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# Unpacking Gentrification 2.0

## A systems oriented design study uncovering underlying systemic forces in the context of access to housing

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### Abstract

This paper explores how despite progressive egalitarian policies, systems can have inherent power dynamics that gravitate towards systemic inequities. By applying systems oriented design (SOD) tools and methodologies to the topic of urban gentrification in Norwegian context, this study done with a systemic lens reveals the invisible power dynamics embedded within the Norwegian housing system which seem to favour one segment of citizens over others. When the urban context (within which such a biased system exists) undergoes gentrification, the negative consequences can be much more damaging than anticipated. This study finds patterns of disparity arise in terms of access and agency between two schematic groups, native Norwegians and immigrants, where inequities are then transferred over generations, with long term impact suggesting a poverty trap across ethnic lines.

The paper highlights how systems oriented design and its approaches can be used to uncover the otherwise invisible undercurrents existing within our urban systems. A design response is conceptualised in order to critically reflect on the limitations and challenges of this approach and the evolving role of the designer.

## Introduction

The Norwegian Society's values are rooted in egalitarian ideals and altruism. The author Aksel Sandemose, in *En Flyktning krysser sitt spor* (1953), describes the law of the fictional village of Jante, which warns that "you should not believe that you are better than we are." This is perhaps most strongly reflected in Norway's economic and political policies as well. Following the Nordic welfare model, the government provides an elaborate social safety net to its citizens in addition to public services such as free education and universal healthcare in a largely tax-funded system. However, despite progressive policies, systems can have inherent forces that are often invisible, resulting in systemic inequities. In this study I look at the housing market and see how rapid changes such as those brought by gentrification effect existing system dynamics.

### The Norwegian Context

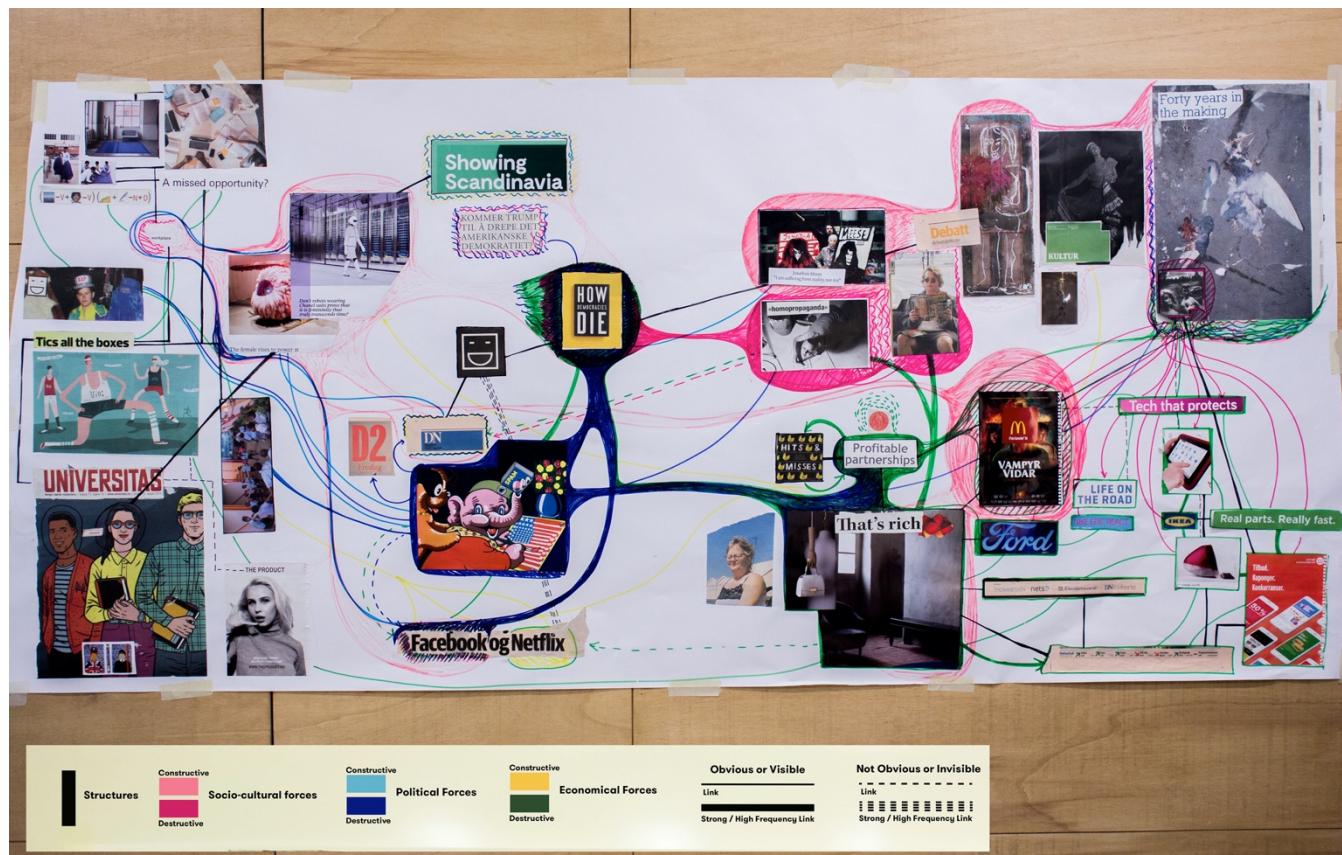
Norway is a country of homeowners: Among the general population, about 80 per cent own their own home (NOU 2011:15). This is high in an international, as well as Nordic context (Andersen et al. 2013; Scanlon and Whitehead, 2007). The design of the Norwegian tax system makes home ownership financially beneficial (Grødem & Hansen, 2015) which is why individual prosperity is very closely linked with homeownership in Norway. This is for instance very different from its neighbour Denmark, where it's more common to rent and prosperity of its people is not coupled with ownership of one's property.

### On Gentrification

In Norway, urban gentrification has been characterized by replacement of original occupants in previously working class neighborhoods by middle-class or higher income groups (Hjorthol & Bjørnskau 2005). This study articulates the embedded biases present within the Norwegian housing system and highlights how negative effects of gentrification go beyond short term displacement (1.0) and move towards long term poverty trap (2.0), an effect that reaches over generations.

## Framework and Methodology

With an intention to understand the characteristics and problems of conceptualizing gentrification, this study began with an interview with a research expert in urbanism (Aspen, n.d.) and subsequent informed study of published literature, where a selection of SOD tools were applied, leading to a patterning of access and equity which form the basis of my argument.



**Figure 1 Gigamap using pictures.** An exercise on how to visualize different qualities of the relationships. SOD Course, AHO 2018. Teachers Birger Sevaldsen and Linda Blaasver

Systems Oriented Design (SOD) is a skill-based approach which enables designers to capitalize on the inherent systemic nature of design by visualizing the whole Gestalt of the system (Koffka, 2013). It

considers different hierarchies and boundaries within a particular socio-technical system creating a holistic overview in order to deal with dynamic complexity of real world problems in a pragmatic way (Sevvaldson, 2013). It includes quite a few methods and techniques, using the following for my study.



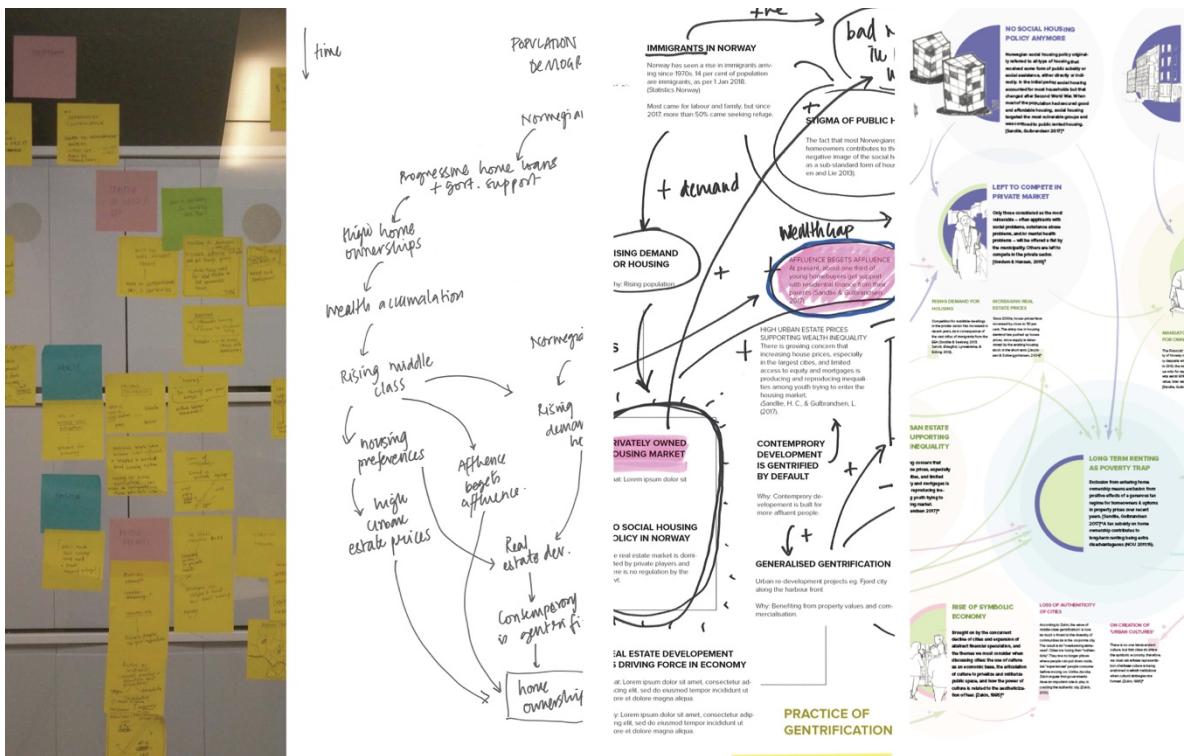
**Figure 2 Rich Design Research Space** An immersive working space (top). As designers, we usually work in two dimensions, using paper and walls. However a rich design space brings in a third dimension, opening possibilities to see new relationships and interconnections. (bottom). Top right image by Arotin Hartounian.

## Gigamapping and Rich Design Space

Systems projects require being able to work with information varied both in quantity and qualities. Gigamapping is one of the central techniques in system oriented design where large amounts of content is mapped across multiple layers and scales. (Figure 1) Utilizing both descriptive and generative thinking, this technique is derived from design practices, which in turn draws from a designerly way of dealing with super-complexity (Sevaldson, 2011). Working with systems oriented design also needs attention on the workspace Rich Design Research Space refers to the physical, social and digital space in which the design process and its research component takes place. (Figure 2) This can be quite useful for designers, especially at the analysis phase of the design process embracing many types of investigations, from analytical to intuitive. (Sevaldson, 2008).

## Problem Fields and Boundary Critique

Tools such as framing and boundary critique help look beyond the immediate object of concern (topic or phenomenon for example gentrification). This forces us to consider the importance of the 'object', not based on what it is but the based on the kind of relationships and networks it's placed within. By posing the core research question 'What is gentrification in Norwegian context?' we bring out relevant information and terms to be mapped in a spatio-temporal frame. (figure 3) This is our problem field or problématique, a network of problems visualized so as to give a holistic picture of the factors in play (Sevaldson, 2011). When the focus has shifted to networks, then we can be more critical of the boundaries drawn (often unknowingly) and in turn become more conscious of what we're including and excluding in the scope of our work.



**Figure 3 Developing the Problem Field** Showing the process of development, which beginning with an interview with an urbanist (left). Main topics were mapped using post-its and reviewed with published literature to gain deeper insight into. This was followed by rough causal loop diagramming which eventually evolved into final versions as seen on the right.



**Figure 4 Systems Dynamics mapping.** Process of building, coding and refining feedback loops between elements.

## System Dynamics and Archetypes

Systems dynamics is a method to model the real world and its structures. This helps us understand how dynamic behaviours in the real world might be produced over time and allows us to experiment with changes in a model, otherwise impossible to perform in the real world. (Forrester, 1985; Sterman, 2010). By capturing interactions with the elements and consequently the feedback loops, a causal loop diagram reveals the structure of a system. (figure 4)

This kind of diagramming creates a visual mapping of how different variables in a system are interrelated, predominantly in a cause and effect relationship pattern. (figure 5) When patterns of behaviour emerge from the underlying system structure, they are called system archetypes. These were referred to better understand existing patterns and anticipate potential problems and/or problem symptoms. (Braun, 2002)



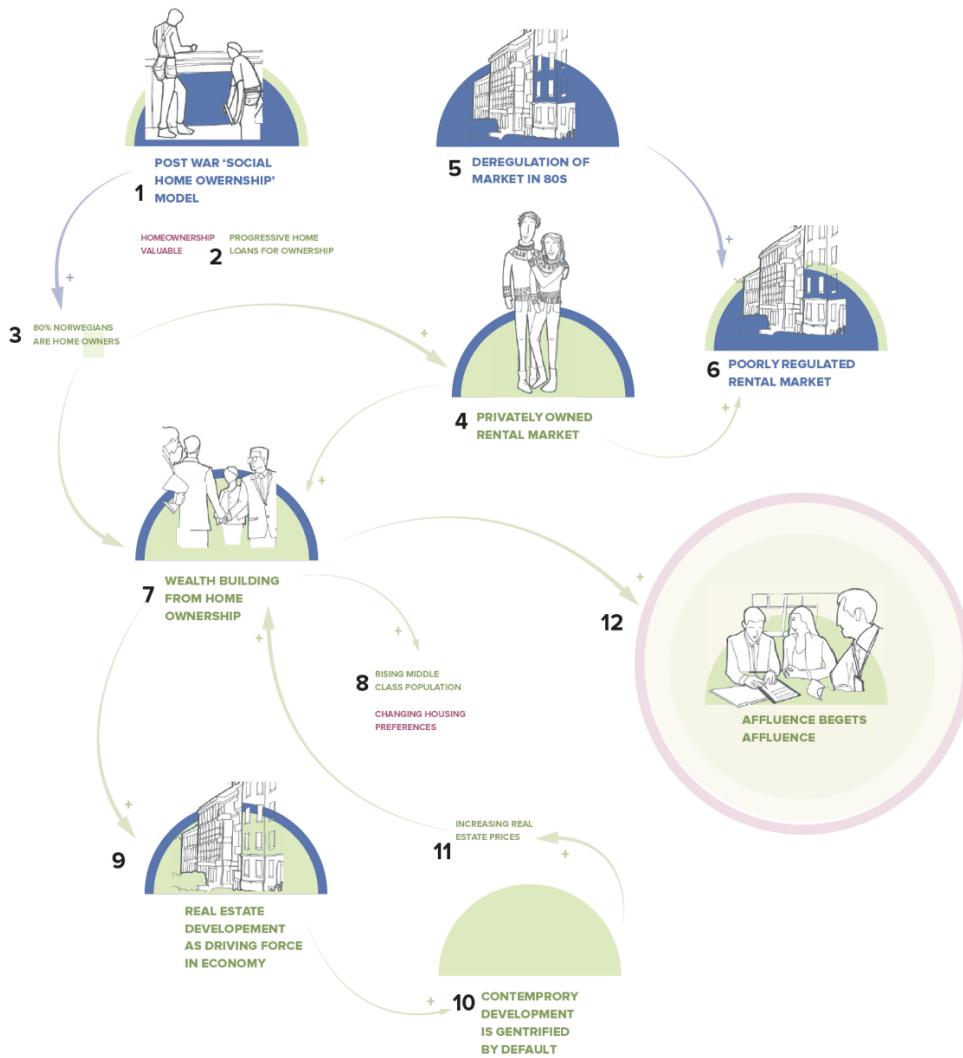
**Figure 5 The Project Map.** The final map in the RSD8 Conference 2019, exhibition at Kalpan Institute, IIT Chicago.

## Leverage point analysis

Leverage points are defined as places within a complex system (an economy, a city, an ecosystem) where a small shift in one thing may lead to fundamental changes in the system as a whole (Meadows, 1999). This approach was used to identify relevant areas for intervention which kickstarted the conceptual design phase. Service design methodologies such as customer journey mapping and scenario making were used to give form to the design response.

## Discussions

During mapping the systems dynamics within the problematic (high definition image here: [http://www.systemsorienteddesign.net/images/stories/Home/projects/AHO-2018/Final\\_Gigamap\\_palakdudani.jpg](http://www.systemsorienteddesign.net/images/stories/Home/projects/AHO-2018/Final_Gigamap_palakdudani.jpg)) two dominant patterns emerged.



**Figure 6 Pattern One** Native Norwegians are more likely to be homeowners and hence build affluence over time.

### Pattern One

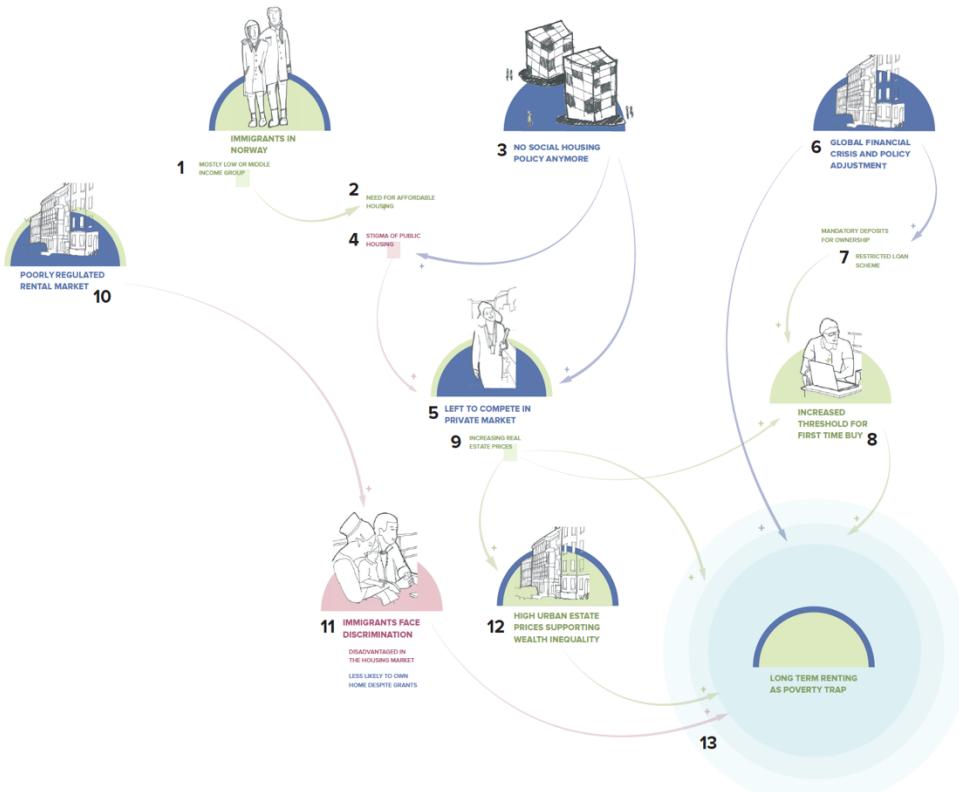
From 1945 onwards, housing was one of the pillars of the Norwegian welfare state. Two state banks provided the majority of the funding & mass home ownership became an important part of the social housing policy. (Sandlie & Gulbrandsen, 2017) Since the 1940s, the full weight of this policy, including bricks and mortar subsidies, tax breaks & housing allowances, was been geared towards the expansion of homeownership. (Grødem & Hansen, 2015) That is one of the reasons why more than 75 % of Norwegian households and 83 % of all people in Norway live in a self-owned accommodation. (Statistics Norway). Since most Norwegian are homeowners, about two thirds of the market is

dominated by individuals letting out their own home, parts of their own home, or one or a few additional (Sandlie & Gulbrandsen, 2017). At the beginning of the 1980s, both the housing market & the financial market were deregulated. Housing investment preferences today are restricted by income & access to housing funding. (Sandlie & Gulbrandsen, 2017). That resulted in a poorly regulated Norwegian market and given the competition for dwellings, owners have the liberty to cherry-pick the renters that they prefer. (Grødem & Hansen, 2015) The design of the Norwegian tax system makes home ownership highly beneficial, as dwellings are taxed at rates considerably below their market value. (Grødem & Hansen, 2015) According to Pekkarinen, Salvanes & Sarvimaki (2015) we see a rise of middle class as social mobility increased substantially between cohorts born in the early 1930s and the early 1940s. Norwegian social attitudes about land seem to be shifting from a 'traditional' mentality towards a more 'American' mentality (van Auken, Rye 2011) with more and more people seeing their houses as an investment. According to Huse & Oatley (2014), in Norway, urban revival of 1980s was reinforced by the shift towards neo-liberal urbanism in the 1990s. (Kallin, 2015) Since 2000s, house prices have increased by close to 50 per cent. The sharp rise in housing demand has pushed up house prices, since supply is determined by the existing housing stock in the short term. (Jacobsen & Solberg-johansen, 2004) For home-owners that again contributes towards building wealth. Given the rising real estate prices, being able to receive support could mean the difference between home-ownership in future or long term renting. At present, about one third of young homebuyers get support with residential finance from their parents (Sandlie & Gulbrandsen 2017) allowing them to become home-owners and build wealth for themselves going forward.

In summary, first schematic group (native Norwegians) seem to have benefitted from the policies of 1940s allowing most Norwegians to become homeowners. Since the 1980s, as deregulation, advent of neo-liberal urbanism and demand for more housing lead to increase in real estate value, homeowners were able to build wealth and pass on affluence to their children. (figure 6)

## Pattern Two

Since 1970s, Norway has seen a rise in immigrants arriving. The immigrant population makes up 16.8% of the country's total population. According to Haurin (1991) and Schill et.al (1998), most immigrants are in low or middle-income group, implying that most immigrants would depend heavily on the social housing & affordability is important in determining homeownership. In the initial period, Norwegian social housing policy originally referred to all type of housing that received some form of public subsidy or social assistance, and most housing accounted for social housing but that changed after Second World War. When most of the population had secured good and affordable housing, social housing targeted the most vulnerable groups and was confined to public rented housing. (Sandlie, Gulbrandsen 2017). This meant that those seeking affordable housing did not receive the support they needed. This is further compounded by the fact that there is stigma or negative image associated with this social or affordable housing. The public housing stock is small and poorly differentiated, which often means that this sector offers deprived housing conditions. (Vassenden & Lie, 2013) So only those considered as the most vulnerable are offered a flat by the municipality. Others are left to compete in the private sector. (Grødem & Hansen, 2015). This was further affected by the global financial crisis that hit in 2000. The fiscal policy was adjusted and these adjustments had a major impact on the Norwegian housing market. (Sandlie &



**Figure 7 Pattern Two** There are many forces pushing immigrants towards long term renting (which has been identified as poverty trap in Norwegian context).

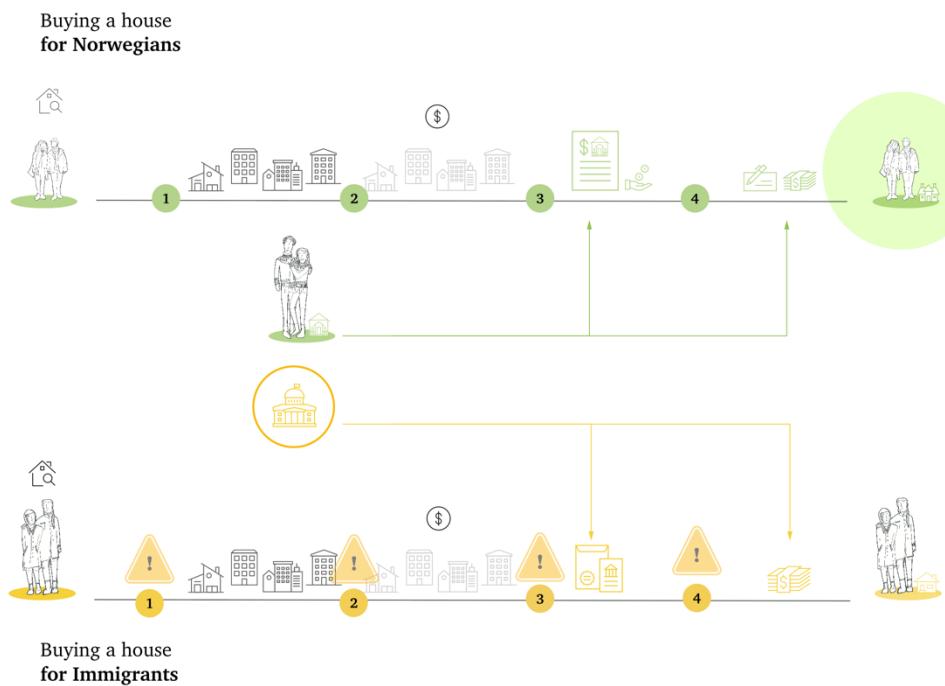
Gulbrandsen, 2017). This included tightening the award criteria for a public start-up loan (Astrup et al. 2015) and introduction of mandatory deposits by Financial Supervisory Authority of Norway. This included tightening the award criteria for a public start-up loan (Astrup et al. 2015) and introduction of mandatory deposits by Financial Supervisory Authority of Norway when buying a house. (Sandlie & Gulbrandsen, 2017) All these measures increased the threshold for becoming first-home buyers. (Hayfron, n.d.) Rising real estate prices further discouraged home ownership, pushing a lot of people into long time renting. It's important to acknowledge that because 2/3rd of the market is private and is poorly regulated (thanks to de-regulation measures in 80s). Given the competition for dwellings owners have the liberty to cherry-pick the renters that they prefer. (Grødem & Hansen, 2015) Grødem & Hansen(2015) highlight that the competition over rented housing in Norway provides 'a fertile environment for discrimination'. The Housing Committee (NOU 2011:15 Rom for alle (Room for all) also estimated that approx. 150 000 people were considered to be disadvantaged in the housing market where immigrants are over-represented. Hayfron (n.d) further says that while immigrants have equal access to home loans or mortgages issued by the state lending institutions yet immigrants are less likely to own a house than Norwegians. There is growing concern that increasing house prices, especially in the largest cities, and limited access to equity and mortgages is producing and reproducing inequalities among those trying to enter the housing market. (Sandlie & Gulbrandsen, 2017) It would seem that a rather large number of forces seem to be pushing towards long term renting as the preferable solution for many of the immigrants, especially as they don't start with the advantage of having a property in the family, an advantage shared by 80% of Norwegians today. Exclusion from entering home ownership means exclusion from positive effects of a generous tax

regime for homeowners & upturns in property prices over recent years. (Sandlie & Gulbrandsen, 2017) leading to long term renting as poverty trap.

In summary, the second schematic group, however, was not fortunate enough to benefit from the same policies. In the following years, due to deregulation, phasing out of social housing policies and tightening of grants, the process of acquiring real estate became more and more challenging, with many often being led to long term renting. While this also includes a small segment of young Norwegians, this group is dominated by immigrants. (figure 7)

### Learnings: Microview

How does gentrification affect the homeownership system now? At present, buying a home in Norway is a four step process which begins with access to market, affordability, ability to get loans and ability to make a cash deposit, where predominantly young native Norwegians benefit from network and financial assistance from home owning parents. However, be it discrimination in the housing market or tightening of loan schemes and subsidies after global financial crisis in 2008, immigrants face barriers at each step to home ownership, a considerable disadvantage which is not shared by their Norwegian counterparts. (figure 8)



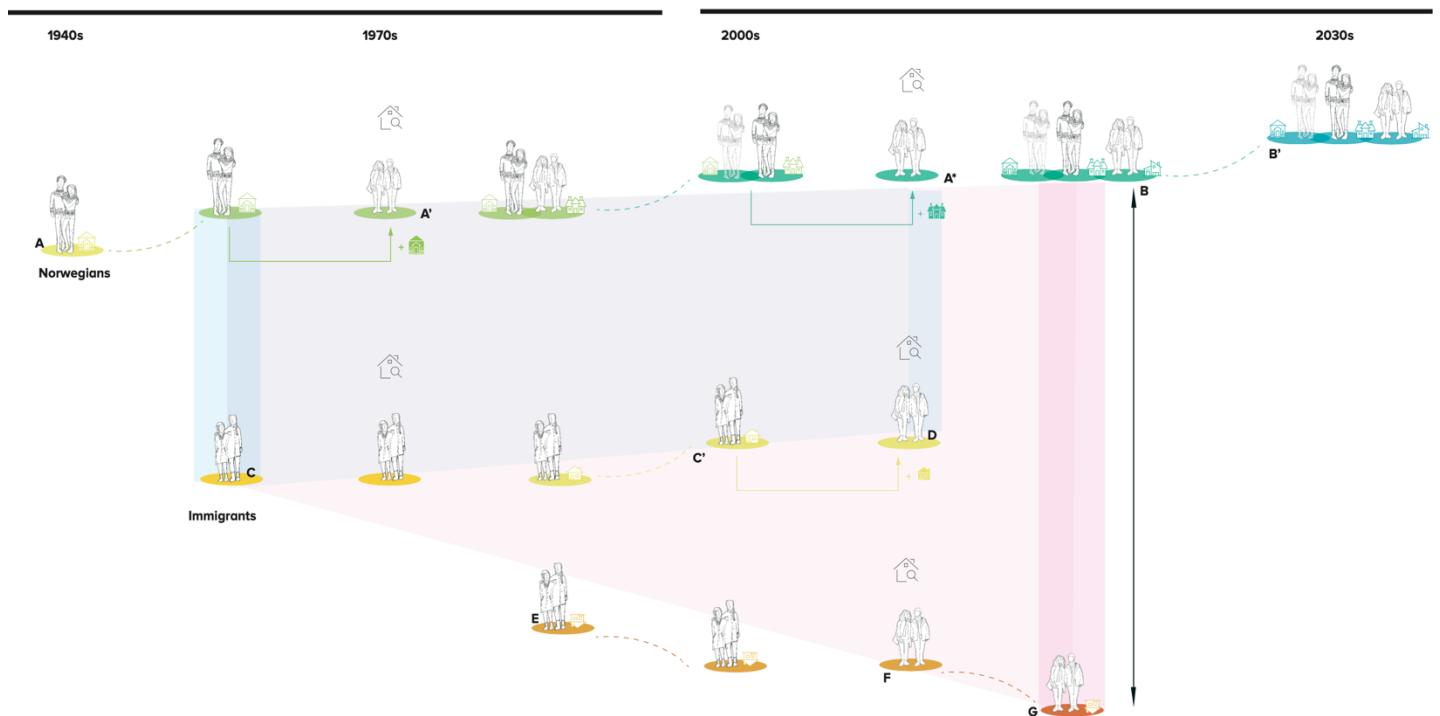
**Figure 8 Microview** Immigrants face barriers at each step to home ownership, a considerable disadvantage which is not shared by their Norwegian counterparts.

In Oslo, gentrification has been accompanied by very steep growth in real estate prices. Due to a relatively safe financial position, most Norwegians are still able to move towards homeownership, where property purchases in gentrified areas can in turn increase the value of their property, feeding back wealth and financial stability. Under ordinary circumstances, immigrant families would have been able to follow the same path of homeownership and eventually wealth accumulation, reducing

the wealth gap between the two schematic groups over time. However, since most immigrants are a low or middle income group, a steep rise in real estate prices hits affordability, effectively blocking their path to homeownership (Hayfron, n.d) pushing them into long term renting, where renting is expensive and limits the ability to save deposits.

### Learnings: Macroview

What are the possible effects of gentrification over generations? The design of the Norwegian tax system makes home ownership highly beneficial, which is why individual prosperity is very closely linked with homeownership in Norway. Exclusion from entering home ownership means exclusion from positive effects of a generous tax regime for homeowners & upturns in property prices over recent years. Homes on the private rental market are often of lower quality than owned homes (Housing for Welfare, 2014) contributing to lowering of living standards, compounding financial inability to buy a house in later years. This disadvantage gets passed down between generations, pushing immigrants into poverty trap and increasing wealth gap between the two schematic groups. (Figure 9)



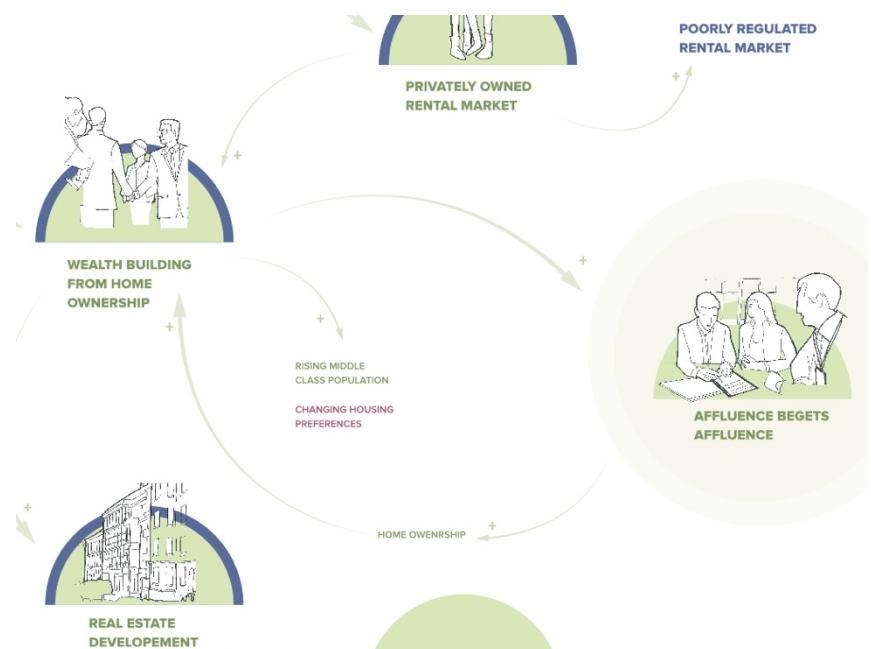
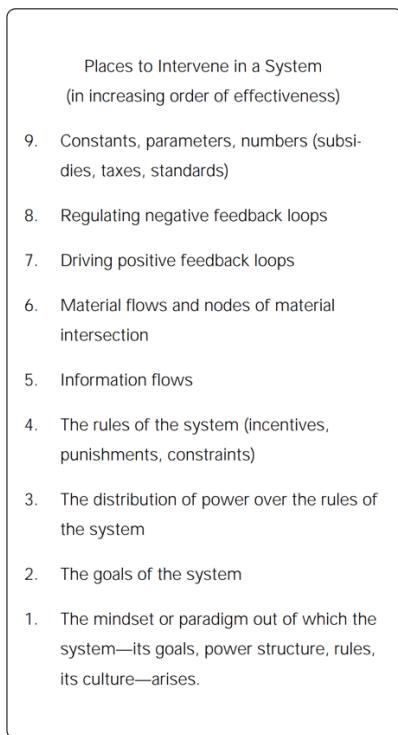
**Figure 9 Macroview** What are the possible effects of gentrification over generations?

Blue part: This section represents the events without the effects of gentrification, i.e the immigrants are also able to become homeowners. If we compare the blue part between point C and point D, we see a small decrease over time, suggesting a slow closing of wealth gap over generations for immigrants.

Pink Part: This section represents the aftermath of effects of gentrification. Due to steep prices, as homeownership becomes less viable and renting more feasible, families lose wealth in long time renting. Comparing point C to point G, we see a remarkable rise in the wealth gap within a few generations, suggesting growing inequality and poverty trap across ethnic lines.

## Design Response

In order to identify what could be a relevant area for design intervention, I looked at Donella Meadows 'Places to Intervene in a System', a list of twelve leverage points (figure 10). A closer look at the problematique revealed the 'success to successful' system archetype, characterized by a positive feedback loop that keeps reinforcing itself. Wealth building from homeownership is the starting point of this loop that creates affluence (or success) which in turn makes it easier to acquire more property and build wealth. (figure 11). According to Donella Meadows, if positive loops are left unchecked, they can result in chaos and we should look for 'success to successful' loops are they're important leverage points (point seven on the list). Hence our problem area to address is 'homeownership'. Instead of having a negative loop (something to take away from homeownership), the design response should reduce again around positive loop (create forces that take away from the strength of the loop). Hence, if we want to prevent poverty traps in the future, we must build homeownership in the present. (figure 12)



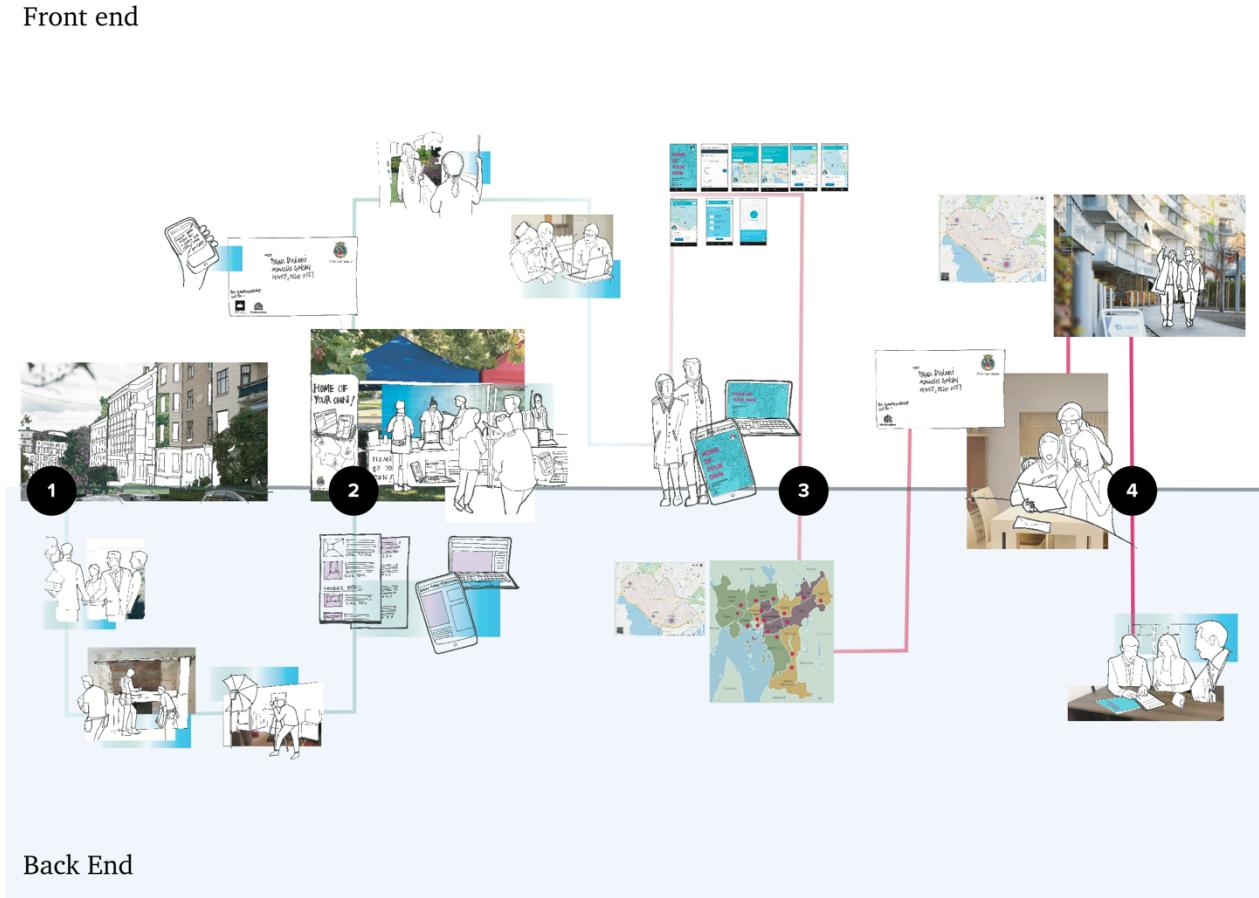
**Figure 10. Places to intervene in a system**  
by Donella Meadows.

**Figure 11.' Success to Successful' System Archetype**

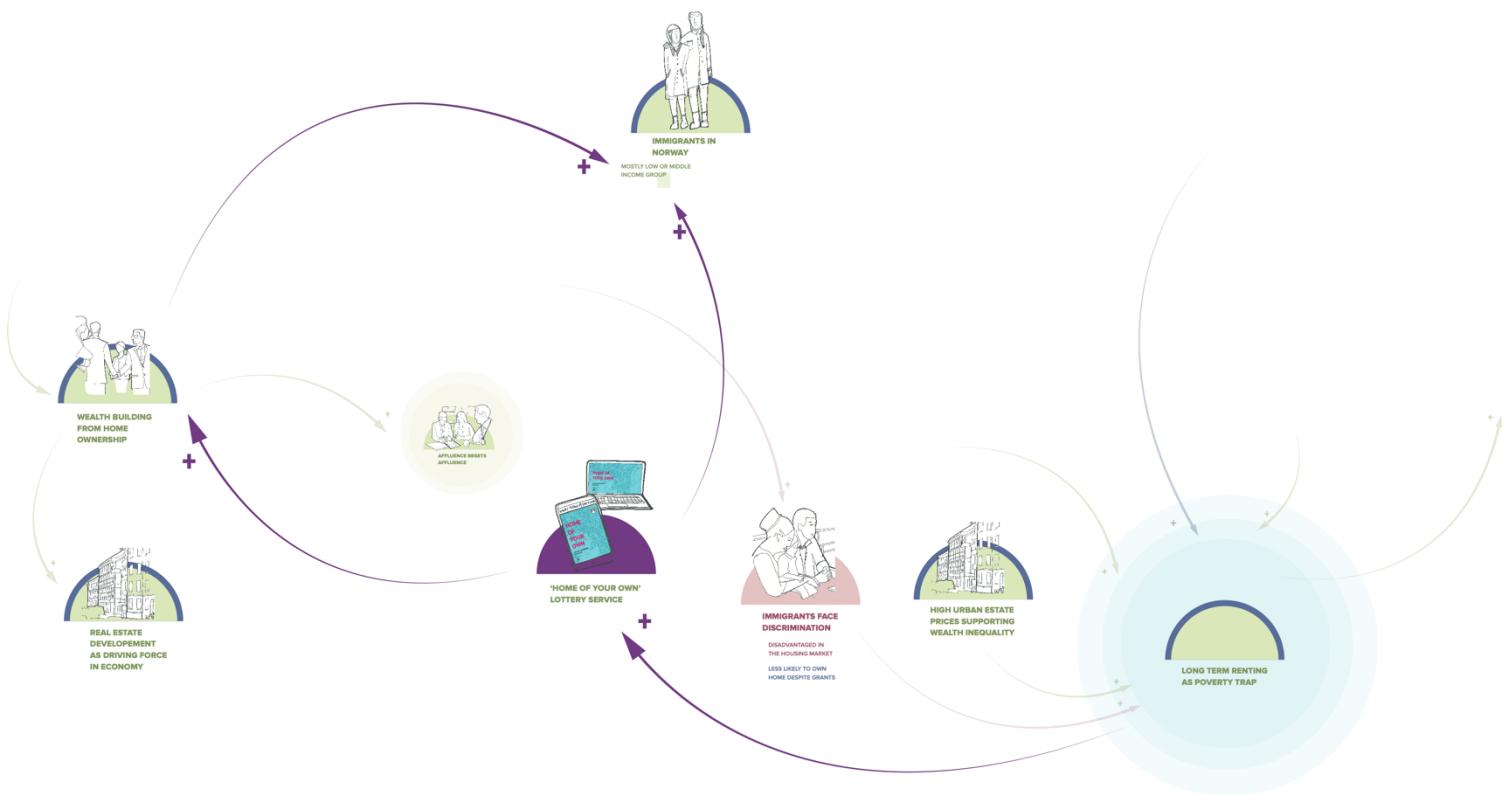
This was explored by designing a discursive concept called 'Home of Your Own', a lottery service designed to give immigrants access to housing stock and other resources/opportunities for homeownership. (figure 12) This was drawn out as scenarios and stakeholders were proposed based on existing roles and responsibilities. The service concept was designed as a four step process with an aim to provoke and make the discourse visible in public discourse. How would this new service concept affect the current system? As mentioned before, according to Donella Meadows, the best way to address the positive loop is to have another force which reduces that positive gain. Here, I propose that this service would act as a counter forces against the many positive forces leading towards 'Long

term renting as poverty gap'. The introduction of the service will have some systemic effects. The lines in purple depict the change in influences that I anticipate. (figure 13). The project documentation can be seen here:

<http://systemsorienteddesign.net/index.php/projects/master-projects/2018/gentrification-2-0>



**Figure 12. Design Response: A concept** A discursive design response (top left) website and mobile application as touchpoints, Four step service concept (top right). Front end and backend stages in this service journey (bottom).



**Figure 13 Systemic Impact** The introduction of the service will have some systemic effects. The lines in purple depict the change in influences that I anticipate.

## Reflections

The challenges of our time are complex. Systems perspective not only allows us to see patterns and relationships more evidently, but also builds design muscles to be able to take on high complexity tasks. As designers take on more complex projects, we can not afford to not have systems lens. To design is a political act and the project contributes to the ongoing conversation around democracy by also inviting designers to investigate the inherent power dynamics present in systems, to acknowledge the custodians of status quo as part of their design work and reflect on their role as a change agents in today's day and age.

### Limitations and next steps

This project was done within a masters course at AHO (Oslo School of Architecture and Design) in autumn 2018. Since then, reflecting on this project I've realised that while this approach was beneficial in making visible the systemic forces, it wasn't necessarily the best approach for creating systems change. The current system creates winners (homeowners) and losers (renters) and my response of moving immigrants (from loser/renter) to winner/homeowner category doesn't really address the reason why there are winners and losers in the first place. It in fact, it ends up buying into

the game of winners and losers and the real question should be - why is there a dichotomy in the first place? I also believe that it's challenging to create systemic level change while staying inside the present system because it carries within it very strong forces. This makes it very easy to be swept away by those undercurrents. These are the next steps for me where in my master thesis I'm looking at assumptions and biases present within the housing system and find ways to step out of the system in order to create conditions for change to happen at systemic level.

## Conclusion

Norwegian society's cultural values are rooted in egalitarian ideals however the larger systemic forces seem to contribute to the dominant patterns, increasing advantage for the privileged schematic group while exacerbating the existing disadvantage for others. Using leverage point analysis, the project identifies an intervention area, imagines desirable scenarios and proposes discursive design response.

Needed is to highlight that systems have inherent power dynamics and, despite well meaning policies, they carry their own gravitational force. This project uses systems oriented study in order to make those forces visible. Without acknowledging that such forces propel yet limit growth, good governance towards equity, inclusion and access in a democracy will remain a challenge.

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