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Article abstract

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CLOSING UP SHOP: EXPLORING MEDIA COVERAGE OF PLANT CLOSURES IN ONTARIO, CANADA

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Abstract: The ongoing issue of plant closures is a significant concern for advanced economies. Consequently, there is a need to update our understanding of plant closures to align with present-day socioeconomic contexts. This paper examines the causes and impacts of plant closures across various contexts in Ontario, Canada, using a media analysis approach. Specifically, 1,157 news articles from 2000 to 2019 are analyzed to gain insights into plant closures in the province. Utilizing media coverage as a novel and robust data source, this study offers a regional perspective on the causes and impacts of plant closures. The identified causes of plant closures include market forces, corporate factors, endogenous factors, economic crises, and globalization. These causes have effects at multiple levels, ranging from the individual to regional.

Keywords: Plant closures; Causes; Impacts; Media analysis; Ontario; Economic Restructuring

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INTRODUCTION

The economic restructuring of advanced economies since the 1970s has led to significant challenges posed by ongoing plant closures (Sutton et al., 2022). This restructuring, in a post-industrial era, is characterized by a shift from traditional industrial activities (e.g., manufacturing) to service and knowledge-based sectors (Bourne et al., 2011; Powell & Snellman, 2004; Vanchan et al., 2015; Wolfe & Gertler, 2001). Plant closures significantly impact local economies, especially in small towns and cities, where a few large manufacturers are often the economic backbone.

Regardless of the rate or scale, these ongoing closures can be very disruptive due to their local multiplier effects, highlighting the need to understand current broader representations and socioeconomic effects of such events. Hence, our objective is to examine the causes and impacts of recent plant closures. However, obtaining comprehensive plant closure data, especially at a regional level, can be challenging due to confidentiality, legal issues, cost implications and limited information. Consequently, analyzing publicly accessible media coverage offers a pragmatic approach, potentially providing timely and contextual insights into spatially-extensive and diverse public perspectives on plant closures.

Within this context, our study is guided by the following research question: what are the causes and impacts of plant closures across Ontario, Canada, from 2000 to 2019, as noted by the media? This paper aims to address an identified research gap concerning the reliance on outdated studies, thereby contributing to the plant closure literature. Primarily, recent advancements and shifts in paradigms (e.g., technology) potentially render conclusions drawn from older studies, including Bluestone and Harrison (1982), Nigel (1990), and Massey and Meegan (1982), less relevant to present-day contexts. While older studies provide valuable insights and foundational knowledge, it is essential to supplement them with more recent research to ensure a comprehensive and up-to-date understanding of the ongoing processes of plant closures.

Consequently, we conduct an analysis of media coverage of plant closures to provide an updated perspective. Media coverage can offer an important source of information through, for instance, a regional perspective on the processes of plant closures. This paper adds to recent attempts on conducting media analysis of plant closures within the realm of regional studies and economic geography. The present study builds on the methodology used by Sutton and Arku (2024), who take a broader approach in analyzing media narratives of plant closures and the dynamics that shape these narratives in Ontario. In contrast, this study offers a different perspective on plant closure dynamics by examining the causes and impacts of plant closures in Ontario. In doing so, the paper addresses a research gap identified by Sutton and Arku (2024).

We address our research question using the Province of Ontario as a case study. Case studies involve examining a contemporary, complex phenomenon, within some real-life context, especially when the researcher has little control over the events, using a variety of evidence including documents, interviews and observations (Yin, 2003). In our context, we present a case study on plant closures in Ontario to gain a rich and up-to-date understanding of their causes and impacts within its real-life context using media coverage.

As Canada's industrial and economic hub (Ontario Government, 2021), the province has faced significant challenges due to plant closures, a trend mirrored in advanced economies globally. Particularly since the early 2000s, the Province has witnessed a substantial decline in its manufacturing sector, with over 250 closures reported since 2008 (Sutton et al., 2022), engendering discussions on regional economic resilience (Sutton et al., 2023). These closures have had

profound impacts on local economies within the province, and were extensively covered by both local and national media outlets due to their far-reaching consequences.

The paper is structured as follows. The next section provides an overview of the plant closure literature and competing theories, followed by the methodology employed in the paper. The penultimate section presents the results, while the final section offers an in-depth discussion and concludes.

BACKGROUND

Plant closures

Since the turn of the 21st century, most advanced economies have been plagued by significant declines in employment and economic activity within their manufacturing sectors. Notably, the extent of deindustrialization varies across spatial scales (e.g., city-level), reflecting their diverse economic landscapes. On an international scale, the extent of deindustrialization differs among Organization of Economic Cooperation and Development (OECD) countries. For instance, Canada, Denmark, the United Kingdom, Sweden, France, Israel, and New Zealand have experienced substantial declines in the share of manufacturing employment and gross domestic product (GDP) in the last two decades compared to others (OECD, 2023). Moreover, the impacts of deindustrialization and ensuing plant closures differ markedly among regions within these countries, with industrialized regional economies bearing the brunt of the consequences. In Canada, for example, Ontario, the country's industrial heartland, has experienced substantial manufacturing employment losses compared to other regions. Although it only possessed roughly half of the country's manufacturing workforce in the 1980s, Ontario accounted for 90% of such employment losses between the 1980s to 2010s (Ray et al., 2017).

Accounts of plant closures and their impacts, well documented by scholars such as Bluestone and Harrison (1982), Fothergill and Nigel (1990), and Massey and Meegan (1982), reveal adverse effects on local economies including mass redundancy, increases in precarious employment, loss of social cohesion, lowered business confidence, reductions in local tax bases and outmigration (Chapain & Murie, 2008; Cleave et al., 2019; Sutton et al., 2022; Tomaney et al., 1999). Impacting macro-economic trends, plant closures and births can play a pivotal role in shaping the evolution of economies (Bernard & Jensen, 2007). Thus, while presenting significant challenges, the global restructuring process and resulting plant closures also offer opportunities (e.g., industrial diversification) for economic adaptation and future success.

Current evidence suggests that plant closures exert varied impacts on local economies, with the magnitude of these effects influenced by factors such as the size of the economy and the responsiveness of local economic actors to closures. Concerning the former, plant closures in smaller cities have more severe repercussions, setting off cascading effects on other sectors, notably the service industry. In comparison, plant closures in large cities, despite still having a severe effect, have less of an impact as the loss of employment comprises a smaller portion of the city's employment base. In addition, large cities are typically better positioned to absorb redundant workers due to having a larger and more diverse economy (Cleave et al., 2019; Sutton et al., 2022). There is however the risk that the redundant workers are absorbed into unskilled jobs in the service sector, resulting in wage decreases and labor skill mismatches (Bailey et al., 2012; Sutton et al., 2022). Regarding the role of agency, Van Winden (2008) and Martin and Sunley (2006, 2015) posit that local economic actors play an active role in shaping the outcomes of plant closures.

For example, Bailey and MacNeill (2008) found that the Rover Task Force's efforts in the West Midlands, UK, in 2005 helped connected suppliers adapt and diversify, ultimately saving thousands of jobs.

Overall, economies are still being shaped by the forces of economic restructuring. The continued restructuring process is evident by the fact that advanced economies like Ontario are experiencing notable employment growth in other sectors like services and emerging green industries (Statistics Canada, 2024). Research typically ascribes globalization, technological advancements, and trade liberalization as the underlying general forces behind closures and the broader process of economic restructuring (e.g., Beer & Thomas, 2008; Cleave et al., 2019; Sutton et al., 2022; van Neuss, 2018). However, greater investigation into the causes as well as the impacts of plant closures is needed and remains critical, especially given the significant challenges closures pose for residents and localities, and the imperative to understand how mature industrialized economies respond and adapt to such restructuring.

Competing plant closure theories

Along with growing concerns regarding the vitality and well-being of localities due to plant closures in advanced economies, so too has the expansion of empirical research and theoretical development in this field. Concerning the latter, although theories on plant closures are still underdeveloped, three main strands have emerged: (1) neo-classical economics, (2) managerial economics, and (3) political economy (Tomaney et al., 1999).

Neo-classical economic theory suggests that plant closures are attributed to economic rationality and market competition (Tomaney et al., 1999). That is, when plants become unprofitable due to market competition, corporations close their plants under the premise of profit-maximizing behaviour. This perspective emphasizes that plant closures are inversely related to profitability and capital intensity of the industries' technology (Henderson, 1980). Thus, "industrial closures are a natural feature of the economy" (Tomaney et al., 1999: 402). Simply put, the cause of closure is placed on plants' performance. Healy (1982) finds that plant closures in Britain's manufacturing sector are positively associated with plants' profitability.

The managerialist economic theory attributes plant closures to corporate strategy, market dynamics, and competition (Tomaney et al., 1999). Plant closures, in this view, are ultimately a corporate strategy in response to changing market dynamics and competition (Kirkham & Watts, 1997, 1998). Corporations attempt to adapt to changes in their economic landscape, such as market decline, new entrants, and changes in buyer and supplier relations. Plant closures result either from the process of strategic adaptation or the failure of corporations to adapt (MacLachlan, 1992). Thus, the causes of closures are not solely tied to plants' profitability. Corporate adaptive strategies that result in plant closures stem from production rationalization, technological investments, cost-cutting measures, among others (Fassin et al., 2017).

More recently, a political economy theory of plant closures has been put forth, which situates closures within the capitalist economy (Tomaney et al., 1999). In particular, the theory argues that the conceptualization of plant closures should be: "founded upon spatialised social relations and characterised by a social process of production that unfolds over time, across space and in place" (Pike, 2005: 95). The political economy approach to plant closures provides greater insight into causes of closures by going beyond identifying causal factors and examining the national and international social processes of production and consumption in which plants are embedded (Greco & Yamamoto, 2019; Sutton et al., 2022). For instance, this approach provides greater clarity into why some corporations close profitable plants in search of alternative investment opportunities

(Tomaney et al., 1999). Ultimately, the political economy theory provides a conceptual framework in which to view plant closures.

Research area

The Province of Ontario, one of Canada's ten provinces and three territories, has a population of 14.2 million, making it the most populous province in the country (Statistics Canada, 2021). It serves as Canada's primary economic hub, contributing about a third of the national GDP (Ontario Government, 2021). Since the 1970s, Ontario has undergone economic restructuring, transitioning from traditional industries to service and knowledge-based sectors (Bourne et al., 2011; Wolfe & Gertler, 2001). This is influenced by globalization, technological advancements, and trade liberalization (Beaulieu, 2001; High, 2015; Norcliffe & Bates, 2018; Pitblado & Mawhiney, 1999; Sutton et al., 2022).

Notably, the succession of trade agreements in North America, from the US-Canada Free Trade Agreement (FTA - 1989) to the North American Free Trade Agreement (NAFTA - 1994) to the present Canada-United States-Mexico Agreement (CUSMA - 2020), have intensified competitiveness in the southern parts of USA and Mexico, leading to the relocation of labor-intensive industries to regions with more flexible labor laws and lower costs of production (Sutton et al., 2022). Similarly, the termination of the 1965 Canada-US Auto Pact in 2001 (Crane, 2006) and the long-standing Canada-US softwood lumber dispute (Global Affairs Canada, 2024), have diminished Ontario's competitiveness in the automotive and forestry sectors, respectively. Despite these institutional changes, Ontario's industrial base still remains vital, and the regional economy has seen significant growth overall (Statistics Canada, 2022). In other words, Ontario's economy is still growing in this post-industrial era (Statistics Canada, 2024).

METHODOLOGY

This section outlines the collection and analysis of media coverage to examine the causes and impacts of plant closures in Ontario, Canada.

Data source

This paper utilizes data sourced from Ontario-based newspapers, focusing on a media analysis of news articles spanning 2000 to 2019 from 102 newspapers across the province. Additionally, it incorporates content from three national newspapers: *The Globe and Mail*, *The National Post*, and *The Canadian Press*. The comprehensive dataset enables the paper to effectively investigate its research inquiries.

Sampling strategy

A systematic review of news articles covering plant closures in Ontario spanning two decades (2000–2019) was undertaken, commencing from a pivotal point in the early 2000s when such closures emerged as a significant economic concern in the region (Constantelos, 2014; Statistics Canada, 2024). The study concludes in 2019, as the COVID-19 pandemic disrupted the provincial economic landscape in a unique manner, requiring an analysis of its own. This extensive timeframe facilitates a thorough examination of media portrayal regarding plant closures, encompassing key economic shifts in Ontario, including growth periods (i.e., the early 2000s and 2010s) and the 2008 global recession.

A dual approach was employed to select appropriate news articles for this study. First, the ABI/INFORM Collection database was utilized, which gathers articles from various sources on plant closures in Ontario. Starting in the 1970s, this database collects full-text documents covering a diverse range of subjects such as manufacturing, economic conditions, and business activities. Specifically, the database archives newspapers from various outlets, spanning national to local/regional

scales, that document plant closures in Ontario since the 2000s. Second, the online search engines of Ontario's 102 news stations were used to identify any articles not captured by the ABI/INFORM Collection database. These search engines identify articles produced by the respective news outlets or their affiliated media conglomerates, as well as those acquired from national newspapers including *The National Post*, *The Globe and Mail*, and *The Canadian Press*.

In line with our study's objectives, our sampling strategy extracted news articles published between January 1st, 2000 and December 31st, 2019. We used the following key words in extracting relevant news articles: "factory", "plant", "closure", "shutdown", "manufacturing", "automotive", "downsize", "layoffs", among others. Altogether, our sampling strategy identified over 6,000 newspaper articles. Following the sampling strategy adopted, screening processes were used in the selection of our final sample for the study. Two researchers independently screened the identified articles, removing duplicates and irrelevant ones. Articles were deemed relevant if they primarily focused on an industrial plant in Ontario, that is in the process of closing or has closed, between 2000 and 2019. This includes editorials and news stories specifically related to plant closures, excluding general discussions about industrial plants.

Additionally, only news articles written in English were included due to language barriers, leading to the exclusion of a few local French news outlets. Any conflicts during the screening process were resolved by a third researcher. Following screening, the final dataset consisted of 1,157 news articles, ranging from approximately 70 to 4,150 words, with an average length of 690 words. The data was collected in 2022.

Analysis

We conducted a thematic analysis to systematically examine the final sample of news articles. This method serves as an analytical tool to identify, analyze and interpret patterns or "themes" within qualitative data (Clarke & Braun, 2017). Specifically, we used the NVivo software to extract key themes from the news articles. Two researchers were involved in this process – while one researcher coded the news articles, the other reviewed the coded material to verify the accuracy and reliability of the collected data.

To note, our work is a component of a broader project that investigates media narratives and plant closures in Ontario. The project took an inductive coding process, in which the chain of observation moves from newspapers to themes and then subsequently, themes were divided into subthemes (codes) and subthemes into subcodes. Specific to our paper's objectives, two main themes emerged: *causes* and *impacts* of plant closures. Regarding *causes*, 5 subthemes were identified. Following this, 18 subcodes related to these 5 subthemes were further developed. These subcodes are categorized by their broader underlying subtheme (see Table 1).¹ Similarly, concerning *impacts*, many subthemes related to spatial extents of impacts emerged as well, with corresponding subcodes being developed. In total, as seen in Table 2, 16 subcodes were developed and further categorized by spatial scale (i.e., local, regional and provincial). To ensure robustness in the coding process, a codebook was created and used by the research team. In total, the coding process took approximately four months.

Importantly, media outlets, coupled with their narratives, were assessed based on their political leanings, ownership and the size of the city they operate. Political leanings were ascertained based on evaluations from external sources.² As expected, political bias of news outlets is influenced by their media ownership, whether they were independently owned or part of a media conglomerate. We find

an approximately equal distribution of left-leaning and right-leaning newspapers, with the majority adopting a centrist stance. The cities hosting the media outlets were categorized as small, medium, or large based on the Population Centre Classifications from Statistics Canada. Altogether, considering variations in political orientation, ownership, and city size enhanced the representativeness of the analysis.

RESULTS

Between 2000 and 2019, media coverage extensively highlighted the underlying causes and subsequent impacts behind plant closures in Ontario. Over this timeframe, approximately 257 plant closures were documented, each receiving an average of eight reports spanning from announcement of plant closure to final closure. The subsequent sections are organized according to the prominent themes identified in the analysis: the *causes* and *impacts* of plant closures.

Causes of plant closures

Many reasons were given for plant closures in Ontario from 2000 to 2019. To provide a comprehensive overview, the causes noted in news articles for plant closures were grouped into five broad themes (Table 1): market forces (31%), corporate factors (28%), endogenous factors (23%), economic crises (10%), and globalization (7%). Although these broad themes are discussed separately below, the news articles typically attributed closures to various causes simultaneously. Simply put, multiple factors and forces simultaneously influence plant closures.

Table 1. Causes of plant closures

Broad Themes	Specific Causes
Market forces	<ul style="list-style-type: none"> • Shift in international demand • Volatile foreign exchange rates • Diminishing international prices for raw materials • Downturn in market share • Changes in market dynamics
Corporate factors	<ul style="list-style-type: none"> • Mergers and reorganization • Subcontracting tasks • Product flaws • Transition to added-value goods • Production adjustments • Innovation and automation
Endogenous factors	<ul style="list-style-type: none"> • Manufacturing and operational expenses • Labor unrest and union disputes • Legislative actions
Economic crises	<ul style="list-style-type: none"> • Unexpected economic slowdowns (e.g., recessions)
Globalization	<ul style="list-style-type: none"> • Trade market deregulation • Economic liberalization • Trade restrictions

The first notable cause of plant closures is *market forces*. This pertains to situations related to shifts in national and global markets, encompassing fluctuations in global demand and the Canadian dollar, declining global resource prices, market share reductions, changes in market dynamics, and other similar factors. This was directly captured by a news article, "*Market forces were to blame*"; and subsequently echoed by others.

¹ A detailed description of the coding process, including the list of refined codes, will be provided upon reasonable request.

² External source for checking political leaning: <https://mediabiasfactcheck.com>

The Canadian dollar provides an illustrative example and was often cited as the cause of plant closures in the province. Several news articles identified that the rising Canadian dollar has made Canadian products or goods uncompetitive in the global market, as remarked by one news article, in regard to two Collins & Aikman Corp auto part plants being closed in Toronto and Gananoque in 2007: *"The high Canadian dollar is just killing us"*. As an illustrative excerpt, one news article stated, *"Tembec announced yesterday [2005] it is closing three sawmills and one small paper mill as it tries to cope with the impact of the stronger [Canadian] dollar"*, among other factors, with one of the sawmills being located in Cochrane, Ontario. Another news article reporting on the Penetanguishene CCL Container plant closure in 2016 quoted Sean Washchuk, the company's senior vice-president and chief financial officer, saying the plant struggled *"to remain competitive with a high Canadian dollar"*.

Interestingly, several news articles referred to the Canadian dollar as a 'Petro-dollar' because it fluctuates with oil prices. A news article noted that from 1989 to 2003, the Canadian dollar was 74 cents US, while in 2007, it leaped up to 93 cents and ever further past parity to \$1.10 in 2014. The news article claimed that rising global oil prices and high demand for Canadian oil increased the Canadian dollar, reducing the competitiveness and profitability of Ontario's industrial base.

Another illustrative example is changes in national and global demand, or more specifically, a fall in demand for products, as it was noted by many news articles to have caused plant closures in Ontario. A notable example from the news articles is the closure of the Siemens plant in Tillsonburg, Ontario, in 2017. With one news article stating, *"Production of the [Siemens] factory's 55-metre wind turbine blades ... suddenly wound down ... demand had simply dried up"*. Another article commenting on the Siemens plant closure noted:

"Canadian and international markets want the most competitive technology, which means longer blades, [David Hickey, chief executive of Siemens Wind Power Ltd] said 'The [Siemens] factory here is constrained. To go beyond the 55-metre blades, [it] would require significant investment'."

Another recent example highlighted by a news article was the General Motors (GM) Oshawa plant closure in 2019 as it was reported to have closed *"because the particular vehicles it is tooled up to make are not selling Consumers are increasingly uninterested in buying sedans - they want crossovers, SUVs and light trucks ... The same is true for the other facilities that are closing"*.

A second identified significant contributor of plant closures in Ontario is *Corporate factors*. This cause of plant closures entails decisions and actions undertaken by corporations, such as consolidation, outsourcing, issues with product quality, changes in production methods, technological advancements, and automation. A corporate factor highlighted in several news articles was technological advancements and automation, which increases output but reduces the need for labour, as expressed by one article:

"Factory jobs are vanishing, but not output. Output grew 3.2 per cent last year, significantly more than the overall growth of the economy. Indeed, 2011 continued a trend that stretches all the way back to the early 1980s recession. Factory output grew 59 per cent between 1981 and 2010, according to Statistics Canada. Over the same period, manufacturing employment fell 16 per cent. The big picture is that Canada is producing more widgets with fewer workers, largely because of new technology and automation".

To illustrate this point, one news article noted:

"Maple Leaf Foods Inc. is in the process of closing five aging plants and replacing them with one highly automated factory in Hamilton, Ont. The result: 1,550 jobs lost, but one plant capable of cranking out more hot dogs, bacon and cold cuts than the five it replaces. Maple Leaf's story is an unfortunate side-effect of productivity. Investment in technology makes some jobs redundant".

Another corporate factor commonly noted by news articles to cause plant closures was consolidation and restructuring. For example, one news article reporting on the merger of Kraft and Heinz in 2015, which Berkshire Hathaway and 3G Capital engineered, stated: *"3G Capital is known for slashing costs after an acquisition Kraft Heinz spokesman Michael Mullen said that the company will close ... seven plants over the next 12 to 24 months, shifting work to existing locations, eliminating 2,600 jobs in total"*. One of the seven factories closed was in St. Mary's, Ontario. According to news articles, consolidation and restructuring typically result in several plant closures in their production chain.

Endogenous factors are a third identified cause of plant closures in the province. Endogenous factors are those that are internal to the local economic environment where plants operate, and include production and operational expenses, government regulations, labor strikes, and union conflicts, among others. Most endogenous factors identified were at the provincial level, specifically regarding provincial public policies. Nevertheless, the news articles frequently noted that Ontario does not have a competitive landscape for traditional industrial activities, which results in many plants closing. As noted by one article, Ontario is *"uncompetitive against offshore rivals"*; and the province *"can't compete with the Third World countries"*. To further illustrate this point, one news article stated, *"people in manufacturing are very worried about high energy costs, outdated labour laws, high taxes, so much red tape and runaround [causing further closures] it makes them pull their hair out"*.

An exemplary endogenous factor emphasized in several news articles was production and operation costs. News articles highlighted that production and operation costs in Ontario are not competitive with global competitors. For example, one news article reporting on the closure of the Chatham Navistar plant in 2008 stated that the company *"plans to shift much of its heavy-duty truck production from Chatham to lower-cost locations in the southwestern United States and Mexico"*. Another example brought forth by news articles was the closure of the London Caterpillar plant in 2012. A news article covering the Caterpillar plant closure indicated that the corporation shut down the plant due to high production and operation costs, specifically noting: *"Caterpillar had demanded pay cuts of 50 per cent in many job categories, elimination of a defined-benefit pension plan, reductions in dental and other benefits and the end of a cost-of-living adjustment"*, as it was not profitable due to production and operation costs. Since the demands were not met, the company shut the plant down.

Many news articles noted that the Federal and Provincial governments were responsible for Ontario's uncompetitive environment, indirectly incentivizing plant closures or their relocation to more competitive areas. One article noted: *"We're losing jobs because we're uncompetitive, and if we lose more jobs, it'll be because we're uncompetitive, and that goes back to government policy"*. Specifically, one article noted that corporations need *"relief from enormous pension, health and other obligations that have saddled the North American industry with an uncompetitive cost structure"*. For instance, one article stated: *"Ontario electricity prices are now uncompetitive with many"*

jurisdictions in the United States - another triumph from the central planning playbook that is slowly driving jobs and industry out of the province".

Furthermore, news articles criticized the federal and provincial governments for not trying to enhance the region's competitiveness but simply focused on bailing out large plants facing bankruptcy. News articles pointed out that several plants owned by the Detroit Three (i.e., General Motors, Ford, and Chrysler) still closed in the province, even after receiving multi-billion dollars in bailouts from the Ontario and Federal governments in 2009. For example, an article pointed to the closing of the General Motors Co. Oshawa auto assembly plant in 2019. The news article stated: *"past bailouts haven't led to any loyalty".*

Economic crises like the 2008 Great Recession and the September 11th, 2001 terrorist attacks in the USA have been cited as another reason for plant closures in the province. These events can be considered as unforeseen disruptions to economic stability. Most news articles that attributed plant closures to economic crises commented on the 2008 Great Recession. An example highlighted by media coverage was the closure of Brantford's Eagle Precision Technologies in 2009. As expressed by one news article, *"After 50 years on the Brantford manufacturing landscape, Eagle Precision Technologies has closed its doors, a victim of the global recession".* The news article went on to remark that the

"Federal Liberal international trade critic Martha Hall Findlay couldn't help but be shocked by the candid reality of the economic recession's impact on Brantford, in a tour of empty factory buildings on Thursday. 'You read the statistics of 2,000 jobs lost and the companies that have closed, but it's really graphic when you drive around and see all these empty buildings, nearly empty parking lots and For Sale signs,' Hall Findlay said in an interview from her seat as the bus passed the ninth closed business in the Brantford industrial park".

Overall, as noted by one news article: *"For the [Ontario] factories so long-regarded as a key to Canada's economic health, the global downturn of 2008-09 looked like a death knell".*

A fifth identified significant cause of plant closures in Ontario, as highlighted by media reports during the study period, is *Globalization*. Globalization denotes the growing impact of worldwide dynamics on economic operations, stemming from increased economic interconnectedness, openness, and changes in trade regulations. News articles reported several plant closures due to the introduction of NAFTA in 1994, the end of the Canada-US auto pact in 2001, and the effects of the Canada-US softwood lumber dispute since the 1980s. Regarding NAFTA, Jerry Dias, the national president of the Unifor union that represents Cami workers, in one news article, *"laid the blame for the cuts [at the Ingersoll Cami plant in 2017] on the North American Free Trade Agreement, which opened borders tariff-free between Canada, the U.S. and Mexico",* resulting in jobs being shifted to other plants in the USA and Mexico. With respect to the ending of the Canada-US auto pact in 2001, one article noted,

"Although the pact was abolished in 2001, the closing of the [St. Thomas Ford assembly] plant [in 2011 and the loss of 1,100 jobs] represents the headstone on its grave, and is another sign that the Federal and Ontario governments have lost one of the strongest levers they had to convince auto makers to invest here".

Quoting Dimitry Anastakis, a professor at Trent University, the article notes,

"Ontario and the Federal government do provide quite a bit of direct support through either grants or loans, but these are all carrots which every other jurisdiction in North America can also offer The auto pact was a stick that could be used to force companies to build in Canada or pay significant fines, which they did their best to avoid".

However, the article notes that upper-level governments lost the levers provided by the 1965 Canada-US auto pact due to the World Trade Organization ruling that it was *'illegal under global trade rules'*.

Concerning the Canada-US softwood lumber dispute, one news article stated, Tembec is closing a paper mill plant in Ontario *"as it tries to cope with the impact of the stronger dollar, ... punishing U.S. import tariffs on softwood lumber and other issues".* The news article further noted that the Montreal-based company Tembec as a whole in 2006 *"lost \$134.9-million in [the last three months], battered by the softwood lumber dispute with the United States and the strong Canadian dollar".* In summation, news articles noted that increasing global integration and economic openness as well as continuing trade barriers had accentuated economic restructuring in North America, resulting in many plant closures, especially in Ontario.

Impacts of closures

Across scholarly literature and policy circles, a key concern of plant closures has always been its impacts on the local and national economy, affected workers, and families. Equally, the media has also been concerned with the impacts of closures. The media coverage in Ontario highlighted that plant closures had adverse multi-scalar effects, impacting workers, local economies, and the broader provincial economy (Table 2). Workers were noted to be the most affected by plant closures, with several articles stating that over 300,000 manufacturing jobs have been lost in the 2000s alone. Illustrating the gravity of plant closures on workers, a news article remarked: *"workers have erected a graveyard of wooden crosses. 'Job cemetery' one [cross] said".* Besides losing their job, news articles noted that workers were more likely to experience further cycles of unemployment. Commenting on the massive layoff at the GM plant in Ingersoll in 2017, one news article stated regarding a group of recently hired workers:

"On Monday morning, 60 people will file into work at their new jobs, earning a high wage, pension and benefits — but they will soon be out of work, and they know it These new workers are at the top of the list to get cut this summer, being lowest in seniority, but that is not stopping the applications from pouring in, said Mike Van Boekel, chairperson of Unifor Local 88 that represents workers at the Ingersoll factory".

The previous statement highlights a common impact of plant closures, specifically that factory workers who are laid off are more likely to experience further cycles of unemployment due to, among other factors, having low seniority. To further illustrate the precarious employment of laid-off workers, an interviewed worker commented, *"I was laid off from Cami [factory], I was laid off from Dana [factory] and I am finally getting back on my feet ... Now, there is this pressure again",* with the worker indicating that they may soon be laid off again.

Table 2. Multi-scalar effects of plant closures

Level of effects	Impacts of plant closures
Individual level	<ul style="list-style-type: none"> • Redundancy • Structural unemployment • Increased risk of further cycles of unemployment • Increased precarious work • Lower wage and part-time work
Local level	<ul style="list-style-type: none"> • Mass redundancies and outmigration • Loss of significant employer or erosion of the industrial base • Reduced overall tax base, local demand, and gross domestic product • Lowered position in the urban hierarchy • Diminished social support and deteriorates cities' social fabric
Subnational level	<ul style="list-style-type: none"> • Reduced subnational gross domestic product • Increased unemployment rate and long-term unemployment • The multiplier effect on local employment • Increased subnational deficit and debt[*] • Lowered position in the regional hierarchy[*] • Loss of global leading companies

^{*}Impacts due to experiencing numerous closures

In addition, news articles emphasized that plant closures resulted in the loss of high-paying jobs in local communities. As noted by one news article commenting on plant closures in Ontario, "[manufacturing], traditionally a source of high-paying jobs, has faded to just 11.8 per cent of total employment, half the levels they were in 1976". The previous quote highlights plant closures' impact on redundant workers' capacity to find re-employment in a high-paying job in a similar sector, with some redundant workers shifting from high-paying jobs in manufacturing to low-paying jobs in the service sector. To summarize, plant closures often result in workers experiencing "increases in low-wage, involuntary part-time and precarious employment, as well as long-term unemployment".

Plant closures in Ontario were also noted to have an adverse effect on local economies, especially medium- and small-sized cities. As noted by one news article on the closure of the Heinz factory in St. Marys, Ontario, in 2015: "It's a great loss to our community. We are in shock. For a town of 6,800, Heinz was a big employer". The above story was echoed throughout many news articles. Specifically, the most affected cities were single-industry towns, as expressed by one news article: "All small towns in Ontario and Canada in traditional manufacturing are in trouble. Unless they change, they are going to become ghost towns". As conveyed by the previous quotes, plant closures had a hollowing-out effect in medium- and small-towns, especially single-industry towns, resulting in a reduced labour force and outmigration.

Plant closures were also noted to significantly reduce local economies' tax base and gross domestic product (GDP). As stated by one news article commenting on the closure of a newspaper mill in Iroquois Falls in 2014, the town lost its "largest employer and one of the highest sources of tax revenue for the town... which contributed more than \$1 million in tax revenues each year". In addition, news articles noted that closures reduced their overall GDP, resulting directly from plant closures but also indirectly from a reduction in local demand for services and goods. To illustrate this point, one article noted a local store owner stated they are "down 20 percent" of their normal revenue due to the plant closure, and one restaurant owner noted they "lost 30 to 40 customers a day". Put differently by another article, "For every dollar spent in manufacturing, it creates \$3.25 of economic activity in other sectors, and now that's lost".

Social supports, including charities, were also affected by plant closures. As expressed in one news article, "The United Way of Lon-

don estimates it lost \$108,000 as a result of the Electro-Motive closure. The funding has evaporated just as the need for services such as mental health and financial counselling is growing". Further, news articles emphasized that the social fabric of cities also deteriorates when plants close, especially in small and medium cities. To illustrate this point, Deputy Mayor Dave Beres notes in one news article, "The shutdown [of the Siemens plant in Tillsonburg in 2017] makes the town less social, too. They don't want to go to shows. They don't want to go to restaurants. They don't want to go to the neighbours for steak barbecue and a beer". Overall, the cumulative effect that plant closures had on local economies over time was also noted to affect the standing of cities in the urban hierarchy. For instance, one news article noted that due to several plant closures in London, Ontario, since the 2000s, "London tumbled out of Ontario's top-10 big city list".

Many news articles stated that plant closures adversely affected the Provincial economy, reducing its overall economic prosperity. To illustrate this point, one news article stated, regarding the Ingersoll GM plant laying off 625 workers and moving their production of the Terrain to Mexico in 2017: "An industry rep pegs the loss to Southwestern Ontario's economy at \$50 million to \$80 million". However, the impact of plant closures on the province is more complex than simply reducing the provincial GDP. Expressing this point, one article remarks:

"Over the past decade [2000-2010], Ontario has experienced extraordinary economic decline [due to plant closures]. The facts speak for themselves: 600,000 people unemployed [in all sectors], ... historic deficits and a doubling of the provincial debt that will both stifle job creation and burden future generations. Our province has had a higher unemployment rate than the national average for 69 consecutive months. ... Once-mighty Ontario is now considered a have-not province and receives equalization payments from the federal government. We as a province have been experiencing a net loss of leading global companies for a number of reasons".

Interestingly, the economic restructuring that has occurred in the province over the past two decades has also shifted its position in the regional hierarchy among Canadian provinces.

In addition, news articles emphasized that plant closures also had a multiplier effect in which the loss of a plant resulted in additional jobs being lost in the industry and other sectors. For instance, one news article reporting on a plant closure noted, "the shutdown will hit the industrial economy in southwestern Ontario hard and cut another 1,700 spinoff jobs linked to the locomotive plant". Another news article highlighted that "the St. Thomas assembly plant will close in September 2011, eliminating 1,500 direct jobs and an estimated 6,000 to 9,000 related jobs in southwestern Ontario businesses that supply auto parts and services". In short, the effects of plant closures are widespread across industries and impact economies at various scales (i.e., multi-scalar effects).

DISCUSSION AND CONCLUSION

Plant closures in advanced economies, such as Ontario, have been a subject of considerable concern and analysis, as they reflect broader economic trends and have implications for local communities and the labor force. Current knowledge of plant closures, particularly in Ontario, are constrained by outdated information that may not fully align with contemporary dynamics. As plant closures are still ongoing, it is imperative to continuously monitor this phenomenon, as

both causes and impacts can evolve over time and can vary in intensity. Furthermore, comprehending the complex nature of plant closures necessitates adopting a case study methodology. In response, our study leverages publicly accessible media coverage to investigate the causes and consequences of plant closures across various cities in Ontario. By doing so, we aim to refresh our understanding of this phenomenon and provide insights that reflect the current economic landscape.

The media gave various reasons for why plants closed and hence, why economies were being adversely impacted. Foremost, five broad themes of factors and forces were attributed to causing plant closures: market forces, corporate factors, endogenous factors, economic crises, and globalization. These demonstrate the complexities underpinning plant closures, indicating some of the various dynamics influencing the evolution of economies. In short, the causes identified provide an exhaustive and encompassing understanding of plant closures in the 21st century. Following this finding, we subsequently explored potential impacts. Plant closures had various impacts on Ontario's economy. Some of the impacts of plant closures noted in media reports corroborate previous findings, particularly regarding the redundancies caused by plant closures (Armstrong et al., 2008; Sutton et al., 2022) as well as the increased risk of redundant workers falling into further cycles of unemployment and precarious work (Bailey & de Ruyter, 2015).

One particularly interesting finding is that media coverage illustrates the social impacts of plant closure. Specifically, they demonstrate how plants financially support social services in local economies. Thus, as plants close, local economies experience reduced capacity to assist and support their communities. This finding is particularly troubling given that recent research (Sutton et al., 2022) has found that local economies may experience increased drug use, homelessness, and mental health issues following a closure. This finding suggests that when there is a growing need for social services due to plant closures, local economies are least capable of supporting their residents and maintaining their city's social fabric.

Another notable finding from examining media coverage on the impacts of plant closures is the multi-scalar effects of plant closures. In particular, plant closures affect the redundant workers, their local economy, and the subnational economy in which they are embedded. Previous research has primarily focused on the impact of plant closures on redundant workers (Armstrong et al., 2008; Bailey et al., 2012, 2014) or local economies (Chapain & Murie, 2008; Jofre-Monseñy et al., 2018; Verity & Jolley, 2008), neglecting their multi-scalar effects on subnational economies. Subnational economies are adversely impacted by single closures as well as the accumulation of closures over time. Furthermore, news articles connected plant closures to local and regional economies' position in the urban and regional hierarchy, emphasizing the gravity of closures and their influence on local and regional development.

Our findings do not verify a theory but do indicate that the political economy perspective of plant closures seems to provide an appropriate theoretical lens. Notably, the causes of plant closures noted by media reports in Ontario go beyond the rationale presented by classical economics and managerial economics. Also, the results, especially in regard to endogenous factors and globalization, illustrate that plant closures need to be understood in the context of "spatialized social relations" (Pike, 2005: 95). In this view, it is important to understand the context in which plant closures occur to better grasp their effects. Our case study has specifically illustrated the Ontario context, as reported by the media. Insights from our case study can contribute to expanding the plant closure literature and support policy development in Ontario and abroad.

Overall, although the approach used in this work can be replicated elsewhere, there are considerations to guide future work. Media coverage can be influenced by several issues such as political interests, selective reporting and editorial decisions. We acknowledge that media consolidation and innovation in news delivery may have influenced our data sources over time, but addressing this is beyond the scope of the paper. For this reason, we take the data as presented. Additionally, an underlying assumption is the data claim to be factual reports. We contend that while reporting a plant closure is unlikely to pose issues, identifying the exact cause or effect of the closure could. However, verifying the accuracy of these causes and impacts is outside the scope of this study. In response, future research can contextualize media coverage within broader socioeconomic contexts to address such inherent issues. Also, researchers can diversify data sources such as the complementary use of primary data sources with media coverage to enhance reliability.

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