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# **An Analysis of the Impact of Industrial Growth on Housing Affordability in Skellefteå, Sweden**

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**ABSTRACT**

*This study investigates the impact of industrial growth on housing affordability in Skellefteå, Sweden, utilizing a combination of quantitative and qualitative data sources. The analysis encompasses data from Statistics Sweden, interviews, and surveys to explore the complex relationship between industrial expansion, population dynamics, and housing affordability. The findings reveal a substantial increase in the population of Skellefteå attributed to industrial expansion, leading to heightened pressure on the housing market and significant challenges in accessing affordable housing. Respondents to interviews and surveys overwhelmingly agreed that industrial expansion has significantly impacted housing affordability in the municipality. The study identifies key factors contributing to changes in housing affordability, including population size, inflation rate, and housing cost, providing valuable insights for policymakers and practitioners. The evaluation of local policies and initiatives highlights the need for targeted interventions to address the housing affordability crisis. While the study provides valuable insights, potential limitations, and biases, such as self-reported data and sample representativeness, should be considered. Overall, the study contributes to a deeper understanding of the intricate relationship between industrial growth and housing affordability, with implications for evidence-based policy and practice in urban development and housing policy.*

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## INTRODUCTION

In urban development studies, the dynamic connection between industrial expansion and housing affordability is an important field of study (Carmona et al., 2017). Skellefteå Municipality has recently had notable economic growth in Sweden's northern region, mainly due to its rapidly expanding industrial sector. The municipality has historically been known for its mining industry, particularly in extracting base metals like gold, silver, zinc, and copper. However, in recent years, Skellefteå has transformed, embracing innovation and sustainability to become a hub for clean technology and renewable energy. This shift has attracted significant investment and led to the establishment of new industries, thereby driving economic growth and spurring population growth.

An important example is the arrival of Northvolt, a giant start-up that manufactures electric vehicle batteries, with its giga-factory located in Skellefteå. Its arrival has also been accompanied by its subsidiary, Revolt, which specializes in recycling old, and by-products of electric vehicle batteries. Some of its international suppliers of raw materials, like Dongjin Sweden AB, and other businesses which include several contractors, have also been attracted to Skellefteå; and other local businesses that sprang up within the same period. This development has given birth to over 3000 new jobs and residents in Skellefteå.

The influx of new residents, coupled with an expanding workforce, exerts pressure on the housing market, leading to increased demand for both rental and owner-occupied housing. This surge in demand often outpaces the rate of new housing construction, resulting in a discrepancy between supply and demand, which can drive up housing prices and rents. The need for housing has undoubtedly risen as the municipality's economy grows, posing important concerns regarding the availability and affordability of housing options for its residents. This thesis examines how industrial growth has impacted the Skellefteå Municipality regarding housing affordability.

The connection between industrial expansion and housing affordability is multifaceted, encompassing factors such as income levels, housing supply, land use policies, and demographic trends. (Nelson et al., 2002). To ensure fair access to housing during economic development, policymakers, urban planners, and stakeholders must thoroughly understand these links.

Numerous academics have endeavoured to elucidate the correlation between economic expansion and housing affordability (e.g., Oluku & Cheng, 2021; Carmona et al., 2017; Freeman & Schuetz, 2017). These explanations are often broad, encompassing various facets of economic growth and assessing their impacts on housing affordability. As highlighted by Oluku and Cheng (2021), the measurement of economic growth typically involves an upsurge in the number of business establishments within key industrial sectors such as retail trade, professional, scientific, and technical services, as well as information technology. The comprehensive analysis of how these diverse elements, in conjunction with other economic growth indicators, influence housing affordability may prove overly intricate, potentially leading to the oversight of crucial factors. Consequently, attempting to concurrently gauge the effects of all these aspects on housing affordability could result in the neglect of significant components.

This dissertation, therefore, seeks to concentrate on the industrial expansion facet of Skellefteå's regional economy and its impact on housing affordability. This will be achieved through an examination of data and statistics on newly established enterprises, demographic composition, household earnings, as well as housing prices and rental rates spanning the period from 2014 to 2023. The impetus for this research stems from the insights of Oluku and Cheng (2021), who underscore the significance of the proliferation of new business establishments as a yardstick for business or economic growth. They underscore the criticality of housing affordability by asserting that the absence of affordable housing can detrimentally affect living standards and impede a region's economic competitiveness.

This study examines the connection between Skellefteå Municipality's industrial growth and housing affordability, and it does so by utilizing a critical realism framework to help illuminate the nuances of this relationship, drawing insights from urban economics, housing studies, and regional development literature to analyse the complexities of the relationship between industrial growth and housing affordability in Skellefteå Municipality. The concepts of critical realism include the need for causal explanations that disclose underlying mechanisms and structures as well as the presence of an objective reality distinct from human perception (Bhaskar, 2013). From this vantage point, it is possible to conduct a thorough examination of how industrial growth exemplified by the emergence of companies

like Northvolt and its subsidiaries, impacts housing affordability by attracting new residents and workers, thereby increasing demand for housing. By synthesizing existing theoretical frameworks and empirical findings, this research seeks to provide a nuanced understanding of how economic dynamics influence housing affordability dynamics at the local level.

The study's importance stems from its capacity to enhance scholarly discussions as well as its usefulness for policymakers as well as practitioners involved in the creation of urban development and housing policies. Through illuminating how industrial expansion affects housing affordability, this study seeks to provide evidence for evidence-based decision-making procedures that promote equitable and sustainable urban development in Skellefteå Municipality.

### Research Aim and Questions

The goal of this study is to examine how the Skellefteå Municipality in Sweden has been affected by industrial growth in terms of housing affordability. The research aims to contribute to scholarly discussions on housing affordability as it is affected by industrial growth, as well as offer ideas that can guide empirically supported policymaking and urban development initiatives targeted at promoting equitable and sustainable housing solutions in the municipality by examining the relationship between economic dynamics and housing affordability. The following inquiries are addressed in the thesis: *How has industrial expansion impacted Skellefteå Municipality's housing affordability? What are the key factors contributing to changes in housing affordability in the context of industrial expansion? To what extent have local policies and initiatives addressed housing affordability challenges in the face of industrial growth?*

These questions are founded on the philosophical principles of critical realism to unravel deeper causal mechanisms and socio-political structures shaping housing affordability in Skellefteå by combining quantitative analysis of observable empirical phenomena with qualitative inquiry. The last two research questions are also approached theoretically based on the theories of urban political economy from the literature on housing affordability, regional development, and urban studies.

Understanding the effects of industrial growth on housing affordability in Skellefteå Municipality is paramount for several reasons. Firstly, as the municipality experiences rapid

economic expansion driven by its clean technology and renewable energy sectors, there is a pressing need to ensure that this growth translates into accessible and affordable housing options for all residents. Secondly, addressing housing affordability challenges is crucial for promoting social inclusion, reducing inequality, and fostering sustainable urban development. By investigating these issues, this research aims to contribute to scholarly work on housing affordability and offer valuable insights to policymakers, urban planners, and stakeholders engaged in housing policy formulation and implementation in Skellefteå and beyond.

While this study aims to analyse the relationship between industrial growth and housing affordability in Skellefteå Municipality, certain delimitations should be acknowledged. First, the focus of the research is primarily on housing affordability within the municipal boundaries of Skellefteå, with limited exploration of surrounding regions or national housing policies. Additionally, the study primarily relies on quantitative data analysis, supplemented by qualitative insights from relevant literature, interviews, and expert opinions. Furthermore, the research focuses on understanding housing affordability challenges from a macro-level perspective, with limited exploration of individual household financial circumstances or micro-level housing market dynamics. By delimiting the scope of the study, the research aims to provide a focused and in-depth analysis of the identified research questions while acknowledging the broader context and complexities of the housing affordability issue in Skellefteå Municipality.

## LITERATURE REVIEW – INDUSTRIAL GROWTH AND HOUSING AFFORDABILITY

A literature review on the effects of industrial growth on housing affordability in Skellefteå municipality, Sweden reveals a complex interplay between economic development, urbanization, and housing dynamics. Industrial growth has historically been associated with both positive and negative impacts on housing affordability. While some studies suggest that industrial growth can lead to improved housing affordability due to increased economic opportunities and investments (Januário et al., 2023), others highlight the negative consequences such as poor housing conditions and affordability challenges resulting from rapid urbanization and industrial expansion (Lazuka et al., 2016). Although their work does not directly address analysing the effects of industrial growth on housing affordability, it

discusses the impact of industrial growth on mortality rates due to poor housing and working conditions in cities, which could be a related aspect to consider in the literature review. Oluku & Cheng (2021) explore the relationship between housing affordability and business growth in different industrial sectors. Their study, although focused on U.S. data, provides insights into how the expansion of industries can influence housing affordability trends. By examining this relationship, it becomes possible to extrapolate how similar dynamics might play out in Skellefteå, considering the municipality's unique industrial landscape. To guide the discussion in this section, the literature review will be discussed under the points: industrial growth and housing affordability, housing market dynamics in Sweden, policy responses and interventions.

The effects of industrial growth on housing affordability are multifaceted. Studies indicate that industrial dynamics can have contradictory effects on the local labour market, leading to challenges such as the lack of affordable housing and gentrification processes (Zeller, 2010). Economic and population growth, often associated with industrial development, have been identified as factors contributing to the worsening of housing affordability in some contexts (Worthington & Higgs, 2013). In the context of Skellefteå, where industrial growth is a prominent feature, the research by Worthington & Higgs (2013) on macro drivers of housing affordability becomes relevant. While their study focuses on Australia, the insights into how economic and population growth can impact housing affordability are transferable to the Swedish setting. Understanding these macro-level drivers is essential when analysing the effects of industrial growth on housing affordability in Skellefteå. However, the relationship between industrial growth and housing affordability is not always straightforward, as evidenced by research showing that regional economic growth may not necessarily have a negative impact on the production of affordable housing (Anthony, 2006).

Gustafsson (2019) provides insights into the spatial, financial, and ideological trajectories of public housing in Malmö, Sweden. By focusing on restructuring, gentrification, and ideology within the context of public housing, this study offers valuable perspectives on how industrial growth may influence housing affordability dynamics in urban areas. The examination of these trajectories sheds light on the interplay between industrial development, housing market changes, and affordability challenges, contributing to a nuanced understanding of the impact of industrial growth on housing affordability



Voith and Wachter (2009) highlighted the complex interplay between urban growth and housing affordability. This conflict underscores the challenges faced in balancing the expansion of urban areas with ensuring that housing remains accessible and affordable for all segments of the population. The increasing demand for housing in rapidly growing urban centres often leads to rising property values and housing costs, making it difficult for low and middle-income individuals to find affordable housing options (Squires & Hutchison, 2021). Proponents of smart growth support policies that increase the diversity and affordability of housing. They propose that in contrast to places predominately composed of low-density, single-family homes, neighbourhoods with higher densities, a range of dwelling types, and mixed land use can better address the housing demands of low-income households (Aurand, 2010). These strategies seek to solve the problem of housing affordability by developing more sustainable and inclusive urban environments that serve a wide variety of socioeconomic classes.

The work of Voith and Wachter (2009) further sheds light on the complex interplay between urban growth and housing affordability. Addressing this conflict requires a multifaceted approach that considers the social, economic, and policy dimensions of housing provision in rapidly expanding urban areas. By implementing smart growth practices and inclusive urban development strategies, cities can work towards creating more affordable and liveable housing options for their residents.

The housing market dynamics in Sweden have been extensively researched, covering various aspects such as new residential supply, apartment price dynamics, housing precarity, housing market bubbles, discrimination, and the relationship between housing and the financial market. Studies have investigated the long-term dynamics of new residential supply in major Swedish cities, analysing how market fundamentals influence construction and housing conversions (Engerstam et al., 2022). Research has also explored the impact of macroeconomic factors on apartment price dynamics in Swedish cities (Engerstam, 2021). Also, investigations into housing market precarity in cities like Malmö have highlighted the challenges residents face in accessing stable housing (Listerborn, 2021). Studies have examined the presence of housing bubbles in the Swedish real estate market, emphasizing the risks associated with speculative behaviour (Asal, 2019). Discrimination in the housing market based on names has been documented, showing variations in callback rates for

ethnic minority groups in Sweden (Molla et al., 2022). Additionally, research has explored the intersection of housing with real estate economics and finance, covering topics such as short-term accommodations, housing price dynamics, and negotiation dynamics between buyers and sellers in various housing markets (Li, 2022). These studies collectively contribute to a comprehensive understanding of housing market dynamics in Sweden, addressing issues of supply, pricing, discrimination, precarity, and financial implications within the housing sector.

In the Swedish context, where Skellefteå municipality is situated, the effects of industrial growth on housing affordability may be influenced by specific local factors and policies. Research on Swedish municipalities has highlighted the challenges posed by housing shortages due to population growth and demographic changes (Heller et al., 2022). Additionally, studies have explored the impact of municipal land and building policies on apartment sizes in new residential construction, indicating that regulatory measures can affect housing dynamics (Engerstam et al., 2023).

Addressing housing affordability challenges requires a multifaceted approach encompassing regulatory reforms, housing supply initiatives, and targeted affordability measures (Nelson et al., 2022). In examining the debate surrounding policy interventions and responses to the impact of industrial growth on housing affordability, it is crucial to consider the effectiveness and implications of various policy measures. Connell-Variy et al. (2021) discuss policy interventions designed to address critical issues related to development, availability, and affordability in the context of housing markets affected by resource sector fluctuations. This research provides insights into the role of policy responses in mitigating challenges arising from industrial growth.

Moreover, Marquardt & Glaser (2023) compare social housing policies in Berlin and Vienna, highlighting the balance between state intervention and market mechanisms in shaping housing affordability. The study underscores the importance of understanding the historical context and long-term implications of policy interventions in the housing sector. Additionally, Moreno & Wooders (2016) explore dynamic markets for housing, emphasizing the role of policy interventions in enhancing market performance and liquidity.

Furthermore, Stylianides et al. (2021) examine the marketization of housing policy and individual interventions in addressing structural housing issues, shedding light on the evolving nature of policy responses to housing challenges. Understanding the shift towards market-oriented policies is essential for evaluating the effectiveness of interventions in ensuring housing affordability amidst industrial growth.

Despite the existing body of literature on housing affordability and its relationship with industrial growth, there is a notable research gap in understanding the nuanced interplay between government intervention policies and their effectiveness in addressing housing affordability challenges in the context of industrial growth. While some studies have explored the impact of monetary policy on real house price growth Gupta et al. (2010) and the environmental and social impacts of rapid industrialization on housing (Hossain & Huggins, 2021), there is a lack of comprehensive research focusing specifically on the efficacy of government interventions in mitigating housing affordability issues exacerbated by industrial growth. For instance, the existing literature provides insights into the factors influencing housing affordability, such as urban productivity (Gurran et al., 2021), affordable housing policies (Shi et al., 2016), and sustainability-oriented innovation adoption (Moghayedi et al., 2022). However, there is a need for research that specifically examines the effectiveness of government policies, such as affordable housing programs, rent control measures, or urban planning regulations, in ensuring housing affordability in the face of rapid industrial expansion. One of the research questions raised in this study addresses this gap. *To what extent have local policies and initiatives addressed housing affordability challenges in the face of industrial growth?*

Finally, the debate on policy interventions and responses to the impact of industrial growth on housing affordability is multifaceted. By synthesizing research on housing market dynamics, social housing policies, and government interventions, policymakers can develop informed strategies to promote sustainable and inclusive housing practices amidst industrial expansion.

The literature review section concludes by emphasizing the complex relationship that exists between industrial growth and housing affordability. Urban change, housing shortages, and affordability concerns are some of the difficulties that come with industrial expansion, even

though it can also present economic opportunity. Legislators and urban planners must comprehend these processes to create policies that effectively advance inclusive and sustainable housing within the framework of industrial growth.

## **METHODOLOGY/PHILOSOPHY OF SCIENCE**

To examine how industrial growth has affected housing affordability in Sweden's Skellefteå Municipality, this study used a mixed-methods research methodology. Semi-structured interviews provide qualitative insights, which are integrated with quantitative analysis of secondary data in the research design. Surveys were also conducted to complement the data. With the combination of statistical analysis, contextual knowledge, and stakeholder views, this technique enables a multimodal investigation of the research issue.

This study is based on the critical realism school of philosophy, which emphasizes the existence of an objective reality separate from human perception, and the necessity of causal explanations that reveal underlying mechanisms and structures (Bhaskar, 2013). This school of thought is suitably popular with social science studies and consistent with housing affordability studies (Taylor, 2018).

Critical realism suggests that reality consists of a stratified, causally structured domain comprising empirical events, underlying mechanisms, and emergent properties (Bhaskar, 2013). The chosen methodology acknowledges this ontological perspective by adopting a mixed-methods approach that combines quantitative analysis of observable empirical phenomena with qualitative investigation to uncover deeper causal mechanisms and socio-political structures shaping housing affordability in Skellefteå Municipality. This configuration recognizes the existence of underlying socio-economic structures and mechanisms influencing housing dynamics, while also acknowledging the importance of empirical data in uncovering observable patterns and trends.

Critical realism highlights the necessity for intermediate theories that connect empirical data and abstract theoretical conceptions from an epistemological perspective (Sayer, 1992). The methodology that has been employed respects this epistemological position by combining qualitative research with quantitative data analysis to create empirically supported explanations of the connections between housing affordability, industrial growth, and policy responses in Skellefteå Municipality. While qualitative research offers insights into the

underlying mechanisms, social structures, and contextual elements driving these events, quantitative analysis provides empirical data of observable trends and relationships. The research produces middle-range ideas that clarify the intricate causal processes underpinning housing affordability outcomes by triangulating quantitative and qualitative findings. Secondary data from Statistics Sweden provide quantitative information on economic indicators, housing market dynamics, demographic trends, and policy interventions relevant to Skellefteå Municipality. Key variables of interest include statistics of newly started companies, population composition, employment levels, housing prices, rental rates, household income distribution, housing construction rates, and regulatory policies affecting the housing market.

Key players, such as local government representatives, real estate agents, and residents, participated in the semi-structured interviews and surveys conducted. Participants' perspectives, experiences, and thoughts about the connection between Skellefteå Municipality's industrial growth and housing affordability were investigated through interviews and surveys. To identify participants who represent a range of viewpoints and positions across the housing market and urban development sectors for the interviews and surveys, purposive sampling was used. To capture a wide spectrum of perspectives, efforts were taken to guarantee representation from various stakeholder groups and socioeconomic backgrounds.

Quantitative data were analysed using descriptive statistics. The purpose of this analysis is to find patterns and trends between affordability metrics, housing market dynamics, and economic indicators; and to present the results in a visually simple way. The qualitative information gathered from the interviews was evaluated with the themes-based method. Using this method, important insights and viewpoints on the research issue are clarified by looking for recurrent themes, patterns, and narratives in the data. To validate, enhance, and broaden the understanding gained from every data source, results from quantitative and qualitative studies were triangulated. Strengthening the validity and dependability of the study's conclusions is the convergence of findings across approaches.

By employing a mixed-methods approach integrating quantitative and qualitative data collection and analysis techniques, this study aims to provide a nuanced understanding of

the effects of industrial growth on housing affordability in Skellefteå Municipality, Sweden. The mixed-methods approach aligns with critical realism's emphasis on explanatory depth, ontological stratification, and causal analysis (Danermark et al., 2019). By combining quantitative and qualitative methods, the research seeks to uncover both surface-level patterns and deeper causal mechanisms influencing housing affordability. Quantitative analysis enables the identification of empirical trends and correlations, while qualitative inquiry provides context-rich insights into the social, political, and economic dynamics at play. This methodological synergy allows for a holistic understanding of housing affordability in Skellefteå Municipality, grounded in both empirical findings and theoretical explanation.

Additionally, the methodology is consistent with critical realism's emphasis on transformational potential and practical significance (Sayer, 2000). The project attempts to provide evidence for evidence-based policymaking and urban development plans in Skellefteå Municipality by producing empirically informed theories of housing affordability dynamics. This methodology facilitates the formulation of empirically based theories that augment our comprehension of socio-economic dynamics and guide transformational action to achieve more sustainable and equitable results in urban development.

The possible drawbacks and restrictions of this study technique must be acknowledged. It is difficult to ensure an effective complementarity between the various data sources when integrating qualitative and quantitative data in a mixed methods study. It can also require a lot of time, money, and experience to undertake a mixed methods study. I understand these limitations and therefore undertook to make the most of the resources at my disposal to enhance the quality and reliability of the study's conclusions.

## **THEORETICAL FRAMEWORK**

This section serves as a foundational structure that guides the study by relying on established theories and explanations of the phenomenon of *housing affordability as affected by industrial growth* (Ahmad et al., 2019). It provides a blueprint for the thesis and fulfils several essential purposes (Heale & Noble, 2019). Theoretical frameworks are crucial as they help in interpreting and explaining the phenomenon under study and aid in clarifying assumptions and relationships related to the studied phenomenon (Luft et al., 2022). This section therefore aims to provide a structured approach that integrates existing theories,

concepts, and empirical research to lay the groundwork for the research. Thus, it provides a conceptual understanding of housing affordability and goes on to provide an understanding of the theory of urban political economy, and how it impacts the study. It also delves into explaining the key factors that affect changes in housing affordability from the existing literature and provides a review of policies and initiatives in addressing housing affordability.

### **Housing affordability as a concept**

The concept of housing affordability is complex and has a significant impact on how much housing prices cost families and people (Wang et al., 2019). It is described as a household's capacity to cover housing costs without unduly restricting non-housing expenditures (Jiburum et al., 2021). With early viewpoints that connected economic principles and social norms to more recent perspectives that emphasize the effects of urbanization, financialization of housing, and urban restructuring on lower- and middle-class households in cities, this idea has changed over time (Haffner & Hulse, 2021).

In recent years, housing affordability has become a common metric used to summarize housing challenges in many countries (Gambo, 2022). Various approaches have been proposed to measure housing affordability, including the residual income approach, which considers the income remaining after housing costs to determine affordability standards (Stone, 2006). Additionally, housing affordability is assessed based on the proportion of housing expenditure to total household income, reflecting the financial strain housing costs may impose (Sekace & Viesturs, 2021).

The definition of housing affordability varies across contexts, encompassing factors such as housing costs, household income, and housing standards (Brysch, 2019). It is also associated with the ability of households to purchase or rent a home, maintain it, and cover other living expenses without facing financial distress (Hassan et al., 2018). Moreover, housing affordability is crucial for socio-economic stability, as it influences the capacity of households to sustain homeownership and maintain financial well-being (Ghumare et al., 2020).

The complexity of housing affordability extends to its intersection with sustainability principles, particularly in the context of innovative and affordable housing solutions (Moghayedi et al., 2021). Achieving affordable housing involves addressing not only cost considerations but also sustainability, occupant health, and well-being (Moghayedi et al.,

2021). Furthermore, the affordability of housing is intertwined with issues of housing stability, quality, and behavioural responses to affordability challenges (Fedina et al., 2023)

To sum up this conceptualization, housing affordability is a multidimensional concept that encompasses the financial burden of housing costs on households, the ability to maintain housing while meeting other expenses, and the broader implications for socioeconomic stability and well-being. Understanding and addressing housing affordability require a comprehensive approach that considers income levels, housing costs, sustainability principles, and the diverse needs of different population groups.

### **Housing affordability and urban political economy**

Urban political economy provides a framework for understanding the intricate relationships between economic forces, political structures, and urban development processes. By examining the political and economic dynamics shaping urban environments, one can gain valuable insights into how industrial growth influences housing affordability and access to adequate housing. The theory of urban political economy allows for an analysis of how industrial expansion can lead to shifts in land use patterns, property values, and housing markets within urban areas. It helps in understanding how economic policies, regulatory frameworks, and power dynamics between different actors, such as businesses, government entities, and residents, impact housing affordability outcomes. By considering the political economy of urban development, researchers can explore the distribution of resources, the allocation of public funds, and the implementation of housing policies in response to industrial growth.

Urban political economy sheds light on the role of governance structures, institutional arrangements, and power relations in shaping housing affordability challenges. It provides a lens through which to examine the influence of economic interests, lobbying efforts, and urban planning decisions on housing availability and affordability. Understanding the political economy of urban development is crucial for identifying systemic barriers to affordable housing and designing effective policy interventions to address housing affordability issues exacerbated by industrial growth. By incorporating the theory of urban political economy into the study of the impact of industrial growth on housing affordability, we can analyse the broader socio-economic context in which housing dynamics unfold. This



theoretical framework enables a comprehensive examination of the structural factors, policy mechanisms, and power dynamics that influence housing affordability outcomes in urban areas experiencing industrial expansion.

To ground the theory of urban political economy within a critical realist epistemological position, it is crucial to comprehend the interplay between urban growth, housing affordability, and societal structures. Critical realism emphasizes the importance of uncovering the underlying structures and mechanisms that influence social phenomena (Xue, 2022). This perspective is particularly valuable in urban political economy as it enables a more profound analysis of the societal forces impacting housing affordability amidst industrial growth. In the realm of urbanization and sustainable development, the study by (Bettencourt et al., 2007) underscores the global trend toward urbanization and the necessity for a predictive theory of urban organization. This viewpoint is consistent with critical realism, which seeks to identify the fundamental mechanisms and structures driving urban development. Understanding the urban rhythm and the forces propelling urbanization allows critical realism to provide important new perspectives on the workings of urban political economy.

Furthermore, the work by Xue (2022) stresses the significance of critical realist theory in assessing the social, economic, and environmental impacts of beliefs and ideologies integrated into planning processes. This is especially pertinent in the context of housing affordability, where political and economic ideologies can significantly influence urban development policies. Critical realism facilitates a nuanced analysis of these ideologies and their implications on housing affordability within the urban landscape.

Drawing on the work of Ward & Aalbers (2016) in their exploration of land rent theory and the political economy of urban development, we can establish a link between industrial growth and its impacts on housing affordability. They reveal the intricate connections between economic rent, affordable housing, and monopoly within urban landscapes, providing a theoretical lens to analyse how industrial expansion influences housing affordability dynamics. By applying their insights, we can examine how industrial growth may lead to shifts in land values, rent structures, and housing market dynamics, ultimately impacting the affordability of housing in urban areas experiencing economic transformation.

Also, their discussion on the financialization of housing and the political economy approach offers a critical perspective on the commodification of urban land and the implications for housing affordability. By considering the interplay between financial interests, property markets, and urban development processes, we can explore how industrial growth may contribute to the financialization of housing, potentially exacerbating affordability challenges for residents. This theoretical framework enables a deeper understanding of the power dynamics, speculative practices, and regulatory mechanisms that shape housing affordability outcomes in the context of industrial expansion.

The work of Petal et al. (2020) explores urban vulnerability, resilience, and the political economy of decision-making, offering valuable insights that can be linked to the discussion of the impact of industrial growth on housing affordability. Their research emphasizes the importance of understanding the societal and institutional factors that shape urban resilience and vulnerability, highlighting the role of governance structures in addressing housing affordability challenges in the context of industrial expansion. By drawing on Petal et al.'s (2020) insights, one can explore how urban governance mechanisms, policy interventions, and decision-making processes influence housing affordability outcomes amidst industrial growth. The study provides a framework for analysing the socio-economic dynamics that underpin housing affordability issues, shedding light on the complexities of urban development and the distribution of resources within growing industrial areas.

Similarly, the mobilization-governance framework proposed by McGovern (2020) provides an attractive perspective for examining how industrial growth affects the affordability of housing. We may analyse the power relationships and governance frameworks that impact housing dynamics throughout industrial growth by utilizing the framework's findings. This approach enables a thorough analysis of how industrial growth interacts with regulatory frameworks, policy interventions, and urban planning choices to influence the results of housing affordability. It offers a solid theoretical framework for comprehending the intricate relationships that exist between political systems, economic forces, and housing dynamics in urban regions that are undergoing industrial development.

## Key factors affecting changes in housing affordability

Housing affordability is a multifaceted issue influenced by various factors that interact to determine the accessibility of housing for different segments of the population. Several key factors affecting changes in housing affordability have been identified in the literature. Income, demand and supply dynamics, government policies, and socioeconomic factors are some of the factors that affect changes in housing affordability.

Income plays a crucial role in housing affordability (Yap & Ng, 2018). Higher incomes generally enable individuals to afford more expensive housing options, while lower incomes may restrict access to affordable housing. Income is a crucial factor in determining housing affordability, as emphasized in several studies (Soon & Tan, 2019; Hassan et al., 2018; Hing & Singaravelloo, 2018; Sohaimi et al., 2018). The level of income directly influences an individual's or household's ability to afford housing expenses. When assessing housing affordability, the correlation between household income and housing costs is paramount. Households that allocate a significant portion of their income to housing may encounter difficulties in meeting other essential needs like food, transportation, and healthcare (Alaghbari et al., 2011).

Research indicates that income significantly impacts housing affordability evaluations. For example, the residual income approach is commonly utilized to assess housing affordability, considering what households can spend on housing after covering other essential expenses (Kumar & Shukla, 2022; Chatterjee & Chatterjee, 2013). This method helps ascertain if housing costs align with a reasonable proportion of household income, ensuring individuals can uphold a decent standard of living while fulfilling their housing requirements.

Demand and supply dynamics are essential to understanding housing affordability (Yap & Ng, 2018). Changes in demand for housing, influenced by factors such as population growth and urbanization (Archer, 2022), can affect the prices and availability of housing units. Similarly, supply-side factors, including land use and construction regulations, can impact housing affordability (Kuang & Li, 2012). Demand and supply dynamics are fundamental determinants of housing affordability, influencing price levels, availability of housing options, and the overall accessibility of housing for different income groups. For housing options to be available and affordable for all demographic segments, there must be a balance between

supply and demand for housing. Demand exceeding supply can cause prices to rise, making housing less accessible for many people, particularly those with lower incomes. On the other hand, a housing glut compared to demand could lead to lower prices, which could improve affordability but present difficulties for investors and developers.

Studies emphasize the symbiotic relationship between house prices, demand, and supply dynamics (Rangel et al., 2019). House prices, often set by developers, are influenced by the interplay between demand and supply in both primary and secondary housing markets. The financial capabilities of potential buyers and the ease of obtaining loans further impact housing affordability. Understanding the demand for various types of affordable housing is crucial for setting appropriate housing supply targets to address affordability challenges effectively (Teshome, 2019).

Another major factor influencing housing affordability is government policy (Yap & Ng, 2018; Hing & Singaravelloo, 2018; Alqahtany, 2020; Cai & Wu, 2019). Regulations, incentives, and interventions that directly affect the affordability of housing for various income levels are among the tools available to policymakers to shape the housing market (Teshome, 2019). Subsidies, incentives, and regulations on housing can have a direct effect on the cost and availability of housing for households with low and moderate incomes.

Moreover, government policies can impact housing affordability by addressing income distribution, borrowing capabilities, and housing market conditions (Rangel et al., 2019). Policies that consider the borrowing capacity of households, income distribution patterns, and the distribution of housing prices can help create a more equitable and affordable housing market. Through targeted housing policies, governments can ensure that housing costs align with the financial capacities of different income groups, thereby enhancing overall housing affordability. The next section of this paper provides a brief overview of certain policies and initiatives addressing housing affordability.

Research has shown that socioeconomic factors significantly influence housing affordability (Kleshcheva, 2021; Ozturk et al., 2018; Worthington & Higgs, 2013). These factors encompass a wide range of elements, such as income distribution, demographic changes, public policies, and macroeconomic conditions. They all have an essential role to play in determining the accessibility of housing for different segments of the population.

One of the most significant socioeconomic factors affecting housing affordability is income distribution (Kleshcheva, 2021). Unequal income levels among individuals and households can lead to varying degrees of affordability challenges, with lower-income groups often struggling to find suitable housing options. Demographic shifts also play a crucial role, as changes in population composition and household structures can impact housing demand and supply dynamics, thus influencing affordability (Kleshcheva, 2021).

Summarily, the dynamics of supply and demand, government policies, property prices, land costs, income levels, macroeconomic considerations, and other socioeconomic variables all have an impact on housing affordability, making it a complicated subject. To guarantee that all societal segments have access to suitable and affordable housing, addressing housing affordability necessitates a comprehensive strategy that takes these important elements into account.

### **A brief overview of policies and initiatives addressing housing affordability**

Various strategies have been implemented globally to enhance housing affordability. One approach involves promoting age-friendly communities that encompass affordable housing, safe outdoor spaces, convenient transportation options, opportunities for social participation, and accessible health services (Jeste et al., 2016). However, challenges arise when changes in policies increase development costs, reduce affordable units, and decrease overall affordability (Tighe, 2010).

Several reasons, including an aging population and population increase in metropolitan regions, have put pressure on Sweden's housing supply, making housing affordability a pressing concern (Heller et al., 2022). With an emphasis on high-quality public housing, Sweden's housing policy is influenced by its social democratic welfare state system (Hananel et al., 2021). In contrast to market-oriented housing patterns found in nations such as the US, Sweden places a strong emphasis on affordable rental housing (Phang, 2010).

Sweden has explored several approaches to deal with the affordability and housing shortage issues. One strategy is increasing the supply of affordable housing by employing creative solutions, such as serially produced home type approval (Granath, 2017). Furthermore, Sweden has explored using partnerships and financial measures to enhance affordability through loan guarantee laws like those in the Netherlands (Gibb, 2011). In addition, the

nation has had to navigate obstacles relating to state aid regulations and competitive standards for affordable housing in sectors that serve a large population, including housing associations and municipal housing (Delclós & Vidal, 2021).

Housing regulations have a significant impact on societal well-being, as evidenced by the correlation between the stability of couples in Sweden and many characteristics of the housing market (Lauster, 2008). According to Heller et al. (2022), the investigation into housing strategies in Swedish towns highlights the necessity of finding new approaches and establishing objectives to deal with housing scarcity and population shifts.

In summary, Sweden's efforts to maintain housing affordability for its citizens are the result of a multipronged strategy that includes financial measures, creative housing supply solutions, and public housing legislation.

### Theoretical Summary

The concept of housing affordability is complex and impacted by a range of factors, including government regulations, socioeconomic conditions, demand and supply dynamics, and income. The affordability of housing is significantly influenced by income levels, as greater earnings can afford more expensive housing options, while lower wages may make housing less affordable (Stone, 2006). The dynamics of supply and demand, which include elements like urbanization and population increase, have an impact on housing unit costs and availability, which affects affordability. The housing market is shaped for varying income levels by government policies, such as rules and subsidies, which have a direct impact on home affordability. The affordability of housing is also highly influenced by socioeconomic issues, such as population shifts and income distribution, where different income levels provide different affordability challenges.

Urban political economy offers a comprehensive framework for grasping the intricate connections among political institutions, economic forces, and urban development processes. This framework clarifies how industrial growth influences housing affordability by scrutinizing the political and economic factors that mould metropolitan landscapes. The interplay between political decisions, economic strategies, and urban development initiatives plays a pivotal role in shaping the housing environment and determining the accessibility of appropriate housing options. Through an analysis of the political and

economic dynamics prevalent in urban settings, researchers can unveil the underlying mechanisms propelling changes in housing affordability. This method allows for a nuanced comprehension of how governmental policies, economic interests, and power structures impact the availability and affordability of housing choices in metropolitan areas.

In a nutshell, tackling the issue of housing affordability necessitates a thorough strategy that considers socioeconomic variables, government policies, demand and supply dynamics, and income levels. Researchers can provide an organized strategy for comprehending and resolving housing affordability issues in the context of industrial growth by including theoretical frameworks such as urban political economics and taking important aspects impacting changes in housing affordability into account.

### **OPERATIONALISATION - METHODS OF INQUIRY**

Proceeding from theory to empirical analysis to explore the impact of industrial growth on housing affordability in Skellefteå, Sweden, and to support the theory with empirical findings, this section becomes necessary. This section aims to provide the reader with detailed information on the operationalisation process the researcher undertook in gathering and analysing data for this study. The operationalisation of variables and concepts in this study was essential for systematically investigating the impact of industrial growth on housing affordability in Skellefteå. By employing a rigorous methodology and operationalising key factors, the study aimed to provide valuable insights into the complex dynamics influencing housing affordability in the context of industrial expansion.

A mixed-methods research approach was employed, incorporating quantitative data from Statistics Sweden and surveys, with qualitative data from semi-structured interviews. The operationalisation of key variables and concepts was guided by the established methodology and framework to ensure the reliability and validity of the study.

Quantitative data sourced from Statistics Sweden encompassed statistics on newly established enterprises, population figures, and tax revenues in Skellefteå from 2014 to 2023, elucidating the concept of industrial expansion. Additional data included details on household disposable income, average rental rates in leased accommodations, and the number of completed residences in newly constructed buildings, serving as metrics for affordability. A survey was conducted to complement the Statistics Sweden data and garner

insights on key factors influencing shifts in housing affordability and the efficacy of policies addressing this issue in Skellefteå municipality. Administered electronically using Google forms, the survey encompassed responses from residents (both new and those residing in Skellefteå for five to ten years) and local government representatives, yielding a total of eighty-six responses. Qualitative data emanated from interviews with ten residents and two real estate agents (selected randomly), providing perspectives on the ramifications of industrial growth on housing affordability.

Industrial growth was operationalised through the count of newly registered companies, population metrics, and tax revenues in Skellefteå municipality. Population dynamics were gauged by the population trends in Skellefteå over a decade. Housing affordability was operationalised via the average rent for a 3-room apartment, the proportion of income allocated to housing expenses, and the accessibility of affordable housing alternatives. Key factors influencing shifts in housing affordability were operationalised by evaluating the impact of population size, inflation rates, housing expenses, population income levels, and loan interest rates on housing affordability.

Quantitative data analysis from Statistics Sweden entailed descriptive statistics to discern trends in industrial growth, population dynamics, and housing affordability. Survey responses were also subjected to descriptive statistics to ascertain the key factors influencing changes in housing affordability and the extent to which local policies have addressed this issue. Qualitative data from interviews underwent thematic analysis to extract insights into the repercussions of industrial growth on housing affordability and the pivotal factors influencing this aspect.

To mitigate potential biases, measures were implemented to ensure the representativeness of the sample in interviews and surveys. Transparent reporting of data collection and analysis methodologies was upheld to bolster the study's credibility and reliability (refer to appendices for further details).

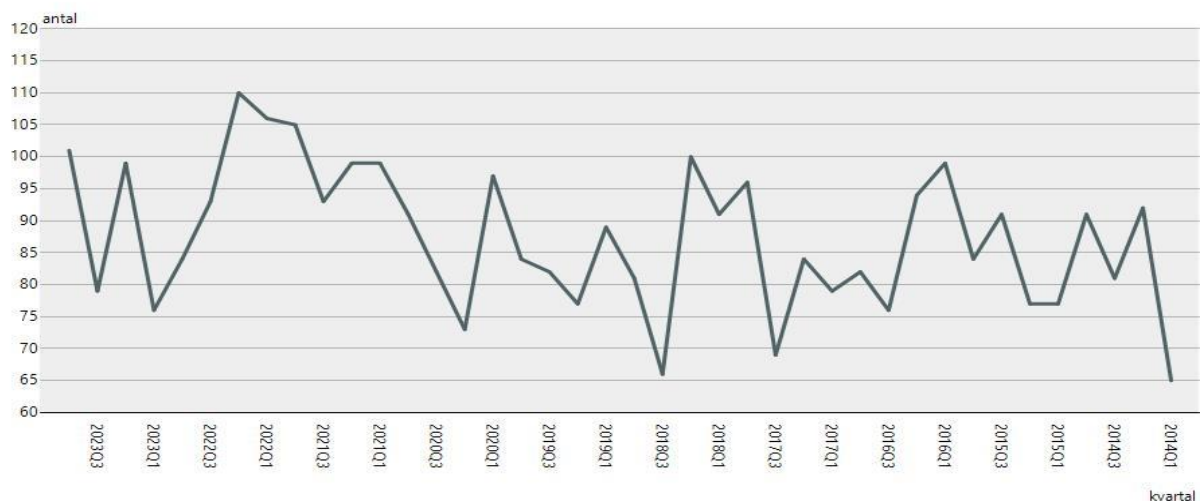


## RESULTS - PRESENTATION OF FINDINGS

This segment showcases the data gathered from Statistics Sweden, interviews, and surveys to investigate the influence of industrial development on housing affordability in Skellefteå. Graphs and charts are utilized to visually represent the outcomes. The industrial growth in Skellefteå municipality, characterized by a substantial increase in population, became apparent with the establishment of Northvolt, an electric vehicle battery manufacturer, and other enterprises.

**Figure 1: Newly started companies in Skellefteå**

Nystartade företag 2011- by kvartal. 2482 Skellefteå, antal nystartade företag.



Source: Statistics Sweden

Figure 1 displays data regarding the quantity of recently established enterprises in Skellefteå spanning the period from 2014 to 2023. Over this timeframe, a total of 3,494 new companies have been registered or initiated in Skellefteå, encompassing both small-scale and large-scale ventures. This progression has resulted in a substantial augmentation in the population of Skellefteå. Particularly noteworthy is the influx of a minimum of 4,000 additional residents (as depicted in Figure 2) in the municipality, primarily employed by Northvolt and other emerging enterprises.

**Figure 2: Population of Skellefteå**

Population by year. Skellefteå.

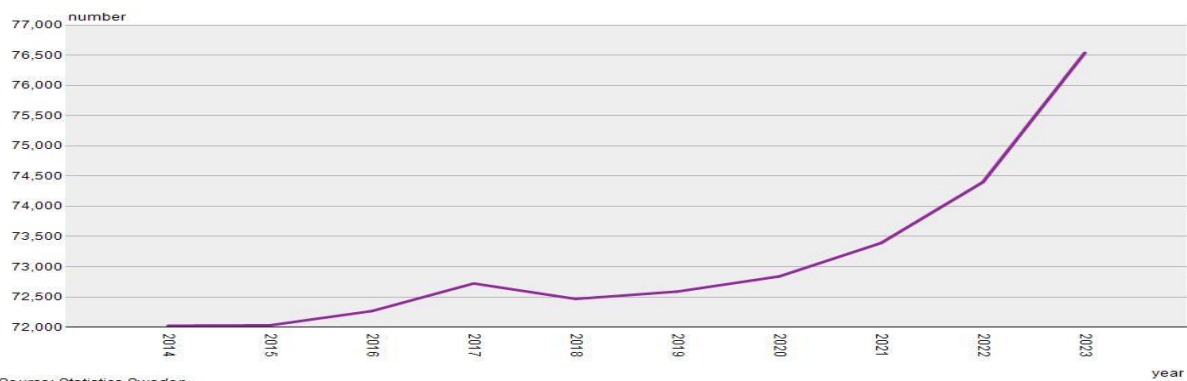


Figure 2 depicts the population growth of Skellefteå. The data clearly indicates a substantial rise in the population of Skellefteå, a trend that can be attributed to the industrial expansion in the region. This surge in population has placed considerable strain on the existing housing resources and could potentially influence housing affordability.

**Figure 3: Tax revenue of Skellefteå**

Taxes, total sum, SEK millions by year. Skellefteå, final tax, total 20 years.

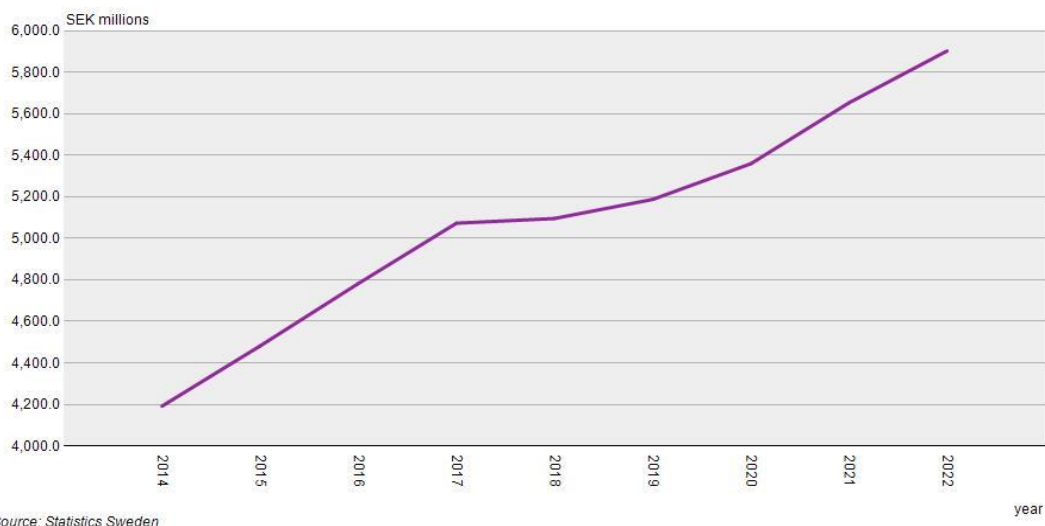


Figure 3 illustrates a notable upsurge in tax income generated by the Skellefteå municipality during the period of industrial expansion. This rise in tax revenue is linked to the growth in population and commercial endeavours, thereby substantiating the concept of industrial expansion in the region (Lestari & Yolanda, 2022).

## Impact of industrial expansion on housing affordability in Skellefteå municipality

Most of the participants in the survey (97%) and interviewees concurred that the expansion of industries has had a notable impact on the affordability of housing in Skellefteå. Before the establishment of Northvolt for instance, there was minimal strain on the housing market in Skellefteå. Traditionally, a 3-room apartment would typically command a monthly rent ranging from SEK 6,000 to SEK 7,000. However, in recent times, certain tenants are now facing rental fees as high as SEK 15,000 to SEK 25,000 per month for similar types of apartments in newly constructed buildings. When juxtaposed with the average household monthly income of SEK 42,600 after tax (as depicted in Figure 6), these housing alternatives become unaffordable.

Another significant challenge encountered by residents is the limited availability of housing. While there are several reasonably priced apartments in older structures, the number of such units is insufficient to accommodate the substantial demand from individuals seeking housing. Real estate agencies utilize a queue point system to allocate the available apartments. Registered members accrue one queue point per day, with the accumulation of points increasing the likelihood of securing one of these apartments. Regrettably, this system does not favour many new residents who possess only a limited number of queue points. Consequently, many new residents encounter difficulties in securing affordable apartments near their workplaces.

### Figure 4: Number of completed dwellings in newly completed buildings

Completed dwellings in newly constructed buildings by year. Skellefteå.

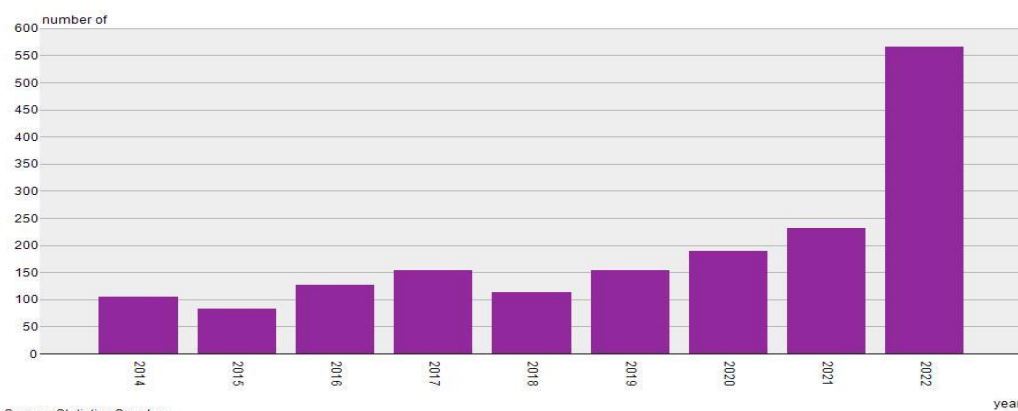
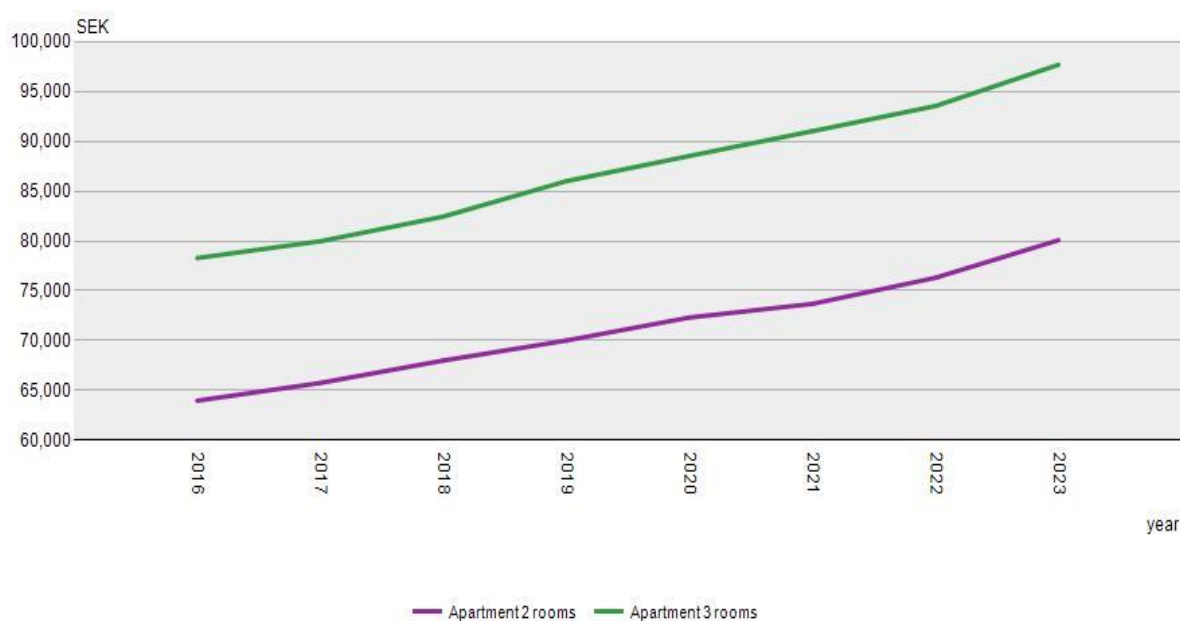


Figure 4 illustrates the quantity of recently constructed residences in Skellefteå in response to the rising population, a joint effort by the municipality and developers. A sum of 1,719

new dwellings was erected between 2014 and 2022. In juxtaposition with the population surge in Skellefteå during the same timeframe, there exists a deficit of 659 residences. The statistics become more concerning for the year 2023, which witnessed a population growth of 2,140 compared to the preceding year.

**Figure 5: Average rent in rented dwellings**



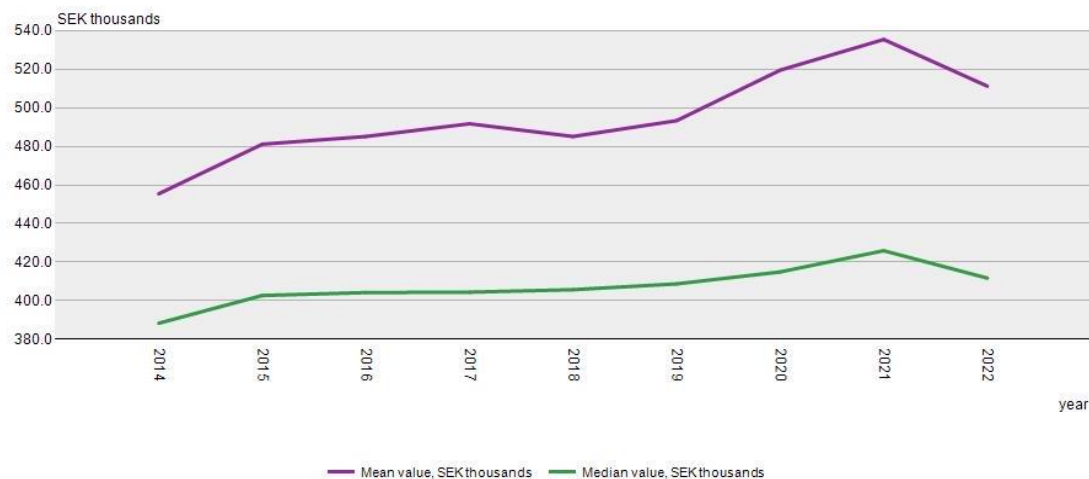
Source: Statistics Sweden

The data displayed in Figure 5 above indicates that the average rent for a 3-room apartment in a municipality similar in size to Skellefteå (actual figures for Skellefteå are not available) amounts to SEK 93,545 for the year 2022 or SEK 7,800 per month. In comparison to the disposable income of households in Skellefteå during the same period (as depicted in Figure 6), which stands at SEK 511,200 annually or SEK 42,600 monthly, it is observed that 18.3% of the income is allocated towards housing expenses. This suggests that housing affordability is relatively feasible. However, while this assertion holds logically, the average data presented for the year 2022 may not accurately reflect the current situation in Skellefteå, and the situation is not the same for single individuals who may not earn as much. Furthermore, the figures on the average rent in rented properties may not be precise for Skellefteå due to the unavailability of specific rental data for the municipality.

Therefore, it is prudent to rely on the insights provided by interviewees and respondents, some of whom are grappling with exorbitant rental costs, indicating that housing affordability in Skellefteå has been significantly influenced by industrial expansion.

**Figure 6: Disposable income for households in Skellefteå**

Disposable income for households by observations and year. Skellefteå, 18 years.

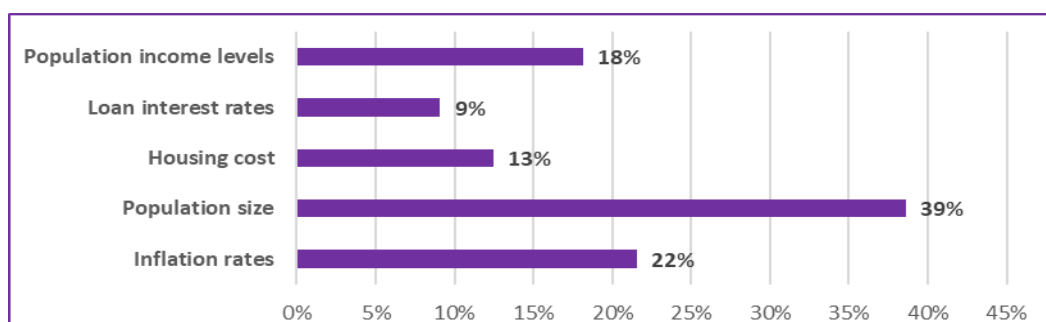


Source: Statistics Sweden

### Empirical analysis of key factors contributing to changes in housing affordability in Skellefteå municipality

The feedback provided by interviewees regarding the factors influencing fluctuations in housing affordability within the Skellefteå municipality emphasizes five key factors that were incorporated in the survey to gauge the extent of their influence on housing affordability. The agreement of respondents with these factors impacting changes in housing affordability is illustrated in Figure 7 below.

**Figure 8: Factors contributing to changes in housing affordability**



Source: Generated from the author's survey results

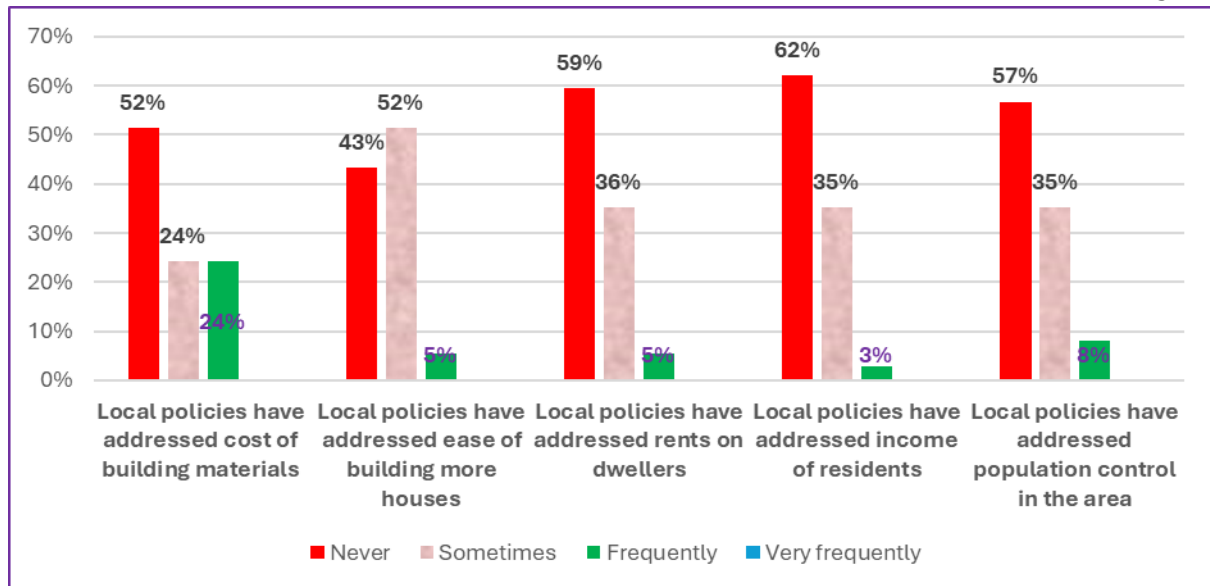
The data depicted in Figure 7 above indicates that changes in housing affordability are primarily influenced by population size. In addition to population size, which emerges as the most influential factor affecting housing affordability, the inflation rate is identified as another significant contributor. The inflation rate exerts its impact on housing affordability through two main mechanisms. Firstly, concerning the supply side, it results in escalated building costs, consequently driving up rental prices. As housing expenses surge, affordability becomes a pressing issue. Secondly, from the demand perspective, the inflation rate diminishes individuals' disposable income, thereby complicating the maintenance of a satisfactory standard of living after settling housing expenditure.

Respondents ranked housing costs as the fourth most challenging factor. The cost of housing itself is contingent upon the prevailing economic conditions. Respondents also highlighted population income levels and loan interest rates as crucial determinants. Higher-income levels enhance housing affordability, while lower income levels pose challenges to affordability. Moreover, favourable interest rates alleviate the financial burdens associated with housing costs.

### **To what extent have local policies and initiatives addressed housing affordability challenges? – Empirical analysis**

It is also the aim of the study to evaluate the extent local policies and initiatives have addressed housing affordability challenges in the face of industrial growth. The result from the respondents is shown in Figure 8 below.

**Figure 8: Local policies and initiatives in housing affordability challenges in the face of industrial growth**



The data presented in Figure 8 illustrates that most of the participants, approximately 52%, express disagreement regarding the effectiveness of local policies in addressing the cost of building materials. Furthermore, around 43% of the responses indicate that local policies have not addressed the facilitation of constructing additional housing units. Similarly, 59% of the participants report that local policies have failed to tackle the issue of rental prices for residents. Additionally, 62% of the respondents assert that local policies have not adequately considered the income levels of the inhabitants. Moreover, 57% of the responses suggest that local policies have not effectively managed population growth in the region.

Only a minority, approximately 24% of the participants, agree that local policies have occasionally addressed the cost of building materials, while an equal percentage believe that these policies have frequently targeted this issue within the municipality. More than half of the respondents, about 52%, agree that local policies have sporadically addressed the ease of constructing additional housing units, whereas a small proportion (5%) argue that these policies have frequently tackled this aspect within the municipality. Approximately 35% of the participants agree that local policies have intermittently addressed concerns such as rental prices, residents' income levels, and population control in the area. Consequently, a small fraction of the respondents agree that local policies have frequently addressed these issues.

The findings of the study strongly suggest that there is a lack of comprehensive policies in place to effectively address the challenges related to housing affordability in the Skellefteå municipality.

## DISCUSSION AND REFLECTION

The findings presented in the data analysis section shed light on the impact of industrial growth on housing affordability in Skellefteå, Sweden. The results indicate a significant increase in the number of newly started companies in Skellefteå from 2014 to 2023, accompanied by a substantial rise in the population of the municipality. This surge in industrial activities and population has led to a notable increase in tax revenue for the municipality, reflecting the economic impact of industrial expansion.

The impact of industrial expansion on housing affordability is evident in the substantial rise in housing costs. The respondents overwhelmingly agreed that industrial expansion has led to a significant increase in housing costs, making it challenging for residents to afford suitable accommodation. The average rent for a 3-room apartment, for instance, has increased substantially, surpassing the affordability threshold for many residents. Additionally, the availability of affordable housing has become a major challenge, with a limited number of apartments accommodating the growing population, leading to a queue point system that disadvantages new residents.

The findings from the study on the impact of industrial growth on housing affordability in Skellefteå, Sweden, align with previous research on sustainable housing affordability. The exponential increase in publications on sustainable, innovative, and affordable housing reflects the growing international and local attention on reducing the environmental impact of housing and improving residents' quality of life, which resonates with the focus on housing affordability in Skellefteå amidst industrial expansion (Moghayedi et al., 2021).

The empirical analysis of key factors contributing to changes in housing affordability highlights population size and inflation rate as the most significant factors. The increase in population size has put pressure on housing availability and affordability, while the inflation rate has impacted housing affordability through increased building costs and eroded disposable income. Other factors such as housing cost, population income levels, and loan interest rates also play a role in shaping housing affordability in Skellefteå. These empirical



findings support the factors linked to changes in housing affordability discussed earlier in the theoretical framework. Both theory and findings agree on income, housing cost, population, and other socioeconomic indices as key factors affecting changes in housing affordability.

The study's empirical analysis of key factors contributing to changes in housing affordability in Skellefteå municipality aligns with the work of (Worthington & Higgs, 2013), who have examined macro drivers of housing affordability in Australia. Both studies underscore the influence of economic and population growth on housing affordability, emphasizing the need to consider broader socioeconomic factors in addressing housing challenges. This parallels the current study's focus on the impact of industrial expansion on housing affordability and the associated challenges faced by residents (Worthington & Higgs, 2013). The Skellefteå study's emphasis on the multifaceted nature of housing affordability, including factors such as population size, inflation rate, housing cost, population income levels, and loan interest rates, resonates with the broader discussions on macro drivers of housing affordability and the impact of housing policies in different contexts (Worthington & Higgs, 2013; Poon & Garratt, 2012). This highlights the interconnectedness of housing affordability with economic, demographic, and policy factors, which is a common theme across various studies.

The evaluation of local policies and initiatives in addressing housing affordability challenges reveals a lack of adequate measures. Meanwhile, it was established theoretically earlier that government policies affect housing affordability. Most of the respondents expressed that local policies have not effectively addressed the cost of building materials, ease of building more houses, rents for dwellers, income of residents, and population control in the area. This indicates a gap in policy interventions to mitigate the impact of industrial growth on housing affordability in Skellefteå. The study's assessment of local policies and initiatives in addressing housing affordability challenges aligns with the research by Poon & Garratt (2012), which evaluated UK housing policies to tackle housing affordability. Both studies emphasize the significance of policy interventions in addressing housing affordability, underscoring the need for comprehensive and targeted measures to alleviate housing challenges (Poon & Garratt, 2012).

The study's findings have significant policy implications, particularly in urban planning and housing policy. The substantial increase in population due to industrial expansion has put pressure on the housing market, leading to affordability challenges. This calls for the development and implementation of targeted housing policies to address the growing demand for affordable housing. Additionally, the evaluation of local policies and initiatives revealed a lack of effective measures to mitigate the impact of industrial growth on housing affordability, highlighting the need for policy reforms and interventions to ensure equitable access to housing.

The findings underscore the urgent need for stakeholders, including local authorities, developers, and housing agencies, to collaborate and innovate to address the housing affordability crisis. The study's emphasis on the multifaceted nature of housing affordability, including factors such as population size, inflation rate, and housing cost, highlights the complexity of the issue and the need for comprehensive, multi-dimensional solutions. The results also have implications for future research in the fields of urban development and housing. The study's focus on the impact of industrial growth on housing affordability provides a valuable foundation for further research into the dynamics of urban expansion and its effects on housing markets. It also highlights the need for longitudinal studies to track the evolving impact of industrial growth on housing affordability over time.

The study on the impact of industrial growth on housing affordability in Skellefteå, Sweden, may be subject to several limitations and potential biases that could affect the interpretation and generalization of the results. It is essential to critically evaluate these factors to ensure the validity and reliability of the findings. For example, the study's focus on a specific geographical location, Skellefteå, may limit the generalizability of the findings to other regions. The unique socio-economic and demographic characteristics of Skellefteå may not be representative of broader housing market dynamics, potentially limiting the external validity of the results. Also, the absence of comparative analysis with other municipalities or regions could restrict the understanding of how industrial growth impacts housing affordability in different contexts.

In summary, the findings of this study underscore the significant impact of industrial expansion on housing affordability in Skellefteå, Sweden. The surge in population, rise in

rental prices, and inadequate policy responses highlight the pressing need for comprehensive measures to address housing affordability challenges in the face of industrial growth. The findings of the study on the impact of industrial growth on housing affordability in Skellefteå, Sweden, are consistent with previous research that has examined the complex interplay of economic, policy, and environmental factors in shaping housing affordability. The findings contribute to the broader discourse on sustainable and affordable housing, particularly in the context of industrial growth. The study's alignment with previous research on sustainable housing affordability and its unique focus on the impact of industrial growth in a specific location enriches the understanding of the complex dynamics influencing housing affordability.

## CONCLUSION

The findings of this study unravel the significant impact of industrial growth on housing affordability in Skellefteå, Sweden. The multifaceted analysis, incorporating data from Statistics Sweden, interviews, and surveys, has revealed the complex interplay between industrial expansion, population dynamics, and housing affordability. The implications of these findings are far-reaching and have critical relevance for policymakers, urban planners, housing agencies, and researchers.

The manifold nature of housing affordability, as revealed by the study, emphasizes the complexity of the issue and the necessity for holistic approaches to urban development and housing policy. The substantial increase in population due to industrial expansion has placed immense pressure on the housing market, leading to soaring rental costs and limited availability of affordable housing options. This resonates with the work of Brett Christophers on rentier capitalism and its implications for housing markets (Christophers, 2021). This system focuses on extracting value through asset ownership or control, often exploiting artificial or natural scarcities, quality, or productivity. This economic model is characterized by the appropriation of value rather than its production, with income primarily stemming from owning, possessing, or controlling scarce assets. This calls for the development and implementation of effective housing policies that consider the diverse factors influencing housing affordability, including population size, inflation rate, and housing costs.

The evaluation of local policies and initiatives revealed a lack of comprehensive measures to mitigate the impact of industrial growth on housing affordability, highlighting the need for policy reforms and collaborative efforts among stakeholders. The study's emphasis on the unique socio-economic and demographic characteristics of Skellefteå underscores the importance of context-specific interventions tailored to address the housing affordability crisis in the region.

Furthermore, the study's focus on the impact of industrial growth on housing affordability contributes to the broader discourse on sustainable and affordable housing, providing valuable insights for urban planners, policymakers, and housing agencies. The findings also have implications for future research, emphasizing the need for longitudinal studies and comparative analyses to track the evolving impact of industrial growth on housing affordability and to enhance the generalizability of the results.

Finally, the findings of this study contribute to a deeper understanding of the intricate relationship between industrial growth and housing affordability. The implications of these findings extend beyond Skellefteå and have broader relevance for urban development and housing policy. Addressing the housing affordability challenges posed by industrial expansion is crucial for fostering sustainable and inclusive communities, and the insights from this study can inform evidence-based policy and practice in Skellefteå and beyond.

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**APPENDIX 1****Interview Guide****Master's Thesis*****An analysis of the impact of industrial growth on housing affordability in Skellefteå Municipality, Sweden***

These interview questions aim to elicit in-depth qualitative insights from key stakeholders regarding the effects of industrial growth on housing affordability in Skellefteå Municipality, Sweden. The questions are designed to explore various dimensions of the housing market, policy responses, and socio-economic impacts, allowing for a comprehensive understanding of the topic from multiple perspectives.

**Introduction and Background:**

- a. Can you please provide a brief overview of your role and involvement in the housing sector within Skellefteå Municipality?
- b. How would you describe the current state of housing affordability in Skellefteå?

**Industrial Growth and Housing Demand:**

- a. From your perspective, how has economic and industrial growth in Skellefteå Municipality influenced housing demand and market dynamics?
- b. Can you identify any specific industries or sectors driving economic growth in the municipality, and how have they impacted housing affordability?

**Affordability Challenges and Factors Affecting Changes in Housing Affordability:**

- a. What are some of the main affordability challenges residents face in Skellefteå Municipality?
- b. What are some factors affecting changes in housing affordability in Skellefteå?

**Policy Responses and Interventions:**

- a. What policy interventions or initiatives have been implemented to address housing affordability in Skellefteå Municipality, and how effective have they been?
- b. In your opinion, what additional measures or strategies could be adopted to improve housing affordability and promote inclusive urban development?

**Future Outlook and Recommendations:**

- a. Looking ahead, what do you envision as the future trajectory of housing affordability in Skellefteå Municipality, considering ongoing economic developments and policy changes?
- b. Based on your experience and expertise, what recommendations would you offer to policymakers and stakeholders to address housing affordability challenges effectively?

**Closing Remarks:**

- a. Is there any additional information or insights you would like to share regarding housing affordability in Skellefteå Municipality?
- b. Thank you for your time and participation. Is there anything else you would like to add before we conclude the interview?

**APPENDIX 2****SURVEY****An analysis of the effects of economic/industrial growth on housing affordability in Skellefteå Municipality, Sweden**

Q1. Name (*Optional*): \_\_\_\_\_ Gender: Male [  ] Female [  ]

Q3. Key Player: Local government representative [  ] Housing developer [  ] Residents [  ]  
Real estate brokers [  ]

Q4. Category of Respondent: Landlord [  ] Tenant [  ]

Q5. Marital Status: Married [  ] Single [  ] Divorced [  ] Widowed [  ]

Q6. Highest Education: Primary school [  ] Upper secondary school [  ] Tertiary education [  ]

Q7. Age: Below 30 Years [  ] 31-40 Years [  ] 41- 55 Years [  ] Above 55 Years [  ]

Q8. Number of years you have resided in Skellefteå municipality: Less than 5 Years [  ] 5-10 Years [  ] 11- 15 Years [  ] 16- 20 Years [  ] Above 20 Years [  ]

***How has industrial expansion impacted Skellefteå Municipality's housing affordability?***

Q9. Do you think that industrial expansion in Skellefteå municipality has any impact on its housing affordability? Yes [  ] No [  ]

Q11. Has the rent of homes in Skellefteå municipality increased recently? Yes [  ] No [  ]

Q12. If yes to Q11 above, how can you describe the increase? Moderate [  ] High [  ] Very High [  ]

Q13. Have you recently had any increase in your income to compensate for the increased housing cost? Not at all [  ] yes, very small and cannot compensate for the increased housing cost [  ] yes, adequate to compensate for the increased housing cost [  ] yes, more than the increase in housing cost [  ]

Q14. Currently, what describes the situation of housing in Skellefteå municipality?

It is difficult for companies to build quarters for their workers because of legal restrictions [  ]

It is difficult for developers to build more houses in the municipality because of legal restrictions [  ] It is difficult for developers to build more houses in the municipality because of rising cost of materials [  ]

***What are the key factors contributing to changes in housing affordability in the context of industrial expansion?***

Q15. What are the most common factors contributing to changes in housing affordability in Skellefteå municipality you know? (*Select as many as applicable*)

Inflation rates [  ]

Population size [  ]

Cost of building [  ]

Loan interest rates [  ]

Population income levels [  ]

Q16. Suggest other factors that you think contributes to changes in housing affordability in the context of housing expansion (*Give as many as possible*)

.....

***To what extent have local policies and initiatives addressed housing affordability challenges in the face of industrial growth?***

Q17. How often do you consider the following?

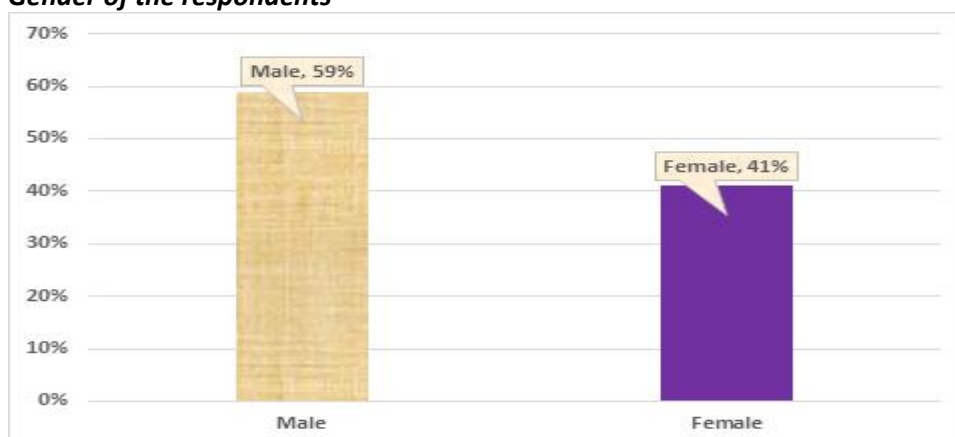
Description	Never	Sometimes	Frequently	Very frequently
Local policies have addressed cost of building materials				
Local policies have addressed ease of building more houses				
Local policies have addressed rents for dwellers				
Local policies have addressed income of residents				
Local policies have addressed population control in the area				

### Appendix 3

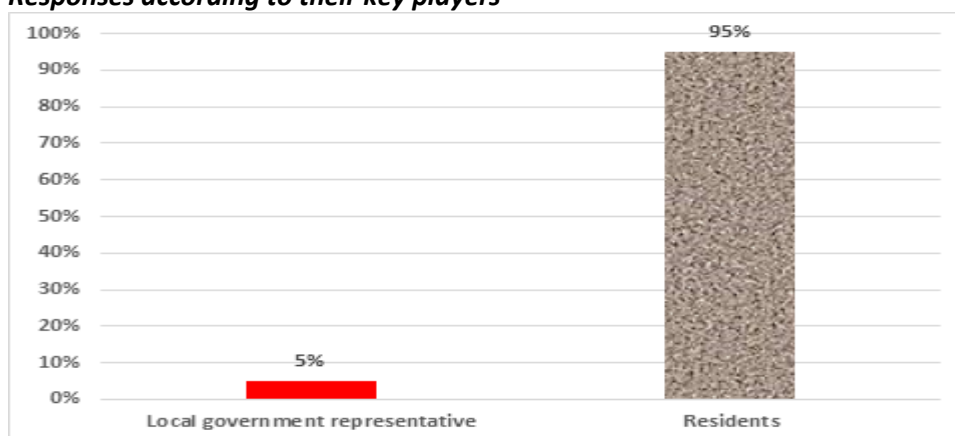
#### Survey Results

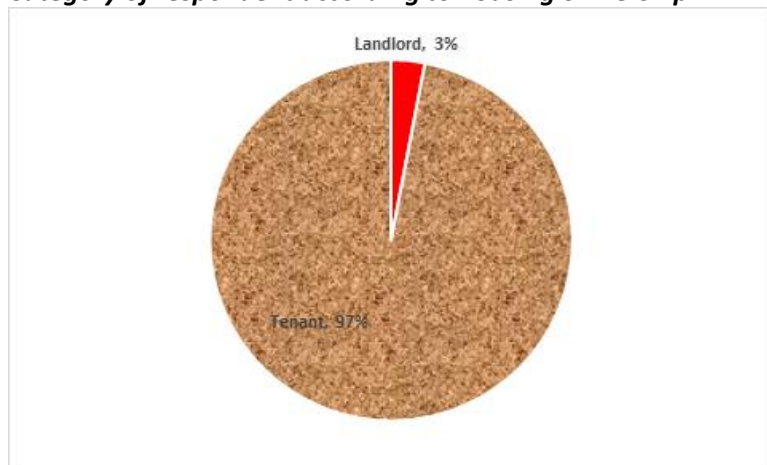
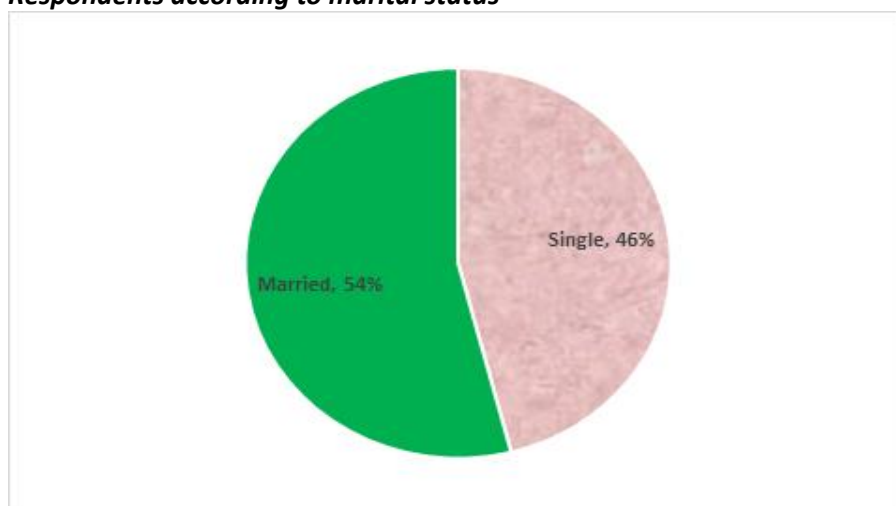
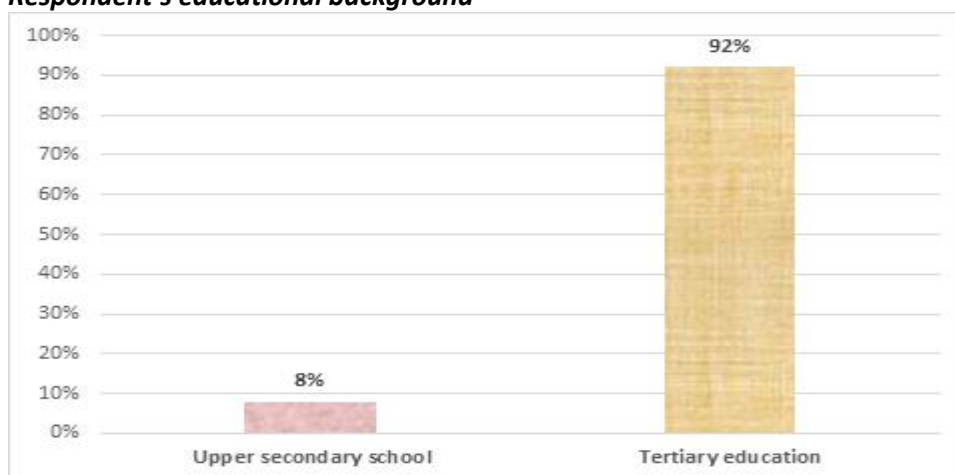
##### Demographic Representations of the respondents

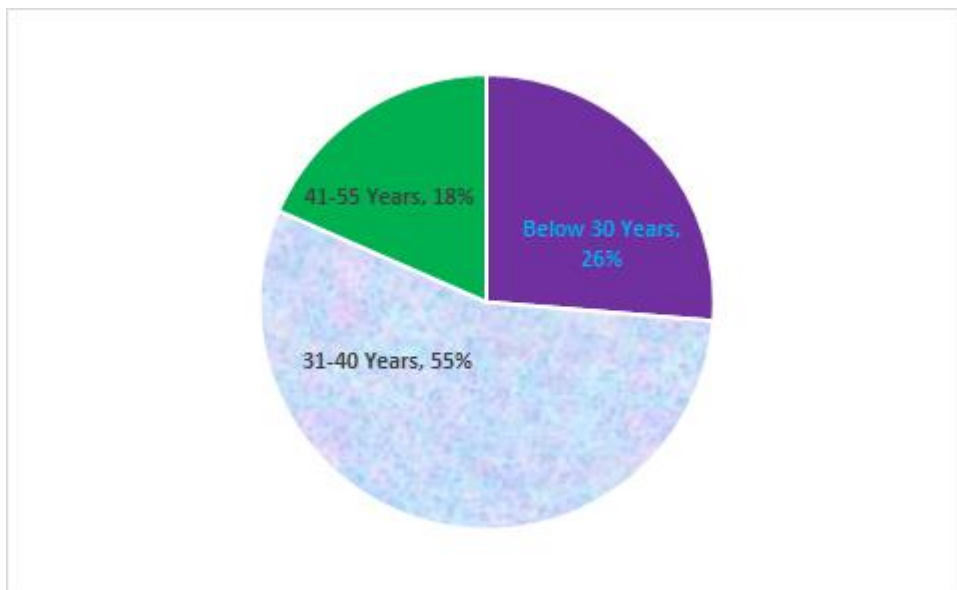
###### *Gender of the respondents*



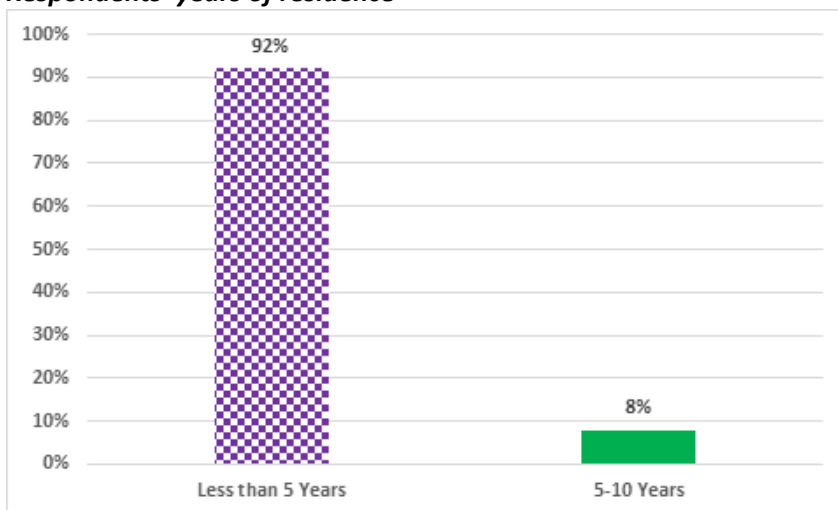
###### *Responses according to their key players*



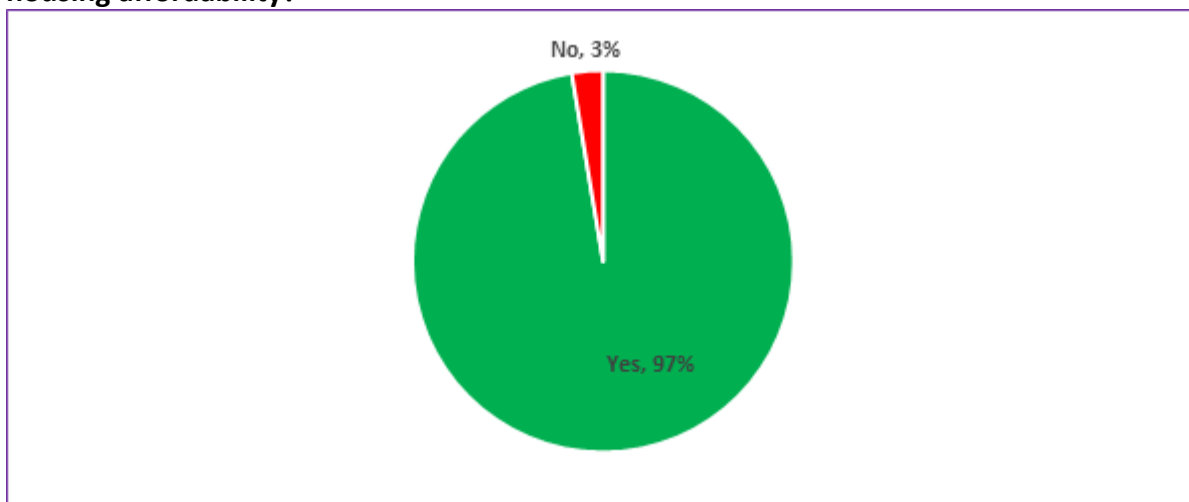
**Category of respondent according to housing ownership****Respondents according to marital status****Respondent's educational background****Respondent's according to age classification**



**Respondents' years of residence**

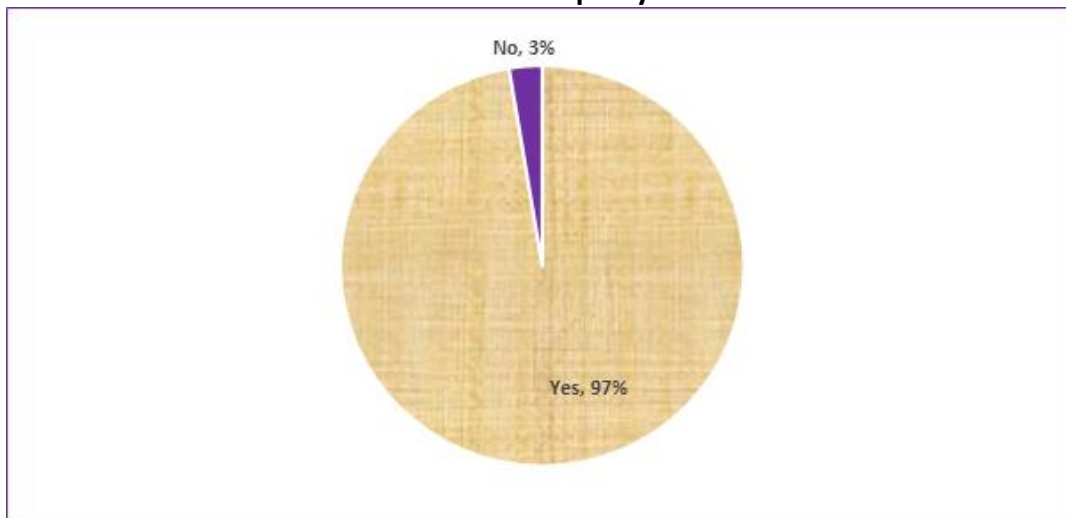


**Do you think that industrial expansion in Skellefteå municipality has any impact on its housing affordability?**

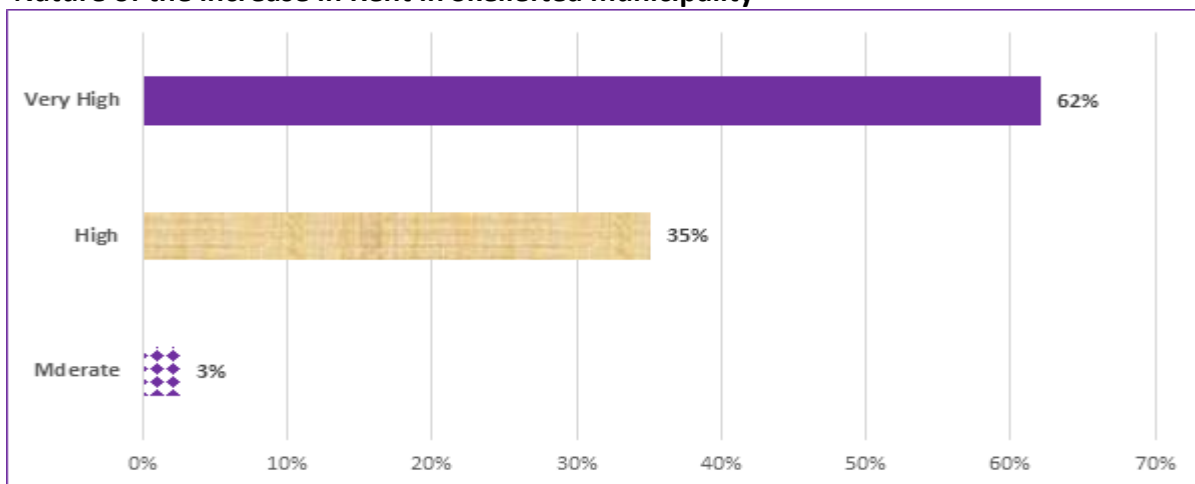




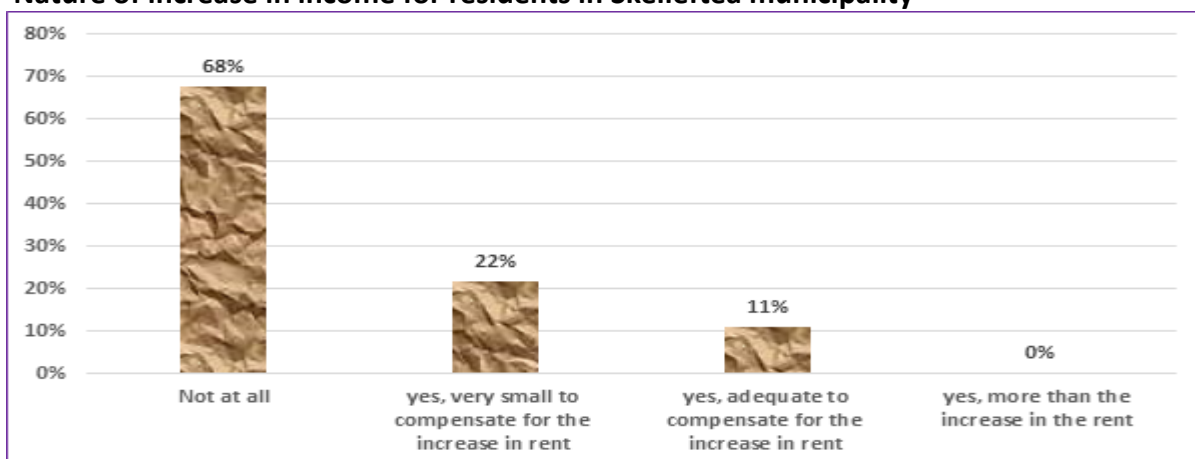
### Has the rent of homes in Skellefteå municipality increased?



### Nature of the increase in Rent in Skellefteå municipality



### Nature of increase in income for residents in Skellefteå municipality



**What describes the nature of housing in Skellefteå municipality?**