A COMPARATIVE ANALYSIS OF CHANGING MIDDLE-CLASS DYNAMICS ACROSS CANADA'S URBAN SYSTEM, 1986-2016

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ABSTRACT: The twin phenomenon of slow median wage growth and increases in income inequality, which have taken hold in Canada since the 1990s, are raising concerns that the Canadian economy may be shrinking its middle-class. This thesis assesses these concerns by providing an analysis of middle-class income dynamics across Canada's urban system between 1986 and 2016. Census of Population data is used to construct a panel dataset which captures changes to the middle-income share of the labour force across a 119-city sample of Canada's urban system. After describing broad changes in middle-class dynamics at the national and urban scales, two sets of more in-depth analyses are carried out based on this novel dataset. A cluster analysis is used to group cities where similar dynamics of middle-income employment change are visible. Middle-income employment in Canada has taken on a highly uneven pattern since 1986 with cities clustering along a spectrum of five different categories, broadly characterized from rapid to declining growth. Middle-income employment has declined in Canada's largest labour markets (Toronto, Montreal, Vancouver, Calgary, Ottawa) while surging in select western Canadian cities alongside the 2000s commodities boom. The sharpest declines in middle-income employment are found in commodities-focused economies whose source of demand has entered terminal decline. Panel regression models are also developed to capture how changes in local labour market dynamics, demographic characteristics, and industrial mix influence middle-income employment over this period. Overall, the economic foundations of middle-income employment in Canada's urban system appear to be increasingly fragile.

RÉSUMÉ : Le double phénomène de la croissance lente du salaire médian et de l'augmentation des inégalités de revenus, qui s'est amplifié au Canada depuis les années 1990, suscite des inquiétudes quant à la possibilité que l'économie canadienne soit en train de voir sa classe moyenne rétrécir. La présente thèse évalue cette préoccupation en analysant les dynamiques du revenu moyen dans le système urbain du Canada de 1986 à 2016. Nous utilisons les données du Recensement de la population pour construire un ensemble de données de panel qui capte les changements de la part de la population active à revenu moyen dans un échantillon de 119 villes du système urbain du Canada. Après une description initiale des dynamiques de la class moyenne aux échelles nationale et urbaine, nous présentons deux autres analyses plus approfondies de celles-ci. Une analyse de classification hiérarchique est utilisée pour regrouper les villes où une dynamique similaire de changement dans l'emploi à revenu moyen est visible. Ici, nous constatons que l'emploi à revenu moyen au Canada suit un tracé très irrégulier depuis 1986 et que les villes peuvent être regroupées en cinq catégories, décrites de façon générale le long d'un spectre de croissance rapide à décroissance significative. L'emploi à revenu moyen a diminué dans les plus grands marchés du travail du Canada (Toronto, Montréal, Vancouver, Calgary, Ottawa), tout en bondissant dans certaines villes de l'Ouest canadien, parallèlement au boom des matières premières des années 2000. Le déclin de l'emploi à revenu moyen a été le plus marqué dans les économies axées sur les matières premières dont la source de demande est en phase terminale de déclin.

Des modèles de régressions de données panel sont aussi utilisés pour mieux comprendre la façon dont les changements dans la dynamique du marché du travail local, les caractéristiques démographiques et la composition industrielle influencent l'emploi à revenu moyen au cours de cette période. Dans l'ensemble, les fondements économiques de l'emploi à revenu moyen dans le système urbain du Canada paraissent de plus en plus fragiles.

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CONTRIBUTION OF AUTHORS

The author confirms sole responsibility for the following study conception, data collection, analysis and interpretation of results, and manuscript preparation.

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LIST OF ABBREVIATIONS

CA: Census Agglomeration

CMA: Census Metropolitan Area

CPI: Consumer Price Index

CT: Census Tract

DLI: Data Liberation Initiative

NAICS: North American Industry Classification System

OECD: Organization for Economic Cooperation and Development

OPEC: Organization of the Petroleum Exporting Nations

PUMF: Public Use Microdata File

QICSS: Quebec Inter-University Centre for Social Statistics

RDC: Research Data Centre

CHAPTER 1.0

INTRODUCTION

Since the election of the Trudeau government in 2015, Canada has seen a renewed interest in the social and economic wellbeing of its middle classes. This is perhaps nowhere more evident in the policy realm than in the federal Liberals' budgets, all four of which prior to the COVID-19 pandemic were titled with reference to growing or building Canada's middle-class.

Concern over middle-class fortunes is not unique to Canada. Indeed, this renewed focus on middle-class prosperity stems from an international policy debate over whether slow wage growth and increasing income inequality is conditioning long term decline in the size and relative income of the middle-class in advanced industrial nations (PEW 2015; Reeves 2017; Temin 2017; OECD 2019). Significant increases in within-nation income inequality have garnered public attention over the last two decades, as academics and politicians have pointed out that, since the 1980s, post-war gains in economic equality have largely been reversed (Atkinson, Piketty, and Saez 2011; Piketty 2013). Workers in many sectors earning around the median income have struggled with decades of weak wage growth while those at the top of the income distribution have managed to capture a disproportionate share of income growth over the last three decades (Reeves 2017; Alvaredo et al. 2018). This is particularly true in the US and UK where levels of income and wealth inequality are now similar to those seen in the run up to the Great Depression, which followed an extended period of deep inequality and social upheaval (Piketty 2013). While a large literature on income inequality within advanced industrial nations has emerged since the 1980s, relatively little is known about the effect of income inequality and weak wage growth on the economic fortunes of the middle-classes.

If growing income inequality is broadly acknowledged to be at the root of middle-class decline, significant debate persists over the causes of income inequality and their effects on the middle-classes across diverse regional economies. The period since the OPEC oil shocks of the mid-1970s has been one of intense economic restructuring, with far reaching implications for the geographies of production, employment, and income (Massey 1995; Moretti 2012). Over this period, regions within advanced industrial nations have struggled with deindustrialization and the globalization of production systems (Bluestone and Harrison 1982) alongside state austerity and the retrenchment of welfare spending (Banting and Myles 2011). Technological change has spurred growth in select manufacturing regions, but this growth has not been widespread across national economies (Piore and Sabel 1986; Dicken 2014). The primary driver of employment growth, particularly in large urban centres, has shifted from industrial production to the service sector but this shift has again been uneven in nature (Castells 1989; Florida 2005; Scott 2008). These changes have spurred spatial divergence, with select cities and regions making successful production breakthroughs while others have suffered with negative feedback loops of economic decline. Alterations in the geographies of production, employment, and income are expected to be changing the geographic concentration of the middle-class in Canada, as well as around the world.

A variety of explanations for growing income inequality have been put forth, including technological development changing labour demand (Autor, Katz, and Kearney 2006; Goos, Manning, and Salomons 2009; Acemoglu and Autor 2010), institutional changes around labour market and macro-economic policy weakening labour demand (Osberg 2018), the off-shoring of production and deindustrialization (Autor, Dorn, and Hanson 2016) and demographic shifts related to population aging and increasing migration (Picot 2008; Moos 2014). To date very little research has analysed the relationships between the economic

restructuring of the last 40 years and middle-class incomes, perhaps with the exception of Chapple and Lester (2010) who are concerned primarily with labour market path dependency.

Current research in Canada shows a general trend towards growing inequality and income polarization, indicating a squeeze on middle-income earners. Indeed, national-level studies point to (i) a decrease in the proportion of workers earning middle-class incomes as well as (ii) a decline in national income going to the middle-class (Heisz 2007; Beach 2016; Zorn and van der Vlugt 2019). In turn, heightened income inequality and polarization are attributed to a variety of factors including changing labour market demographics, population aging, growing wage differentials between immigrants and the broader population, and labour market restructuring that has distributed the gains of economic growth to high-order service industries while producing stagnant or declining incomes for many Canadian workers. Canadian literature indicates significant regional differences in income inequality and potential middle-class decline, with Western regions experiencing higher levels of inequality (Breau 2015) relative to Eastern regions (Zorn and van der Vlugt 2019).

While much of the research on Canadian urban inequality has focused on either the upper and lower rungs of the income distribution (Chen, Myles, and Picot 2012; Walks, Dinca-Panaitescu, and Simone 2016), very little is known about how income polarization is altering the size and location of Canada's middle-class. In addition, while studies have investigated income trends at the national level (Heisz 2007; Beach 2016), and in select large cities (Moos 2014; Breau, Shin, and Burkhart 2018), there remains no comparative mapping of middle-class fortunes across Canadian census metropolitan areas (CMAs). Providing an up-to-date, regionally sensitive analysis of middle-class incomes is precisely the gap this thesis aims to fill.

Geographers are particularly well suited to connect literatures on income inequality and middle-class decline. Geographers have made important contributions to the income

inequality literature by pointing out the regional dimensions of inequality (Florida and Mellander 2016; Lee, Sissons, and Jones 2016). In Canada, research has revealed that regions diverge in terms of income inequality along an east-west axis, with western regions becoming more unequal in recent years (Breau 2015; Marchand, Dubé, and Breau 2020). Major metropolitan regions have also become more unequal than their smaller urban counterparts, indicating differences that must be accounted for in a study of middle-class performance (Bolton and Breau 2012). These differences are related to processes of economic and demographic restructuring that can be expected to play a strong mediating role in middle-class performance.

The present policy discussion over middle-class decline reaches beyond economic concerns regarding mass affordability or the maintenance of consumption demand. The declining economic and social vitality of the middle-classes is increasingly being connected to forms of contemporary political unrest. Weak wage growth amongst middle and low-income workers is raising doubt over social mobility via the labour market, undermining the institutional legitimacy of some governments. Social polarization and regional economic decline are being linked to populist resentment which has spurred political instability in Europe and North America (Gidron and Hall 2017; Essletzbichler, Disslbacher, and Moser 2018; Rodríguez-Pose 2018). In Canada, populist resentment has already found expression on the political right in the election of Doug Ford in Ontario and the Coalition Avenir de Quebec (CAQ) in Quebec, and the growth of right-wing protest movements during the COVID-19 pandemic.

Taking into account indications of middle-class squeeze across Canadian urban regions, this thesis aims to **(1)** provide an up-to-date portrait of middle-class decline across the Canadian urban hierarchy; **(2)** explain differences in middle class dynamics across the urban hierarchy with reference to local and global dynamics of economic restructuring; and **(3)**

examine the policy implications of the findings in order to identify potential channels through which the general pattern of middle class decline could be countered, leading to more inclusive growth across Canadian cities.

In order to answer these questions a panel dataset was developed which captures changes in the size of Canada's middle-class between 1986 and 2016. Changes in the total share of a labour force earning middle-incomes and the share of aggregate income going to the middle-class are analysed at the national scale, as well as across a sample of 119 Census Metropolitan Areas (CMA) and Census Agglomerations (CAs). A cluster analysis is used to group CMA/CAs undergoing similar dynamics of economic and demographic change over time. Finally, a series of regression models are estimated to draw connections between change in the share of the CMA/CA labour force earning a middle-class income and covariates capturing the labour market, demographic, and industrial profile of each CMA/CA.

The overall economic performance of Canada's urban middle-class is mixed, with many worrying signs of instability. Analysing the changing size of Canada's urban middle-class (measured as total share of the labour force earning a middle-class income), we observe a shrinking middle-class using the PEW definition (67-200% of median) while the Beach definition (50-150% of median income) indicates middle-class growth since 1986. Middle-class growth in Canada has largely been driven by increasing female labour force participation since the 1980s. While analysis of middle-class size indicated mixed results, the middle-class share of income in Canada has consistently declined over the study period. Using a number of middle-income definitions to analyse the national wage and total income distributions, a marked decline in the middle-class share is visible since the mid-1990s.

We find that middle-class employment growth was strongest in the resource extractive regions of Western Canada, particularly Northern Alberta and British Columbia, where

strong wage growth has produced multiplier effects across these regional economies. Median wage growth was very strong in these regions, growing alongside the commodities price boom of the early 2000s. However, the worst performing CMA/CAs provide a cautionary tale against staples reliant regional development. Many of the worst performing CMA/CAs in the sample were booming resource hubs leading many economic indicators in the 1960s and 1970s but are now facing harsh decline alongside decreases in the price of their respective commodities.

Of Canada's six largest metropolitan regions (Toronto, Montreal, Vancouver, Ottawa-Gatineau, Calgary, and Edmonton), the middle-class labour force declined in all but Edmonton. This finding is concerning as these six urban regions have experienced the vast majority of employment and population growth since 1986. Toronto underwent a reversal in middle-class performance over the study period, with its middle-class share falling from among the highest to among the lowest positions in middle-class size rankings. These findings accord with the international income polarization literature, which finds that growth in knowledge intensive service sectors are not translating into middle-income growth (Goos and Manning 2007; Walks, Dinca-Panaitescu, and Simone 2016; Henning and Eriksson 2021).

Using a cluster analysis the 119 CMA/CA sample was grouped into five categories of middle-class performance. The best performing "Rapid Growth" cluster is made up of aforementioned resource extractive regions typified by rapid wage growth. At the opposite end of the cluster ranking is the "Declining" cluster, comprised of former resource processing and manufacturing hubs that have faced the brunt of declines in Fordist manufacturing and resource processing. Between these extremes we draw three clusters of "Medium Growth", "Mixed Growth", and "Slow Growth", which are more similar to each other than either the "Rapid Growth" or "Declining" clusters. Amongst these three central clusters, CMA/CAs

with large, educated work forces and provincial capitals with a large public sector performed best.

The remainder of this thesis is organized as follows. Chapter 2 provides an overview of the literature informing concerns over middle-class performance in Canada. Included in this literature review is a discussion of the methodological concerns around studying the middle-class. Chapter 3 provides a breakdown of the methodology employed in this thesis research, including dataset construction, middle-class definitions, and analytical methodologies. Chapter 4 presents the analytical results covering national scale performance of the middle-class as well as a portrait of middle-class growth and decline across the 119 CMA/CA sample. This is followed by discussion of the results for the cluster analysis and panel regression models. Chapter 5 concludes with a discussion of policy options that emerge from this analysis as well as avenues for future research.

CHAPTER 2.0

LITERATURE REVIEW

The following chapter provides an overview of literature informing my analysis of Canada's urban middle-class. I begin with a review of the income inequality literature, both within Canada and internationally, which is essential for understanding concerns over middle-class erosion in advanced industrial societies. This is followed by a review of existing literature on the size and economic wellbeing of Canada's middle-class. The extant literature on this topic focuses on the national and provincial scales, pointing to the need for a comparative urban analysis. I then move onto the methodological debate over how to measure the middle-class as a distinct group within society. Here I draw from historical, sociological, and economic literatures to provide a full scope of possible approaches. Finally, I review literature on regional economic and demographic restructuring in Canada since the mid-1980s, paying close attention to how these processes may mediate middle-class growth or decline.

2.1 Economic inequality, income polarization, and Canadian cities

Among the foremost trends in the economic literature over the last two decades has been the astounding rise of income and wealth inequality in the world's affluent nations (Piketty 2013; Lakner and Milanovic 2013; Alvaredo et al. 2018; United Nations 2020). Since the late 1970s, most nations across the globe have undergone a process of economic restructuring and policy change that has systemically transferred wealth and income to the upper echelons of society. In the prosperous nations of Western Europe and North America, gains in economic equality that were made following the Second World War have now been largely erased, with income distributions in rich economies reflecting deep disparities that were last seen in the lead up to the Great Depression (Atkinson, Piketty, and Saez 2011). In certain countries,

particularly the United States, income and wealth concentration has accelerated in the decade following the 2008 Great Recession. A recent report on top incomes in the United States revealed 45% of all income growth in the US since 2009 has gone to the top 1% of earners (Saez 2020). Inequality growth is also being documented as an outcome of the COVID-19 related economic collapse (Livesey 2020). This will likely continue unless recovery programs target the wages of low and middle-income workers and build in wealth redistribution mechanisms (Fontanella-Khan, Politi, and Aliaj 2020).

Although the growth of economic inequality has been a widely observed trend across the globe, rates of growth have varied widely between nations. Even nations with similar levels of economic development have experienced different rates of growth in economic inequality, indicating the important role played by national, institutional, and political contexts. Among the rich nations of North America and Western Europe, the increase in economic inequality has been most dramatic in the United States, where the income share of the top 1% of earners has nearly doubled from 11% to 20% since the 1980s (Alvaredo et al. 2018:12). By contrast, the top 1% of earners in Western Europe have seen their income share increase from 10% to 12% since the 1980s (ibid).

Although income and wealth inequality has grown more slowly in the Canadian economy relative to the US, heightened inequality is nonetheless a clear trend. Compared to other nations in the OECD, Canada's GINI[1] coefficient, which measures economic inequality, lines up with those of other Anglo-American economies. As of 2017, Canada's GINI coefficient sat at 0.307, below Australia (0.330), New Zealand (0.349), the United Kingdom (0.351), and the United States (0.391) (Bourne and Hulchanski 2020:8). However,

[1] The GINI coefficient is the most common measure of inequality within a given income distribution. A score of 1 reflects complete inequality while a score of 0 reflects complete equality.

Canada's GINI sits above those of Western European nations (between 0.266 and 0.294) and the Nordic nations (between 0.262 and 0.288).

Canada's global ranking in regards to economic inequality has shifted significantly in recent decades. In the late 1980s, the level of income inequality in Canada was closer to that of the relatively more egalitarian Nordic welfare states. However, Canada experienced a rapid growth in income inequality through the 1990s and 2000s. Since the late 1990s Canada's growth model has disproportionately delivered wage gains to the top income deciles (Osberg 2018). "In 2004, the average earnings of the richest 10% of Canada's families was 82 times that earned by the poorest 10% of Canada's families. That is approaching triple the ratio of 1976, which was around 31 times" (Yalnizyan 2007:3). This dynamic points to a 'winner-take-all' model of economic growth that has taken root in Canada, deepening labour market inequalities. "Only the richest 20% are experiencing gains from Canada's economic growth, and most of those gains are concentrated in the top 10%. The share of income going to the bottom 80% of Canadian families is smaller today than it was a generation ago" (ibid:4). As a result, Canada's GINI coefficient increased from 0.284 in 1989 to 0.321 in 2004 (OECD 2020).

Existing research identifies a number of causes for growing income inequality in Canada throughout the 1990s and 2000s, including reforms to labour market regulation, economic restructuring across a wide variety of industries, and the uneven integration of Canada's regional economies into global markets (Frenette, Green, and Milligan 2009; Green and Sand 2015). At the same time, the shift towards fiscal austerity, laissez-faire industrial policy, and a withdrawal of labour market supports by federal and provincial governments reduced the state's role in smoothing out labour market inequalities (McBride 2005; Walks 2011; MacKinnon 2015). Reductions to the Canadian state's fiscal capacities, both through austerity and reductions in taxation, has undermined the ability of government to tax and

transfer income (Banting and Myles 2011; Bourne and Hulchanski 2020). These shifts in economic organization and regulation reflect parallel shifts across the globe as capitalist nations have shifted from a Fordist-Keynesian mode of regulation to models of flexible specialization and global market integration (Aglietta 1979; Norcliffe 1994). Heightened income inequality is a deeply rooted phenomenon in Canada that can be expected to grow in the coming years, despite deep economic crises in 2008 and 2020.

To get a full picture of the dynamics of income inequality in Canada it is important to look beyond the national statistical portrait and onto distinct dynamics in Canada's many regional economies. After three decades of economic restructuring, Canada's five largest cities have grown more unequal than the rest of the country (Walks 2011; Bolton and Breau 2012). Using 2006 census data, Bolton and Breau (2012) found that the GINI coefficients for Calgary, Toronto, Vancouver, and Edmonton, were all above 0.4, with Montreal coming in close behind at 0.397. Meanwhile, of eighty-seven Canadian cities studied only eighteen experienced no or modest inequality growth between 1996 and 2006, with growth rates varying significantly across the country (ibid). A large portion of this rise in inequality occurred through the economic expansion of the late 1990s and early 2000s, appearing to accelerate over time.

Much of the spatial difference in urban income inequality between Canadian cities can be connected to broader regional divergences. As Breau (2015) notes, there is an apparent 'east-west' divide in income inequality across Canada. Income inequality appears to have grown at a much slower rate in Quebec and the Atlantic provinces. Meanwhile, in Southern Ontario and the resource boom economies of Alberta, Saskatchewan, and British Columbia, inequality has increased more rapidly (Breau 2015; Marchand, Dubé, and Breau 2020). This east-west divide corresponds with dynamics of industrial composition and local labour market conditions. The economies of eastern Canada have produced lower median

incomes relative to the west, in part due to weak demand for regional commodities and the presence of many mature industries. Further, Quebec's larger social democratic state compared to other Canadian provinces plays a role in leveling out incomes (Fortin 2010). However, additional research shows that degrees of labour market precarity, socio-economic factors, and regional industrial mix all play a significant role in cross-regional inequality differences (Marchand, Dubé, and Breau 2020). These findings point to the need for multi-variate, comparative analysis in order to understand the regional dimensions of middle-class decline across Canada.

Alongside the literature on national and regional income inequality, a related body of work on urban socio-spatial polarization has also emerged in Canada. This scholarship highlights the drivers of growing inequality within large metropolitan regions, which lead the country in within-region inequality increases. Over the last three decades growing racial and class disparities have led to a higher degree of income segregation within Canadian cities (Walks 2011; Chen, Myles, and Picot 2012; Walks, Dinca-Panaitescu, and Simone 2016; Ramos, Walks, and Grant 2020). This pattern of division is in large part driven by the divergence of incomes between various industries and occupational groups. For example, specialized business services and management occupations have secured rapid income growth while most other workers have experienced slow income growth or stagnation (Walks 2011; Chen, Myles, and Picot 2012). Furthermore, patterns of urban inequality tend to correlate with the disadvantage of marginalized communities, particularly visible minorities and recent immigrants (Bourne and Hulchanski 2020; Picot, Hou, and Crossman 2021).

In Canada's six largest cities, dynamics of socio-spatial division have been observed to varying degrees. Walks (2011:151) shows that levels of neighbourhood income polarization increased in all of Canada's five largest metropolitan regions between 1970 and 2005. In the two largest immigrant landing zones of Toronto and Vancouver, measures of

polarization have risen consistently since 1970. In Montreal, Calgary, and Ottawa-Gatineau, indices of polarization increased sharply throughout the 1980s and 90s but plateaued or declined moving into the new millennium. Research at the neighbourhood level in Toronto and Vancouver, in particular, brings the level of polarization in Canadian cities into sharp relief (Hulchanski 2010; Ley 2012; Rose et al. 2014). Whereas in 1970 most census tracts in each of these cities had average neighbourhood incomes within 20% of the metropolitan median income, by 2005 most census tracts were characterized as either high or low-income.

Part of the divergence between Toronto and Vancouver, and Canada's other four largest metropolises, can be explained by the increasing segregation of immigrants and visible minorities in Canadian cities. Vancouver and Toronto have become the primary landing points for immigrants in recent years (Bourne et al. 2011) and they are home to a far larger share of visible minorities than other Canadian cities (ibid). While neighbourhood segregation of visible minorities has increased in all five major metropolitan regions, it is important to note the average per-capita incomes of recent immigrants and visible minorities have declined relative to the incomes of native born and white individuals (Walks 2011). Visible minorities and recent immigrants arriving in Canada are thus increasingly squeezed by declining wages and declining rental stock in fast growing cities, exacerbating patterns of spatial segregation in certain cities. However, racialized segregation does not entirely explain socio-spatial polarization in Canadian cities. Class divisions also play an important role as the gap between professional and non-professional occupations has grown (ibid).

Indeed, neighbourhood divergence in Canadian cities can be explained via divergence in employment earnings between occupational groups (Chen, Myles, and Picot 2012). The proportion of high-income households in Canadian CMAs has risen dramatically since 1980 as specialized business services, financial services, and technical-scientific services have become fast growing sectors in large cities. Canada's five largest metropolises have

transitioned over the last three decades from centres of regional economic coordination and supply to global centres for highly specialized services.

Furthermore, skills-biased technical change and routinization have eroded a number of middle-income occupations in manufacturing and clerical work. Employment income divergence accords with findings in the UK on income polarization, which reveals that the majority of job growth since 1975 has been in the lowest and highest paid sectors of the labour market (Goos and Manning 2007). Research in Canada shows that managerial occupations have been able to command an ever-larger share of the economic pie at the expense of other occupational categories. Managers in Canada managed to secure wage growth of 22% in 2007 alone, while most other occupations have suffered stagnant or declining wages since the late 1980s (Walks 2011:134).

Through this discussion we have reviewed a broad body of work on economic inequality at the global, national, regional scales as well as within particular urban centres. In tandem with nations around the world, economic inequality has grown considerably in Canada since the early 1980s. Economic inequality accelerated through the late 1990s and 2000s and has continued – in a more seesaw pattern – since the Great Recession of 2008-9. At the regional and urban scales, economic inequality is growing, albeit at different rates between eastern and western regions. At the same time, Canada's fastest growing regions, the six major metropolises (Calgary, Edmonton, Montreal, Ottawa-Gatineau, Toronto, and Vancouver) are becoming much more unequal than the rest of the country. Such a rise in economic inequality is likely squeezing middle-incomes across the country; however, at present, there is only a small literature on middle-incomes in Canada. As this literature focuses heavily on national statistics, there is a clear need for a comparative analysis of middle-income dynamics across the Canadian urban system.

2.2 What is happening with the middle-classes in Canada's cities?

We have seen the extent to which income inequality and socio-spatial polarization are pulling top earners away from middle- and low-income earners within metropolitan areas. But what do we know about the general status of the middle-class across Canadian cities? Existing research at both the national and intra-urban scales suggest that the middle-class squeeze is a long-term trend but there has yet to be a systematic comparative study of changing middle-class dynamics across the Canadian space-economy. This is especially true of CAs and smaller CMAs where very little research has been undertaken. However, a handful of studies exist that look at middle-income dynamics in Canada at the national and urban scales.

Beginning with national-level studies, both Beach (2016) and Heisz (2007) find that between 1970 and 2005 the overall share of income going to Canadian middle-income earners has declined, despite considerable growth in Canadian mean and median incomes. Using family total income data, Beach finds that the share of income going to the middle three quintiles (the middle 60%) of the distribution declined by 5% over the last quarter of the twentieth century, from 57% in the late 1970s to an overall share of 52% by 2005 (Beach 2016).

On top of a decline in the income share received by Canada's middle-class, Beach finds that the *share of Canadian workers earning middle-incomes* – workers receiving incomes within 50% and 150% of the Canadian median – has declined. Between 1970 and 2005 the share of male workers earning middle-incomes declined by 12.62% (Beach 2016:1241). At the same time, the share of female workers receiving middle-incomes increased by 1.64%. It is important to note, however, that female workers earning middle-incomes still receive incomes and wages well below those of their male counterparts, and that the increase in female workers earning middle-incomes is likely a result of greater female participation rates from the 1980s onwards (Statistics Canada 2015). For Beach "this pattern

of change is consistent with labour market polarization of workers, a hollowing out of former middle-class-type jobs, the rungs of the ladder growing further apart and, possibly, increased social exclusion" (Beach 2016:1240).

Over a similar period (1974-2004), Statistics Canada research economist Andrew Heisz corroborates the evidence of squeeze on the middle-class. Using after-tax, adjusted family income data, Heisz finds that the share of income going to earners within 75% and 150% of the national median income declined by 4.8%, from 52.1% in 1989 to 47.3% in 2004 (Heisz 2007:6). At the same time, the share of individuals in middle-income families declined while the gap between high and low-income families increased substantially (Heisz 2007:26). Heisz concludes that middle-income decline is primarily due to growth in family market income inequality, pointing to labour market changes and the emergence of highly-educated dual earner households as drivers.

Much of the existing body of knowledge on the Canadian middle-class squeeze at the urban scale comes from intra-urban research undertaken by the University of Toronto's Cities Centre. A series of reports from 2012 studied long-term (1970-2005) income dynamics in Canada's three largest census metropolitan areas – Toronto, Vancouver, and Montreal. Researchers at the Cities Centre, under the leadership of David Hulchanski, developed a 'three cities' typology for these CMAs where Census Tracts (CTs) were divided into three distinct units of income growth, decline, and stability. Areas of growth, decline, and stability were then mapped to provide a picture of income polarization across the three city-regions. Although results reveal a variety of distinct regional dynamics, particularly in the case of Montreal, the long-term trend in Canada's largest cities was a decline in middle-income neighbourhoods. Declines in the prevalence of middle-income census tracts appear to be the result of many middle-income neighbourhoods either becoming richer or poorer since 1970. These studies add evidence to the case for middle-class squeeze in Canada.

Application of the three cities framework to the Toronto CMA reveals a dramatic decline in the number of middle-income neighbourhoods. In 1970, 66% of all census tracts in the Toronto CMA were classified as middle-income but by 2005 the middle-income share dropped to just 29% (Hulchanski 2010:8). Middle-income neighbourhoods are defined as those with average individual incomes 20% above and 20% below the Toronto CMA average. The corollary of middle-income decline has been growth in the number of low and high-income neighbourhoods. The proportion of high-income neighbourhoods in Toronto increased from 15% of census tracts in 1970 to 19% of census tracts in 2005. Over the same period low-income census tracts increased dramatically, exploding from 19% of 1970 census tracts to 53% by 2005 (Hulchanski 2010:9). It is not the case that the middle-income earners have simply moved to more distant suburbs. A decline in the number of middle-income census tracts is repeated in Toronto's outer suburbs (the '905' region), although at a slower rate. Overall, "[n]eighbourhoods with incomes near the CMA average are far less numerous in 2005 than in 1970" (Hulchanski 2010:10).

Ley (2012) finds a similar emptying out of the middle-income category in the Vancouver CMA between 1970-2005. In the city of Vancouver, the proportion of middle-income census tracts more than halved over the thirty-five year study period, declining from 65% of Vancouver census tracts in 1970 to 31% in 2005 (Ley 2012:20). Like Toronto, contraction in the middle-income category has translated into significant gains for the high and low-income groupings. The number of high-income census tracts in the City of Vancouver increased from 16% to 32% between 1970 and 2005, while low-income census tracts increased from 19% of the city to 37%.

Neighbourhood polarization is tempered when taking into account Vancouver's surrounding suburbs, which have traditionally housed a greater number of middle-class census tracts. However, the results for the entire Vancouver CMA still show that middle-

income census tracts have declined from 71% of census tracts to 53% across the entire Vancouver CMA (Ley 2012:22). The phenomenon of a middle-class squeeze is again underlined when studying more closely the income increases and decreases for census tracts that were considered middle-income in 1970. Of the 147 census tracts that were middle-income in 1970, 52 were no longer middle income by 2005 (Ley 2012:25). While many of these census tracts moved into higher income brackets, there is also evidence of significant economic decline. Amongst the older suburbs surrounding Vancouver, which had "comprised overwhelmingly a middle-income urban region with a few higher-income tracts, by 2005 it was predominantly a low-income region with a large middle-income minority in terms of average individual income" (Ley 2012:24). What is clear from both Vancouver and Toronto is that since the 1970s there has not merely been a relocation of the middle-class, but a significant decline in the presence of middle-income households. Whether this is the result of economic decline among existing households, stronger spatial sorting, or more unequal labour market opportunities between families and age cohorts remains an open question.

Middle-class decline appears to have taken a slower trajectory in the Montreal CMA than in Canada's other large CMAs. Montreal's distinctive pattern points to the importance of comparative research in the field of income inequality, as this pattern is likely the result of Quebec's larger welfare state, the presence of many crown corporations, and Montreal's more diversified manufacturing sectors. At the same time, Montreal, as French speaking capital within North America, has garnered fewer opportunities in the high-income FIRE (finance, investment and real estate) sector, distinguishing dynamics of labour market inequality relative to other Canadian global cities (Leloup and Rose 2020). Between 1970 and 2005 the proportion of middle-income census tracts in Montreal declined from 64% of the region to 55%. Much of this seepage was picked up by the low-income category (60-80%

of CMA median income) which moved from 18% of the Montreal census tracts in 1970 to 26% in 2005 (Rose et al. 2014:17).

While there are discontinuities between Canada's three largest CMAs there is a pattern of middle-class neighbourhood decline present throughout Vancouver, Toronto, and Montreal. Between 1970 and 2005 the trend has been declining average individual incomes in Montreal's on-island post-war suburbs that were almost entirely classified as middle-income in 1970. This pattern of declining average incomes was also present in the previously middle-income post-war suburbs surrounding Old Toronto (York, North York, and Scarborough) and in the suburbs surrounding the City of Vancouver (Richmond, Burnaby, Surrey).

Finally, findings of a declining middle-income share of households is corroborated by Walks (2013). Defining middle-income households as those with an annual income between $20,000 and $99,999, Walks finds that between 1980 and 2005 the prevalence of this income group has declined in all 14 of Canada's largest CMAs (ibid:38). This decline in the proportion of middle-income households was paralleled by an increase in high-income households across the board (household annual income $100,000+), and a mix of growth, stability, and shrinking of the low-income group (household annual income <$20,000). Walks' analysis uses inflation-adjusted incomes in order to ensure the changes measured are relative rather than nominal.

Intra-urban and national results reveal strong evidence for middle-class decline in Canadian cities over the last quarter of the twentieth century and into the new millennium. This is reflected in both a decline in the number of individuals receiving middle-class incomes as well as a decline in the overall income share going to middle income categories. However, a number of questions remain to be answered, first and foremost: how has the Canadian middle-class faired in the years following the 2008 financial crisis? It is critical that

this body of literature be updated, as most studies end with the 2006 Canadian Census. In addition, research focusing directly on the labour market dynamics of the middle-class is much needed, especially from a large-scale comparative perspective. This research can shed light on the extent to which global migration, demographic shifts, industrial restructuring, and occupational divergence are influencing middle-incomes across the urban system. Initial results have shown that there are stark differences in inequality between Western and Eastern Canada, but that national and global trends still play a strong role in these regions. Moreover, the urban studies reviewed above focus on intra-urban neighbourhood dynamics rather than labour market dynamics. A comparative analysis that integrates socio-economic characteristics, labour market conditions, and industrial compositions can shed greater light on the drivers of middle-income employment change between Canadian regions.

2.3 Defining the 'middle-class'

One of the primary reasons research focused directly upon the middle-class has been so few and far between is the difficulty in defining who is and is not a member of the middle-class. More often than not in contemporary political discourse, the middle-class is as loosely defined as people who are 'not too poor but not too rich'. In November 2019, Canada's freshly appointed "Minister of Middle-Class Prosperity" was asked on the national public broadcaster's morning news show to define the middle-class. Minister Fortier's response was "I define the middle-class [as] where people feel that they can afford their way of life…They have a quality of life, and they can have, you know, send their kids to play hockey or even have different activities. It's having the cost of living where you can do what you want with your families" (Curry 2019).

Although Minister Fortier's definition is less than clear, drawing connections to income, consumption, and recreation, she cannot be held solely accountable for such

confusion. There is in fact no single or uniform definition of the middle-class. Attempts have been made in economics, sociology, and history to delineate clear middle-class boundaries that allow for comparative research, but few studies have bridged disciplinary boundaries. There is consensus that 'being middle-class' equates to a certain quality of life, and a particular position in the political composition of society. But whether a middle-class identity arises from a particular position in the occupational structure, an individual's educational credentials, or a particular proclivity to save for the future is a matter of debate.

To provide an overview of such debates over middle-class identification, I will review recent literature on the subject in history, economics, and sociology scholarship. While debates in history and sociology discuss the complex inter-relationship between aspects of base and superstructure that produce mobile class boundaries, the economics literature focuses on simpler quantitative boundaries with only loose connections to scholarship on social class. However, economic definitions of the middle-class are useful in allowing us to (i) track the effects of structural economic change and (ii) assess economic policies that impact a broad sector of society.

2.3.1 Middle-class definitions in history

Labour and social historians are highly skeptical of the middle-class. It has proved difficult to ascertain whether the 'middle-class' is merely a metaphor deployed by politicians and marketers to plaster over deeper social relations like race, gender, or nation (Bledstein and Johnston 2001). However, there are many references to a social 'middle-ground' in the historical record. Initial identifications of a 'middle-rank' in the class structure appeared in England around the 17th century. The middle-rank was replaced with a clearer identification of the "middling sorts" in the 18th century. These were people who sought to separate themselves from those they perceived as the common people. Their acolytes spoke of the

middling sorts as ‘industrious’, ‘improving’, and ‘moderate’ (Bledstein and Johnston 2001). In the social upheaval during England’s transition from a feudal to an industrial society, the middling-sorts were those who could not rely on patronage or privilege from the state, and did not have the genteel character, education, or manners to associate with the upper class, but who enjoyed relative economic security. Typically made up of farmers, traders, and artisans, the middling sorts relied upon the accumulation of small assets to maintain independence in a precarious marketplace (ibid).

The notion that British society is oriented around a middle-class of people became rooted in England during the heightened social conflict occurring between 1780 and 1840 (Wahrman 1995). During political discussions regarding the French Revolution, and the possibility of revolutionary spillover in England, the ‘middle-class’ was invoked as a broad constituency with a tolerance for peace, moderation, and civic responsibility (Taylor 1997). The emergence of a middle-class was part of the justification for the passage of the 1832 *Parliamentary Reform Act* and the extension of the franchise. During these debates, the middle-class was discussed as a new social formation growing out of the increase of wealth and commerce related to industrial and commercial growth. These were people who expressed a ‘good sense’, virtue, and a devotion to liberty and education (Morris 1996). This notion that the middle-class acts as a ‘balancing’ or ‘moderating’ force has remained a potent aspect of the economic mythology in advanced industrial societies as they have grown and enriched parts of their populations.

The emergence of a modern, and more broad, middle-class is closely associated with the particularities of capitalist development in the 20th century. The Anglo-American middle-class as we know it today emerged via broad wage increases secured through the post-war labour pact and the widespread expansion of homeownership that became a staple of Anglo-American urban development in the second half of the 20th century. As Saskia Sassen notes,

"in the post-World War II era, growth was characterized by the vast expansion of a middle-class and formal labour markets" (Sassen 2001:249). The capital intensity and standardization of Fordist mass-production, mass-consumption industries expanded formal labour market relations and brought consistent wage growth. However, middle-classes have emerged throughout the world via unique historical trajectories (Lopez and Weinstein 2012). It is important to maintain a sceptical eye to the relationship between material developments and cultural or ideological formations that have led to the proliferation of middle-*classes* throughout the world.

What the historical perspective allows us to see is the complex, contingent, and variegated development of the middle-class within market-based industrial societies. At the same time, recognizing the historical contingency of the middle-class concept allows us to see the material and ideological foundations of the middle-class shifting over time. However, what the historical approach offers in detail and insight, it lacks in the simplicity and comparability sought by policy makers. For this simplicity and comparability I turn to quantitative approaches adopted by the economics discipline.

2.3.2 Middle-class definitions in economics

Economic studies use a number of quantitative measures to define the boundaries of a 'middle-class.' These quantitative measures fall into two categories: (1) definitions that choose some fixed proportion of the income distribution, and (2) definitions that use an upper and a lower percentage of the median income to define the boundaries of the middle-class. Table 2.1, below, provides an overview of middle-class definitions employed in the economics literature. Each quantitative definition attempts to define an income cut-off at the bottom that is far enough away from the local poverty line to allow a family to enjoy a comfortable material quality of life, save for education and retirement, etc. At the top, the

income threshold typically distinguishes the middle-class from societal elites whose control of economic resources, including income, wealth, and access to credit, places them in a separate social class.

Most common among the middle-class definitions that utilize a *fixed proportion of the income distribution* is the 'middle 60' (Guyot et al. 2018). This method defines the middle-class as all individuals with either a household or individual income between the 20th percentile and the 80th percentile of a given income distribution. The 20th to 80th percentiles demarcate the middle three quintiles of the income distribution. This definition provides simplicity and symmetry. But its greatest advantage is its ability to measure the relative share of income going to the middle-class over time. One of the most potent statistics in raising the alarm over middle-class decline has been the decline in income going to the middle 60 – from 50% in 1979 to 40% in 2014 in the United States (Guyot and Reeves 2018).

Another prominent definition of the middle-class that makes use of a fixed proportion of the income distribution is the Palma Ratio (Palma 2011). The Palma Ratio demarcates the middle-class as sitting between the 50th and 90th percentiles of the global income distribution. This measure was developed by Palma and colleagues (Cobham and Sumner 2014) to show that the global middle-class has maintained a relatively stable proportion of global income. According to Palma *et al.* the primary driver of global income inequality over the last few decades has been appropriations of income by the top 10% from the bottom 50%. For researchers studying the trajectory of the middle class in one nation, the Palma ratio provides an interesting hypothesis that the elite sits in the top 10% rather than the top 20%,

Table 2.1 *Economic Definitions of the Middle-Class*

Author - Year	Type	Region	Study Years	Definition	Notes
Ivanova (2011)	Fixed proportion	Canada	2009	Economic families in quintiles 2, 3, and 4 of income distribution	Quintile 2 begins at family income of $40,000 and quinti ends with family income of $125,000
Brookings Institution (Guyot 2018)	Fixed proportion	United States	1979-2014	Head of household's pre-tax income between the 20th and 80th percentile of national distribution	
Palma (2011)	Fixed proportion	World Bank member nations	2012	Individuals between the 50th and 90th percentile of global income distribution	
Hulchanski (2010)	Percentage of median	Toronto	1970-2005	Neighbourhoods with average income 20% above and 20% below the Toronto average income	Toronto average income $30,' in 1970; $40,704 in 2005
Beach (2016)	Percentage of median	Canada	1970-2010	Individuals with employment earnings between 50% and 150% of national median	
Heisz (2007)	Percentage of median	Canada	1976-2004	Family income between 75% and 150% of national median income	
Zorn and Van der Vlugt (2019)	Percentage of median	Quebec	2016	Individuals with employment earnings between 75% and 200% of Quebec median income	
PEW (2015)	Percentage of median	US Metro Areas	1971-2015	Adults with pre-tax household income between 67% and 200% of national median	
OECD (2019)	Percentage of median	OECD member nations	1985-2012	Incomes between 75% and 200% of national median	

and that the lower cut-off should sit at the median rather than the 20th percentile. At the same time, they give us another window to analyse the changing relationship of income groups to each other. Using the Palma Ratio one could see the extent to which it is the top 10%, rather than top 20%, that is appropriating more than its fair share of economic resources (Reeves 2017).

Although definitions using a fixed proportion of the income distribution allow us to view changes in the income share between the lower, middle, and upper classes, the middle 60 and the Palma Ratio have drawbacks. The main drawback is that when class definitions are set based on specific percentiles, the middle-class cannot shrink or grow over time. Under the middle 60 definition, the middle class will always be the 60% of people in the middle of the income distribution, regardless of changing economic conditions. This is particularly problematic when conducting comparative research between cities or regions. Quantifying middle-class squeeze in a particular city, or relative middle-class concentration between city-regions, is not possible when the size of the middle-class is held constant at 60% of households.

This inability to measure the growth or shrinkage of the middle-class leads us to the second category of class definitions: *percentage-based descriptions*. Percentage-based definitions apply two different percentages to the median income, one below it and one above it, to define the lower and upper bounds of the middle-class. These boundaries change over time as the median income shifts. A few examples of percentage-based definitions are presented in Table 2.1, including the middle-class being 50% to 150% of the median income (Beach 2016); 67% to 200% of the median (PEW 2015); and 75% to 200% of the median (OECD 2019). Using the PEW example (67%-200%), which studied the middle-class in US cities, the middle-class was defined as including any household that made between $41,869 and $125,806 in 2014.

Once researchers have elected to designate percentage-based boundaries for the middle-class, they must confront the complicated question of choosing the appropriate percentages. When choosing these percentages, they are designating income thresholds that correspond to an imagined middle-class quality of life.

The lower cut-off naturally bears a link with the poverty line (Atkinson and Brandolini 2011:8). A middle-class income should be above the poverty line, but how far above is based on assumptions about the level of economic security the middle-class is imagined to enjoy as well as local costs of living. As Atkinson and Brandolini (2011) note, using 60% of the median as the middle-class cut-off in Europe would include many households at risk of poverty, while 75% of median insures the middle-class is comfortably clear of the poverty line. There is a difficult line to tread when deciding who will be designated as economically secure, and therefore middle-class, and who is not.

A thornier question is how to define the upper boundary of the middle-class. At what level of income does a family go from merely being economically secure, having the necessary means to save for education and retirement, to being part of the economic elite, controlling investment and future capitalist development? Returning to Atkinson and Brandolini's discussion of these boundaries, if the dividing line between the middle-class and the rich in Europe was set at 125% or 150% of median income, that would mean 20-30% of Europe was part of the elite (2011:9-10). This hardly seems accurate to even the casual observer. Some economists propose that the point at which the middle-class transitions into the elite be set as high as 300% of median income. Atkinson and Brandolini propose studying what income would allow a family to employ another person's labour in household activities as a potential cut-off point (ibid).

There is no conclusive answer to where the middle-class ends and the elite begins as answering this question requires more than a simple quantitative measure. More comparative

research is needed to assess a variety of percentage-based measures, in conversation with literature on the class dimensions of occupation, wealth accumulation, and social capital. Any quantitative definition forces methodological choices which must be clearly explained and justified. Without clear justification quantitative boundaries can become, in practice, more or less arbitrary. However, with fine-tuning, quantitative measure can provide a basis to assess policies affecting a wide range of individuals or households (Krause, Reeves, and Guyot 2018).

With these difficulties in mind, there are still benefits to the percentage-based approach. A primary benefit is precisely that these definition force the researcher to disclose assumptions regarding who is and is not a member of the middle-class. The fixed proportion approach to definitions tends to bind the researcher's hands, forcing the selection of an income group without sensitivity to the material conditions around the chosen boundaries. By contrast, the percentage-approach allows a more nuanced approach to boundary selection that incorporates local poverty lines, local cost of living, occupation data, and wealth data.

At the same time, the percentage-approach recognises that the middle-class is a porous social group. Middle-classes, however they are defined, form on fluid material bases. The middle-class is not an immutable socio-economic phenomenon, and a definition of the middle-class should recognize that it can grow or shrink with changing socio-economic conditions. The so called 'golden age' of twentieth century capitalism undoubtedly grew the middle-classes through sustained median wage growth, universal education programs, and the mass expansion of asset ownership. As median wage growth has stalled and economies of the global north have become increasingly characterized by labour market precarity, income inequality, deeper recessions, and slower economic growth, the boundaries of class advantage and disadvantage are likely to have shifted. Middle-class definitions should be sensitive to this changing reality and reflect real levels of consumption and financial security. For deeper

reflections on how economic security flows through families, markets, and education systems, and how economic security informs middle-class definitions, I turn to the sociological literature on middle-class development.

2.3.3 Middle-class definitions in sociology

Whereas middle-class definitions in economics tend to define an income band and then look at the characteristics that distinguish the middle-class group from the rich or poor, sociological definitions turn the equation around by arguing that labour market position or educational attainment dictates access to economic resources and social mobility. In other words, it is education and occupation that drive the lifelong capacity to move up income ladders and find employment. These sociological definitions tend to come from two theoretical schools: Marxian and Weberian (Adkins, Cooper, and Konings 2019). The Marxian approach to class analysis centres on the antagonistic relationship between capital and labour and has therefore struggled to identify additional groups between these two primordial class positions. The Weberian school, on the other hand, situates occupation as the terrain from which class hierarchies emerge. However, this approach has recently faced criticism from studies which place cultural capital and wealth accumulation at the forefront of 21st century class differentiation.

For most of the 20th century, Marxian scholars of social class treated the middle-class with ambivalence. Traditional Marxian political economy argues that class positions in capitalist societies emerge in the relations of production. Since the owners of capital govern investment and production, class conflict between capital and labour has taken precedence. Orthodox Marxian scholarship on the middle-class has demarcated the middle-class as people who work in government, law, military or religious functions who do not sell their labour to capital but are paid through a part of the surplus product (Anderson 1974).

The emergence of debates over post-industrialism and 'the new middle-classes' in the late 1970s and 1980s opened space for new approaches to class analysis amongst Marxists. Poulantzas (1975) argued that the growth of 'mental labour', i.e. technical-scientific, service, and professional occupations, warranted the demarcation of a new class position. This new middle-class, comprised of mental workers and the petty bourgeoisie, is separate from the proletariat because they do not directly produce surplus value (Esping-Andersen 1976) and because their 'mental work' consists of 'rituals, knowledges, and cultural elements' that separate them from the working class (Kivinen 1989). The middle-class is left in a 'polarized class position' between the bourgeoisie and proletariat that disposes them to ideological alliances with either.

Erik Olin Wright expanded on the concept of polarized or contradictory class positions in his work extending the Marxist conception of class to a 6-point and then 12-point class schema, with the proletariat and the bourgeoisie at either end (Olin Wright 1985; 1997). Like Poulantzas, Olin Wright was responding to the growth of white-collar jobs, semi-credentialed workers, expert managers, and small employers. Olin Wright's schema placed these middle strata in complex positions to each other and to the means of production. At the heart of his class schema was an analysis of each group's power to extract surplus from labour (Adkins, Cooper, and Konings 2019:14). From this foundation, a number of other class schema's have emerged, including Barbara and John Ehrenreich's writing on the professional-managerial class, composed of technical employees, managers, and cultural producers (Ehrenreich and Ehrenreich 2013), as well as Finnish sociologist Markku Kivinen's schema of 'contradictory class locations' based upon degrees of workplace autonomy afforded to different occupations (Kivinen 1989).

What is clear from Marxian attempts to grapple with the emergence of 'new middle-classes' is that dynamics of late 20th century capitalism are complicating traditional

conceptions of class inequality rooted in the factory system. These dynamics include expanded access to post-secondary education, the growth of intellectual labour in information technology and innovation focused sectors, as well as the emergence of cultural industries. Economic geographer Allen Scott has theorized these changes as the emergence of "cognitive-cultural capitalism" (Scott 2008). Cognitive-cultural capitalism has allowed select workers to acquire scarce skills that increase their bargaining power in the labour market, leading them to gain more autonomy and higher wages. While a privileged position in the labour market does not necessarily constitute belonging to a separate class, and skill differences between workers have created wage variance since the origins of capitalism (i.e., craft workers vs. industrial labourers during the 19th century) (Roediger 2020), it does alter political alliances.

A position for the middle-class in the Marxian class schema has not been widely accepted and there remains no clear middle-class definition. What the Marxian approach does help make clear is that researchers looking at the middle of the income spectrum should be sensitive to how changes to the bargaining power of labour, altered by shifts in the spatial division of labour, impacts class alliances between groups of workers and levels of relative economic security. At the same time, researchers must maintain an eye on the distinction between society's wealthiest and the vast majority of people who work for a living.

Weberian approaches to class analysis see class inequalities as arising in the division of labour, rather than in the structure of asset ownership or control over the means of production. These approaches have focused their efforts on analyzing the differentiation of labour that has occurred alongside the development of advanced industrial societies. Central to this body of work is the writing of Goldthorpe and Marshall (1992) who advanced the Nuffield class schema. The Nuffield class schema was developed during the post-war era as sociologists tried to make sense of the complex division of labour that emerged in advanced

industrial capitalism, including large bureaucracies, and their implications for social inequality. The Nuffield schema identified three class categories: a service class, an intermediate class, and a working class (Penn 1981:266). The service class comprised professionals, managers, and administrators. The intermediate class was made up of salespeople, clerical workers, technicians, and other occupations with supervisory roles or requiring education. Both skilled and unskilled workers fall into the working class. The Nuffield schema was adopted by the United Kingdom's office of national statistics in 2000 as the nation's official metric of class.

The Nuffield schema has re-emerged in British debates over the contemporary bases of social class. The integration of French sociologist Pierre Bourdieu's concepts of social and cultural capital into class analysis in recent years have given sociologists fresh perspective on employment-based class typologies. In the UK, large scale national-survey based studies have been completed to ask how different stocks of social, cultural, and economic capital interact to produce class positions. Perhaps the largest of these studies was the Great British Class Survey (GBCS) developed by Mike Savage and colleagues at the London School of Economics (Savage et al. 2013). The findings of the GBCS did not accord with the class boundaries proposed by the Nuffield schema and led to the demarcation of a new 7-point class scheme. At either ends of Savage's class schema are the Elite and the Precariat. In between, Savage demarcates an 'established middle-class', a 'technical middle-class', 'new affluent workers', the 'traditional working class', and 'emergent service workers'. This class schema integrates data on household income and savings, as well as questions on social networks and cultural knowledge to identify boundaries. Here, education and taste play a significant role in the class make-up.

The integration of Weber's and Bourdieu's approaches to social class points to the importance of data around taste, wealth, mobility, and occupation in mapping the circulation

of class-based privileges in contemporary societies. In Canada, longstanding data on mobility and occupations are available through the Census, but much work remains to be done to bridge variable changes between census years, and no longstanding datasets are available that integrate questions on taste or cultural capital more broadly. At the same time, there is very little longitudinal data on private wealth accumulation in Canada. These data limitations make the utilization of Savage et al.'s class schema in Canadian research difficult.

Finally, emerging research in political economy argues that inequality in wealth accumulated through asset ownership is more important to class boundaries today than inequalities formed in the labour market or relations of production (Adkins, Cooper, and Konings 2019). As discussed above, the majority of workers in Anglo-American advanced industrial nations have, on aggregate, experienced marginal real wage growth since the 1980s. However, the value of assets, particularly real estate assets has grown at staggering rates since the early 2000s. Many families have experienced dramatic growth in their net worth just by virtue of buying at the right time. This in turn has allowed them greater access to credit and the capacity to build or purchase additional rental properties in hot housing markets. As Adkins, Cooper, and Konings (2019) reveal of the Australian context, this was an important strategy for buying social peace during the last two decades of the 20th century, as neoliberal reforms in labour market policy, social policy, and government services eroded the living conditions of many people. At the same time, rent increases and inflated housing markets are locking many people out of large cities that contain the majority of job growth and educational opportunities. The inflation of household assets is creating new class divides where those with significant assets are less likely to be reliant on wages for survival whereas those without assets are faced with stagnant wages and soaring housing costs. This aligns with calls from other Marxist geographers to reassess the role of rentiers in driving contemporary capitalist social relations (Christophers 2021; 2019).

What the Weberian, Bourdieusian, and Marxian approaches share in common is an attempt to theorize the increasingly complex and fractured patterns of inequality that have developed alongside shifts in capitalist modes of production throughout the 20th century. Making sense of labour relations that complicate class boundaries set out in the 19th century is an important intellectual task that will remain pertinent for years to come. The globalization of production systems, the ascendance of finance capital, and the development of cognitive-cultural capitalism will continue to alter the spatial division of labour and social stratification attendant therein for decades to come.

2.4 Drivers of middle-class restructuring in Canada's urban centres

Thus far, I have reviewed a broad literature on global, national, and regional income inequality; a literature identifying social polarization as a contemporary trend in Canadian urban development; and longstanding debates over the sociological and economic foundations of the middle-classes. Each of these literatures indicate that fluctuation in the size and economic base of the middle-class has been a feature of modern capitalist economic development, with signs of a hollowing out of middle-income employment visible today. With this said, the question remains, why situate a study of Canada's middle-class in the chosen time frame (1986-2016), and why focus specifically on urban spaces rather than regions or Canada as a whole?

Beyond the obvious goal of providing an up-to-date portrait of middle-income dynamics amongst diverse urban labour markets across Canada, 1986 falls within a significant turning point in the industrial composition and social regulation of Canada's regional labour regimes and by extension its urban labour markets. This transformation was driven by both institutional and technological changes within the Canadian economy.

Since the recessions of the early 1980s and 1990s, Canadian economic institutions have increasingly adopted industrial and labour market policy typified by a deepening of market competition and fiscal austerity. This transition in industrial and labour policy has broadly been termed the shift to 'neoliberalism' (Harvey 2005; Peck 2010), named after the free-market political-economic ideology which has dominated policy making in Canada and the US since the 1980s. Wage stagnation and a deepening of income inequality have been commonly observed phenomenon during this period as government withdrawal of labour market support, the introduction of flexibility into labour markets, and hostility to unions, alongside other reforms, reduced the bargaining power of labour and broke down the negotiated labour peace typical of the prior Fordist-Keynesian era. Cuts to Canada's main income supports (employment insurance and social assistance) in the mid-1990s alongside reduced income redistribution through taxes and transfers, a reduction in public sector employment, and weakening labour demand increased income inequality through the 1990s and early 2000s (Banting and Myles 2011; Osberg 2018).

Corresponding with a neoliberal policy shift, in the 1980s Canada entered a phase of economic restructuring from capital-intensive, standardized production to flexible, specialized production systems (Norcliffe 1994; Rutherford 1996) and a shift from manufacturing to services as the primary source of employment growth. This economic restructuring process has been termed the transition from Fordism to post-Fordism (Walks 2001; Amin 2008; Walks 2011), which brought forth considerable losses in the manufacturing and resource processing industries which had formed the backbone of Canadian middle-income employment in the post-war era. Post-Fordist economic restructuring has been facilitated by technological developments, particularly microchips which allowed for dynamic automation of production lines, and developments in global

logistics which have allowed firms to retool factories and break apart production processes (Norcliffe 1994).

Further, the shift from a manufacturing to a services economy brought with it occupational divergence in which those in managerial and administrative jobs have taken a larger share of the economic pie while other occupational groups have experienced income stagnation or decline relative to average incomes (Walks 2014). Both the decline of manufacturing employment and the unequal shift to services contributed significantly to income inequality in Canadian cities (Bolton and Breau 2012) and are likely to have wide ranging effects on the geography of middle-income employment across Canada.

Although the neoliberal and post-Fordist turns in Canada mirror parallel shifts in labour regimes across advanced capitalist economies, distinct developments have occurred in Canadian capitalism which are essential themes in the following analytical chapter. Since the late 1990s, the federal government along with western provinces have pursued industrial policies designed to reinvigorate the staple economy in the form of western Canadian energy extraction (Stanford 2008). This has brought rapid but volatile and unequal wage growth to select western Canadian cities. Renewal of western Canadian energy industries has intensified the shift in Canada's 'economic centre of gravity' from east to west (Breau et al. 2018). As we will see below, rapid but unequal growth in western Canadian regions should thus be expected to feature prominently in the development of middle-class employment.

In this section, I want to provide an overview of the different pathways in Canadian urban development since the recessions of the early 1980s and 1990s, changes to the economic base of key cities over this period, and the connected reorganization of the urban system. Four development pathways make up the bulk of the discussion. The first is the process of manufacturing restructuring that took hold in Canada following the 1981-84 recession. Manufacturing restructuring has brought down the total share of manufacturing

employment within Canadian labour markets while pushing manufacturing employment out of previous industrial centres and into surrounding cities (Norcliffe 1994; Polese 2009). Second is the restructuring process brought on by globalization which has brought a small number of 'global cities' to the leading edge of employment and population growth. The third is the resource boom of the last two decades which has delivered rapid growth to select urban centres in Western Canada. Fourth is the dynamic of slow growth and decline in many small urban centres. The majority of urban centres in Canada experienced no growth or population decline over the last three decades, with many single industry or resource towns facing the terminal decline of their economic bases (Hall and Hall 2008).

2.4.1 The regional dimensions of economic restructuring

Deindustrialization has been a central feature of employment and income restructuring spurred by Fordism's decline (Bluestone and Harrison 1982; Norcliffe 1994; Massey 1995; Krätke 1999). Manufacturing decline is highly relevant to Canada's middle-class as the manufacturing sector has been a core of unionized middle-income employment and typifies the so-called 'standard employment relationship' of 20th century capitalism. As argued by Sassen (2001:249), the Fordist labour regime which dominated 20th century factories was instrumental in developing a large middle-class in North America and Europe.

The decline of mass manufacturing as a leading sector of employment growth has left a large gap in the supply of stable, middle-income employment in many manufacturing regions. While Fordist manufacturing has been replaced with forms of highly specialized manufacturing in some cases, in other regions the cumulative effects of economic decline including out-migration and income loss have set in (Gillette 2003). A study of middle-class dynamics in Canada needs to be attuned to the changing spatial division of labour within the manufacturing sector.

Since the 1990s, manufacturing has declined as a share of Canadian employment both due to automation on production lines as well as a shift to higher-value added production using fewer labour inputs (Bourne et al. 2011). The shift towards automated, programmable machinery and a leaner, more flexible labour force has been termed 'flexible specialization' (Piore and Sabel 1986; Norcliffe 1994). In many Canadian labour markets, firms switching to versions of flexible specialization sought to reduce their large inflexible labour pools in favour of smaller core labour forces accompanied by a secondary labour force that grows and shrinks with demand (Norcliffe 1994:9). The application of flexible specialization has been varied across the country reflecting production needs in different sectors and regions (ibid), but the overall shift has been a decline in manufacturing employment and downward pressures on wages in the sector. Plant closures have been particularly devastating to Canadian small and medium size manufacturing centres where large plants were the single greatest employer and source of income (Hutton and Shearmur 2011). The effects of manufacturing decline have been particularly acute in the manufacturing 'heartlands' of the Lower St. Lawrence and Southern Ontario (Norcliffe 1994; Britton 1996).

Further, manufacturing activity since the 1990s has migrated out of large cities and into mid-size cities on the periphery of larger urban centres (Bourne et al. 2011). The result has been a widespread "collapse of manufacturing in the central city from the 1960s onwards" (Hutton and Shearmur:110). Many manufacturing firms have made this move in search of cheaper wages and land while maintaining connections to business services and large markets in big urban centres (ibid). Indeed, the decline of manufacturing activity in large urban centres has been made possible by the fracturing of manufacturing work into its many constituent parts. Design, marketing, and management work associated with manufacturing that would have traditionally been done in house, at or near the production

facility, has moved or been sub-contracted out to specialized firms located in large urban centres.

Parallel with the decline of manufacturing activity in the global north has been a shift in the focus of production towards services and activities of the so called 'knowledge economy'. Service sector employment has grown across the country; however, this growth has been strongest in large urban centres (Bourne et al. 2011). Employment in the service sector tends to be less unionized and incomes more variable, increasing income inequality (Walks 2014). Growth in service sector employment is connected to the intensification of globalization processes, including global migration, trade, and financial integration, which intensified from the 1990s onwards.

The highly competitive nature of globalization, alongside the shift to labour market flexibility, has produced highly unequal outcomes between occupations and economic sectors. Highly skilled workers in large cities have benefitted considerably and secured large income gains, while workers in lower-skill occupations have experienced wage stagnation. How these geographic shifts in economic growth and development have impacted middle-income employment across Canada is among the central questions of this thesis.

Global corporate integration and the globalization of production in the 1980s and 1990s spurred the growth of 'global cities' which act as 'command-and-control' centres for the global economy (Sassen 2001). Over the last 20 years, Canada's four primary corporate and financial hubs, Toronto, Vancouver, Montreal, and Calgary, have been the fastest growing cities by far, exacerbating regional disparities between these cities and the rest of Canada's urban system (Bourne et al. 2011). Industries catering to the global corporate and financial industries began to emerge as some of the fastest growing sectors, swelling the ranks of investment bankers, management consultants, corporate accountants, international lawyers, and other business service professionals. These occupational groups have captured a

disproportionate share of overall wage growth in Canada since the 1990s (Walks 2011; 2014). This wage growth has been concentrated among a small, privileged group in large urban centres. Thus, a far more affluent professional middle-class has flourished in Canadian corporate hubs while the previous manufacturing middle-class has declined in Canada's industrial cities.

Alongside the expansion of global financial and corporate centres, the development of new technologies has brought growth to a range of scientific, technical, and cultural industries to cities. Professional, scientific, and technical services have been by far the largest source of employment growth in the Canadian urban system since the late 1980s, followed by information, culture, and recreation services. Between 1989 and 2008 employment in professional, scientific and technical services more than doubled (Bourne et al. 2011:51). Media and film, video game production, software development, digital art and design, and internet services have all grown dramatically in recent decades, attracting highly skilled and highly paid professionals.

To benefit from shared infrastructure, labour pools, and knowledge networks, these industries tend to be located in large cities (Scott 2006, 2008). Location quotients calculated for 2001-6 show that professional and scientific employment is 1.3 times more likely to concentrate in Canadian cities with over 1 million people, with similar levels of concentration found for telecommunications, media, and the arts as well as finance, insurance and real estate (Bourne et al. 2011:55).

The flip side of knowledge economy growth has been the rapid increase in service sector employment oriented around the social reproduction of cities. According to Sassen, an outcome of global city growth has been "the vast supply of low-wage jobs required by high-income gentrification in both residential and commercial settings" (Sassen 2001:9). In large cities like Toronto, Vancouver, Montreal, Calgary, and Ottawa, there has been a proliferation

of low wage jobs in recent decades, including cooks, cleaners, warehouse workers, and delivery drivers. These service industries tend to be less unionized, poorly paid, and more precarious (Walks 2014).

Low-paying service sector work tends to be racialized and gendered. The last thirty years have been a period of declining relative wages for recent immigrants and racialized workers, particularly women (Picot 2008; Walks 2011; Block and Galabuzi 2011). Relative wage declines for recent immigrants and racialized workers will likely have a significant effect on middle-incomes in Canada's major cities, where immigration has become the principal source of population growth (Bourne et al. 2011:75).

Discrimination is a driver of labour market segmentation for racialized workers, however structural change in labour markets stemming from globalization and neoliberal deregulation, including deepening competition between workers and the expansion of precarious forms of work, are also driving race and gender-based inequalities (Galabuzi 2004). Indeed, Picot et al. (2008; 2021) find that declining economic outcomes for recent immigrants are being driven in part by heightened competition between new labour market entrants. While the level of education across the labour market has increased, the number of jobs requiring high levels of education has not kept pace. This imbalance has pushed many skilled workers into parts of the labour market where their full skills are not utilized, and wages are lower. For workers with foreign credentials, or less access to social networks, heavy competition for the limited number of positions requiring higher education is reducing access to high-paying skilled jobs.

Alongside the development of service driven economies in Canada's largest cities, the Canadian economy has in recent decades increasingly oriented towards the extraction and export of natural resources, driving growth in resource regions and the metropolitan centres that service extractive industries. Parts of northern British Columbia, as well as Alberta,

Saskatchewan and the Northwest territories have been the principal beneficiaries of a nearly two-decade long boom in commodity prices starting in 1999.

Albertan resource regions and metropolitan centres experienced some of the fastest growth rates in the last two decades. Between 2001 and 2006 the population of Calgary and Edmonton grew by 11.9%, while in Albertan cities with populations between 30,000 and 100,000 the growth rate was 16.65% (Bourne et al. 2011). Growth rates in Alberta have been far higher than other Canadian regions throughout the 2000s. Labour markets in these regions have likewise experienced outsized wage growth. High demand for skilled tradespeople and machine operators has drawn workers from across the country, particularly the maritime provinces. Calgary and Edmonton have both experienced booms as management, finance, and business services related to oil and gas extraction have located in these cities (Hutton and Shearmur 2011).

The rapid growth brought on by western Canada's resource boom has contributed to economic inequality across Canada's urban system. Since the resource boom began, Alberta has consistently led Canada in measures of income inequality (Breau 2015). Furthermore, the rapid inflow of capital buying up resource assets has raised the value of the Canadian dollar, undercutting the cost competitiveness of Canadian manufactured goods, contributing to the reversal of Canada's economic diversification built up in the 1960s, 70s, and 80s in value added manufacturing sectors like aerospace, telecoms, and autos (Stanford 2008). As a result, inter-regional inequalities have intensified along with a hollowing out of middle-income manufacturing employment (Breau and Saillant 2016).

An often neglected feature of Canada's urban system are dynamics occurring in small urban centres, however these likely have a strong effect on the distribution of middle-income employment across the country. Statistics Canada measured 141 small and mid-size urban areas in the 2016 census. According to comparisons of 2006 and 2016 census data, 57% are

experiencing slow population growth or population decline (Donald and Hall 2019). Slow growth and decline are not new phenomena: between 1996 and 2001, 45% of Canadian urban areas experienced decline (Hall and Hall 2008). Slow growth and decline are widening disparities between small urban centres and fast-growing metropolitan regions.

Behind the slow growth and decline of many smaller urban centres are changes in technology altering the spatial division of labour, the exhaustion of natural resources, and declining market demand for given resources. While economic effects of the COVID-19 pandemic (i.e. renewed demand for domestic resources and manufacturing capacity; labour and input shortages) may alter these patterns slightly, the macrogeographic concentration of growth in large urban centres is likely to persist into the foreseeable future (Florida, Rodríguez-Pose, and Storper 2021). Indeed, results from the 2021 Census indicate that population concentration in Canada's largest cities continues to increase (Statistics Canada 2022).

Slow growth and decline in small and medium sized urban centres in many ways reflects a sharper manifestation of the uneven development trajectories already reviewed: demographic transition, economic restructuring, and migration. Canadian research indicates that "we are in the final stages of the demographic transition in which lower fertility rates are resulting in the decreased role of natural increase for population growth" (Donald and Hall 2019:365). As previously noted, immigration is now the primary source of population growth in Canadian cities, with the majority of immigrants landing in Canada's largest cities. Population decline due to slowed birth rates and out-migration are likely to create economic contraction and wage stagnation in small urban centres.

At the same time, production restructuring has reduced employment in resource, manufacturing, and related service sectors (Norcliffe 1994). A large share of small cities in Canada's hinterland are single-industry communities whose vitality is dependent upon the

existence of profitable resource markets. Since many of these resources are non-renewable "it follows that finite time horizons exist for many of the communities created to exploit them" (ibid:12). Even for regions exploiting renewable resources, like agriculture or fisheries, changes to the structure of technology, transport, and processing are reducing the role of "small agricultural service towns, fishing outports, and small sawmilling towns" (ibid). While some small resource towns have been able to develop new sources of growth in tourism, arts and culture, or as retirement communities, many will continue to move down the path of decline and abandonment. Changes to the nature of Canada's natural resource economies and associated uneven development will have broad implications for middle-incomes across the urban system. This once again points to the need for a broad comparative analysis capturing demographic and industrial change in order to understand differences in middle-class outcomes between Canadian regions.

CHAPTER 3.0

DATA AND METHODOLOGY

This chapter provides an overview of the dataset and statistical methods employed for my analyses of Canada's urban middle-class. The discussion of data covers sources, sample population, key Census variables, and middle-class definition selection (as per the debate reviewed in the previous chapter). The methodological discussion focuses on the two analytical methods employed, (1) a k-means cluster analysis to group and analyse Canadian cities with similar middle-income dynamics and (2) fixed-effects panel regression models to examine some of the key variables behind changes in those middle-class dynamics.

Measures of the middle-class are produced and compared at the urban scale across the country. The analysis follows Statistics Canada in using Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) to designate urban settlements in the Census data. To the best of my knowledge, this analysis is unique in that no other study offers such a broad comparative lens in analyzing middle-class dynamics across Canada's urban system over such a long period of time.

Once data sources and geographical concerns are discussed, the chapter proceeds to provide an overview of the socio-economic variables considered for the analysis and returns briefly to the question of what middle class definition is best suited for the comparative analysis. The hope here is to give readers a stronger sense of what is gained and lost in various definitions of the middle-class, and to show how changing the parameters can alter my understanding of middle-class size. At the same time, these comparisons will contribute to the debate over what makes for an accurate metric for the middle-class.

3.1 Data sources and security requirements

Analysis of Canada's urban middle-class is done using confidential micro-data files from Canada's national *Census of Population* for the years 1986, 1991, 1996, 2001, 2006, 2016. The Census of Population is a mandatory national census administered by Statistics Canada every five years. Confidential micro-data files for this analysis come from the long-form version of the census, which requires 20% of the Canadian population to answer an extended questionnaire. The long-form census is accompanied by a shortened questionnaire sent to all other Canadian individuals. The census has been administered in its current form since 1971[2], apart from 2011 when the voluntary *National Household Survey* replaced the mandatory long-form census (for an overview of this debate, see Shearmur 2010; 2015). To ensure continuity of coverage, data for 2011 is taken from the *National Household Survey* and is also included in the analysis. The Census was reinstated in its traditional form in 2016.

Researchers have two avenues for accessing Census micro-data files: public use micro-data files (PUMFs) and confidential micro-data files. PUMFs are open datasets readily available for download through Statistics Canada and libraries at most Canadian universities. Confidential long-form Census micro-data files are made available exclusively at designated Statistics Canada sites through Statistics Canada's 'data liberation initiative' (DLI). Many Canadian universities host designated Statistics Canada sites called Research Data Centres (RDC). RDCs are secure research facilities that provide access to microdata files such as the 20% Census sample. In Quebec, access to confidential Census microdata is coordinated by the Quebec Inter-University Centre for Social Statistics (QICSS) where researchers must undergo a number of personal security clearance measures to gain access to the RDCs. All analytical results must be submitted to a Statistics Canada analyst to ensure public

[2] For Census history see: https://www12.statcan.gc.ca/census-recensement/2016/ref/98-304/chap2-eng.cfm

dissemination guidelines have been met. While such a protocol adds several logistical 'layers' to the research process, the primary reason researchers choose confidential micro-data files over PUMFs is sample size and coverage: Census PUMFs include a 1% sample of the population while confidential micro-data files include the full 20% sample of long-form census responses.

Access to Census of Population data for this project was secured through the McGill-Concordia RDC which is part of the QICSS. After going through the initial research application phase, once it was approved, the project required a Government of Canada security clearance and the signing of a contract with Statistics Canada subjecting the researcher to its rigorous research guidelines. It is important to note that all results presented in this thesis have gone through confidentiality tests and been approved for dissemination by the Statistics Canada analysts at the McGill-Concordia RDC.

3.2 Advantages and disadvantages of confidential Census micro-data

The robustness and depth of information contained in long-form Census micro-data offers many unique benefits for social scientists, particularly those interested in studying income and earnings dynamics at smaller geographical scales of analysis. With Census response rates typically over 90%, the mandatory long-form census yields the largest sample population of any Canadian statistical survey. For example, the 2016 20% sample file includes over 8 million observations in its raw form. Population weights are also included with each observation, allowing researchers to gain near complete population coverage across the country. This robust sample size helps researchers reduce sampling error while allowing for more detailed analysis of income brackets. Because the Census is a mandatory survey, the possibility of non-response from low and high-income earners is reduced. Finally, income

and wage data are not top coded in the Canadian census, allowing for more accurate analysis of income dynamics.

Beyond its robustness, the *Census of Population* captures data on a wide range of economic, social, and demographic characteristics. A number of questions contained in the long-form census have also been maintained across multiple census cycles. The ability to track variables between census cycles and maintain comparability makes this data source well suited for panel analyses. For the purposes of this thesis, variables used to measure income and labour market characteristics like LFTag (labour force activity), COWD (class of worker), and FPTIM (full-time or part-time status) have remained consistent over the 1986 and 2016 period. The same can be said for demographic characteristics like visible minority status, age, and sex. Despite the rich set of variables available that help assess demographic and labour market characteristics, there are some limitations to Census data, particularly a lack of data on union membership, which has been associated with middle-class incomes (Mackenzie and Shillington 2015).

Each Census response contains geographic markers ranging in spatial scale from the provincial level to individual census tracts. Here the focus is placed on CMAs and CAs. According to Statistics Canada (2011), CMAs and CAs are "formed by one or more adjacent municipalities centred on a population centre (known as the core)". CMAs must have a total population of 100,000 and a population of 50,000 in the core, while CAs must have a core population of 10,000 people. It is important to note that compared to the PUMFs, the confidential 20% sample offers more geographic detail as some small CAs are not available in PUMFs. The use of confidential micro-data files therefore provides the opportunity to study middle-class dynamics across a far larger portion of the Canadian urban system with a final sample of 119 CMAs/CAs.

As mentioned above, census data is only accessible to researchers at secure Statistics Canada facilities. These security measures are in place to protect the anonymity of census respondents. While confidential micro-data files offer researchers a richer dataset to work with, these security protocols present some limitations worth mentioning. All analytical results produced using confidential Census micro-data must meet disclosure guidelines set by Statistics Canada before being disseminated publicly. These guidelines maintain anonymity by removing outliers and ensuring population size requirements for each statistic. While collecting socio-demographic profiles for CAs in this study, a small number of variables did not meet Statistics Canada population size requirements and were consequently dropped from the dataset. These included immigration variables and industrial classification variables for oil and mineral extraction.

3.3 National and urban sample populations

To paint a picture of middle-class trajectories across the country, two samples are extracted from the long-form Census. The first is a national sample used to generate descriptive results at the national level, including changes to income shares and middle-class size between 1986 and 2016, and to produce a first empirical comparison of middle-class definitions for the country as a whole. The second is an urban sample used to compare middle-class size and characteristics between CMA/CAs with a total of 119 CMA/CAs covering Canada's urban system.

In line with previous Canadian empirical work on inequality (Bolton and Breau 2012; Breau 2015; Marchand, Dubé, and Breau 2020), both sample populations are constructed to reflect the active labour force nationally and within each CMA/CA. The active labour force includes individuals 15 years of age or older who reported annual wages or total incomes

above $1000 (in 2002 dollars) in the census reference period, and who remained active in the labour force during the census year in question.

The decision to focus on the active labour force was made to limit inflating the low-income category relative to middle and high-income categories and better understand labour market mechanisms driving middle-class change. Many studies of the middle-class use households as the primary unit of analysis (Cross and Sheikh 2015; PEW 2015). This analysis will use individuals as the primary unit of analysis to study relationships between labour force characteristics of workers and middle-class incomes (as in Beach 2016). Middle-class definitions were constructed as categorical variables derived from annual wages, total income, and labour force activity. Labour force activity was indicated using the LFTag census variable, with LFTag responses 18-21 (denoting "not active in the labour force") dropped from the sample.

Some recent middle-class studies have also limited sample populations to typical working ages, e.g. those between 25 and 59 (Beach 2016; Krause, Reeves, and Guyot 2018). In the dataset developed for this project, respondents over the age of 59 were not removed. Baby boomers enjoy a significant wage premium in Canadian cities (Moos 2014) and are increasingly postponing retirement. Likewise, estimates from the OECD's (2019) report on the middle-class indicate an important generational dimension to middle-class squeeze: "since the baby boomer generation, the middle-income group has grown smaller with each successive generation" (ibid:26). Removing older earners could thus significantly shrink middle-class size across the country and remove a key factor in the demographic transition debate. Though older workers are included, since the sample population is limited to the active labour force, and largely focused on wage dynamics, retirees and those receiving incomes from pensions are excluded from the analysis.

Another key difference between the sample population developed for this study and those of previous middle-class studies is in the use of individual income rather than household or family income to define the middle-class. The use of household or family income data has often been preferred when performing income-based studies of the middle-class because it more closely approximates the standard of living that people actually experience (Heisz 2007; Ivanova 2011; PEW 2015; Guyot and Reeves 2018; OECD 2019). Despite changes to the family structure, the majority of consumption still occurs within the household. However, because the following analysis is primarily focused on labour market change reflected in annual wages, individual data was chosen to allow a comprehensive analysis of wage dynamics. Family income is affected by family structure and size. As Heisz (2007) has shown, between 1976 and 2004 family after-tax income inequality in Canada rose significantly due in part to the growth of highly-educated dual-earner households. At the same time, recent studies of Canadian income inequality using individual data reveal divergent trends when workers are differentiated by labour force status (part-time vs. full-time) or gender (male vs. female) (Green and Sand 2015; Beach 2016). Individual data was thus chosen in order to examine how some of these divergent trends relate to the middle-class.

The decision to construct a national sample covering both rural and urban workers was made to allow for comparison with previous income-based studies of the Canadian middle-class (Heisz 2007; Hulchanski 2010; Beach 2016). In addition, the incorporation of rural workers will allow for comparison between a national middle-class and an urban middle-class, and hence to assess whether middle-class squeeze is an acutely urban phenomenon–as literature on urban spatial polarization would suggest (Chen, Myles, and Picot 2012; Walks, Dinca-Panaitescu, and Simone 2016).

3.4 Geography

Thus far, scholarship on the Canadian middle-class has only studied developments occurring at the national or provincial scales (Heisz 2007; Burleton 2013; Beach 2016; Osberg 2018; Zorn and van der Vlugt 2019). Of course, one of the challenges in performing comparative cross-sectional analysis over a long period of time at the sub-national level is working with a sample of metropolitan areas that are consistently defined. In this thesis, a sample group was developed consisting of 119 Census Metropolitan Areas and Census Agglomerations (CMA/CAs) defined by Statistics Canada (Table 3.1). Such an analysis of middle-class dynamics across 119 CMA/CAs will provide the first comparative study of middle-class dynamics across a representative sample of Canada's urban system.

The group of 119 CMA/CAs was selected by identifying CMA/CAs *continuously* defined in the Census between 1986 and 2016. In other words, this selection reflects all CMA/CAs that were present in every census year (1986, 1991, 1996, 2001, 2006, 2011, and 2016) without dropping out or emerging after 1986 because of changes in their population core. In each Census year, CAs may be upgraded to CMAs depending on population growth. According to Statistics Canada definitions, CMAs must contain a population core of fifty-thousand people along with one-hundred thousand in surrounding municipalities. Between 1986 and 2016 the number of CMAs defined by Statistics Canada increased from 25 to 35 (Table 3.2), reflecting the growth of many smaller sized cities. At the same time, small towns may lose their CA status when their population falls below Statistics Canada's defined threshold: a core population of ten-thousand residents. The number of CAs defined by Statistics Canada increased slightly from 114 to 117 between 1986 and 2016. Originally, the intention was to include 1981 in the panel dataset but there is a large discrepancy from 88 CAs in 1981 to 114 in 1986. This jump in defined CAs reflects the inclusion of a number of towns and regional hubs in western Canada, particularly Saskatchewan, Alberta, and

Table 3.1 List of CMA/CAs by region

Atlantic Canada (n=17)	*Québec* (n=26)	*Ontario* (n=36)	*Prairies* (n=20)	*British Columbia/Yukon* (n=22)
St. John's	Matane	Cornwall	Winnipeg	Penticton
Grand Falls	Rimouski	Hawkesbury	Portage La Prairie	Kelowna
Corner-Brook	Riviere-du-loup	Ottawa-Hull	Brandon	Vernon
Charlottetown	Baie-Comeau	Brockville	Thompson	Kamloops
Summerside	Saguenay	Pembroke	Regina	Chilliwack
Halifax	Alma	Kingston	Yorkton	Abbotsford
Truro	Dolbeau	Belleville	Moose Jaw	Vancouver
New Glasgow	Sept-Iles	Cobourg	Swift Current	Victoria
Cape Breton	Quebec City	Peterborough	Saskatoon	Duncan
Moncton	Saint-Georges	Kawartha-Lakes	North Battleford	Nanaimo
Saint John	Thetford Mines	Oshawa	Prince Albert	Port Alberni
Fredericton	Sherbrooke	Toronto	Medicine Hat	Courtenay
Bathurst	Cowansville	Hamilton	Lethbridge	Campbell River
Campbellton	Victoriaville	St. Catherines-Niagara	Calgary	Powell River
Edmundston	Trois-Rivieres	Kitchener	Red Deer	Williams Lake
	Shawinigan	Brantford	Camrose	Quesnel
	Drummondville	Woodstock	Edmonton	Prince- Rupert
	Granby	Tilsonburg	Lloydminster	Terrace
	Saint-Hyacinthe	Guelph	Grande Prairie	Prince-George
	Sorel	Stratford	Wood Buffalo	Dawson-Creek
	Joliette	London		Fort St.-John
	Montreal	Chatham		Whitehorse
	Salaberry-de-Valleyfield	Leamington		
	Lachute	Windsor		
	Val-D'or	Sarnia		
	Rouyn	Owen Sound		
		Collingwood		
		Barrie		
		Orillia		
		Midland		
		North Bay		
		Sudbury		
		Timmins		
		Sault St. Marie		
		Thunder Bay		
		Kenora		

British Columbia. Many of the emerging CAs were cities and towns that would today be considered important regional centres, particularly Wood Buffalo (Fort McMurray). It is also important to note that many of these emerging CAs were resource extraction hubs. Including

a broader sample of CMA/CAs in resource rich regions of western Canada is fundamental to understanding changes to the middle-class over recent years. Through the 1990s and especially during the 2000s, resource-based regions in Western Canada have been central to wage growth and intra- and inter-regional income inequality growth (Breau 2015; Osberg 2018). To account for western Canada's regional impact on middle-class development it was essential to use the 1986 census as the point of departure.

Table 3.2 CMA/CA counts by census year

Census Year	CMA	CA	Total
1986	25	114	139
1991	25	115	140
1996	25	112	137
2001	27	113	140
2006	33	111	144
2011	33	114	147
2016	35	117	152
% Change (1986-2016)	*+40.0%*	*+2.6%*	*+9.4%*
Continuously defined	35	84	119

The cities selected in this study's sample of Canada's urban system cover a wide range of population sizes. Table 3.3 displays the number of CMA/CAs in the sample of 119 grouped into four population categories corresponding to their placement within Canada's urban hierarchy. At the top end of the urban hierarchy are cities with populations above one million people. This group has grown from three to six since 1986 and is now made up by Toronto, Montreal, Vancouver, Calgary, Ottawa-Gatineau, and Edmonton. As discussed earlier, these six cities have absorbed the majority of urban population growth since the 1980s and have developed into specialized sites for the articulation of regional economic activity and national or global activities. Next is Canada's mid-size cities (population 300,000-1,000,000), which increased from a group of nine to ten. Mid-size cities now include Halifax, Quebec City, Oshawa, Hamilton, St. Catherines-Niagara, Cambridge-Kitchener-Waterloo, London, Windsor, Winnipeg, and Victoria. These cities have experienced medium relative growth in the last three decades and take up a number of positions in the urban

hierarchy with some acting as provincial capitals (Halifax, Quebec City, Winnipeg, and Victoria), others emerging as important high-tech and business service centres (Cambridge-Kitchener-Waterloo, London, and Quebec City), and industrial manufacturing cities facing a period of decline and renewal (Oshawa, Hamilton, St. Catherines-Niagara, and Windsor).

Moving to small cities and towns (population less than 300,000) the grouping becomes more disparate. These groups are where cluster analysis will become central to classifying CMA/CAs by similar attributes. Four provincial capitals are still found in these two groups, including Regina, Fredericton, Charlottetown, and St. John's, with relatively diverse industrial mixes. However, as discussed above, many small towns in these groups have traditionally depended upon single industries and have struggled to adapt as technology and markets for those products have shifted. While wages in these towns are likely to be more concentrated around the median, a declining population and labour force are hardly indicators of a strong and growing middle-class. It will be important to parse out these different trajectories when reflecting upon middle-class growth or decline.

Table 3.3 CMA/CA counts by population category

	Less than 70,000	*70,000 - 300.000*	*300,000 – 1,000,000*	*Greater than 1,000,000*
1986	83	24	9	3
2016	68	35	10	6
% Change	*-18.1%*	*+45.8%*	*+11.1%*	*+100%*

3.5 Covariates

Table 3.4 outlines the continuity and change in key Census variables across each of the census cycles that will allow us to better understand changing patterns of middle-class size across cities. The majority of census variables have undergone minimal or no change between 1986 and 2016, once again highlighting the value of Census data for panel analysis (the most notable change being in the education variable). In addition, the Census variables

Table 3.4 Census variables used by year 1986, 1991, 1996, 2001, 2006, NHS 2011, 2016

	Census Variables	1986	1991	1996	2001	2006	2011	2016
Geography	Census Metropolitan Area/Census Agglomeration	CMA	CMA	CMA	CMA	CMA	CMA	CMA
	Province	PR	PR	PR	PR	PR	PR	PR
Labour market activity and income	Class of worker	CowD	COWD	COWD	COWD	COWD	COWD	COWD
	Full-time or part-time work	FPTIM	FPTIM	FPTIM	FPTIM	FPTIM	FPTIM	FPTIM
	Industry classification	IND80	IND80	IND80	IND80	NAICS02	NAICS07	NAICS2012
	Labour force activity	LFTag	LFTag	LFTag	LFTag	LFTag	LFTag	LFTag
	Total Income	TotInc	TotInc	TotInc	TotInc	TotInc	TotInc	TotInc
	Wages, salaries, and commissions	WAGES	WAGES	WAGES	WAGES	WAGES	WAGES	WAGES
Demography and Citizenship	Age by single year	Age	Age	Age	Age	Age	AGECONT	Age
	Sex	Sex	Sex	Sex	Sex	Sex	Sex	Sex
	Visible minority	VisMin	VisMin	DVisMin	DVisMin	DVisMin	DVisMin	DVisMin
	Aboriginal identity	ETO38	DeAbP	ABDERR	ABDERR	ABDERR	ABDERR	ABDERR
Education	Highest certificate, diploma or degree	DgreeR	DgreeR	DgreeR	DgreeR	HCDD	HCDD	HCDD
	Highest level of schooling	HLOS	HLOS	HLOSR	HLOSR	HCDD	HCDD	HCDD
Weighting	Weighting variable	CompW5	CompW5	CompW2	CompW2	CompW2	CompW2	CompW2

are uniformly defined across CMA/CAs allowing for joint analysis of urban social and economic structures.

Table 3.5 provides a more detailed set of definitions for each of the variables and is organized into four broad categories. The original data development work using the raw Census files was conducted in SAS 9.4 whereas middle-class variables and GINI coefficients were calculated in STATA 15.1. These variables are utilized in the cluster analysis to identify groups of CMA/CAs going through similar patterns of change as well as relationships between urban change and middle-class size. In the following section each of these variable categories is discussed in more detail.

Middle class size and income share variables are derived from Census wages and total income data. It is important to understand the distinction between these two income concepts. Both total income and wages are gross figures representing income before taxes and deductions. Total income captures income from employment (i.e., wages and salaries) or self-employment, investment income, pension income, child or spousal support payments, income from government sources, and capital gains (Statistics Canada 2016: 1231). Total income is the most comprehensive income variable, capturing income from a wide variety of market and non-market sources. Wages and salaries, on the other hand, are specifically focused on income from employment. The wages variable captures income from wages and salaries, security options benefits, living allowances, and tips and bonuses (ibid:1236).

In-line with leading national-level studies of the middle class (e.g., Beach 2016), wages are adopted as the primary variable for analysing middle-class size across urban areas. This is because wages more closely approximate changes emerging from the labour market, which has been discussed as a methodological focus of this project. It is also important to note that all income variables (total income and wages) were converted to real values using

2002 constant dollars. Conversion to real income and real wages was done using the consumer price index (CPI) published by Statistics Canada.[3]

Labour market variables chosen for middle-class analysis include median wages and total income, unemployment rates, and rate of part-time employment. Median wages and total income were calculated at the national scale as well as for each CMA/CA. At the CMA/CA level, median wages and total income were used as a proxy for economic development. Across CMA/CAs were a wide range of local median incomes. Low median incomes were more prevalent in small and more rural CAs in eastern and central Canada, while resource towns in western Canada (particularly Wood Buffalo and Whitehorse) had the highest median incomes. The use of local median incomes was fundamental to testing local and national middle-class definitions and for factor analysis.

The unemployment variable was calculated at the CMA/CA level using LFTag. LFTag employs twenty-one codes for labour market activity covering those employed, unemployed, and those not in the labour force. Codes five to seventeen signify unemployed persons, including people on temporary lay-off. In the census questionnaire LFTag records an individual's labour market activity during the reference week. During the 2016 census the reference week was May 1-7, 2016. As with typical unemployment indicators, the population of unemployed workers was divided by the local active labour force.

Part-time employment share was also calculated at the CMA/CA level using the census variable FPTIM. FPTIM divides census respondents into four categories: those who did not work in the census year, not applicable below 15 years of age, those who worked mainly full-time weeks in the census year, and those who worked mainly part-time weeks in the census year. The population of part-time workers was derived from those who worked

[3] A national CPI deflator is applied as a benchmark in my analysis since not all CMAs/CAs have local CPI equivalents. We recognize that this is one area where future research will have to improve on.

mainly part-time weeks in the census year. As with unemployment, the denominator comprised the local active labour force.

Industrial variables are included to study the relationship between local industrial mix within CMA/CAs and changes to middle-class size over time. Census respondents are asked to classify the type of business done in their place of work from a list of industries included within the census questionnaire. These responses were collected according to the IND80 variable until the 2001 census when a switch to the North American Industrial Classification System (NAICS) occurred. Each of the industrial variables listed in Table 3.5 corresponds to the share of the local work force employed in the corresponding industry. To ensure historical comparability between IND80 and NAICS codes, an industry cross-walk developed in Marchand (2017) was used. Industries were first aggregated into four broad categories: primary, secondary, tertiary, and quaternary industries. Primary and secondary industries include those involved in the extraction or manipulation of raw materials (mining, fishing, farming, etc.) and further levels of manufacturing. The service sectors are accounted for amongst tertiary and quaternary industries. These were further refined into 18 more detailed industrial groupings. Two of these, however, did not meet Statistics Canada disclosure requirements counts for certain CMAs/CAs and could not be released publicly, therefore the sum of all industrial shares does not equal 100% of the labour force. The remaining 16 industrial categories are shown in Table 3.5.

Five *socio-demographic variables* were chosen to capture the effect of age, race, gender, and education on middle-class size. In literature on inter-regional inequality, education and skills have been posited as playing a central role in explaining slow wage growth in smaller cities compared with fast-growing metropolitan regions (Moretti 2012; Lee, Sissons, and Jones 2016) as well as rising wage inequality within cities. Since education

Table 3.5 Overview of variables used in analysis

Variable	Definition	Source
Middle-class variables		
Beach definition	50-150% of median income	Wages and TotInc
Pew/OECD definition	67-200% of median income	Wages and TotInc
Middle 60	20^{th}-80^{th} percentile of income/wage distribution	Wages and TotInc
Palma Ratio	50^{th}-90^{th} percentile of income/wage distribution	Wages and TotInc
Labour market variables		
Median wage	Median wage in 2002 constant dollars	Wages
Median total income	Median total income in 2002 constant dollars	TotInc
Unemployment rate	% of labour force unemployed	LFTag
Part-time worker (%)	% of labour force working most part-time weeks	FPTIM
Industrial variables		
Primary sector (%)	% of labour force working in primary industries	IND80/NAICS
Resource, agriculture, forestry (%)		IND80/NAICS
Secondary sector (%)	% of labour force working in secondary industries	IND80/NAICS
Construction (%)		IND80/NAICS
Manufacturing industries (%)		IND80/NAICS
Tertiary sector (%)	% of labour force working in tertiary industries	IND80/NAICS
Transportation and warehousing services (%)		IND80/NAICS
Communications services (%)		IND80/NAICS
Utilities (%)		IND80/NAICS
Retail (%)		IND80/NAICS
Wholesale (%)		IND80/NAICS
Quaternary sector (%)	% of labour force working in quaternary industries	IND80/NAICS
FIRE (%)	Finance, investment, and real-estate	IND80/NAICS
Public administration (%)		IND80/NAICS
Education, health, and social services (%)		IND80/NAICS
Leisure and food services (%)		IND80/NAICS
KIBS (%)	Knowledge intensive business services	IND80/NAICS
Business services (%)		IND80/NAICS
Socio-demographic variables		
Female participation rate	% of female workers in the labour force	Sex
Visible minority (%)	% of labour force who self-identify as a visible minority	VisMin/DVisMin
No high school (%)	% of labour force without a high school diploma	HLOS/HCDD
Higher education (%)	% of labour force with a post-secondary degree, diploma, or certificate	DgreeR/HCDD
Senior (%)	% of labour force over 65 years of age	Age
GINI Coefficient	Measure of income inequality	Wages and TotInc

seems to exert such a strong influence on wages it was essential to measure its effect on the middle-class.

As discussed above, racialized workers in Canada, particularly migrants, suffer the brunt of labour market segregation in Canada (Block and Galabuzi 2011). Racialized workers have struggled with higher rates of unemployment, lower wages, and more insecurity. At the same time, racialized Canadians are the country's fastest growing demographic and immigration has become the primary source of population growth in Canadian cities. It was therefore important to study the effect of self-reported visible minority status on middle-class size. DVisMin asks census respondents if they identify as a visible minority based upon fourteen visible minority groupings. All responses but thirteen (not a visible minority) were counted as signifying individuals who self-identify as a visible minority.

Due to Statistics Canada disclosure requirements, the share of recent immigrants within the local labour force could not be released. This was because the number of recent immigrants present in many small rural towns was not high enough to meet disclosure requirements. The lack of data on immigration is a limitation of this analysis worth noting. Immigration has been identified as a co-variate with regional economic growth in inter-regional inequality literature. However, since a large majority of immigrants to Canada arrive from the Global South it is hoped that the visible minority variable will include most recent immigrants.[4]

The final variable chosen for potential co-variation with middle-class size was the GINI coefficient. Analysing the relationship between income inequality and middle-class size was an obvious choice, as the degree to which income is unevenly distributed will have a direct effect on the share of income at the middle of the income distribution. That said, it is

[4] Data from the 2016 census shows over 80% of recent immigrants to Canada arrived from outside of Europe and the United States. This is a reversal of trends from the middle of the 20th century. See Picot, Hou, and Crossman 2021.

nonetheless important to analyse this relationship to better understand how closely inequality and middle-class size interact. The GINI coefficient was calculated using both wages and total income within each CMA/CA. Calculating the GINI within each CMA/CA creates a picture of the local level of income inequality and will again play an important role in the cluster analysis. Each GINI coefficient was calculated in STATA using the 'ineqdeco' command developed by Stephen Jenkins (2019).

3.6 Choosing a definition of the middle-class

Choosing a definition for the middle-class was one of the most challenging methodological aspects of this study. As outlined above, the existence of some middle strata of the population has been with us since the birth of capitalism, but how social scientists classify and track this group has been fraught with disagreement. Interest in class analysis has grown in recent years as widening wealth and income disparities have reorganized society's stratifying lines. Historians have emphasized the role of taste, disposition, education, and wealth in staking out middle-class boundaries. Sociologists, on the other hand, have focused on social mobility and the hierarchical distribution of economic resources through the labour market and education systems. By contrast, economic definitions of the middle-class focus on designating incomes that correspond to an imagined level of consumption and quality of life therein.

Due to the richness of income data present in the long form Census, and the lack of Canadian survey data on wealth and cultural factors, economic definitions were chosen for this study. It is important to note that economic definitions for the middle-class should not be treated as equivalent to sociological and historical definitions. Income-based definitions of the middle-class attempt to identify an income band that is comfortably above the poverty line but distinct from social elites. Work is currently under way to bridge the gap between income-based research and the analysis of the changing nature of social stratification in

modern societies (Savage et al. 2013; Adkins, Cooper, and Konings 2019), but much work is still to be done. In the meantime, the income based middle-class definitions used here should be understood as a way of defining middle-income groups rather than delineating a distinct social class.

As noted within the literature review, economic definitions of the middle-class come in two forms: (1) definitions using a fixed proportion of the income distribution (i.e. the middle 60), and (2) definitions that use an upper and lower percentage of the median income to create income boundaries. This study will make use of the latter definition. This is because fixed proportion definitions, due to their fixed boundaries, do not show the changing size and location of the middle-class over time. By contrast, percentage-based definitions capture changes to the *size* of the middle-class by focusing on the proportion of individual within a chosen income range. The middle-class is a porous social group that emerges from dynamic socio-economic foundations. Analysing the influence of changing economic conditions on middle-class size and composition is one of the primary goals of this thesis. Applying a fixed proportion definition would not make visible a growing or shinking middle-class, while percentage-based definitions provide a clear tool for capturing fluctuations in middle class size over time and across urban areas.

Ultimately, the PEW's definition (based on the 67-200% of median income) was selected as the primary middle-class measure for this study. The 67-200% of median definition was chosen over other definitions used in the middle-class literature (see Table 2.1) because it most closely corresponds with a 'middle-class' quality of life when applied to Canadian income distributions and poverty thresholds. In addition to the PEW's definition, two other percentage-based definitions and two fixed proportion were compared to assess how they correspond to an imagined middle-class quality of life.

Among the two other percentage-based definitions, the first was taken from Beach's (2016) analysis of the Canadian middle-class which demarcates the middle as between 50%-150% of the median income. The second is the definition used by the OECD (2019) in their analysis of middle-class squeeze amongst OECD nations, which specifies that the middle-class is between 75% and 200% of the median income. The PEW definition was selected in part because it roughly corresponds to the definition used by the OECD, which is also applied by Zorn and Van der Vlugt (2019) in their study of Quebec's middle-class and similar to Heisz's (2007) approach (75%-150%) at the national level. Each of these definitions, all employed in the Canadian middle-class literature, was compared using existing data on income distribution and Canadian poverty lines to assess their boundaries.

Table 3.6 presents the middle-class income dollar value cut-offs corresponding to each definition when applied to Canadian total income and wage data. The figures used here reflect the Canadian national labour force. The Beach definition places the starting income for a member of the middle-class in the range of $17,000 per year. While $17,000 per year is around the 30th percentile of the Canadian income distribution, it is roughly equal to Statistics Canada's low-income cut-off for a one-person household living in a city smaller than 500,000 people. In a city with a population above 500,000, an individual making $17,000 per year would be classified as low-income. A family of four with two earners making $17,000 per year would be below Statistics Canada's official poverty line in all regions of the country (Statistics Canada 2020). At the opposite end, 150% of the median income sits at around $51,000 dollars per year. An individual earning $51,000 per year would be close to the 70th percentile of the Canadian income distribution, meaning that according to the Beach definition, 30% of the Canadian population is classified as part of the 'elite' or high-income earners class.

Given the Beach definition's low boundaries, the PEW boundaries were selected as the primary middle-class definition for this analysis. A lower bound of 67% of median income equates to an annual income of approximately $22,750, or around the 40th percentile

Table 3.6 Income cut-offs by middle-class definition

	Total Income	Wages
Number of persons (x 1,000)	27,488.53	20,428.69
Percentage without income	4.0%	28.7%
Percentage with income	96.0%	71.3%
Percentage under $10,000	14.1%	21.4%
$10,000 to $19,999	17.0%	13.4%
$20,000 to $29,999	13.9%	11.2%
$30,000 to $39,999	11.7%	10.5%
$40,000 to $49,999	10.3%	9.4%
$50,000 to $59,999	7.9%	7.6%
$60,000 to $79,999	10.6%	10.9%
$80,000 to $99,999	6.2%	6.9%
$100,000 and over	8.2%	8.7%
Average income (in 2015 dollars)	$47,487.00	$46,057.00
Median income (in 2015 dollars)	$34,204.00	$33,684.00
Middle class definitions		
Beach		
Lower-earnings cut-off (50% of median)	$17,102	$16,842
Higher-earnings cut-off (150% of median)	$51,306	$50,526
Middle-class earnings range	$34,204	$33,684
PEW		
Lower-earnings cut-off (67% of median)	$22,917	$22,568
Higher-earnings cut-off (200% of median)	$68,408	$67,368
Middle-class earnings range	$45,491	$44,800
OECD		
Lower-earnings cut-off (75% of median)	$25,653	$25,263
Higher-earnings cut-off (200% of median)	$68,408	$67,368
Middle-class earnings range	$42,755	$42,105
Palma		
Lower-earnings cut-off (50th percentile)	$34,304	$33,684
Higher-earnings cut-off (90th percentile)	$91,843	$95,257
Middle-class earnings range	$57,539	$61,573
Middle 60		
Lower-earnings cut-off (20th percentile)	$11,585	$9,022
Higher-earnings cut-off (80th percentile)	$66,812	$70,704
Middle-class earnings range	$55,227	$61,682

Source: Statistics Canada, Census of Population 2016

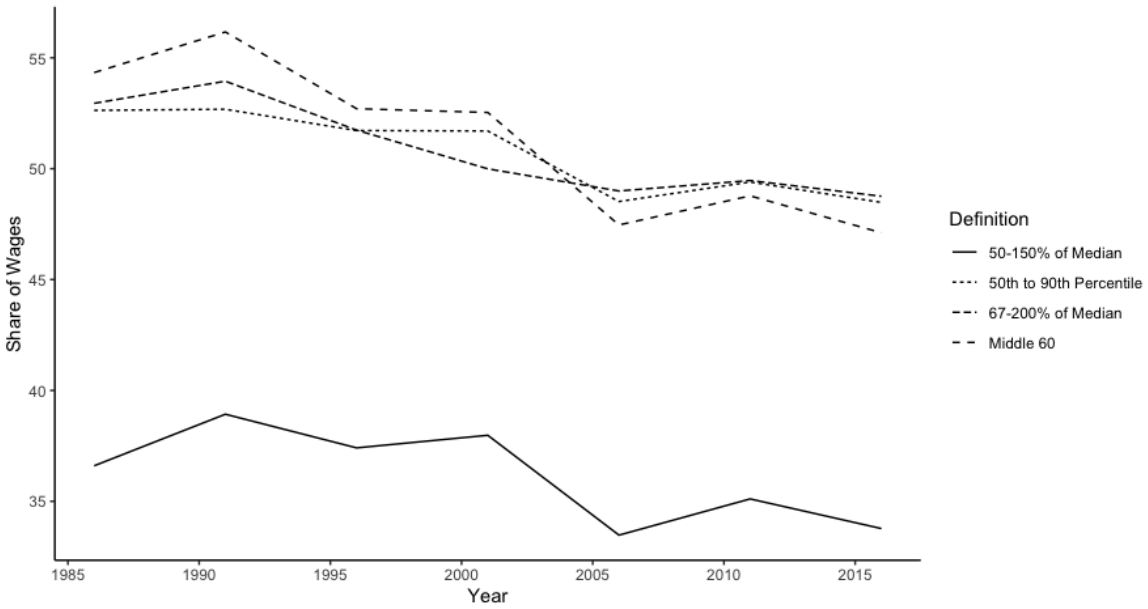
of Canada's income distribution. This is above the low-income cut-off, and for a family of four with two earners is above the poverty line in all regions except cities with more than 1 million people (ibid). In terms of the upper limit boundary, 200% of the median income equates to an individual annual income of about $68,000 or around the 82nd percentile of Canada's income distribution.

Two fixed proportion definitions were studied alongside the percentage-based definitions. The two fixed proportion middle-class definitions analysed were Palma (50th to 90th percentile) and the Middle 60 (20th to 80th percentile). The Palma definition sets boundaries much higher than the other definitions studied, beginning at wages of $33,684 and extending to $95,275. The Middle 60 meanwhile begins far below the other definitions, at wages of $9,022, and extends to $70,704. The lower boundary of the Middle 60 sits far below the national low-income cut-off, drawing into question its suitability as a middle-class definition.

On top of income cut-offs, the national share of wages was used to compare the different definitions of the middle-class. Figure 3.1 shows the share of wages going to each defined middle-class group between 1986 and 2016. What is immediately clear from Figure 3.1 is that under each of the definitions of the middle-class, the middle-class is losing its share of wages over time. What is also clear is that the 50-150% of median definition sits well below the other three in terms of share of wages going to the middle-class. Figures 3.2 and 3.3 reveal that this relatively low share of wages is a result of the low middle-class boundaries set by the 50-150% definition. According to the 50-150% definition, over 60% of wages went to workers above the middle-class and only 5% of wages of workers below. These figures are too high and too low to realistically correspond with an elite group above the middle-class and the working poor below. These results add further evidence that the 67-200% of median definition is a more accurate measure of the Canadian middle-class.

Figure 3.1 Share of Wages to Middle-Class, 1986-2016

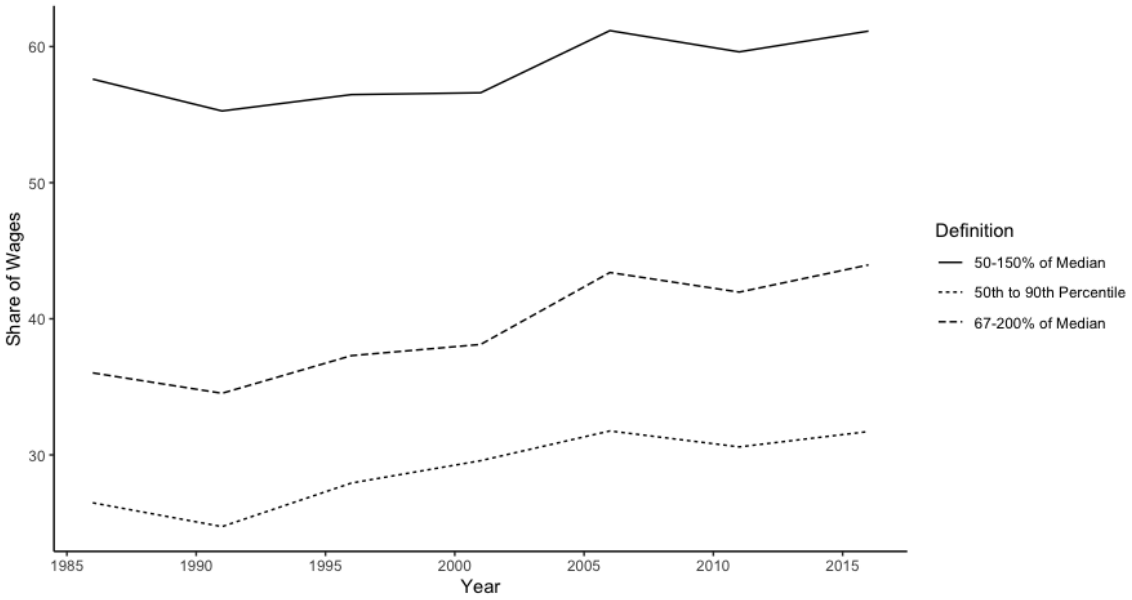
Share of national wages, before tax, going to the middle-class



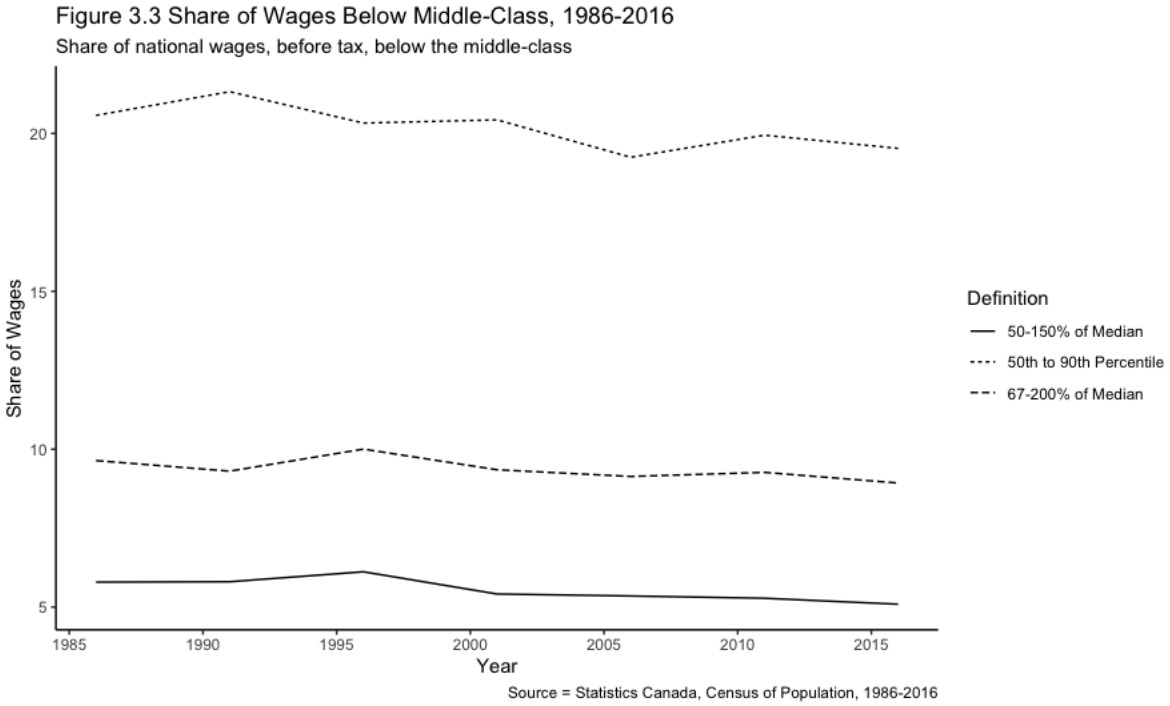
Source = Statistics Canada, Census of Population, 1986-2016

Figure 3.2 Share of Wages Above Middle-Class, 1986-2016

Share of national wages, before tax, above the middle-class



Source = Statistics Canada, Census of Population, 1986-2016



A final consideration in choosing a percentage of median based definition was whether to apply income boundaries based upon the national median income to all CMA/CAs or whether to use local medians for each CMA/CA to generate locally sensitive boundaries. Locally defined medians were chosen based on theoretical and empirical considerations. The theoretical justification for using local median incomes comes from the fact that medians range significantly between CMA/CAs, reflecting divergent income distributions, different labour market conditions, and different local costs of living. As outlined in chapter 2.2, there is an east-west divide in Canada around income inequality. Regions west of Toronto have captured higher levels of income growth (though unequally distributed) than regions to the east (Breau 2015). At the same time, large urban centres have pulled away from the rest of the urban hierarchy in terms of wage growth and cost of living (Bolton and Breau 2012).

The middle-class income boundaries chosen should account for this spatial unevenness. If the national median were applied in a CMA/CA with a significantly higher local median income, the middle-class group identified would sit below the local median,

artificially inflating the high-income group. This concern was borne out by empirical findings. In western regions where resource demands have dramatically increased local median incomes, particularly Alberta and northern British Columbia, applying the national median gave the picture that the middle-class is in decline while the high-income share of the population increased to near 50%. To mitigate these outlier effects, local medians were used to define middle-class income boundaries.

There is still a lot of work to be done to develop robust income-based measures of the middle-class. Starting with the median income and choosing percentages around it is a point of departure but also has its limitations. This method is imprecise in that it only connects to assumptions about a middle-class cost of living after initial selection. Recognizing that any definition should correspond to a comfortable quality of life, more accurate definitions should start with a locally sensitive basket of goods or cost of living metric. In Canada, the Market Based Measure used by Statistics Canada to define the poverty line would be a good starting point as this metric incorporates local information on the cost of basic necessities. Another place to start would be the wealth of research on a living wage (Hajer and Apata 2020). From here, researchers could factor in assumptions around the income required to afford specific aspects of a middle-class lifestyle (homeownership, post-secondary education, etc.).

3.7 Cluster analysis

To allow for additional comparison between the 119 CMA/CAs included in this study, a k-means cluster analysis will be used to group CMA/CAs where the dynamics of change are similar. The use of a cluster analysis follows the work of Mulligan et al. (2014) who employed clustering to generate a typology of US urban labour markets undergoing similar dynamics of economic transformation following the 2008 financial crisis.

K-means clustering was used to generate basic categories of CMA/CAs where changes in the middle-class share, population, and income levels are similar. K-means clustering is a cluster analysis methodology which categorizes *n* observations into *k* clusters. This is an inductive process which seeks to establish relationships between CMA/CAs within the dataset. The number of clusters is selected by the researcher, and clusters are assigned through an iterative process where the mean of each cluster is calculated and CMA/CAs are assigned to clusters based on their proximity to each cluster mean. After several rounds of initial empirical testing, $k=5$ clusters was selected as the corresponding grouping best managed variation between clusters while matching the natural breaks in the dataset.

Following the Brookings Institute (Berube, Crump, and Friedhoff 2021) approach to developing a metro-level inclusive growth index for cities in the US, clusters were generated based on a composite variable made up of six components: local median wages (2016), middle-class shares (using PEW definition, 2016), population size (2016), changes in median wage (1986-2016), changes in middle-class share (1986-2016), and changes in median wage (1986-2016). CMAs/CAs are initially ranked along each of these components, with the rankings subsequently summed and divided by 6 to generate an average. This average rank was the variable used to generate clusters.

Median wages and population size were included within the cluster composite variable in order to draw connections between changes in middle-class size and broader regional growth and development. To allow for further comparison, labour market, socio-demographic, and industrial mix indicators are also calculated for each of the five clusters. Labour market indicators include median wages and income, unemployment, the GINI coefficient, and share of labour force working part-time. Socio-demographic indicators reflect the gender, racial, and age composition of the labour force within each cluster, along with the education profile. Indicators of industrial mix are used to characterise the economies

within each cluster first by the share of the labour force working in primary, secondary, tertiary, and quaternary industries followed by a more detailed breakdown of the labour force among 14 industrial categories.

3.8 Panel models

Finally, a series of fixed-effects panel regression models are estimated to examine relationships between middle-class growth and local labour market, socio-demographic, and industrial compositions. Panel modelling allows for stronger conclusions to be drawn regarding the drivers of middle-class change over the analytical timeframe while allowing for analysis across all CMA/CAs.

Panel models are estimated using an unbalanced panel dataset made up of 119 CMAs/CAs (due to Statistics Canada disclosure regulations, some socio-economic data was not available in a few years for a small number of CAs). Fixed-effects panel regression was specifically chosen to limit omitted variable bias inherent in a large heterogenous dataset of CMA/CAs. The fixed-effects panel models will be used to assess relationships between the change in middle-class share of the labour force and change in labour market, socio-demographic, and industrial composition within each city, rather than assessing the relationship between these variables across cities. More specifically, the model used to investigate the drivers of middle-class change across Canada's urban system since 1986 is specified as:

Eq 3.1:

$$MCS_{it} = \alpha + LME_{it}\beta + SOCDEM_{it}\delta + IND_{it}\eta + \mu_i + \pi_t,$$

where MCS_{it} represents the share of the labour force within each CMAs/CAs earning a middle-class income between each five-year census cycle. Here too, a middle-class income is

defined as 67-200% of local median income. LME_{it} is a vector of independent variables measuring the change to labour market characteristics of each city (i) between census cycles (t). In line with the theoretical framework outlined in the previous chapter this includes median wage, labour force size, unemployment share, and part-time workforce share. $SOCDEM_{it}$ captures change in the sociodemographic characteristics of each city including the female share of the labour force, visible minority share, labour force older than 65 years of age, and education levels (share with higher education and with no high school diploma). IND_{it} captures change in the industrial composition of each city between census cycles. μ_i and π_t denote CMA/CA level fixed-effects and the error term, respectively.

Three separate models will be estimated. The first, parsimonious model, examines relationships between change in middle-class size and change in labour market and sociodemographic characteristics of each city. The second model adds on four aggregate industrial categories (primary, secondary, tertiary, and quaternary industries) to assess relationships between middle-class size change and a city's broad industrial characteristics. The final full model specification includes a more detailed 14-class set of industrial share controls.

CHAPTER 4.0

RESULTS AND DISCUSSION

This chapter presents and discusses the results from the middle-class analysis outlined in Chapter 3. The analysis proceeds in four parts. I begin by describing changes to middle-class incomes at the national level between 1986 and 2016 to provide an overview of middle-class dynamics. Having done so, the focus shifts to describing changes in middle-class incomes across my 119 CMA/CA sample of Canada's urban system to offer a first look at distinct regional trajectories. A cluster analysis is then conducted to group and compare CMA/CAs undergoing similar changes in middle-class size across the country. Finally, results from fixed-effects panel model regressions are presented to investigate the relationship between middle-class size change and labour market, socio-demographic, and industrial share variables across the 119 CMA/CAs.

At the national scale, results on middle-class size offer a mixed picture suggesting that the choice of definition and income concept analyzed have an important role to play on outcomes. The PEW's definition indicates relative stability or slight middle-class decline (67-200% of median) over the 1986 to 2016 period. In contrast, and surprisingly, the definition adopted by Beach (50-150%) suggests the middle-class has grown slightly during this time, a result that diverges somewhat from previous work on the Canadian middle-class which has identified a shrinking middle-class to be a consistent trend since the 1970s (Heisz 2007; Beach 2016; Osberg 2018),

As we will see, however, the observed increase in middle-class size should not be interpreted as evidence of widespread middle-class prosperity. While results on middle-class size are mixed, the national share of wages going to the middle-class has declined precipitously since 1991, a decline that is in large part due to top earners capturing most income gains over the last 30 years. These findings on wage shares are consistent with

current literature on Canada's middle-class and indicates weak wage growth for middle-income workers.

Moreover, the fundamentals of middle-income employment growth in Canada remain weak and increasingly volatile as a growing number of middle-class workers are employed part-time and seasonally, indicating growing economic precarity. When breaking down Canada's middle-class by gender and labour force status, we see that wage and labour force growth amongst female workers is the key factor keeping the middle-class stable in size.

The divergence between results presented here and extant literature on middle-class size, which finds middle-class erosion to be a trend since 1970, is likely a result of study timing. This study begins in 1986, during the recovery from the deep recession of the early 1980s, which significantly reduced middle-class employment (Beach 2016). While we observe an uptick in middle-class employment in the late 1980s and early 1990s, as we will see, by most metrics middle-class employment declines from 1991 to 2016. The choice of 1986 as the starting point for this analysis thus has an important influence on results, which may suggest a 'rosier' outcome for the middle-class than the underlying reality.

While the middle-class has grown overall or remained relatively stable in size nationally since 1986, middle-class size has been highly uneven between cities and regions. Mapping middle-class dynamics across 119 CMA/CAs reveals five trends across the Canadian urban system: (1) the largest concentration of middle-class employment has shifted east from southern Ontario to southern Quebec in tandem with clustering of manufacturing employment; (2) middle-class employment is on the decline in most large metropolitan regions (1 million or more residents) with the exception of Edmonton; (3) alongside the commodities boom of the early 2000s, middle-class incomes have surged in resource extraction regions of Alberta, British Columbia, Saskatchewan, and Yukon; (4) small and medium sized CMA/CAs with economies dependent upon declining resource extraction and

processing industries have experienced the sharpest declines in middle-class employment share, median wages, and population; and (5) middle-class employment has remained stable or grown in provincial capitals and larger CMAs with a sizeable educated labour force.

The cluster analysis and fixed-effects models further illustrate connections between the portrait of Canada's middle-class urban geography presented here and existing research on global and local forces affecting middle-class employment in Canada. Perhaps most stark has been the effect of the Canadian economic policy shift towards increased staples production during the commodities boom of the late 1990s and 2000s (Stanford 2008). Doubling down on the staples economy has deepened the east-west divide in Canadian economic geography (Bolton and Breau 2012; Breau and Saillant 2016) and come at the expense of manufacturing regions in eastern Canada (Stanford 2008). Two-thirds of the CMA/CAs in the top performing cluster are in western resource extraction regions, while two-thirds of the worst performing cluster are in central and eastern Canada. This trend should be seen as highly unsustainable, as gains in middle-class employment are reliant upon highly volatile commodity markets and industries which drive the climate crisis.

The fixed-effects models further underline manufacturing restructuring and metropolitan income polarization as central to the middle-class story. While Toronto was home of one of the largest concentrations of middle-class workers in 1986, it has among the smallest relative middle-class labour forces in 2016. These findings indicate that middle-income wages lost to deindustrialization have not recovered in many places, and that present labour market development in large metropolitan regions is not conducive to middle-class employment growth, but rather growth in high and low-wage employment.

4.1 National descriptive results

The analysis begins with identification of the overall share of the Canadian national labour force who earn a middle-class income and a review of changes to this income band between 1986 and 2016. Table 4.1 presents the share of the Canadian labour force earning middle-class incomes according to the PEW's (67-200%) and Beach's (50-150%) definitions. For each of these two definitions, both wages and total income are used to calculate shares.

The results presented in Table 4.1 reveal the mixed nature of findings regarding the share of workers earning middle-class incomes between 1986 and 2016. The PEW's definition (67-200% of median) indicates a slight increase (+1.7 using total income) or slight decline (-1.0% using wages) in middle-class size. Using Beach's definition (50-150% of median) however, the share of workers earning middle-class incomes increased between 1986 and 2016 (+1.5% using wages and +3.9% using total income). These results contrasts with the findings of Beach (2016), who showed an overall decline in the share of Canadian workers earning a middle-class income (using the 50-150% of median income threshold) between 1970 and 2005 (ibid:1242). In addition, Heisz (2007:48) found an overall decline in the share of Canadian workers earning 66-225% of the median income between 1979 and 2004. This increase was more pronounced in total incomes than among wages, pointing to dynamics outside of the labour market stabilising middle incomes.

The contrasts between Beach and Heisz's results and those presented here can, in large part, be explained by timing. During the 1970s and 1980s, Canada entered a protracted period of economic volatility and restructuring that caused middle-class incomes to decline from 1973-1983. Economic shocks stemming from sudden OPEC oil price increases and heightened global competition combined with overcapacity in manufacturing lead to a crisis amongst Fordist producers across North America (Barnes 1996:54). Large declines

Table 4.1 Percentage of workers with middle-class incomes, Canada, 1986-2016

	67-200% of median (PEW)		50-150% of median (Beach)	
	Wages	Total Income	Wages	Total Income
Middle-class earnings				
1986	50.13	53.93	43.31	48.39
1991	52.57	55.98	45.64	51.18
1996	49.25	55.22	43.98	50.04
2001	51.16	55.59	46.42	51.06
2006	48.60	54.45	43.73	50.73
2011	49.41	55.92	45.17	52.42
2016	49.14	55.6	44.84	52.31
% Change 1986-2016	-1.0	*+1.7*	*+1.5*	*+3.9*

Source: Statistics Canada, Census of Population, 1986-2016

in middle-class incomes occurred during the large recessions of the early 1980s and early 1990s, which shot unemployment up to double digit figures for the first time in the previous 40 years (Osberg 2018). By the early 1990s, Canadian manufacturing had lost close to 200,000 jobs compared to the mid-1970s and many workers experienced wage loss during the recovery (Rutherford 1996:411-415). The significant loss of unionized, middle-income jobs alongside the abandonment of full-employment macroeconomic policy in the 1980s has put further downward pressure on wages in many sectors (Osberg 2021). The results presented here begin in 1986, amid the recovery from the deep recession of the early 1980s. Thus, the dynamics of middle-income decline presented provide a snapshot at a moment when middle incomes were already in decline.

At the same time, Beach's analysis ends in 2005, another low point in the share of middle-class incomes amongst the national labour force. It is important to remember that the 2006 census measured incomes at the end of the 1990s long boom, when the share of high earners peaked before the 2008 Great Recession. Middle-class incomes increased as a share of the total labour force after 2006.

While an increase in middle-class size is somewhat surprising, when middle-class workers are segmented according to gender and labour force status the picture of Canada's

middle-class changes significantly. Table 4.2 shows the share of workers earning middle-class wages broken down into different categories. Here, FTFY refers to full-time, full-year workers whereas "All workers" refers to both full-time, full year and part-time or seasonal workers. Moving from left to right we see (1) female full-time full year workers, (2) female all workers, (3) male full-time full year workers, and (4) male all workers.

Table 4.2 Percentage of male and female workers earning middle-class incomes, Canada, 1986-2016

	Female		Male	
	Full-time workers	All workers	Full-time workers	All workers
Middle-class earnings (67-200% of median) (PEW)				
1986	52.88	49.29	59.27	58.09
1991	52.81	51.65	60.08	58.71
1996	51.83	48.93	56.87	54.31
2001	51.45	50.47	57.56	55.06
2006	49.98	48.62	53.58	52.03
2011	50.82	49.38	53.77	52.15
2016	50.47	49.29	52.83	51.19
% Change 1986-2016	*-2.41*	*0.00*	*-6.44*	*-6.90*
Middle-class earnings (within 50% of median) (Beach)				
1986	45.41	42.34	55.00	49.97
1991	48.33	46.17	55.09	52.49
1996	47.57	44.10	49.16	47.40
2001	48.88	45.52	51.56	49.84
2006	45.47	43.78	48.23	46.51
2011	46.86	45.29	48.67	46.85
2016	46.80	45.44	47.97	46.26
% Change 1986-2016	*+1.39*	*+ 3.10*	*-7.03*	*-3.71*

Source: Statistics Canada, Census of Population, 1986-2016, data on wages

What is clearly visible in Table 4.2 is that the share of male workers earning middle-class incomes has declined much faster than the share of female middle-class workers. The percentage of workers earning wages between 67 and 200% of the median has declined for both male and female workers across both FTFY and all worker categories, however the decline has been much faster for male workers than for female workers, and for those working full-time, full-year as opposed to the all workers category.

Using the Beach definition (50-150% of the median), we see that the share of female workers earning a middle-class income has increased slightly while the share of male full-time full year workers declined sharply. Thus, much of the growth in workers earning 50-150% of the median wage noted in Table 4.1 is attributable to the gains made by women in the labour force.

These findings accord with those of Beach (2016), who noted the same gendered dynamic at the middle of the income distribution which is in large part due to continued growth in female participation rates through the 1980s and 1990s. Although the yearly growth rate in female participation slowed in the 1990s to 0.3% per year from 1.4% per year between 1950 and 1990, women's median wages continued to grow throughout the 1990s and 2000s (Statistics Canada 2015). Increases in women's wages is due to the increasing share of women working in highly skilled, highly paid occupations (ibid). In addition, women are employed more than men in service industries, which have consistently dominated employment growth figures since the 1990s. Between 1990 and 2009, there was a reversal in cyclical unemployment trends in which men faced higher unemployment than women during and between downturns (Ferrao 2010). Even though there remains a significant wage gap between men and women, it appears that the growth of the female labour force has maintained the size of Canada's middle-class.

While Canada's middle-class appears to be stable in size nationally, middle-class workers have experienced significant declines in their share of aggregate wages relative to the total labour force. This indicates weak relative wage growth for middle-class workers along with a shift in Canada's political economy that is concentrating income among top earners. Table 4.3 provides a comparison of the wage shares going to workers at various segments of the income distribution. Between all three definitions, the middle-class share of aggregate real wages peaked in 1990 and has declined ever since. During the 1990 census

cycle, the middle-class share of wages according to the PEW definition was 56.17%. By the 2016 census cycle, this share declined to 47.11%, the lowest share across all census cycles studied. What's more, the overall decline in the share of wages going to middle-income groups since 1990 is a trend visible across all definitions of the middle-class. The Beach definition, PEW, and Palma ratio all reveal the 2016 census cycle to be a low-point in terms of wage shares received by middle-class workers.

The overall decline of middle-class wage shares since 1990 corresponds closely with an increase in wage shares for high-earners. Based on the PEW definition, workers earning more than 200% of the national median income experienced the biggest rise in wage share, increasing by 7.93% between 1986 and 2016. This is against a wage share decline of 7.22% for workers earning between 67% and 200% of the median. Canadian workers earning more than 200% of the median wage corresponds roughly with the top 20% of the Canadian wage distribution.

Evidence of wage gains being captured by upper decile earners are consistent with Osberg's (2018) findings that real hourly wage increases were seen almost exclusively at the top end of the income distribution between 1980 and 2000. Over that period, hourly wages at the 50^{th} percentile increased by 0.36% per year, while wages at the 90^{th} percentile increased by 3% per year (ibid).

These findings are consistent with those of Beach (2016:1233), who showed that the share of family market income going to Canada's middle three quintiles declined from 54% to 49% between 1976 and 2011. They are also consistent with the overall story of national wage shares presented by Heisz (2007), Green and Sand (2015), and Osberg (2018) who have shown that the majority of wage increases for Canadian workers have gone to high-income earners. This is a pattern that has taken hold since the economic recovery of the late 1990s

Table 4.3 Share of wages by middle-class income threshold, Canada, 1986-2016

	Below 50% of median (Beach)	*Below 67% of median (PEW)*	*Below 50th percentile (Palma)*
1986	5.79	9.64	20.57
1991	5.80	9.31	21.32
1996	6.12	10.0	20.33
2001	5.42	9.34	20.43
2006	5.35	9.13	19.25
2011	5.28	9.26	19.94
2016	5.09	8.92	19.53
% Change 86-16	*-0.70*	*-0.72*	*-1.04*
	Between 50% and 150% of median (Beach)	*Between 67% and 200% of median (PEW)*	*Between 50th and 90th percentiles (Palma)*
1986	36.6	54.33	52.95
1991	38.93	56.17	53.95
1996	37.41	52.71	51.74
2001	37.98	52.54	49.99
2006	33.47	47.46	48.99
2011	35.11	48.77	49.47
2016	33.77	47.11	48.76
% Change 86-16	*-2.83*	*-7.22*	*-4.19*
	Above 150% of median (Beach)	*Above 200% of median (PEW)*	*Top 10th percentile (Palma)*
1986	57.61	36.03	26.48
1991	55.27	34.53	24.73
1996	56.47	37.29	27.93
2001	56.61	38.11	29.58
2006	61.17	43.4	31.76
2011	59.61	41.96	30.59
2016	61.14	43.96	31.72
% Change 86-16	*+3.53*	*+7.93*	*+5.24*

Source: Statistics Canada, Census of Population, 1986-2016, data on wages

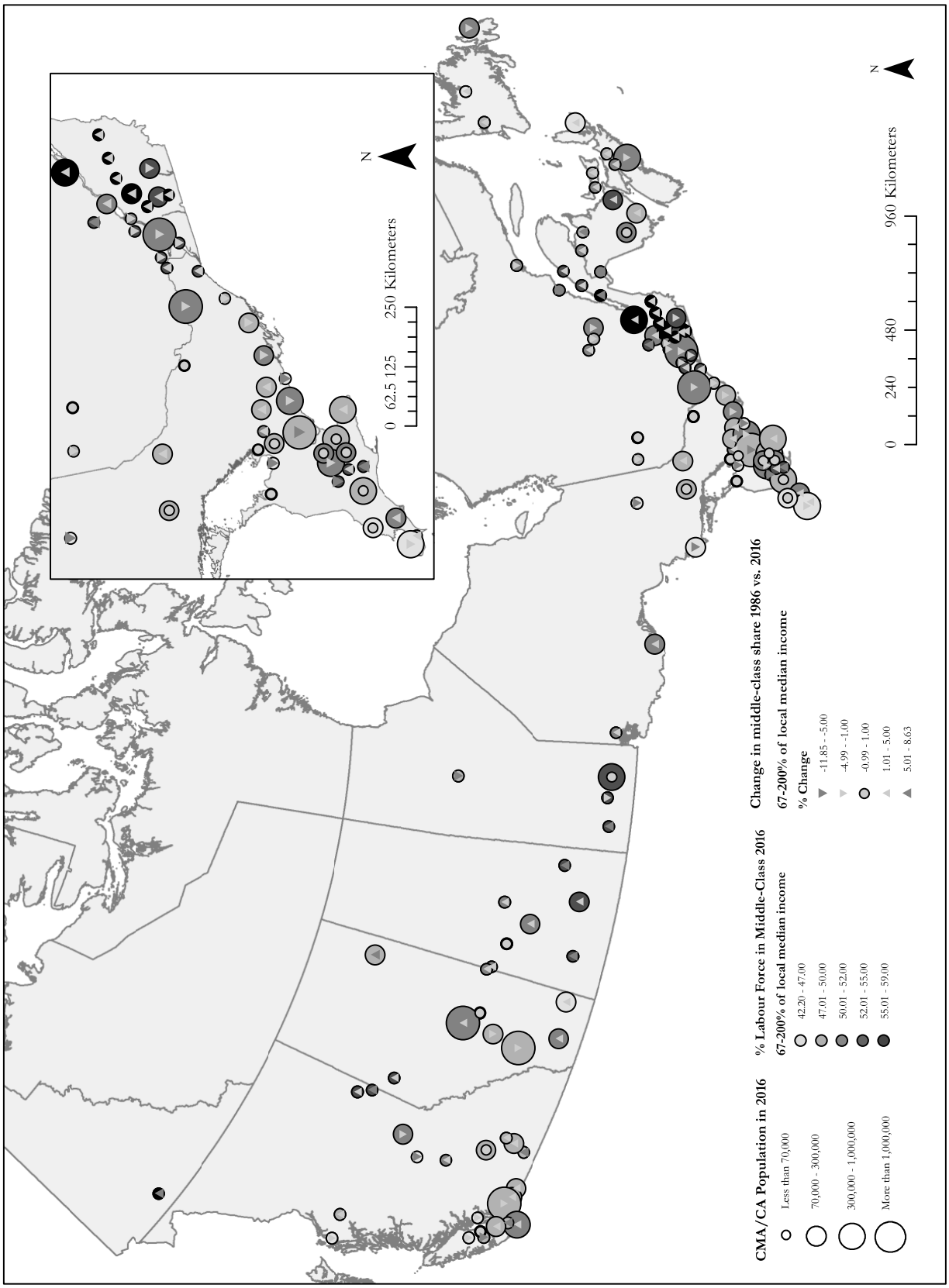
and is driven by a number of factors. The factors include, but are not limited to, low demand for middle-skill occupations, technological change in routine occupations, declining union density, depressed bargaining power for labour with the emergence of flexible labour market policy in the 1990s, and two periods of high unemployment following the recessions of the early 1990s and 2008.

4.2 Urban scale descriptive results

Although some of the measures presented above show that the middle-class size has grown slightly as a share of Canada's total labour force since 1986, this growth has been highly uneven. Canada, as an assemblage of distinct regional economies, contains a variety of economic development trajectories with regions drawing unique links to each other and the global economic system. Since the 1990s the convergence in per-capita income across Canadian regions has stalled and regional disparities have grown along east-west and urban-rural axes (Breau and Saillant 2016). These growing regional disparities help contextualize uneven middle-class growth and decline across the Canadian urban system.

Figure 4.1 presents – what is to the best of my knowledge – the first portrait of the spatial distribution of Canada's urban middle-class, as well as dynamics of change observed between 1986 and 2016. Each point on the map reflects one of the 119 CMAs/CAs selected for this study. Points are scaled to reflect population size and shaded to represent the middle-class share of the local labour force in 2016 according to the PEW definition (67-200% of local median). Arrows and circles within each point indicate the degree of change in middle-class size between 1986 and 2016. Large arrows pointing down represent significant middle-class erosion (5% decline or more), while circles represent relative stability (+/- 1%), and large arrows pointing up indicate considerable middle-class growth (5% increase or more). The results presented in this map are analysed through the lens of three prominent trends in Canadian regional development: (1) metropolitan regional divergence and polarization; (2) the east-west divide in Canadian regional development; and (3) the urban-rural divide in regional development.

Figure 4.1: Spatial Distribution of Canada's Urban Middle-Class, 1986-2016



Building upon findings from the neighbourhood polarization literature (Hulchanski 2010; Ley 2012; Chen, Myles, and Picot 2012; Rose et al. 2014; Breau, Shin, and Burkhart 2018; Leloup and Rose 2020), it is no surprise that the findings in this thesis show the share of middle-class workers in Canada's urban regions above one million residents (Montréal, Ottawa-Gatineau, Toronto, Calgary, Edmonton, and Vancouver) has declined since 1986 (see Figure 4.1). The only large city where the share of middle-class workers did not decline was in Edmonton, where the middle-class share of the labour force increased by 1.9%. The share of middle-class workers declined 3.2% in Montréal, followed by Ottawa-Gatineau at -3.1%, Vancouver at -2.0% and Calgary at -2.0%.

Toronto, Canada's largest metropolitan area and premier global city, experienced the sharpest middle-class decline amongst major metropolitan regions. During the 1991 census cycle, Toronto's share of middle-class workers was 58.2%, the highest among Canada's top six metropolitan regions. By 2016, this share had fallen to 47.8%, the lowest share of middle-class workers amongst the top six. Overall, from 1986 to 2016, the share of Toronto's workforce earning middle-class incomes declined by -6.8%.

A large portion of middle-class decline among major urban centres can be explained by dynamics of regional divergence and local labour market polarization. Canada's six largest urban regions have been diverging from the national average in terms of population growth, median earnings growth, and inequality since the early 1990s (Bourne et al. 2011). While these six cities have absorbed the majority of labour force and income growth over the last three decades, they have become more economically unequal. According to calculations using 2006 Census data, GINI coefficients were above the national average in Montréal, Toronto, Calgary, Edmonton, and Vancouver (Bolton and Breau 2012). This growth in economic inequality reflects redistributions of income towards top earners in these labour markets, and away from the middle-class.

While growing income inequality does not necessarily signify a polarizing income distribution, evidence of increasing income polarization has been found in Montréal, Ottawa-Gatineau, Toronto, Calgary, and Vancouver (Walks 2011; Walks, Dinca-Panaitescu, and Simone 2016). Explanations behind labour market polarization are still up for debate (Henning and Eriksson 2021), but evidence across developed economies indicates that de-industrialization, skills-biased technical change, and the concentration of innovative and managerial roles all play a strong role in driving polarization (Autor, Katz, and Kearney 2006; Goos and Manning 2007; Goos, Manning, and Salomons 2009). In Canada, the top six major metropolitan regions have each, in distinct ways, transitioned from manufacturing economies towards hubs for innovation and professional services (Bourne et al. 2011). Analysis of the income polarization dynamics in each of these cities indicated that a portion of polarization is a result of the labour market divergence stemming from industrial restructuring (Walks 2013).

A second key framework for understanding regional differences in middle-class share is the east-west divide in Canadian regional development. Inter-regional disparities have long been a feature of the Canadian space-economy. Between 1950 and the mid-1990s, Canada underwent a period of regional convergence in which the disparities between urban and rural regions, and between east and west narrowed. However, by the late 1990s this process had stalled and regional incomes began to diverge again (Breau and Saillant 2016). Since the 1990s, real average incomes above the national norm have been observed in British Columbia, Alberta, Ontario, and the Territories, Manitoba, and Saskatchewan. At the same time, incomes have grown most rapidly in Alberta, British Columbia, the Territories, and Ontario (ibid). Meanwhile, incomes have grown more slowly and remained below the national average in Québec and the Atlantic provinces. The same east-west divide has been observed in terms of within-region income inequality (Bolton and Breau 2012; Marchand,

Dubé, and Breau 2020), with higher measures of income inequality observed in cities and regions west of Québec.

In terms of middle-class dynamics, the effects of this east-west divide are also visible. The reinvigoration of the western staple economy during the commodities boom of the late 90s and 2000s has generated significant median income growth throughout western regions. Middle-class shares are large and growing in the southern regions of Manitoba and Saskatchewan. The same can be said in the oil and mineral extracting regions of northern Alberta, northern Saskatchewan, and the Territories. Some of the largest growth rates in middle-class share were observed in Whitehorse and the Wood Buffalo region, where local median incomes soared during the commodities boom of the 2000s. It is likely that more recent data would paint a different picture in the north as oil prices have dropped since their mid-2010s peak (Wang 2021). In southern Alberta and British Columbia, most cities are below average in terms of middle-class size. This is particularly visible in Calgary and Vancouver, where the middle-class is small and shrinking.

Perhaps one of the most interesting stories to emerge from the national portrait of middle-class dynamics is the east-west divide along the Québec City to Windsor Corridor (see inset in Figure 4.1). Despite the below average performance of eastern regions, strong middle-class growth is observable in Québec, particularly among the small cities between the St. Lawrence and the US border. Almost all of these cities (Saint-Georges, Thetford Mines, Victoriaville, Drummondville, Saint-Hyacinthe, Granby, Cowansville, Sherbrooke) experienced high degrees of middle-class growth as well as some of the highest middle-class shares in 2016. This is a region Mario Polèse has described as “l’Arc industriel quebécois”, which has attracted high growth in manufacturing employment in recent years (Polèse 2009). Many light manufacturers have been attracted to relatively cheap land and wages within reach of distribution hubs in Montréal, Québec City, and across the US border in New York,

Vermont, and New Hampshire. This development appears to be boosting the prevalence of middle-class incomes significantly.

The other strong performer in this region has been Québec City, which also showed a high degree of growth and large middle-class share in 2016. As the provincial capital, Québec City is home to a large unionized public service workforce which tends to bring home middle-class wages. However, Québec City has also managed to bolster its economic performance by attracting satellite offices of Montréal based software development firms seeking cheaper wages, and by growing its cluster of post-secondary institutions (Polèse 2016).

In contrast, middle-class decline was much more prevalent across southern Ontario. Here, cities such as Oshawa, Toronto, Hamilton, and Stratford were home to some of Canada's largest middle-class workforces in 1990. By 2016, all had fallen to a below average middle-class share of the labour force, an indication that Southern Ontario has faced some of the heaviest consequences of de-industrialization (Norcliffe 1994; Hutton and Vinodrai 2015). As a result, an uneven pattern of employment and demographic change has emerged in Southern Ontario, with cities close to the GTA benefitting from robust growth in knowledge-intensive employment while industrial cities beyond the Toronto orbit struggle to arrest economic decline (Kerr and Qiyomiddin 2021).

Looking further east to the Atlantic provinces, the share of middle-class workers in each city appears to be mixed, with the middle-class stable or growing in most cities, but declining in Halifax (NS) and St. John's (NL). Atlantic Canada has long struggled with some of the lowest median incomes in the country and slow rates of growth. As Shearmur and Polèse (2002) have shown in their research on Atlantic Canada and Québec, this region has been home to many resource-dependent towns which lack the economic diversity to weather boom and bust cycles of the resource economy. At the same time, economic restructuring and

technological change has reduced the number of jobs available in resource extraction and processing, creating the conditions for decline in many small cities (Donald and Hall 2019). Apparent middle-class growth among rural Atlantic Canada could in fact be a result of population decline, rather than growth in middle-income employment (this trend will be discussed in more detail below). All cities in Atlantic Canada, apart from Halifax, were well below average in terms of middle-class size in 1986. As we will see in greater detail below, population and employment growth in Atlantic Canada has generally lagged behind Ontario and Western Canada since the 1990s.

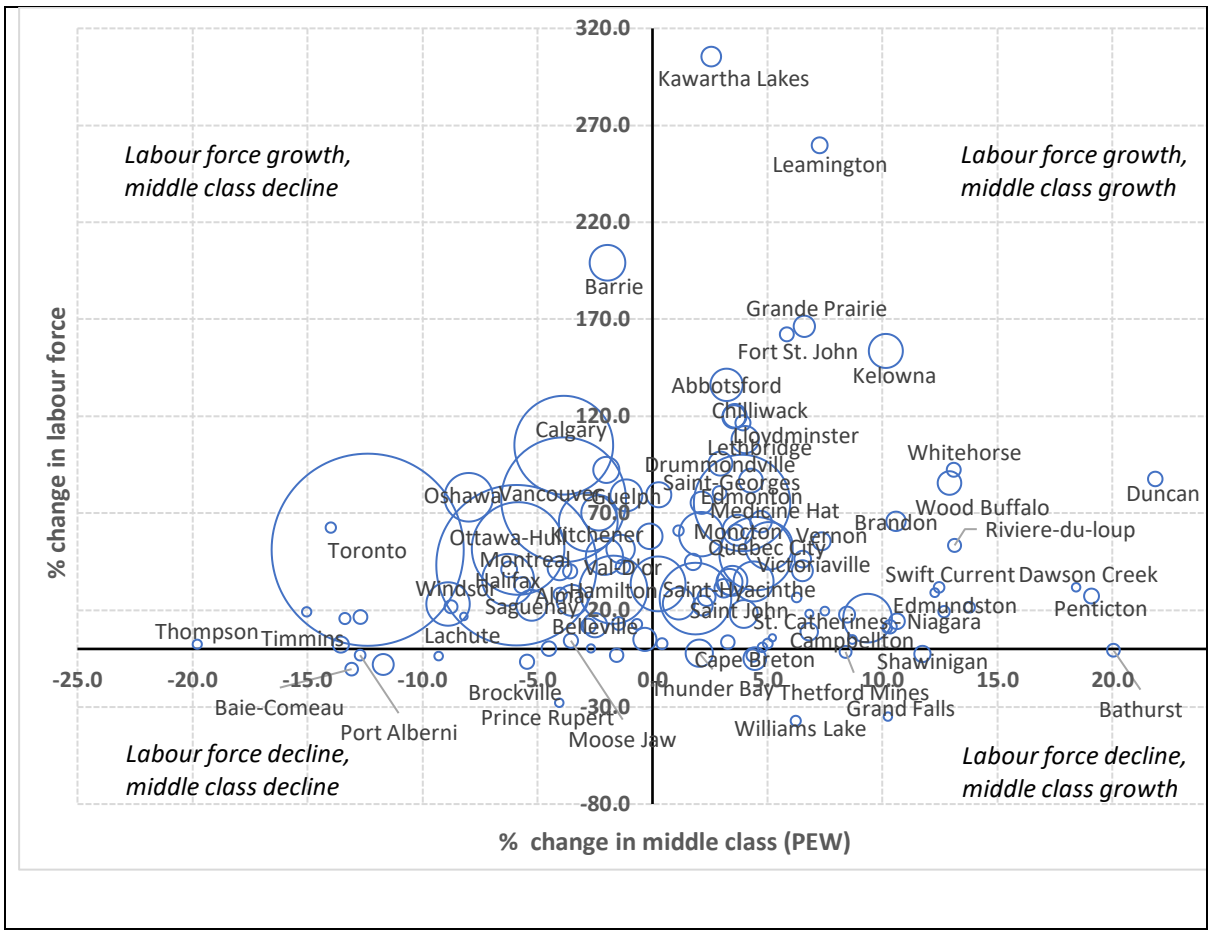
The role of overall population growth and decline (i.e. demographic change) in influencing middle-class dynamics adds a further layer to the national portrait. As noted by Hall and Donald (2019), the 2016 census revealed that "over 57% of the Canadian urban system is either growing slowly (40.1%) or declining (17.1%)." Slow growth and decline can play a strong role in how we understand middle-class dynamics, as a growing labour force and middle-class points to more inclusive growth, while a growing middle-class but shrinking labour force indicates a more problematic concentration of individual incomes around the median.

To explore this relationship in greater detail, Figure 4.2 plots the change in middle-class size against labour force growth. Here, the horizontal axis shows the percentage change in middle class size (based on the PEW definition) while the vertical axis tracks the percentage change in labour force size between 1986 and 2016. Combined, these two pieces of information yield a simple 4-quadrant classification of urban middle-class trajectories across the country.

In the top right-hand quadrant are metropolitan areas that experienced increases in both middle class and labour force size. As such, they can be characterized as dynamic urban areas. Apart from Edmonton and Québec City, they are mainly mid- to small-sized

metropolitan areas (*n* = 63). Furthest from the origin in this quadrant we see Western Canadian CMA/CAs that have prospered from the energy boom since the turn of the millennium (Marchand 2012) as well as fast growing parts of British Columbia and Ontario. Many of the cities defining Quebec's new manufacturing crescent (as described in the previous section) also fall into this category.

Figure 4.2: Change in middle-class size and population size (PEW, local) 1986 to 2016



Source: Author's calculations; urban areas are weighted by labour force size (in 2016).

In the bottom right-hand quadrant are urban areas where middle class size has increased but the labour force has declined. Many of these areas are resource-dependent towns in Eastern Canada where the impact of a paper mill or mine closure, often the area's largest employers, has led to significant out-migration and a shrinking demographic base (e.g., Bathurst, NB; Grand Falls, NL). The result is a situation where both the number of

workers in the middle class and labour force have declined in absolute terms but as the latter's decline is much more pronounced, we end up with a relative increase in middle class size.

A similar scenario unfolds in the bottom left-hand quadrant but here the decline in the number of middle-class workers is larger, in relative terms, than that of the overall labour force. Port Alberni and Prince Rupert (BC) fall into this category and are good examples of the kind of restructuring challenges faced by 'transitioning' resource-towns (Hayter and Nieweler 2018).

Finally, the top left-hand quadrant contains metropolitan areas that experienced labour force growth but a relative decline in middle class size ($n = 41$). The country's five largest metro areas are included here (Toronto, Montreal, Vancouver, Calgary and Ottawa-Gatineau), as are a number of mid-sized cities such as Halifax, Kitchener, Oshawa, Guelph and Hamilton. Several of these areas have experienced rapid growth, as many are within the orbit of knowledge economies concentrated in large urban centres (Hall and Donald 2020). However, urban growth does not seem to be drawing middle-class employment to these regions. Once again, this is consistent with literature on Canadian labour market polarization which has found that Canada's fastest growing cities are becoming more polarized as the ranks of high-earning managers and professionals increase in tandem with workers in low-skilled service industries, particularly recent immigrants, struggling with low-wages (Walks 2011).

4.3 Cluster analysis

While Figure 4.2 is useful in summarizing middle class dynamics in relation to demographic trends, another way of classifying and describing middle-class change is through a cluster analysis. Table 4.4 presents the results of a simple k-means analysis where all 119

CMAs/CAs are grouped into five clusters that exhibit similar dynamics of growth and decline. By grouping CMAs/CAs undergoing similar dynamics into clusters, we can perform a more formal and comparative analysis taking into account the effect of changes in several indicator variables, including median income, middle-class size, and population size, on middle-class performance. These three variables were chosen to situate middle-class size changes within a local picture of economic performance and demographic change.

Five urban clusters are identified as undergoing similar dynamics of change, with clusters ranging in size from 13 to 40 CMAs/CAs (see Table 4.4). The ranking of clusters should be read from left to right, with the best performing "Rapid Growth" cluster on the far left and the worst performing "Declining" on the right. CMAs/CAs in the "Rapid Growth" cluster are characterized by rapid median wage growth, rapid population growth, and the largest increases in middle-class labour force share among the five clusters, while the "Declining" categorizes CMAs/CAs undergoing median wage stagnation, anaemic population growth, and large declines in middle-class labour force share (the characteristics of which are described in more detail in Table 4.5 below).

The "Medium Growth", "Mixed Growth", and "Slow Growth" clusters are more similar to each other than to either the "Rapid Growth" or "Declining" clusters. Each of these three central clusters are undergoing moderate wage growth, middle-class growth, and population growth. Where the Mixed, Medium, and Slow Growth clusters are most similar is in their industrial profile. While the Rapid Growth cluster is driven by primary industries, and the Declining cluster exhibits a higher concentration of manufacturing activity, the three central clusters exhibit minimal variation in industrial mix.

The Medium, Mixed, and Slow Growth clusters diverge mainly in terms of their sociodemographic characteristics, especially with regards to visible minority population shares and shares of the population with higher education. The share of individuals who

identify as members of a visible minority is over twice as high in the Medium Growth cluster as in the Slow Growth cluster. The greater share of visible minorities in faster growing clusters points to the role immigration plays in driving economic growth, or vice versa. At the same time, the population share with some form of higher education is highest in the Medium Growth cluster and declines in both the Mixed and Slow Growth clusters. This points to the wage premium enjoyed by educated workers. In addition, the Medium Growth cluster includes Ottawa-Hull as well as several provincial capitals which are home to educated, largely unionized civil service workforces.

Looking more closely at the "Rapid Growth" and "Declining" clusters, the clustering once again underlines a significant east-west divide in growth and income dynamics. Except for Tilsonburg and Woodstock, ON, two towns with a strong manufacturing base, all CMA/CAs in the Rapid Growth cluster are from Saskatchewan, Alberta, and British Columbia. At the same time, over two thirds of the communities in the Declining cluster are found in Ontario, Quebec, and Atlantic Canada. These findings accord with research that shows Canada's economic 'centre of gravity' has shifted west since the Great Depression, with the largest westward shifts occurring during the commodities booms of the 1970s and 2000s (Breau et al. 2018). In fact, the single largest shift in Canada's economic centre of gravity occurred between 1988 and 2013, when commodity price growth rates rivaled those seen during the 1970s Oil Shocks.

To be sure, the collection of CMA/CAs in the Rapid Growth and Declining clusters tell a story about the underlying volatility of Canada's open staples economy. Over half of the cities in these two clusters can be characterized as single-industry communities. High wages have long been a labour recruitment strategy in Canada's remote resource extraction communities (Norcliffe 1994) and the massive boom during the 2000s was no exception, with wage growth drawing in workers and generating local job multipliers (Marchand 2012).

Table 4.4 CMA/CA Clusters by 75-200% of median middle-class definition

Rapid Growth (n=13)	Medium Growth (n=25)	Mixed Growth (n=40)	Slow Growth (n=23)	Declining CMA/CAs (n=18)
Tilsonburg, ON	St. John's, NL	Corner Brook, NL	Halifax, NS	Cape Breton, NS
Woodstock, ON	Granby, QC	Truro, NS	Bathurst, NB	New Glasgow, NS
Brandon, MB	Québec City, QC	Charlottetown, PEI	Campbellton, NB	Alma, QC
Lloydminster, AB/SK	Riviere-du-loup, QC	Summerside, PEI	Grand Falls, NB	Baie-Comeau, QC
Regina, SK	Saint-Georges, QC	Edmundston, NB	Dolbeau, QC	Lachute, QC
Swift Current, SK	Barrie, ON	Fredericton, NB	Joliette, QC	Saguenay, QC
Edmonton, AB	Brantford, ON	Moncton, NB	Montréal, QC	Sorel, QC
Grande Prairie, AB	Guelph, ON	Saint John, NB	Rouyn-Noranda, QC	Brockville, ON
Lethbridge, AB	Kawartha Lakes, ON	Cowansville, QC	Salaberry-de-Valleyfield, QC	Cobourg, ON
Wood Buffalo, AB	Kitchener, ON	Drummondville, QC	Sept-Îles, QC	Collingwood, ON
Dawson Creek, BC	Leamington, ON	Matane, QC	Shawinigan, QC	Sault Ste. Marie, ON
Fort St. John, BC	Ottawa-Hull, ON	Rimouski, QC	Thetford Mines, QC	Sarnia, ON
Whitehorse, Yukon	Winnipeg, MB	Saint-Hyacinthe, QC	Trois-Rivières, QC	Windsor, ON
	North Battleford, SK	Sherbrooke, QC	Belleville, ON	Campbell River, BC
	Prince Albert, SK	Val-d'Or, QC	Hawkesbury, ON	Port Alberni, BC
	Saskatoon, SK	Victoriaville, QC	Orillia, ON	Powell River, BC
	Yorkton, SK	Chatham, ON	Owen Sound, ON	Prince Rupert, BC
	Calgary, AB	Cornwall, ON	St. Catherines-Niagara, ON	Quesnel, BC
	Camrose, AB	Hamilton, ON	Stratford, ON	
	Medicine Hat, AB	Kingston, ON	Timmins, ON	
	Prince Albert, SK	Kenora, ON	Thompson, MB	
	Chilliwack, BC	London, ON	Courtenay, BC	
	Duncan, BC	Midland, ON	Terrace, BC	
	Kelowna, BC	North Bay, ON		
	Victoria, BC	Oshawa, ON		
		Pembroke, ON		
		Peterborough, ON		
		Sudbury, ON		
		Thunder Bay, ON		
		Toronto, ON		
		Portage La Prairie, MB		
		Moose Jaw, SK		
		Abbotsford, BC		
		Kamloops, BC		
		Nanaimo, BC		
		Penticton, BC		
		Prince George, BC		
		Vancouver, BC		
		Vernon, BC		
		Williams Lake, BC		

However, these two clusters capture cities at opposite ends of the commodities boom-and-bust dynamic. The Declining cluster is made up of many former resource extraction hubs struggling with economic restructuring processes that can be traced back to the 1980s. This includes resource communities like Port Alberni, Campbell River, Powell River, and Prince Rupert who have faced the brunt of restructuring in the forestry and fishing industries. Throughout the 1950s, 60s, and 70s, Port Alberni was one of the most prosperous and fast-growing Canadian forestry towns (Barnes, Hayter, and Hay 2001). In 1975, Port Alberni's per capita income was third highest for any Canadian city (ibid:2136). In addition, we see declining pulp and paper and aluminum producing towns across Québec (Alma, Baie-Comeau, Lachute) and cities struggling with declines in Fordist manufacturing (Sarnia, Sault

Ste. Marie, and Windsor). The economic prospects of these manufacturing intensive towns (see Table 4.6) have been further undermined by currency appreciation related to the commodities boom as well as Canadian capital's magnetism to the highly profitable resource sector (Stanford 2008). Thus, commodities focused regional economies are driving both middle-class growth and middle-class decline in a highly uneven fashion. This points the continued need for regional diversification to grow a stable middle-class.

Table 4.5 Socio-demographic and labour market characteristics of each CMA/CA cluster (2016)

	Rapid Growth	Medium Growth	Mixed Growth	Slow Growth	Declining CMA/CAs
Labour Market Characteristics					
Middle-class share	52.8%	51.25%	50.98%	50.64%	47.72%
% Change in Middle-class share (1986-2016)	+8.62%	+3.42%	+2.60%	+.44%	-6.99%
Median wage (in 2002 dollars)	$39,638	$32,837	$30,812	$29,322	$29,660
% Change in median wage (1986-2016)	+45.3%	+29.03%	+18.49%	+11.40%	+2.27%
Median total income (in 2002 dollars)	$44,245	$37,249	$34,982	$34,325	$34,871
GINI (wages)	.41	.42	.41	.41	.43
GINI (total income)	.38	.40	.38	.37	.38
Unemployed (%)	6.53%	5.56%	6.30%	6.86%	7.32%
Part-time (%)	16.1%	18.8%	18.9%	19.0%	20.9%
Socio-Demographic Characteristics					
% Change in population (1986-2016)	+65.5%	+77.7%*	+30.28%	+5.74%	+6.26%
Female (%)	46.5%	48.5%	49.0%	48.5%	48.3%
Senior (%)	2.3%	2.75%	2.68%	2.50%	2.82%
Visible Minority (%)	12.9%	10.2%	7.71%	4.54%	4.13%
Higher Education (%)	19.8%	22.39%	21.13%	18.00%	16.95%
No Highschool (%)	11.74%	10.79%	10.58%	12.62%	11.33%

Source: Statistics Canada, Census of Population 1986-2016
* Population growth figure artificially inflated due to CA boundary changes for Leamington, ON and Kawartha Lakes, ON

Table 4.6 Industrial mix of each CMA/CA cluster (2016)

	Rapid Growth	Medium Growth	Mixed Growth	Slow Growth	Declining CMA/CA
Primary Sector (%)	9.2%	4.2%	3.7%	4.7%	3.9%
Agriculture and Forestry (%)	1.7%	2.2%	2.2%	1.8%	2.8%
Secondary Sector (%)	17.4%	17.7%	16.6%	16.7%	19.5%
Construction (%)	8.6%	7.6%	7.0%	6.7%	7.2%
Manufacturing (%)	8.8%	10.2%	9.6%	10.0%	12.3%
Tertiary Sector (%)	23.0%	22.9%	23.6%	23.7%	23.6%
Transportation and Warehousing (%)	4.1%	3.5%	3.7%	3.7%	4.4%
Communications (%)	2.0%	2.3%	2.5%	1.9%	1.8%
Utilities (%)	0.8%	0.7%	0.8%	1.1%	1.1%
Retail (%)	12.5%	13.0%	13.4%	14.1%	13.8%
Wholesale (%)	3.6%	3.4%	3.2%	2.9%	2.5%
Quaternary Sector (%)	50.1%	54.9%	55.7%	54.6%	52.6%
FIRE (%)	3.7%	4.1%	4.0%	3.3%	3.1%
Public Administration (%)	7.3%	7.3%	7.5%	6.9%	5.8%
Education and Health (%)	17.3%	21.2%	22.5%	22.9%	21.4%
Personal Business Services (%)	8.3%	7.8%	8.0%	7.8%	8.6%
Leisure and Food Services (%)	9.1%	9.6%	9.3%	10.0%	10.1%
KIBS (%)	4.4%	4.9%	4.5%	3.7%	3.6%

Source: Statistics Canada, Census of Population 2016, calculations by the author

4.4 Panel model results

While comparison of the five clusters allowed us to draw initial relationships between middle-class growth and the socio-demographic attributes, labour market characteristics, and industrial compositions of CMA/CAs, it does not allow us to see which variables are driving middle-class performance over time. To draw stronger conclusions regarding the drivers of middle-income employment growth over time a series of fixed-effects panel regression models are estimated. These models rely on a panel dataset to explore statistical relationships between the share of the labour force earning a middle-class income (using 67-200% of

median definition) and the socio-demographic, labour market, and industrial attributes of each CMA/CA between 1986 and 2016. As outlined in Chapter 3, the models specified (see Eq. 3.1) increase in complexity from a parsimonious model which only looks at labour market and socio-demographic characteristics to the full industrial specification which includes the industrial mix shares of each CMA/CA.

Table 4.7 presents the results for the fixed effects panel regression models. The parsimonious model, which accounts for the effect of local labour market and socio-demographic characteristics, reveals that more developed CMA/CAs (proxied by median wages) tend to have a larger share of middle-income employment. The positive correlation is likely a result of middle-class growth being driven by resource extraction regions in western Canada experiencing rapid median wage growth.

Turning to the effect of labour force size on middle-class growth, a negative relationship between labour force size and middle-class size is present. This finding underlines the declining middle-class labour force share in large cities noted in section 4.2, and the changing conditions for middle-class growth in surrounding urban centres. A literature on small and medium sized, or so called 'second tier' cities as drivers of economic growth has emerged in the US and Europe (Camagni, Capello, and Caragliu 2015). In Canada, middle-class employment appears to be shifting towards small and medium sized CMAs/CAs where connections to larger markets are strong. L'arc industriel québécois, which is well connected to global markets through hubs in the US northeast as well as a large domestic market, has attracted manufacturing industries seeking cheaper land and labour (Polese 2009). Middle-class performance was among the strongest in l'arc industriel quebecois between 1986 and 2016.

Table 4.7 Fixed effects panel model results

	Dependent Variable = % local labour force in the middle-class		
Independent Variables	(1) Parsimonious Model	(2) Aggregate Industries	(3) Full Industrial Specification
Labour market and economic variables			
Median wages	.001 ***	.001 ***	.001 ***
Labour force size	-.001 ***	-.001 ***	-.001 ***
Unemployment rate	-.013	-.025	-.049
Part-time workers (%)	-.351 ***	-.380 ***	-.386 ***
Sociodemographic variables			
Female participation rate	.065	.170 **	.216 ***
Visible minorities (%)	-.001	-.001	-.001
Higher education (%)	-.010 ***	-.008 ***	-.006 **
No Highschool (%)	-.001	-.002	-.001
Senior (%)	-.773 ***	-.554 ***	-.418 ***
Industrial sector variables			
Secondary industries (%)		.179 ***	
Construction (%)			.128
Manufacturing (%)			.142 ***
Tertiary sector (%)		.107 *	
Transportation and warehousing (%)			.080
Communications (%)			.175
Utilities (%)			-.040
Retail (%)			.163 **
Wholesale (%)			-.111
Quaternary industries (%)		.028	
FIRE (%)			.007
Public administration (%)			.276
Education and Health (%)			.017
Business services (%)			-.354 ***
Leisure and food (%)			-.079
KIBS (%)			.065
R^2	.324	.370	.406
N (Cross-section number)	787 (119)	787 (119)	787 (119)

Notes: *, **, and *** denote statistical significance at the .10, .05, and .01 levels, respectively

The negative effect of labour market precarity on middle-class performance is another finding of the parsimonious model. Without data on employment tenure or job security, part-time work is the closest proxy for more precarious employment. CMA/CAs with a greater share of part-time workers are losing middle-income employment. It is unclear whether this negative coefficient is driven primarily by growing precarity in large metropolitan regions or weak labour market performance in small and mid-size cities struggling with industrial restructuring. However, with labour market precarity emerging as a growing trend in Canadian labour markets this should be a key issue for policy makers (Vosko 2006).

Moving to socio-demographic drivers of middle-income employment, the results point to a positive association between female participation and middle-class employment. Although these results are not statistically significant in the parsimonious model (column 1), they are significant in the two more fully specified models (columns 2 and 3). This finding corresponds with descriptive results presented earlier which find that growing female participation has boosted middle-class employment nationally since the mid-1980s. Although the results are not statistically significant, we see that CMA/CAs with higher shares of visible minorities have lower levels of middle-income employment. This non-significant result is likely related to an interaction effect with precarious employment as it is well documented that immigrants and visible minorities receive lower wages and are more likely to experience poverty than the white, Canadian-born population (Pendakur and Pendakur 2007). Education polarization appears to be another cause of middle-class erosion. University-educated workers tend to earn higher wages as they can access high-income service and professional labour markets (the so-called 'college premium') (Boothby and Drewes 2006), while workers who lack high school education are marginalized to the low-wage service sector, both of which drive employment growth outside the middle-income range. Finally, regions experiencing higher levels of population aging also appear to be losing middle-income employment. This result indicates that stagnant and declining regions across the country that struggle to attract young workers are losing middle-income employment over time.

Columns 2 and 3 present a set of estimates on the impact that changes in industrial compositions are having on middle-income employment across cities. It is important to note that the share of workers employed in primary industries is omitted as they provide the industrial benchmark for the models estimated. While estimates for quaternary industries (in column 2) and several industrial categories in column three are not statistically significant, interesting insights can nonetheless be drawn from the results. In broad terms, CMAs/CAs

with higher concentrations of secondary industries, particularly manufacturing employment, appear to be associated with higher levels of middle-income employment. This resonates with similar findings around the association between manufacturing employment and lower levels of income inequality (Breau 2015). Manufacturing has traditionally been a sector of middle-class employment due to higher levels of unionization, and although deindustrialization continues to reduce the share of manufacturing employment across the Canadian urban system the manufacturing sector remains a significant driver of middle-income employment.

Tertiary sector employment is marginally statistically significant, showing a smaller positive association with middle-income employment. Surprisingly, the retail sector is associated with higher levels of middle-income employment. The retail sector is known as a sector of mainly low wages and part-time employment. However, the retail sector has grown significantly since 1986. This result perhaps indicates some of the flaws in middle-class boundaries discussed in Chapter 2.

Within the quaternary sector, it was expected that the growth of FIRE (finance, insurance, and real estate) and KIBS (knowledge intensive business services) employment would negatively correlate with middle-class growth. A negative correlation for business services is present in line with previous research which has found the growth of high-order business services in large urban centres to be linked to labour market polarization (Goos and Manning 2007). The lack of significant results for the other sectors presented here could be a result of the mixed nature of the urban sample, which comprises a relatively small number of urban centres where KIBS and FIRE employment are disproportionately concentrated.

4.5 Summary

The analysis presented in this thesis reveals mixed results for the economic performance of Canada's urban middle-class. The proportion of workers across Canada's urban system

earning middle-class incomes grew modestly by some definitions (50-150% of median) but fell by other measures (67-200% of median wages). Furthermore, the fundamentals of this growth are weak and increasingly shaky. The results reveal the share of income going to the middle-class is in precipitous decline and the principal sectors of middle-class employment growth face decline and price volatility (resource extraction). At the same time, employment growth in Canada's most dynamic urban regions (Vancouver, Calgary, Edmonton, Toronto, Ottawa-Gatineau, and Montreal) is occurring in sectors that do not add sufficiently to middle-income employment to replace losses due to deindustrialization.

Female workers are driving middle-class growth across the country. However, women, and especially racialized women, face large wage gaps across sectors and typically feel the brunt of downward wage pressure during economic downturns like the crisis related to COVID-19 (Scott 2022).

The remaining growth in middle-class workers has occurred largely due to a reinvigoration of the Canadian staples economy during the commodities boom of the 2000s. Median wages have soared across northern British Columbia, Alberta, and Saskatchewan, as extractive industry incomes have boosted demand, growth, and wages across these regions. However, the movement of capital to resource extraction and the maintenance of tight monetary policy has accelerated deindustrialization which in turn has exacerbated east-west regional divergence and undermines one of the cores of middle-class employment (Stanford 2008). While resource extraction jobs are plentiful in times of staple price boom, they can vanish in moments, as they did across the Alberta Tar Sands in 2016.

Analysis of the worst performing CMA/CAs in Canada's urban system puts the peril of reliance on staples production into sharp relief. Many of the towns and cities that lost the largest shares of middle-class employment and performed worst in terms of population and median wage growth were the Fordist resource processing towns in BC, along with fishing

and pulp and paper mill towns in eastern Canada, all of which are facing the long-term consequences of staples economy bust. Some of these communities were among the best performing economically in the 1960s and 1970s.

Finally, deindustrialization and technological change are eroding the fundamentals of middle-class growth by removing middle-income jobs from the labour market, placing downward pressure on wages in deindustrializing regions, and by generally accelerating regional divergence. The models presented above show that manufacturing jobs are associated with middle-class employment growth, but manufacturing employment is still a declining share of total employment in Canada, a trend that is likely to continue for the foreseeable future. Deindustrialization and the loss of manufacturing jobs is especially hurting small and medium sized cities who lack economic diversity or proximity to larger markets. Small and medium sized cities with large hospitals, educational institutions, and provincial bureaucracies have remained insulated from middle-class decline. But as global competition continues to place downward pressure on manufacturing prices, more manufacturing jobs will be lost and the pool of economically stagnant regions will grow, eroding middle-class employment.

CHAPTER 5.0

CONCLUSION: POLICY RECOMMENDATIONS AND FURTHER RESEARCH

The geography of Canada's urban middle-class has undergone a process of significant spatial reconfiguration since 1986. A diminished middle-class presence is visible in Canada's largest metropolitan regions, reflecting growing levels of income inequality and labour market polarization in these cities. At the same time, the middle-class has grown in small and medium size CMAs/CAs with links to major metropolitan centres and larger regional markets. This has been particularly true of southern Québec, which has developed a manufacturing economy serving the northeastern US and Canada, as well as broader markets through ports in Québec City, Montréal, and New York. Middle-class employment has shifted towards western Canada, booming in small and medium sized CMAs/CAs with an economic base in resource extraction and processing. However, middle-class employment has collapsed in the resource extracting and processing regions of Atlantic Canada and coastal British Columbia, providing a cautionary tale against staples-dependent regional development. CMAs/CAs where middle-class employment has remained stable include provincial capitals and other centres with a strong presence of unionized public sector employment.

Alongside the spatial reconfiguration of Canada's urban middle-class demographic restructuring has occurred. Growth in female labour force participation rates and women's wages throughout the 1990s and 2000s have increased the female share of middle-class employment. This growing share of female middle-class workers has played a large role in keeping the middle-class stable in size, or growing slightly depending upon definition, at the national scale.

Despite relative stability in the *size* of Canada's urban middle-class, the aggregate share of wages going to the middle-class in Canada has declined consistently since 1991. A

declining wage share for middle-class workers reflects weak wage growth among this group relative to upper income workers. At the same time, middle-class workers are increasingly employed in part-time or seasonal positions, which was associated with middle-class erosion in the panel models. Overall, the economic fundamentals of middle-class employment show cause for concern: middle-class employment is not growing in large cities, where the majority of population and employment growth in Canada is occurring; much of the middle-class employment growth in Canada is dependent upon volatile industries which are not compatible with climate change policy targets; and middle-class workers are not experiencing wage growth at the same rates as upper income workers, intensifying regional divides.

5.1 Policy recommendations

How can policy makers improve the mixed economic performance of Canada's urban middle class? Based on the findings of this thesis, four broad sets of policy recommendations focused primarily on federal and provincial governments which support stable middle-class development can be advanced. The *first* is to encourage the development of stable middle-class employment, policy makers must boost middle-income employment and wages in large urban centres, which will require a policy response to income polarization. The literature is divided over the primary cause of income polarization, between technological factors influencing the demand for skilled vs. unskilled labour and institutional factors such as unionization rates and minimum wages influencing wage dynamics (Acemoglu and Autor 2010; Fortin, Lemieux, and Lloyd 2021;). That said, there is clear evidence both technological and institutional factors play a role, making this more an issue of emphasis for policymakers.

In terms of labour market institutions, research suggests that unionization and sectoral labour agreements reduce labour market inequalities and support the creation of middle-

income employment (Freeman and Medoff 1984; Card 2001; Brennan 2014; Mackenzie and Shillington 2015; Farber et al. 2021). A strong correlation exists between the long term trends in union density and the national wage bill in Canada, the US, and the UK , indicating that unions, through collective bargaining, increase the share of GDP paid to workers in the form of wages (Brennan 2014:11). There is also evidence that unionization promotes middle-incomes in three ways. First, unionized households typically benefit from a wage premium relative to non-union households after controlling for other factors influencing wages (Freeman and Medoff 1984; Farber et al. 2021). Second, high union density across a given sector creates a union 'threat' or standard setting effect. Under such conditions, the wage and benefit premiums negotiated by union members create spill-over effects which raise wages for non-union members in the same sector, occupational skill level, or geographic region (Fortin, Lemieux, and Lloyd 2021). Third, unions play a political economy role by reducing the share of income going to capital (Dinardo and Hallock 2002) and by advocating for income redistribution through the tax and transfer system (Ross et al. 2015). Union density has been declining since the 1980s in Canada, particularly in the private sector where unions have struggled to organize workplaces in the growing service sector. This decline in unionization has been shown to play a strong role in increasing inequality across the economy (see Fortin, Lemieux, and Lloyd 2021). Governments seeking to boost middle-income employment should pass labour relations legislation favourable to the organization of unions and the expansion of collective bargaining.

While increasing union density is one avenue policy makers could pursue to improve the wages and working conditions of low-paid and precarious workers, this is a longer-term strategy requiring organizing efforts from unions. In the immediate term, policy makers could pursue sectoral agreements which set wage floors and working conditions by occupation or industry. Australia's 'Modern Awards' system does this by setting wage floors by occupation

along with scheduling rules, allowances for equipment, and overtime rules along with other assurances. Sectoral agreements are also being pursued in New Zealand through its 'Fair Pay Agreements' program. Sectoral agreements, which have long been a cornerstone of industrial relations in continental Europe and Scandinavia, provide improved minimum working conditions to precarious workers in sectors where union coverage is low.

A *second* area for policy makers to consider is the volatility introduced by dependence on staples development. The analysis carried out in this thesis reveals that the boom-and-bust cycles of natural resource-based economies strongly influences middle-income employment across the Canadian urban system in both positive and negative directions. While the boom promotes rapid wage increases and expansion of employment at the middle of the income distribution, the bust creates negative feedback loops which spur wage decline and out migration. To promote the stable development of middle-income employment, both federal and provincial governments should put forth regional economic diversification strategies which move economies away from the boom-and-bust cycle. Here, policy makers could achieve goals to reduce carbon emissions at the same time by investing in industrial strategies for the green economy (Mazzucato and McPherson 2018; Altenburg and Assmann 2017). By retooling economies for a low-carbon future while supporting a Just Transition, policy makers in Canada could create high-quality jobs that avoid the boom-bust cycles of resource economies (Mertins-Kirkwood and Duncalfe 2021).

A *third* policy recommendation is for governments to invest in universal affordable childcare, long-term care, and home care to free caregivers, who are still disproportionately women, to re-enter the labour market. By boosting wages for workers in these services, the public sector can further support the creation of middle-income employment. Women's increased entry into the labour market throughout the 1980s and 90s stabilized the overall size of the middle-class across Canada. The labour market gains of women have been

severely curtailed by the COVID pandemic, which forced many women to leave the labour market to care for family members (Scott 2022). To bring these women back into the labour market, public care services need to be strengthened. The launch of a universal affordable childcare program in 2021 by the federal government is a welcome step in this direction. However, it is critical that wages in these sectors are commensurate with the skill and demands required. Starting wages for childcare workers in Ontario will be $18 per hour, well below the average wage (ibid:21). By boosting wages and staffing shortages in childcare, homecare, and long-term care, provincial governments could create thousands of new jobs in the care economy that support middle-class formation.

Finally, both provincial and federal governments can support the wider dispersion of middle-class lifestyles through public services and infrastructure provision that reduce household costs and increase quality of life. Authors of the living wage framework, a tool used the calculate the wage required for workers to exit poverty in a given region, note that the prevalence of free or subsidized public services and infrastructure can significantly reduce the wage required to achieve a high quality of life (Hajer and Apata 2020). These public services can include items like subsidized public transportation, social provision of housing, or income supports like the Canada child benefit. Governments can support a more widely available middle-class quality of life through the provision of such services and infrastructure.

5.2 Further research

This thesis provides an up-to-date empirical portrait of contemporary middle-class dynamics throughout Canada's urban system. There are, however, a number of related research areas that require further investigation in order to deepen our understanding of the causes of

middle-income employment growth and decline, and better comprehend the meaning of 'middle-class' in contemporary advanced economies.

The analysis presented in this thesis provides an initial view of middle-class dynamics across Canada's urban system with sensitivity to the influence of industrial mix, labour market characteristics, and demographic characteristics to the prevalence of middle-class incomes over time. While this is a useful first step in gaining a broad comparative perspective on middle-incomes across Canada, the analysis does not factor in the influence of institutional factors such as minimum wage rates, unionization rates, labour market policies, or social policies such as childcare or higher education programs, all of which have been shown to significantly influence wage inequality (N. M. Fortin, Lemieux, and Lloyd 2021; N. M. Fortin 2019; DiNardo, Fortin, and Lemieux 1996). While developing comparable institutional variables between provincial jurisdictions is a complex task, directly analysing the influence of public policies in middle-income employment is an important next step in the Canadian middle-class research agenda.

Future comparative analysis of middle-income dynamics in urban centres should investigate the distinct regional and urban scale related patterns identified in this thesis. Distinct middle-income dynamics were identified in the big six metropolitan regions, the Windsor to Quebec corridor, Atlantic Canada, and the resource extractive regions of western Canada. Each of these patterns emerge out of unique dynamics related to urban scale, regional interconnectivity, and industrial mix, among other factors. To draw deeper conclusions regarding the drivers of middle-income employment, and appropriate policy responses for these regions, a more fine-grained analysis at smaller geographic scales is required.

In addition to institutionally and regionally focused middle-class analysis, future research should focus on demographic changes within Canada's middle-class. There is clear

evidence that young workers and racialized workers in Canada face tougher labour market conditions, reducing wage growth among these demographics (Block and Galabuzi 2018; Moos 2014; McBride 2004). Further research to investigate the changing demographic composition of the middle-class, as well as demographic disparities within the middle-class is required.

A second recommendation is for further research to improve methods for studying the middle-class. The discussion in Chapter 3 of this thesis reveals some of the limitations in middle-class research utilizing primarily quantitative tools. Median income or wage centred metrics, dominant in the economics literature, are at times blunt tool for measuring the size of the middle-class within a given society. Literature from the other social sciences is clear that middle-class membership reflects a level of socio-economic security and power that may emerge from the occupational structure, the education system, or other cultural institutions. This status can be measured through access to economic resources, such as real estate assets, savings, higher education, or relatively high incomes which afford a particular level of consumption. By drawing an income band around the median, median income centred middle-class measures can set lower boundaries for the middle-class at or near the poverty line (using individual rather than household income data), as the Beach definition did in my analysis, and upper boundaries lack precise justification. In my analysis, the PEW definition set the upper boundary for the middle-class at $68,000 (200% of median), or the 82nd percentile of the national income distribution. This seems at first glance a reasonable position to demarcate the middle-class from the upper-middle or elite, although some may argue $68,000 is still too low. Nonetheless, because there is no agreed method for defining the upper boundary of the middle-class, the choice of the upper boundary requires stronger justification. As a result, there is potential for misidentification, or under/overestimation, of the middle-class if boundaries are not carefully selected.

Furthermore, income derived boundaries for the middle-class did not make a clear enough justification as to how they designate a *class.* It would perhaps be more truthful to distinguish these median centred definitions as metrics of *middle-incomes*, as they do capture dynamics in the middle of a given income distribution. However, earning a middle-income does not necessarily equate to being middle-class. A lack of widespread Canadian data on other indicators of class, for example wealth, consumption patterns, or perceptions of identity, limit the creation of middle-class metrics. However, given the widespread use of the middle-class in political discourse, this is a methodological distinction which requires more attention.

Future quantitative middle-class studies should develop a middle-class definition which identifies a given list of economic resources which can be assumed to accord with middle-class economic security. An income which could afford said resources could then act as a basis for an income or wage based middle-class definition. Similar metrics have already been developed for the "living wage", which uses a basket of goods to define a wage which would allow an individual or given family unit to exit poverty (Hajer and Apata 2020).

Continuing in the vein of methodological improvements to future middle-class research, further analysis of middle-class dynamics should seek to integrate data on wealth and asset ownership. Recent additions to the political economy literature have made the point that rents and asset inflation are taking a more central role in advanced industrial economies (Christophers 2021; 2019). In Australia, a country where median incomes have stagnated while asset ownership has proliferated alongside a four decade rise in asset values, recent research makes the case that asset ownership is likely drawing new class boundaries (Adkins, Cooper, and Konings 2019). Not only has the inflation of asset values, particularly houses, turned a select few into millionaires over the course of a few decades, but access to housing assets in large cities can dictate the capacity to attend elite universities and large job markets

in said cities (ibid). Canada is similar to Australia in this regard, where house values in cities like Toronto and Vancouver have soared in recent decades alongside slow median wage growth. Future analysis of the middle-class should integrate these insights by drawing wealth variables into the analysis. This is difficult, as neither individual nor family wealth are available over the long term through census data. Nevertheless, the growing importance of wealth to middle-class formation is a valuable insight which should be utilized.

WORKS CITED

Acemoglu, Daron, and David Autor. 2010. 'Skills, Tasks and Technologies: Implications for Employment and Earnings'. Working Paper. Working Paper Series. National Bureau of Economic Research. https://doi.org/10.3386/w16082.

Adkins, Lisa, Melinda Cooper, and Martijn Konings. 2019. 'Class in the 21st Century: Asset Inflation and the New Logic of Inequality'. *Environment and Planning A: Economy and Space*, September, 0308518X19873673. https://doi.org/10.1177/0308518X19873673.

Aglietta, Michel. 1979. *A Theory of Capitalist Regulation*. New Left Books.

Altenburg, T, and C Assmann. 2017. 'Green Industrial Policy. Concept, Policies, Country Experiences'. Geneva, Bonn: UN Environment; German Development Institute/Deutches Institut fur Entwicklungspolitik (DIE).

Alvaredo, Facundo, Lucas Chancel, Thomas Piketty, Emmanuel Saez, and Gabriel Zucman. 2018. 'World Inequality Report 2018'. Paris: World Inquality Lab, Paris School of Economics. https://wir2018.wid.world/files/download/wir2018-full-report-english.pdf.

Amin, Ash. 2008. 'Post-Fordism: Models, Fantasies and Phantoms of Transition'. In *Post-Fordism*, 1–39. John Wiley & Sons, Ltd. https://doi.org/10.1002/9780470712726.ch1.

Anderson, Charles. 1974. *The Political Economy of Social Class*. New Jersey: Prentice-Hall.

Atkinson, Anthony B, Thomas Piketty, and Emmanuel Saez. 2011. 'Top Incomes in the Long Run of History'. *Journal of Economic Literature* 49 (1): 3–71. https://doi.org/10.1257/jel.49.1.3.

Atkinson, Anthony, and Andrea Brandolini. 2011. 'On the Identification of the Middle-Class'. Society for the Study of Economic Inequality. https://doi.org/10.11126/stanford/9780804778244.001.0001.

Autor, David H., David Dorn, and Gordon H. Hanson. 2016. 'The China Shock: Learning from Labor Market Adjustment to Large Changes in Trade'. Working Paper. Working Paper Series. National Bureau of Economic Research. https://doi.org/10.3386/w21906.

Autor, David H, Lawrence F Katz, and Melissa S Kearney. 2006. 'The Polarization of the U.S. Labor Market'. Working Paper 11986. National Bureau of Economic Research. https://doi.org/10.3386/w11986.

Banting, Keith, and John Myles. 2011. *Inequality and the Fading of Redistributive Politics*. Vancouver, CANADA: UBC Press. http://ebookcentral.proquest.com/lib/mcgill/detail.action?docID=3412861.

Barnes, Trevor J. 1996. 'External Shocks: Regional Implications of an Open Staple Economy'. In *Canada and the Global Economy: The Geography of Structural and Technological Change*, 48–68. Montréal and Kingston: McGill-Queen's University Press.

Barnes, Trevor J, Roger Hayter, and Elizabeth Hay. 2001. 'Stormy Weather: Cyclones, Harold Innis, and Port Alberni, BC'. *Environment and Planning A: Economy and Space* 33 (12): 2127–47. https://doi.org/10.1068/a34187.

Beach, Charles M. 2016. 'Changing Income Inequality: A Distributional Paradigm for Canada'. *Canadian Journal of Economics* 49 (4): 1229–92. https://doi.org/10.1111/caje.12248.

Berube, Alan, Sarah Crump, and Alec Friedhoff. 2021. 'Metro Monitor 2021'. Metro Monitor. Washington: Brookings. https://www.brookings.edu/interactives/metro-monitor-2021/.

Bledstein, Burton, and Robert Johnston. 2001. *The Middling Sorts: Explorations in the History of the American Middle Class*. New York, London: Routledge.
Block, Sheila, and Grace-Edward Galabuzi. 2011. 'Canada's Colour Coded Labour Market'. Growing Gap. Toronto: Wellesley Institute.
———. 2018. 'Persistent Inequality: Ontario's Colour-Coded Labour Market'. Toronto: Canadian Centre for Policy Alternatives - Ontario.
Bluestone, Barry, and Bennett Harrison. 1982. *The Deindustrialization of America*. New York: Basic Books.
Bolton, Kenyon, and Sébastien Breau. 2012. 'Growing Unequal? Changes in the Distribution of Earnings across Canadian Cities'. *Urban Studies* 49 (6): 1377–96. https://doi.org/10.1177/0042098011410335.
Boothby, Daniel, and Torben Drewes. 2006. 'Postsecondary Education in Canada: Returns to University, College and Trades Education'. *Canadian Public Policy* 32 (1): 1–22.
Bourne, Larry, Cedric Brunelle, Mario Polèse, and Jim Simmons. 2011. 'Growth and Change in the Canadian Urban System'. In *Canadian Urban Regions: Trajectories of Growth and Change*, 43–80. Toronto: Oxford University Press.
Bourne, Larry S., and J David Hulchanski. 2020. 'Inequality and Neighbourhood Change: Context, Concept, Process'. In *Changing Neighbourhoods: Social and Spatial Polarization in Canadian Cities*, 5–30. Vancouver, CANADA: UBC Press.
Bourne, Larry S., Tom Hutton, Richard Shearmur, and Jim Simmons. 2011. *Canadian Urban Regions: Trajectories of Growth and Change*. Toronto: Oxford University Press. http://catdir.loc.gov/catdir/enhancements/fy1409/2011410208-b.html.
Breau, Sébastien. 2015. 'Rising Inequality in Canada: A Regional Perspective'. *Applied Geography* 61: 58–69.
Breau, Sébastien, and Richard Saillant. 2016. 'Regional Income Disparities in Canada: Exploring the Geographical Dimensions of an Old Debate'. *Regional Studies, Regional Science* 3 (1): 463–81. https://doi.org/10.1080/21681376.2016.1244774.
Breau, Sébastien, Michael Shin, and Nick Burkhart. 2018. 'Pulling Apart: New Perspectives on the Spatial Dimensions of Neighbourhood Income Disparities in Canadian Cities'. *Journal of Geographical Systems* 20 (1): 1–25. https://doi.org/10.1007/s10109-017-0255-0.
Breau, Sébastien, Brian Toy, Mark Brown, Ryan Macdonald, and Oliver T. Coomes. 2018. 'In the Footsteps of Mackintosh and Innis: Tracking Canada's Economic Centre of Gravity since the Great Depression'. *Canadian Public Policy* 44 (4): 356–67. https://doi.org/10.3138/cpp.2018-015.
Brennan, Jordan. 2014. 'The Creation of a Shared Prosperity in Canada: Unions, Corporations, and Countervailing Power'. Canadian Centre For Policy Alternatives. https://policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2014/04/the_creation_of_a_shared_prosperity_in_canada.pdf.
Britton, John. 1996. *Cananda and the Global Economy: The Geography of Structural and Technological Change*. Montreal: McGill-Queen's University Press.
Burleton, Derek. 2013. 'Are Medium-Skilled Jobs in Canada Experiencing a Hollowing Out, U.S. Style?' TD Economics.
Camagni, Roberto, Roberta Capello, and Andrea Caragliu. 2015. 'The Rise of Second-Rank Cities: What Role for Agglomeration Economies?' *European Planning Studies* 23 (6): 1069–89.
Canada, Statistics. 2020. 'Report on the Second Comprehensive Review of the Market Basket Measure'. 24 February 2020. https://www150.statcan.gc.ca/n1/pub/75f0002m/75f0002m2020002-eng.htm.

Card, David. 2001. ‘The Effect of Unions on Wage Inequality in the U.S. Labor Market’. *ILR Review* 54 (2): 296–315. https://doi.org/10.1177/001979390105400206.
Castells, Manuel. 1989. *The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process*. Oxford, UK; Cambridge, Mass.: B. Blackwell.
Chapple, Karen, and T. William Lester. 2010. ‘The Resilient Regional Labour Market? The US Case’. *Cambridge Journal of Regions, Economy and Society* 3 (1): 85–104. https://doi.org/10.1093/cjres/rsp031.
Chen, Wen-Hao, John Myles, and Garnett Picot. 2012. ‘Why Have Poorer Neighbourhoods Stagnated Economically While the Richer Have Flourished? Neighbourhood Income Inequality in Canadian Cities’. *Urban Studies* 49 (4): 877–96. https://doi.org/10.1177/0042098011408142.
Christophers, Brett. 2019. ‘The Rentierization of the United Kingdom Economy’. *Environment and Planning A: Economy and Space*, September, 0308518X19873007. https://doi.org/10.1177/0308518X19873007.
———. 2021. ‘Class, Assets and Work in Rentier Capitalism’. *Historical Materialism* 29 (2): 3–28. https://doi.org/10.1163/1569206X-29021234.
Cobham, Alex, and Andy Sumner. 2014. ‘Is Inequality All about the Tails?: The Palma Measure of Income Inequality’. *Significance* 11 (1): 10–13. https://doi.org/10.1111/j.1740-9713.2014.00718.x.
Cross, Philip, and Munir A. Sheikh. 2015. ‘Caught in the Middle: Some in Canada’s Middle Class Are Doing Well; Others Have Good Reason to Worry’. *The School of Public Policy Publications (SPPP); Calgary* 8. http://dx.doi.org/10.11575/sppp.v8i0.42511.
Curry, Bill. 2019. ‘New Minister of Middle Class Prosperity Declines to Provide Clear Definition of Middle Class’. *The Globe and Mail*, 22 November 2019. https://www.theglobeandmail.com/politics/article-new-minister-of-middle-class-prosperity-declines-to-provide-clear/.
Dicken, Peter. 2014. *Global Shift: Mapping the Changing Contours of the World Economy*. Seventh. London: SAGE Publications.
DiNardo, John, Nicole M. Fortin, and Thomas Lemieux. 1996. ‘Labor Market Institutions and the Distribution of Wages, 1973-1992: A Semiparametric Approach’. *Econometrica* 64 (5): 1001–44. https://doi.org/10.2307/2171954.
Dinardo, John, and Kevin F. Hallock. 2002. ‘When Unions “Mattered”: The Impact of Strikes on Financial Markets, 1925–1937’. *ILR Review* 55 (2): 219–33. https://doi.org/10.1177/001979390205500202.
Donald, Betsy, and Heather Hall. 2019. ‘Slow Growth and Decline in Canadian Cities’. In *Canadian Cities in Transition*, 6th ed. Toronto: Oxford University Press.
Ehrenreich, Barbara, and John Ehrenreich. 2013. ‘Death of a Yuppie Dream: The Rise and Fall of the Professional-Managerial Class’. Rosa Luxemburg Stiftung. 2013. http://www.rosalux-nyc.org/wp-content/files_mf/ehrenreich_death_of_a_yuppie_dream90.pdf.
Esping-Andersen, Gosta. 1976. Review of *Review of Classes in Contemporary Capitalism*, by Nicos Poulantzas. *Contemporary Sociology* 5 (6): 829–30. https://doi.org/10.2307/2063170.
Essletzbichler, Jürgen, Franziska Disslbacher, and Mathias Moser. 2018. ‘The Victims of Neoliberal Globalisation and the Rise of the Populist Vote: A Comparative Analysis of Three Recent Electoral Decisions’. *Cambridge Journal of Regions, Economy and Society* 11 (1): 73–94. https://doi.org/10.1093/cjres/rsx025.
Farber, Henry S, Daniel Herbst, Ilyana Kuziemko, and Suresh Naidu. 2021. ‘Unions and Inequality over the Twentieth Century: New Evidence from Survey Data*’. *The*

Quarterly Journal of Economics 136 (3): 1325–85. https://doi.org/10.1093/qje/qjab012.
Ferrao, Vincent. 2010. 'Women in Canada: A Gender-Based Statistical Report: Paid Work'. Ottawa: Statistics Canada. https://www150.statcan.gc.ca/n1/pub/89-503-x/2010001/article/11387-eng.htm.
Florida, Richard. 2005. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life*. Harper Business.
Florida, Richard, and Charlotta Mellander. 2016. 'The Geography of Inequality: Difference and Determinants of Wage and Income Inequality across US Metros'. *Regional Studies* 50 (1): 79–92. https://doi.org/10.1080/00343404.2014.884275.
Florida, Richard, Andrés Rodríguez-Pose, and Michael Storper. 2021. 'Cities in a Post-COVID World'. *Urban Studies*, June, 00420980211018072. https://doi.org/10.1177/00420980211018072.
Fontanella-Khan, James, James Politi, and Ortenca Aliaj. 2020. 'Why the US Pandemic Response Risks Widening the Economic Divide | Free to Read'. 18 June 2020. http://www.ft.com/content/d211f044-ecf9-4531-91aa-b6f7815a98e3.
Fortin, Nicole M. 2019. 'Increasing Earnings Inequality and the Gender Pay Gap in Canada: Prospects for Convergence'. *Canadian Journal of Economics/Revue Canadienne d'économique* 52 (2): 407–40. https://doi.org/10.1111/caje.12386.
Fortin, Nicole M., Thomas Lemieux, and Neil Lloyd. 2021. 'Labor Market Institutions and the Distribution of Wages: The Role of Spillover Effects'. *Journal of Labor Economics* 39 (S2): S369–412. https://doi.org/10.1086/712923.
Fortin, Pierre. 2010. 'Quebec Is Fairer: There Is Less Poverty and Less Inequality in Quebec'. *Inroads Journal*, no. 26: 58–65.
Freeman, Richard, and James Medoff. 1984. *What Do Unions Do?* New York: Basic Books.
Frenette, Marc, David A. Green, and Kevin Milligan. 2009. 'Taxes, Transfers, and Canadian Income Inequality'. *Canadian Public Policy* 35 (4): 389–411. https://doi.org/10.1353/cpp.0.0037.
Galabuzi, Grace-Edward. 2004. 'Racializing the Division of Labour: Neoliberal Restructuring and the Economic Segregation of Canada's Racialized Groups'. In *Challenging the Market*, edited by Jim Stanford and Leah Vosko, 175–204. The Struggle to Regulate Work and Income. McGill-Queen's University Press. http://www.jstor.org/stable/j.ctt80j5j.12.
Gidron, Noam, and Peter A. Hall. 2017. 'The Politics of Social Status: Economic and Cultural Roots of the Populist Right'. *The British Journal of Sociology* 68 (S1): S57–84. https://doi.org/10.1111/1468-4446.12319.
Gillette, H. 2003. 'The Wages of Disinvestment: How Money and Politics Aided the Decline of Camden, New Jersey'. In *Beyond the Ruins: The Meanings of Deindustrialization*, 139–59. Ithica, NY: Cornell University Press.
Goos, Maarten, and Alan Manning. 2007. 'Lousy and Lovely Jobs: The Rising Polarization of Work in Britain'. *Review of Economics and Statistics* 89 (1): 118–33. https://doi.org/10.1162/rest.89.1.118.
Goos, Maarten, Alan Manning, and Anna Salomons. 2009. 'Job Polarization in Europe'. *American Economic Review* 99 (2): 58–63. https://doi.org/10.1257/aer.99.2.58.
Green, David A., and Benjamin M. Sand. 2015. 'Has the Canadian Labour Market Polarized?' *Canadian Journal of Economics* 48 (2): 612–46. https://doi.org/10.1111/caje.12145.
Guyot, Katherine, and Richard Reeves. 2018. 'There Are Many Definitions of "Middle Class"—Here's Ours'. *Brookings* (blog). 4 September 2018.

https://www.brookings.edu/blog/up-front/2018/09/04/there-are-many-definitions-of-middle-class-heres-ours/.
Hajer, Jesse, and Michael Apata. 2020. 'An Updated Calculation Guide for the 2020 Family Living Wage for Manitoba'. Winnipeg: Canadian Centre for Policy Alternatives.
Hall, Heather, and Peter Hall. 2008. 'Decline and No Growth: Canada's Forgotten Urban Interior/Declin et Stagnation : Les Regions Interieures Canadiennes Oubliees'. *Canadian Journal of Regional Science* 31 (1): 1–18.
Harvey, David. 2005. *A Brief History of Neoliberalism*. Oxford, United Kingdom: Oxford University Press USA - OSO. http://ebookcentral.proquest.com/lib/mcgill/detail.action?docID=422896.
Hayter, Roger, and Stephan Nieweler. 2018. 'The Local Planning-Economic Development Nexus in Transitioning Resource-Industry Towns: Reflections (Mainly) from British Columbia'. *Journal of Rural Studies* 60 (May): 82–92. https://doi.org/10.1016/j.jrurstud.2018.03.006.
Heisz, Andrew. 2007. 'Income Inequality and Redistribution in Canada: 1976 to 2004'. Statistics Canada. https://www150.statcan.gc.ca/n1/pub/11f0019m/11f0019m2007298-eng.htm.
Henning, Martin, and Rikard H Eriksson. 2021. 'Labour Market Polarisation as a Localised Process: Evidence from Sweden'. *Cambridge Journal of Regions, Economy and Society* 14 (1): 69–91. https://doi.org/10.1093/cjres/rsaa030.
Hulchanski, J David. 2010. 'The Three Cities Within Toronto'. *University of Toronto Cities Centre*, 32.
Hutton, Tom, and Richard Shearmur. 2011. 'Canada's Changing City Regions: The Expanding Metropolis'. In *Canadian Urban Regions: Trajectories of Growth and Change*. Toronto: Oxford University Press.
'Inequality - Income Inequality - OECD Data'. n.d. TheOECD. Accessed 3 June 2020. http://data.oecd.org/inequality/income-inequality.htm.
Ivanova. 2011. 'The Progressive Economics Forum : What Is a Middle Class Income These Days?' Progressive Economics Forum. 2011. http://www.progressive-economics.ca/2011/07/20/what-is-a-middle-class-income-these-days/.
Jenkins, Stephen. 2019. 'INEQDECGINI: Stata Module to Estimate Gini Coefficient with Optional Decomposition by Subgroups'. Statistical Software Components. Boston College Department of Economics.
Kerr, Don, and Komin Qiyomiddin. 2021. 'Employment in Ontario's Industrial Heartland: Evidence of Economic Decline in a Mid-Sized Industrial City'. *Canadian Journal of Regional Science* 44 (1): 5–10. https://doi.org/10.7202/1079131ar.
Kivinen, Markku. 1989. 'The New Middle Classes and the Labour Process'. *Acta Sociologica* 32 (1): 53–73. https://doi.org/10.1177/000169938903200103.
Krätke, S. 1999. 'A Regulationist Approach to Regional Studies'. *Environment and Planning A: Economy and Space* 31 (4): 683–704. https://doi.org/10.1068/a310683.
Krause, Eleanor, Richard V. Reeves, and Katherine Guyot. 2018. 'Defining the Middle Class: Cash, Credentials, or Culture?' *Brookings* (blog). 7 May 2018. https://www.brookings.edu/research/defining-the-middle-class-cash-credentials-or-culture/.
Lakner, Christoph, and Branko Milanovic. 2013. 'Global Income Distribution: From the Fall of the Berlin Wall to the Great Recession'. 6719. Policy Research Working Paper. World Bank.
Lee, Neil, Paul Sissons, and Katy Jones. 2016. 'The Geography of Wage Inequality in British Cities'. *Regional Studies* 50: 1714–27.

Leloup, Xavier, and Damaris Rose. 2020. ‘Montreal: The Changing Drivers of Inequality Between Neighbourhoods’. In *Changing Neighbourhoods: Social and Spatial Polarization in Canadian Cities*. Vancouver, CANADA: UBC Press.

Ley, David. 2012. ‘Divisions and Disparities in Lotus-Land: Socio-Spatial Income Polarization in Greater Vancouver, 1970-2005’. University of Toronto Cities Centre. https://www.deslibris.ca/ID/240448.

Livesey, Bruce. 2020. ‘As the Pandemic Continues, the Rich Are Getting Richer than Ever before — and Economists Are Getting Concerned’. *Toronto Star*, 15 August 2020, sec. Business. https://www.thestar.com/business/2020/08/15/as-the-pandemic-continues-the-rich-are-getting-richer-than-ever-before-and-economists-are-getting-concerned.html.

Lopez, A. Ricardo, and Barbara Weinstein. 2012. *The Making of the Middle Class: Toward a Transnational History*. Radical Perspectives: A Radical History Review. Durham and London: Duke University Press.

Mackenzie, Hugh, and Richard Shillington. 2015. ‘The Union Card: A Ticket Into Middle-Class Stability’. Ottawa: Canadian Centre for Policy Alternatives. https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2015/05/Union_Card.pdf.

MacKinnon, Shauna. 2015. *Decolonizing Employment: Aboriginal Inclusion in Canada’s Labour Market*. Winnipeg: University of Manitoba Press.

Marchand, Joseph. 2012. ‘Local Labor Market Impacts of Energy Boom-Bust-Boom in Western Canada’. *Journal of Urban Economics* 71 (1): 165–74. https://doi.org/10.1016/j.jue.2011.06.001.

Marchand, Yannick, Jean Dubé, and Sébastien Breau. 2020. ‘Exploring the Causes and Consequences of Regional Income Inequality in Canada’. *Economic Geography*, February, 1–25. https://doi.org/10.1080/00130095.2020.1715793.

Marshall, Gordon, and John H. Goldthorpe. 1992. ‘The Promising Future of Class Analysis: A Response to Recent Critiques’. *Sociology* 26 (3). http://journals.sagepub.com/doi/10.1177/0038038592026003002.

Massey, Doreen B. 1995. *Spatial Divisions of Labor: Social Structures and the Geography of Production*. Psychology Press.

Mazzucato, Mariana, and Martha McPherson. 2018. ‘The Green New Deal: A Bold Mission-Oriented Approach’. IIPP Policy Brief. London: University College London.

McBride, Stephen. 2004. ‘Towards Perfect Flexibility: Youth as an Industrial Reserve Army for the New Economy’. In *Challenging the Market*, edited by Jim Stanford and Leah F. Vosko, 205–26. The Struggle to Regulate Work and Income. McGill-Queen’s University Press. http://www.jstor.org/stable/j.ctt80j5j.13.

McBride, Stephen. 2005. *Paradigm Shift: Globalization and the Canadian State*. 2nd ed. Halifax: Fernwood Press.

Mertins-Kirkwood, Hadrian, and Clay Duncalfe. 2021. ‘Roadmap to a Canadian Just Transition Act: A Path to a Clean and Includive Economy’. Ottawa: Canadian Centre for Policy Alternatives.

Moos, Markus. 2014. ‘Generational Dimensions of Neoliberal and Post-Fordist Restructuring: The Changing Characteristics of Young Adults and Growing Income Inequality in Montreal and Vancouver’. *International Journal of Urban and Regional Research* 38 (6): 2078–2102. https://doi.org/10.1111/1468-2427.12088.

Moretti, Enrico. 2012. *The New Geography of Jobs*. First Edition / First Printing edition. Boston: Houghton Mifflin Harcourt.

Morris, R. J. 1996. Review of *Review of Imagining the Middle Class: The Political Representation of Class in Britain, c.1780-1840*, by Dror Wahrman. *The Economic History Review* 49 (1): 192–93. https://doi.org/10.2307/2598460.
Mulligan, Gordon F., Neil Reid, and Michael S. Moore. 2014. 'A Typology of Metropolitan Labor Markets in the US'. *Cities* 41 (July): S12–29. https://doi.org/10.1016/j.cities.2014.06.001.
Norcliffe, Glen. 1994. 'Regional Labour Market Adjustments in a Period of Structural Transformation: An Assessment of the Canadian Case'. *The Canadian Geographer / Le Géographe Canadien* 38 (1): 2–17. https://doi.org/10.1111/j.1541-0064.1994.tb01513.x.
OECD. 2019. 'Under Pressure: The Squeezed Middle Class.' OECD.
Olin Wright, Eric. 1985. *Classes*. London: Verso.
———. 1997. *Class Counts: Comparative Studies in Class Analysis*. Cambridge: Cambridge University Press.
Osberg, Lars. 2018. *The Age of Increasing Inequality: The Astonishing Rise of Canada's 1%.* Toronto: James Lorimer and Co.
———. 2021. 'From Keynesian Consensus to Neo-Liberalism to the Green New Deal'. Ottawa: Canadian Centre for Policy Alternatives.
Palma, José Gabriel. 2011. 'Homogeneous Middles vs. Heterogeneous Tails, and the End of the "Inverted-U": It's All About the Share of the Rich'. *Development and Change* 42 (1): 87–153. https://doi.org/10.1111/j.1467-7660.2011.01694.x.
Peck, Jamie. 2010. *Constructions of Neoliberal Reason*. Oxford University Press. http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199580576.001.0001/acprof-9780199580576.
Pendakur, Krishna, and Ravi Pendakur. 2007. 'Minority Earnings Disparity Across the Distribution'. *Canadian Public Policy*, June. https://doi.org/10.3138/cpp.v33.1.041.
Penn, Roger. 1981. 'The Nuffield Class Categorization'. *Sociology* 15 (2): 265–71. https://doi.org/10.1177/003803858101500208.
PEW. 2015. 'The American Middle Class Is Stable in Size, but Losing Ground Financially to Upper-Income Families'. http://www.pewresearch.org/fact-tank/2018/09/06/the-american-middle-class-is-stable-in-size-but-losing-ground-financially-to-upper-income-families/.
Picot, Garnett. 2008. 'Immigrant Economic and Social Outcomes in Canada: Research and Data Development at Statistics Canada'. Analytical Studies Branch Research Paper Series. Ottawa: Statistics Canada.
Picot, Garnett, Feng Hou, and Eden Crossman. 2021. 'Are the Gaps in Labour Market Outcomes between Immigrants and Their Canadian-Born Counterparts Starting to Close?' Ottawa: Statistics Canada. https://www150.statcan.gc.ca/n1/pub/36-28-0001/2021004/article/00004-eng.htm.
Piketty, Thomas. 2013. *Capital in the 21st Century*. Harvard University Press.
Piore, Michael, and Charles Sabel. 1986. *The Second Industrial Divide: Possibilities For Prosperity*. Reprint edition. New York: Basic Books.
Polèse, Mario. 2009. 'Les nouvelles dynamiques régionales de l'économie québécoise: cinq tendances'. *Recherches Sociographiques* 50 (1): 11–40.
———. 2016. 'Nordique Tiger'. *City Journal*. https://www.city-journal.org/html/nordique-tiger-14793.html.
Poulantzas, Nicos. 1975. *Classes in Contemporary Capitalism*. London: New Left Books.
Ramos, Howard, Alan Walks, and Jill Grant. 2020. *Changing Neighbourhoods: Social and Spatial Polarization in Canadian Cities*. Vancouver, CANADA: UBC Press. https://books-scholarsportal-

info.proxy3.library.mcgill.ca/en/read?id=/ebooks/ebooks5/upress5/2020-04-13/1/9780774862042#page=74.
Reeves, Richard V. 2017. *Dream Hoarders: How the American Upper Middle Class Is Leaving Everyone Else in the Dust, Why That Is a Problem, and What to Do about It*. Brookings Institution Press. https://muse.jhu.edu/book/51694.
Rodríguez-Pose, Andrés. 2018. 'The Revenge of the Places That Don't Matter (and What to Do about It)'. *Cambridge Journal of Regions, Economy and Society* 11 (1): 189–209. https://doi.org/10.1093/cjres/rsx024.
Roediger, David. 2020. *The Sinking Middle Class: A Political History*. O/R Books.
Rose, Damaris, Amy Twigge-Molecey, University of Toronto, and Cities Center. 2014. *A City-Region Growing Apart?: Taking Stock of Income Disparity in Greater Montréal, 1970-2005*. http://www.deslibris.ca/ID/240283.
Ross, Stephanie, Larry Savage, Errol Black, and Jim Silver. 2015. *Building a Better World: An Introduction to the Labour Movement in Canada*. Third. Winnipeg: Fernwood Press.
Rutherford, Tod. 1996. 'Socio-Spatial Resutructuring of Canadian Labour Markets'. In *Canada and the Global Economy: The Geography of Structural and Technological Change*, 407–33. Montréal and Kingston: McGill-Queen's University Press.
Saez, Emmanuel. 2020. 'Striking It Richer: The Evolution of Top Incomes in the United States (Updated with 2018 Estimates)'. UC Berkeley. https://eml.berkeley.edu/~saez/saez-UStopincomes-2018.pdf.
Sassen, Saskia. 2001. *The Global City: New York, London, Tokyo*. Princeton: Princeton University Press. https://doi.org/10.1515/9781400847488.
Savage, Mike, Fiona Devine, Niall Cunningham, Mark Taylor, Yaojun Li, Johs Hjellbrekke, Brigitte Le Roux, Sam Friedman, and Andrew Miles. 2013. 'A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment'. *Sociology* 47 (2): 219–50. https://doi.org/10.1177/0038038513481128.
Scott, Allen J. 2008. 'The Cognitive-Cultural Economy and the Creative City'. In *Social Economy of the Metropolis*. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199549306.003.0004.
Scott, Katherine. 2022. 'A Bumpy Ride: Tracking Women's Economic Recovery Amid the Pandemic'. Beyond Recovery: Toward a Gender-Just Economy. Ottawa: Canadian Centre for Policy Alternatives.
Shearmur, Richard. 2010. 'Editorial—A World Without Data? The Unintended Consequences of Fashion in Geography'. *Urban Geography* 31 (8): 1009–17. https://doi.org/10.2747/0272-3638.31.8.1009.
———. 2015. 'Dazzled by Data: Big Data, the Census and Urban Geography'. *Urban Geography* 36 (7): 965–68. https://doi.org/10.1080/02723638.2015.1050922.
Stanford, Jim. 2008. 'Staples, Deindustrialization, and Foreign Investment: Canada's Economic Journey Back to the Future'. *Studies in Political Economy* 82 (1): 7–34. https://doi.org/10.1080/19187033.2008.11675062.
Statistics Canada. 2015. 'The Surge of Women in the Workforce'. Ottawa. https://www150.statcan.gc.ca/n1/pub/11-630-x/11-630-x2015009-eng.htm.
———. 2022. 'The Daily — Canada's Large Urban Centres Continue to Grow and Spread'. 9 February 2022. https://www150.statcan.gc.ca/n1/daily-quotidien/220209/dq220209b-eng.htm.
Taylor, Miles. 1997. 'Dror Wahrman, Imagining the Middle Class: The Political Representation of Class in Britain, c. 1780–1840. Cambridge: Cambridge University Press, 1995. Xiv + 428 Pp. $69.95 Cloth; $22.95 Paper.' *International Labor and*

Working-Class History 51 (April): 213–16. https://doi.org/10.1017/S0147547900002246.
Temin, Peter. 2017. *The Vanishing Middle Class: Prejudice and Power in a Dual Economy*. The MIT Press. https://mitpress-universitypressscholarship-com.proxy3.library.mcgill.ca/view/10.7551/mitpress/9780262036160.001.0001/upso-9780262036160.
United Nations. 2020. *World Social Report 2020: Inequality in a Rapidly Changing World*. UN. https://doi.org/10.18356/7f5d0efc-en.
Vosko, Leah. 2006. *Precarious Employment: Understanding Labour Market Insecurity in Canada*. Montreal: McGill-Queens University Press.
Wahrman, Dror. 1995. *Imagining the Middle-Class: The Political Representation of Class in Britain 1780-1840*. Cambridge: Cambridge University Press.
Walks, Alan. 2011. 'Economic Restructuring and Trajectories of Socio-Spatial Polarization in the Twenty-First Centry Canadian City'. In *Canadian Urban Regions: Trajectories of Growth and Change*, 126–59. Toronto: Oxford University Press.
———. 2013. 'Income Inequality and Polarization in Canada's Cities: An Examination and New Form of Measurement'. August 2013. https://www.deslibris.ca/ID/240451.
———. 2014. 'Income Inequality and Polarization in Canada's Cities: An Examination and New Form of Measurement'. Cities Centre, University of Toronto. http://www.deslibris.ca/ID/240451.
Walks, Alan, Mihaela Dinca-Panaitescu, and Dylan Simone. 2016. 'Income Inequality and Polarization in the City of Toronto and York Region'. *University of Toronto Cities Centre*, 47.
Walks, R Alan. 2001. 'The Social Ecology of the Post-Fordist/Global City? Economic Restructuring and Socio-Spatial Polarisation in the Toronto Urban Region', 41.
Wang, Weimin. 2021. 'The Oil and Gas Sector in Canada: A Year after the Start of the Pandemic'. Statistics Canada. https://www150.statcan.gc.ca/n1/pub/36-28-0001/2021007/article/00003-eng.htm.
Yalnizyan, Armine. 2007. 'The Rich and the Rest of Us'. Growing Gap. Ottawa: Canadian Centre for Policy Alternatives.
Zorn, Nicholas, and Elmer van der Vlugt. 2019. 'La Classe Moyene Québécoise: En Meilleur Santé Que Celle Du Reste Du Canada'. Observatoire Québécoise de Inégalités.