgement stage to increase creativity and objectivity in proposing scenarios and policy strategies.

5.6 Conclusions

In this chapter, we focused on exploring possible future scenarios for three collaborative housing models in Chile and determining which model could present a development opportunity in each scenario. Furthermore, we proposed general and model-specific policy strategies to increase the potential development of CH in Chile. We did this using the Delphi-based scenario technique with 21 Chilean housing experts from different sectors, with whom we developed four scenarios and strategies to develop three CH models: *small condominiums, closed housing cooperatives,* and *resident-led collective housing*. Our results show that Scenario 2, which envisioned a collective-oriented society and stable economic context, is Chile's most favourable scenario for CH. However, despite our initial assumption, we found that some CH models would also have potential even in, for example, Scenario 3, which is considered unfavourable due to its individual mentality and lack of economic resources. It should be noted that each scenario is not immutable, but rather, they may be intertwined or mixed in the future. We found that the small condominium model, regardless of the societal trend and economic context, could prosper and have potential in most scenarios. This is due to the advantage of its scale, previously built networks, and available land on which to build projects. We conclude that regardless of the possible scenario, the opportunity for CH to flourish in Chile would depend on creating specific supportive housing programs, regulations, a state financing system, promoting built CH projects and training future residents and stakeholders about the characteristics of the models.

This research explores the future of a complex system and provokes strategic thinking to support decision-making regarding housing. We argue that our long-term proposal over decades instead of years, with its multidisciplinary approach, allows us to prepare a future response to face possible housing challenges. Depending on the scenario adopted by the country, they can support and guide decision-making in facing different future uncertainties. More specifically, from an instrumental approach our research can be a support tool in the formulation of Chilean public policies and the creation of Chilean housing programs for the three models and use both general and specific strategies as a baseline in the program guidelines. Although this research has a normative nature in studying the conditions favourable to the development of CH in Chile, we recognise that CH is one of many possible housing alternatives to address current challenges. Nor is it necessarily the best in all cases. In this way, future research could propose planning scenarios for other housing models and generate strategies to support decision-making in public housing policies in the future. In turn, the methodology and technique used in this

research could be used as a basis when replicating the steps followed in planning scenarios and strategies. This could interest researchers in the field of housing in general from any urban context who are interested in creating new visions for the future through strategic thinking.

Appendix 5A

Appendix 5A presents three tables summarising the questions from the three Delphi rounds conducted between October 2023 and February 202415. To see the focus of each round, please review Section 5.3.2 Delphi Rounds. As shown in Table 5.9, Round 1 consisted of experts evaluating and commenting on the proposed trends, the cross-analysis diagram factors, and the initial scenario narratives. Round 2 as shown in Table 5.10 focused on consolidating knowledge from Round 1 and reaching a consensus on responses that did not previously reach consensus. Experts were asked to validate the revised scenario narratives using closed-ended and open-ended questions. Finally, Round 3 as shown in Table 5.11 consisted of validating the proposed strategies, where the experts commented and proposed changes for each scenario using open-ended questions.

TABLE 5.9 Question protocol Round 1 Delphi-based scenarios

Survey questions Delphi Round 1	
Part 1 Personal information	
Q1	What is your name?
Q2	Indicate what is your area of work and professional expertise
Q3	Indicate the name of your institution or workplace
Q4	Indicate, the years of professional experience
Part 2 Selection and classification of variables	
Scanning and idea-generation stage	
Q5	To what extent do you agree with the classification of trends presented in Table 1? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q5a	If you somewhat agree, somewhat disagree, or completely disagree with this classification, please explain your reasons. In your response, consider possible changes, i.e., removing, adding a trend, or moving it from its classification (high or low predictability).

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.Each question was translated from Spanish into English by the author 15

TABLE 5.9 Question protocol Round 1 Delphi-based scenarios

Survey questions Delphi Round 1	
Part 2 Selection and classification of variables	
Forecasting and consolidation	
Q6	In your opinion, do the position of the factors set out above in Figure 1, reflect the possible predictability and impact that these have in Chile? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q6a	Would you make any changes in Figure 1? that is, would you move, add, or remove any factors in the quadrants of Figure 1? *Please explain your answer*
Cross-analysis of factors	
Q7	To what extent do you agree with our proposed axes ('society of collective or individual orientation' and 'unstable or stable economy') used to build the Collaborative Housing scenarios in Chile? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q7a	*Please explain your answer*
Q7b	To what extent do you agree with the list of factors (e.g., certainty about the future, etc.) and the variation of signs (+) and (-) proposed for each scenario? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q7c	Would you change some of the factors and signs (+) and (-) proposed by scenario? *Please explain your answer*
Part 3 Scenarios planning	
Contextual scenario	
Q8	In your opinion, do you think that the formulation and narrative of the contextual scenario proposed above is accurate for the Chilean context? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q8a	If you somewhat agree, somewhat disagree or disagree, would you add, delete, or rephrase any of the statements? *Please explain your answer*

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TABLE 5.9 Question protocol Round 1 Delphi-based scenarios

Survey questions Delphi Round 1	
Part 3 Scenarios planning	
Scenarios for three collaborative housing models in Chile	
Scenario 1: Collective-oriented society in an unstable economy	
Q9	Considering the factors set out in Figure 2, does the scenario 1 narrative and its factors provide a complete description for all three forms of Collaborative Housing and on a long-term horizon (decades rather than years)? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q9a	Would you make any changes to the narrative, that is, add or delete any specific statements for the three forms of Collaborative Housing presented in scenario 1? *Please elaborate your response*
Scenario 2: Collective-oriented society in a stable economy	
Q10	Does Scenario 2 proposed below, proposed above provide a complete description for the three forms of CH and their possible long-term development (decades rather than years)? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q10a	If your answer is somewhat agree, somewhat disagree or disagree, could you elaborate on the changes you would make to the narrative of scenario 2, for example add or delete information?
Scenario 3: Individual-oriented society in an unstable economy	
Q11	To what extent do you agree with the proposed narrative for scenario 3? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q11a	In your opinion, does scenario 3 presented below accurately describe the three different forms of CH considering their variety of factors? Would you change anything about these narratives?
Scenario 4: Individually oriented society in a stable economy	
Q12	In your opinion, does the description proposed below for scenario 4 provide a complete description for the three forms of CH over a long-term horizon (decades rather than years)? – Disagree – Somewhat disagree – Neither agree nor disagree – Somewhat agree – Agree
Q12a	If your answer is somewhat agree, somewhat disagree or disagree, would you make any changes (i.e. add or remove any statements from this narrative)? *Please explain your answer*
Closing question	
Q13	Any additional comment to Delphi Round 1?

TABLE 5.10 Question protocol Round 2 Delphi-based scenarios

Survey questions Delphi Round 2	
Part 1 Personal information	
Q0	What is your name?
Part 2 Research information	
Part 3 Validation of scenarios and proposal of strategies for collaborative housing in Chile	
Scenario 1 Collective-oriented society in an unstable economy	
Q1	In your opinion, do you agree or disagree with the narratives presented below for the context and the three models of collaborative housing in Scenario 1? – Agree – Disagree
Q1a	If your answer to any of the narratives presented in Scenario 1 was 'disagree', what change would you make to these narratives, i.e. add or remove any statements? *Please explain your answer*
Q1b	Based on your experience in the housing field and considering a long-term time horizon, could you propose strategies for each of these collaborative housing models to realistically thrive in this scenario? *Prompts: Please elaborate your answer, considering the different actors (e.g. local and central government, for-profit and non-profit organisations, residents and developers) and the possible instruments, regulatory changes and public policies that could influence the development of these models in this scenario. In your answer you may also consider other action areas, for example, Demographic, Economic, Sociocultural, Technological, Ecological and/or Political aspects.*
Scenario 2 Collective-oriented society in a stable economy	
Q2	In your opinion, do you agree or disagree with the narratives of the context and the three models of collaborative housing proposed for Scenario 2? – Agree – Disagree
Q2a	If your answer was 'disagree' to any of the narratives presented in Scenario 2, what would you change in these narratives, i.e. would you add or remove any specific statements? *Please explain your answer*
Q2b	Based on your experience in the housing field and considering a long-term period, what strategies would you propose for each of these models of housing to realistically develop in this scenario? *Prompts: Please elaborate your answer, considering the different actors (e.g. local and central government, for-profit and non-profit organisations, residents and developers) and the possible instruments, regulatory changes and public policies that could influence the development of these models in this scenario. In your answer you may also consider other action areas, for example, Demographic, Economic, Sociocultural, Technological, Ecological and/or Political aspects.*
Scenario 3 Individual-oriented society in an unstable economy	
Q3	In your opinion, do you agree or disagree with the narratives proposed below for the context and models of collaborative housing in Scenario 3? – Agree – Disagree
Q3a	If your answer to any of the narratives presented in Scenario 3 is 'disagree', could you elaborate on any changes you would make to these narratives, for example, would you add or remove information? *Please explain your answer*

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TABLE 5.10 Question protocol Round 2 Delphi-based scenarios

Survey questions Delphi Round 2	
Part 3 Validation of scenarios and proposal of strategies for collaborative housing in Chile	
Scenario 3 Individual-oriented society in an unstable economy	
Q3b	Based on your experience in the housing field and considering a long-term period, could you propose strategies for each of these housing models to represent a realistic opportunity in Scenario 3? *Prompts: Please elaborate your answer, considering the different actors (e.g. local and central government, for-profit and non-profit organisations, residents and developers) and the possible instruments, regulatory changes and public policies that could influence the development of these models in this scenario. In your answer you may also consider other action areas, for example, Demographic, Economic, Sociocultural, Technological, Ecological and/or Political aspects.*
Scenario 4 Individual-oriented society in a stable economy	
Q4	In your opinion, do you agree or disagree with the narratives proposed below for Scenario 4? – Agree – Disagree
Q4a	If your answer to any of the narratives presented in this scenario is 'disagree', what change would you make, i.e. add or remove any statements from these narratives? *Please explain your answer*
Q4b	Based on your experience in the housing field and considering a long-term period, could you propose strategies for each of these models of collaborative housing to realistically thrive in this scenario? *Prompts: Please elaborate your answer, considering the different actors (e.g. local and central government, for-profit and non-profit organisations, residents and developers) and the possible instruments, regulatory changes and public policies that could influence the development of these models in this scenario. In your answer you may also consider other action areas, for example, Demographic, Economic, Sociocultural, Technological, Ecological and/or Political aspects.*
Closing question	
Q5	Do you have any additional comments on Round 2 of the Delphi?

TABLE 5.11 Question protocol Round 3 Delphi-based scenarios

Survey questions Delphi Round 3	
Part 1 Personal information	
Q0	What is your name?
Part 2 Developing strategies for collaborative housing development in Chile	
Scenario 1 Collective-oriented society in an unstable economy	
Q1	Considering that the context of Scenario 1 corresponds to a 'collective-oriented society in an unstable economy', what information would you like to add or remove from the proposed strategies so that the three collaborative housing models can realistically thrive in this scenario? *Please elaborate in your response*
Q1a	Considering that Scenario 1 corresponds to a 'collective-oriented society in an unstable economy', could you comment and reflect on the proposed strategies for 'small condominiums' in this scenario? *Please elaborate in your response, considering adding and/or deleting information or statements specific to the strategies.*
Q1b	Considering that Scenario 1 corresponds to a 'collective-oriented society in an unstable economy', could you comment and reflect on the proposed strategies for 'housing cooperatives' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Part 2 Developing strategies for collaborative housing development in Chile	
Scenario 1 Collective-oriented society in an unstable economy	
Q1c	Considering that Scenario 1 corresponds to a 'collective-oriented society in an unstable economy', could you comment and reflect on the proposed strategies for 'collective housing' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Scenario 2 Collective-oriented society in a stable economy	
Q2	Considering that the context of Scenario 2 corresponds to a 'collective-oriented society in a stable economy', what information would you like to add or remove from the proposed strategies so that the three collaborative housing models can realistically thrive in this scenario? *Please elaborate in your response*
Q2a	Considering that Scenario 2 corresponds to a 'collective-oriented society in a stable economy', could you comment and reflect on the proposed strategies for 'small condominiums' in this scenario? *Please elaborate in your response, considering adding and/or deleting information or statements specific to the strategies.*
Q2b	Considering that Scenario 2 corresponds to a 'collective-oriented society in a stable economy', could you comment and reflect on the proposed strategies for 'housing cooperatives' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Q2c	Considering that Scenario 2 corresponds to a 'collective-oriented society in a stable economy', could you comment and reflect on the proposed strategies for 'collective housing' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Scenario 3 Individual-oriented society in an unstable economy	
Q3	Considering that the context of Scenario 3 corresponds to an 'individually-oriented society in an unstable economy', what information would you like to add or remove from the proposed strategies so that the three collaborative housing models can realistically thrive in this scenario? *Please elaborate in your response*
Q3a	Considering that Scenario 3 corresponds to an 'individual-oriented society in an unstable economy', could you comment and reflect on the proposed strategies for 'small condominiums' in this scenario? *Please elaborate in your response, considering adding and/or deleting information or statements specific to the strategies.*

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TABLE 5.11 Question protocol Round 3 Delphi-based scenarios

Survey questions Delphi Round 3	
Q3b	Considering that Scenario 3 corresponds to an 'individual-oriented society in an unstable economy', could you comment and reflect on the proposed strategies for 'housing cooperatives' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Q3c	Considering that Scenario 3 corresponds to an 'individual-oriented society in an unstable economy', could you comment and reflect on the proposed strategies for 'collective housing' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Scenario 4 Individual-oriented society in a stable economy	
Q4	Considering that the context of Scenario 4 corresponds to an 'individual-oriented society in a stable economy', what information would you like to add or remove from the proposed strategies so that the three collaborative housing models can realistically thrive in this scenario? *Please elaborate in your response*
Q4a	Considering that Scenario 4 corresponds to an 'individual-oriented society in a stable economy', could you comment and reflect on the proposed strategies for 'small condominiums' in this scenario? *Please elaborate in your response, considering adding and/or deleting information or statements specific to the strategies.*
Part 2 Developing strategies for collaborative housing development in Chile	
Scenario 4 Individual-oriented society in a stable economy	
Q4b	Considering that Scenario 4 corresponds to an 'individual-oriented society in a stable economy', could you comment and reflect on the proposed strategies for 'housing cooperatives' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Q4c	Considering that Scenario 4 corresponds to an 'individual-oriented society in a stable economy', could you comment and reflect on the proposed strategies for 'collective housing' in this scenario? *Please elaborate in your response, considering adding and/or removing information or statements specific to the strategies.*
Closing question	
Q5	Finally, do you have any additional comments on the third and final round of the Delphi?

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PART III

Conclusions and recommendations

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6 Conclusions

Collaborative Housing (CH) has been investigated mostly by researchers from countries in the Global North and less in other contexts, such as in Latin American and the Caribbean (LAC) countries (see problem formulation, Section 1.2.1). At the same time, some researchers claim that CH could potentially address problems related to the social dimension of housing due to its characteristics. Although in LAC countries such as Chile, self-organisation in housing has been present, CH and its potential to solve social problems have received limited academic attention in this context. Thus, this research departs from the assumption that, unlike more conventional forms of housing, CH could have the potential to respond to social challenges, such as the lack of neighbourhood social cohesion, sociability and trust, and therefore tackle the *Social Deficit of Housing*. A secondary assumption is that this model could be implemented as a valuable housing alternative in the Chilean context.

The guiding question of this dissertation is: ***What Collaborative Housing models have the potential to address Chile's Social Deficit of Housing, and what conditions are favourable for their implementation?*** The research aim is to determine which collaborative housing models have the potential to grow in Chile and contribute to solving the country's current housing challenges, and define the conditions, possible scenarios, and general and specific policy strategies for stakeholders interested in CH implementation in Chile. Finally, this dissertation's main deliverable is the proposal of policy strategies and recommendations to guide stakeholders in CH implementation. To this end, this research proposed an operational definition of CH, adapting it to the context of the case study and defining its distinctive characteristics. Based on this, it explored these housing models in Chile. Also, through a policy review, this research analysed housing policies and programs from the 19th century onward concerning the dimensions of the housing deficit. To complement this review, CH's opportunities and limitations in addressing problems in the *social dimension of housing*, or the *Social Deficit of Housing* (SDH), were empirically explored through interviews and visits to case studies. Finally, using the Delphi-based scenario method with a panel of 21 Chilean housing experts, the research developed scenarios and proposed long-term policy strategies for CH implementation in Chile.

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This dissertation's final chapter summarises the main research findings and proposes recommendations for collaborative housing development in Chile. It also discusses and reflects on the research contribution, implications, limitations, and further research directions. Section 6.1 summarises the main research findings of the four studies conducted, which jointly answer the main question of this research. Section 6.2 proposes recommendations for the practical development of collaborative housing in Chile based on the research findings from the four studies conducted. Subsequently, Section 6.3 reflects on this research's limitations, possible directions for future research and scientific and societal implications and contributions.

6.1 Main research findings

This section explains the main research findings of this dissertation in five sub-sections. Sub-sections 6.1.1 to 6.1.4 present detailed findings for the four sub-questions and four studies that answer the main research question. Finally, sub-section 6.1.5 summarises the main key findings and answers the main question of this dissertation.

6.1.1 How do housing policies and programs in Chile address the multi-dimensional challenges of the housing deficit? [Study 1]

To answer research question 1, this study focused on understanding Chile's housing provision system, housing policies, housing programs, and housing deficit dimensions (Section 2.1). To this end, we conceptualised the housing deficit from a multi-dimensional perspective and reviewed Chilean housing policies and programs. This study analysed how each policy from 1906 onwards responded to four dimensions of the housing deficit: quantitative, qualitative, urban, and social, focusing on what we term the *'Social Deficit of Housing'*.

The policy analysis shows that despite government efforts, housing policies still lack a focus on structural changes and do not treat housing as a multi-dimensional phenomenon. Although some dimensions have been treated

independently, the policy scope has been mostly limited to addressing quantitative and qualitative challenges, and an integrated policy approach is still lacking (see Section 2.6). Our findings indicate that (1) Policies have mostly addressed quantitative housing demands. However, the focus has been on efficiency and minimum cost, neglecting other housing dimensions. (2) Although there has been a qualitative turn in policies, the associated solutions have been exceptional and have not been part of structural policy changes. (3) Housing policies have progressed in addressing the urban dimension, but urban programs remain independent from housing, maintaining socio-spatial segregation. (4) The social dimension of housing has been partially included in the policy narrative but sparsely addressed by policy actions. The associated actions have not been practical but mostly symbolic and exhortative. In conclusion, our review indicates that policies have mostly focused on solving quantitative and, to a lesser extent, qualitative and urban deficits while sparsely addressing the non-physical or intangible social dimension.

6.1.2 What are the precedents and current initiatives that could be called Collaborative Housing in Chile? [Study 2]

After having explored how different housing policies have addressed the housing deficit dimensions, Study 2 focused on Chilean precedents and current housing initiatives through the CH lens and identified the main enablers for and barriers to their development in this context (Section 3.1). To this end, we adapted the CH definition to the LAC context and proposed an analytical framework with distinctive features and analysis variables to distinguish these models from conventional housing. Using this framework, we conducted a historical analysis and interviews with stakeholders.

In line with our assumptions, both outcomes from desk research and empirical outcomes from Study 2 show there are precedents and current emerging (in) formal initiatives in Chile that we could call *collaborative housing* since they have its distinguishing features. **We found three formal models that we could identify as CH, namely, *vivienda social colectiva, pequeños condominios* and *cooperativas cerradas de vivienda*. Likewise, one of the current informal initiatives that could be considered CH in Chile is *allegamiento* (doubled-up), only when taking the shape of a *co-residencia* (co-residence) strategy.** Similarly to *cohousing*, in these initiatives, households may intend and choose to live together motivated by pragmatic and social reasons that value mutual help and social relationships. They have agency in collaborative self-building and management of the homes and perform daily activities in their homes (Araos, 2018; Castillo, 2014; Urrutia et al., 2016). However, our outcomes question whether co-residencia could be

considered CH in all cases or whether there would be variations within initiatives. For example, the extent to which collaboration and (voluntary) intentionality to live together occur or spaces are shared is unknown (see findings Section 3.4). Therefore, this classification and new assumption would require further research.

In addition, we found that similarly to CH from other urban contexts (Czischke et al., 2023; Lang et al., 2020), what we identified as CH in the Chilean context is driven by two main *motivations*. These initiatives have emerged as *pragmatic strategies,* as bottom-up and top-down approaches to accessing alternative *affordable* housing in the face of the deficit. They also stem from future residents' *radical intentions* as *political expressions* for the right to housing and the city and to challenge the country's dominant top-down models of housing provision, welfare state solutions, and systemic inequalities in housing policies. In line with CH literature, Study 2 also shows that Chilean CH initiatives vary in social and spatial organisation and initiators. Most formal initiatives have adopted existing financing mechanisms (subsidies, credits and savings) to buy or rent housing, and in informal initiatives, future residents use their resources. In formal housing, tenure has chiefly been individual ownership and co-ownership. In the latter, residents can own individual housing units and co-own shared spaces such as parking and circulation areas, as in social housing condominiums, *pequeños condominios* and multi-family buildings. However, some future residents are currently attempting to create collective options, such as cooperatives based on shared equity or collective ownership, in which the cooperative is the owner, and each member has the right to use and share home responsibilities. Finally, collaboration and participation between future residents in different housing initiatives have varied over time. CH can adopt an approach that tends to be mostly 'self-managed', collaborative with different stakeholders or purely participatory (see findings discussion in Section 3.6).

Our findings also show some interest in CH from future resident groups and the government. On the one hand, there is policy interest as the government has manifested this interest in the *Plan de Emergencia* (housing emergency plan) from 2022, which aims to build 4,000 *pequeños condominios* and 2,000 *cooperativas*. On the other hand, this interest has translated into a slight increase in CH projects from future residents. Until January 2024, one *vivienda colectiva* project was built, and two are in development; *cooperativas* started with three projects. Now, seven are under development, 35 *pequeños condominios* were built, and 205 more are planned. **This recent interest might imply certain development opportunities for CH in Chile. However, these initiatives are in the initial development phase and a marginal phenomenon because they face barriers.** Interviewees identified the society's social orientation and the lack of openness to self-organisation in policies and regulatory and financing frameworks as the main barriers for CH (see findings Section 3.5).

6.1.3 How can Collaborative Housing address the Social Deficit of Housing in Chile? [Study 3]

After obtaining the findings on the scarce response of Chilean policies and programs to the *Social Deficit of Housing* (Study 1) and the precedents and current presence of *Collaborative Housing* initiatives (Study 2), case study research was conducted. Study 3 aims to explore the potential of CH when addressing the SDH by analysing the households' experience living in two Chilean CH cases (Section 4.1). To this end, we used the literature to define the *social dimension of housing* and its indicators and operationalise CH and its four main defining features. Lastly, through interviews, we empirically investigated the opportunities and limitations of CH features for each social indicator, comparing them to residents' previous homes.

Our empirical findings from the two analysed cases align with our theoretical study on CH's opportunities and limitations facing the SDH (see detailed findings discussion in Section 4.6). From our theoretical framework, we conclude that CH has the potential to tackle the SDH in Chile despite some limitations. CH features encouraged sociability, social cohesion and networks, solidarity, and community life (Carrere et al., 2020; Czischke et al., 2020; Fromm, 2012; Sørvoll & Bengtsson, 2018). Empirical research from Study 3 reinforces this, showing that participants from both case studies perceived an improvement in their social interactions, sociability, trust, and sense of community in their current homes compared to previous homes. Therefore, the social dimension was significantly strengthened in the case studies. **In line with the literature, our findings confirm the initial assumptions that CH, compared to mainstream housing, despite some limitations, reinforces the social dimension and presents opportunities to tackle the *Social Deficit of Housing* in Chile.** Based on Study 3 findings, we conclude the following:

First, *collaboration between stakeholders* and *joint activities* strongly influenced the creation and strengthening of internal and external *social networks*. In CH, internal networks are also influenced to a lesser degree by *shared motivations* and *spaces*. However, these networks do not, in all cases, expand outside the projects. Second, *shared spaces and, to a lesser extent, joint activities and collaboration have strongly influenced and encouraged social interactions*. In the case of *Maestranza,* where the households did not live together before, their *motivation* to live together has increased their interactions. Although CH promotes interactions in both cases, this does not expand beyond the project. Third, *interpersonal trust* is not highly influenced by *shared motivation* and *spaces*, contrary to what this research expected based on the theoretical study. However, we found evidence that shows *interpersonal trust* is influenced by *collaboration* in developing and maintaining housing and

joint activities. Finally, a *sense of community and belonging* is reinforced by the *motivation* of living together and *sharing spaces*. Households that did not live together before perceived that *collaboration* and *joint activities* present a stronger influence than those who already live together. Finally, Study 3 suggests that the features of Collaborative Housing may positively influence the social dimension of housing, therefore presenting an opportunity to reduce the Social Deficit of Housing in Chile and other contexts.

6.1.4 What are the scenarios in which the Chilean context becomes favourable for implementing Collaborative Housing? [Study 4]

After finding that CH presents opportunities to address the SDH (Study 3), the last study of this dissertation explores CH's future implementation possibilities in Chile via scenario planning and a normative-transforming approach. We understand a *scenario* as 'an alternative, consistent, coherent, and plausible description of how the possible futures of a system can unfold' (Nakicenovic et al., 2000, Ringland, 1988; Varum & Melo,2010). Therefore, Study 4 seeks to imagine in the long-term which CH models could present a development opportunity in Chile as an alternative compatible with its context in different scenarios (Section 5.1). To this end, using the Delphi-based scenario technique with 21 participants, we explored four possible future scenarios for three CH models in Chile, namely, *pequeños condominios*, *cooperativas cerradas de vivienda*, and *vivienda social colectiva*. The four scenarios are: (1) Scenario 1: Collective-oriented society in an unstable economy, where although society's general orientation remains individual, some groups show greater interest in the collective, and the economy experiences high inflation, stagnant growth, and recession periods. (2) Scenario 2: A collective-oriented society in a stable economy, where although society's general orientation remains individual, some groups show interest in the collective, and the economy is stable, with low inflation and mortgage interest rates. (3) Scenario 3: Individually oriented society in an unstable economy, where society maintains an individualistic orientation, and the economy is unstable, resulting in high uncertainty levels about the future. (4) Scenario 4: Individually oriented society in a stable economy, where society maintains an individualistic orientation, the economy is relatively stable, and resources are available to develop housing. This study concludes with model-specific policy strategies for each proposed scenario to support decision-making on housing policies and stakeholders interested in their development.

Research findings from Study 4 show that, in line with this study's assumption, Scenario 2, which envisioned a collective-oriented society and stable economic context, would be Chile's most favourable scenario for CH. From the other scenarios imagined in this study, Scenario 3 would be the least favourable. Scenarios 1 and 4 are relatively unfavourable because they lack either interest in CH or economic resources. In line with this study's initial assumption, most experts suggested that housing cooperatives and resident-led collective housing would be more desirable in Scenarios 1 and 2. However, despite this study's initial assumption, we found that participants believe that some CH models would also have potential even in Scenario 3, which is considered unfavourable due to its mentality and lack of economic resources (see scenarios in Section 5.4.3). It should be noted that each scenario is not mutually exclusive; rather, scenarios may be intertwined or mixed in the future. **Contrary to one of our assumptions and despite some discrepancies in experts' responses, the Delphi answers assume that the *pequeños condominios* could prosper and have potential in most scenarios in Chile, regardless of the societal trend and economic context**. This is due to the advantage of its small project scale, previously built networks, and available subsidies and land on which to build projects. Likewise, *vivienda colectiva* and *cooperativas* could be more desirable in Scenarios 1 and 2 and the latter in Scenario 3 due to their potential to regenerate social fabric (see discussion in Section 5.5).

In addition, based on the scenarios proposed, the expert's responses raised the issue that general conditions need to change to create opportunities for the three CH models in Chile. **Regardless of the possible scenario imagined, the opportunity for CH to flourish in Chile would depend on creating specific supportive housing programs, regulations, a state financing system, promoting built existing CH projects, and training future residents and stakeholders about the characteristics of the models** (see detailed strategies from Tables 5.5 to 5.8, Chapter 5). Based on our findings from the dissertation and its four studies, we argue that CH development in Chile represents a housing alternative that addresses its social aspects. This is why general and specific implementation strategies are proposed for the three CH models, hypothesising that scaling up these models would improve the social challenges of their project residents. Some of the general strategies for CH proposed in this study include: (1) creating housing policies, specific programs for each model, and complementary technical and social assistance programs. The latter is proposed as permanent support at any project stage, including administration and maintenance, for the projects deteriorate less physically and socially. (2) Maintaining a state financing system that adapts to different scenarios and supports CH through the partial provision of land, subsidies, loans, and economic incentives in periods of economic crisis. (3) Promoting CH models to interest a larger population by training stakeholders such as future residents, third sector, developers, and government

officials. (4) Creating regulations and changes in the legal structure to improve the governance of the models are also proposed transversally in the scenarios. This could be done by recognising the right to housing, creating a self-management law and tax incentives, defining stakeholder obligations in collective scenarios and reducing housing standards in scarcity scenarios.

6.1.5 Summary of key findings

Section 1.1 presents the detailed findings of the four sub-questions and separate studies that answer this dissertation's main research question. Below, we summarise the key findings of this dissertation per study and the answer to the main question. This research explored the implementation opportunities and potential collaborative housing (CH) to address Chile's housing deficits. Thus, it identified the CH models that have the potential to contribute to solving the country's current housing challenges. It also defined the conditions, possible scenarios, general and specific strategies and recommendations to guide stakeholders in implementing CH as a housing alternative in Chile.

The summary of the key findings of this research per study are as follows:

1 The policy review on the Chilean case from Study 1 shows that despite government efforts, housing policies do not treat housing as a multi-dimensional phenomenon. Although some of the dimensions of the deficit have been treated independently, an integrated policy approach is still lacking. More specifically, what this research conceptualises as the *Social Deficit of Housing* (SDH) has been sparsely addressed in policies and some specific housing programs. These programs include the *social integration subsidy* from 2006, the '*Housing Cooperatives Program'* from 2017 and the *Micro-settlement Program 'Here I Stay'* to build *pequeños condominios* from 2018.

2 From exploring collaborative precedents in Chilean housing in Study 2, this research identified (in)formal initiatives that could be considered CH. Within the formal initiatives are *cooperativas cerradas de vivienda, vivienda colectiva,* and *pequeños condominios.* We also found one informal initiative called *allegamiento,* which, when developed as a *co-residencia* strategy, has the potential to be identified as CH. However, this new hypothesis would require further research. Additionally, this research provides evidence of some interest in CH from the central and local governments, private sector actors and groups of future residents. However, these initiatives currently face barriers to their development, such as the lack of specific policies, regulations, and financing frameworks.

3 Study 3's findings, which investigated the opportunities and limitations of CH addressing the SDH in two case studies, show a significant strengthening of the household's social dimension. Although this research found some limitations, compared to mainstream housing, interviewed participants from the two CH cases perceived that the project's distinctive features influenced improved social aspects of housing. They perceived and increased networks, sociability and trust, encouragement of social interactions, and reinforcement of their sense of community. Therefore, this study shows from its empirical evidence that CH can tackle the SDH in Chile by reinforcing the social dimension.

4 Study 4's findings show that Chile's most favourable conditions for CH's existing models are ones with a collective-oriented society and stable economic context, as proposed for Scenario 2. Scenario 3 is the least favourable, and Scenarios 1 and 4 are relatively unfavourable because they lack interest in CH or economic resources. The experts agreed that CH model *pequeños condominios* could prosper and have potential in most scenarios due to its scale, existing networks, available land to build projects and the current State program, regardless of the societal trend and economic context. Also, there are some opportunities for *cooperativas* and *vivienda colectiva* in Scenarios 1, 2 and 3. Lastly, our findings suggest that for any CH model to prosper in Chile, it will depend on the creation of housing programs, regulations, financing options, and promotion of existing projects.

In line with these key findings, we answer the main research question: **What Collaborative Housing models have the potential to address Chile's Social Deficit of Housing, and what conditions are favourable for their implementation?** This dissertation has shown that collaborative housing, while not known under this label, has been formally and informally present to a certain extent in Chile for decades. We conducted a historical study by proposing an analytical framework to determine the presence of CH, built upon CH conceptualisations from Czischke et al. (2020, 2023) and Fromm (1991, 2012), Lang et al. (2020), and Vestbro (2010). Applying this framework in a historical analysis conceptually connects the knowledge of self-organised housing initiatives known as *Collaborative Housing* from a Global North perspective with similar initiatives in Chile. Our classification shows that few (in)formal initiatives met some CH's defining criteria, including workers' living arrangements from the 1880s onwards with *conventillos, cités* and some *allegamiento* when taking the *co-residencia* approach. Currently, we distinguished three emerging models that can be classified as CH: *cooperativas de vivienda cerradas, pequeños condominios* and *vivienda colectiva*. With a policy review, this dissertation also has shown that some Chilean housing policies have symbolically addressed what we label the *Social Deficit of Housing*. This response was mostly *exhortative* by integrating social aspects in the policy narrative and, to a lesser extent, with *subsidies* in some housing programs.

Additionally, this dissertation's empirical findings from Chile's single-case confirm our initial assumptions, showing that CH models have opportunities to strengthen the social dimension of housing, therefore contributing to reducing the SDH. Based on our previous classification of CH, we empirically investigated *pequeños condominios* and *vivienda colectiva*. Our empirical findings suggest that both models can potentially address the SDH with different scopes, user types, and scales. In *vivienda colectiva Maestranza*, a large-scale project where most residents do not know each other, collaboration and daily activities among residents are perceived as strongly influencing creating a sense of community, and large-scale shared spaces influence networking. Unlike CH research from other contexts, we investigated the *pequeños condominios*, which formalises housing in the plot where families already live together in *co-residencia*. These projects are conceived to formalise existing social ties and could present a higher possibility of tackling the SDH because they do not move families to other neighbourhoods or disrupt their existing social ties, as might occur in other models. Our findings suggest that if CH's features are fostered, they could maximise their potential to address SDH. Strong causal influences are perceived by consolidating groups with shared motivations and project vision to increase the sense of community, stakeholder collaboration to strengthen trust and networks, and sharing spaces to influence sociability. Also, less strong influences are perceived by having shared goals, motivations for living together, and shared spaces with strengthening trust or networks. These findings contribute to expanding current theoretical streams of arguments that discuss CH's positive effects on the social dimension from authors such as Arroyo et al. (2021), Fromm (2012), Jarvis (2015), Lang & Novy (2014), Oosterlynck et al. (2016) and Sørvoll and Bengtsson (2018).

In addition, our study of scenarios suggests that emerging models, such as *pequeños condominios* and *cooperativas de vivienda*, could have growth potential for implementation in Chile, even in conditions of economic instability. However, our research also suggests that to foster this growth, each of the investigated CH models would require different conditions to adapt to their scale, type of users, and project tenure. We propose specific implementation conditions for these models and general conditions as policy strategies to create a broad opening for CH in Chile. These general conditions encompass changes in policy regulations and financing systems and the active promotion of these models. As our findings indicate, existing policies focus solely on allocating subsidies for social housing in individual homeownership, and CH projects are carried out as a regulatory exception. Also, access to financing remains one of the most pressing barriers to CH due to the high land prices and the lack of finance mechanisms designed for these models. This dissertation proposes that addressing these challenges would require a multifaceted approach that considers creating targeted policy interventions, such as specific programs to technically and socially support CH models and developing different

subsidy schemes, loans, incentives and mechanisms for land provision. Furthermore, disseminating the CH characteristics through research and training campaigns for various actors, including future residents, will be needed to increase awareness and reposition societal interest in these initiatives. By addressing these barriers and strengthening the development of historical and emerging self-organised initiatives, CH implementation could expand as an alternative focused on the social dimension and sustainability of housing in Chile.

6.2 Recommendations for implementing collaborative housing in Chile

This section presents a set of policy and practice recommendations that can guide the implementation of *Collaborative Housing* in Chile. The recommendations are based on the research findings from our four studies conducted, especially Study 4's proposed general and specific strategies for CH in three Delphi rounds with 21 experts. They provide a set of general guidelines for creating housing policies and programs in the country to support the governance of the (pre-) development and (post-)delivery housing stages. The recommendations consider collaborative processes in housing production by including future residents and external stakeholders in their proposals to respond to CH's features. They address residents, developers, policymakers, government, and private actors interested in developing these models from different approaches (e.g. top-down, bottom-up or developer-driven). Although the geographical scope was limited to Chile as a single-case study, these recommendations can be shaped and adapted in response to the economic, political, and social contexts in which CH is to be developed. Our proposal follows a normative approach and does not aim to transform CH into mainstream housing but to consider it a possible alternative. It should be noted that the recommendations do not suggest a recipe for CH to flourish fully in this context. CH implementation also depends on factors external to the country's direction, such as socio-cultural, demographic, and economic aspects. Still, they provide general directions for housing policies that can be used as guidelines to modify existing programs or create specific programs per model so that CH has an implementation opportunity in Chile or other similar contexts. Below, we detail the main dissertation proposition followed by eight specific recommendations with examples to increase CH development opportunities.

6.2.1 Creating openings in policies and practice for Collaborative Housing models to address the Social Deficit of Housing

In line with Studies 1 and 3's findings, CH presents opportunities to reduce the *Social Deficit of Housing* in Chile, which housing policies and programs have scarcely addressed. Thus, implementing alternatives to mainstream housing to diversify the supply options represents an opportunity to address issues of the social dimension

of housing. However, despite some enablers for CH perceived by participants, including stakeholders' interest, current adaptation of existing mechanisms and newly built projects, these initiatives face practical barriers in their development. Study 2 concluded that these barriers include the lack of openness from policies to self-organisation in housing and collaboration with residents in the housing production process. Also, specific programs, regulations, financing frameworks, and stakeholder support are lacking at any project stage. Until now, the models we identified as CH for their features are in the country's initial development phase (Studies 2 and 3). A crucial insight from this research is that general practical conditions need to change for CH to have implementation opportunities in Chile (Studies 3 and 4). Study 3 shows that these conditions include societal changes towards more openness in considering CH an alternative to conventional housing and willingness to co-create these models, including the government, resident groups, and private organisations. Also, as the Delphi experts from Study 4 reported, changes in governance, policies, regulations, and financing frameworks are needed. In line with this, we recommend the following:

6.2.1.1 Recommendation 1

Create housing policies and specific programs per collaborative housing model based on the needs of future residents

Based on the findings of Studies 1, 3, and 4, we argue that policies should create openings and support their development so that CH models can thrive. **This leads to Recommendation 1: Create housing policies, specific programs per CH model, and complementary technical assistance and support programs based on future residents' needs.** Policies could recognise the existing interest of some groups in developing models, such as *vivienda social colectiva*, *cooperativas cerradas de vivienda* and *pequeños condominios,* and facilitate processes. Although now there are yearly calls and programs for these last two models, these calls could be established as stable policies and operated with specific decrees and subsidies per initiatives depending on the variation in demand. Also, they could consolidate in policies to enhance the goal of the *Plan de Emergencia Habitacional* (PEH) of building 4,000 *pequeños condominios* and 2,000 *cooperativas de vivienda* to reduce the current quantitative housing deficit by 2026.

Currently, there are some accompaniment programs that support families moving to their new homes, but these are usually short-term. **Thus, it is recommended that permanent complementary technical assistance and support development plans**

be created to support housing programs to prevent the physical deterioration of the projects developed under these policies. These programs could be designed to support the residents and professionals involved at any stage, including the management, design, execution, construction, administration, and maintenance of the projects. Also, these programs could be developed from other domains, such as education, health and care. More specifically, depending on the type of CH project, these could (1) support the organisation of social demand to apply for collective subsidies, (2) support with assisted construction for housing projects that are (self-)built progressively, and (3) support with training on the administration and maintenance of the projects to the future residents.

6.2.1.2 Recommendation 2

Consider housing multi dimensionality and address the social dimension of housing in permanent policies and programs

One of this dissertation's main insights is the relevance of acknowledging and considering housing as a multi-dimensional phenomenon in policies and programs (see Studies 1 and 3). Borja (2018, P. 245) claims that 'housing is more than housing; it is the place to live together (…) and build social ties'. Also, according to Paidakaki and Lang (2021), although housing is considered a physical resource, it also includes a non-physical dimension. In line with this, Studies 1 and 3's findings propose that housing has a social dimension encompassing aspects such as family and social ties, community life, and social cohesion. We found that failing to consider this dimension can influence the social degradation in homes, their surrounding neighbourhoods and the built environment. Therefore, addressing social aspects of housing is relevant for policies and programs since it could help achieve a cohesive society, social sustainability, and homes that socially endure over time. **This led to Recommendation 2: Consider housing in its multi-dimensionality, including the social dimension, by creating permanent social support programs.**

Although some social support programs exist for conventional housing in Chile, most of our resident interviewees perceive them to have a low impact due to their short implementation periods. In this way, permanent accompaniment and social support programs could be created based on the needs of future residents, both for current CH and conventional housing, to help reduce the projects' social deterioration and have a long-term impact on their maintenance. These programs can be from the housing domain or/and from the urban, health and social development areas that work with social aspects. These social support programs could be adapted according

to the projects and context to help with project management, including design, execution, construction, and post-delivery stages in administration and maintenance. These could include activities or workshops with residents and other stakeholders, such as local governments focused on (1) training future residents in topics related to collective and community life, (2) learning how to manage life in projects to reduce the risk of long-term conflicts of various natures, (3) project social organisation and decision making, and (4) maintaining and improving shared spaces and facilities.

6.2.1.3 Recommendation 3

Diversify housing models based on future residents' needs in terms of tenure, architectural designs, and future residents types

Study 2's findings show that CH also differentiates from conventional housing in Chile through its broad spectrum of possible tenures, flexibility on architectural designs, type of users and use of projects that respond to future residents' needs. In CH, possible tenure regimes go beyond (co)ownership and allow for collective, mixed or hybrid arrangements between renting and owning. Furthermore, these models can be considered a mix of users from diverse socioeconomic groups, genders, and ages. Additionally, CH design can consider indoor or outdoor shared spaces, architectural typologies, and flexible spaces to respond to different uses, activities and household compositions. For example, homes can have more or fewer bedrooms (of varying sizes) depending on whether the family is single-person, bi- or single-parent nuclear, or extended. They could also have shared spaces adaptable to resident activities, such as multi-use spaces. In parallel, aligned with CH literature, Study 3's findings show that having shared spaces and facilities for residents to carry out joint activities could positively influence the increase of social interactions, sociability, and social networks in the projects (Khatibi, 2022; Sørvoll & Bengtsson, 2018; Williams, 2005). **Therefore, if the policy aims to enable the implementation of CH models, Recommendation 3 suggests diversifying models by allowing diverse tenure regimes, architectural designs, project uses and future resident types.**

Diversifying CH models can be done by considering (1) designing projects for different user types, user mixes, and socioeconomic levels, such as intergenerational projects that combine spaces for older adults and extended, nuclear, or single families, and (2) different project uses and tenure regimes to aim for sustainability over time, for example, incorporating residential areas of collective property and commercial areas of public or private rental. Connecting with Recommendation 6, this would require creating flexible regulatory and legal frameworks. Different tenures

could include (3) developing affordable, temporary or long-term rental CHs for the older adult and young population. This would require creating an administration model managed by municipalities, private non-profit actors, or residents. For projects with private, shared and public spaces (e.g., patios, multi-use spaces), (4) economic resources would be necessary, considering that these may entail risks of higher construction and maintenance costs. Brysch (2023) argues that this risk can be mitigated by establishing co-design tools, making group instead of individual decisions, and efficiently calculating the proportion of private and collective spaces. Also, as Palm (1992) stated, designing collective homes might require considering a balance between community and privacy. Furthermore, as proposed in Study 4 strategies, these shared spaces might need a long-term management and administration model to be maintained over time.

6.2.1.4 Recommendation 4

Incorporate future residents' self-organisation and self-management in a collaborative process of housing production

Housing policies in Chile have included future residents in some housing programs through participatory processes. However, with some exceptions, this participation has been mostly limited to consultation and follows a discursive logic from the State (see Section 3.3.2, Study 2). This means residents have been included in some housing management processes where their decision-making is generally limited to the developers. Conversely, CH has distinctive features that differ from conventional housing. Studies 2 and 3 show that in CH, housing production is a joint collaborative process with different stakeholders, and future residents have direct decision-making and management power in producing housing. Although residents' degree of collaboration varies per case, these processes can occur in the (pre-)development and (post-)delivery stages of housing. In line with part of the CH literature, Study 3's empirical findings demonstrate that collaborating with other actors during housing production can positively influence the social dimension (Lang & Novy, 2014; Oosterlynck et al., 2016; Sørvoll & Bengtsson, 2018). For example, it could increase internal and external social interactions and networks and build stakeholder trust, which could, in some cases, lead to long-lasting relationships. **In line with Recommendations 5 and 6, and based on Studies 2 and 3, Recommendation 4 proposes incorporating future residents' self-organisation and self-management at (any) housing provision stages through collaborative processes with external stakeholders.**

Recognising the autonomy and capabilities of communities and creating spaces for self-organised future residents in the governance of housing provision could be done by: (1) proposing regulatory frameworks and governance changes by creating a self-management law that institutionalises future residents' self-organisation for the projects, in line with Recommendation 6, (2) creating permanent specific programs that incorporate future residents in the demand organisation process, co-design, and post-delivery in the internal maintenance and project administration organisation should be created, in line with Recommendation 1, (3) creating progressive housing models and programs where the State ensures a minimum of adequate housing that future residents can complete through assisted self-construction and mutual aid, and (4) using ongoing (inter)national CH models that collaboratively integrate residents at any project stage with external stakeholders as references. National examples include *pequeños condominios* from the Micro-settlement 'Here I Stay' program in 2018, the collective projects developed by *the MPL* in the 2000s, the *cooperativas* from the government calls from 2017, and *vivienda colectiva* with the pilot project *Maestranza* from 2020. Some international examples of CH are housing cooperatives in Uruguay, Argentina, and Spain and Community Land Trusts in Central America.

6.2.1.5 Recommendation 5

Stimulate social innovation in creating strategic governance by creating alliances between residents, public and not-for-profit private actors

As explained in the previous recommendation, CH models are developed more collaboratively between interested actors than conventional housing. In CH, residents' higher level of involvement would require a greater investment of resources, time and support from professionals and other stakeholders involved in the housing provision processes. Future residents can voluntarily self-manage part of the processes, such as preparing the necessary documentation to apply for subsidies, project folders for the *Municipal Works Department*, land clearing, care, or self-construction of the homes (see Study 3, Section 3.4.2). However, this implies creating a link between project professionals, developers, local governments and residents to define the steps to follow and each stakeholder's tasks. Our empirical findings from Study 2 and the scenario and strategies Study 4 suggest that one barrier to managing CH is the lack of housing provision governance and policies that allow the link between future residents and private and public actors to work collaboratively. This includes not only top-down approaches but also developer-driven and bottom-up project management. **Thus, hand in hand with**

Recommendation 4, Recommendation 5 suggests implementing social innovation in strategic governance by creating alliances with stakeholders to facilitate organisational and project management processes.

We understand social innovation as arrangements, institutional provisions, and collaborative practices or alliances between private, public, or third sector stakeholders focused on achieving social changes to meet the inhabitants' needs. Stimulating social innovation between stakeholders could be done by (1) granting local and regional governments power in land management and project administration. To this end, regulations could allow them to define the territories in which they can intervene, manage land to facilitate the first stage of searching for land, execute projects, and administer housing projects and units, which is connected with Recommendation 6. Other possibilities are (2) creating agreements between local governments and the not-for-profit private sector that include the latter in the projects development, (3) developing project agreements between stakeholders to define tasks to avoid responsibility overload and extra time consumption that could lead to exhaustion or project withdrawal, and (4) creating an intermediation or non-profit housing corporations or associations from private civil society organisations and the State to develop prototypes, methodologies, and construction techniques (e.g., industrialised housing) focused on reducing the construction costs of the models. These corporations could also support future residents' social organisation during (pre-)development and (post-)delivery housing stages.

6.2.1.6 Recommendation 6

Create regulatory frameworks and flexible construction standards for collaborative housing models adapted to their contextual conditions

Our findings suggest that a transversal strategy for CH to prosper is to create specific legal frameworks, instruments, and regulations and define standards and obligations of stakeholders for CH in general or per models (see Section 5). Study 4 shows that while incentives can be created for developing these models, it is also necessary to formalise the obligations and duties of the actors involved in producing the housing projects. Also, minimum building standards with a margin of flexibility for private habitable units and interior and exterior shared spaces should be established since their designs could differ from conventional housing and current regulations. In Studies 2 and 4, interviewees highlighted the need for flexible and adaptable regulations for developing *pequeños condominios*, which

in their starting phase in 2018 were very restrictive. For example, these projects were legally required to have a specific distance between the building line and the property demarcation (3 meters) that reduced the size of the living area of the homes. Also, regulatory plans limited the height of condominiums, which could be built up to three floors instead of four or more, restricting the number of families accessing housing. **Therefore, if governments intend to implement CH optimally, Recommendation 6 proposes establishing legal frameworks and flexible standards to increase the implementation opportunities of collaborative housing models**.

Some adaptable regulatory frameworks and flexible construction standards can include (1) creating regulatory and tax incentives to allow the incorporation of new developers, third sector or private actors potentially interested in the construction of CH projects (e.g. private non-for-profit), (2) redefining quality building or construction standards that ensure the habitable and material quality of CH projects, (3) allowing a diversity of architectural designs to respond to different residents' needs by defining a normative with different adaptable parameters to projects while being flexible to different project typologies, (4) defining obligations, tasks and duties to regulate stakeholders' involvement and diminish the risk of conflicts, (5) allowing different tenure regimes in subsidy applications, including collective ownership and other hybrid or mixed arrangements, and (6) creating a self-management law to grant power and autonomy to communities in self-organising and self-managing projects.

6.2.1.7 Recommendation 7

Create financing options, such as subsidies, land provision, loans and incentives for developing collaborative housing

Studies 2 and 4's empirical findings show that financing is one of the main barriers to developing collaborative housing models, social housing or housing for middle-income groups in Chile. Like most Latin American countries, in Chile, housing for low and middle-income groups is financed through a tripartite system considering state subsidies that provide partial support, and future residents savings and mortgages complement this. The most used subsidies are the *Fondo Solidario de Elección de Vivienda* DS.49 and the *Fondo de Integración Social y Territorial* DS.19, which consider support for housing construction or purchasing new or used homes. Although the first subsidy is used for *cooperativas de vivienda, vivienda colectiva* and *pequeños condominios*, considering construction costs, CH development could incur additional expenses and risk extra costs due to its characteristics.

CH projects usually include shared spaces or facilities, and Brysch (2023) shows these projects could require a higher initial investment to save money in the long term. Thus, these may require additional expenditure to purchase central land, as has occurred with some *cooperativas de vivienda* (see Section 5.2.2). **In line with this, Recommendation 7 proposes creating a state financing system to support collaborative housing projects through specific subsidies, (partial) land provision, loans, and economic incentives for stakeholders.**

This could be done by creating a state financing system adaptable to different contextual needs and type of CH projects. For example, in a relatively economically unstable country, available state land could be leased or concessioned, economic incentives could be created to incorporate private actors, and access to soft loans or mortgages could be facilitated. In the context of economic stability, greater resources through subsidies could be allocated, creating a bank of state land, and mixed financing between the State, future residents and interested private actors could be created (see section 5.4.4). Other possibilities are to create financing options by: (1) securing financial State economic resources and land in relatively well-located areas of the cities (e.g., recovering unused state land and reusing semi-abandoned or deteriorated buildings), (2) establishing commitments between actors through a guarantee of financial support, (3) increasing the economic resources allocated to subsidies, hiring personnel and accelerating project approval systems in, for example, *Municipal Works Departments* and (4) creating complementary economic support from the State or financial institutions, including interest-free credits or loans to complete the projects technical assistance payment.

6.2.1.8 Recommendation 8

Promote existing collaborative housing models to create interest among stakeholders and wider society

Studies 2 and 4 showed that the public's lack of knowledge of CH partly limits societal interest in the models. On the one hand, future residents require knowledge about CH's models, previous experiences, project management, tenure and design possibilities. Developers, designers and other professionals should also be knowledgeable about architectural design possibilities, co-design methods, and steps to work collaboratively with future residents to balance demands, needs and project feasibility in financial and regulatory terms. Also, the third sector, NGOs, private organisations, and actors who work with housing projects to support their development, management, administration, or maintenance. On the other hand,

central goverment actors, policymakers, and professionals from regional and local governments must be aware of the regulatory changes necessary to allow and regulate project-shared spaces, construction standards, current calls to projects and local regulations to follow. In line with this, our findings suggest that knowing the models could interest a larger population. **Hand in hand with Recommendation 1, which is about creating policies and programs, Recommendation 8 proposes promoting collaborative housing models, their characteristics, and existing built projects for citizens.**

Considering different approaches, this could be done through government dissemination and promotion of CH. This includes (1) national advertising campaigns on the design and development of existing housing projects, providing information about available subsidies to access housing, architecture, management models, project costs, administration and maintenance, and (2) training workshops and ongoing educational courses offered by universities or academic institutions focused on local governments' technical capabilities to expedite permit-reviewing processes. These courses could also focus on design strategies, building techniques, and model technicalities addressed to professionals, universities, local governments, and future residents. In addition, (3) critical mass, research, and knowledge of CH can be created by academic institutions, universities and NGOs that work with these models. This could be done using a practice-oriented approach or a scientific one. Finally, (4) providing space for sharing knowledge about CH benefits and challenges, including internal social organisation, leadership, and co-ownership arrangements, can be chain-transmitted between self-organised communities.

6.3 Limitations, further research and research contribution

This dissertation contributes to expanding and deepening knowledge about collaborative housing in Chile. At the same time, it contributes to the current discussion among public and private actors on housing diversification and the search for alternative models that can help address the country's current housing challenges. This dissertation aimed to provide practical and scientific knowledge but also encountered limitations. In this dissertation's studies, it was not possible to incorporate some aspects in-depth, and some of these would require further research. Therefore, this final section discusses the research processes, knowledge acquired and contribution of the studies in an exercise of reflection that extends beyond addressing this dissertation's research questions. Thus, the section first discusses the theoretical and practical limitations found during each study and future research directions. Second, it mirrors the research's scientific contribution. Finally, it reflects on this dissertation's societal contribution and implications for housing policies in Chile.

6.3.1 Limitations and further research

This dissertation encountered some general and specific limitations in research, both theoretical and practical. One of the general practical limitations was that this research, for a large part, was conducted during the COVID-19 pandemic. Therefore, restricted travel activity during this period affected and delayed the fieldwork planned for the second year of the PhD. Fortunately, the first fieldwork was carried out during the first year, and the second fieldwork in Chile was conducted when the restrictions were lifted in 2022. Fieldwork was conducted to empirically test the potential of CH addressing the SDH with interviews and case observations. Also, a second round of interviews was conducted to determine the possible precedents and current CH initiatives in Chile, as well as the barriers and enablers to its development in this context. This second fieldwork enriched the data obtained in the first fieldwork, enabling the development of Study 2 And the following studies. Although a second fieldwork was carried out, the pandemic delayed data collection processes, which implied making different methodological choices and adopting new data collection strategies, such as conducting the Delphi-based scenario technique instead of live focus group sessions for Study 4, the final study of this thesis.

A theoretical limitation of this dissertation is its restricted scope, which covers the Chilean single-country as a case study, three CH models, and two projects as multiple-case studies. As CH is an emerging phenomenon in the country, this research investigated cases from the metropolitan region of Santiago de Chile since, when the research was conducted, few projects had been built, and no examples had been built in other cities yet. Some authors stated that a single-case study can provide lessons and insightful qualitative generalisations but also that these lessons should value the particularities of the investigated phenomenon (Creswell, 2009; Yin, 2018). In line with this, while this research contributes the initial steps to conceptualising, operationalising CH and proposing an analytical framework to distinguishing these initiatives in the LAC context (Study 2), generalisations were cautiously made as each CH model may present different contextual characteristics. Therefore, we suggest further research incorporating CH study cases in different regions of Chile to contribute to the emerging discussion on some CH models in the country (Cortés-Urra et al., 2023, 2024; Ruiz-Tagle et al., 2021; Vergara et al., 2019). In a broader context, further research could focus on cases from different cities and countries in the LAC region that may have unique characteristics. This would contribute to the dialogue between publications on the Global North and South to further develop the concept theoretically and identify initiatives and their characteristics in these contexts.

This research also faced limitations while conducting the studies. In Study 1, a limitation in the data collection process was finding information to build the timeline of the housing policies and programs developed in Chile. Although the information from the *Ministry of Housing and Urbanism* (MINVU) archives and complementary data from available Chilean journal papers and books, such as publications of Greene and Mora (2020) and Hidalgo (2005), was used to establish the timeline from 1906 to the present, this study might have overlooked some housing policies or programs. In addition, due to the scope of this study, to identify the indicators of the dimensions of housing, literature focused on the housing deficit and housing domain were used, excluding information from other sources and other policy domains such as education, social development, and transport. Study 1's findings could have a certain degree of unintended bias in verifying the classification of the policies and program objectives since this review was scoping in nature and the key concepts of the housing deficit were mapped within a reduced period (Arksey & O'Malley, 2005). In line with this, we suggest directing further research towards conducting in-depth studies of the dimensions of the deficit in Chilean policies, for example, including literature from different domains and sources. Also, Chilean CH researchers could continue this research using it as a basis by adding the new programs and policies developed to date for further quantitative evaluation. Also, using our adapted policy classification framework from Doling (1997) (see Section 2.4), future research could

evaluate how housing policies respond to deficits and their dimensions in other countries to compare different policy contexts analytically.

Another challenge faced in Study 2 is that despite the growing academic interest in CH in recent years (Brouwer & Bektas, 2014; Czischke et al., 2020; Fromm, 2012; Jarvis, 2015; Lang et al., 2020; Vestbro, 2010), this is a relatively new field of research. Although different CH models can be found worldwide, they have mainly been investigated under the CH umbrella term from a Global North perspective. At the beginning of this research, theorisation on models that could be called CH in the Latin American context on which to build this research was not yet developed, nor were frameworks to identify CH. Therefore, it was challenging to apply this lens to the Chilean case, which has a different political, cultural, social, and economic context, or find feasible case projects to analyse. However, this challenge could be considered a research opportunity to expand the CH field. Also, while Study 2 combined desk research data with interviews, it faced data collection and analysis limitations, such as access to historical information about housing in Chile and determining stakeholders' collaboration degree for the oldest CH initiatives (see Section 3.7). This limitation could have led to unintended data misinterpretation and bias in the results. Thus, this dissertation lays the theoretical foundations for the CH field in the Chile and LAC contexts by adapting CH's definition and proposing an analytical framework with variables to distinguish CH from conventional housing. In line with this, to fill the existing knowledge gap on CH in LAC, we suggest that future research use our conceptualisation and apply the proposed framework to clarify the concept and analyse different cases by identifying typologies and models, differences, scales, types of users, and specific characteristics in other economic, cultural and regulatory contexts.

In Study 3, a limitation was the lack of research on the dimensions of the housing deficit, specifically the social dimension. Therefore, we conceptualised the social dimension, proposed analysis indicators, and a conceptual model to explore the CH and SDH relationship in CH projects (see Sections 4.2 and 4.3). As this study sheds light on the qualitative measurement of social interactions and networks, sense of community and attachment, and interpersonal trust indicators, additional research could also propose ways to measure these indicators. This proposal could represent an opportunity as a promising future research direction, considering that qualitative research prevails in the CH field. Furthermore, future research could test the conceptual framework in other CH cases, validate the proposed conceptual framework over time, or broaden its focus to include variables around social sustainability challenges, ecological sustainability, and circularity that address current pressing issues. Another limitation of Study 3 was collecting a diverse sample of gender, age, and years of participants living in the cases. We

identified the cases based on whether they met CH inclusion criteria and whether residents had lived in their project for at least two years and conducted a cross-sectional time horizon. A valuable research contribution would be measuring the projects' social indicators over time in a longitudinal study, which is only possible in long-term research (Yin, 2018). As this research investigated specific bottom-up and developer-driven CH cases, new research could investigate CH effects on SDH longitudinally in the same or other cases in projects with different characteristics, such as top-down approaches, different CH typologies and geographical contexts. This could represent a variation in the interviewees' perceptions that challenges or reinforces our study's findings and connects with the current theoretical streams of arguments on CH's effects on the social dimension of housing.

Study 4 met some methodological limitations in the *Delphi-based scenarios* application and the required times to conduct the rounds. Also, there were limitations concerning the possible biases of the experts' panel and the possibility of the researcher's involuntary data manipulation during the interpretation of the data in the iterative analysis and experts' feedback process. According to Hsu & Sandford (2007) and Okoli & Pawlowski (2004), the time between rounds for the experts to respond to the survey and for the researchers to perform the interim analyses is two to three weeks. However, some Delphi rounds took longer for experts to respond due to personal issues, the difficulty of imagining long-term scenarios, and completing the online questionnaires. From a methodological perspective, we recognised some advantages of this technique, such as allowing a multidisciplinary group from different geographic zones to work collaboratively anonymously while avoiding influencing their responses. Although Delphi lowered the bias risk, some participants reported that the *visioning stage* limited the possibility of openly discussing ideas. Therefore, in line with this, we suggest incorporating a workshop or focus group at this stage, where experts dialogue with others and reach a consensus. Thus, further research could replicate the steps we followed based on Nowack et al. (2011) in other contexts to plan scenarios and strategies for the housing field and add a workshop discussion in the *visioning stage*. Finally, further research could also use our Study 4 findings as a basis guideline for CH's housing policies and program development.

6.3.2 Scientific contribution

One of this dissertation's main scientific contributions is that it conceptually connects the knowledge of self-organised and self-provisioned housing models known as *Collaborative Housing* (CH) from a Global North (GN) perspective with

similar models in Latin America and, more specifically, Chile. Authors such as Davis et al. (2020), Di Paula (2008), Guevara and Arce (2016), Nahoum (2008), Ruiz-Tagle et al. (2021), and Valadares et al. (2018) show that self-organised (in)formal collective housing through collaborative processes are present in LAC countries of the Global South (GS). However, although part of this body of knowledge has been studied, for example, under the umbrella term of *Social Production of Habitat*, this has not yet been theoretically and empirically connected specifically with CH terminology. Thus, as scientific knowledge of CH is still underdeveloped in the LAC context, in line with the approaches of Guity-Zapata and Stone (2022) and De Sousa (2018), this research seeks to position scientific knowledge on CH from a southern case as first step to cross the abyssal line between the North and the South. It responds to the call of Czischke et al. (2020) and Lang et al. (2020) to pay attention to these housing initiatives in the GS to stimulate knowledge exchange between contexts. In this way, to contribute to the research carried out in LAC countries, this dissertation adopts the CH terminology and conceptually links it with existing research in this context. It does this by investigating CH functions in the single-country case of Chile, applying and adapting the concept, and exploring its meaning, characteristics, dimensions, and implementation possibilities in this context.

This research adapted the concept's definition for LAC by operationalising it to address potential differences and nuances between contexts (Studies 2 and 3). Based on the general conceptualisations of Czischke et al. (2020), Fromm (1991), Lang et al. (2020), and Vestbro (2010), specific exclusion and inclusion criteria are proposed to distinguish CH from conventional housing in Studies 2 and 3. These criteria consider (1) the intentional and voluntary motivation of future residents to live together in the project, (2) that residents (participate) or collaborate with external actors in the development of the project, (3) projects incorporate shared interior (or exterior) spaces, and (4) regular participation in joint activities. Our research shows that the CH concept can work in the LAC context by operationalising the proposed definition, allowing for some nuances. While from a GN perspective, CH literature recognises that future residents collaborate at any stage of project development, in the LAC and Chilean cases, residents are not always able to collaborate in their full definition due to regulatory restrictions (see adaptation of Arnstein' ladder in 1969, proposed in Section 3.3.2). Likewise, not all residents share responsibilities or make decisions about their projects, but they may limit themselves to participation, where they can influence some of the decisions during project development. Another variation is that in the LAC case, due to regulatory restrictions, the presence of shared spaces could be restricted to only having outdoor or indoor spaces.

Given the different CH characteristics, an analytical contribution is the proposal of an analytical framework (Study 2) to determine the presence of CH in a case study. We built our framework drawing on CH conceptualisations from Czischke et al. (2020) and Fromm (1991, 2012), the work from Czischke et al. (2023), Lang et al. (2020) and Vestbro (2010), and our defining criteria of CH proposed in Study 3. This framework and variables applied to housing help distinguish CH's specific features from conventional housing and, when applied to different contexts, can cover both informal and formal housing initiatives. This framework helps to identify CH and find connections, similarities, and distinctions between initiatives. For example, it helps determine the level of participation and collaboration in the projects, initiators, drivers and motivations, financing, tenure, spatial features and social organisation. From an analytical point of view, the adapted definition, inclusion criteria and proposed analytical framework can be applied in qualitative studies, contribute to scholars investigating similar models in Chile and other contexts, and continue to be adapted according to the case and their countries. For example, it can connect to the emerging work on collaborative housing models by Chilean authors such as Carroza (2020), Ruiz-Tagle et al. (2021), Urrutia (2019), and Vergara et al. (2019) and help to transfer analytical and theoretical results at a global level beyond LAC.

Another main contribution is the conceptual proposal of the *Social Deficit of Housing*, CH, and its analytical indicators. In the broad literature, authors such as Borja (2018), Jarvis (2015), and Paidakaki and Lang (2021) suggest that housing also comprises a non-physical dimension where social ties are built. In parallel, some LAC authors investigate the social aspects of housing and recognise some of its problems. Authors such as Angelcos and Pérez (2017), Beswick et al. (2019), Ducci (2009), and Rodríguez et al. (2018) pointed out that the housing distribution or specific re-settlement programs have (in)voluntarily located families in urban peripheries, which leads to social problems. These include the breakdown of social ties and feelings of loneliness. Although authors such as Carroza (2020), Di Virgilio and Rodríguez (2014), Ortiz and Zárate (2004), and Tapia et al. (2019) call for policies to consider social aspects to restore the social dimension, it has not yet been conceptualised in this context. This research suggests that housing is a *multi-dimensional phenomenon* composed of *quantitative, qualitative, urban* and *social dimensions*. Thus, acknowledging the above, we conceptualise the social dimension of housing, propose its indicators and conceptualise the *Social Deficit of Housing* (SDH) as the lack of these non-physical social characteristics necessary for housing to be considered adequate (Studies 1 and 3). These proposed conceptualisations can be adopted by scholars in the general housing field who research social aspects of housing and housing deficits in contexts facing similar challenges.

An additional scientific contribution is that this research confirms the theoretical stream of arguments on the positive effects of CH on the social dimension (Study 3). First, it proposes a conceptual model to analyse the influence between CH features and social indicators. Housing researchers interested in investigating this relationship in other contexts can use it as an analytical framework. Second, it contributes to the current discussion on CH developed in the GN from Arroyo et al. (2021), Guity-Zapata et al. (2023), Sørvoll and Bengtsson (2018), Van den Berg et al. (2021), and Williams (2005), with an empirical case study researching a case of the GS. In line with Brysch (2019), Carrere et al. (2020), Jarvis and Bonnett (2013), Khatibi (2022), and Oosterlynck et al. (2016), this research has shown that j*oint activities, shared spaces* and *collaboration* in housing processes influence *social interactions and networks, trust* and *a sense of belonging and community*. Also, in line with Fromm (2012, P 364) and McCamant (1999), our research further suggests that CH can influence a strong social dimension of housing. Thus, we demonstrate that CH can function in and be extended to other contexts and empirically connect with scholars from GN countries on its positive effects on the social dimension. Although housing contexts may differ, this dissertation brings to the fore that the findings on CH and SDH might be transferable to contexts with similar issues or characteristics, such as contexts with similar housing provision systems, cultures, and residents. Therefore, this dissertation builds conceptual and analytical blocks for CH initiatives in Chile and lays the foundation towards theory development in understanding CH and its application in Latin American countries.

The research outputs of each study make other specific methodological and normative contributions to the general housing field. One methodological contribution is the proposed framework for classifying policy options in addressing the housing deficits from a multi-dimensional perspective. In Study 1, we employ Doling's (1997) policy actions in the Chilean context to analyse whether the objectives of public policies and housing programs developed from 1906 until now responded to the previously defined dimensions of the deficit. We adapt Doling's original proposal, which includes the actions of *exhortation, regulation, taxation*, *subsidy,* and *provision*, and add two policy actions: *deregulation* and *partial provision*, as they also occur in Chile. While this study has a practical contribution, it also has a methodological one. The framework used to relate housing policies to deficit dimensions can be applied in other policy contexts to analyse the same relationship and determine how policies respond, for example, to the social dimension of housing.

The second methodological contribution is applying Nowack et al.'s (2011) *Delphi-based scenarios* technique to the (collaborative) housing field. While this technique has been employed for policy, for example, in urban growth or renewable energy

transitions (Perveen, 2017; Rikkonen et al., 2021), it is generally used for scenario planning around global challenges, including environmental sustainability, industry digitisation, and transport (Culot et al., 2020; Melander et al., 2019; Vreys et al., 2019). It has not yet been used for planning scenarios in housing. Thus, this research applies and tests this technique to explore possible long-term scenarios for CH in Chile with 21 experts in three rounds. We apply Delphi in the *scanning, forecasting* and *visioning* stages since, as Nowack et al. (2011) suggest, it can increase scenarios' *objectivity, creativity,* and *credibility*. In agreement with the author, the technique provides valuable insight into scenario planning. However, we observed that *creativity* is limited when the questionnaires are applied at the *visioning* stage (proposing strategies) via the *'Judgment function'*. While Delphi can increase *objectivity* and *credibility* and reduce researcher bias, this stage would require a discussion among experts to consolidate proposals and align approaches. Thus, to increase *creativity* at this stage, we propose that the last round be included or replaced by a workshop or focus group session. In line with this, this research allows researchers to replicate the technique and follow steps in similar housing studies, where the methodological changes we propose in the technique can be tested. This could interest researchers in the housing field from any urban context who are interested in creating new visions for the future through strategic thinking.

6.3.3 Societal implications and contribution

The housing deficit has been part of the global policy agenda in recent decades. Similarly, in Chile, the deficit has persisted over time, reaching a quantitative deficit of 641,421 homes in 2021 (Déficit Cero, 2022), and more than 1.2 million homes need to be qualitatively improved (DIPRES, 2020). As shown by literature and government reports (Castillo & Hidalgo, 2007; MINVU, 2004), in almost 120 years of housing policies, the focus has been on responding to the deficit through various programs and subsidies. However, this approach has led to new housing challenges. Apart from the lack of housing and quality, the Chilean case faces urban and social challenges, including the breakdown of social ties, trust, feelings of isolation and loneliness experienced by families in new homes (Studies 1 and 3). In the face of the deficit and the affordability crisis of recent years, public and private actors have focused their debates on questioning whether housing programs provide 'adequate housing'. Also, third sector actors, such as *Fundación Alcanzable, Deficit Cero*, and *Fundación Cohousing Chile*, who manage projects, highlight the urgency in creating alternatives to address these challenges, especially for middle- and low-income groups. Likewise, the *Ministry of Housing and Urbanism* (MINVU), in its latest housing plan launched in 2022, emphasises the need to incorporate new housing

programmatic lines, which diversify access to housing by incorporating innovation and management mechanisms in housing production (MINVU, 2022).

In line with this, the knowledge acquired in this dissertation contributes to policy and has practical relevance in addressing part of a contingent societal problem around housing. This dissertation aimed to explore an alternative model to conventional housing to contribute to the current housing discussion in the search for adequate housing alternatives. From a normative approach, this research explored Collaborative Housing (CH) in Chile's single-country case, applying the concept and exploring its potential to address some social challenges in housing (Studies 2 and 3). Additionally, a policy review of the case was conducted to engage in policy discussion (Study 1). Furthermore, it explored the future of the complex housing system by planning possible scenarios and conditions and proposing strategies for the development of CH (Study 4) to provoke strategic thinking in policies. Finally, this thesis proposed recommendations to improve the governance of CH initiatives and support policymakers and other stakeholders' decision-making about housing. The recommendations provide guidelines and general directions for housing policies and programs addressed to interested stakeholders in CH. Below, we discuss the contributions of this dissertation's studies related to the recommendations proposed in Section 6.2.

As a starting point to continue the ongoing discussion on housing in Chile, this research suggests that 'adequate housing' goes beyond a physical home, including a non-physical component where its residents build their social and family ties. Thus, our first study analysed housing policies from 1906 onwards and their approaches to housing, demonstrating that most programs do not recognise housing as a multi-dimensional phenomenon. Study 1 has shown that policies symbolically addressed the non-physical social aspects of housing, resulting in some Chilean inhabitant groups losing social ties. This lack of consideration of the social aspects that compose the *social dimension of housing* is what we conceptualise as the *Social Deficit of Housing* (SDH). In line with Study 1's publication, since the beginning of this research in 2019, some public actors from private non-profit institutions working in housing management have begun to coin our conceptualisation of housing as multi-dimensional. The recent Déficit Cero et al. (2024) report, prepared with academics from different universities, acknowledges that housing is multi-dimensional and comprises intangible aspects from an *'affordability'* and *'tenure'* perspective but does not address social aspects. Finally, the MINVU has implied in some reports that achieving social cohesion requires considering the social dimension (DIPRES, 2020; MINVU, 2004, 2022). Based on Studies 1 and 3, we first proposed that policies should consider housing as multi-dimensional and address the social dimension in programs (Recommendation 2).

Thus, to contribute theoretically and practically to the social dimension of housing, Study 3 empirically tested the hypothesis on the potential of CH to reduce the SDH. From a phenomenological approach, Study 3's findings show that CH features can strengthen the social dimension and influence increased social interactions and networks, trust, and sense of community and attachment. These include self-organised residents collaborating with stakeholders during project development, joint activities, and shared spaces. Our findings connect with the discussion presented in the media and a report prepared by *Fundación Cohousing Chile*, the *University of Chile* and the *Centre for Studies on Conflict and Social Cohesion* (COES), which summarises the results of a series of meetings on cohousing developed in 2020 (Fundación Cohousing Chile, 2020). This report argues that CH can socially integrate, for example, senior groups. Like Rolfe et al. (2020), they suggest these models can improve inhabitants' health and reduce loneliness and hospital service demand. In parallel, Déficit Cero et al. (2024) state that 'households in social demand for homes' and State support should be characterised to create governance mechanisms for housing provision. Based on Studies 2, 3 and 4, we propose considering CH as an alternative in Chile. Recommendations 3, 4, and 5 suggest diversifying the models and creating governance mechanisms that include residents in the housing processes.

Studies 2 and 4 applied CH concepts in the case study, planned scenarios, and proposed strategies for their long-term implementation in Chile. Study 2 showed that informal and formal housing collaborative processes have been present in Chile for pragmatic and radical goals. Also, there is interest in CH from the government, third sector, and some future resident groups that develop projects despite existing barriers. This aligns with the recent PEH government proposal to build 100,000 homes yearly, including developing 4,000 small condominiums and 2,000 cooperatives (Déficit Cero et al., 2024; MINVU, 2022). Considering the government's interest in some CH models, Study 4 explored scenarios and proposed general and specific strategies for three CH models: *pequeños condominios, cooperativas de vivienda* and *vivienda colectiva*. Both studies' findings highlighted these models' barriers, including the lack of policies, financing, regulations and frameworks. Finally. Based on the four dissertation studies, Recommendations 1, 6, 7, and 8 were proposed. These suggested the creation of specific policies and programs for CH, regulatory frameworks, financing options, and promotion of the models (See Section 6.2).

Although this dissertation is normative, it recognises that CH is one possible alternative to conventional housing to address some housing challenges. It is not the only or best solution in all cases. Nonetheless, this research draws attention to exploring new housing alternatives. It contributes to taking the first step in

theoretically and empirically applying CH in Chile as an alternative to solve problems associated with the social dimension of housing. As our findings suggest, for any CH model to prosper in Chile, it will depend on the creation of policy reforms, housing programs, legal openings, regulations, financial frameworks, and promotion of existing projects, as well as the contextual country trends and willingness and interest of stakeholders. Following the proposed strategies and recommendations does not imply that CH will be 'successfully' implemented in this context. Still, they lay the foundations and guidelines for housing policies and programs for CH implementation and trigger stakeholders' discussion to consider housing alternatives where future residents are integrated into housing provision processes to develop homes that align with their needs. Therefore, this dissertation can awaken interest and serve as a reference to inspire stakeholders, such as collectives of self-organised future residents, academics and students, developers, policymakers, and managers from contexts with similar policies, programs and challenges interested in creating adequate housing and socially sustainable cities.

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TOC



Curriculum Vitae

Valentina Augusta Cortés Urra

Professional experience

May 2017 - Feb 2019
Independent architect, urban planner and landscaper
- Housing design, urban and geographical analysis and landscaping of public spaces

Nov 2016 - Mar 2017
Collaborator in the accreditation process of the *Master in Geographic Analysis* at the Department of Geography of the Faculty of Architecture, Urbanism and Geography, University of Concepcion
- Database setup, surveys application, data analysis in Qualitas, events organisation, and preparation of the report for the program evaluation committee

Feb 2015 - Feb 2017
Designer and landscaper of *Parque Yumbel* and *Parque Quilque* at MIL Consultores, Arquitectura y Planificación and Ministry of Housing and Urbanism
- Urban analysis, landscaping, design and technical drawing

Jul 2014 - Oct 2014
Collaborator in the *Urban Development Plan for Hualpén* district at UTZ Planificación y Arquitectura Ltda and Municipality of Hualpén
- Desk and field analysis, plans update, and development of urban equipment project

Oct 2013 - May 2014
Urban analyst for *Parque Lo Galindo* at MIL Consultores, Arquitectura y Planificación Ltda and Ministry of Housing and Urbanism
- Data collection and analysis of land uses, housing, and urban amenities case

2010 Feb - Oct 2011
Architectural inspector at Faraggi Global Risk Insurer
- Inspector of homes affected by the earthquake on 27 February 2010

Education

2019 - 2024 **PhD Candidate and researcher,** Department of Management in the Built Environment, Faculty of Architecture and the Built Environment, Delft University of Technology
PhD dissertation: *"Collaborative Housing in Chile: Opportunities, Barriers, and long-term implementation strategies"*
Part of the Co-Lab Research team led by Dr. Darinka Czischke, activities performed:
- Researcher and co-author of the book chapter: *"Propuestas de política pública para apoyar el desarrollo de cooperativas de vivienda autogestionarias en Chile"*
- Researcher in the Co-Lab Mapping project and co-author of the conference paper: "*Mapping Collaborative Housing in Europe – Towards a Systematic Categorisation"*
- Participation in the members committee at the *European Collaborative Housing Award*
- Collaborator at the VRI funding application at the *Pontificia Universidad Católica de Chile*

2016 - 2017 **Architect Degree, Faculty of Architecture, Urbanism and Geography, University of Concepcion**
Final design project: proposal of *Museo Stom* project and architectural design

2013 - 2016 **Master's degree in Geographic Analysis**, Faculty of Architecture, Urbanism and Geography, University of Concepcion
MSc Thesis: *"Análisis de la relación entre las políticas urbanas y planes de transporte, el caso de Lomas Coloradas, en San Pedro de la Paz (1990 - 2015)"*
Average weighted score program: Approved with distinction, 6.5 (out of 7.0 points)
Final grade thesis: 6.0 (out of 7.0 points)
Link: http://repositorio.udec.cl/jspui/handle/11594/6040

2007 - 2012 **Bachelor of Architecture**, Faculty of Architecture, Urbanism and Geography, University of Concepcion
Thesis: *"Transformación Urbana de Tucapel Bajo (1985 - 2014), evolución de la vivienda social en Chile"*
Average weighted score: Good, 5.1 (out of 7.0 points)
Link: http://repositorio.udec.cl/jspui/handle/11594/5784

2003 - 2006 **Business administration technician**, *Liceo Comercial Enrique Oyarzún Mondaca, Chile*

Internships

Jul - Aug 2022 — **Doctoral internship** at Instituto de Estudios Urbanos y Territoriales, *Pontificia Universidad Católica de Chile*
- Desk research fieldwork, project visits and interviews with case study stakeholders

Apr 2012 - Oct 2012 — **Internship** at construction company Constructora Sur Ltda, Concepcion, Chile
- Drawing plans for repairing the *'Edificio Manquemahuida'* affected by the 27 February 2010 earthquake

Apr 2011 - Apr 2012 — **Internship** at UTZ Planificación y Arquitectura Ltda and Municipality of San Rosendo
- Participation in the design of the *Plaza de San Rosendo* (San Rosendo Square)

Mar 2011 - Sep 2011 — **Internship** at construction company Constructora Santo Domingo, Concepcion, Chile
- Analysis of the construction process of the *Florentina Castro building*

Mar 2009 - Jun 2011 — **Internship** at architecture consultancy MAT Ltda, Concepcion, Chile
- Architectural design of the *Nalcas Central hydroelectric power station* project

Awards and grants

2018 — **Winner of the grant** *Beca de Doctorado en el Extranjero Becas Chile*, Convocatoria 2018 of the Agencia Nacional de Investigación y Desarrollo de Chile - ANID (National Research and Development Agency)
Grant number: PFCHA/DOCTORADO BECAS CHILE 2018 - 72190119

2013 — **Winner of the grant** of the Chilean Ministry of Education and University of Concepcion
Grant number: 6600 111012
- Personal initiative to develop the '*Portal Universitario'* project as a project to promote the integration of first-year bachelor students from different cities and countries
- Coordination of volunteers, team meetings, purchase of materials and design and administration of the website, report development and accountability of the project

2007 -2014 — **Winner of the grant** *Beca Bicentenario* from the Chilean Ministry of Education

2003 - 2014 — **Winner of the grant** *Beca Presidente de la República* (Scholarship President of the Republic), Chilean Ministry of Education
- Middle and high school scholarships for students with outstanding academic performance and an average equal to or greater than 6.0 out of 7.0

Teaching and lectures

Apr - Jun 2024 — **Group supervisor** at MSc course AR2MBE025, *Urban and Infrastructure (Re) development Game*, Department of Management in the Built Environment, Faculty of Architecture and the Built Environment, Delft University of Technology

25 Mar 2024 — **Guest lecturer** at course *Comunidades Diseñadas, Karelia University of Applied Sciences,* Findland
Lecture: “La vivienda colaborativa: el caso chileno”

15 Jul 2023 — **Guest lecturer** at course *Vivienda colectiva como proyecto urbano*, *Laboratorio ViCoCo,* Escuela Superior de Arquitectura (ESARQ), México
Lecture: “La Vivienda Colaborativa en el Norte y Sur global como proyecto urbano: una exploración de sus dimensiones, tipologías y escalas”

21 Oct 2022 — **External guest professor committee** at Magíster en Desarrollo Urbano, Instituto de Estudios Urbanos y Territoriales UC, Pontifical Catholic University of Chile
- Evaluation of MSc thesis, student: Loreto Fernández

06 - 09 Jun 2022 — **Guest lecturer** in *Curso de Arquitetura y Urbanismo*, Universidade Veiga de Almeida and Instituto Presbiteriano Mackenzie, Brazil

08 Apr - 20 May 2021 — **Guest lecturer** at bachelor course *Project I: Man, Architecture and City*, Faculty of Architecture, Urbanism and Geography, University of Concepcion
Lectures: “El contexto de la Provisión de Vivienda en Chile: Precedentes de colaboración en Chile” and “Proyectos de Vivienda Colaborativa en el Norte Global”

Jul 2012 – Dec 2015 — **Teaching assistant** at Faculty of Architecture, Urbanism and Geography, University of Concepcion
- Teaching support, course coordination, project revisions for students, preparation of explanatory material, and placement of students’ grades
Bachelor courses:
Project I: Man, Architecture and City
Project II: Man, Architecture and Territory
Project analysis
Project V: Architecture and Environmental Standards
Structural Concepts II
Systems III: technical installations

Leadership and voluntary activities

Nov 2024 to present — **Member of the scientific committee**, *Revista URBE*, University of Concepcion, Chile and *Revista Hábitat y Sociedad, Universidad de Sevilla,* Spain

Jan 2024 to present — **Collaborator** in *Fundación Cohousing Chile*
- Developing research proposals to investigate housing models for older adults

Jun 2022 - 2023 — **Collaborator** in the *Affordable Rental Cluster* at *Déficit Cero* and Ministry of Housing and Urbanism
- Exploring and proposal of international affordable rental housing models for Chile

Jan 2020 - 2023 — **Zonal coordinator** of *Red de Investigadores Chilenos en los Países Bajos*, Red IN.NL,
- Organiser of monthly meetings, seminars and workshops

2013 - 2016 — **Collaborator** in Faculty of Architecture, Urbanism and Geography and Faculty of Engineering, University of Concepcion
- Coordinator meetings and collaborator in the development of the '*Territorial Studies doctoral program*'

2013 - 2014 — **Volunteer** at University of Concepcion and the Chilean Ministry of Education
- Architecture and area project coordinator of community work for improving and building homes for vulnerable families of the Carampangue district in Arauco, Chile

May - Dec 2013 — **Event coordinator** in ONG *Desafío Levantemos Chile*
- Coordinator of activities to support families living in informal housing affected by the earthquake on 27 February 2010 in Caleta Tumbes, Chile

Selection of presentations and talks

06 Oct 2022 — **2do Seminario SCAI: Sostenibilidad, Bioclimática y Arquitectura en tierra** (online), Sociedad de arquitectos e ingenieros (SCAI), Colombia

08 Apr 2022 — **VI Conference: Investigación en Tiempos de Pandemia**, Red de Investigadores Chilenos en los Países Bajos

11 - 25 Mar 2022 — **II Simposio Internacional de Doctorandos: Desarrollo Urbano Sustentable en Latinoamérica y el Caribe**, Centro de Desarrollo Urbano Sustentable and Red de Desarrollo Urbano Sostenible de América Latina y el Caribe

22 - 23 Nov 2021	**IDoBE International conference: Uncertainties in the Built Environment. How can we build a resilient future in the new normal?** (online), London South Bank University, the United Kingdom
12 - 15 July 2021	**14th International Conference of the ISTR: Global Civil Society in Uncertain Times: Strengthening Diversity and Sustainability** (online), Canada
16 - 17 Jun 2021	**Congreso Nacional sobre Vivienda Colaborativa y Territorio** (online), Rovira i Virgili Universit, Tarragona, Spain
25 May 2021	**PGR-led Interdisciplinary Forum on Innovative Approaches to Housing** (online), University of Sheffield, the United Kingdom
12 - 26 Mar 2021	**I Simposio Internacional de Doctorandos: Desarrollo Urbano Sustentable en Latinoamérica y el Caribe,** Centro de Desarrollo Urbano Sustentable and Red de Desarrollo Urbano Sostenible de América Latina y el Caribe
01 Dec 2020	**V Conference: El Chile que Queremos** (online), Red de Investigadores Chilenos en los Países Bajos
20 Nov 2020	**Virtual workshop session: The history of housing cooperative' at** ENHR
08 Sep 2020	**Co-Lab research seminar,** Co-Lab Research, Delft University of Technology
05 - 10 July 2020	**5th ISTR PhD Seminar** (online), International Society for Third Sector Research
16 - 19 Dec 2019	**Housing Colloquium:** El Derecho a la Ciudad: Vivienda Como Instrumento de Cambio social, Faculty of Architecture, Urbanism and Geography, University of Concepcion - Lecture of the doctoral research: "Towards the development of collaborative housing in Chile" - Participation in the television show *Microcomunidades de Contenido*, Television Universidad de Concepción (TVU) - Interview in podcast program *Ciudad, Arquitectura y Ambiente*, Radio Universidad de Concepción

List of publications

Peer- reviewed published journal papers and books chapters

2025 Darinka Czischke, Javier Ruiz-Tagle, Felipe Valenzuela, Nelson Carroza-Athens & **Valentina Cortés-Urra**. Housing cooperatives in Chile: the struggle to re-emerge in a neoliberal context of growing self-management. *Housing Studies , 40/41(0), 1–23. https://doi.org/10.1080/02673037.2025.2459145*

2024 **Valentina Cortés-Urra**, Aksel Ersoy, Darinka Czischke & Vincent Gruis (2024). The Potential of Collaborative Housing to Tackle the Social Deficit of Housing: The Chilean Case. *Journal of Housing and the Built Environment*, 39(2), 697–725. https://doi.org/10.1007/s10901-023-10094-2

2023 **Cortés-Urra, V.,** Czischke, D., & Gruis, V. (2023). Addressing housing deficits from a multi-dimensional perspective: a review of Chilean housing policy. *International Journal of Housing Policy*, 0(0), 1–16. https://doi.org/10.1080/19491247.2022.2159123

2021 Ruiz-Tagle, J., Valenzuela, F., Czischke, D., **Cortés-Urra, V.**, Carroza, N., Encinas, F. (2021). Propuestas de política pública para apoyar el desarrollo de cooperativas de vivienda autogestionarias en Chile. En: Centro de Políticas Públicas UC (ed), *Propuestas para Chile. Concurso de Políticas Públicas 2020.* Santiago: Pontificia Universidad Católica de Chile, (pp. 145-172)

Work in progress

2025 *In preparation to be submitted:* **Valentina Cortés-Urra**, Vincent Gruis, Aksel Ersoy & Darinka Czischke. Towards the Development of Collaborative Housing in Chile: Scenario Planning and Policy Strategies.

2025 *In preparation to be submitted:* **Valentina Cortés-Urra**, Darinka Czischke, Vincent Gruis & Aksel Ersoy. Collaborative Housing in Chile: Precedents, Barriers, and Enablers.

2023-2024 *Submitted book chapter:* **Valentina Cortés-Urra** & Darinka Czischke. Una aproximación a la vivienda colaborativa desde una perspectiva latinoamericana: Diálogos entre contextos norte – sur. Libro: *Reflexiones sobre el habitar contemporáneo II*. En: Laboratorio de la Vivienda Colectiva Contemporánea ViCoCo, Instituto Libre de Arquitectura de Jalisco A.C, ESARQ, México

Conference papers with public presentations

2023 **Valentina Cortés Urra**, Aksel Ersoy, Darinka Czischke & Vincent Gruis (2023). Scenarios for the Development of Collaborative Housing in Chile. Presented at the European Network for Housing Research (ENHR) Conference: *Urban regeneration: Shines and Shadows.* Collaborative housing working group, workshop N01, Łódź, Poland, 28-30 June 2023

2022 **Valentina Cortés Urra**, Aksel Ersoy, Darinka Czischke & Vincent Gruis (2022). The Potential of Collaborative Housing in the Chilean Context: Tackling the Social Deficit of Housing. Presented at the European Network for Housing Research (ENHR) Conference: *The struggle for the right to housing. The pressures of globalisation and affordability in cities today.* Collaborative housing working group, Workshop Nr.5, Barcelona, Spain, 31 August - 02 September 2022

2021 **V. A. Cortés Urra** & D. Czischke (2021). Tackling Housing Deficits from a Multi-Dimensional Perspective: The Potential of Collaborative Housing in the Chilean Context. Presented at the European Network for Housing Research (ENHR) Conference: *Unsettled Settlements: Housing in Unstable Contexts*, Cyprus (Online), Workgroup 1 Collaborative Housing-Session VI, 30 August - 02 September 2021

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Collaborative Housing in Chile

Policy, Precedents, Scenarios and Long-term Implementation Strategies

Valentina Cortés Urra

In recent decades, the housing shortage and multi-dimensional housing challenges, including lack of physical quality, accessibility to urban amenities, lack of social characteristics and habitability conditions, have increased worldwide. In Latin American countries faced with some of these challenges, many governments have formulated a wide range of policies and housing programs. In Chile, the State has delegated housing production to private companies. This approach has mostly affected the location, quality, and social dimension of housing. In other urban contexts, such as in some European countries, inhabitants facing similar issues have self-organised to develop their homes driven by pragmatic and radical goals. From a Global North perspective, these initiatives, characterised by collaborative processes between future residents and external stakeholders in housing production, are labelled under the umbrella term of *Collaborative Housing*. In Latin America, there is also a long tradition of self-organisation in housing through self-building and self-management processes. In Chile, there has been recent interest from resident groups, third sector organisations and the current government in promoting collective self-organised housing through specific programs. However, the concept of collaborative housing has been mainly researched and theorised from a Global North perspective. Furthermore, the meaning and potential of collaborative housing to address housing deficits from a multi-dimensional standpoint have received limited attention in academic research in Chile. This PhD research fills this knowledge gap by applying the collaborative housing concept to study collective self-organised housing in Chile. To this end, it proposes a conceptualisation of 'Collaborative Housing' in the Latin American and Chilean context and determines its dimensions. It also investigates its opportunities and limitations when addressing the *Social Deficit of Housing*, plans scenarios, and proposes policy strategies. The research applies mixed methods, including a policy review, case studies, interviews, and Delphi-based scenario questionnaires. This dissertation concludes with scenarios and long-term policy strategies for three collaborative housing models emerging in the country: *cooperativas cerradas de vivienda, pequeños condominios,* and *vivienda colectiva.* It also provides recommendations that serve as a guide to stakeholders interested in implementing collaborative housing.

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