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Structures and Dynamics of Low-income Work in Sweden

A Geographical Inquiry

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2025

Document Version:

Publisher's PDF, also known as Version of record

[Link to publication](#)

Citation for published version (APA):

von Borries, A. (2025). *Structures and Dynamics of Low-income Work in Sweden: A Geographical Inquiry*. [Doctoral Thesis (compilation), Department of Human Geography]. Lund University (Media-Tryck).

Total number of authors:

1

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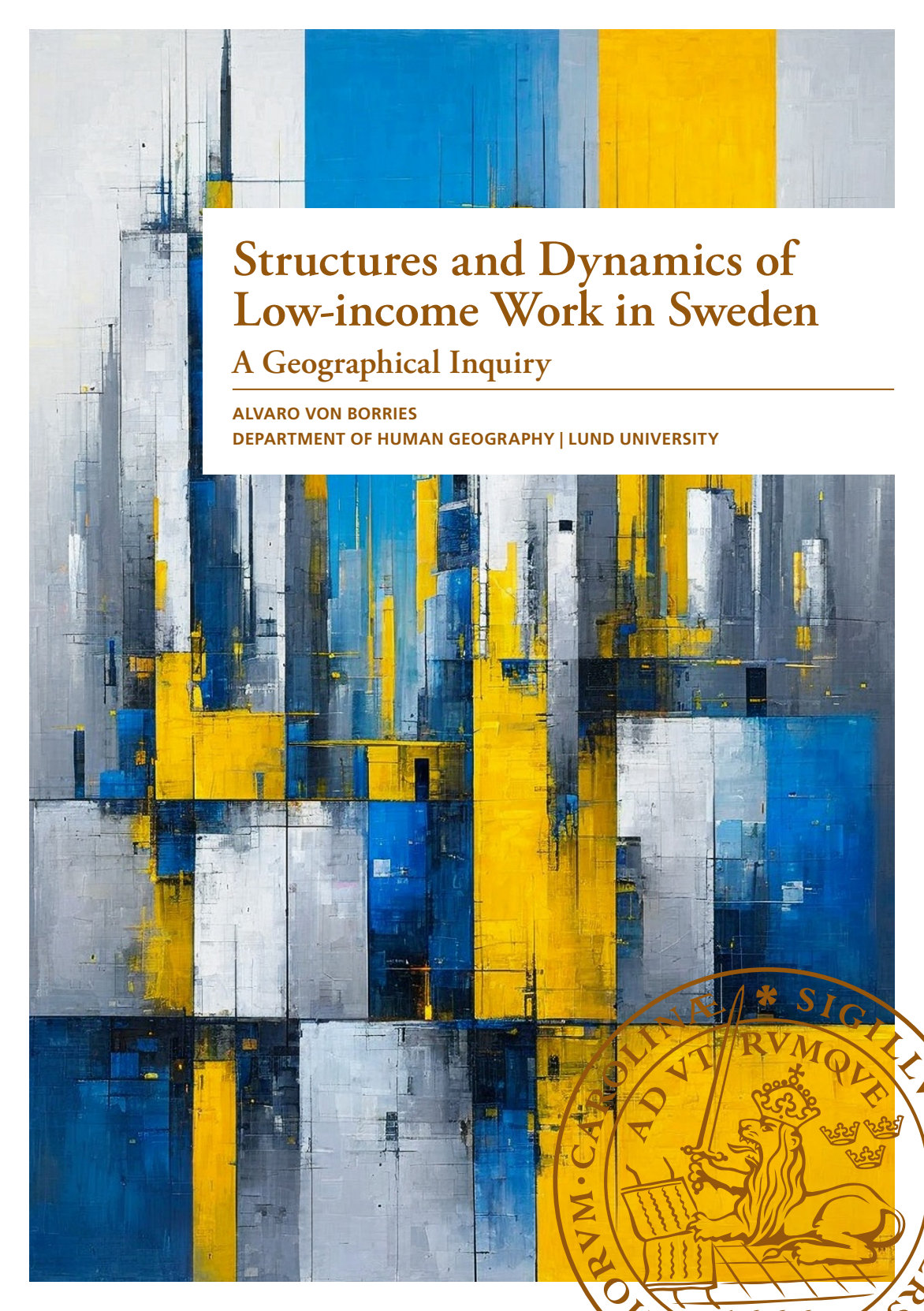
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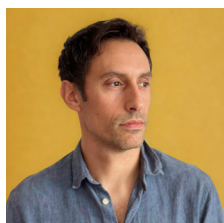
ALVARO VON BORRIES

DEPARTMENT OF HUMAN GEOGRAPHY | LUND UNIVERSITY



This thesis examines how the transition to the knowledge economy has reshaped the geography of low-income work in Sweden, and how these changes relate to social mobility and political discontent. While much of the debate around economic transformation highlights rising inequality and polarization, this thesis highlights how institutional and spatial arrangements can influence labor market outcomes and points to the possibility of more equitable trajectories in the face of structural change.

The main findings show that the prevalence of low-income work has declined in Sweden and the knowledge economy does not drive its spatial concentration. Moreover, upward mobility for low-income workers is not only shaped by the quality and extent of social and labor market networks, but also on how individuals are embedded within them. Finally, support for far-right populism, often seen as a response to economic decline, appears to reflect broader concerns about relative status and blocked opportunities rather than just economic hardship.



ALVARO VON BORRIES is a PhD candidate at the Department of Human Geography and a member of CIRCLE – Center for Innovation Research – at Lund University. His research interests include technological transformations, spatial inequalities, regional development, and local labor markets.

Structures and Dynamics of Low-income Work in Sweden

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A Geographical Inquiry

Alvaro von Borries



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DOCTORAL DISSERTATION

Doctoral dissertation for the degree of Doctor of Philosophy (PhD) at the
Faculty of Social Sciences at Lund University to be publicly defended on
03.09.2025 at 13.15 in Världen, Department of Human Geography,
Sölvegatan 10, Lund, Sweden

Faculty opponent
Prof. Rikard Eriksson
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Organization: Lund University, Department of Human Geography

Document name: Doctoral dissertation

Date of issue: 03.09.2025

Author(s): Alvaro von Borries

Sponsoring organization: Department of Human Geography

Title and subtitle: Structures and Dynamics of Low-income Work in Sweden – A Geographical Inquiry

Abstract: The transformation to the knowledge economy has reshaped the foundations of work, opportunity, and political sentiment across advanced democracies. Much of the public and academic debate has emphasized deepening regional divides, increasing inequalities, growing precarity, the erosion of upward mobility, and growing social discontent.

This PhD thesis explores the geographies of low-income work in Sweden through three core research questions: 1) Where and why has low-income work concentrated during the transformation into the knowledge economy? 2) How do geographical contexts shape opportunities for upward mobility from low-income work? And 3) In what ways have the geographies of low-income work influenced the geographies of discontent? In doing so, this thesis advances our understanding of the changing structures and dynamics of low-income work amid structural transformation.

The findings indicate that while the knowledge economy is often associated with increasing inequalities and polarization, it has not resulted in a growing concentration of low-income work in Sweden. Instead, dynamics of upgrading and labor market tightening have contributed to a national decline in low-wage employment and convergence across regions. Geography, moreover, continues to shape opportunities. Crucially, the prospects for upward mobility among low-income workers are influenced not only by the extent and qualities of formal and informal networks, but also by the ways workers are embedded in them. Finally, political discontent – often framed as a reaction to economic decline – appears to reflect more diffuse anxieties. Support for far-right populism is higher in regions with more high-income work, less low-income work, and lower mobility rates, pointing toward concerns about relative status and blocked opportunities rather than just economic hardship.

Overall, these insights push back against overly pessimistic accounts of technological change and the polarization literature. The Swedish model – combining innovation with inclusion – shows that more equitable trajectories are possible. In this way, the thesis offers valuable insights into how institutional and spatial arrangements can shape labor market outcomes and mitigate the destabilizing effects of economic transformation.

Keywords: low-income work, upward mobility, polarization, structural transformation, knowledge economy, discontent.

Language: English

ISBN: 978-91-8104-574-1 (electronic)

ISBN: 978-91-8104-573-4 (printed)

Number of pages: 91

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A Geographical Inquiry

Alvaro von Borries



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Faculty of Social Sciences

Department of Human Geography

ISBN: 978-91-8104-574-1 (electronic)

ISBN: 978-91-8104-573-4 (printed)

Printed in Sweden by Media-Tryck, Lund University

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MADE IN SWEDEN 

To Paula, Olivia & Andre

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Acknowledgments

I'm not a person of many words, much less big ones. However, for as much as I would like to skip this part, what you are about to read would have never materialized without the presence and active intervention of some people. I owe some big thank yous.

First and foremost, I need to thank my supervisor Karl-Johan Lundquist for all the feedback, support, guidance, and patience through some very difficult times. Also thank you for giving me the opportunity to do this. We never discussed it, but I always assumed it was you who advocated for hiring me. I certainly wrote the proposal directed to you. I feel very fortunate to have been the one who squeezed as your last PhD student and got to know you. Thank you Kalle!

I further want to acknowledge and thank my other supervisor Markus Grillitsch, for all the excellent feedback on drafts – always to the point and with simple suggestions to make things clearer, better, and more relevant. Thanks also for being so readily available for short discussions despite your busy schedule.

Thanks also to Katherine Gough for the comments, suggestions, and the encouragement to be bolder during the green-light read process.

I extend my gratitude to everyone at the Department of Human Geography for the friendly atmosphere and stimulating conversations through the years. In particular, I want to thank Ola Hall, our head of department, for caring and taking the time to talk and share in some of the most challenging times. Your random visits to our office to talk about all sorts of weird topics were a highlight every time. Thanks also to our director of PhD studies, Henrik Gutzon Larsen, for the support and for helping me keep the goal in sight: just finish! Finally, thanks to the administrative staff for the often overlooked but essential work, without which nothing would get done.

I also want to thank the PhD community for being great colleagues – for the support, kindness, and constant words of encouragement. I'm very sorry for all the meetings and activities I missed. Special mentions go to Kadri Kuusk, Sanna Händén-Svensson, Andreas Erlström, and Sebastian Hannika. Kadri, our connection around tennis was a lifesaver during the early days filled with difficulties – not least the pandemic. Sanna, our random conversations in Sky High, full of interesting reflections, left me more hopeful every time. Andreas, thanks for the feedback on drafts early on and the never-ending suggestions of things to read. Also, thank you for coping with me through the most difficult times and for trying to find ways to help. And Sebastian, I don't even have words

to begin expressing my gratitude. I'm simply not sure this would be happening without you. Thanks for being there to offer support, advice, time, ideas, or simply an ear to vent. Thanks also for reading draft after draft and giving detailed feedback, full of constructive and clear-eyed suggestions. But above all, thanks for your friendship and for being the best officemate I could have hoped for. The countless hours we spent designing, playing, and theorizing multilevel table squash – filled with amazing saves, laughs, and shouts that the whole department could hear – will stay with me forever. You are a hero!

Finally, I want to thank my family. To my mother Leticia, thank you for the love and all the opportunities you have created for us. To my sister Romina, thank you for being there when I needed you through the years. But the biggest thank you of all goes to my amazing wife Paula, this would not have been possible without your support, patience, care, and love. I know I wasn't the easiest person to be around at times, but you never gave up on me. Thank you for that! Thanks also for always being there to listen, and for covering for me whenever I needed to work a little extra.

To the two rays of sunshine in our lives, Olivia and Andre, you kept me going when I felt like giving up. A los tres: ¡Me gusta mucho ustedes!

Alvaro

Introduction

A few years back, when I began thinking about this project, my expectations for the overall trajectories of low-income work and the mobility opportunities for those workers were admittedly bleak. I was struck by the growing sense that modern economies – even those once heralded for their egalitarianism – were becoming increasingly segmented: divided between those reaping the rewards of technological change and globalization, and the rest. The dominant narratives emphasized these widening gaps at all scales and the unsettling consequences they entail. On the one hand, the new economic system – underpinned by information technologies, hyper-globalization, and baseline neoliberalism – is often described as producing winner-take-all outcomes between individuals, regions, and countries (Kemeny & Storper, 2020; Lamp, 2019; O'Brien & Leichenko, 2003; Piketty, 2014). On the other hand, the perceived response to such an unjust *state of affairs* seems to be widespread discontent, contestation, ultimately manifested through the rise of the far-right across the world (Florida, 2021; Rodriguez-Pose, 2018).

Yet the more I dug into the Swedish case, the less my initial expectations were met. As is usually the case, the story proved more complex and less deterministic. Context clearly matters, and institutions in particular shape how global forces play out in different places. Again, this became especially evident as I analyzed the Swedish experience in greater detail. Rather than confirming the stark picture painted by much of the literature, the patterns I observed were more varied and, at times, unexpectedly positive. Sweden's institutional arrangements, labor market dynamics, and regional characteristics appear to moderate some of the more extreme effects of the economic transformation, challenge the idea that inequality and discontent were inevitable, and underscore the importance of national and local context. Without contradicting established research on interpersonal or regional inequalities, these findings add an extra layer, one that, at the very least, helps in differentiating what still works from what does not in the Swedish system. There are maybe lessons for other countries facing more extreme forms of inequality and polarization to be extracted.

Some of these insights, I believe, stem from the slightly unusual focus of this project – in the context of the established literature on local labor markets. As the title makes explicit, this PhD thesis is about low-income work, a category that has received relatively limited attention in economic geography, especially in quantitative research. The focus on low-income work opens two perspectives that remain understudied.

First, low-income workers are neither the primary beneficiaries of the knowledge economy nor entirely excluded from it. Much of the literature on labor market change emphasizes aggregate trends such as employment, unemployment, and polarization (Dauth, 2014; Morales et al., 2019; Senftleben-König & Wielandt, 2014; Terzidis et al., 2017). When specific groups are discussed, both academic and public debates tend to focus on the extremes – those thriving in the knowledge economy (the ultra-rich or the creative class) or those thoroughly left behind, like the displaced or unemployed. In contrast, low-income workers occupy a more ambiguous space: they are neither the primary drivers nor the chief beneficiaries of the knowledge economy, but they are not entirely excluded from it either. They may not be the absolute losers, but they are certainly not the winners.

Secondly, this thesis is based on the simple realization that disadvantage is as much rooted in what individuals earn as in the skills they possess. While there is extensive qualitative research on precarity and in-work poverty (Pierce et al., 2019; Strauss, 2018; Worth, 2016), quantitative studies on the bottom end of the labor market – particularly in economic geography – continue to emphasize skill levels, often equating vulnerability with low-skill employment. Low-income work cuts across a wide range of sectors and occupations, suggesting the need to move beyond skill-based classifications and toward a sharper focus on income disparities and their spatial and institutional underpinnings.

Putting these two perspectives together, my PhD thesis seeks to explore the structures and dynamics that shape low-income work and the experiences of those who remain peripheral to dominant accounts of economic transformation. What drives the spatially uneven development of low-income labor markets? What are the political implications of these inequalities? And how does local context mediate these outcomes?

One way to approach this is through the process of polarization – the simultaneous growth in high-pay and low-income work alongside the decline of middle-pay occupations. After decades of steady upgrading, labor markets are now showing signs of polarization (Acemoglu & Autor, 2011; Autor & Dorn, 2013; Autor & Salomons, 2018; Goos et al., 2014; Goos & Manning, 2007), a

shift that is thought to have reshaped the landscape of work, exacerbating existing inequalities, and presenting new challenges for workers, employers, policymakers, and society at large. Exemplary of this trend is the rise of the gig economy, where short-term contracts and freelance work are becoming the norm and have intensified debates about job security, fair wages, and the impact of technology. Even Sweden has not been spared, as growing gaps between rich and poor and other social and geographical divides have become ever more evident during the last four decades (Andersson et al., 2021; Pareliussen et al., 2017; Robling & Pareliussen, 2017).

A central premise here is that the transition from an industrial to a knowledge-based economy has driven these dynamics. This transformation, driven by the rise of information and communication technologies and the globalization of production, has not unfolded uniformly across space, creating stark disparities in how regions and workers have experienced economic change (Lundquist et al., 2017). More specifically, this process is credited for having created a dual geography of polarization between and within regions (VanHeuvelen & Copas, 2019). On the one hand, the transition to a knowledge-based economy has led to the decline of regions historically reliant on industrial activity, while a handful of large metropolitan areas have reasserted their dominance in wealth creation and economic opportunities (Florida, 2021). This shift has reversed decades of regional convergence across the developed world (Iammarino et al., 2019; Storper, 2018) – a phenomenon Enrico Moretti (2012) terms the “Great Divergence.” The industrial economy, characterized by geographically dispersed manufacturing industries, physical skills, and working-class jobs, has given way to a knowledge economy that thrives on the spatial concentration of knowledge, skill, and talent (Diemer et al., 2022; Feldman et al., 2020).

While thriving cities benefit from agglomeration economies and offer better chances for career advancement, declining regions are increasingly characterized by stagnant labor markets with limited pathways for progression. Workers in “left-behind” places not only face a shortage of well-paid jobs but also find it more difficult to transition out of low-income work, reinforcing patterns of economic marginalization. These disparities have led to what scholars term the “geographies of discontent” (McCann, 2020; Rodriguez-Pose, 2018), where economic decline and limited opportunities fuel political and social grievances. In struggling regions, the erosion of stable, well-paying jobs and the absence of upward mobility contribute to a sense of abandonment and disillusionment, often manifesting in support for populist or anti-establishment movements (Florida, 2021; E. L. Glaeser, 2020; McCann & Ortega-Argilés, 2021).

On the other hand, the transformation is also thought to have translated into deepening inequalities and polarizing labor markets within prosperous large cities (Eeckhout et al., 2021; Wacquant, 1999). While high-pay workers in knowledge-intensive sectors reap the benefits of agglomeration economies, low-income workers are often confined to precarious, low-wage service jobs that sustain the urban economy but provide limited progression opportunities (Autor & Dorn, 2013). Structural barriers such as high costs of living, limited access to skill-building opportunities, and the spatial mismatch between affordable housing and quality jobs further constrain upward mobility (Gobillon et al., 2007; Gyourko et al., 2006; Stoll, 2005).

This dual geography of polarization underpins the complex relationships between economic transformation, spatial inequalities, and even contestation and political behavior. It highlights how the uneven distribution of opportunity and prosperity, whether in declining industrial regions or polarized urban centers, might fuel grievances that shape the political and social landscape of the knowledge economy. The growing divide in incomes, the feeling of being left behind, and other socioeconomic disparities undoubtedly play a key role in explaining this age of discontent (Martin, 2024; Rhodes-Purdy et al., 2023), a period marked by mounting social tensions and contestation against a system perceived as unjust and rigged to benefit elites (Rodriguez-Pose, 2018). This backlash has manifested in various ways, from eruptions of violence to the sustained mobilization of the Yellow Vests in France and, most notably, in electoral support for far-right populist parties that have surged in the polls across Europe.

Against this backdrop, this PhD thesis finds its place in addressing four critical gaps in the literature on economic transformation, local labor market dynamics, and the geographies of discontent. First, although not entirely unexplored, low-income work has been overlooked in the scholarly debate, as it does not fit into the more attractive/visible categories of concern within periods of economic change. Low-income workers are evidently neither the highly educated professionals of the attractive sectors driving economic growth (Brenner et al., 2018) nor the displaced, precariously employed (Strauss, 2018; Strauss & McGrath, 2017) or chronically unemployed (Bilal, 2023), often portrayed as the clear losers of economic restructuring. By centering on low-income workers, this PhD thesis seeks to illuminate the challenges of a group that occupies an important yet still understudied position in the evolving economic and political landscape.

Second, the literature on labor market structures is heavily dominated by the concept of polarization (Alba & Foner, 2017; Bachmann et al., 2022; Bárány & Siegel, 2018; Heyman, 2016; VanHeuvelen & Copas, 2019), which this PhD thesis intends to go beyond. While polarization is important, and it is mobilized across this project in multiple ways, its focus is narrow and only speaks to the relative changes at the very top and the very bottom. It says very little about structural differences across labor markets and broader labor market dynamics like upgrading and mobility. This PhD thesis aims to integrate these dimensions to contribute to a more comprehensive understanding of local labor market structures, opportunities, and inequalities, particularly for low-income workers.

Third, the role of geography in shaping opportunities for low-income workers has been largely ignored in quantitative studies (for some recent notable exceptions, see Henning & Kekezi (2023), Elekes et al. (2023), and Velthuis et al. (2019)). Although knowledge about urban premiums and escalator regions has been around for a long time (Fielding, 1992; Yankow, 2006), the extent to which these benefits apply to different kinds of workers – and in particular low-income workers – is unclear. Moreover, we know little about how characteristics of local labor markets and other geographies affect opportunities and mobility.

Finally, the relevant literatures have a clear bias towards liberal market economies, leaving a gap in understanding how distinct institutional settings influence wage structures and opportunities for low-income workers. Sweden's model, which combines high levels of innovation with strong labor regulations and a comprehensive welfare state, has the potential to offer an important contrast and relevant lessons on how institutional frameworks mediate labor market outcomes at the local level and, in particular the prevalence and dynamics of low-income work (Lee, 2024).

In sum, this PhD thesis intends to provide an overview of the structures and dynamics of low-income work. Without claiming to be exhaustive, I seek to offer a picture of how economic transformation and different geographies shape opportunities and inequalities for low-income workers, contributing to a more nuanced understanding of labor market dynamics and their societal implications.

Aim and Research Questions

At a theoretical level, this project aims *to advance our knowledge about the changing structures and dynamics of low-income work during the transformation to a knowledge-based economy.*

In this context, this PhD thesis investigates the factors influencing low-income work's changing spatial concentration and upward mobility, and how these might help us to better understand the geographies of discontent (Rodriguez-Pose, 2018). Consequently, the project seeks to answer the following main research questions:

RQ1: *Where and why has low-income work concentrated during the transformation into the knowledge economy over the past 30 years?*

RQ2: *How do geographical contexts shape opportunities for upward mobility from low-income work?*

RQ3: *In what ways have the geographies of low-income work – prevalence and upward mobility – influenced the geographies of discontent throughout the rise of anti-establishment far-right populism?*

The first question focuses on compositional changes in local labor markets and the multifaceted and complex process of technology-led structural transformation (Lundquist et al., 2008, 2017; Lundquist & Olander, 2010). While the last 30 years have witnessed the expansion and diffusion of the knowledge economy, its spatial concentration is linked to both increasing prosperity and inequalities (Bárány & Siegel, 2018; Eeckhout et al., 2021; Pratschke & Morlicchio, 2012; Vom Lehn, 2020). As already discussed, the polarization argument implies that the expansion of the knowledge economy produces tiered labor markets by increasing the demand for high-skill labor and low-skill workers. At the same time, the technological transformation has also brought about an important material divergence between regions, where the places that have pulled ahead in terms of technological development have also gained the most in terms of employment, productivity, and average welfare. In this context, the overall effects of the concentration of low-income work are unclear.

The second question is related to how local environments affect the capacity of low-income workers to achieve upward mobility. This question ties into an ongoing debate on whether large urban regions remain engines of labor market progression, particularly for low-income workers (Autor, 2020; Velthuis et al., 2019), as agglomeration externalities in the knowledge economy appear increasingly skill-biased, favoring skilled workers over others (Autor, 2020; Bacolod et al., 2010; Beerepoot, 2008). Drawing on theories of place-based embeddedness (Granovetter, 1985, 2005), this research explores how local environments – shaped by economic, social, and institutional factors – create place-specific opportunities and constraints for upward mobility. By examining the interplay between labor market structures, social networks, and geographic

context, the study aims to uncover how place acts as both a facilitator and a barrier to mobility, offering insights into the uneven geographies of opportunity in the knowledge economy.

Finally, the third question connects local labor market structures with discontent, therefore advancing our understanding of how regional economic conditions shape the broader cultural and political landscape. Adopting a more holistic characterization of local economies that considers the wage/pay structure and upward mobility rates, it aims to reveal whether and how labor market imbalances and limited opportunities contribute to dissatisfaction. This approach provides a more nuanced perspective on the links between labor markets and regional disparities in discontent.

Research Setting

This PhD thesis is situated against Sweden's transformation from an industrial to a knowledge-based economy and the changes that have consequently unfolded in the social and labor market. During the previous industrial revolution, Sweden became a manufacturing powerhouse, hosting companies such as Volvo, Scania, Electrolux, and IKEA. The country's early embrace of ICTs, exemplified by companies like Ericsson (an early leader in the cell phone market), laid the foundation for its later prominence in the global knowledge economy, with innovative companies like Skype, Spotify, and Klarna making significant marks on the global stage. Sweden's impressive contribution to global IT services, fulfilling about 20 times its share of the world's GDP, underscores its central role in this transformation (Martynovich, 2016).

Sweden is regarded as a model coordinated market economy and social democratic welfare state (Hall & Soskice, 2003). These institutional frameworks have been central in mitigating the social costs of job losses in traditional industries and promoting the re-skilling of workers. In contrast to more liberal market economies with lighter welfare states, where economic polarization and regional disparities have intensified, Sweden has emphasized maintaining a more balanced approach to economic transitions. The Swedish model has sought to preserve industrial competitiveness while fostering innovation through public investments in education, infrastructure, and regional development (Andersson et al., 2021). These efforts have aimed at ensuring that economic opportunities are more evenly distributed across the country, mitigating some of the inequalities often associated with the decline of traditional industries. While

overall, these policies and institutions have helped reduce some of the stark divides seen in more liberal market economies, such as the U.S., Sweden has still faced challenges associated with the decline of certain sectors and the uneven impact of technological advancements (Lundquist et al., 2008, 2017). These shifts have contributed to increasing inequalities in the labor market, with low-income work emerging as a particularly neglected and consequential issue.

PhD Thesis Outline

This PhD thesis consists of three articles preceded by an introductory overview, called ‘kappa’ in Swedish, that provides an overarching theoretical and methodological discussion to contextualize the individual pieces of research contained in the individual articles. The kappa is composed of five sections. Section 1 is the introduction, which provides the PhD thesis’s background, aim, research questions, and general outline.

Section 2 introduces the main theoretical points of departure. First, it frames the technological transformation and its geographical consequences with particular attention to the labor market structure. Second, it discusses low-income work, its determinants, and the causes of geographical variation at the general and subnational levels. Third, it discusses upward mobility, particularly its geographical underpinnings. Finally, the geographies of discontent are discussed regarding individual, cultural, and spatial factors.

Section 3 presents the data and the main methodological considerations taken during the research process. It further discusses some limitations and things that could have been done differently.

Section 4 provides background for the articles by placing the research in the Swedish context. First, it discusses the institutional and historical underpinnings of the Swedish labor market model. Second, it presents an overview of political organization and decision-making at different levels. Finally, it finishes with an overview of broad labor market trends and an overarching description of the evolution of low-income work in Sweden during the last 30 years.

Section 5 presents the articles, summarizes their findings, and discusses the PhD thesis’s overall contributions to economic geography.

Finally, the three articles are included in the following order:

Article I: von Borries, A., Grillitsch, M., Lundquist, K-J (2024). Structural Transformation, the Knowledge Economy, and the Geography of Low-Income Work. *Journal of Economic Geography*, 24(2), pp. 285-308

Article II: von Borries, A. Upward Mobility from Low-income Work: The Role of Social and Labor Market Embeddedness (unpublished manuscript, under review in *Regional Studies*)

Article III: von Borries, A. Polarization, Upward Mobility, and the Geographies of (Dis)content: An Empirical Investigation in Sweden 2002-2022 (unpublished manuscript)

Points of Departure

This project began as an inquiry into how the technological transformation, i.e., the shift from industrial to post-industrial, knowledge-based economies, has affected the bottom end of the labor market. Over time, the research questions evolved and became more specific, focusing on themes such as the geographical determinants of upward mobility for low-income workers and the relationship between labor market structures and geographies of discontent. Yet, the impact of this new economic order on the geographies of low-income work remained a central concern throughout the project, if not as the main explanatory factor in every analysis, consistently present as the underlying force shaping the conditions and trajectories of change.

From Industrial to Knowledge Economies

Industrial revolutions are transformative periods in human history, marked by broad technological breakthroughs – general purpose technologies – that fundamentally reshape labor markets, economies, and societies (Lundquist et al., 2017; Martynovich, 2013; Martynovich & Lundquist, 2016; Perez, 1983, 2002, 2009). From the steam engine of the first industrial revolution to the assembly line of the second and the digital innovations of the third, each wave has been accompanied by shifts in power, wealth distribution, and regional dynamics (Lundquist et al., 2017; Perez, 2002, 2009; Schön, 2009). Building on Joseph Schumpeter's (1939) concept of creative destruction, scholars like Carlota Perez (2009) emphasize that these transformative periods create new opportunities but also significant challenges as societies grapple with the disruptions and inequalities that come together with rapid technological change.

According to most accounts (Lundquist et al., 2008; Perez, 2009; Schön, 2007), the third industrial revolution started somewhere in the mid 1970s, and most believe that we are in the onset (maybe even well into) the fourth – characterized by artificial intelligence, advanced robotics, and biotechnology. Like previous revolutions, the third industrial revolution – marked by the rise of information

and communication technologies (ICT) – has fundamentally transformed economic and social systems. Key innovations, such as personal computers, the Internet, and mobile technology, have revolutionized business operations, created vast opportunities for entrepreneurship and innovation, reshaped supply chains, and created entirely new industries. On the other hand, it has also exacerbated inequalities, as individuals and regions lacking the right set of resources have struggled to compete in an increasingly interconnected global economy (Perez, 2002, 2009). Moreover, these technologies have also contributed to the intensification of globalization, the offshoring of manufacturing, and the rise of precarious, low-income service sector jobs in many advanced economies (Autor & Dorn, 2013).

The new economic system, where growth is primarily driven by the production, distribution, and use of knowledge and information, rather than traditional industrial goods (Powell & Snellman, 2004), has been termed the *knowledge economy*. Under this new regime, value creation increasingly depends on human capital, innovation, and the ability to process and apply information, therefore elevating the importance of higher education, digital literacy, and research capacity as key assets for both individuals and regions. At the same time, it has contributed to growing inequalities, as the skills required to reap the benefits from this system have become increasingly specialized and expensive to acquire. Hence, an important spatial divide arises as those lacking access to quality education and/or residing outside major urban centers often struggle to participate fully in the new economy.

Labor Market Structures

The effects of the shift toward a knowledge-based economy have been uneven and varied at different scales. At the global level, both interpersonal income inequality and income disparities between countries have declined in recent decades (Chancel et al., 2022), largely driven by rapid growth in a few large developing economies, most notably Korea and Taiwan early on, joined later by China and, to some extent, India. These late industrializers successfully leveraged the globalization of production networks and invested heavily in education and infrastructure, allowing them to catch up with advanced economies. However, for much of the rest of the developing world, the distance to the technological frontier has not meaningfully decreased, and in many cases has even grown. Nations with advanced economies, strong educational systems,

and robust infrastructure have been well-positioned to adopt and benefit from new technologies, driving innovation and sustained economic growth. In contrast, many less developed countries continue to face structural barriers such as limited access to technology, inadequate infrastructure, and a lack of skilled labor, which hinder their ability to fully capitalize on the IT revolution, thereby reinforcing long-term disparities (Rodrik, 2016, 2018).

At the national level, there are growing signs that labor markets in advanced economies have stopped experiencing upgrading, a central feature of previous technological revolutions. Instead, labor markets have shown strong signs of polarization: employment is growing in both high- and low-skill occupations at the expense of middle-skill jobs (Goos & Manning, 2007; Manning, 2004). This trend is attributed to new technologies being routine-biased rather than skill-biased. The tasks that computers excel at replacing are routine, particularly those in the middle range of skill and pay rather than at the bottom of either distribution (Goos et al., 2014).

While there is broad agreement on the significant role of technological change, globalization, through offshoring and the internationalization of production networks, has also affected the demand for various skills and qualifications. Initially, mostly manufacturing industries were affected, but in time, a great deal of service jobs, previously thought to be place-bound, also became offshored. For example, radiology, once firmly tied to physical proximity between doctors and patients, saw a growing number of diagnostic imaging tasks outsourced to specialists abroad, enabled by digital transmission of medical images. Similarly, legal services such as document review and contract drafting began to be handled by offshore teams in countries like India. Even accounting and financial analysis work, traditionally located within firms or local offices, has been increasingly offshored to global service centers where skilled labor is available at lower cost.

Crucially, in neither case – offshored services or manufacture – was the offshorability of a job correlated with its educational requirements. Instead, it was mainly middle-skill, middle-pay jobs that have been offshored or automated (Oesch, 2013). Consequently, globalization and technological change have had similar effects on the middle segment of the labor market, as they enable routine tasks previously performed by relatively well-paid domestic workers to be either offshored or automated.

At the subnational level, after decades of convergence, there is now a separation of regions (Iammarino et al., 2019; Storper, 2018). Prominent urban centers and technologically advanced regions continue to enjoy substantial benefits, experiencing rapid growth in high-value industries, whereas areas reliant on

traditional manufacturing have faced stagnation or decline. As Florida (2021) points out, the *old industrial* and *new knowledge-based* economies have distinctly different geographies and returns to agglomeration. The industrial economy was more spread out and benefited from clustering, whereas the new knowledge-based economy is highly concentrated in a few *superstar cities* due to its reliance on specialized knowledge, skills, and technological innovation (Diamond, 2016; Florida, 2017; Moretti, 2012). The interaction between agglomeration economies and the monopoly power some tech giants have amassed has arguably supercharged these dynamics (Feldman et al., 2020). Beyond accelerating growth and capital accumulation in superstar cities, this has also resulted in draining economically disadvantaged areas of important resources, such as locally owned businesses, which traditionally provided not only employment but a wider range of services to the community (Manduca, 2019).

Moreover, as these new power centers pull ahead, they also become increasingly polarized internally, characterized by a growing divide in employment opportunities, where jobs increasingly concentrate in high-skill, high-wage occupations and low-skill, low-wage occupations, while middle-skill, middle-wage jobs decline. The literature shows that places with a prominent presence of high-tech industries and a high share of high-skill occupations tend to have the most polarized labor markets (Lee et al., 2013). The co-location of high- and low-income work stems from the increase in demand for low-skill personal services fueled by the relatively high wages of skilled workers, the growth in high-paid dual-earner households, and the influx of low-skill immigrants and/or displaced workers from the rest of the regional system (Florida, 2017). As a result, these places are becoming increasingly less livable for the working class, who face unaffordable housing and longer commutes. At the same time, environments become increasingly tailored to the wealthy, with insufficient investment in infrastructure that supports the middle class, such as affordable, high-quality housing and public transportation (Atkinson, 2021).

Conversely, relatively less polarized cities often experience industrial decline and have a less-educated population. These local economies do not provide good wages for a broad array of residents; rather, they are characterized by the cohabitation of poor and middle-class households (VanHeuvelen & Copas, 2019). During the last few decades, places seem to have evolved to be either polarized – characterized by the coexistence of affluent and poor households – or impoverished, increasingly distanced from affluence and defined by poverty. In this dynamic, middle-class households are tending to coexist with low-income

households and much less with affluent ones (VanHeuvelen & Copas, 2019; von Borries et al., 2024).

Low-income Work Prevalence

The bottom line is that we still do not know where low-income work is concentrated across Sweden's regional system, nor how this has evolved during the transformation to a knowledge economy. The existing literature presents contradictory findings: regional polarization should imply more low-income labor markets in non-metropolitan regions, while intra-metropolitan polarization points to concentrations of low-paid jobs within large urban areas. The central question, then, is whether the expansion of the knowledge economy has increased or decreased the prevalence of low-income work across different geographies.

This project proposes that knowledge-intensive growth influences the bottom end of the labor market through three interrelated mechanisms, outlined in Figure 1. First, polarization: as knowledge-intensive regions attract high-skilled professionals, they also generate demand for low-wage service workers catering to this group. Although the sector offers high wages, these are concentrated among a relatively small share of workers, given its low labor intensity and skewed value capture (Feldman et al., 2020). Second, knowledge-based growth has also brought substantial productivity and employment gains (Iammarino et al., 2019; Lundquist et al., 2017). Regions with stronger initial capacities (Lundquist & Olander, 2010) have used these gains to phase out low-skill, low-wage jobs and create new, better-paying occupations (Grillitsch & Nilsson, 2019). Third, the trickle-down effects of employment growth – through tighter labor markets and upward pressure on wages – can improve job prospects for low-income workers and reduce the overall prevalence of low pay (de la Roca & Puga, 2017; Kemeny & Osman, 2018).

These mechanisms may pull in different directions, which is why it is crucial to analyze them together rather than in isolation. In some places, polarization may dominate, increasing inequality; in others, restructuring and labor market tightening may improve conditions for low-paid workers. Whether one mechanism outweighs the others likely depends on the institutional environment – including wage-setting institutions, education and training systems, and labor market policies – which mediate how knowledge-based growth translates into employment outcomes. Understanding this interaction is essential to explaining the uneven geography of low-income work in the knowledge economy.

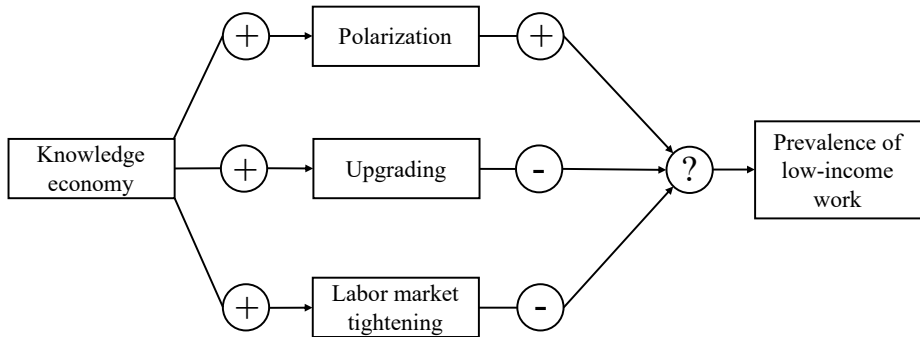


Figure 1. Knowledge economy – Low-income work

Source: von Borries et al. (2024).

Labor Market Dynamics

Research on upward mobility from low-income work has predominantly focused on how individual and workplace factors influence workers' trajectories into and out of low-income work, as well as how low-income jobs differ from unemployment in terms of future labor market prospects (Buddelmeyer et al., 2010; Cai, 2015; Cai et al., 2018; Cappellari & Jenkins, 2004, 2008; Stewart, 2007; Stewart & Swaffield, 1999). Most studies indicate that low-income work is highly state-dependent yet provides a pathway to higher-income employment (Cai, 2015; Cai et al., 2018; Cappellari & Jenkins, 2008). Workers in low-income positions are more likely to remain in such positions but also tend to have a better chance of transitioning to higher pay than those unemployed (Gabe et al., 2018; Knabe & Plum, 2013; Mosthaf, 2011). Additionally, low-income work is associated with a higher risk of unemployment (Uhlendorff, 2006) and can lead to repeated unemployment (Buddelmeyer et al., 2010; D'Arcy & Finch, 2017; Hurrell, 2013). These findings have been validated across various contexts and remain consistent even after accounting for observed and unobserved individual differences (Ball et al., 2020; Castro-Silva & Lima, 2017; Fusco & Islam, 2012; McCulloch, 2003; Stewart & Swaffield, 1999). Finally, some significant differences have been identified based on individual characteristics, such as gender, migration background, and age (Fok et al., 2015; Knabe & Plum, 2013; Pavlopoulos et al., 2014), which manifest not only in the effects and duration of low-income spells (Cai, 2015; Phimister & Theodossiou, 2009; Silva et al., 2018). In short, women, migrants, and older workers are more likely to be in low-income work and less likely to achieve upward mobility.

The technological transformation is also thought to have affected the known capacities of local labor markets to provide opportunities, at least for certain kinds of workers. Autor (2020) observed that while large cities continue to foster upward mobility for skilled workers, that was not true anymore for low-skilled workers in the U.S. This is attributed to the biased nature of the technological change. Because routine tasks are more easily automated or outsourced, many middle-skill jobs that once anchored the urban labor market have disappeared or diminished. As a result, the urban labor market offers fewer steppingstones for non-college-educated workers to move up the wage ladder. The loss of these jobs erodes the structural foundation that created the urban wage premium for routine workers. Recent research also shows that agglomeration economies linked to new technologies exhibit a strong skill bias, disproportionately benefiting high-skilled workers (Bacolod et al., 2009; Baum-Snow et al., 2018) and those at the top of the wage distribution (Matano & Naticchioni, 2016).

The *segmentation of the corporate landscape* is also thought to play a role. As large firms increasingly outsource non-core functions, internal progression pathways are eliminated (Weil, 2014), which are central to economic mobility under the industrial model (Cappelli, 1999). Instead, low-income workers are increasingly concentrated in industries prioritizing cost over skill development, limiting internal and external advancement opportunities (Kalleberg, 2011; Kalleberg & Dunn, 2016).

The idea of urban labor markets fostering upward mobility is old, dating back to Marshall (2013), and has been supported by two distinct but related bodies of literature. First, research on the so-called urban premium has found that urban workers earn higher wages than their counterparts in non-urban areas, even for similar jobs (D'Costa & Overman, 2014; Howell et al., 2020; Matano & Naticchioni, 2016; Yankow, 2006), and it is not only the case that their wages are higher, but they also grow faster (D'Costa & Overman, 2014). These urban premiums have been observed in the U.S. and many European countries, including the UK, Germany, and France (Howell et al., 2020). While the sorting of the most capable and ambitious individuals plays a role, it does not fully explain the extent of these premiums. Urban workers tend to be more productive, at least in part, due to agglomeration externalities, which refer to the benefits that arise from the co-location of economic actors.

These externalities are thought to stem from three main mechanisms: sharing, learning, and matching (de la Roca & Puga, 2017; Duranton & Puga, 2003; Puga, 2010). Sharing refers to the advantages gained from larger markets, better infrastructure (Neffke et al., 2011), a greater variety of options, individual specialization, and risk sharing (Duranton & Puga, 2003). Learning involves

workers acquiring skills and knowledge through frequent job changes, informal learning opportunities, and exposure to diverse ideas. Human capital accumulation occurs more rapidly in urban environments due to learning spillovers from frequent interactions with other skilled individuals (Glaeser, 1999). This is often linked to higher wage growth within firms. Finally, matching indicates that a larger pool of employers and workers improves the odds of creating effective matches, which can counteract discrimination, particularly relevant for minorities at the lower end of the income ladder. Thicker and more diverse urban labor markets enable individuals to switch employers in search of the right environment to be adequately compensated for their continuously improving skills and ambitions (Wheeler, 2006). This, in turn, correlates with higher wage growth between firms.

Second, the idea of escalator regions advanced by A.J. Fielding (1992) similarly suggests that some large metropolitan regions function as occupation escalators, primarily for ambitious young adults. The mechanisms underlying this effect are also rooted in agglomeration economies, as workers benefit from learning effects, exposure to innovative industries, and access to professional networks, which enhance their career trajectories. As a result, escalator regions act as upward mobility hubs, particularly for young and ambitious workers seeking to advance more quickly than they could in less dynamic regions (Storper & Scott, 2009). A recent re-examination of this thesis by Gordon et al. (2015) found that while urban areas tend to offer better prospects for upward mobility, this is often/increasingly restricted to a single improvement in occupational status and/or wage level. Looking beyond first-tier cities, Champion et al. (2014) found that in the UK, second-tier cities fall well short in terms of their escalator properties for local populations – only Manchester had transition rates similar to London. However, for those moving into second-tier cities, the benefits were sizable compared to those moving elsewhere, indicating that migration to these cities can still provide significant upward mobility opportunities for certain groups.

Although the role of geography remains largely unexplored, there are indications that urban low-income workers are slightly more likely to transition to higher-paid jobs than their non-urban counterparts, while their low-income spans are generally shorter (Phimister et al., 2006), a finding that extends across education levels, age, and gender, although to different extents. However, Velthuis et al. (2019), again for the UK, found that the estimates were highly sensitive to the definition of low pay. Using a local rather than national threshold made the urban effect disappear.

A couple of recent contributions have shed some light on how the local labor market context might affect low-income workers' chances for upward mobility in Sweden. First, Elekes et al. (2023) showed that a higher concentration of skill-related high-income jobs improves the likelihood of transitioning to better-paid employment. A clear regional hierarchy was observed as workers in larger regions benefited more from this effect. Second, Henning & Kekezi (2023) found that while the concentration of related occupations was beneficial for upward mobility, the concentration of related industries was not. Both studies also test the effects of the size of the local labor market, obtaining positive and significant coefficients. However, both studies adopt a job-based definition of low-income.

Local Networks and Upward Mobility

Our lack of knowledge about the geographical determinants of upward mobility for low-income workers is not confined to the labor market. Although my interest in the upward mobility of low-income workers originated in concerns about the technological transformation weakening the *escalator* effect, individuals do not navigate the labor market in isolation. Hence, income or occupational mobility is not solely determined by the labor market context. Workers are embedded in multiple formal and informal contexts and networks – from interpersonal relationships to community spaces – that can significantly affect their access to opportunities (Granovetter, 2005; Wigren-Kristoferson et al., 2022). Understanding earnings and occupational mobility thus requires looking beyond formal labor market mechanisms to consider how the socialization spaces individuals are situated in factor in this equation.

We know that a substantial proportion of new jobs are found through informal networks rather than formal job searches (Bayer et al., 2008; Bentolila et al., 2010). These networks often emerge in everyday spaces – parks, school events, bars, cultural venues – where individuals build connections that can translate into labor market opportunities (Bayer et al., 2008; Bentolila et al., 2010; Damm, 2009; Glitz, 2017; Ioannides & Loury, 2004). The quality and structure of these networks are crucial (Schmutte, 2014). According to Granovetter's theory of weak and strong ties, weak ties – connections to acquaintances or distant contacts – are more likely to provide access to non-redundant information and new opportunities. In contrast, strong ties offer emotional support but often circulate redundant information within closed networks.

This distinction maps closely onto social capital theory, particularly the concepts of bridging and bonding capital (Putnam, 2000). Bonding capital, associated

with strong ties, reinforces solidarity and mutual support within homogeneous groups but may limit exposure to new opportunities. Bridging capital, on the other hand, is generated through weak ties that span diverse social groups, facilitating access to novel resources and information – key ingredients for upward mobility. For low-income workers, the absence of bridging capital can severely constrain access to better jobs, while excessive reliance on bonding capital may reinforce socioeconomic stagnation.

Moreover, the spatial distribution of these forms of capital – and the contingent ways individuals are connected to them – introduces a layer of complexity that is well captured by Richard Shearmur’s (2021) concept of probability spaces. Shearmur argues that economic outcomes are not deterministic but shaped by contextual contingencies, where small differences in environment, timing, and sequence can lead to vastly different trajectories. In this view, upward mobility is not a linear path, but a probabilistic outcome conditioned by the geography of opportunity, the availability of relevant actors and networks, and the individual’s embeddedness within them.

This project, therefore, mobilizes the concept of embeddedness to propose that upward mobility is shaped by both formal (labor market) and informal (socialization) environments, and the networks and relationships individuals maintain within them. These environments influence not only the availability of opportunities, but also individuals’ awareness of and ability to act on them. People often compare themselves to those around them, and these comparisons can shape their ambition and drive. Additionally, the mismatch hypothesis suggests that employers frequently rely on networks to screen potential workers, further underscoring the importance of the socialization environment in shaping labor market outcomes (Gobillon et al., 2007). Thus, the interplay between network structure, social capital, and spatial context becomes central to understanding how opportunities are distributed and how they might be reshaped.

Time is also an essential dimension in the formation and evolution of networks. The capacity to build both bonding and bridging ties often depends on how long individuals have been embedded in a particular environment. For example, Damm (2014) showed that the impact of neighborhood quality on the labor market integration of refugees was cumulative, indicating that useful networks for upward mobility tend to take time to develop. Yet, this *temporal embeddedness* may be a double-edged sword. While longer residence and deeper ties can improve access to local resources and trust-based networks, they may also lead to insularity and path dependency. Over time, strong bonding ties might crowd out the weak ties necessary to access diverse and distant opportunities,

particularly in spatial contexts with limited economic dynamism. This lock-in effect can constrain mobility by reinforcing routines, expectations, and information flows that reproduce existing socioeconomic positions. Therefore, the geography of upward mobility must be understood not only in terms of spatial opportunity structures but also as a temporal process shaped by the evolving configuration of individual trajectories and network dynamics.

The Geographies of Discontent

The Rise of Discontent

Over thirty years after Francis Fukuyama (1992) called for the end of history, and despite the unquestionable improvements in living standards and technological progress, the western world is clearly going through a period of heightened popular discontent – an age of discontent (Rhodes-Purdy et al., 2023) – that has manifested in multiple ways but most notably in the rise of far-right populist parties. Although discontent is certainly a multidimensional and complex concept, this PhD thesis adopts the loose definition by Chilvers et al. (2024) that centers precisely on its expression in the ballot box. Discontent, therefore, is understood here as the *“feeling of dissatisfaction that people may experience towards their government and that expresses itself in electoral processes”*.

Two main explanations have been offered for this rise in discontent. On the one hand, the economic inequality thesis argues that profound shifts in post-industrial economies – such as rising income and wealth disparities, technological automation, the decline of manufacturing, labor market insecurity, shrinking welfare systems, and austerity policies – have created economic precarity among “left-behind” groups. This, in turn, has fueled resentment against political elites and made these groups susceptible to populist rhetoric that blames globalization, immigration, and economic and political establishments for their struggles.

On the other hand, the cultural backlash thesis suggests that the surge in populist support stems from a reaction against progressive social change. It builds on the “silent revolution” theory (Inglehart, 1977), which posits that the postwar expansion of economic security led younger generations to embrace post-materialist values such as multiculturalism, gender equality, and environmentalism. However, this progressive shift has triggered a conservative

counter-reaction, particularly among older, less-educated, and traditionally dominant groups, who perceive a decline (or threat) in their social status and actively resist these cultural transformations.

While economic and cultural factors are often discussed separately, they are deeply interrelated in fueling discontent. Economic insecurity, such as job loss, wage stagnation, or precarious employment, has been shown to heighten cultural anxieties, particularly among groups who perceive their social status or way of life as under threat (Rhodes-Purdy et al., 2023). This interplay often manifests with immigration, frequently mobilized as the spearhead of socio-cultural change. For instance, economic grievances can amplify fears of cultural displacement, leading to the perception that immigrants compete for scarce resources or undermine national identity (Inglehart & Norris, 2016; Norris & Inglehart, 2019). This dynamic is particularly evident in regions experiencing economic decline, where the erosion of stable, well-paying jobs exacerbates feelings of marginalization and fuels support for populist or anti-immigration movements (Gest et al., 2018; Inglehart & Norris, 2016).

Determinants of the Geographies of Discontent

Support for far-right populist parties is not randomly distributed in space but follows clear geographical patterns, reflecting the aforementioned economic and cultural divides. Higher levels of support are consistently observed in economically struggling and/or socially conservative areas, often termed “places that don’t matter” (Rodriguez-Pose, 2018). These regions, frequently marked by economic stagnation, demographic decline, and a sense of abandonment, have become focal points for the so-called “geographies of discontent.” This concept captures the uneven distribution of dissatisfaction expressed through electoral support for populist parties, particularly in regions hit hard by globalization and technological change. It highlights how persistent and growing inter-regional inequalities fuel various forms of contestation, most notably the rise of far-right populism.

Many of these places were once thriving centers of the old industrial economy but have struggled to adapt to the new service-based and knowledge-driven economy (Balland & Rigby, 2017; Henning et al., 2016). The closure of factories and the decline of stable middle-class jobs have left residents feeling marginalized by national governments, fostering resentment toward urban elites who are perceived to have disproportionately benefited from globalization and technological advancements (Norris & Inglehart, 2019). This sense of being left behind has created fertile ground for political discontent, particularly in regions

experiencing long-term economic decline (Dijkstra et al., 2020; Florida, 2021; Martin, 2024).

Research has consistently found a strong correlation between weak regional economic performance and support for anti-establishment parties. For instance, Autor et al. (2016) and Che et al. (2022) demonstrated that US counties significantly affected by China's integration into global trade in 2001 showed rising political polarization and greater support for Donald Trump. Similarly, Dijkstra et al. (2020) revealed that anti-EU votes across Europe were concentrated in areas experiencing industrial decline, lower employment, and less educated workforces. In the UK, Becker et al. (2017) identified key drivers of the Brexit "Leave" vote, including low education levels, historical dependence on manufacturing jobs, and high unemployment rates. In Germany, Greve et al. (2023) found that support for populist parties was linked to the long-term decline of a region's relative welfare, even beyond the lifespans of current residents. Algan et al. (2017) further established that rising unemployment following the Great Financial Crisis eroded trust in political institutions, driving support for populist parties across Europe. Essletzbichler et al. (2018) added that older industrial regions, particularly those with slower economic restructuring, showed higher shares of populist right-wing votes, especially in areas heavily impacted by the Great Recession. Rodríguez-Pose et al. (2024) also identified a strong link between regions at risk of falling into development traps and support for Eurosceptic parties, emphasizing how prolonged stagnation fuels opposition to European integration.

Moreover, rurality and low population density further amplify these trends. In the United States, the rise of populist voting in the Rust Belt and so-called flyover states is closely tied to the perception that rural voters are neglected and undervalued (Cramer, 2017). This sentiment is echoed in Europe, where rural and small-town areas have become strongholds for anti-establishment parties (De Ruyter et al., 2021; Essletzbichler et al., 2018; Gordon, 2018). Population density plays a crucial role, with lower densities strongly associated with anti-system voting (De Ruyter et al., 2021). This pattern reflects a broader cultural and economic divide between cosmopolitan urban centers, which tend to support pro-establishment parties, and traditional rural regions, where feelings of geographical isolation and economic marginalization drive support for populist alternatives (Chilvers et al., 2024; Martin, 2024; Martins, 2021).

In summary, the geographies of discontent reveal how economic decline, cultural anxieties, and spatial inequalities intersect to shape political behavior. Regions once central to the industrial economy, now struggling to adapt to the knowledge economy, have become hotbeds of populist support. These "places

that don't matter" are not merely economic backwaters but are central to understanding the political and social consequences of uneven development in an era of globalization and technological change. By examining these dynamics, this PhD thesis seeks to contribute to a better understanding of the mechanisms linking economic transformation, spatial inequality, and the rise of far-right populism.

Discontent and local labor markets

As highlighted above, the rise of discontent emerges from the perception of inequalities and a sense of unfairness. The literature has extensively explored the role of interregional inequalities. However, local disparities, particularly within local labor markets, play a critical role in shaping political behavior and social grievances. Insights from social psychology suggest that individuals evaluate their position in relation to their proximate environment, which can lead to different anxieties across the spectrum.

Polarized environments could give rise to discontent at both ends of the socioeconomic spectrum, albeit for different reasons. On the one hand, polarization might heighten perceptions of unfairness among low-income workers who observe the economic success of others in close proximity but feel excluded from similar opportunities. This sense of relative disadvantage can fuel resentment, erode trust in institutions, and exacerbate social fragmentation, fostering support for populist or anti-establishment movements (Gest et al., 2018). On the other hand, discontent among individuals in privileged or economically secure positions can also arise in polarized or unequal settings, driven by status anxiety and perceived threats to their social or economic standing. In highly unequal environments, the erosion of social trust and cohesion can foster a sense of isolation and fear of instability or loss of control among privileged groups (Gidron & Hall, 2017). These dynamics, often amplified by political narratives framing change as a threat, can lead to support for populist or anti-establishment movements, even among those who are economically secure.

Finally, the structures of local labor markets also shape opportunities for upward mobility from low-income work. As mentioned above, segmented or polarized employment landscapes are expected to offer limited pathways out of economic precarity. When advancement prospects are constrained, especially in places where economic success is visible but inaccessible, the resulting frustration can deepen the sense that the system is unjust or unresponsive, opening up for increased political disaffection and support for radical alternatives (Rodriguez-

Pose, 2018). Whether or not this is the case, the question of how upward mobility prospects shape the geographies of discontent remains an important one.

Analytical Framework

The discussions throughout this section can be condensed in the analytical framework presented in Figure 2, where technological change is understood to have had an impact on both the composition and distribution of opportunities in the labor market. The prevalence of low-income work is thought to be affected by polarization, upgrading, and tightening forces. Opportunities for upward mobility for low-income workers are thought to have been affected by the routine, biased nature of the technological transformation, as well as networks outside the labor market. Finally, changes in the structures and dynamics of local labor markets explain – at least some of – the geographical patterns of discontent.

Outcomes, however, are not pre-determined by the nature of the technological transformation. As Oesch (2013) puts it, the institutional framework, in particular wage-setting norms, is the mediator that, in the end, defines how outcomes look like in different cases. Indeed, a series of studies on low-wage work, commissioned by the Sage Foundation across six countries: the US, the UK, Denmark, Germany, the Netherlands, and France, revealed that while structural differences explained some variation in the incidence of low-income work, wage-setting institutions are the most significant factor (Bosch, 2009; Bosch & Gautié, 2011; Westergaard-Nielsen, 2008). Countries with more participatory and inclusive wage-setting structures, such as Denmark and France, report significantly lower levels of low-income work. Conversely, less inclusive wage settings, characteristic of liberal market economies like the US and UK, tend to lead to higher shares of low-income work.

This variation in outcomes helps illustrate how institutional differences mediate the effects of structural transformations. In liberal regimes in Anglo-Saxon countries, flexible wage-setting institutions, an antagonistic attitude toward labor unions, and limited safety nets facilitate the proliferation of low-income work, resulting in low unemployment and occupational polarization (Oesch, 2013). In contrast, the less flexible systems of corporatist-statist regimes in Continental Europe hinder the expansion of low-wage jobs, which may lead to occupational upgrading, albeit accompanied by higher unemployment. Similarly, the egalitarian institutions of social-democratic regimes in Scandinavian countries also limit the growth of low-skilled services, allowing for occupational

advancement without the high unemployment typically seen as governments intervene to create numerous public jobs in interpersonal services (Esping-Andersen, 1993).

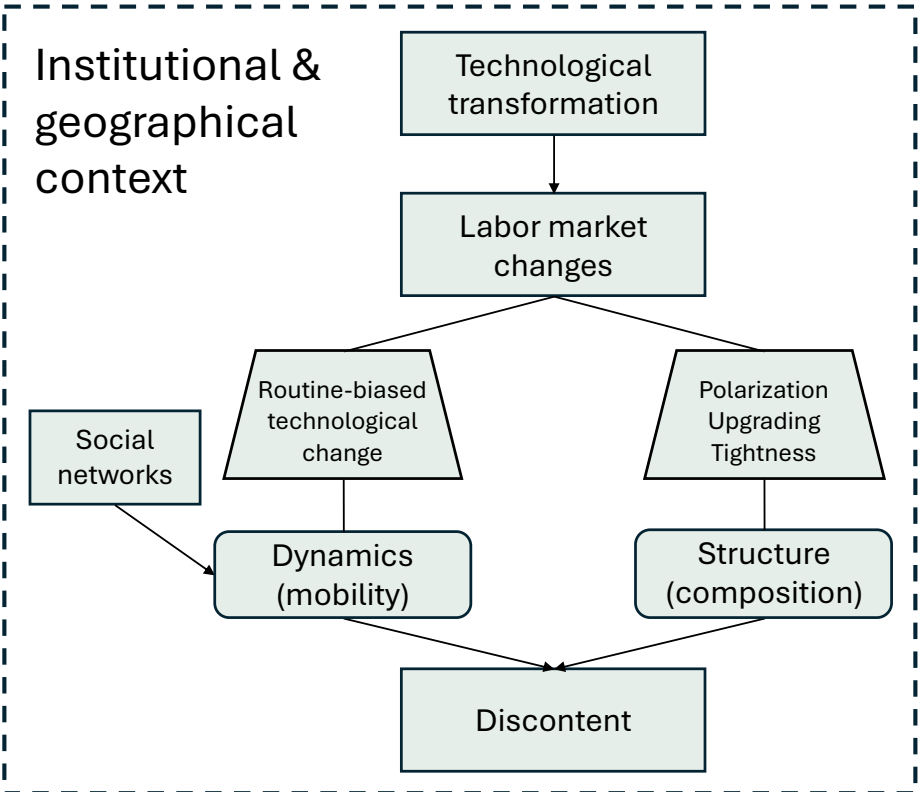


Figure 2. Analytical framework: Technological transformation – Labor market changes – Discontent

Source: Own elaboration.

While it is easy to see that wage-setting institutions like minimum wage laws, collective bargaining, strike rights, and union protections (Oesch, 2013) matter greatly, it could be argued that other institutions of the overarching welfare regime – system of social policies and institutions that both govern resource are distributed and structure the relations between the state, the market, and the family (Esping-Andersen, 1990, p. 26) – also influence labor market outcomes, especially concerning the lower end of the labor market. As Esping-Andersen (1993, p. 20) puts it,

The structure of the welfare state plays a crucial role in the current process of social stratification. It creates and eliminates “empty slots,” determines who occupies them and how they are rewarded, defines the responsibilities associated with those roles, and ultimately shapes patterns of mobility between them.

In this regard, targeted social investments could be argued to play a key role in promoting economic mobility and limiting the extent of low-income work. For example, substantial investments in children’s human capital and health lead to a more compressed skills and productivity distribution (Mogstad et al., 2025). Similarly, investments in work-complementary services, such as childcare and old age care, increase labor participation and equalize work experience, thereby making the earnings distribution more equal. In a similar way, robust adult re-training and upskilling programs can contribute to a more compressed wage structure by enabling low-income workers to transition into higher-paying occupations. By improving access to education and skill development throughout the life course, such policies reduce long-term labor market segmentation and promote upward mobility among those with limited formal qualifications or outdated skills. However, Mogstad et al. (2025) find that income equality in the Nordics is primarily a result of a compressed hourly wage structure achieved through wage-setting institutions, in particular wage bargaining systems with strong coordination between and within industries. The institutions typically associated with the welfare state – tax-transfers, public spending in complementary services (like daycare for working parents), and inclusive educational systems – play a relatively minor role.

What makes Sweden particularly interesting in this context is that it manages to combine equality founded upon strong social democratic institutions and high levels of entrepreneurship and high-tech innovation. This challenges established narratives (Henrekson, 2005), which suggest that public provision of housing, education, and healthcare would squeeze out opportunities for the public sector; unemployment insurance provides a reservation wage removing incentives for setting up business, and these conditions altogether would lower the incentives for saving, eliminating an important source of financing for firms. Reality seems to suggest that some things are better off the market, and necessity is not the only, nor even the best, driver of entrepreneurship.

However, high levels of social protection and/or robust welfare states do not guarantee growth and innovation either. Countries, in this regard, need to walk a tight rope, factoring not only what is possible but what is socially acceptable. In a recent book, Neil Lee (2024) showed how equity and innovation can be achieved in rather different ways. Besides Sweden, countries like Austria, Switzerland, and Taiwan illustrate that innovation-led development and equality

can be achieved in many different ways. While Sweden combines frontier innovation with a comprehensive welfare state, Austria supports incremental innovation in traditional sectors through coordinated institutions, Switzerland relies on strong vocational systems and knowledge diffusion, and Taiwan demonstrates how a state-led industrial policy can upgrade the economy while investing in broad-based education.

Finally, while national-level institutions set the overarching framework for labor market regulation, in most countries, subnational variation in welfare and wage-setting institutions remains relatively limited. As a result, such institutional differences are unlikely to be the primary drivers of variation in low-income work across local labor markets within a single country. This does not mean that local institutions are irrelevant, as differences in local governance models and institutional capacity can still shape labor market outcomes in meaningful ways (Fernández-Macías & Hurley, 2017). Indeed, in countries like the United States, where wage-setting institutions vary substantially across states, subnational institutional differences are likely to play a much more prominent role in explaining the spatial distribution of low-income work. This, as it will be discussed later, is not the case in Sweden.

Data and Methods

Data

Data Sources

The data used in this project comes primarily from the population-based register data from the Longitudinal Integration Database for Health Insurance and Labor Market Studies (LISA) obtained through Statistics Sweden (Statistiska Centralbyrån – SCB) for the years 1990-2021. For each adult individual registered in Sweden on December 31st, LISA provides personal information like education, sex, age, place of residence, immigration background, and different sources of income (and the amounts). Furthermore, since this is a matched employer-employee database, it provides information about employment, like industry, plant location, and wages. It is further possible to obtain financial information on workplaces and firms. This high-quality dataset includes detailed metadata with clear explanations for how variables are constructed, the compatibility of variables, and the changes made over the years. However, as the data is primarily collected for administrative rather than research purposes, the intentions behind its collection and preparation do not always align with academic standards. As a result, certain objectives or variables may change in response to adjustments in administrative processes.

The sample is restricted to individuals classified as gainfully employed and in the prime of their working life, though the operationalization of this varies across the three articles due to differences in data availability. In Article I, the sample includes individuals aged 25 to 65, without information on study status. In Article II, the age range is 20 to 59, and individuals registered as studying are excluded to avoid including those who may be working part-time while pursuing education. The upper age limit is lowered to account for the possibility of early retirement among those aged 60–65. In Article III, the sample is only restricted to individuals aged 20 to 65 for calculating economic indicators, again excluding those registered as studying. Finally, to further reduce distortion from part-time

employment, all observations with positive annual incomes but below two times the base price level are excluded.

Time Period

The project intended to explore various dimensions of the geographies of low-income work across a broad timeframe – 1990 to 2021 – allowing for the capture of long-term dynamics, including technological shifts, institutional transformations, and the effects of both local and global crises. While only Article I covers this whole period, the other two articles deliberately focus on more targeted timeframes to better address their specific research questions. Article II, although centered on upward mobility in more recent years (2014–2019), incorporates a longer historical perspective indirectly by using individuals’ duration of residence and employment in particular localities as a proxy for embeddedness and maturity of local networks. Article III examines the link between low-income work, upward mobility, and the geographies of discontent using data from 2002 to 2022. This starting point aligns with the Sweden Democrats’ first participation in a national election, marking an important moment in the political geography of discontent in Sweden and a natural starting point for the study.

This variation in temporal scope reflects a strategic choice to adapt each Article’s timeframe to the nature of the phenomenon under investigation, balancing analytical depth with contextual relevance.

Spatial Unit of Analysis

While the economic discourse has predominantly conceptualized labor markets as a national phenomenon, in reality, a *national labor market* consists of several overlapping submarkets defined by factors such as occupation, skill, industry, and geography (Green, 2010). In particular, the individual units of the geographical subdivision of the national labor market – of interest for this project – are usually defined as relatively self-contained areas in terms of journey-to-work flows, where most residents find employment and most jobs are filled by residents. Local labor markets are, therefore, “largely a consequence of the monetary and psychological costs of extensive daily commuting journeys to work and the often greater costs of migration between different areas” (Green, 2010, p. 86). Attachment to specific places, the salience of localized networks, and housing market restrictions also factor in (Faggian & McCann, 2009).

The main spatial unit of analysis used throughout this PhD thesis is municipalities. This level is chosen to provide the most precise geographical disaggregation of labor market dynamics while maintaining a meaningful scale for analysis. In Sweden, municipalities are often used as local labor markets or local economies (Eriksson & Hane-Weijman, 2017; Henning & Eriksson, 2020; Henning & Kekezi, 2023). Although administrative boundaries often fail to align with the *self-containment criteria* of local labor markets, as people rarely consider them unless they coincide with hard geographical barriers, Swedish municipalities are relatively large. Typically, they consist of a core city surrounded by smaller villages, creating a relatively self-contained system for labor market activity. In most cases, over 70% of workers live and work within the same municipality (Henning & Kekezi, 2023).

Using municipalities as the spatial unit of analysis is most problematic in large metropolitan regions, which consist of several interconnected and integrated municipalities. However, since calculations for the labor market are based on the day population (workers, not residents), the housing sorting issue noted by Henning & Eriksson (2020) is not entirely relevant. It is true that the *self-containment* condition breaks down in these areas, but I would argue that it is still possible to understand the economic activity performed within those boundaries and by those workers as a labor market.

An alternative would be to use labor market regions (lokala arbetsmarknader), as defined by Statistics Sweden, which group municipalities based on commuting patterns to maximize the self-containment of commuting flows. However, there are important differences in commuting patterns between different subgroups of the labor market. Importantly, we know that commuting distances for unskilled workers tend to be shorter than those for workers in professional occupations (Hazans, 2004). The relative costs of commuting are higher for low-skill, low-income workers, leading to shorter travel-to-work distances and less geographically extensive job searches than for more highly paid workers. This means that the extent of the local labor market is larger for the latter than for the former. In this regard, using municipalities as local labor markets for low-income workers may be more appropriate than labor market regions due to the already mentioned commuting and housing restrictions.

Moreover, as the local labor market definition by Statistics Sweden changes annually, to be able to make comparisons over time, I would need to choose one specific year (usually in the middle of the period). However, this comes at a cost as the further one moves from the selected year, the less meaningful the spatial unit becomes. This could be thought to be a minor nuance, but between 1990 and 2021, the number of labor market regions dropped from 112 to 69, meaning

that many smaller labor market regions present in the early 2000s are now integrated into larger proximate economic centers.

Although the Swedish municipality system has also experienced changes, increasing from 284 municipalities in 1990 to 290 in 2021 (the last change was implemented in 2003), it is much more stable, and the consequences of the changes are not so impactful. Two new municipalities were created in 1992 and 1995, and one new municipality was added in both 1999 and 2003.

In Article 2, which adopts a multilevel perspective, different scales were required to operationalize the different environments in which low-income workers are embedded. The socialization environment was operationalized as the residence municipality, while the labor market environment was operationalized as the functional region where the workplace is located. Functional regions consist of one or more municipalities and are designed to reflect local labor market areas in the long term (10-year periods). Statistics Sweden defined 60 units for the period 2015-2025.

Definitions

Low-income Work Status

Low-income work refers to employment undertaken by individuals actively and primarily working (as opposed to studying or voluntarily holding part-time jobs) and for which they receive compensation, in the form of a salary for employees or business earnings for the self-employed, that is comparatively low (under a certain threshold), relative to the overall workforce.

The threshold adopted in this project is the OECD definition of *workers at risk of poverty*, which defines low-income work as the portion of the labor market earning less than 60% of the national median income. All income information available in the dataset is annual. The specific income variable I have selected includes gross salaries, work-related income from active business, and work-related social benefits, such as sick leave compensation. Compared to a measure of pure salary, the selected variable provides a better reflection of the resources available to workers, as it accounts for potential temporary income losses due to factors like pregnancy or illness. Moreover, including all work related income sources also accounts for a larger diversity of ways to “get by,” which is increasingly relevant in a world where traditional work arrangements are giving way to all sorts of flexible arrangements, and with that, new forms of precarity (Strauss, 2018). In Sweden, dividends from small companies are to be taxed

within certain thresholds, like salary income. This is relevant as many small shops and services provide work-related incomes without necessarily paying out salaries.

The literature on labor market composition and polarization (Autor et al., 2006; Bachmann et al., 2022; Hedtrich, 2022; Henning & Kekezi, 2023; Heyman, 2016; Høst & Winther, 2019), as well as recent geographical studies on the mobility of low-end workers (Elekes et al., 2023; Henning & Kekezi, 2023), has predominantly adopted a jobs-based definition of labor market segmentation. This approach involves categorizing jobs based on a combination of industry classifications (e.g., SNI) and occupational codes (e.g., SSYK or ISCO), which are then ranked according to their mean or median incomes during the initial years of the study. Occupations are subsequently grouped into bins – typically quantiles, quartiles, or terciles – that divide workers into roughly equal-sized categories. The underlying assumption is that the average (or median) wage of a job serves as a proxy for its quality.

While this method offers clear advantages for measuring compositional changes in the labor market, it also has significant limitations, the most important one being that working in a low-income job does not necessarily equate to earning low remuneration, as some workers in these categories may earn above-average wages due to seniority, overtime, or other factors. In contrast, the measure selected in this project – based on individuals' work-related income – allows for proper identification of the means workers dispose to make a living, their relative standing, and their movements in the income ladder, although granted not in the *occupational ladder*. The main drawback, in turn, is the propensity to misclassify individuals as low-income when working part-time voluntarily. It is also less indicative of structural features of the labor market.

Ultimately, the decision to opt for this approach was also practical. Since the project is interested in the evolution of low-income work throughout the last 30 years of transformation, the jobs-based definition was off the table. Information on the standard for Swedish occupational classification (*Standard för svensk yrkesklassificering*) is only available from 2001, and it experienced a major update in 2014. Industrial classification is available for the whole period but also had a major update in 2007. In both cases, harmonization over time is impossible.

A word is also granted about the distinction between low-income work and low-skill jobs. Low-skill jobs are typically defined based on the qualifications, training, or cognitive demands required to perform the work; they involve tasks that can be learned relatively quickly and do not require extensive formal

education. By contrast, low-income work is defined by its economic outcome – that is, by the level of remuneration received – and can include jobs that require significant skills but are poorly compensated due to sectoral characteristics, institutional settings, or specific labor market dynamics.

In practice, while there is overlap between the two, as many low-skill jobs are also low-paid, the relationship is not one-to-one. For instance, care work or certain technical trades may demand substantial skill and responsibility but still yield low incomes, particularly in labor markets with weak collective bargaining institutions. In the literature, studies on low-skill jobs often focus on issues of technological displacement, automation risks, and barriers to human capital accumulation (Autor & Dorn, 2013; Goos & Manning, 2007), while research on low-income work emphasizes wage structures, labor market segmentation, institutional protections, and the functioning of redistributive policies (Appelbaum & Schmitt, 2009; Bosch & Gautié, 2011). This distinction is potentially important since, for example, policies that aim to address low-skill employment (e.g., through education and training) may not necessarily improve the conditions of low-income workers if broader wage-setting institutions and market power imbalances are not addressed as well.

Upward Mobility from Low-income Work

Upward mobility is measured as year-to-year changes in the low-income status of individuals. To avoid distortions from individuals jumping categories due to statistical fluctuations in annual thresholds, I impose additional conditions to categorize a worker as moving into the high-income category. Specifically, workers are considered to have moved up between year ' t ' and ' $t+1$ ' if they meet one of two criteria: 1) they have changed employers and their income in ' $t+1$ ' is above the threshold, or 2) they have remained with the same employer, but their inflation-adjusted income in ' $t+1$ ' is at least 10% higher than in ' t ' and above the threshold.

This individual income-based definition of low-income allows for a more accurate identification of upward mobility compared to occupation-based or job-based (usually a combination of occupation and industry) definitions, which are commonly used in the literature (Autor et al., 2006; Bachmann et al., 2022; Hedtrich, 2022; Henning & Kekezi, 2023). While job-based definitions assign workers to quintiles or terciles based on the average or median wages of their occupations or jobs, they often fail to capture wage growth within the same job or job category. For example, a worker may experience significant income growth without changing jobs or moving to a higher-ranked bin, yet this improvement would go unnoticed in a job-based framework. Conversely, a job

change that appears to represent upward mobility might not result in higher earnings, leading to misclassification.

By focusing on individual incomes, this approach provides a more nuanced understanding of upward mobility, particularly for low-income workers. It captures transitions between employers and wage growth within the same job, offering a clearer picture of how individuals progress in the income ladder. This is especially important in the context of low-income work, where mobility patterns are often more complex and multifaceted than job-based classifications suggest.

Knowledge Economy

The knowledge economy can be defined based on various criteria, including industries, skills, processes, and measures of innovation (Brinkley, 2006). The measure for the knowledge economy I used in this project (Article 1) is the share of regional employment in knowledge-intensive business services (KIBS) (Schnabl & Zenker, 2013) and high- and mid/high-tech manufacturing (Eurostat, 2020). These sectors are defined according to three-digit classifications in NACE Rev. 1.1 from 1990 to 2006 and NACE Rev. 2.0 from 2007 to 2018. This industry-based definition was chosen primarily due to data availability, and since it captures the engine of socioeconomic transformation more accurately.

Within industry-based definitions, there is no standard, and possibilities range from very narrow to very broad operationalizations. On the narrow side, some equate the knowledge economy with KIBS, as this sector is perceived to embody the essence of economic change. On the broad side, the OECD suggests that the knowledge economy should encompass medium- and high-tech manufacturing, KIBS, finance, insurance, education, and health, while the Work Foundation also includes cultural and creative industries (Brinkley, 2006).

For two main reasons, I adopted a mid-way operational definition, including only the more market-oriented KIBS and mid-high-tech manufacturing. First, this definition aligns with my preferred understanding of the knowledge economy, which emphasizes the importance of producing material goods and services (Powell & Snellman, 2004). Second, these industries capture the drivers of structural transformation within the Swedish context, where manufacturing played a more significant role in the early stages, and services became increasingly important later on, particularly with the rise of digitalization. Additionally, excluding manufacturing would fail to capture trends of increasing servification of high-tech manufacturing (Lodefalk, 2013).

Labor Market Polarization

As already discussed, labor market polarization refers to the process where employment growth increasingly concentrates at the high and low ends of the skill and wage spectrum while middle-skill, middle-wage jobs decline. The degree of polarization, in turn, refers to the extent to which employment and wages are concentrated at the high and low ends of the skill and wage spectrum, with a relative scarcity in the middle. This concept focuses on the static comparison of labor market structures, allowing polarization levels across regions, industries, or time points to be analyzed.

In Article 1, I use the Gini Index to measure the degree of polarization. Although connected, inequality and the degree of polarization are not the same. A highly polarized labor market is not necessarily very unequal, but more importantly, a highly unequal labor market is not necessarily highly polarized. The Gini Index measures the deviation of the income distribution from a perfectly uniform one (all workers earn the same). A high Gini coefficient generally indicates significant disparities between low-wage and high-wage workers, which aligns with high labor market polarization. The Gini Index is also particularly sensitive to the concentration of wages at the extremes of the distribution, making it a good proxy for assessing polarization. Finally, as a widely used and understood metric, the Gini Index facilitates standardized comparisons of labor market polarization across countries, industries, or periods.

An alternative approach would have been to construct an occupations-based indicator of the degree of polarization (or static polarization), as proposed by Velthuis (2019). However, since detailed occupation data is only available for a limited portion of the observation period, this method was not feasible for the full analysis. Given this constraint, the Gini Index offered a robust and practical solution for capturing the labor market divide associated with polarization. While the Article frames its analysis in terms of polarization, the findings could also be interpreted through the lens of inequality, as both concepts reflect similar structural shifts in the labor market. In this sense, the use of the Gini Index provides analytical flexibility, allowing the Article to contribute meaningfully to debates on both polarization and inequality.

Discontent

Discontent refers to a growing sense of dissatisfaction, frustration, and alienation among certain segments of the population, often driven by perceived economic, social, and cultural marginalization. In this PhD thesis, I use support for the Sweden Democrats – Sweden’s far-right populist party – as a proxy for discontent, as their electorate overwhelmingly expresses dissatisfaction with

both their economic prospects and the general direction of the country (Sjöström, 2022). The very idea of the geographies of discontent emerged from spatial patterns observed in the Brexit vote in the UK and the 2016 US presidential election. Subsequent research has frequently used support for Eurosceptic, extreme, and populist parties, particularly on the far right, as an indicator of such sentiments.

However, there are important caveats to equating discontent exclusively with support for far-right populist parties. Electoral data alone cannot clarify the specific nature or target of the grievances being expressed (van Vulpen et al., 2024). Moreover, as Chilvers et al. (2024) point out, not all discontent manifests through anti-establishment voting, and not all votes for populist parties necessarily signal protest – some reflect genuine ideological alignment. This has led researchers to draw on broader indicators that more directly capture societal estrangement, such as surveys on interpersonal or institutional trust and levels of cyberhate crime (Denti & Faggian, 2021; Kenny & Luca, 2021; van Vulpen et al., 2024). These measures provide additional insight into the breakdown of social cohesion and trust in institutions, central aspects of discontent that electoral behavior alone may obscure.

While some analyses include both far-left and far-right parties under the umbrella of populist or anti-establishment sentiment, I exclude the Left Party in Sweden. Despite its oppositional stance on certain issues, the Left Party is deeply rooted in Sweden's institutional and political traditions, and it operates within the established norms of parliamentary democracy. Its long-standing engagement with formal policymaking and the welfare state distinguishes it from parties that mobilize discontent through a rejection of political and institutional legitimacy. As such, it is not treated here as a vehicle of anti-establishment discontent.

Other important definitions

Additional definitions were made for each Article and are discussed here. In Article I, I proxy labor market upgrading by mean income. Ideally, I would have measured occupational upgrading based on regional occupational structures, but such data are unavailable for the whole period. Still, since upgrading – improving existing jobs, creating high-skill jobs, and phasing out low-skill ones – is closely tied to local wage levels, average income serves as a good approximation. I measure labor market tightening by employment levels. While unemployment rates would be a standard alternative, it is not possible to calculate them, as identifying unemployment requires knowing if individuals are actively seeking work – information not available in the data.

In Article II, I characterize the labor market environment with a measure of urbanization economies, which is based on Eriksson et al. (2008), who categorized industries (2-digit SNI) as localized if the localization ratio – as calculated in the equation below – was larger than 1. As an alternative, the labor market size could have been used. However, my selected measure captures specialization relative to both the regional and national levels as well as diversity of workplaces instead of simply sheer size. Alternative measures of agglomeration economies could have been used, like localization, and related and unrelated variety, but these do not align with the aim to capture the *extensiveness* of labor market networks. This concept reflects how a diverse and specialized regional environment can provide broader access to knowledge spillovers, job opportunities, and professional connections. The other dimensions of agglomeration, while relevant, are left for potential follow-up Articles that could more explicitly explore the role of industry-specific clustering or the cognitive proximity between sectors. Also in Article II, the measure for local prosperity used to characterize the socialization environment is an index composed of five variables following Guldåker et al. (2021). Traditional measures of local networks and/or social capital rely on indicators like membership in voluntary associations or indicators of trust, but such measures are not available at the municipality level in Sweden. Moreover, the variable intends to capture network quality rather than community tightness.

Finally, in Article III, the labor market income structure is measured with the shares of low-income and high-income work. These two measures together allow for characterizing the labor market structure better than a unidimensional indicator. In this regard, since the aim of the Article is to go beyond inequality, the alternative was to use a measure of polarization as used by Velthuis (2019). However, this measure relies on the creation of jobs as a combination of occupations and industries. As already mentioned, the data, for all it provides, has an issue with industry and occupation reclassifications, which would have limited the analysis to the last two elections. Moreover, this measure of polarization, as expected from a unidimensional indicator, is unable to identify specific changes in the labor market composition, for example, all else equal, a large increase at the bottom of the labor market will show the same value as a large increase at the very top. Finally, opportunities on the ground, another important structural feature of local labor markets, is proxied with the upward mobility rate calculated as the share of individuals in low-income work in t who move to high-income work in $t+1$. The base is restricted to those who remain in work, excluding those who leave the register or move to study.

Methodological Considerations

This research project relies on quantitative methods. In this section, I attempt to justify why and explain some of my methodological choices. However, I do not intend to take the easy bait of falling into the false dichotomy of quantitative versus qualitative methods, one which is not only artificial but also counterproductive. In particular, I will not argue against misinformed conceptions that associate quantitative methods with empiricism, positivism, and the social and academic status quo (Barnes & Sheppard, 2010; Plummer & Sheppard, 2001; Sheppard, 2001).

The selection of quantitative methods boils down to appropriateness and data availability that support this approach, and personal preference. Since quantitative methods are particularly useful for identifying patterns, trajectories, and relationships, the guiding research questions of this project ask about the structures and dynamics of local labor markets and their relation to cultural-political manifestations.

These questions are not investigated in a vacuum but in the context of theoretical and analytical frameworks informed by previous research in the field. The framing then informs about how concepts are operationalized, and which statistical tools are suitable to analyze the relationships of interest.

The findings, however, are interpreted with an awareness of both the specific institutional setting and structural context of Sweden and the broader processes of structural transformation that occurred during the study period. The relationships identified in the Swedish case are not expected to apply uniformly elsewhere, underscoring the importance of comparative research in economic geography. Indeed, as I see it, part of the contribution of this project is to contrast these findings with the dominant narratives predominantly derived from liberal market economies.

Table 1 summarizes the main methodological considerations, including the statistical tools employed in each Article. In Article I, the focus is on the concentration of low-income work in relation to the knowledge economy. As a first step, panel OLS regressions are used to examine the relationship between the share of the knowledge economy and the proposed mechanisms (polarization, upgrading, and labor market tightness). Path analysis models are implemented to address how the knowledge economy affects low-income work through these mechanisms, allowing for a more nuanced exploration of causal pathways.

In Article II, the unit of analysis shifts to individuals, focusing on how social and labor market embeddedness influences upward mobility. Pooled logistic regressions are used to analyze transitions out of low-income work, capturing the role of local labor markets and socialization environments in shaping mobility outcomes. This approach allows for a detailed examination of individual-level dynamics while accounting for the broader structural context.

Finally, Article III focuses on the geographies of discontent, examining how local labor market structures and upward mobility rates influence political behavior. Pooled OLS and cross-section OLS regressions are employed to analyze the relationship between economic conditions and support for the Sweden Democrats. These methods enable the identification of both general trends and time-specific effects, providing a comprehensive understanding of the factors driving discontent.

By combining descriptive and inferential methods, this project aims to uncover patterns and relationships that contribute to a deeper understanding of low-income work, upward mobility, and discontent. However, the findings should be interpreted with an awareness of their contextual limitations, emphasizing the need for further qualitative and comparative research to fully grasp the complexities of these phenomena.

Table 1. Summary of research methods and tools

	Article I	Article II	Article III
Unit of analysis	Municipalities	Individuals	Municipalities
Spatial units	Municipalities	Municipalities & Functional regions	Municipalities
Time period	1990-2020	1990-2019 (2014-2019)	2002-2022
Statistical tools	Descriptives Panel OLS regressions Path analysis (structural equations)	Descriptives Pooled logistic regressions	Descriptives Pooled OLS regressions Cross-section OLS regressions

Source: Own elaboration.

As this thesis is grounded exclusively in quantitative methods and focuses solely on the Swedish case, I acknowledge the analytical narrowness this may imply. Quantitative data allows for the identification of broad patterns and relationships, but it can fall short in capturing the nuanced, lived experiences behind those trends. For instance, the meanings individuals assign to upward mobility, the ways local communities perceive economic transformation, or how discontent is articulated in everyday life are aspects that would have benefited from

qualitative investigation. Although I never seriously considered incorporating qualitative methods at the outset, this inclination was further reinforced by the constraints and uncertainties brought on by the COVID-19 pandemic, which made the prospect of interviews or ethnographic fieldwork even more remote. However, the findings presented here open up important avenues for future qualitative research. What does low-income work mean to those who perform it in different regions? How do individuals interpret their chances for mobility in structurally disadvantaged areas? And how is political discontent experienced and expressed in places marked by different combinations of economic hardship and/or affluence?

Research Context: Sweden

Sweden's Model for the Labor Market

Sweden could be thought of as the archetype of the Nordic capitalist model in the sense of combining economic competitiveness, prosperity, and equality (Lee, 2024). The roots of Sweden's particular version of this model can be traced back to the early 20th century and two particular developments. First, after the emergence of trade and labor unions, a period characterized by unregulated conflict followed. The defining moment came with the Saltsjöbaden Agreement of 1938, which formalized collaboration between the Swedish Trade Union Confederation (LO) and the Swedish Employers' Confederation (SAF), fostering industrial peace and economic growth (Pontusson, 1992). From then onwards, industrial relations would be characterized by centralized collective bargaining, strong cooperation between trade unions and employer organizations, and a commitment to resolving conflicts through negotiation rather than industrial action. This system promoted wage coordination, high union density, and minimal state intervention in wage-setting, contributing to labor market stability, economic growth, and innovation (Edin & Holmlund, 1995; Lee, 2024).

Second, during the post-World War II era, economists Gösta Rehn and Rudolf Meidner developed the Rehn-Meidner model, which became a cornerstone of Sweden's economic policy. Central to the model was wage solidarity that compressed income differentials by encouraging uniform wage increases across industries. This forced low-productivity firms to either innovate or exit the market. The state would have an active role in reallocating labor from less to more productive sectors (Meidner, 1993). This was partially achieved by substituting job protection with employment protection. Instead of relying on wage differentials, i.e., market mechanisms, to allocate labor throughout the economy, training, retraining, relocation, and mobility allowances would promote occupational and geographical mobility (Bengtsson, 2012).

With a clear Keynesian inspiration, the Rehn-Meidner model significantly shaped Sweden's labor market and welfare state during its *golden years* in the

1950s and 1960s, laying the foundation for high economic growth, low unemployment, and high social cohesion. Beginning in the 1970s, however, the model faced several challenges derived from changing global conditions, which exposed vulnerabilities in Sweden's export-oriented economy and strained the Rehn-Meidner model's ability to fulfill its goals. Global competition further pressured Swedish industries, leading to structural unemployment as traditional manufacturing sectors declined. Additionally, wage solidarity faced strain as uniform wage increases across industries sometimes failed to reflect differences in productivity changes, contributing to inefficiencies and tensions between unions and employers.

The reaction was to introduce some liberalizing reforms to the labor market. Most notably, the introduction of the Swedish Employment Protection Act (*Lagen om anställningsskydd*) of 1974 marked a significant shift since it moved away from employment protection to establish strong job protection provisions. The content of labor market policies also gradually shifted from supply-side to more demand-side interventions such as job-creation programs. This moved the focus from the worker collective to the individual workers, and policy emphasis from industrial needs towards improving qualifications at the individual level (Bengtsson, 2012).

Today, while sectoral agreements still play a significant role, there is increased scope for local negotiations at the firm level. This hybrid model aims to balance the benefits of a coordinated wage setting with the need for adaptability in a dynamic economic environment. Although labor unions have lost some of their adherence and power, they are still strong compared to most of the world, and many mechanisms of wage compression are still in place today. Geographically speaking, centralized wage-setting institutions imply that similar jobs are paid roughly at the same level across regions. Thus, regional variations in income levels should depend less on urban premiums and more on the regional industrial composition and the spatial division of labor within industries (Bengtsson, 2012).

The Swedish model has always had a strong spatial and regional focus, aiming to balance economic growth between regions and actively promote the most productive industries and regions. In response to shifting global conditions, labor market policies have increasingly emphasized flexibility through decentralization. While this shift has encouraged the development of local initiatives and programs, these efforts often conflict with central government objectives and have shown limited success in improving employment outcomes for the most vulnerable groups. Nevertheless, the system tends to counterbalance

differences in labor market outcomes, where less affluent municipalities often run more extensive programs than their affluent counterparts (Brauer, 2021).

All in all, although interpersonal and spatial inequalities have increased during the last four decades, institutional changes and model recalibrations have made it possible for Sweden to retain the best of two worlds: remain as one of the most innovative countries in the world while maintaining comparatively low levels of interpersonal inequality – slightly higher than the rest of the Nordic countries but considerably lower the EU average. Indeed, Lee (2024) argues that Sweden is able to achieve such *inclusive innovation* through the mix of technological policy and equitable institutional design at multiple levels of governance.

Labor Market Trends in Sweden 1990-2021

General Employment Trends

Between 1990 and 2021, the Swedish economy experienced three periods of contraction, each affecting the labor market differently. The early 1990s banking crisis marked the end of full employment, resulting in the loss of approximately 800,000 jobs (Figure 3), or about 20% of the labor market (Englund, 1999). Total employment took more than two decades to return to 1990 levels. Subsequently, Sweden entered a new normality, with unemployment rates comparable to other Western developed economies, fluctuating between 5% and 10% (Jonsson & Theobald, 2019).

The second major event was the global financial crisis of 2007–2008, which significantly impacted the Swedish labor market. Although Sweden’s banking sector was not as deeply affected as during the early 1990s crisis, the economy experienced a sharp downturn due to collapsing international demand, particularly in export-oriented industries such as manufacturing (Anxo & Ericson, 2015). The contraction in total employment reached approximately 6%, with job losses concentrated in industrial sectors and among temporary and low-skilled workers. Despite the severity of the shock, Sweden’s labor market recovered relatively quickly, with employment levels rebounding within two years. This was partly due to the country’s strong fiscal position, which allowed for expansionary policies and the flexibility of Sweden’s labor market institutions. Short-term work schemes, active labor market policies, and wage moderation helped mitigate long-term unemployment risks (Jonsson & Theobald, 2019). However, the crisis also reinforced structural changes,

including a shift toward higher-skilled jobs and a growing divide between workers with permanent contracts and those in more precarious employment.

Finally, the COVID-19 pandemic triggered a sharp but short-lived economic contraction in 2020, as lockdown measures and global supply chain disruptions led to a sudden drop in employment. The Swedish government adopted a relatively moderate approach to restrictions while implementing extensive fiscal support measures, including short-time work schemes (*korttidsarbete*) and business subsidies, which helped mitigate long-term labor market scarring (Juraneck et al., 2021). As a result, the employment recovery was quicker than in previous downturns, with labor demand rebounding strongly in many sectors by 2021. However, the pandemic also accelerated structural shifts in the labor market, particularly in digitalization and remote work, with uneven effects across industries and regions yet to be fully understood.

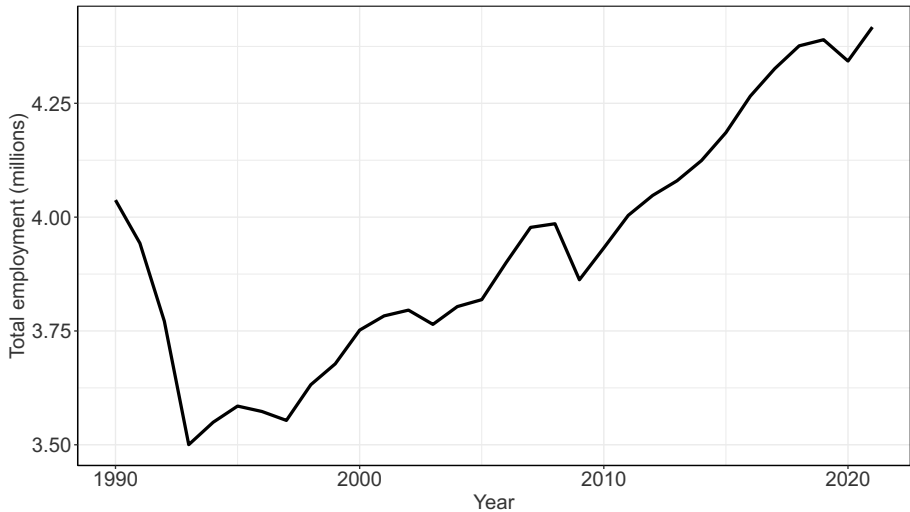


Figure 3. Total employment in Sweden 1990-2021
Source: Own elaboration on data from Statistics Sweden.

Figures 4 and 5 put Sweden in the international context, as they present employment and societal poverty levels between 1991 and 2021 for Denmark, Germany, Sweden, the UK, and the US. These countries are selected as they represent the different types of capitalism and welfare models. Germany, Denmark, and Sweden are considered coordinated market economies. Denmark represents, like Sweden, the Scandinavian social democratic welfare model,

although with much more flexible labor market regulations. Germany, on the other hand, represents the continental social democratic model of coordinated market economies. The UK and the US are both considered liberal market economies, but the UK has a vastly more comprehensive welfare system than the US.

Figure 4 presents the employment-to-population ratio as modeled by the ILO between 1991 and 2021. In the aftermath of the Great Recession, all five presented countries have very similar employment levels and trajectories. However, during the 1990s and early 2000s, a much larger variation could be observed with Denmark and the US on the high side, Germany on the low side, and Sweden and the UK right in the middle. Interestingly, this does not fit with any of the go-to classifications for different kinds of institutional-economic systems. Figure 5 presents the poverty headcount ratio at the societal poverty line, highlighting the expected stark contrast between the high rate in the United States and the low rate in Denmark. Both countries have remained relatively stable, with a slight decrease in the US and a slight increase in Denmark. Sweden is right in the middle with Germany and slightly below the UK, but with the most evident upward trend.

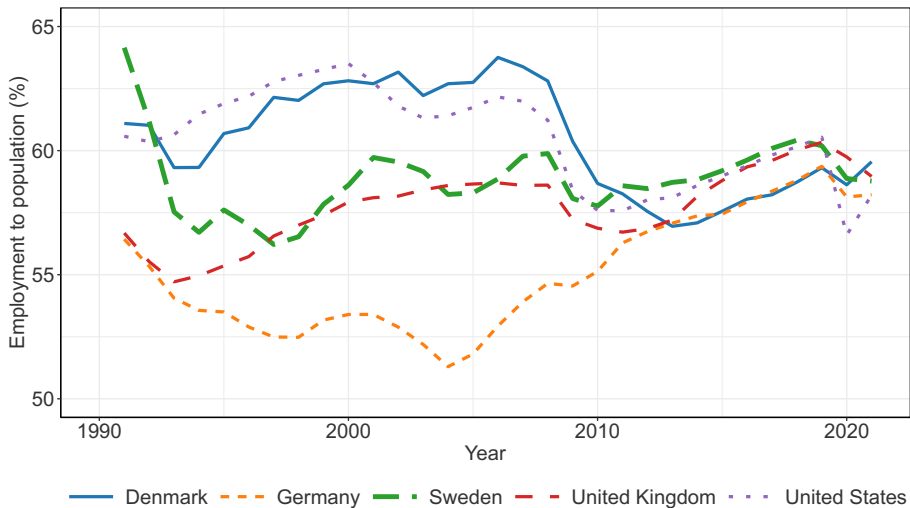


Figure 4. Employment to population ratio (modeled ILO estimates), selected countries 1991-2021

Source: Own elaboration on data from the World Bank Databank.

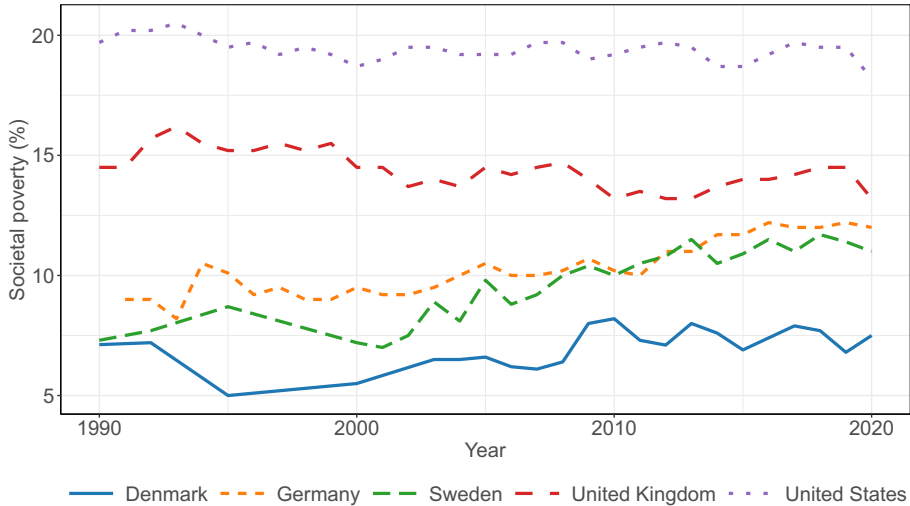


Figure 5. Poverty headcount ratio at societal poverty line 1990-2020 (% of population), selected countries 1990-2020

Percentage of a population living in poverty according to the World Bank's Societal Poverty Line, defined as $\max(\$2.15, \$1.15 + 0.5 \cdot \text{Median})$ and expressed in PPA 2017 USD. Source: Own elaboration on data from the World Bank DataBank.

The regime change induced by the banking crisis is also visible in Figure 6, which shows the evolution of employment in different kinds of regions. What is particularly striking is how employment growth has mainly concentrated in large cities and, to a lesser extent, in medium-sized cities.

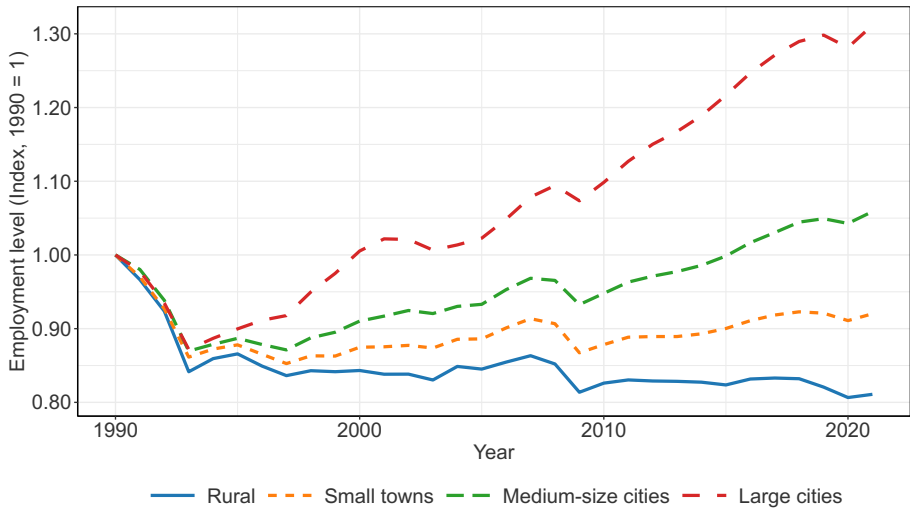


Figure 6. Total employment (indexed to 1990) by municipality types, Sweden 1990-2021.
Source: Own elaboration on data from Statistics Sweden.

In terms of labor market structures, the evidence from Sweden is mixed. Some studies have found clear but mild signs of polarization (Adlermon & Gustavsson, 2015; Asplund et al., 2011); others found early upgrading and late polarization, while yet others found no polarization at all, only clear signs of upgrading (Oesch & Piccitto, 2019; Tåhlin, 2019). The results, however, are clearly dependent on how structures are defined and the period considered.

At the sub-national level, only Henning & Eriksson (2020) have investigated the evolution of local labor market structures, revealing a varied landscape from 2002 to 2012. Of the 290 municipalities, 146 (hosting 45% of the population) experienced upgrading – a gain of high-pay jobs accompanied by a decline in low-income jobs. Sixty-one municipalities (22% of the population) experienced polarization. Fifty-six municipalities (27% of the population) experienced downgrading – a gain of low-income jobs accompanied by a decline in high-pay jobs. Finally, the remaining 27 municipalities (6% of the population) experienced middling – an increase in middle-pay jobs alongside a decrease in jobs at both extremes.

Polarization was mainly observed across the old industrial belt in central Sweden, where regions were characterized by high manufacturing shares and marginally lower education levels. Upgrading dominated in more peripheral regions, forming a heterogeneous group, including areas with a strong presence

of mining and other extractive activities and a higher share of public-sector jobs. Downgrading occurred around Stockholm and in very remote locations. In general, these municipalities – the downgraders – tended to have high shares of manufacturing jobs, a greater presence of services, and the highest shares of the foreign-born population. Middling was found in the south and scattered throughout the country, with no clear pattern of structural characteristics.

While this study (Henning & Eriksson, 2020) reveals a complex and regionally uneven pattern of labor market changes in Sweden, where and why low-income work has concentrated throughout the transformation is unclear. Understanding these dynamics requires a closer examination of low-income work itself, its prevalence, regional distribution, and the extent to which workers can transition out of low-wage employment. The following section presents a general overview of both the prevalence of low-income work and upward mobility rates.

Low-income Work

Figures 7 and 8 present the evolution of the prevalence of low-income work and upward mobility rates, respectively, across four factors: age, sex, education, and type of employment (private, public, and self-employed). The prevalence of low-income work has undergone significant changes across these factors. Low-income work was historically most prevalent in older age groups, but is now most common among younger workers. Sex disparities have also narrowed considerably, primarily due to a decline in low-income work among women, though a notable gap continues to persist. Educational trends show a convergence between workers with only secondary education and those with short tertiary education, with an almost 5-point difference nearly disappearing. For very high and low education, the occurrence of low-income work has increased only ever so slightly. Regarding employment type, the prevalence of low-income work has remained stable and low among public and private employees, while it has sharply decreased among the self-employed.

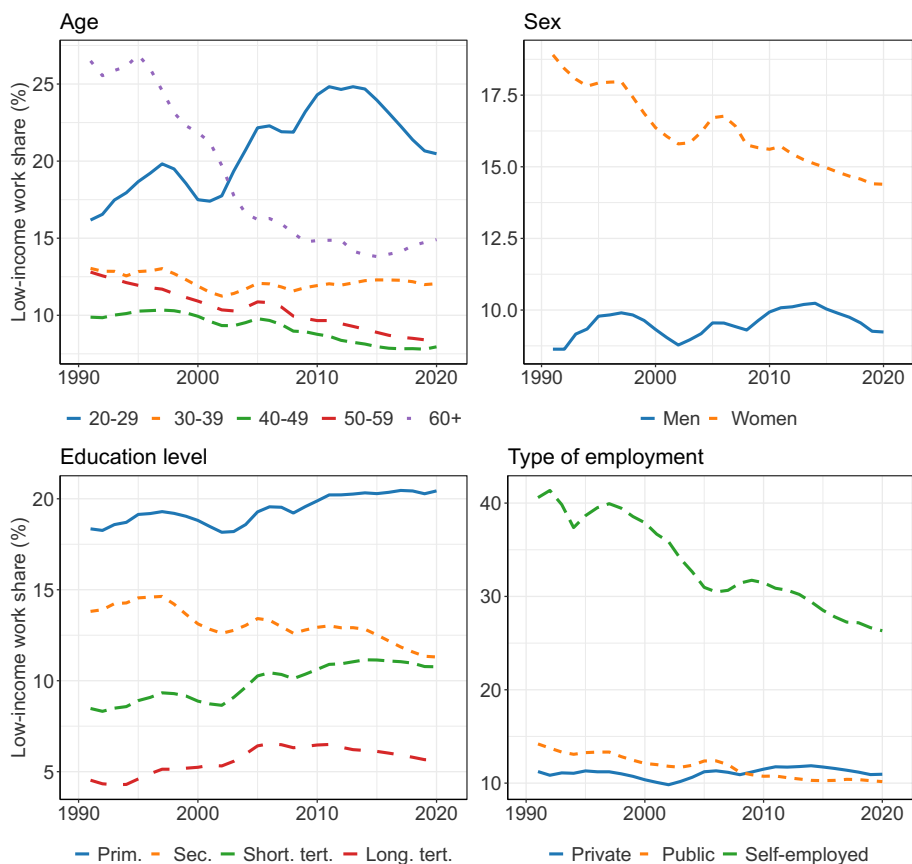


Figure 7. Evolution of low-income work shares by (3-year moving averages)

Source: Own elaboration on data from Statistics Sweden.

Upward mobility rates exhibit notable variations across different demographic and socioeconomic dimensions. Across age groups, upward mobility has shown an overall increase, except for the youngest age group, where rates have remained stable. In terms of sex, there is evidence of a clear convergence in mobility rates, although a persistent gap still exists. Educational attainment reveals a striking pattern: upward mobility has increased significantly among both the lowest and highest educated groups while remaining relatively stable for those in the middle educational tiers. Regarding employment type, mobility rates have risen across all categories, though the increase has been less pronounced among the self-employed compared to other groups. These findings

highlight the complex interplay of demographic and socioeconomic factors in shaping upward mobility trends.



Figure 8. Evolution of upward mobility rates by (3-year moving averages)

Source: Own elaboration on data from Statistics Sweden.

Figure 9 presents the evolution of the prevalence of low-income work and upward mobility rates for different kinds of municipalities. The left panel shows that low-income work decreased in Sweden across all types of municipalities, but was mainly driven by the sharp decrease in low-income work in small towns and rural areas. Low-income shares in the large cities have remained relatively low and stable through the period, with some minor natural variations. In contrast, upward mobility rates, shown in the right panel, seem to be increasing across Sweden, with large cities consistently higher than the rest but not

diverging. Overall, these trends show that the structural transformation has not increased the overall prevalence of low-income work, and the narrative of cities losing their uplifting properties for those at the bottom of the labor market (Autor, 2020) does not seem to apply in Sweden.



Figure 9. Evolution of low-income work shares and upward mobility rates by municipality types (3-year moving averages)

Source: Own elaboration on data from Statistics Sweden.

The Rise of the Sweden Democrats

Far-right support has grown across Western Europe, with one of the most striking surges occurring in an unlikely place: Sweden. Until the Sweden Democrats' breakthrough in 2014, Sweden was considered an exception in Europe, even compared to its Nordic neighbors (Rydgren et al., 2016). While populist parties gained traction in Norway and Denmark as early as the 1970s, Sweden saw no comparable movement until the mid-2000s, apart from the brief success of New Democracy, which obtained 6.7% of the vote in 1991 but collapsed and disappeared after the very next election in 1994.

In Figure 10, a comparison of a selected group of European countries (Austria, Denmark, Germany, Netherlands, and Norway) is shown. These countries are selected based on their comparable levels of development, economic bases, and similar parliamentary systems. As of the last election, Sweden shows the highest level of support for the far-right (on par with Germany), while also showing the clearest upward trend.

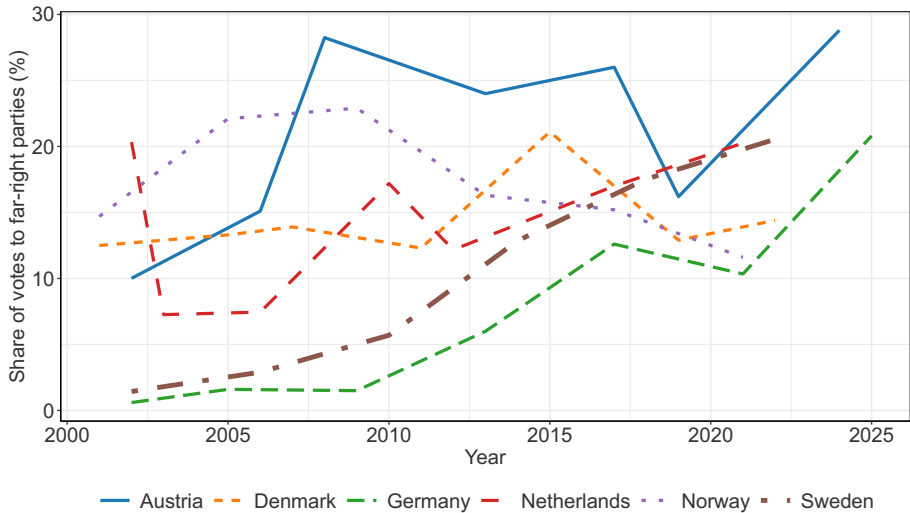


Figure 10. Evolution of support for far-right parties in parliamentary elections and selected European countries, 2001-2025

For each country, all parties with a “left-right” index higher than 8.0 are considered. Austria: 2002 (Freedom Party of Austria), 2006-2013 (Freedom Party of Austria, Alliance for the Future of Austria), 2017-2024 (Freedom Party of Austria). Denmark: 2001 (Progress Party, Danish People’s Party), 2005-2015 (Danish People’s Party), 2019 (The New Right, Hard Line, Danish People’s Party), 2022 (Denmark Democrats, The New Right, Danish People’s Party). Germany: 2002 (The Republicans), 2005-2013 (National Democratic Party), 2013-2025 (Alternative for Germany). Netherlands: 2002 (Fortuyn List, Political Reformed Party, Livable Netherlands), 2003 (Fortuyn List, Political Reformed Party), 2006-2012 (Party for Freedom, Political Reformed Party), 2017 (Party for Freedom, Political Reformed Party, Forum for Democracy), 2021 (Party for Freedom, Political Reformed Party, Forum for Democracy, Right Answer 2021). Norway: 2001-2021 (Progress Party). Sweden: 2002-2022 (Sweden Democrats). Source: Own elaboration on data from ParlGov (Döring & Manow, 2024).

As shown in Figure 11, the Sweden Democrats draw their strongest support from southern Sweden, with weak backing in the three largest metropolitan areas of Stockholm, Gothenburg, and Malmö. This geographical distribution of the support for the Sweden Democrats has remained relatively unchanged between 2006 and 2022.

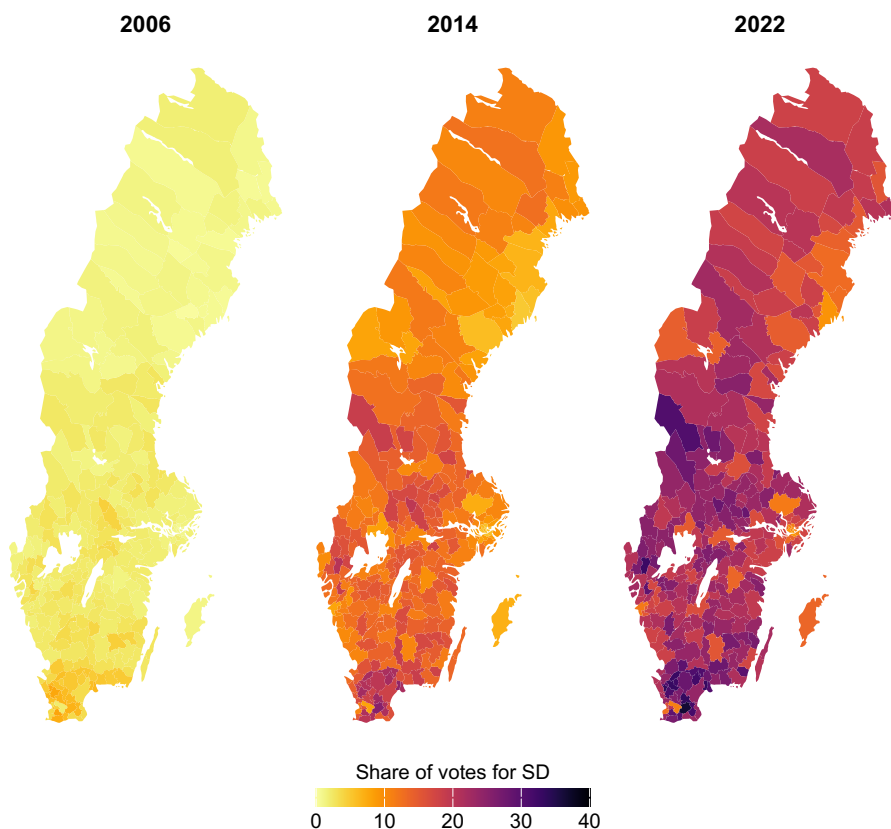


Figure 11. Support for Sweden Democrats in the parliamentary elections of 2006, 2014 and 2022

Source: Own elaboration on data from Statistics Sweden.

Findings and Conclusions

This section summarizes the main findings of the individual articles included in this PhD thesis, followed by a synthesis of more general takeaways, policy implications, emerging questions, and potential pathways for further research on this topic.

Before going deeper into the findings of each Article, Table 2 presents a summary of the articles, including the overarching research questions, the academic fields involved, and the novelties and/or contributions.

Table 2. Summary of articles and contributions

	Article I	Article II	Article III
Main Research Question	How has the knowledge economy affected the concentration of low-income work?	How do spatial contexts matter for low-income workers?	What are the political implications of spatial variation in low-income work?
Fields/Topics	Economic Geography	Economic Geography Economic Sociology	Economic Geography Political Geography
Novelties and contributions	Low-income work prevalence at the subnational level. Modelling strategy. Contribute to challenging the narratives coming from liberal market economies.	Interdisciplinary approach investigating the environmental determinants of upward mobility beyond the labor market.	Connecting discontent with labor market polarization. Characterize places with the share of low- and high-pay workers. Covering multiple elections spanning 20 years.

Source: Own elaboration.

Findings

Article I

Structural transformation, the knowledge economy, and the geography of low-income work

This study examines how and why the regional concentration of low-income work in Sweden has changed over the past 30+ years during the transition to a knowledge-based economy. Three key mechanisms are proposed to explain this relationship: polarization, upgrading, and labor market tightening. Despite some polarization, low-income work has declined at the national level, and regional disparities have diminished. The findings indicate that while the knowledge economy contributes to polarization and an increase in low-income work, the effects of upgrading and labor market tightening outweigh this trend, leading to an overall decrease in low-income employment.

This study makes an important contribution by developing a theoretical model that links the knowledge economy to low-income work through these three mechanisms and testing it in Sweden, a high-income welfare state. The findings challenge the dominant literature, which has primarily been based on liberal market economies and has mostly focused on polarization. By incorporating upgrading and labor market tightening into the analysis, the study provides a more nuanced understanding of how the knowledge economy affects low-income work, emphasizing the need to consider institutional and structural factors.

The Swedish context, characterized by a strong welfare system, robust labor market institutions, and a knowledge economy rooted in productive innovation rather than intangibles-driven firms, plays a crucial role in mitigating the negative effects of polarization. Unlike in other countries where knowledge-intensive industries create extreme income inequalities, Sweden's industrial base and labor regulations have helped distribute economic gains more evenly. Nevertheless, the concentration of high-income earners in metropolitan areas has led to growing regional differentiation, which could have long-term social and political implications.

Article II

Upward Mobility from Low-income Work: The role of social and labor market embeddedness

This study explores how different forms of embeddedness influence the upward mobility of low-income workers in Sweden between 2014 and 2019. Building on theories of strong and weak ties and the role of informal networks in labor market advancement, this Article examines how workers' embeddedness in both labor market and socialization environments – measured as years spent in these respective contexts – shapes their chances of upward mobility. The study finds that urbanization economies in labor markets significantly benefit low-income workers, reinforcing the notion of urban escalator regions as key drivers of labor mobility, even though recent research has questioned this idea in liberal market economies. Additionally, the quality of the socialization environment positively influences mobility chances, underscoring the role of local networks in supporting career advancement.

The study further highlights the importance of network-building over time, showing that the relationship between embeddedness and upward mobility follows an inverted U-shape in both labor market and socialization contexts. In more urbanized labor markets, the benefits of network accumulation last longer before declining, while in socialization environments, differences in prosperity mainly matter at lower levels of embeddedness, where more prosperous places provide higher initial mobility chances but offer no additional gains from prolonged embeddedness. These findings contribute to understanding how embeddedness and different environments shape labor market outcomes and suggest that both labor market structures and social networks play complementary roles in upward mobility.

Article III

Polarization, Upward Mobility, and the Geographies of (Dis)Content: An Empirical Investigation in Sweden 2002-2022

This Article expands on the concept of the geographies of discontent, which has gained traction in recent years, particularly in relation to how economic and social grievances manifest in struggling regions. Traditionally, research has linked economic decline and low levels of human capital to support for populist parties. However, this study shifts the focus to the structural characteristics of local labor markets, specifically examining the interplay between low-income and high-pay work and upward mobility rates and their influence on support for

the Sweden Democrats. The findings might indicate that political discontent is not solely a reaction from economically disadvantaged areas but also stems from relatively affluent regions experiencing perceived threats to their social status.

Sweden's unique context, characterized by a robust welfare state and high economic equality, provides an intriguing backdrop for this analysis. Contrary to expectations, the study reveals a negative relationship between low-income work prevalence and SD support, alongside a positive relationship with high-pay work. This suggests an inverted geography of discontent, where affluent areas resist societal changes, viewing them as threats rather than economically struggling regions expressing grievances. Additionally, upward mobility is identified as a crucial factor, as regions with higher mobility correlate with lower SD support, emphasizing the significance of perceived economic opportunities.

The research also highlights that discontent is more pronounced in national elections than local ones, indicating that voters attribute dissatisfaction to national institutions responsible for broader economic changes. Local governments are perceived as less effective in addressing structural grievances, leading to alternative political expressions. Notably, the relationship between high-pay work and support for the Sweden Democrats has intensified in recent elections, challenging the notion that far-right populism arises mainly from economic hardship.

Conclusions and Final Remarks

General Conclusions and Contributions

The transition to a knowledge-based economy has presented important challenges to advanced labor markets and has had multifaceted effects on low-income work, as evidenced by the Swedish case. While polarization – a phenomenon widely documented in liberal market economies (Autor et al., 2006; Goos et al., 2014) – can exacerbate the prevalence of low-income jobs, mechanisms such as upgrading and labor market tightening appear to counteract this trend, leading to an overall decline in low-income work at the national level. This finding challenges the dominant literature, which has primarily focused on polarization as the defining feature of knowledge economies (Autor & Dorn, 2013; Milanovic, 2016). The Swedish context, characterized by a strong welfare state, robust labor market institutions, and a knowledge economy rooted in productive innovation, demonstrates how institutional frameworks can mitigate

the adverse effects of polarization. This aligns with Esping-Andersen's (1993) argument that welfare regimes are critical in shaping economic outcomes. However, the growing regional differentiation, with high-income earners concentrated in metropolitan areas, suggests that spatial inequalities persist, echoing broader debates on the geography of economic opportunity (Rodriguez-Pose, 2018).

The geographies of discontent, a concept gaining traction in political and economic geography (McCann, 2020; Rodriguez-Pose, 2018), are redefined in the Swedish context. Contrary to traditional narratives linking populism to economic decline and low human capital (Inglehart & Norris, 2016), this study indicates that political discontent in Sweden might be driven not only by economically disadvantaged regions but also by affluent areas experiencing perceived threats to social status. This finding resonates with recent literature on the role of status anxiety and cultural backlash in shaping political behavior (Gest et al., 2018; Gidron & Hall, 2017). The negative relationship between low-income work prevalence and support for the Sweden Democrats, alongside the positive relationship with high-pay work, suggests that economic structures and upward mobility rates are critical determinants of political behavior. This challenges the assumption that far-right populism is solely a reaction to economic hardship, highlighting the need for a more nuanced understanding of discontent that incorporates the anxieties of economically secure groups.

The role of social and labor market embeddedness in facilitating upward mobility further underscores the importance of institutional and spatial contexts. Drawing on Granovetter's (1973) theory of weak ties and previous work on network effects (Calvó-Armengol & Jackson, 2004, 2007), the study demonstrates that urbanization economies and high-quality socialization environments significantly enhance mobility prospects for low-income workers. This aligns with the concept of urban escalator regions (Fielding, 1992), though recent research has questioned its applicability in liberal market economies (Autor, 2020). The inverted U-shaped relationship between embeddedness and upward mobility suggests that while network accumulation is beneficial, its effects diminish over time. This finding contributes to the broader literature on the temporal dynamics of labor market outcomes (Hällsten et al., 2017).

Taken together, the findings of this PhD thesis make three distinct contributions to the literature on economic geography. First, it offers a corrective to dominant narratives of labor market polarization in advanced economies by showing that in institutional contexts like Sweden, upgrading dynamics and labor market tightening can counterbalance the spread of low-income work. This challenges the idea that polarization is an inevitable outcome of the transition to knowledge

economies and underscores the continued relevance of coordinated market institutions in shaping inclusive labor market outcomes.

Second, the thesis advances the conceptualization of the geographies of discontent by showing that political support for the radical right in Sweden cannot be reduced to economic deprivation or peripheral status. Instead, it highlights how perceptions of declining status among high-income earners and limited upward mobility among low-wage workers both contribute to discontent. This dual mechanism contributes to a more nuanced understanding of the spatial and economic underpinnings of contemporary political realignments.

Third, the PhD thesis contributes to debates on social mobility by emphasizing the role of embeddedness in both social and labor market environments. It shows that while embeddedness in vibrant labor markets and high-quality social environments fosters mobility, its benefits are not linear but rather diminish over time. This finding refines existing models of urban mobility escalators by introducing a temporal dimension and highlighting the importance of network saturation effects.

Societal Relevance

Although policy implications are sometimes criticized for being overly speculative when drawn from limited empirical studies (Cohen, 2025), I believe they remain a valuable component of academic work, especially when clearly contextualized. If approached with humility and grounded in a broader body of literature, such contributions can help connect research to societal concerns. Moreover, rather than a capitulation to market logic (Cohen, 2025), they can be seen as part of our responsibility to engage with the world beyond academia and to make our findings legible and useful to others. It is in this spirit that, in what follows, I offer a few policy implications.

This section discusses the main implications for society emerging from my work and the extended body of labor market research, both at the national and subnational levels. First, taking capitalism as a given, the Swedish model for the labor market seems to still work quite well in terms of compressing the income structure both within and between places. As previous studies have shown, the most problematic inequality issues in Sweden derive from asset ownership and the unfair taxation of labor income vis-a-vis capital gains, including inheritance taxes (Nekoei & Seim, 2023). Efforts should be directed towards those areas, although this is unquestionably difficult for one country given the international

and opaque architecture of capital. Moreover, not even the center-left is willing to go there anymore.

Second, it has become ubiquitous to criticize Europe for lagging in digital technologies to both *geopolitical rivals*, the US and China (Draghi, 2024b, 2024a). Most of these analysts seem to agree that the lack of *cloud capital* (Varoufakis, 2023) in Europe has at least two very negative consequences. First, dependence on US-based platforms undermines economic and political sovereignty, as Europe cannot fully control its own data, digital services, or even its critical infrastructure, which could compromise national or regional security. Moreover, tech giants extract rents from European users, companies, and governments without paying taxes or reinvesting proportionally. Second, the productivity gap between the EU and the US is largely explained by the tech sector in which Europe is particularly weak (only 4 of the top 50 tech companies in the world are European). Europe is thought to be at risk of being locked out of the next wave of technological and economic development.

While the first concern is outside the scope of this thesis and my capabilities to evaluate, the second assessment deserves closer attention. It overlooks the fact that Europe's different innovation path, which emphasizes incremental improvements, manufacturing excellence, and broad-based diffusion of technological gains (Lee, 2024), has had several important benefits. Amongst others, it has contributed to fairer and more stable labor markets, greater mobility for all kinds of workers, and to a higher quality of life. However, some have argued that rising inequalities, polarizing labor markets, declining labor standards for the most, and even falling life expectancy in the US (Harper et al., 2025) are, at least partly due to their innovation system, as already discussed, steered towards consolidation and monopolization (Feldman et al., 2020). Europe's more measured, production-oriented approach may be less glamorous, but it continues to deliver resilience and social cohesion in ways that are increasingly valuable in the face of global uncertainty.

In this regard, Sweden might even represent an interesting and promising middle ground. It consistently ranks as the most digitally innovative country in Europe, while also maintaining strength in more traditional sectors like advanced manufacturing, green technologies, and pharmaceuticals. This dual orientation might allow Sweden, if managed wisely, to reap the benefits of digital innovation, such as productivity gains and global competitiveness, without entirely surrendering the stability, social protections, and industrial base that underpin its cohesive labor market.

To what extent such a model is available for other countries is not clear. At least Acemoglu et al. (2017, p. 1284) suggest that “we cannot all be like the Scandinavians” since “Scandinavian capitalism depends in part on the knowledge spillovers created by the more cutthroat American capitalism”. This observation points to a more profound structural asymmetry: the inclusivity of Scandinavian labor markets may depend not only on strong domestic institutions but also on their embeddedness in a global system that produces and externalizes technological disruption elsewhere. Rather than generating radical innovation internally, Scandinavian economies excel at absorbing and broadly diffusing external innovations made possible by coordinated wage-setting, active labor market policies, and robust public services.

Why should radical innovation require such high levels of inequality, precarity, or labor market polarization? Are cutthroat competition and social exclusion truly necessary for breakthrough innovation or simply the result of specific institutional choices? These questions remain open but point to the need for more critical engagement with the relationship between innovation systems and inclusive labor market outcomes (Lee, 2024).

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