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# Continuity & Change: Production Restructuring and Labour Market Flexibility in the Food Processing Industry of Canada's Technology Triangle (CTT) and the City of Toronto

by

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## Abstract

Economic and social restructuring, globally, locally and sectorally, has been highly evident over the last two decades. Debate over a real or apparent transition from Fordism to post-Fordism or flexibility often involves analyses of the labour market. As such, labour, flexibility and place have become highly interrelated. Achieving new labour flexibilities are central to the post-Fordist shift. Capital has been attempting to achieve increased levels of flexibility, both across regions and in situ, through labour market flexibility strategies.

This research attempts to: 1) synthesize and evaluate literature pertaining to labour flexibility and the wider Fordist/post-Fordist debate, and; 2) with a focus on production restructuring, recruitment and training, to explore the real or apparent shift towards increased flexibility within Ontario's food processing industry through case studies of two regional economies, Canada's Technology Triangle (CTT) and the City of Toronto.

This study offers a number of insights. First, elements of Fordism, including mass production, appear resilient. Second, firms are pursuing labour flexibility largely through numerical means. Third, social and spatial segmentation of the labour market is highly apparent. Finally, both sector and geography appear to matter. Despite similar pressures for change, these processes were locally constituted. Numerical flexibility and flexible training regimes, for example, have been pursued more aggressively in the CTT than in Toronto.

Restructuring in the food processing industry certainly does not appear to constitute an outright rejection of Fordism. This industry is characterized by aspects of both continuity and change. The food industry has been able to reinvent itself through the pursuit of numerical flexibilities, a high percentage of female labour and a general intensification of the labour process.

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## 1.0 Introduction

Capital and labour, on a global scale, have undergone a period of extreme flux. It appears likely that this period of change will persist, with the outcome very much in doubt (Betcherman 1996). New market conditions, intensified competition, increased numbers of actors and products and technological advances have all contributed to economic and social restructuring. Change has been especially evident within the modern industrial economies (Tickell & Peck 1992; Betcherman 1996). Record corporate profits, mergers and high salaries co-exist alongside record bankruptcies and stagnating worker incomes. These trends appear to exemplify the current nature of restructuring, which includes global and sectoral shifts in investment and employment. While the extent of the shift from a traditional Fordist structure to flexibility is highly contested, it is obvious that change is underway.

New market conditions have led to radical changes in the role of both capital and labour. Faced by such conditions, many firms have turned to increased flexibility in their workforces as a means to increase revenues (Mayo *et al.* 1992; Vickery & Wurzburg 1996). This tendency, identified across many sectors and regional economies, has not been solely firm led however. Deep and complex changes have occurred at a social and institutional level that have allowed for, and perpetuated, these shifts.

In recent years, structural reforms of a broad nature have been pursued in many of the modern industrialized nations, Canada included. Among social policy adjustments, serious policies concerning unemployment and labour markets have been largely ignored. Perhaps labour market issues have been marginalized due to their inherent complexity (Heinelt

1992). Concurrently, labour market responsibility has been passed down to the local level, accompanied by stagnate or declining levels of fiscal support (Heinelt 1992; Swift 1995).

With labour flexibility and labour market issues having real implications for national and provincial policy objectives, local initiatives and firm strategies, an appreciation for the dynamics of these complex issues is critical. The objective of this research is twofold: 1) a synthesis and critical evaluation of literature pertaining to labour flexibility and the wider Fordist/post-Fordist debate, and; 2) with a focus on production restructuring, recruitment and training, the real or apparent shift towards increased flexibility may be explored within Ontario's food processing industry through case studies of two regional economies, Canada's Technology Triangle (CTT) and the City of Toronto (formerly Metropolitan Toronto). The remainder of this paper will be divided into five major sections:

**2.0) Literature Review;** where the most relevant literature on restructuring, the flexibility debate and local labour markets is reviewed and evaluated.

**3.0) The Food Processing Industry;** the Fordism-flexibility debate is investigated for this manufacturing industry. Two regional case studies are introduced.

**4.0) Research Method;** issues of research design and approach are addressed. The method and rationale used in the study are discussed. Reflections on method are offered.

**5.0) Research Results;** where the specific results of study participants are offered in statement, tabular and graphical form.

**6.0) Conclusions & Discussion;** conclusions based on the original data collected for the two regional economies are analyzed and implications discussed. Directions of potential future research stemming from the conclusions and trends of this study are offered.

## 2.0 Literature Review

### 2.1 Restructuring and the Pursuit of Labour Flexibility

#### *2.1.1 The Fordist Institutional Framework*

To understand the on-going restructuring of the workforce, the social and economic context of Fordism must first be addressed. Within this era, prior to much of the popular and academic rhetoric, the seeds were planted for the current focus on flexibilities and the 'flexible firm' (Atkinson 1984, 1987; Alster 1989; Tomaney 1994; Swift 1995). Regardless of a real, radical or overstated shift from Fordism to post-Fordism, certain trends have emerged that cannot be taken in isolation. These trends must be investigated within a greater institutional framework, incorporating the social and economic context of the time.

Social consensus could describe the period between 1945 and 1975 (Swift 1995; Betcherman 1996). For the greater workforce, broad social consensus was based on a number of institutionalized labour rights. The first critical concept was labour market security. The ideal was that full employment was the ultimate goal of the state (Swift 1995; Betcherman 1996). Second, social security, minimum wages and progressive tax policies were pursued in an effort to slow or reduce income inequalities (Sabel 1994). This philosophy was central to Canada's larger nation building project. Third, employment security was institutionalized in the form of various recruitment and dismissal standards. Fourth, employee health, safety and work time was given prominent recognition (Swift 1995). Finally, job security, taking the shape of skill and duty demarcation, emerged as important work criteria during this period (Pollert 1991; Peck 1992). At the firm level these

rights were largely achieved through the collective bargaining process, augmented, however, by government policy and legislation.

Beginning in the 1970s a fundamental breakdown in the cohesion of earlier policies occurred. A number of changes, not taken in isolation, are offered. First, countries outside the traditional economic powers began to emerge on the world scene, mainly offering capital a new geographic location for production based on low cost labour inputs (Sabel 1994; Betcherman 1996). Labour wages and rights in the industrialized world became a cost issue. Second, rapid changes in technology allowed firms to become truly international (Atkinson 1984). Furthermore, capital markets were able to operate globally, on a nearly instantaneous time scale. Third, as national economies began to slow, redistribution policies appeared less favourable. Welfare and social policy became seen as a cost (Swift 1995). Finally, severe inflationary pressures led to a fiscal crisis and subsequent expenditure cuts.

Perhaps the 1945-1975 period represented 'the golden age' for labour in Canada and in much of the industrial world (Betcherman 1996), though the post-war boom era should not be overly romanticized. The boom era was also subject to extensive conflict and contradiction in the real lives of Fordist workers (Pollert 1991). Regardless, evidence from many regional economies highlights a deep rooted change in the expectations of society, the role of government and the organization of firms in the past two decades.

### *2.1.2 Post-Fordism: The End of the Golden Age?*

Growing evidence points to the mid-1970s as a time of capitalist crisis in much of the industrialized world. Fundamental private and public organizations, structures and

institutions, taken as given in the previous era, have been undergoing considerable change. Flexibility emerged in the 1980s as a catch-all term used to describe apparent shifts in the labour market and the economy more broadly (see Atkinson 1984, 1987; Alster 1989; Piore & Sabel 1984; Scott 1988). Atkinson (1984, 1987) has identified five interrelated themes marking the move to increased labour flexibility in the industrialized world: 1) deep worldwide recession and stagnation of markets; 2) significant employment reductions, particularly in manufacturing; 3) lack of commitment to long term employment and investment due to growing risk and uncertainty; 4) increased pace of technological change, and; 5) redeployment of working time in more unconventional methods.

The above changes would not have been possible or, at the very least, had the impact they have had, without concurrent shifts in the policies of government and other social institutions. The result has been a bullish return to supply-side economic policies. Arguably led by the Reagan and Thatcher administrations of the 1980s, these policies contend that deregulation, structural adjustment and the encouragement of a purely competitive culture will return the industrialized world to post-war boom growth rates. Intensive socialization of these policies have been integral to their lasting acceptability and continued government usage. It is a philosophy of industrial recovery at all costs (Pollert 1991).

Restructuring in the last two decades has clearly been the result of the elaborate interaction of many different forces (Tickell & Peck 1992). These profound changes have been interlinked with, and reinforced by, the national and international deregulation of capital markets (Betcherman 1996). Firms have responded by adopting management strategies emphasizing flexibility and cost control (Betcherman 1996; Vickery & Wurzburg

1996). Individuals and institutions have responded in a much more complex and fundamental manner. Unions have witnessed the weakening of the collective bargaining system and a loss of worker representation, particularly in the United States (Betcherman 1996; Chaykowski & Slotsve 1996). Governments, the historic protector of individuals from crisis and imbalance, have slowly abandoned policies of progressive social and labour activity. This shift reflects deep-seated sociological changes in voter preferences and a response to fiscal difficulties (Swift 1995; Betcherman 1996). Industrial restructuring has led to the formation of new industrial spaces and places and a search for increased flexibility in production (Tickell & Peck 1992; Peck 1996). The search for labour market flexibility is an inherent aspect of this strategy.

## 2.2 The Flexible Workforce

### *2.2.1 Understanding the Local Labour Market*

Labour flexibility and the emergence of the 'flexible firm' cannot be effectively tackled without a thorough understanding of the local labour market concept (Peck 1989, 1992, 1996; Hanson & Pratt 1992). Neo-classical economics has difficulty conceptualizing local labour markets. Open market operations, complete information and perfect competition do not respond well in a complex reality of social and spatial processes. Reality is not the stock market. For example, it is clear that labour markets do not respond immediately to changes in the supply or demand for labour. Minimum wages, contracts and the 'stickiness' of wages do not lend themselves to easy shifts.

Local labour markets are segmented, both socially and spatially (Peck 1989, 1992, 1996; Hanson & Pratt 1991, 1992, 1995; Rutherford 1995). There is evidence that remuneration levels are not solely based on worker education, training and productivity. Many social and personal factors become involved. Worker selection on the basis of personal characteristics, gender, age and race are well documented (Hanson & Pratt 1991; 1992). As well, the use of informal recruitment channels and internal labour markets are highlighted. While these factors may benefit the firm in the short-term, they tend to augment social segmentation in the local labour market. The labour market is not a totally objective system.

Spatial segmentation of the local labour market is typically defined by the type of employee sought and recruitment channel used. For example, the primary labour market for executive managers is likely national and international in scope. In contrast, the extent of the search for a clerical worker is probably local. Purposeful targeting of recruiting practices by firms also creates a spatial map of labour (Peck 1989; Rutherford 1995). When a firm consistently gleans new employees from a certain school or neighbourhood this generates a specific geography. Spatial scales often vary according to the status of the labour market. When the market is 'tight', firms often extend their search boundaries; moreover, tending to emphasize technical skills over social skills. When the labour market is 'loose', firms often reduce their spatial search, turning to informal networks to avoid problems with excessive applications. Hanson & Pratt (1992) assert conclusively that the segmentation of local labour markets is a product of the interaction between employers and employees.

### 2.2.2 *Strategies for Pursuing Labour Flexibility*

Recent debate over the transition from a Fordist to a post-Fordist model of production and organization often revolves around the issue of the labour market (Hudson 1989; Lovering 1990; Storper & Scott 1990; Pollert 1991; Hanson & Pratt 1992, 1995; Amin 1994; Tomaney 1994; Rutherford 1995; Peck 1996). The flexibility of labour is often characterized as geographic alternatives. For example, a regional economy that provides the lowest cost labour inputs may be compared to another region whose workforce is considered highly-skilled. Both offer different forms of labour 'flexibility'. As such, labour, flexibility and place become highly interrelated (Peck 1996). It should be noted, however, that while relocations and closures receive the majority of popular attention, the contemporary period has witnessed significant attempts by management to restructure labour demand (Rutherford 1995). Most restructuring is taking place in situ and by no means does this lessen its geographic importance. Rather, the pursuit of on-site flexibility merely represents the restructuring of product and process at another spatial scale (Peck 1992, 1996).

Peck (1996) outlines two main strategies firms undertake in their attempts to increase labour flexibility. First, an attempt is made at individualizing the employment relation, while concurrently marginalizing collective bargaining arrangements. It is a mistake, however, to rationalize the new individualized order as a clear one-on-one relationship based on new found equality. The general context for relations in the industrialized world has been a shift in the balance of power increasingly in favour of the employer (Drache 1991; Tomaney 1994). Enhanced internal flexibility and adaptability is inherent to these new employment relations. Multiskilling, reduced job demarcation and an overall extension of the range and

depth of individual skills are the usual undertakings (Peck 1992, 1996; Vickery & Wurzburg 1996).

The second strategy that firms seek in an effort to increase labour flexibility is enhanced external flexibility (Peck 1996; Vickery & Wurzburg 1996). External flexibility involves interaction in markets outside the firm, often involving a change in the nature and in the type of employment contracts offered. Recruitment channels are the critical mechanism in this strategy (Hanson & Pratt 1992; Peck 1996). Hanson & Pratt (1992) argue, that contrary to popular perception, firms are keenly aware of the diverse recruitment channels available to them. The level of awareness varies by firm, but it generally appears to encompass all types of labour, from the lowest skilled, lowest paid work to high skill, high compensation positions. However, the use of non-standard and 'emergency' labour is central to external flexibility (Peck 1996; Allen & Henry 1997). Non-standard workforms include part-time, short-time, temporary and self-employment work. Workers in this labour market tend to have lower wages, fewer benefits and less security than the full-time labour market (Betcherman 1996). Another mechanism for enhanced external flexibility is poaching (Peck 1996). Poaching labour from other firms, often local, can be used for rapid recruitment. This mechanism often allows the employer to reduce the costs of training a new employee.

Allen & Henry (1997) assert that increased job insecurity is the corollary of the labour flexibility argument. Based upon Beck's notion of social risk, the authors (1997) draw attention to the risks and insecurities associated with work for a growing number of people. From the view of many 'flexible' workers, it is a sense of insecurity that more accurately defines their experiences, not flexibility (Swift 1995; Allen & Henry 1997).

While there is nothing new about the experience of job insecurity, especially among manual workers, Allen & Henry (1997) argue that job insecurity is now a concern for an increasing number of workers, in both the private and public sectors. What are the implications of increased risk and insecurity? Allen & Henry (1997) point to further divergence in the labour market. For workers in low paid, low skill, non-standard positions, risk and insecurity becomes a difficult trap to escape. For workers with tradable skills, increased risk may bring increased reward in both incomes and opportunities. The result is a bifurcated labour market, where both deskilling and reskilling occur in tandem (Norcliffe 1994).

Outsourcing, subcontracting, strategic alliances and other types of relational contracting have also emerged as organizational and spatial elements in the drive for flexibility (Peck 1992; Sayer & Walker 1992; Allen & Henry 1997). Vertical disintegration in many sectors marks a return to core activities (Vickery & Wurzburg 1996). This strategy of specialization and risk avoidance is perhaps best exemplified through the actions of the automotive industry. Research into contract catering and cleaning services in the U.K. demonstrates the exaggerated extent to which some industries have 'hollowed' themselves out (Allen & Henry 1997). With large employee pools and few other assets, these multi-site operations blur the lines between work organization and geography (Allen & Henry 1997).

In summary, the two basic strategies for achieving increased labour flexibility utilize varying degrees of both functional and numerical flexibilities. Functionally, firms broaden and deepen job design, extend mobility across tasks and often turn to self-managed teamwork or autonomous units. Numerically, firms rely on more quantitative changes to labour inputs, including work hours and the use of non-standard labour. Concurrently, firms

are moving towards more horizontal arrangements. Work and structure are being reorganized by sector and in place in an attempt to regain lost efficiencies. Levels of flexibility, however, may vary greatly across sectors. For example, it is evident that the manufacturing sector utilizes numerical flexibility far less aggressively than firms in the service sector. In terms of place, reorganization strategies are subject to the often unique qualities of place that exist across countries of the industrialized world.

### *2.2.3 The International Perspective*

While the basic elements of flexibility may be recognized across countries, the diverse social, institutional, historical and regulatory frameworks that exist generate very different forms of the final product at the level of the firm (Pollert 1991; Peck 1992, 1996). On some levels, globalization has homogenized flexible strategies. Indicators of economic integration, international trade and foreign direct investment, reveal increased levels of industrial interdependence (Betcherman 1996). As well, for many transnational corporations (TNCs), the traditional model of identification with a home country is being replaced by a more integrated model of worldwide operations (Betcherman 1996). At the same time, however, examples of unique applications, regulations and forms of labour flexibility pervade many regional economies.

Incorporating broad groups of countries, three approaches to labour flexibility and adaptability emerge: defensive, offensive and classical. Defensive flexibility, associated with the U.S., Canada, the U.K. and Australia, is best characterized by deregulation, a shift towards individualized contracts and the extensive use of external labour markets, including

new contract arrangements (Peck 1989, 1992, 1996; Vickery & Wurzburg 1996). This market-driven model strongly adheres to the liberal arrangement of factor and product movements. This strategy, however, varies by the openness of the respective economy, levels of unionization and other local factors. Australia, for instance, having highly liberalized product markets, also has high unionization rates and, until recently, a centralized wage-setting system (Vickery & Wurzburg 1996). Preliminary evidence from this strategy remains unclear, however, recent trends have emerged. First, levels of job insecurity have increased (Peck 1996). Second, there is a growing inequality between wages and wage distribution (Betcherman 1996; Peck 1996). Third, is an increasing proportion of long-term, structural unemployment. Fourth, in some countries, like the United States and the United Kingdom, there are declining levels of union representation; to around 10 to 15 percent in the U.S. (Betcherman 1996; Chaykowski & Slotsve 1996). Finally, many countries have been witness to increased levels of non-standard labour. This includes Canada, where non-standard labour now accounts for 30 percent of total employment (Betcherman 1996).

Offensive flexibility is most often associated with industrial organizations in Germany, Scandinavia and to varying degrees, France, Belgium and the Netherlands (Peck 1996; Vickery & Wurzburg 1996). In contrast with the previous states, these market economies are more regulated and more organized around collective structures. High degrees of cross-skill flexibility are prevalent. This is often equated with heavy investment in education and continuous worker training. The erosion of social and labour protection, a trend within market-driven countries, is less visible in these states (Peck 1996). One aspect often highlighted in the literature (Peck 1992, 1996; Vickery & Wurzburg 1996) are the

complex networks of government and non-governmental organizations that play a significant role in mediating the labour market. For example, in Germany, the local Chambers of Commerce monitor on-the-job training practices for continuous quality (Cooke & Morgan 1990). Offensive flexibility appears to lend itself to longer term strategies and resource allocations (Rees & Thomas 1992; Rutherford 1995).

Classical notions of flexibility rely on a combination of non-standard labour with informal or family work systems. Southern Europe, including Italy, Greece, Spain and Portugal are most often highlighted for their reliance on such systems (Peck 1996). The central government plays only a minor role in constructing an institutional framework. Local governments, in Italy for example, are the prominent institutional actors (Peck 1996). It is culture, rather than the market, that is the critical actor in shaping the labour market. In a negative sense, this work system relies on varying degrees of exclusivity, at the expense of those excluded. It must be noted, however, that this informal, family-based system has been subject to intense pressure from external sources, including the market influenced systems of western Europe and North America (Pollert 1991; Peck 1996).

Vickery & Wurzburg (1996) point to a fourth system of pursuing labour flexibility, one almost exclusive to a particular country. Termed the "firm-specific strategy", it is the Japanese work system (Vickery & Wurzburg 1996). Characteristics include a broadening of job design, greater mobility across multiple tasks, an extension in the range and depth of individual skills and, inherently, extensive training and retraining. Multi-functional teamwork is often key to this model (Vickery & Wurzburg 1996). Internal labour markets are drawn upon heavily. The external labour market is mainly utilized as a pool for new

recruits, not as a pool for replacement workers. Education policy targets broad skills that are highly transferable, leaving firm specific skills for development through in-house training and intra-firm mobility. In large firms, the result has been continuous skill formation, labour reallocation, productivity growth and employment security (Vickery & Wurzburg 1996).

The stresses of intensified global competition and technological advancement have forced these varied approaches to modify themselves. Firms appear to be broadening their use of the four models, adjusting strategies as required (Peck 1996; Vickery & Wurzburg 1996). Firms are moving between external and internal labour markets at a more frequent rate to fit skill needs. For example, German firms, in response to technological change, have been forced to modify their programs towards more continuous skill development at the firm level (Cooke & Morgan 1990, 1991). This has created adjustment problems for many small and medium-sized enterprises (SMEs) as the increased training costs associated with continuous skill development have been transferred from the institutional level to the firm. In Japan, recent economic crisis has given rise to new labour market strategies. Recruitment of technical expertise from the external labour market is emerging alongside established strategies (Vickery & Wurzburg 1996). Firms, across all countries, that resist changing or evolving labour market structures may risk the loss of market share and failure and, for the domestic economy, increased unemployment (Vickery & Wurzburg 1996).

Will these economies remain successful over the medium to long-term? Drache (1991) and Peck (1996) argue that there are a number of inherent difficulties and contradictions in labour flexibility. It is asserted that many of these fundamental problems are already emerging in many localities (Pollert 1991; Hanson & Pratt 1992, 1995; Peck

1992, 1996). The next section of this chapter explores some of these contradictions and problems that have, or may yet, surface under an aggressive labour flexibility strategy.

## 2.3 Contradictions and Problems of Labour Flexibility

While firms and markets may ardently pursue labour flexibility, several issues remain problematic. The contradictions associated with increased labour flexibility lie within the external and internal strategies used in achieving labour flexibility (Peck 1992, 1996). External flexibility, which relies on the increasing use of non-standard labour, offers a number of problems. First, while a firm may increase labour control through the breakdown of collective bargaining arrangements, individualized relations may actually undermine labour control through the loss of supervision, direct, indirect and collective (Peck 1992, 1996).

Second, firms may utilize external flexibilities to avoid the costs of training new workers. These firms or sectors essentially become free riders on the social investments of skill formation in the public sector (Rutherford 1995; Peck 1996). This appears especially true for those workers with lower skill levels (Drache 1991; Peck 1992, 1996). While attractive in the short term, problems may emerge in the medium to long term. For instance, labour poaching from other firms is one popular method of external flexibility (Peck 1992, 1996). When inter-firm poaching becomes popular, firms will tend to underinvest in employee skills. This can lead to local skill shortages and, as such, inflationary pressure on local wages, especially for skilled work (Rutherford 1995; Peck 1996). SMEs may be

particularly vulnerable to labour recruitment and retention difficulties in this type of local labour environment. Evidence from the U.K. bears out this experience (Peck 1996).

Internal flexibility represents the second major contradiction in the flexibility argument (Peck 1992, 1996). With a focus on multiskilling, reduced job demarcation and an extension in the range and depth of individual skill sets, a number of problems emerge. First, while internal flexibilities may enhance the functionality of the workforce, they may concurrently create a more marketable workforce (Peck 1992, 1996). As such, turnover rates may increase in diverse regional economies. One remedy for this trend is higher wages, which may lead to inflationary pressures in the local labour market (Peck 1992, 1996). An unwelcome result for most firms, especially for SMEs competing for labour.

Second, investments in skill formation are expensive and risk laden, with only medium term returns (Peck 1996). Firms often turn to internal labour markets in an effort to avoid these potential difficulties. A stable, internal, labour market may generate complacency. Insulating themselves from the uncertainty of the external market, a firm may become more vulnerable to institutionalization, inertia and collective labour structures (Peck 1992, 1996). The destructive capacity of the external labour market may, paradoxically, help expose the firm to new, highly innovative, labour practice and processes.

The local labour market is constructed in a segmented manner. Increasingly intensive use of both external and internal labour flexibility will likely deepen segmentation in the local labour market (Hanson & Pratt 1992, 1995; Peck 1996). As Hanson & Pratt (1991, 1992, 1995) clearly argue, gender and ethnicity are crucial elements in the social construction of skill and in the operation of the local labour market. Where skill becomes

the main construct of power, heightened segmentation may lead to further marginalization of politically disadvantaged groups (Hanson & Pratt 1991, 1995; Peck 1996). Inequality becomes legitimized under the goals of labour flexibility.

The local labour market and labour flexibility are intensely complex phenomenon. The problems and contradictions associated with flexible labour markets pose a host of regulatory difficulties (Peck 1996). To be deemed successful, economic growth and development must be sustainable over the medium to long term. This is the role for social and regulatory policy. Evidence from other regional economies reveals a diverse array of regulatory solutions to the question of labour flexibility. Flexibility means different things in different places (Pollert 1991). Signs of increasing flexibility are apparent in some regions, while other signals of flexibility remain absent. Nevertheless, all solutions, regardless of place, must be capable of sustaining risk laden, long term investments in innovations, technologies and skills (Peck 1996). This long-term strategy should be the goal of economic development, at any geographic scale.

## 2.4 The Canadian Version of Flexibility

Since the mid-1970s, and highlighted during the recession of the early 1990s, the Canadian labour market has been subject to fundamental transformations in both composition and structure (Rutherford 1996a). Devoted to an open market model of liberal arrangements, Canada's recent labour market history, in broad terms, is very similar to the defensive strategies of the U.S. and the U.K. However, as argued by many observers, a distinct set of Fordist labour market and industrial relations strategies have evolved in a

purely Canadian context (see Donner 1991; Drache 1991; Norcliffe 1994; Stanford 1995; Chaykowski & Slotsve 1996; Rutherford 1996a). The specificity of these national strategies have particular implications for the contested shift towards increased flexibility.

The Fordist era in Canada, while discernible as a period of relative stability and real gain, operated in a different fashion from the U.S. or Europe (Rutherford 1996a). First, in the post-war period, Canada moved more aggressively than the U.S. towards the adoption of a welfare state and Keynesian demand management. This had important implications for the growth of unions and the evolution of strong internal labour markets, especially in mass production and resource sectors of the 1940s and 50s (Norcliffe 1994; Rutherford 1996a).

Second, the Canadian economy is dramatically different from other advanced industrial nations in its level of openness, as defined by historically high levels of foreign capital domination in industry and finance (Norcliffe 1994). Finally, the importance of the resource sector to the Canadian economy, especially in terms of exports, cannot be overstated (Norcliffe 1994). Recent fluctuations in the value of the Canadian dollar, linked to fears of declining resource exports to the Far East, adds support to this observation. Trade in resources has traditionally exposed the Canadian economy to the cyclical nature of resource markets (Norcliffe 1994; Rutherford 1996a). Norcliffe (1994) argues that the Canadian labour market through the Fordist era, and even today, is divided between a core-heartland and a periphery-hinterland. Though, as Norcliffe (1994) point outs, recent restructuring seems to have exposed the core to more dramatic changes in labour demand.

How have these particular set of Canadian labour market adjustments, as described above, played themselves out in the current era? A number of trends appear to be unfolding.

First, the commitment to the Keynesian welfare state seems to be giving way to the Schumpeterian workfare state (Rutherford 1996a), where access to welfare and unemployment insurance benefits have been increasingly tied to job training. Yet, as Rutherford (1996a) argues, this shift towards an active labour market strategy has been self-contradictory, with governments concurrently decreasing levels of funding for training and adjustment programs.

Second, the increased openness of the Canadian economy has resulted in higher levels of long term structural unemployment (Rutherford 1996a). There appears to be a mismatch in the capabilities of workers and skill demands. Despite this mismatch, however, Canadian industry continues to underinvest in employee training (Betcherman 1992).

Third, despite eroding levels of union participation in the U.S., Canadian unionism has shown a relative level of resiliency, even accounting for the large public sector unions in Canada (Norcliffe 1994; Chaykowski & Slotsve 1996). Canadian unions have been able to capture new members in the growing service sector, unlike their U.S. counterparts (Chaykowski & Slotsve 1996; Rutherford 1996a). Canadian labour legislation has remained much more supportive of unionization than has U.S. labour policy and, as such, this has facilitated the efforts of unions to organize new workplaces (Chaykowski & Slotsve 1996).

Finally, a two-tier labour market has emerged in Canada (Drache 1991; Norcliffe 1994; Rutherford 1996a). A core workforce has benefited from increased functional flexibility, resulting in increased wage and job security levels. Concurrently, a growing peripheral workforce has been subjected to increased numerical flexibility, resulting in more non-standard work and less job security. Government calls for increased workforce skill

levels are largely to service managerial and professional occupations in the permanent core (Drache 1991). This contrasts with actual employment growth trends in Canada, which continue to be in occupations requiring minimum or modest skill levels. The three most common jobs for Canadian women in 1996 were retail sales, secretaries and cashiers. Truck drivers, retail sales and janitors were the three most common jobs for men (Carey 1998). Not surprisingly, these positions generally receive low wages.

Private capital in Canada has been demanding increased labour market flexibility. There is a perception that unemployment and a misallocation of employed labour is being caused by inflexibilities in the labour market, specifically payroll taxes, employment security laws and social programs (Stanford 1995). The apparent flexibilities and 'efficiencies' enjoyed by firms in the U.S. are often highlighted. However, evidence supporting the inflexibility of Canadian labour markets is highly contested (see Drache 1991; Norcliffe 1994; Stanford 1995; Rutherford 1996a). Norcliffe (1994) argues that, with the exception of internal labour market development, the rigidities of Fordism never had an opportunity to completely embed themselves in Canada as they did in the United States.

Stanford (1995) presents a number of arguments which call into question the contention that the Canadian labour market is inflexible. The author (1995) argues that Canada's labour market has been almost "hyper-flexible" in recent years. First, upwards of 20 percent of all Canadian workers lose or change jobs each year (Stanford 1995). In fact, Canada's rate of job turnover was among the highest of all industrialized economies during the last recession. Job turnover rates have been accelerating since the 1970s (Stanford 1995). Second, non-standard work arrangements have been growing at a rapid rate, at the expense of

job security and work conditions. One-half of all new jobs created in Canada in the 1980s were of this form (Stanford 1995). Third, the number of overtime hours worked by full-time employees has also increased. In combination, part-timers and full-timers have allowed employers to more precisely respond to production demand conditions. Fourth, in multiple indicators of labour market flexibility over time, including, average sectoral employment volatility, and employment and real output relations, Canada appears significantly more flexible than the U.S. in the period 1983 to 1994.

If evidence reveals that employment is flexible in Canada with respect to real economic activity, even in comparison to the United States, what is the true nature of the rhetoric behind the call for increased flexibility? Stanford (1995) and others (see Drache 1991; Pollert 1991; Tomaney 1994; Swift 1995; Rutherford 1996a), argue that it is an attempt to wrestle away gains made by employees during the Fordist era. Chiefly, the aim is to reduce average labour incomes and discipline organized labour through the deregulation of institutional and social controls over the labour market.

## 2.5 Conclusions on the 'New' Flexibility

New market conditions in the last two decades have led to profound changes in the relationship between capital and labour. Firms, supported by complex changes at a social and institutional level, have turned to the reorganization of work in an attempt to return to post-war growth rates. This tendency has been identified across many regional economies. Economic and social restructuring have led to the formation of new industrial spaces and places and a search for increased flexibility in production and process (Tickell & Peck 1992;

Peck 1996). The search for labour market flexibility has been an inherent component of this undertaking.

Work reorganization strategies are often subject to the unique qualities of place. The local labour market, however, remains a dual system of internal and external markets. Nevertheless, the historical, geographical and regulatory context of the local labour market must be understood. Encompassing groups of countries, four approaches to labour flexibility emerge; defensive, offensive, classical and firm-specific (Betcherman 1996; Peck 1996; Vickery & Wurzburg 1996). Global competition and new technologies have forced firms to broaden their use of the four models, quickly adjusting strategies as required (Peck 1996).

Labour flexibility remains a cautionary tale however. While firms and markets may aggressively pursue forms of labour flexibility, several issues remain problematic and contradictory. Market decisions are not solely based on the objective criteria of the human-capital model, rather, they are socially constructed (Peck 1992, 1996). As such, the local labour market and increased labour flexibility are intensely complex and inherently contradictory phenomenon. Benefits for both capital and labour may be available, but the tendency for demise and crisis also appears elemental. How do we address these difficulties?

Difficulties exist in interpreting flexibility and the emergence of flexible conditions. It remains contested whether flexible strategies are fundamental to greater structural changes in the economy, as suggested by many observers (Atkinson 1984, 1987; Piore & Sabel 1984; Boyer 1987; Scott 1988; Hudson 1989; Sabel 1994; Vickery & Wurzburg 1996), or are they merely reactions to loosening labour markets, changing legislation, high unemployment rates and a general environment of falling expectations (Pollert 1991; Stanford 1995; Swift 1995;

Peck 1996). Pollert (1991) argues that the term flexibility merely obscures changes in the management of labour by imposing a single definition on a diverse number of social realities. Pollert (1991) further asserts that the acceptance of the 'flexible firm' concept has legitimized the rise of authoritarian corporatism in much of the industrialized world.

The social, spatial and regulatory environment will have a profound impact on the type of labour flexibility that emerges in a regional economy; moreover, influencing the sustainability of the particular flexible labour strategy (Peck 1996). Various forms of flexibility have existed throughout capitalist development (Peck 1996). Therefore, as Pollert (1991) and Peck (1996) suggest, perhaps the emerging 'new' flexibilities are not new at all. Rather, increasing labour flexibility merely represents a return to old forms of labour control and a re-working of existing capital-labour relations. Regardless, research must arrive at the realization that labour flexibility and the flexibility thesis may have two sides; flexibility for the employer and rigidity for the employee (Pollert 1991; Swift 1995). Questions must address the terms on which flexibility is set. Flexibility for whom? Clearly, much more time must pass before these global trends bear themselves out and the debate can be acclaimed.

The next chapter of this paper will investigate issues of restructuring and labour flexibility in the context of a specific manufacturing sector, the food processing industry. The real or apparent shift from an era of Fordism to that of post-Fordist flexibility will be highlighted. While widely seen as one of the old, traditional, manufacturers, food processing remains one of Canada's largest employers. Global, national and provincial perspectives on the food industry are offered. Secondary source data outlining the past, current and future state of food processing will be presented.

## 3.0 The Food Processing Industry

### 3.1 Agro-Food Manufacturing: Introduction to a Global Dynamic

The business of food is unique in manufacturing. Food has its own socio-economic, cultural and political characteristics, involving consumption, production and distribution. However, dissimilar to some other commodities, food is essential to life. Unlike automobiles, food is sold and consumed at all stages of production and process (Smith *et al.* 1990). Food has also long acted as a status marker for inequality and class within society (Winson 1993). Geography has highlighted this role in recent years given the often cited North-South global divide (Jarosz 1996). It is clear, however, that the romanticism of the small family farm has yielded to the global, industrial, agro-food complex. The agro-food complex can be divided into two separate, but interdependent, groups: 1) the chain of primary producers and related inputs, and; 2) 'agribusiness', the processors, transformers and distributors of food. No one part is independent of the other (Smith *et al.* 1990; Kenney 1993; Winson 1993).

The rise of the agro-food complex has been a fairly recent event, even in modern, industrial countries, largely evolving since the end of World War II (Friedmann 1982; Winson 1993; Koc 1994). Historically, Friedmann and McMichael (1989) identify two food regimes, based on accumulation, production and the global division of labour. The first, 1880 to 1914, was based upon British hegemony and extensive accumulation. Extensive accumulation refers to rising farm outputs as a product of new land cultivation (Ufkes 1995). The second regime, 1945-1973, was based on U.S. hegemony. International and national regulatory structures fostered world trade expansion and intensive accumulation during this

era. Intensive accumulation was based on increased productivity through increased use of industrial products (Ufkes 1995). The rise of national mass markets and mass production highlight the traditional Fordist character of this period.

Fordist growth in the agro-food industry may have precipitated a transformation in the daily life of middle-class workers in a way greater than any other manufacturing sector (Kim & Curry 1993). For example, although the automobile sector has emerged as the model of routinized and fragmented labour, it is food production that is more dedicated to the assembly line than perhaps any other industrial sector (Smith *et al.* 1990). Also, females have played an enormous role in the development of mass production systems in food manufacturing. Yet, as Smith *et al.* (1990) highlights, the words and experiences of women in the food industry have been largely lost. It was the food industry that pioneered the early use of conveyor-belts and line disassembly in the nineteenth century. Finally, it was the food industry that developed a model of mass production for mass markets in concentrated, integrated plants using dedicated equipment and deskilled labour (Kenney 1989; Smith *et al.* 1990; Kim & Curry 1993). In fact, U.S.-based Hershey committed itself to the ideals of mass production and mass marketing a decade before Henry Ford's Model-T (Smith *et al.* 1990).

Many observers argue that a third food regime is currently evolving. From a nation-state based food economy, the development of a truly transnational agro-food industry can be traced back to the mid-1970s (Friedmann & McMichael 1989; ILO 1989; Ufkes 1993b, 1995; Winson 1993; Bonanno *et al.* 1994; Byé and Fonte 1994; Pritchard 1998). Restructuring has resulted in new intensive accumulation processes, highly-differentiated global food commodity chains, a new international division of labour and the increasing

domination of transnational corporations (Goodman *et al.* 1987; Kim & Curry 1993; Ufkes 1993a; Bonanno *et al.* 1994; Heffernan & Constance 1994). Are these precursors of a post-Fordist shift?

## 3.2 The Fordism/Flexibility Debate in Context

In light of the flexibility debate, how is the global agro-food industry configured and reconfiguring itself? This question has been the focus of some academic inquiry, mainly from researchers in agro-economics (Hart 1992; Amanor-Boadu & Martin 1994; Henson *et al.* 1995; Lanclos & Hertel 1995; Martin 1995; Viaene & Gellynck 1995; Amanor-Boadu *et al.* 1996; Henderson *et al.* 1996) and sociology (Friedmann 1982; ILO 1989; Kenney 1989; Novek 1989; Baxter & Mann 1992; McMichael 1993; Kim & Curry 1993; Gouveia 1994; Stanley 1994). Geography, to a lesser extent, has also addressed restructuring issues within the agro-food industry (Marsden *et al.* 1986; Robinson 1988; Rigby 1990; Tovey 1991; Ufkes 1993a, 1993b, 1995; Marsden & Whatmore 1994; Fagan 1995; Pritchard 1998). The focus for many of these studies has been on regions and industrial sub-sectors of the food industry within Europe and the United States. Issues concerning pricing systems, marketing, supply chains, productivity and spatial change have been highlighted. Literature directly addressing Fordism and flexibility appears less common.

In geography, Marsden *et al.* (1986) represents the landmark study on agro-food restructuring. Marsden *et al.* (1986) examined the contemporary processes modifying British agricultural production. This study identified a shift in capital accumulation strategies and

the merging of capitals from non-agricultural activities. These shifting strategies may signal the beginnings of a larger shift; from Fordism towards increased flexibility.

Fordist structures, revolving around a massive, undifferentiated, consumer market, allowed for a food industry which produced large quantities of food commodities of uniform quality at relatively low prices (Kenney *et al.* 1989). This had two important results: 1) food prices fell in real terms, and; 2) food distribution became increasingly similar to other industrial products. The strong, almost ubiquitous, growth conditions of the 1950s and 60s urged product innovations, such as food additives; thus, pushing food processors to the forefront of power in the agro-food system (Kenney *et al.* 1989).

Post-Fordist advocates often point to the emergence of niche oriented food products as a signal of mass market disintegration (Piore & Sabel 1984; Scott 1988; Sabel 1994). Handicraft, niche markets have long been a factor in the food supply chain (Smith *et al.* 1990). Kenney *et al.* (1989) and Kim & Curry (1993) argue that this current diversity can be explained by two general trends. First, due to immigration, larger and more affluent ethnic groups are demanding non-traditional food inputs. Second, for a growing percentage of the middle-class, large portions of uniformly mediocre food is no longer acceptable. Food is now an 'experience'.

Global-local linkages and the contradictory forces that pervade the Fordism/flexibility debate are very present in the food industry (Fagan 1995; Pritchard 1998). Evidence suggests that global imperatives for competition are often exaggerated. Behind these arguments are local capitals and local managers of global corporations attempting to control their bargaining power over governments and local communities, as well as coping with orders

from overseas headquarters (Fagan 1995). There has been no obvious global shift, in either the control or scope, of the Australian food industry since 1980, in fact, local cooperatives seem to have strengthened (Pritchard 1998). Attempts at globalized production and marketing by Australian food industry firms have resulted in many spectacular failures (Fagan 1995); a theme experienced by Canadian processors during the 1980s (Winson 1993).

National and local institutional frameworks can create great variations between the notion of 'the global market' and actual local conditions (Fagan 1995; Pritchard 1998). For example, the sunk costs which tie firms to communities are often overlooked in post-Fordist research. National and local institutions continue to exert significant influence over the economic and social conditions of production, trade and finances (Ufkes 1993a; Fagan 1995; Pritchard 1998). As Fagan (1995) states, "The food industry is a good illustration of economic geography's unanswered questions about both globalization and flexibility."

Through a case study of the U.S. broiler sector, Kim & Curry (1993), reveal a vertically integrated, automated, mass production industry employing large numbers of waged labour, often in appalling conditions. Despite trends towards process automation, food processing remains a labour intensive operation; thus, large pools of low cost labour are required (Kim & Curry 1993). An industry grounded in Fordist mass production techniques has displayed an improbable ability to reorganize and grow at a spectacular rate. Evidence from Europe suggests that the food industry is currently embracing Fordism (Smith *et al.* 1990; Tovey 1991). As such, Kim & Curry (1993) express concern over the "near-Utopian" views put forth by supporters of the post-Fordist thesis and flexible specialization.

Kim & Curry (1993) provide two main expressions of accumulation in the production of food. First, mass production remains a critical process, as does a vast array of mass produced inputs. Second, a market for niche, or boutique, foods has emerged generating new opportunities for food processors. As such, firms have pushed to diversify and differentiate product lines. This presents a production dilemma. Standardized inputs, especially for brand names, are required for mass market foods. Niche foods often require more discrete inputs and shorter production cycles. As such, firms are experimenting with subcontracting and other production-marketing relations in an effort to manage risk and gain, or sustain, a competitive advantage (Kim & Curry 1993; Ufkes 1995). New flexibilities may have a role in the marketplace, but our affluent forms of consumption still rest on the foundations of mass production and mass consumption (Kim & Curry 1993). The production dilemma brings to the fore the frictional and contradictory relationship that exists between traditional Fordist structures and contested forms of emerging flexibility.

### *3.2.1 Images of Flexibility?: Marketing, Advertising & Corporate Concentration*

Marketing and advertising helps to promote the false image of variety for mass produced food products (Smith *et al.* 1990; Kim & Curry 1993), a common feature of oligopolistic competition in consumer goods industries. Perhaps no other manufacturing sector, with the exception of automobiles, relies on mass advertising and marketing as much as the food industry. In the U.S., food company expenditures on advertising, as a proportion of sales, are greater than those of virtually any other sector, accounting for 32 percent of all advertising expenditures, but only 12 percent of U.S. total manufactured goods (Winson

1993; Lanclos & Hertel 1995). In Canada, eight of the top fifteen firms that purchased mass media advertising in 1991 were in the food and beverage industry (Winson 1993). Winson (1993) identifies two main reasons for the intimate link between marketing expenditures and the food industry: 1) product and brand differentiation, where firms attempt to reduce the elasticity of demand for their products, and; 2) product proliferation, where an oligopolized industry attempts to reduce competition and create barriers to entry without upsetting the existing price structure. This marketing and advertising barrage is directly related to levels of increased corporate concentration in the global food industry (ILO 1989; Winson 1993; Viaene & Gellynck 1995).

Corporate concentration is an important factor influencing restructuring, change and conduct in the food industry. In both North America and Europe, the industry is characterized by increasing concentration (Smith *et al.* 1990; Tovey 1991; Hart 1992; Winson 1993; Heffernan & Constance 1994; Viaene & Gellynck 1995; Food in Canada 1996). The general motivation for corporate consolidation is to acquire leading brand names in increasingly oligopolistic and mature markets (ILO 1989). In the U.K., by 1988, twenty-five firms controlled most of the food system, with the industry being more concentrated than the average for all other manufacturers (Hart 1992).

Viaene & Gellynck (1995) argue that corporate concentration has been largely determined by growing concentration in the retail sector and greater consumer demand for variety and quality. Hart (1992), Wrigley (1992), Winson (1993) and Marsden & Wrigley (1995) have identified tremendous growth in market control by major food retailers in both the U.K. and Canada. Unlike their U.S. counterparts, grocery chains in the U.K. and Canada

have come to rival the large food manufacturers in terms of market power. Through immense oligopolistic buying power, private labeling and shelf space control, U.K. and Canadian grocery chains have turned power relations in their favour (Novek 1989; Wrigley 1992; Winson 1993). Evidence from the U.K. shows how retailers have surpassed food manufacturers in return on capital measures and profit levels (Wrigley 1992).

The regulatory environment has played a tremendous role in shaping relations between food retailers and manufacturers. A history of complacency towards anticompetitive agreements and legislation has long characterized U.K. and Canadian political institutions (Wrigley 1992; Winson 1993). In contrast, antitrust legislation in the U.S. is much more restrictive. This regulatory environment stems from a rich history of U.S. hostility toward increased capital concentration in the retailing sector (Wrigley 1992). These dynamic processes occurring between food retailers and manufacturers underscores the important consideration we must give to the interplay of regulation, location and sector.

Crisis within the U.S. food market itself is also driving corporate concentration. The U.S. market for food products is growing at a rate of only one percent or less per year in real terms (Reed & Ning 1996). Most firms grow through mergers and acquisitions in order to fully exploit markets and capture profits, particularly where brand recognition and loyalty is not strong (Reed & Ning 1996). As Winson (1993) suggests, success or failure in the food industry may not be predicated on efficiency, but by sheer economic power.

In modern, industrial, countries, food manufacturing exhibits high levels of concentration in production and marketing, with diversified and conglomerate leading firms and a relatively low level of technology (ILO 1989). Lanclos & Hertel (1995) argue that

investments in technology and research & development (R&D) are one indirect casualty of concentration in the food industry. With rapid product differentiation being one of the most critical strategies within the industry, many new products are simply slight variations on established products. As such, R&D costs are minimal (Lanclos & Hertel 1995). In fact, most process innovations originate from outside the food industry and this translates into low levels of investment per employee (Viaene & Gellynck 1995). Future trends in corporate concentration include further movement towards a pattern of dominant large firms and a fringe of small, complementary, firms. These small manufacturers will need to focus on, and supply to, niche or local markets (Viaene & Gellynck 1995).

## 3.3 Production Restructuring & Labour Flexibility in Food Processing

Few studies specifically consider issues of production restructuring and labour flexibility within the agro-food industry (ILO 1989; Smith *et al.* 1990; Tovey 1991; Baxter & Mann 1992; Tomoda 1992; Gouveia 1994; Stanley 1994; Ufkes 1995; Amanor-Boadu *et al.* 1996). The ILO (1989) study into social and labour practices in the food and beverage industry, followed by Tomoda's (1992) update, represent important contributions to the literature. Issues under review include: 1) the impact of technology on employment; 2) work organization and industrial relations, and; 3) training.

First, technological advances have contributed to changes in employment requirements for the food industry, both in quantity and in quality (ILO 1989; Tovey 1991; Tomoda 1992). First appearing in the early 1980s, technology has allowed for production rationalization and increases in plant size and output, leading to positive employment gains

for skilled occupations (Tomoda 1992). Plant closures and staff reductions have largely struck unskilled and semi-skilled production workers (ILO 1989; Tomoda 1992). Distribution and packaging systems have been most affected by these new technologies (ILO 1989; Tomoda 1992).

Second, the food industry, contrary to other industrial sectors, is far behind in the application of new forms of work organization; team working, for example (ILO 1989). Industrial relations correspond closely with work organization strategies since the corporate climate can be a critical determinant in the allocation of work responsibilities. The ILO (1989) and Tomoda (1992) found that a majority of TNCs do not adopt sweeping industrial relations strategies, instead, preferring to leave issues of wages and conditions to the local level. Local autonomy, however, does not extend to investment decisions (ILO 1989). Job security, therefore, remains centrally controlled. In general, industrial relations have been far less favourable in the U.S. when compared to Europe and Japan.

Finally, a majority of TNCs have training initiatives and claim to recognize the importance of training. Definitions of training, however, vary widely (ILO 1989). The ILO (1989) and Tomoda (1992) uncover a number of important insights: 1) the majority of training is directed at management and supervisory level staff; 2) the most widespread form of training for workers is informal, on-the-job training; 3) formal training programs for low skilled workers are rare; 4) production employee training is organized at the plant level, not at the headoffice; 5) a majority of TNCs prefer in-house programs over collaborative programs with other firms or training institutions, and; 6) most firms have few problems in recruiting general labour and will target women for non-standard labour contracts.

Baxter & Mann (1992) represents a significant contribution to the discussion of flexible, non-standard, labour arrangements that appear to be increasingly utilized within the agro-food industry. As Betcherman (1996) asserted in Chapter 2, the pursuit of non-standard labour arrangements have been one of the most significant strategies in capital's reorganization of labour over the last two decades.

Certain biophysical factors make the food industry somewhat unique from other manufacturing sectors (Baxter & Mann 1992). Discontinuity between labour time and production process often occurs within the industry. Such discontinuities may be caused by a number of factors, including: 1) great differences in the handling and processing of fresh or frozen products; 2) seasonal differences in product demand; 3) production and labour adjustments for differences between grocery, bulk and food service orders, and; 4) the oldest discontinuity, weather shocks. As such, firms engage in a constant struggle to synchronize labour and production.

More flexible social and labour arrangements, such as part-time, temporary and non-wage labour, aid in minimizing discontinuities between production and labour. It is evident that more flexible arrangements are often predicated on a high proportion of female labour, an arrangement not lost on the food industry (Smith *et al.* 1990; Baxter & Mann 1992; Tomoda 1992). Segregation of the female workforce through contract structures and barriers to skilled jobs have long been evident within the industry (Smith *et al.* 1990). Female labour has often been cheaper and more flexible than machinery; therefore, acting as a disincentive for capital investment. Baxter & Mann (1992) contend that firms embed themselves locally

in an effort to take advantage of flexible, non-standard, labour arrangements; flexibility which varies between localities.

Insights into restructuring and labour flexibility are often uncovered through studies of the U.S. meat packing industry (Gouveia 1994; Ufkes 1995). This sector is often cited based on a recent history of aggressive restructuring, relocation and labour adjustment strategies. A number of critical observations emerge: 1) a trend towards increased scale of production; 2) increased standardization; 3) value-added product development, and; 4) a high level of vertical integration along the supply chain. Left in the wake of restructuring has been disinvestment and social dislocation in the old, Fordist, urban centres of the Midwest. The new boom centres are located in the U.S. Southeast, Southwest and rural Midwest (Kim & Curry 1993; Ufkes 1995).

Labour adjustment, via relocation and new contract arrangements, have been central to the restructuring strategies of the U.S. meat industry. In the 1950s and 60s, a meat-packing employee, while always subjected to harsh working conditions, was at least ensured a middle-class standard of living. Now, meat-packing workers, many of whom are immigrants, illegal aliens and women, receive little more than the minimum wage (Gouveia 1994; Ufkes 1995). Skilled butchers have been displaced by automation and/or general labourers. In terms of training and recruitment, three trends emerge: 1) most jobs require little or no training and provide almost no transferable skills; 2) high labour turnover rates of between 7 to 10 percent a month are not considered unusual, and; 3) injuries and motion afflictions are common and often go uncompensated (Gouveia 1994). From a high-wage sector in the early post-war era, food processing has transformed itself, quite quickly, into a

sector dependent upon low-wage, rural, female and immigrant workers (Gouveia 1994; Stanley 1994; Ufkes 1995).

One of the most in-depth studies on the food industry, in the context of the flexibility debate, is Smith *et al.* (1990). A case study of Cadbury's Bournville, England, factory and headquarters site, this research explores the restructuring of work through the 1970s and 80s. Smith *et al.* (1990) highlights a number of relevant findings. First, post-Fordism supporters contend that flexibility means a greater role for labour in the production process. However, evidence revealed that the dominance of an engineering, Taylorian, culture fiercely resisted labour involvement. Second, flexibility advocates often point to increased levels of skill formation on the plant floor. Evidence runs contrary to this contention. Capital investment at Cadburys during the 1970s targeted semi-skilled, labour intensive, areas of production. Positions largely filled by females were lost and the workforce was formally segmented into a core and periphery (Smith *et al.* 1990). Third, new recruiting methods under flexibility, including aptitude and attitude tests, tend to reduce union control, enhance managerial authority and operate on a task specific basis (Smith *et al.* 1990).

Smith *et al.* (1990) questions the 'new' flexibility thesis. Has change and restructuring in the food industry constituted a wholesale rejection of the past? The authors' say no. Restructuring involves the extension of existing policies and practices in combination with newer, more radical, innovations. The Cadbury experience contains these expressions of both change and continuity. The flexibility thesis has ignored the resilience of mass production in food manufacturing (Smith *et al.* 1990; Kim & Curry 1993). Moreover,

the flexibility thesis has overlooked the ability of the food industry to maintain diverse product lines without necessitating production diversity or enhanced labour skills.

## 3.4 Food Processing: The Canadian Experience

Food processing is one of Canada's largest employers, with a workforce estimated at over 150,000 (Globe & Mail 1992; Statistics Canada 1997). Amongst manufacturers, only the transportation industry has more employees. Mass production techniques in the Canadian food industry were first introduced by the meat packing sector in the early twentieth century (Novek 1989). Large, multi-storied, vertically integrated plants were constructed in many urban locations before WWII, usually where nearby railroad lines could easily transport cattle and hogs (Novek 1989). Work in the food industry was labour intensive and characterized by an extensive division of labour.

Today, Canadian food processing is characterized by a number of interesting factors that help in exploring the contested shift to flexibility. First, reflecting a strong Fordist tradition, the sector is dominated by extremely large, vertically oriented, firms which rely heavily on mass production techniques (Winson 1993; Food in Canada 1994, 1995b). The Canadian industry is also very concentrated (TCI 1995; Food in Canada 1996). Interestingly, Canada's food industry is highly influenced by private, family-owned, structures. Of Canada's top 75 food and beverage firms, nearly 60 percent are privately owned, 26 percent are public companies and 16 percent are cooperatives (Food in Canada 1996). This contrasts sharply with the public ownership structure of the wider global industry (ILO 1989).

Second, unlike many other large manufacturers, there is little evidence of a general move towards agglomeration. Advocates of the 'new' flexibility highlight industrial agglomeration as a key trend supporting the post-Fordist thesis (see Piore & Sabel 1984; Scott 1988; Sabel 1994). A certain degree of clustered activity in the Canadian food industry can be identified for certain sectors of the food economy, especially in the City of Toronto (Gertler 1996b; Ali 1997). However, the concentration of these industrial establishments dates back well into the Fordist and pre-Fordist eras. Similar clustering during the Fordist and pre-Fordist eras has been identified for Toronto's garment industry (Hiebert 1990). Apparent agglomeration in the food industry is not a recent geographic phenomenon.

Third, adversarial exchanges between labour and management have long characterized industrial relations in the food industry (Winson 1993). This historical absence of positive relations between management and labour have certain negative implications, particularly for employee training and skill enhancement initiatives (Amanor-Boadu *et al.* 1996). Often highly charged, poor labour-management relations continue to plague the Canadian food industry (see Brent 1997; Goodwin 1997; Mahood 1997; McKenzie 1997).

Fourth, the food industry has historically had very low levels of investment in new technology and R&D (Messer 1992). Low levels of R&D are defined as below 2.5 percent of sales (see Britton 1996). In a 1979 OECD study on the capabilities of member countries in the food industry, Canada had the second lowest ratio between total R&D expenditures and value added, with only Italy ranking lower (OECD 1979 as cited in Winson 1993). Canadian processors have largely relied on the adoption of technologies developed in other industries and in other countries. In fact, over the last decade, Canadian firms have

drastically reduced R&D staff levels (Messer 1992). This trend appears contradictory to the actions of many other manufacturing sectors.

Fifth, the Canadian food industry has undergone, and continues to experience, a period of intensive restructuring. Individual sectors of the industry, including bakery, dairy and meat, have been stagnate or in structural decline for two decades (Globe & Mail 1992). Corporate merger and acquisition activity in the Canadian food industry has also been robust (Food in Canada 1996; K-W Record 1997a, 1997b; Mahood 1997; Theobald 1997). Transactions involving Canadian firms or subsidiaries had a total value of well over $10 billion in the period June 1995 to May 1996 (Food in Canada 1996). In 1994 alone, Canadian merger and acquisition activity reached a record of 1,066 deals (Food in Canada 1996). North America is now considered the domestic reporting structure (Food in Canada 1995b). The result of this activity has been the loss of approximately 7,000 positions nationwide since 1989 (Statistics Canada 1997). Some observers estimate that 80 percent of the labour force in food processing is at high-risk for job loss (Globe & Mail 1992).

The final characteristic is directly related to the current period of food industry restructuring and represents the focus of this research. While employing a large workforce, labour in the industry is generally low to semi-skilled. Furthermore, the industry relies on a large percentage of female workers (Winson 1993; Amanor-Boadu *et al.* 1996). Achieving new labour flexibilities are central to the post-Fordist shift. However, as Amanor-Boadu *et al.* (1996) describe, effective and progressive training and human resource (HR) developments, especially for production workers, appear limited in the food industry. Novek

(1989) and Amanor-Boadu *et al.* (1996) represent exceptions, as little has been published on issues of labour supply and flexibility in a Canadian food industry context.

Novek (1989) provides an excellent review of restructuring in the Canadian meat packing and food industry during the 1980s, supported by a shop floor study of work reorganization in a Winnipeg meat packing firm. Given a historical context of collective agreements, pattern bargaining and labour stability up until the late 1970s, Novek (1989) addresses issues of labour market restructuring and the Fordist/flexibility debate under a framework of four important trends. First, Novek (1989) identifies a trend towards industrial decentralization; moreover, the geographic relocation of production into rural areas in pursuit of labour cost advantages. The impact of these relocations on wages and job security in the food industry are similar, if less extensive, to trends identified in the U.S. meat packing industry (see Gouveia 1994; Stanley 1994; Ufkes 1995).

Second, Novek (1989) comments on the relationship between specialization and plant geography. Multi-storied, integrated, plants have been replaced by single story, single purpose, plants dedicated to scale and labour cost advantages (Novek 1989). This has allowed processors to take full advantage of mechanization, particularly in materials handling. Third, shifts in marketing and consumer demand have put downward pressure on wages and security in the meat industry. The poultry and fish product sectors, which operate under lower wage regimes, have enjoyed tremendous growth in recent years (Novek 1989). Finally, the industry structure has become more fragmented and competitive (Novek 1989). As such, firms have returned to core products or processes. Recent merger and acquisition trends in the Canadian food industry, however, may be altering this final tendency.

These above mentioned trends have resulted in two main strategies that processors have pursued in response to perceived labour market rigidities: 1) wage cuts, and; 2) higher production speeds (Novek 1989). First, the changing regulatory structure has had a tremendous affect on wages and job security. Management began to pursue more drastic concessions on wage levels and job security in the early 1980s (Novek 1989). The key to labour stability were the master agreements reached under pattern bargaining since 1946 (Novek 1989). In 1984, Burns Meats, filed unfair labour practice charges against the United Food & Commercial Workers (UFCW) in Ontario, Manitoba and Alberta, over the insistence on national pattern bargaining. Labour relations boards in all three provinces upheld the company's position, effectively ending a 38 year old national bargaining system in the meat packing industry (Novek 1989). The end of national bargaining allowed processors to gain significant wage concessions and instill a level of insecurity into the local labour market.

The second main strategy has been a general intensification of labour process (Novek 1989). Production speed has been increased through higher line speeds and automation. In conjunction with increased line speeds, some processors have moved to team working. From Novek's (1989) observations, management enjoys work teams, as peer pressure tends to keep up production speeds. However, from the employee's viewpoint, arguments often occur as workers accuse one another of going too fast or too slow (Novek 1989). One major outcome of increased line speeds and work repetition has been an overall rise in injury claims; 16.08 injuries per 100 employees between 1983 and 1986, twice the average for all manufacturing industries (Novek 1989). The result of lower wages and difficult working conditions within the industry have, unsurprisingly, led to high turnover rates and poor labour-management

relations (Novek 1989). As other studies have suggested (see ILO 1989; Tomoda 1992; Gouveia 1994), such an unstable and poor working environment likely has serious negative consequences for HR, training and safety arrangements for production employees.

Amanor-Boadu *et al.* (1996) specifically highlights a number of issues on HR needs and skills development in the Canadian food industry: 1) training, where provided, goes to those who need it least; management, supervisors and maintenance personnel; 2) new technology and regulatory policies will require workers with higher skills than currently exists; 3) the usefulness of provincial training programs is not documented and they remain largely unknown within the industry; 4) employees require employer cooperation to take advantage of training programs, and; 5) numeracy and literacy problems exist among production employees.

Perhaps most importantly, Amanor-Boadu *et al.* (1996) identify five critical gaps in the literature relating to skills development and labour supply issues in the Canadian food industry: 1) little has been done to develop a body of literature on training and skills in Canada's food industry; 2) the literature is void of information on workplace changes and practices (e.g. teamworking) and how that is affecting HR requirements; 3) questions regarding the gender structure of the workforce have not been addressed; 4) there is no data on supply and demand for specific job functions, and; 5) there is no information on the firm level activities of company training programs, since most are proprietary. Amanor-Boadu *et al.* (1996) conclude that, in most cases, the Canadian food industry is not aware of current trends and their impact on workplace training needs, occupations and skills. It must be noted

that, while Amanor-Boadu *et al.* (1996) employ a literature review and interviews with a handful of government agencies, the report does not contain any original empirical data.

With these above issues and tensions to consider, great questions remain for the Province of Ontario, where the largest proportion of food processing industries translates into the corresponding largest share of Canada's agro-food Gross Domestic Product (Food in Canada 1996). The next section of this chapter briefly examines the food processing industry in the Province of Ontario. Secondary source data are presented in order to contextualize discussion within the flexibility debate.

## 3.5 Ontario: Canada's Food Processor

In the Province of Ontario food processing is almost a $20 billion sector (Food in Canada 1995a; Ontario 1997). Ontario accounts for 42 percent of Canadian food and beverage manufacturing shipments and 52 percent of Canada's food industry revenues. Eighty percent of Ontario food exports are bound for the United States (Ontario 1997). The industry is also geographically concentrated here. Sixty-five of the 100 largest Canadian food companies are headquartered in Ontario. In terms of sector shares by value of shipments, Ontario's agro-food industry is highly diversified. Meat and poultry constitutes the largest sector, with about 19 percent of value shipments in 1995, with the dairy sector second, at 13.5 percent (OMAFRA 1997; Ontario 1997).

A number of figures provide perspective for research into Ontario's food processing industry. Table 3.1 summarizes the most recent principal statistics for Ontario's food and beverage industry.

**Table 3.1: Ontario's Food & Beverage Industry, 1995**

| | Food | Beverage* | Total |
|---|---|---|---|
| **Number of Establishments** | 938 | 27 | 965 |
| **Production Employees (#)** | 55,390 | 1,405 | 56,795 |
| **Non-Production Employees (#)** | 19,495 | 2,345 | 21,840 |
| **Total Employees (#)** | 74,885 | 3,750 | 78,635 |
| **Value Added ($ million)** | 6,886 | 254 | 7,140 |
| **Total Value Added ($ million)** | 8,454 | 254 | 8,708 |
| **Value of Shipments ($ million)** | 18,746 | 914 | 19,660 |

*Note: Beverage figures do not include alcohol; distilleries, breweries or wine.

Source: OMAFRA (1997) and Author.

Between 1985 and 1993, the number of establishments peaked at 1,073 in 1989 and employment at 78,350 in the same year. Overall, in the period 1989 to 1993, the food industry experienced a 15.2 percent decline in the number of establishments, accompanied by a 3.8 percent decline in employment (Gertler 1996a).

The poor labour-management relations that pervade the North American food industry are often predicated on the issue of wages. Specifically, Ontario has been witness to a number of disputes involving management attempts at wage reduction (see Mahood 1997). Recently, Maple Leaf Meats, the largest single employer in Burlington, Ontario, forced their

800 unionized employees, under threat of plant closure, to accept an average wage and benefits cut of almost $10 an hour (Kilpatrick 1998). These wage adjustment strategies are usually accompanied by corporate statements about 'global competitiveness'.

Average hourly earnings, including overtime, for hourly employees in Ontario's food manufacturing industry were $14.84 in October 1997. The same wage figure one year earlier was $15.98. This compares to an average hourly earnings wage, including overtime, of $17.28 for hourly employees in Ontario manufacturing in October 1997 (Statistics Canada 1997b). Granted, the Ontario average of $14.84 was better than the Canadian average hourly earnings wage for the food industry at $14.08 in 1997. From October 1996, however, the Canadian average hourly wage rate declined $0.62, compared to a $1.14 wage decline in Ontario (Statistics Canada 1997b). Table 3.2 outlines wages and salaries as a percentage of production costs for Ontario's food industry and a number of other manufacturing sectors.

It is apparent that there has been little inflationary pressure on wages in the food industry. Only the transportation equipment sector, and specifically motor vehicle assembly, has lower wage and salary costs as a percentage of production costs. Given the recent Maple Leaf Meats settlement and the average hourly earnings figures outlined above, it is quite likely that wages in Ontario's food industry are in a deflationary mode.

Literature on production restructuring, training and flexibility issues specific to Ontario's food processing industry is scarce. The province-by-province literature review by Amanor-Boadu *et al.* (1996) supports this observation. Only two reports were uncovered. First, a report prepared for the United Food and Commercial Workers (UFCW) in 1992 by consulting firm Ernst & Young (Ernst & Young 1992). Second, a report prepared for the

**Table 3.2: Wages & Salaries as a Percentage of Production Costs*, 1985-1993**

| | 1985 | 1989 | 1991 | 1993 |
|---|---|---|---|---|
| **Food** | 14.9 | 16.1 | 16.9 | 16.5 |
| **Plastics** | 24.5 | 24.5 | 28.2 | 28.1 |
| **Clothing** | 38.5 | 37.8 | 38.2 | 34.7 |
| **Furniture** | 36.3 | 34.5 | 37.9 | 35.3 |
| **Primary Metals** | 28.7 | 25.7 | 31.0 | 27.0 |
| **Transportation Equipment** | 10.9 | 11.3 | 11.2 | 9.2 |
| **Motor Vehicle Assembly** | 5.3 | 5.4 | 5.6 | 4.7 |
| **Motor Vehicle Parts** | 25.6 | 25.1 | 26.4 | 24.4 |
| **Electrical/ Electronic** | 28.6 | 27.6 | 27.1 | 25.7 |
| **Electronic Equipment** | n/a | 31.6 | 28.8 | 25.7 |
| **Total Manufacturing** | 19.3 | 20.5 | 21.2 | 18.6 |

*Note: Costs of fuel, electricity, materials & supplies, goods for resale, and wages & salaries.

Source: Gertler (1996a).

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) in 1995 by consulting firm TCI (TCI 1995).

Ernst & Young's (1992) paper on training and HR needs is directed toward Ontario's meat and poultry processing industry. The main conclusions drawn from the report include a profile of the production workforce, which consists of: 1) a large number of immigrants who

have English as a second language; 2) an aging workforce, and; 3) has low education levels. The main recommendation is for literacy and numerical training for production employees in the industry. Some 45 percent of UFCW members surveyed identified English language skills as the type of training they required most (Ernst & Young 1992).

While offering some excellent insights, a number of gaps and weaknesses in the Ernst & Young (1992) report need to be highlighted. First, a sectoral analysis limited the scope of the report. Second, the study relied heavily on 1986 Census data. As such, the dramatic changes and reorganizations that have occurred since the late 1980s and early 1990s are not captured. Third, data collection was largely through interviews and focus groups with UFCW members and local Presidents. While an effective method for qualitative data collection, the interview sample only captures the employee side of the issue. Labour supply, training and flexibility issues appear to be increasingly directed by, and dictated from, the employers perspective. Fourth, 7,000 questionnaires distributed to UFCW members resulted in a response rate of only 5 percent. Fifth, only six unionized firms were studied. Discussions were held with a few corporate managers, however, this sample size may be limiting in terms of identifying any consistent trends within the industry.

The TCI (1995) study, prepared for OMAFRA, suggests that very little has changed since Ernst & Young's (1992) report. Human resource concerns remain largely unaddressed in Ontario's food processing industry. Training is not occurring at the level where it is most required, the production employee. Corporate managers still do not understand the benefits derived from training and have difficulties in identifying and justifying the time for, and investment value in, employee training (TCI 1995). Moreover, there is a clear lack of a

"training culture" in the food processing industry (TCI 1995). Other findings include: 1) employees feel increased levels of job insecurity and stress; 2) employees are not kept informed of changing technologies; 3) only a limited number of firms have made fundamental changes in work organization (e.g. teamworking), and; 4) while large firms are aware of government and institutional training programs, smaller firms feel isolated from training communities and identify the government almost exclusively as a regulator.

The TCI (1995) report was largely based on five, independent, focus groups, which included: 1) five non-unionized employees; 2) five senior HR managers from large firms; 3) seven organized labour representatives; 4) five plant managers and supervisors from both large firms and SMEs, and; 5) eight owners and managers from niche oriented SMEs. No firm was represented in more than one group. While exact figures are undisclosed, it can be assumed that a maximum of ten large firms and eight SMEs were involved from the employers perspective. This does not represent a very large sample. Employer groups were asked to complete two, one-page, surveys to identify needs and barriers to training and to provide OMAFRA with policy and program feedback. The two surveys, combined, total five questions. While recognizing time constraints, the employer surveys are so basic they provide little opportunity for more extensive responses or in-depth analysis.

## 3.6 Conclusions

The food industry is a unique manufacturing sector. However, this uniqueness mainly stems from a historically important social and political role in our society. Biophysical factors, as well, make the food industry an interesting study in the management

and synchronization of labour and the production process. Modern, integrated, agro-food production and distribution is truly an industrial undertaking. As such, while accounting for a few particular factors, change and restructuring within the food industry may be studied under a framework applied to other manufacturing sectors.

The United States led a post-war, Fordist, 'golden age' in the agro-food industry from 1945 to 1973. The rise of mass markets, mass production and intensive growth characterized this period. However, since the early to mid-1970s, it is argued that a new food regime is currently evolving due to a recent period of industrial crisis (Friedmann 1982; Friedmann & McMichael 1989; ILO 1989; Ufkes 1993b, 1995; Winson 1993; Bonanno *et al.* 1994; Byé and Fonte 1994). The question is whether this new regime represents a definitive shift towards a post-Fordist or flexible era of production and accumulation in the food industry.

A number of characteristics have been submitted by researchers that may lend support to the emergence of a post-Fordist food regime: 1) the rise in the dominance of increasingly oligopolistic TNCs; 2) regional production organized on a global scale through complex supply chains; 3) a new international division of labour; 4) an explosive differentiation in the consumer food market; 5) the rise of niche oriented producers; 6) new forms of work organization, and; 7) a general decline in the role of government and other public institutions.

However, as many researchers have offered, the shift to a new era of flexibility in the food industry is not completely evident. Contradictions and problems include: 1) a continued reliance on mass markets and mass production techniques; 2) a very labour intensive industry; 3) a poor understanding of training issues; 4) a general deskilling of the workforce;

5) slow adoption of new forms of work organization; 6) very low levels of R&D investment; 7) a great dependence on mass advertising and marketing strategies, and; 8) the continued importance of national and local regulatory frameworks. Clearly, the debate over a fundamental shift from Fordism to flexibility in the food industry remains highly contested.

The agro-food complex, and food processing more specifically, has not been a popular topic for examination in the context of Fordism and flexibility. As clearly exposed by Amanor-Boadu *et al.* (1996), a number of critical gaps remain in areas relating to production restructuring and labour flexibility, especially in the Canadian literature. Primary attention in the flexibility debate has been directed at the traditional manufacturing sectors of textiles, clothing and other craft industries, or, in contrast, the high-tech sectors of automobiles, electronics and software (Smith *et al.* 1990; Bonanno *et al.* 1994). Why the lack of attention towards food processing? Perhaps due to an unappealing perception of an aged, low skill, industry in decline; it suffers from the curse of the 'old' economy label. Food processing just does not seem as seductive and exciting as computer software, biotechnology or telecommunications. It would appear obvious, however, based on the contribution of the industry to employment and output, that restructuring within Ontario's food processing industry deserves further examination.

Change and restructuring in the food industry has been especially significant in two regional economies of Ontario; Canada's Technology Triangle (CTT) and the City of Toronto. While sharing a long history of employment and wage creation from this manufacturing sector, both regions have also been exposed to crisis and closure in recent years. In the CTT, for example, Dumart's Meatpacking closed and Schneider Corporation

slashed production positions, relocating many operations to Manitoba. The City of Toronto has been witness to closures and/or large layoffs by Maple Leaf Foods and Ault Foods. The next section of this chapter will present these two regional economies in context as case studies for further investigation into the flexibility thesis.

## 3.7 Regional Case Studies

### *3.7.1 Canada's Technology Triangle (CTT)*

The CTT (Canada's Technology Triangle) is a term used to describe the regional economy encompassing the cities of Kitchener-Waterloo, Cambridge and Guelph. The population of the CTT is estimated at nearly 520,000 (Securing Our Future 1996). Waterloo Region is the largest political entity within the CTT, in both population and absolute area. Not recognized as an official political body, the CTT was mainly developed as a marketing tool in 1987, by the cities involved, to promote economic development (English & McLaughlin 1996; Securing Our Future 1996). Located in close geographic proximity, the cities of the CTT share close economic ties, including a significant concentration of universities, colleges and high-technology firms (Bathelt & Hecht 1990).

The CTT is situated in the industrial heartland of southern Ontario, approximately 100 km west of Toronto. Understanding the historic, social and economic context of this area is important to understanding its ties with the food processing industry. The economic base of the CTT, like many Canadian urban regions, was built on traditional manufacturing industries, like furniture, woolens and tanning (Walker 1987; English & McLaughlin 1996). By the end of WWI the region experienced considerable growth in rubber, metal working

and engineering industries directed at the transportation sector (Filion & Rutherford 1996). A distinctive aspect of this region is the traditionally high level of female participation in the labour market, rates which are well above Ontario and Canadian averages (English & McLaughlin 1996; Filion & Rutherford 1996).

The largest city in the CTT is Kitchener-Waterloo (K-W). Populated during the mid and late 1800's by immigrants of German heritage from Pennsylvania, Kitchener's original name was Berlin (English & McLaughlin 1996). This heritage contrasts sharply with the British populations of both Cambridge and Guelph. The industrial base of Cambridge, in comparison to K-W, was somewhat less diversified, with a focus on textiles, footwear and metal working (Filion & Rutherford 1996). In K-W, a strong artisanal and entrepreneurial spirit led to the establishment of a diversified industrial base led by names like Breithaupt, Boehmer, Kaufman, and others (Walker 1987; English & McLaughlin 1996). Food and beverage manufacturers, like J.M. Schneider, Seagram's, Dumart's and Doerr's (now Dare Foods) were important contributors to both economic and social life in "Busy Berlin" (English & McLaughlin 1996).

Despite a reliance on manufacturing, K-W has experienced little in the way of labour-management unrest or disagreement through most of its history. English & McLaughlin (1996) argue that a strong grounding in German paternalism helped in contributing to a local atmosphere of amicable industrial relations. High female participation rates could also be a contributing factor. This period of calm ended, however, during the 1940s. Suffering from labour shortages, but rich with profits from lucrative wartime contracts, manufacturers became susceptible to worker demands for collective bargaining rights (English &

McLaughlin 1996). Firm resistance resulted in mass walkouts and the threat of a general strike in April 1941. Recognizing the tense local situation and the area's overall contribution to the wartime effort, the federal Minister of Labour established a conciliation board in June, 1941 (English & McLaughlin 1996). Industrial peace was realized. A confrontational sentiment, however, lay beneath a surface of prosperity in local manufacturing after the war. Workers, in an effort to guarantee themselves a fair share of post-war success, fought to recognize and legitimize the role of unions in the collective bargaining process (English & McLaughlin 1996). The paternalism of the pre-war era was essentially over.

In spite of recession and restructuring, the importance of the manufacturing sector to regional employment and income generation in the CTT continues today. In fact, Waterloo Region posts the second-highest proportion of manufacturing employment among Canadian census metropolitan areas; second only to Windsor, Ontario (Filion & Rutherford 1996). Food processing represents the fourth largest employer in the Waterloo Region, providing 12 percent of all manufacturing employment (Filion & Rutherford 1996).

The CTT has recently received much popular attention. Touted as an 'economic miracle', the attention has mainly been based on low unemployment rates and rapid economic growth, in comparison to the rest of Ontario (Filion & Rutherford 1996). As well, the CTT has been identified for a perceived abundance and growth in post-Fordist, high-technology firms, particularly in software development (Bathelt & Hecht 1990; Denomme 1996). Notwithstanding, the popular attention drawn to this perceived area of post-Fordist production provides the impetus for investigating a contrasting, but locally important, traditional manufacturing industry; food processing.

### *3.7.2 The City of Toronto*

In comparison to the CTT, the City of Toronto (formerly Metropolitan Toronto) constitutes six, large, urban localities including, Toronto, North York, Scarborough, East York, York and Etobicoke. With a population of over 2 million, Toronto enjoys the largest population and greatest economic output of any regional economy in Canada (Colombo 1994). The City of Toronto is home to a significant concentration of firms in many varied industries, from traditional manufacturing to global business services. Toronto's industrial development includes a long history of employment and output from food manufacturing.

In the 1880s, the scale of industrial activity increased both in terms of production and concentration, due to changing economic activities and growing domestic markets. By 1911, Toronto and the surrounding area accounted for 70 percent of manufacturing employment in south-central Ontario, with activity concentrated in the clothing, printing, bread, biscuit and confectionery industries (Ali 1997). In the post WWII period, Toronto was one of many great, urban, beneficiaries in the 'golden age' of Fordism. More recently, however, Toronto has undergone massive structural and social change. Between 1985 and 1995, 94,700 jobs were lost in the manufacturing sector (Ali 1997). Branch plant closures by U.S.-owned interests was one of the main reasons highlighted for the drastic job shedding. However, with a majority of food manufacturers under Canadian ownership (ILO 1989), job losses were not as severe in Toronto's food processing industry. Though job losses were evident, the non-cyclical nature of the industry contributed to a relative level of calm.

Recent figures indicate that the food processing industry continues to be a critical manufacturing sector in Toronto's economic and social fabric. Food processors employed

14,684 people in 1995 (Gertler 1996b). In terms of total employment, the food processing industry is the largest industrial employer in Toronto, ahead of chemicals, clothing and metal products. Large firms, those with over 100 employees, are major players, employing 70 percent of all food industry employees (Gertler 1996b).

While different in population and absolute economic output, the CTT and Toronto share a number of important commonalties. First, both regions represent highly diversified regional economies, with a rich history of manufacturing employment (Walker 1987; English & McLaughlin 1996; Securing Our Future 1996; Ali 1997). Second, the CTT and Toronto both represent very important contributors to the overall economic wealth of the Province of Ontario. Toronto's importance is already quite apparent. Notwithstanding, the Waterloo Region has consistently been one of the five fastest growing regional economies in Canada over the past 10 years (Jalsevac 1997). Specifically, Kitchener-Waterloo enjoys an unemployment rate of 7.7 percent, well below the national average of 9.3 percent (Nunn 1997). This apparent success has drawn much popular and academic attention to the CTT in recent years. Third, despite a number of success stories, the CTT and Toronto have recently undergone extensive restructuring and employment loss in several sectors. The decline of traditional manufacturing industries has been especially significant. This continuing period of crisis and change reflects a wider trend across Ontario (Nunn 1997). Finally, while sharing many commonalties, the CTT and the City of Toronto appear geographically, economically and socially separate enough to justify comparative analysis within a food processing industry context.

## 4.0 Research Methodology

### 4.1 Issues of Research Design

Within economic and industrial geography, specifically the restructuring debate, discussion of methodological approach is a reoccurring issue. Tension between extensive analysis and micro-level intensive investigation often surfaces (Massey & Meegan 1985; Yeung 1997). It is important to understand, however, that the two approaches are not inherently opposed. The two research designs ask different questions, utilize different methods and define their boundaries differently. With variances in their explanatory framework, and not in their analytical scope, the two approaches can act in a complementary fashion (Massey & Meegan 1985). Here, we turn to Sayer's (1984, 1985) critical realism and its ability to address the elaborate complexities that underlay the restructuring debate (Lovering 1989).

The restructuring debate entails the complex interaction of many different actors and forces, involved at various geographic scales. Moreover, these forces appear to be operating in both an economic and wider social arena. As such, the questions are both involved and far reaching. The qualitative nature of the restructuring debate requires a method for proper analysis of both industrial and social change. Under the guidance of critical realism, local events become understandable, while also recognizing that locales are the places where wider processes manifest themselves (Lovering 1989). While positivism struggles with an inability to capture local decision making processes (Lovering 1989; Sayer 1991, 1993), postmodernism appears unable to offer the researcher insight into wider processes and

changes occurring on a global level. Critical realism offers an inclusionary alternative to the often extreme dualisms of other philosophies.

A significant outcome of Sayer's (1984) work was the development of two fundamental varieties of research method, the intensive and the extensive. Critical realism provides an effective integration of these two methods (Lovering 1989; Sayer & Walker 1992; Pratt 1995). Extensive analysis relies upon the use of aggregate statistics, surveys and statistical analyses. This macro-level form of empirical study attempts to answer questions pertaining to regularities, commonalties and patterns of the population (Massey & Meegan 1985; Yeung 1997). The explanatory power of the extensive approach is its ability to simplify representations of a whole population. An extensive methodology delves into the underlying forces that produce certain outcomes.

Intensive methodology helps us understand the specific nature of a system; moreover, exploring the causal relation of events in detail (Sayer & Morgan 1985). This approach is less formalized and more interactive, with qualitative forms of data collection and analyses. Interviews lend themselves as being a typical and effective method of research (Sayer & Morgan 1985; May 1993; Yeung 1997). A disadvantage of intensive methodology is representativeness, with results being difficult to generalize. However, when we wish to go beyond proxy variables and discover what is causally relevant to location and performance, intensive research is a necessity (Sayer & Morgan 1985).

Through the integration of intensive and extensive methods, a number of research efficiencies are realized. First, extensive, empirically-based methods are useful for detecting regularities. This is of particular importance when addressing the larger economic questions

and changes in the restructuring debate. Second, the strength of utilizing the qualitative nature of intensive methods lies in the ability to explore the specific nature of change. Further insight into the decision making process becomes possible. While intensive methods have more difficulty capturing change on a large scale, local level exploration appears more challenging when using extensive methods. Sayer (1991) clearly points out, however, that we must not conflate geographic scale with any particular process. The most common error is solely equating the 'global' with extensive or general processes and the 'local' with the intensive. The local is just as much a product of abstract or general processes as the global is a product of the concrete and specific (Sayer 1991). It is the role of the realist researcher to strike harmony between the abstract and the concrete (Yeung 1997).

The local labour market is the central model of analysis in this study. Peck (1996) argues that local labour market research must concern itself less with conventional boundaries, such as the myth of the average commuter, and turn to the role of place (Hanson & Pratt 1992; Peck 1996). Therefore, research must focus on the institutions, practices and local norms that modify universal labour market processes and make them uniquely local (Peck 1996). This approach requires the investigation of many complex social activities, as such, concrete or general forms of research can only provide so much insight. A realist approach offers the combined efforts of both the concrete and the abstract.

The goal of critical realist research is to understand the "real" causal structures, mechanisms and processes shaping concrete outcomes (Peck 1996). In a search for tendencies, not causality, critical realism attempts to understand the total process; as such, it is not predictive. Critical realism rejects the notion of the one-on-one cause and effect

relationship found in the closed system world of positivism. Largely because human societies are open, complex and interactive, a single causal process or decision may have a multitude of outcomes (Peck 1996). The labour market is one of these complex human phenomenon. Massey's spatial division of labour framework is a perfect example of how the same general process can produce different effects in different places, depending on the varied interaction of concrete and abstract processes (Peck 1996).

The key element in restructuring is to examine how particular investments, with particular spatial effects, are chosen over other alternatives. This means uncovering both the alternatives and the decision process itself. Lovering (1989) argues that empirical research can achieve this using a critical realist method. Incorporating extensive research, aimed at detecting concrete regularities, and intensive research to answer the question, how does a process work in a particular place? The integration of both methods is crucial for uncovering the social relationships that underpin a particular spatial pattern at a particular time.

A critical realist approach, in its combined use of intensive and extensive methods, allows for the investigation of mutually occurring local-global trends. This includes the analysis of investments, spatial effects, alternatives and the decision making process (Lovering 1989; Pratt 1995). Successfully woven together, these two research methods can help uncover mechanisms and decisions that occur in a locally embedded context. In doing so, consideration of wider exogenous dynamics are also improved (Lovering 1989; Pratt 1995). Any false promises or generalizations offered by the flexibility thesis may be exposed. This is the role for critical realism.

## 4.2 Method

The basic framework for this research was divided into two parts: 1) a theoretical literature review, and; 2) a case study. The first part consisted of the synthesis and critical evaluation of published literature on the restructuring debate and the flexibility thesis. The second part was a case study of the food processing industry within the regional economies of Canada's Technology Triangle (CTT) and the City of Toronto (formerly Metropolitan Toronto). Findings were based upon original data derived from a formal, mailed, survey conducted between September 1997 and February 1998. This data was augmented by a personal, qualitative, interview process conducted over the same period. All data was collected from the perspective of the employer.

Research design for this study used a combination of both extensive and intensive methods. Similar methods have been undertaken in geographic research in Canada (see Anderson 1993a, 1993b; Jung 1994; Van Damme 1994; Rutherford 1995). Extensive methods were used to collect and analyze data in a two dimensional approach. First, original data was gleaned directly from food processing firms located in the CTT and Toronto by mailed survey. Second, data was gathered from various secondary sources pertaining to flexibility and the food processing industry. Intensive research methods were also pursued. A personal interview process was adopted as a further method for detailed, qualitative, data collection. The strategies, performance and behaviour of particular firms could not simply be derived from generalized sectoral or local conditions (Sayer & Morgan 1985).

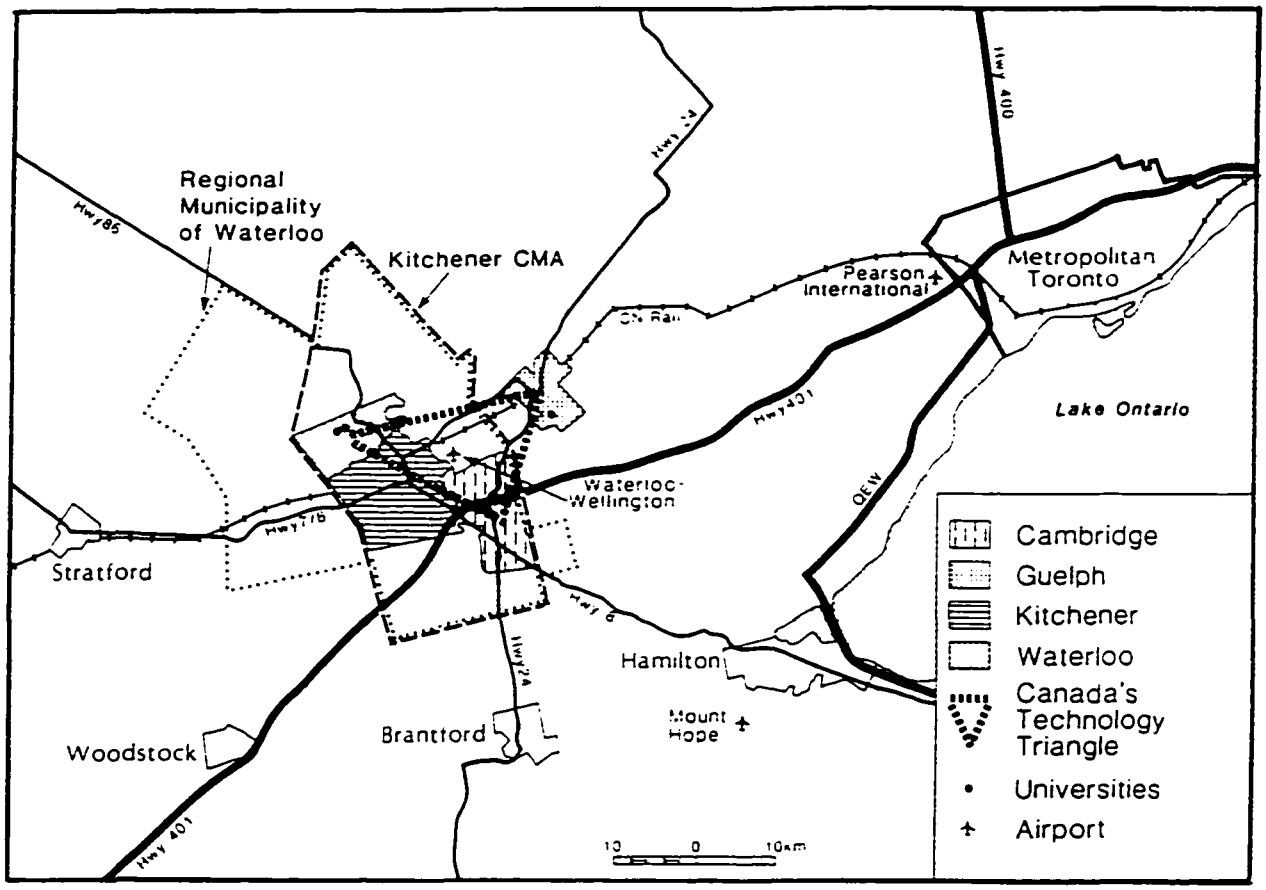
A database of food processing firms was acquired and cross referenced from three sources: 1) Scott's 1997 Directory of Manufacturers; 2) Food in Canada's 1997 Annual

Ontario Agri-Food SourceGuide, and; 3) local business directories. Three basic criteria for participation in this study existed. First, the firm had to be an active food processor, as defined in the 1980 Standard Industrial Classification Codes, Division E, Major Group 10, Industry Groups 101 through 109 (Statistics Canada 1980). It should be noted that Major Group 11, Industry Group 111, the soft drink industry, was included in the firm database. However, Industry Group 112-114, the distillery, brewery and wine industries were excluded from this study. These groups were excluded on the recommendation of two anonymous readers within the food industry (Anon 1997). These excluded Industry Groups were described as, "a unique entity within the food and beverage industry...with labour practices and a history completely different from the rest of the industry" (Anon 1997). The 1980 SIC Codes used for this study correspond with Scott's 1997 Directory of Manufacturers codes for Food & Kindred Products, 2011 through 2099, excluding 2082, 2084 and 2085.

The second criteria was geographic location. The firm had to be located within either one of the CTT or the City of Toronto. For the CTT, this area encompasses the cities of Kitchener-Waterloo, Cambridge and Guelph, as well as the townships of Guelph, North Dumfries, Puslinch, Wellesley, Wilmot and Woolwich. For Toronto, this area is more easily defined by the postal code letter 'M' or the long distance prefix '416'. These two regional economies are depicted in Figure 4.1.

The third criteria for inclusion was that the study location be a plant site. Specifically, the site had to be currently involved in production activities, as such, employing production related workers. Corporate offices containing only higher business functions were excluded. Individual plant sites were targeted over corporate offices because the issues

**Figure 4.1: Canada's Technology Triangle (CTT) & The City of Toronto***




*Note: City of Toronto formerly known as Metropolitan Toronto.

Source: Bathelt & Hecht (1990).

under investigation, production restructuring, production employee training and recruitment are largely played out at the plant level. While policies governing these issues are often developed at the corporate level, their day-to-day implementation is at the plant level, by plant managers or on-site human resources managers.

A total population of 311 plant sites were identified. In terms of a regional distribution, 56 plants were located within the CTT and 255 within Toronto. The Toronto population could be further divided into 47 large sites, those with 100+ production employees, and 208 small & medium-sized enterprises (SMEs), those with under 100 production employees. These figures are based upon the Industry Canada (1997) definition of an SME for the manufacturing sector. Considering time and budget constraints, the following sites were surveyed: the population of 56 sites in the CTT, the population of 47 large plant sites in Toronto and a random sample of 62 SMEs in Toronto. Confidence levels of between 80-90% were considered for sampling the Toronto SME population; however, these levels remained far beyond the scope of the research time and budget. As such, a 30% sample, or 62 of 208 plant sites, was chosen as an acceptable sample size. The population of 208 Toronto SMEs were listed alphabetically and selected randomly with the use of a 4-digit random number table (Kuehl 1994).

Following address and contact confirmations by telephone, survey packages were mailed in late September 1997. Each package consisted of a cover letter of introduction, a survey, a pre-paid return envelope and fax instructions. The survey was printed double-sided, with black type, on bright yellow paper. Yellow is an effective paper colour for

maximizing survey response (Ennis 1996). The survey was pilot tested by two anonymous readers in the food industry (Anon 1997). The final survey is provided in Appendix A.

The survey incorporated open and closed-ended questions and attitude scales. Closed-ended questions included those which offered the participant no choice, limited choice and multiple choice. Attitude scales were structured on a 6-point rating system, offering no middle response. The removal of the middle response is a heavily debated issue within survey design literature (Sudman & Bradburn 1982; Platek *et al.* 1985; Oppenheim 1992). Oppenheim (1992) suggests, however, that there is no right or wrong answer and that the final decision rests with the researcher. A respondent may score in the middle for a number of reasons and, as such, a neutral point response is often ambiguous and difficult to interpret. The important thing is that the scale be consistent throughout the survey (Oppenheim 1992). Further to these points, the neutral position was removed on the recommendation of two anonymous readers (Anon 1997).

Survey packages were directed at plant site officers responsible for employee training and recruitment initiatives. For larger plant sites, surveys were often directed to plant managers, human resources managers and operations managers. For smaller sites, owners and presidents were often targeted. Follow-up phone calls were placed approximately three weeks after the distribution of the survey package.

Five plant sites were removed from the database after commencement of the study. Their exclusion was based upon previously unknown information, including closure of the business or relocation outside the study area. Final survey distribution numbers and response rates are outlined in Table 4.1. The survey of 44 individual plant sites represents a total of

37 different firms. Table 4.2 provides a summary of plant sites disaggregated by major product 3-digit SIC code and study region.

**Table 4.1: Survey Returns & Response Rates**

| Region | # Surveyed (n) | # of Returns | Response Rate (%) |
|---|---|---|---|
| **CTT** | 53 | 17 | 32 |
| **Toronto (Large)** | 46 | 16 | 35 |
| **Toronto (SMEs)** | 61 | 11 | 18 |
| **Total** | 160 | 44 | 28 |

Source: Author.

**Table 4.2: Number of Plant Sites by 3-Digit SIC Code & Region***

| | | Region | | |
|---|---|---|---|---|
| **Food Industries** | **SIC Code** | **CTT** | **Toronto** | **Overall** |
| **Meat & Poultry Products** | 101 | 8 (47%) | 4 (15%) | 12 (27%) |
| **Fish Products** | 102 | | | |
| **Fruit & Vegetable Industries** | 103 | | 2 (7%) | 2 (5%) |
| **Dairy Products** | 104 | 1 (6%) | 2 (7%) | 3 (7%) |
| **Flour, Prepared Cereal & Feed** | 105 | 3 (18%) | 2 (7%) | 5 (11%) |
| **Vegetable Oils** | 106 | | 1 (4%) | 1 (2%) |
| **Bakery Products** | 107 | 2 (12%) | 4 (15%) | 6 (14%) |
| **Sugar & Confectionary** | 108 | | 6 (22%) | 6 (14%) |
| **Other Food Products** | 109 | 3 (18%) | 5 (19%) | 8 (18%) |
| **Soft Drinks/Juices** | 111 | | 1 (4%) | 1 (2%) |

*Note: CTT n=17; Toronto n=27.

Source: Author.

Personal interviews constituted the second major phase of this research. Individuals were identified as potential interview participants through their indication for a follow-up interview on the mailed survey. Twelve firms provided interviews. Nine interviews were on a personal basis, while three were completed by telephone. All personal interviews were conducted on-site and lasted an average of 30-45 minutes. All interviews were conducted with different firms. Participants had an average of 13 years experience in the food industry.

Interviews followed an individual depth, semi-structured, format of largely open-ended questions. Questions were designed to encourage more spontaneous answers. This qualitative method could provide the detailed insight necessary to relate individual company characteristics to company strategies and attitudes (Hoinville 1985). Interviews explored themes and issues specific to the participant's survey responses. As such, no two interviews were identical. However, a number of common and important themes running through all the interviews can be identified: 1) defining flexibility; 2) employment trends; 3) the local labour market; 4) training sources of best value; 5) gender. The survey, interview themes, recruitment letters and information consent letters for this study received ethics clearance from the Office of Human Research at the University of Waterloo.

## 4.3 Rationale for Survey Questions

As referring to Appendix A, the survey was divided into two distinct sections, Parts 1 and 2. In broad terms, Part 1 was designed to elicit information relating to general firm characteristics and organizational histories. The goal of Part 1 was to establish a clear and strong contextual basis for analyzing information pertaining to workplace restructuring and

employee recruitment and training activities, as extirpated in Part 2. Critical to Part 1 are Questions 1.4 through 1.6, which explore employment levels over time. Dynamic employment levels indicate absolute employment growth or decline over a specific period, as well as revealing trends in full-time and part-time employment levels. These trends are crucial to analyzing the pursuit of numerical labour flexibility.

Part 2 of the survey is divided into four major sections, which all speak directly to the issue of flexibility. First, an overall indication of competitive strategic trends within the food processing industry are revealed in Question 2.1. Second, restructuring of the production process is investigated. Though not directly related to labour supply and human resource issues, work practices, technological change and management-labour relations represent important elements in production restructuring. For example, Question 2.2 addresses the issue of labour flexibility through the reorganization of work. How is work organized on the plant floor? Are firms in the food processing industry pursuing more flexible work practices, or, do Fordist organizations dominate?

Recruitment represents the third section of Part 2. Analyses of recruitment difficulties, channels, patterns and expectations contributes to an understanding of the local labour market; moreover, how the local labour market maybe socially and spatially segmented. A locality effect may also reveal itself in terms of labour recruitment. For example, Question 2.6 rates the usefulness of various recruitment channels for employers. Designed as an attitudinal scale, this rating does not represent an absolute measure, but rather, places participants in relative positions along a continuum (Hoinville 1985; Oppenheim 1992).

The final major section of Part 2 explores aspects of employer-provided training, including the amount, sources and types of training provided to production employees. Training is the critical indicator of functional flexibility. For example, Question 2.13 asks firms to define their training regime. A level of dedication and complexity regarding training activities can be estimated through the particular type of training delivered. The type of training provided may also point to a possible Fordist/post-Fordist shift.

## 4.4 Reflections on Research Method

### *4.4.1 The Survey Process*

An extensive survey-based approached offered a number of advantages. First, the survey logistically allowed for the investigation of multiple plant sites over a wide geographic area. Second, the survey extended the ability to collect a large dataset covering a number of interrelated topics. Lastly, the survey presented itself as an effective method for quantitative data collection; moreover, data which was easily coded and tabulated.

Follow-up telephone calls were a necessity for increasing the overall response rate. Multiple calls were often required. Upon contact, many participants required that second surveys be forwarded to them, often by fax. The tabulation of survey results had to be very flexible, as some completed surveys, originally distributed in September 1997, were returned as late as February 1998.

The decision to release the survey in late September 1997 was based on a number of factors: 1) the release of any business-related survey in Ontario during the summer would likely ensure a lower response rate; 2) the survey must be released prior to December, the

busiest month in the food industry, and; 3) the threat of a nation wide postal strike delayed distribution. A postal strike did occur during the study period. The strike lasted approximately two weeks, beginning in late November 1997. It is unclear what affect, if any, the strike had on the survey response rate. A fax return option was made available.

The most disappointing aspect of the survey process was the response rate and attitude of SMEs in Toronto. While the combined average response rate for the CTT and large Toronto firms was over 30 percent, the Toronto SME response rate of 18 percent hurt the overall response rate. In follow-up telephone calls, Toronto SMEs declined to participate for three main reasons: 1) not interested; 2) no time or person dedicated to such topics; and, 3) could see no benefit to them. To mention that Toronto SMEs who declined participation were generally not very polite would be an understatement.

More positively, pilot testing of the survey to readers within the food industry must be considered a success. One result of pilot testing was little to no need for clarification of survey questions for participants. Based upon the explicitness of open-ended and closed-ended responses, there appears to have been no confusion or ambiguity to the survey questions. While it is difficult to determine for certain, pilot testing of the survey likely contributed to a higher response rate.

Survey-based research is grounded in the logic of positivism. This extensive method of study has proved effective in detecting regularities within and between space economies (Lovering 1989; Sayer 1991; Yeung 1997). Uncovering generalities is positivism's most significant contribution to geographic research. For informed researchers, positivism can help to offer and refine explanation, particularly with regards to phenomenon that are not

socially embedded. Positivism's fundamental grounding in empiricism can be not only theoretically informed but also theoretically informative (Sayer 1991).

Extensive analysis, however, appears inadequate for understanding real world complexities. The explanatory power of the extensive approach operates as a weakness by oversimplifying the interdependency of structure within a system. Descriptive generalizations at the macro-level tend to lack causal explanation (Massey & Meegan 1985; Peck 1996). This lack of explanatory penetration is called 'ecological fallacy', the uncertainty of making inferences about individuals (Sayer & Morgan 1985). In particular, extensive research has long struggled with how to capture the dynamics of the local decision making process (Lovering 1989; Sayer 1991; 1993). These critical processes occurring internal to the firm often result in widely experienced external outcomes. The impacts of the decision making process cannot be overstated in importance to the restructuring debate. Research must turn to the intensive approach when exploring processes in specific cases.

### *4.4.2 The Interview Process*

The most enjoyable aspect of this study was the interview process. The flexible approach offered by intensive, interview, research allowed for exploration of a wide range of views and attitudes. The questioning of participants varied in relation to their survey responses. All scheduled questions were asked, although the exact order occasionally varied to maintain a comfortable flow of conversation. Impromptu questions were also inserted, where required, to prevent discussions from going too far astray.

All personal interviews were audio taped for accuracy. However, participants had the option to refuse audio recording. Interviews were transcribed verbatim. Telephone interviews were recorded by hand, not on audio tape. All three telephone interviews were a combination of survey completion and follow-up interview. This method was more convenient for these particular participants. Future studies of this type may want to consider increased use of combined survey/telephone responses.

The relaxed atmosphere of individual contact seemed to offer participants the opportunity to speak freely and at their own level of understanding. Many participants spoke openly on issues that would be considered highly sensitive, often divulging proprietary information and personal opinions. It must be clearly stated, however, that individual identities, views and attitudes are not of particular concern in a study of this nature. Research interest lies in the aggregated characteristics, attitudes and behaviour of the group.

An exclusively extensive, quantitative, study would have sacrificed the discovery of relationships with regards to connections and relations, particularly on the plant floor (Sayer & Morgan 1985; Yeung 1997). Extensive methodologies tend to have difficulty in measuring the greater cause that can produce very different effects in unique locations, as in this study, a plant site (Massey & Meegan 1985; Peck 1996; Yeung 1997).

Interviews, however, inherently have shortcomings. First, despite being grounded in scientific method, interview research is not, and cannot be, a precise measuring instrument. In varying degrees, surveys and interviews underestimate the complexity of human attitude and behaviour (Hoinville 1985; Oppenheim 1992). Second, the interview process is subject to errors of commission and omission. Meaning, the interviewer may accidentally

misrepresent a respondents comment, attitude or behaviour when recording responses (Hoinville 1985; Oppenheim 1992). Caution in undertaking interview research is required.

A combined extensive and intensive method was most appropriate for this research. The survey provided for access to a large, quantitative, dataset, located within and between two regional economies. As such, generalizable trends reveal themselves. Interviews allowed the research to go beyond mere statistics and explore the specific nature of the plant site in terms of the managerial/ownership view. What did the firm actually do? What produced a certain change? (Sayer & Morgan 1985). While an intensive, qualitative, approach may lack the strength to pattern representations, some tendencies are generalizable. Furthermore, inferences with regards to individual firms are avoided. As such, a qualitative approach is highly valuable by generating a better conceptual framework for research than would otherwise be possible in a purely quantitative study (Hoinville 1985; Yeung 1997).

A perfect example of the benefits accrued to this research through a critical realist methodology was the investigation of local labour market processes in the CTT and Toronto. On the surface, labour market dynamics in the two regional economies appeared very similar. However, through interviews, it was revealed that the reasons underlying recruitment problems were very different for firms in the CTT. Uncovering these varied experiences points to the strength of critical realism. Exclusive analysis of quantitative results would have sacrificed revealing this important locational variation. Moreover, application of a critical realist methodology helped to reveal the decisions and processes operating within the local labour market, the crucial scale for investigating issues of labour flexibility (Peck 1989, 1992, 1996).

# 5.0 Research Results

## 5.1 Introduction

The results presented below represent findings for the second major objective of this study. Production restructuring, recruitment and training are used to explore the real or apparent shift towards increased labour flexibility within Ontario's food processing industry through case studies of two regional economies, Canada's Technology Triangle (CTT) and the City of Toronto. Results are presented and interpreted in a number of ways: 1) in overall terms, that is, findings of the study population; 2) comparatively by each study group, and; 3) results are often discussed as a comparison between the two regional economies, the CTT and the City of Toronto, especially where the findings are geographically relevant.

Due to the small sample size and uneven distribution of data in this study, few figures provide statistical accuracy. Ownership status and gender offer a statistically significant relationship, as such, chi-square and probability figures are presented. Regardless of this statistical weakness, strong tendencies are very apparent amongst other measures. Interview comments help to augment and clarify these trends.

The results and interpretations offered in this research contribute to the current literature gaps on production restructuring and labour flexibility in a Canadian food processing industry context. The goal is to answer, or at least inform, three critical questions that emerge from the literature, these are: 1) Are flexible labour practices emerging and, if so, what form do they take?; 2) What is the role of geography in flexible strategies?, and; 3) How is flexibility emerging in a particular sector, in this case, food processing?

## 5.2 Background

### *5.2.1 Year of Site Establishment*

Average year of site establishment for all plants in this study was 1953. For Canada's Technology Triangle (CTT), the average year of establishment was 1954. For large-sized enterprise sites, those with 100+ employees, located in Toronto (further referred to as Toronto LEs) the average year of establishment was 1947. For small and medium-sized enterprises in Toronto (further referred to as Toronto SMEs) the average year of site establishment was 1962. The year of site establishment reflects local rounds of infrastructural investment by food manufacturers. Table 5.1 outlines the percentage of plant sites, by study group, that were established during one of the three eras of production; pre-Fordist (before 1945), Fordist (1945-1975) and post-Fordist (1976 to present).

**Table 5.1: Era of Site Establishment by Group (%)***

| | Group | | | |
|---|---|---|---|---|
| **Era of Production** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Pre-Fordist** | 24 | 38 | 18 | 27 |
| **Fordist** | 41 | 56 | 36 | 46 |
| **Post-Fordist** | 35 | 6 | 46 | 27 |
| **Total** | 100 | 100 | 100 | 100 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.

Source: Author.

### 5.2.2 Ownership Status of Plant Site

Overall, 71 percent of plants were under Canadian ownership, with 23 and 7 percent under Foreign and Joint ownership respectively. Firms of the CTT and those of Toronto-based SMEs are dominated by Canadian ownership. It should be noted, however, that 36 percent of plants from the Toronto-based SME group were not independent operators, rather, these sites were owned by larger parent companies. Toronto LE food processing firms reveal much higher levels of foreign penetration in their ownership structure. Almost 44 percent of Toronto LEs are foreign owned, with 13 percent jointly controlled.

The current ownership structure of large scale Toronto-based food processors appears to support arguments put forth regarding the influential role of foreign capital in Canadian manufacturing (Norcliffe 1994; Rutherford 1996a). Statistically, a dependent relationship exists between ownership status and location: $x^2 = 4.208$, $p = 0.040$. Firms were grouped by location in either the CTT or Toronto, while ownership was categorized as either purely Canadian or non-Canadian. This statistical result means that there is a significant probability that a relationship between ownership status and location exists for the population of food processing firms in the three study groups.

### 5.2.3 Site Functions

Participants were asked to indicate functions currently performed on-site. Functions provided for selection included those which tend to be dominated by hourly wage employees, Production and Distribution, as well as higher business functions, including Product development, Sales/marketing and Strategic planning, which tend to be dominated by

salaried employees. This question acted to confirm the presence of production functions and, as such, on-site production employment. Furthermore, this inquiry helps to explore the geographic separation that may exist between production and higher business functions.

The principal trend that emerges from all three study groups is the separation of higher business functions from the location of production. Fewer than 50 percent of sites perform product development and strategic planning functions at the same location as production. This dislocation is especially evident for strategic planning functions, where only 41 percent of all plants undertake strategic planning on site. Strategic planning is largely identified as the highest of all business functions, drawing the attention of top level managers and executives. This trend cannot simply be explained by the influence of foreign ownership. The separation of production and higher business functions is very evident even within the Canadian-owner dominated groups of the CTT and Toronto SMEs. It appears that the functional separation of higher business functions from production is a deliberate corporate strategy for food processors in this study.

### *5.2.4 Employment Levels*

This section summarizes results from Questions 1.4 and 1.6 of the survey. First, participants were asked to provide total employment levels at the plant site for the years 1991, 1993 and 1996. Second, participants were asked to indicate employment figures for plant site production workers for the years 1991, 1993 and 1996, disaggregated by part-time (P/T) and full-time (F/T) work arrangements. Results are summarized in Appendix B, Table

1.0. Table 5.2 isolates total employment figures and offers an analysis of percentage change over time.

**Table 5.2: Mean Total Employment Figures* (1991, 1993, 1996)**

| | Year | | | % Change | | |
|---|---|---|---|---|---|---|
| **Group** | **1991** | **1993** | **1996** | **'91-'93** | **'93-'96** | **'91-'96** |
| **CTT** | 297.5 | 328.4 | 315.2 | 10.4 | -4.0 | 5.9 |
| **CTT^** | 80.8 | 83.4 | 86.6 | 3.2 | 3.8 | 7.2 |
| **TLEs** | 294.6 | 316.9 | 322.3 | 7.6 | 1.7 | 9.4 |
| **TLEs^** | 235.8 | 271.4 | 281.8 | 15.1 | 3.8 | 19.5 |
| **TSMEs** | 58.4 | 53.8 | 53.2 | -7.9 | -1.1 | -8.9 |
| **Overall** | 231.9 | 255.6 | 252.3 | 10.2 | -1.3 | 8.8 |
| **Overall^** | 127.5 | 142.8 | 147.5 | 12.0 | 3.3 | 15.7 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Total refers to total site employment (all production & non-production), not sum of P/T & F/T.
^ indicates figures adjusted for outlying variables (CTT=1; Toronto LEs=1).

Source: Author.

Figures disaggregated by group reveal interesting variations in total employment change over time. Accounting for both unadjusted and adjusted figures, the CTT experienced rates of employment growth of between 6 to 7 percent in the 1991 to 1996 period. In the 1993 to 1996 period, however, unadjusted figures show a 4 percent decline in total employment in the CTT. Notwithstanding, adjusted figures are more likely reflective of actual trends. Change within the Toronto LEs group closely mirrors overall findings. Adjusted total employment exhibits strong growth rates in the 1991 to 1993 period, giving

way, however, to much weaker growth in the 1993 to 1996 period. Firms in the Toronto SMEs group have been witness to total employment decline over both periods, 1991 to 1993 and 1993 to 1996, resulting in a near 9 percent decline over the entire 1991 to 1996 time frame. The majority of employment decline amongst Toronto SMEs was experienced in the early time period, 1991 to 1993. Earlier on-set of employment decline may reflect a greater susceptibility to recessionary pressures for SMEs.

Part-time (P/T) and full-time (F/T) production employment figures were analyzed for percentage change over time. Appendix B, Table 1.1 provides a summary. Figures 5.1 and 5.2 depict these figures graphically. Part-time, non-standard, employment has risen dramatically in all three study groups. Part-time employment figures rose 170 percent between 1991 and 1996. In the CTT, part-time employment increased by almost 177 percent over the same period. Unadjusted CTT figures reveal a staggering increase of 483 percent. Toronto LEs experienced a rate of 182 percent. Toronto SMEs, while slightly less dramatic, recorded a 93 percent increase in part-time employment over the 1991 to 1996 time period.

Of particular interest is how robust growth in part-time employment compares with full-time employment over the same time period. In overall terms, growth in full-time employment has occurred, though stagnate by comparison to part-time growth. Full-time production employment increased 17 percent between 1991 and 1996. At 23 percent, the CTT experienced the strongest full-time employment growth over the 1991 to 1996 period in comparison to the other study groups. Toronto LEs recorded an increase of almost 16 percent over the same period. Figures for Toronto SMEs reveal a near 10 percent decline in full-time employment over the examination period.

**Figure 5.1: Mean Part-Time Production Employment**

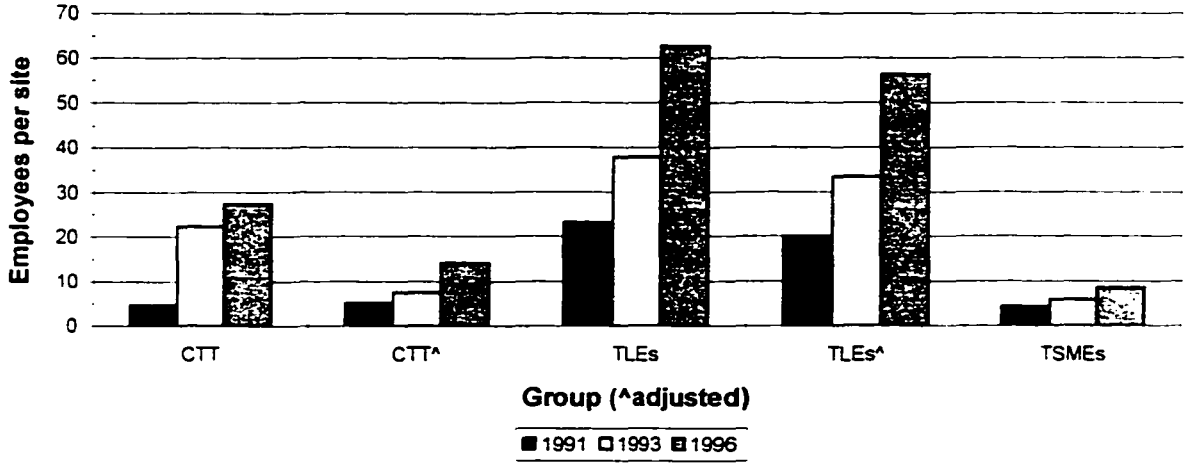
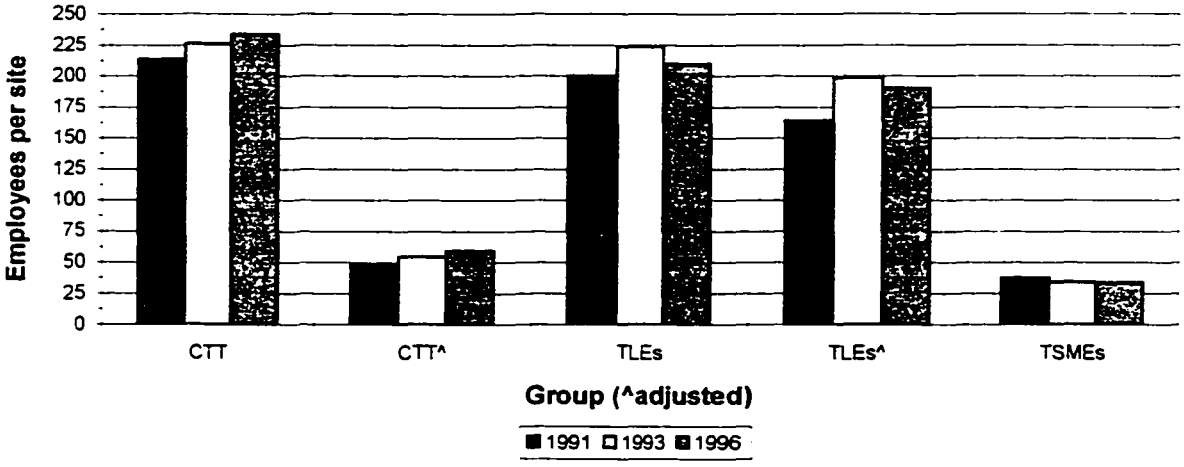



**Figure 5.2: Mean Full-Time Production Employment**



The 1993 to 1996 period was one of full-time employment decline, highlighted by negative rates in both Toronto study groups. Interestingly, food processors in the CTT, while experiencing slower growth rates, appear to have distanced themselves from the dramatic declines endured by firms in Toronto's regional economy. Full-time employment decline over the 1993 to 1996 period in Toronto adds support to Gertler's (1996b) and Ali's (1997) contention that Toronto underwent massive structural and social change between 1985 and 1995, especially in manufacturing. Furthermore, the varied experiences of food processors in the regional economies of the CTT and Toronto may contribute to arguments put forth by Ufkes (1993a), Fagan (1995) and Pritchard (1998), regarding the continued importance of local and regional economies despite the pressures of 'globalization'.

Through a full-time/part-time production employment ratio, presented in Table 5.3, we more clearly observe the changing relationship between full-time and part-time employment levels in the food industry. By comparison, the full-time/part-time production employment ratio in the Canadian auto assembly sector is almost 50:1 (Robertson 1998).

**Table 5.3: Full & Part-Time Production Employee Ratio* (1991, 1993, 1996)**

| | Group | | | |
|---|---|---|---|---|
| **Year** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **1991** | 10:1 | 8:1 | 10:1 | 9:1 |
| **1993** | 7:1 | 6:1 | 6:1 | 6:1 |
| **1996** | 4:1 | 3:1 | 4:1 | 4:1 |

*Note: Based upon adjusted F/T & P/T production employment figures in Appendix B, Table 1.1. Ratios are rounded to the nearest tenth.

Source: Author.

Evidence of the increased use of non-standard work arrangements is augmented by interview comments. The strategic pursuit of numerical flexibility is clearly evident:

"Part-time and temporary [summer] employees have truly become an important part of our labour force in the past few years. Part-timers give us some room to operate...the chance to meet any changes in product demand."

(Vice President Operations, Toronto LEs, 19/11/97)

"[Increased P/T]...it's a reflection of trying to have more of a Just-In-Time workforce. Because the product demand has seasonal fluctuations...rather than have the overhead of permanent employees...we will bring in part-timers to meet peak demand periods."

(Employee Relations Manager, Toronto LEs, 27/11/97)

"We have a significant spike in production during the summer...even spikes during the day...that's why we carry a large part-time workforce."

(Director, Human Resources, Toronto LEs, 12/1/98)

"We have to produce it [product] when the customer wants to buy it. With part-timers...we have the ability to move our production levels from low levels at the beginning of the week, to very high levels as we approach the weekend."

(Human Resources Manager, Toronto LEs, 13/11/97)

The above comments appear to support the argument forwarded by Baxter & Mann (1992), regarding labour and production discontinuities in the food industry. A few firms have instituted very 'flexible' work arrangements and aggressive staffing strategies:

"Starting back in 1992...our strategies included shifting our production employees from full-timers, to a larger percentage of part-timers. Full-timers were offered...the new part-time positions...maybe 25 percent took it...mostly the female employees. Ultimately, I think we would like to get down to an even 50:50 split between full and part-timers."

(Personnel Manager, Toronto SMEs, 11/28/97)

"We have no idea who is coming through the door. When they [private recruiter] get a phone call from us saying we need 17 people today...we can get them with 24 hours lead time."

(Vice President Operations, CTT, 1/12/97)

Opponents of the flexibility thesis argue that increased numerical flexibility has been the chief strategic pursuit of most firms in their attempts to increase labour flexibility, especially in manufacturing (see Pollert 1991; Stanford 1995; Swift 1995; Peck 1996; Betcherman 1996; Allen & Henry 1997) and in the food industry (see Kenney 1989; Smith *et al.* 1990; Baxter & Mann 1992; Kim & Curry 1993). These observers argue that relaxed regulatory environments and loose labour markets have contributed to stagnate levels of full-time employment and growth in non-standard labour arrangements. The dramatic employment results presented in this study, augmented by interview comments, appear to support the contention forwarded by critics regarding firm pursuit of numerical labour flexibility. It is highly apparent that numerical flexibility is at least one strategy being aggressively explored by food manufacturers in the CTT and in the City of Toronto.

### *5.2.5 Type(s) of Workers*

Participants were asked to disaggregate the current total plant site workforce by job function or occupation. Results are presented in Appendix B, Table 1.2. Overall, the 44 food manufacturers in this study employ almost 9,000 production workers in the current period. Unskilled production workers account for 90 percent of the total production related workforce, with the remainder defined as skilled workers. While often formally defined by the holding of trade papers, the definition of 'skill' in this study was left to the discretion of participants. Skill is often defined by the employer in terms of individual worker value, for example, the value placed upon a senior worker due to accumulated years of knowledge.

In the CTT, unskilled production constitutes 96 percent of the total production workforce. These figures calculate to 85 percent and 75 percent in the Toronto LEs and Toronto SMEs groups respectively. As a ratio of total production employment to management (P/M ratio), the overall ratio is 11:1. This ratio is lowest in the Toronto SMEs group at 8:1 and reaches as high as 13:1 in the Toronto LEs study group. The CTT has a ratio of 10:1. Plant site employment figures, disaggregated by job function, may provide some initial benchmarks for further research into the supply and demand for specific occupations in the food processing industry, as suggested by Amanor-Boadu *et al.* (1996).

### *5.2.6 Gender*

This inquiry probes the issue of gender representation on the plant floor. Findings will offer a degree of insight into questions regarding the gender structure of the food industry workforce and its implications for wider skill development and HR issues, an area of research poorly addressed in Canada (Amanor-Boadu *et al.* 1996). Overall, food manufacturers employ an approximate 60:40 gender split, male to female, on the plant floor. This compares to a 85:15 male to female breakdown in the Canadian automobile industry (Robertson 1998). The use of female labour is highest among firms in the Toronto LEs group at 42 percent, followed very closely by Toronto SMEs. The use of female labour in the CTT is slightly less intensive, at approximately 66 to 34 percent male to female.

Statistically, there appears to be a dependent relationship between location and gender: $x^2 = 59.413$, $p \leq 0.001$. This implies that the gender split for firms in this study is probably representative of trends at the population level. Figures were estimated by taking

the gender percentage and applying it to 1996 figures for total F/T and P/T production employment.

Interview participants were asked if their plant floor gender split was reached by design or was achieved by accident. The following remarks are taken from firms employing at least a 50:50 gender split:

"[Design or accident]...a little of both. Our female employees are a very important asset. They generally work hard and are on-time. As well, they have better skills in certain tasks that the men just can't seem to do...things related to dexterity...many small objects move quickly along the production line."

(Personnel Manager, Toronto SMEs, 28/11/97)

"[Design or accident]...a bit of both. The women are excellent on the line...especially with the increased line speeds. We have been consistently increasing the number of females we employ. If I could replace all the heavy jobs with machinery, I would probably get rid of most of the men. [Why?] Cost...also because they [men] tend to be more difficult to deal with."

(Plant Manager, Toronto LEs, 5/2/98)

"[Design or accident]...I think it's by design. When it comes to dexterity, for example...we've tried males on these jobs and they can't keep up with the speed."

(Production Planner, Toronto LEs, 4/12/97)

"Until recently, the jobs were actually classified as ladies' jobs and men's jobs...ladies' jobs were light labour jobs...with the guys doing all the heavy lifting and machine operations. Women are better at the manual dexterity positions."

(Human Resources Manager, Toronto LEs, 26/11/97)

A few firms continue to employ workforces that are heavily dominated by males. A high percentage of male workers seems related to the physical and/or heavy nature of the work and institutional resistance. The following comments provide some insight:

"We have 100 percent male production. At one time we did have some female production employees, but realistically...it never worked. Too much employee conflict. So, I just decided to stay away from that problem all together."

(General Manager, Toronto SMEs, 10/11/97)

"It's historical...most of our employees have a very long tenure. Also, due to the nature of some of the plants...noisy, heavy bagging, lifting and dirty...traditionally the female workforce has not tended to gravitate to those jobs."

(Employee Relations Manager, Toronto LEs, 27/11/97)

"We would prefer a 50:50 split...this industry has been around for so long and has been unionized a long time...you have primarily long service male workers...you can't create equity overnight with seniority rule."

(Director, Human Resources, Toronto LEs, 12/1/98)

Comments provided above reveal some very interesting firm level strategies and decisions which are difficult to capture in figures or statistical tests. Gender presents itself as an important topic since many observers contend that the food industry has historically relied on the use of a low wage, non-standard, female workforce as a cost advantage (see Smith *et al.* 1990; Winson 1993; Gouveia 1994; Stanley 1994; Ufkes 1995). Findings in this study appear supportive of the arguments put forth by these researchers. Participant references to increased line speed allude to a general intensification of the labour process, a reactive strategy to perceived labour market rigidities observed by Novek (1989).

### *5.2.7 Unionization*

At 57 percent, only a slight majority of plant sites from the three study groups are unionized. The Canadian auto assembly sector, by comparison, is 90 percent organized, with auto parts approximately 55 percent unionized (Robertson 1998). Unionization among food processors is more prevalent in Toronto than in the CTT, at 62 and 47 percent respectively. Where unions are present, nearly 91 percent of the total production related workforce is unionized. By 1996 total full-time production employment numbers, this constitutes a representation of approximately 3,970 workers. The corollary of this is that over 3,700 full-

time workers are without union representation. As such, a large portion of the production related workforce are subject to individual contract arrangements. The absence of collective bargaining arrangements, particularly for low skilled workers, sways the balance of power in favour of the employer (Drache 1991; Tomaney 1994). Individualized employment relations is one main strategy firms undertake in pursuing labour flexibility (Peck 1996). The following comment provides insight into management's perspective on organized labour as it pertains to restructuring:

"Through the 1970s and '80s the union had most of the leverage...we [management] didn't have much choice. In the '90s...with restructuring in food processing, the unions do not have the same amount of power as they once did...They are not changing their strategies to accomodate a changing world...by not changing they are only reducing job security."
(Director, Human Resources, Toronto LEs, 12/1/98)

## 5.3 Workplace Practices & Human Resource Management

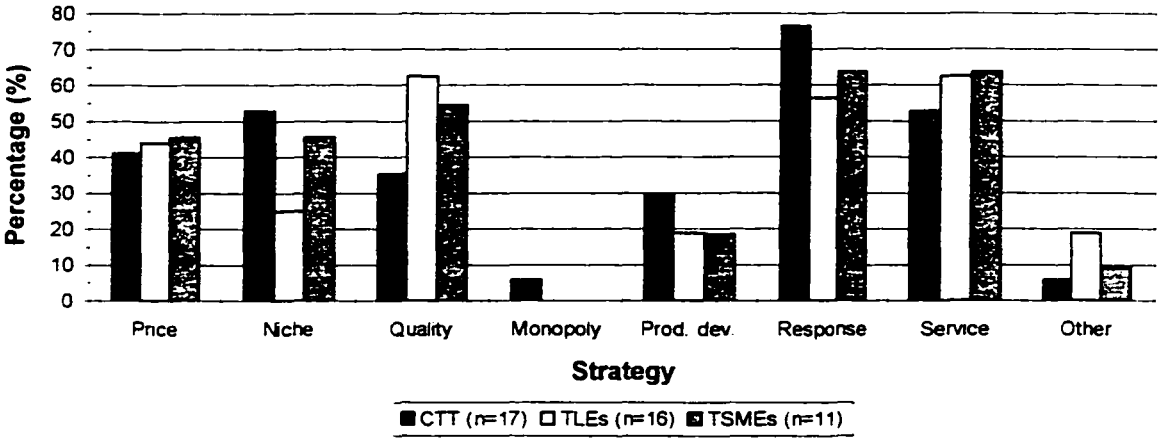
### *5.3.1 Competitive Strategies*

The three most prevalent competitive strategies undertaken by food processors in the CTT and Toronto are, in order: 1) responding to customers and/or suppliers; 2) a reputation for service, and; 3) increasing product quality. Results seem to indicate an orientation towards increased attention to service, for customers and/or suppliers and consumers. Overall results are presented in Appendix B, Table 1.3. Price, not one of the top three strategies, is largely associated with Fordist era ideals. A move away from a purely price driven strategy towards attention to service might suggest a post-Fordist shift.

The competitive strategies undertaken by food industry firms appear to vary between study groups, as depicted in Figure 5.3. Only 23 percent of firms indicated new product development as a competitive strategy. This finding appears supportive of arguments

regarding low levels of R&D and process innovation in the food industry (Messer 1992; Lanclos & Hertel 1995; Viaene & Gellynck 1995).

**Figure 5.3: Comparative Competitive Strategies (%)**




Price competition, new product development, response to customers/suppliers and a reputation for service are consistent strategies throughout the three study groups. Niche markets and increasing product quality strategies appear to differ between the groups. Toronto LEs place less emphasis on serving niche markets. This might be expected, given their large scale production orientation. Toronto LEs also tend to focus more attention towards increasing product quality. Viaene & Gellynck (1995) argue that food industry SMEs need to focus on niche markets. Evidence in this study does not find a strong trend towards niche markets, although, one interview participant does highlight this issue:

"[Serving niche markets]...It's not only necessary...but probably the only way a [SME] can survive in the current environment...we [SMEs] are continuously being beaten over the head by huge companies that just seem to get bigger and bigger."

(General Manager, Toronto SMEs, 10/11/97)

### *5.3.2 Production Restructuring*

This section summarizes three issues related to the overall restructuring of production: 1) work practices; 2) technological change, and; 3) management-labour relations. These questions all speak directly to the manner in which work is organized on the shop floor and to a real or apparent shift towards increased labour flexibility. Currently, the literature is void of research into workplace changes and work practices and their affects on HR requirements in the Canadian food industry (Amanor-Boadu *et al.* 1996). Complete results are available in Appendix B, Table 1.4. Presented in Table 5.4 are work practices aggregated by era of production. A combination of work practices may attest to a degree of hybridization or experimentation in work organization.

**Table 5.4: Work Practices by Group Aggregated by Era of Production (%)***

| | Group | | | |
|---|---|---|---|---|
| **Era** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Fordist** | 59 | 75 | 73 | 68 |
| **Flexible** | 29 | 25 | 27 | 27 |
| **Hybrid** | 12 | 0 | 0 | 5 |
| **Total** | 100 | 100 | 100 | 100 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.

Source: Author.

Aggregated work practices indicate the continued entrenchment of Fordist ideals, particularly the continued dominance of the traditional mass production line. This finding

supports arguments put forth by Smith *et al.* (1990), Kim & Curry (1993) and Winson (1993) regarding the continued importance of mass production and mass input processes in food manufacturing. However, flexible practices are also apparent, with 27 percent of firms organizing production in more flexible arrangements, largely pursued through work teams. Only a small percentage of firms are hybrids, that is, concurrently organizing major work practices in both a Fordist and flexible manner. This may point to a lack of experimentation with new forms of work amongst firms in the three study groups. Although, a lack of hybridization may also suggest a decisive preference for a either a purely Fordist or flexible form of work organization.

A number of variations on work practice emerge between each study group when taken in isolation. First, while the production line appears more entrenched in the CTT than in any other group, the CTT is also the location of greatest flexibility. Work teams, job rotation and independent work practices are all present. Second, hybrid firms are present only in the CTT. This trend may imply a certain degree of experimentation with new forms of work in the CTT. Third, aggregated work practices, both Fordist and flexible, are almost identical for both Toronto LEs and Toronto SMEs. This may suggest a degree of continuity within Toronto's regional economy, as it pertains to work practices.

Technological change and investment has had an important impact on the reorganization of production in many industrial sectors. Participants were asked to indicate how significant changes in technology have been to their plant site and to the general flow of work. A 6-point attitude rating scale (1-6), from 'not significant' to 'very significant', was used for recording responses. This question also acted as a proxy for rating the significance

of technology and, as such, investments in technology in the current period. Second, participants were asked about their awareness of any future technological changes that would have an important impact on the flow of work. Responses were recorded as either 'yes' or 'no'. This question acted as proxy for levels of future investment in production and process technologies. Results are provided in Table 5.5.

**Table 5.5: Technological Change by Group***

| | Group | | | |
|---|---|---|---|---|
| **Rating** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Mean** | 3.4 | 4.0 | 3.6 | 3.7 |
| **Min** | 1 | 1 | 1 | 1 |
| **Max** | 6 | 6 | 5 | 6 |
| **St. Dev.** | 1.6 | 1.5 | 1.4 | 1.5 |
| **Future Importance** | | | | |
| **Yes (%)*** | 53 | 69 | 55 | 59 |
| **No (%)*** | 47 | 31 | 46 | 41 |
| **Total** | 100 | 100 | 100 | 100 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
'Yes' & 'No' responses are recorded as a percentage (%) of n.

Source: Author.

Overall, firms rated the current significance of changes in technology as 3.7. Ratings on a by group basis were fairly even. However, the CTT did appear to place the least amount of importance on technological change in the current period. This indifferent, or at least

modest, rating is somewhat surprising given the recent popular attention afforded to the impact of technology on both production and process in manufacturing. This finding may highlight one of the contradictions of flexibility. Interview statements help to augment participant ratings:

"Let's face it, much of the production in the food industry still must be done by hand."
(Human Resources Manager, Toronto LEs, 26/11/97)

"New equipment often just means new expenses and headaches."
(Vice President Operations, Toronto LEs, 19/11/97)

"Many processes in food processing just don't require major investments in new technology. As well, I don't think that there is much incentive for smaller firms to make those sort of investments."
(General Manager, Toronto SMEs, 10/11/97)

However, a few participants did identify recent investments in new technology as having a significant impact on production and process:

"[New technology]...especially in packaging and product safety technologies. Quality has always been an important issue in the food industry...but today...it's even more important. One bad story and you're finished, especially if you're not a huge company with expensive lawyers and a PR [public relations] department."
(Personnel Manager, Toronto SMEs, 28/11/97)

"Every person [on the line] represents around $30,000, so, at one time it was expensive to invest in new machinery...now you can very quickly recover your costs."
(Production Planner, Toronto LEs, 4/12/97)

Findings support arguments that food manufacturing, even in modern, industrialized countries, exhibits low levels of investment and development in both production and process technologies (ILO 1989; Messer 1992; Lanclos & Hertel 1995). In identifying the future importance of technology on the flow work, nearly 60 percent of firms stated that they were

aware of important forthcoming changes. Levels of awareness were highest among the Toronto LEs group, at nearly 70 percent, and lowest in the CTT, at 53 percent.

The two functional systems that would feel the greatest impact of new technologies were distribution and packaging, a finding similar to other studies (ILO 1989; Tomoda 1992). Firms identified a desire to replace, or at least reduce, the need for labour in these areas. As such, these technological advances, while creating opportunities for skilled workers, will likely strike hardest at unskilled and semi-skilled positions, an impact documented by other observers (ILO 1989; Tomoda 1992).

Finally, we address management-labour relations, an issue functionally related to production restructuring. Specifically explored is the level of consultation between management and production employees, thus, providing insight into industrial relations and work practice issues. Complete results are presented in Appendix B, Table 1.5.

The three issues which production employees are most often consulted are, as follows: 1) work organization; 2) training, and; 3) wages/conditions. A limited amount of variation by study group exists. For example, Toronto LEs consult very little with production employees on product development issues, but consult more on issues of new technology.

Consultation concerning issues of work organization and wages/conditions are largely Fordist traditions, particularly given the requirements of collective agreements. In contrast, flexibility ideally involves greater levels of employer-employee interaction, especially on issues of strategic importance. There appears to be little evidence of post-Fordist style management-labour interaction among firms of all three study groups. While it is unclear if

management-labour relations are highly antagonistic, industrial relations could be characterized as chiefly Fordist in nature.

### *5.3.3 Recruitment*

Summarized in this section are issues related to the recruitment of production employees for food processors in the three study groups. Issues under examination include recruitment difficulties, recruitment channels, perceptions of the local labour market, changing hiring criteria and spatial recruitment patterns.

First, with the use of a 'yes' or 'no' response, participants were asked to indicate whether their plant had any problems recruiting production employees. Further explanation was requested. Overall results appear to reveal a clear set of findings, with 75 percent of firms having no recruitment problems and 25 percent experiencing some difficulties in recruiting production related labour. Responses for each study group closely mirror overall results. However, when we examine the qualitative reasons underlying each response and augment this with interview-based comments, a different set of conclusions may be offered.

For Toronto LEs, 75 percent recorded no problems in recruiting production employees. The three main reasons cited were: 1) the local unemployment rate and related availability of low skilled labour; 2) the wages and benefits they provided were attractive to potential hires, and; 3) the availability of new immigrant, low skilled, labour in the Toronto area. In terms of immigrant labour, one HR manager of a Toronto LE (13/11/97) stated, "At least half of our new hires have no previous Canadian work experience." For those plants

indicating recruitment problems, only one reason was cited by all respondents: the unavailability of skilled labour, particularly in maintenance and electrical positions.

Almost 82 percent of Toronto SMEs indicated little difficulty in recruiting production related employment. The two main reasons given were: 1) the local unemployment rate and related availability of low skilled labour, and; 2) a relatively low rate of plant turnover. For the 18 percent of firms citing recruitment problems, the two main reasons listed were: 1) the generally difficult working conditions, and; 2) plant location was unattractive. One Toronto SMEs general manager (10/11/97) provided comment on working conditions in the sector:

"Forget what you know about working conditions in other sectors. This work is hard and definitely not glamorous. The line moves fast and never really stops for eight hours straight. Why would anyone want to work in this industry? I wouldn't recommend working in this industry to my own son."

Both Toronto SMEs and Toronto LEs groups report very similar reasons for having few problems in recruiting production employment. Local unemployment rates were cited by both groups. As such, this provides some insight into the apparent looseness of the Toronto local labour market, particularly for low skilled workers.

The experience of recruitment problems was lowest in the CTT, at about 71 percent. The reasons cited were similar to those identified by Toronto-based firms, including: 1) the availability of low skilled labour related to high unemployment rates; 2) the presence of new immigrant labour, and; 3) the attractive wage and benefit packages. However, in comparison to the Toronto-based groups, the reasons underlying recruitment problems appear very different for firms in the CTT. Of the almost 30 percent of firms indicating recruitment difficulties, all respondents identified only one reason; the current pressure on wages and

employment in the local labour market. The apparent success and growth of other manufacturing sectors in the local area, particularly those related to the automotive industry, were cited as the main cause of recruitment problems for CTT-based food manufacturers. This is best exemplified by the remarks of one CTT area participant:

"We have a number of individuals who work for us and all of a sudden...we know their out looking for work...we get the phone calls from Linamar and ATS looking for references. Because auto parts have historically offered better wages, we can't compete. Our people will drop us like a dirty shirt to go over and work for these companies. Same with the local metal stampers. We have employees that will leave us for 50 cents an hour more. These companies, like ATS and Linamar, because they are booming...they are just raiding...they are literally raiding floor employees. They [employees] are not smart enough to see the whole picture...this is the food industry...few layoffs and full-time work. Everybody's got to eat. The ATS's and Linamar's of the world are having their day today and for the next couple years...but wait for another slump in the auto industry."

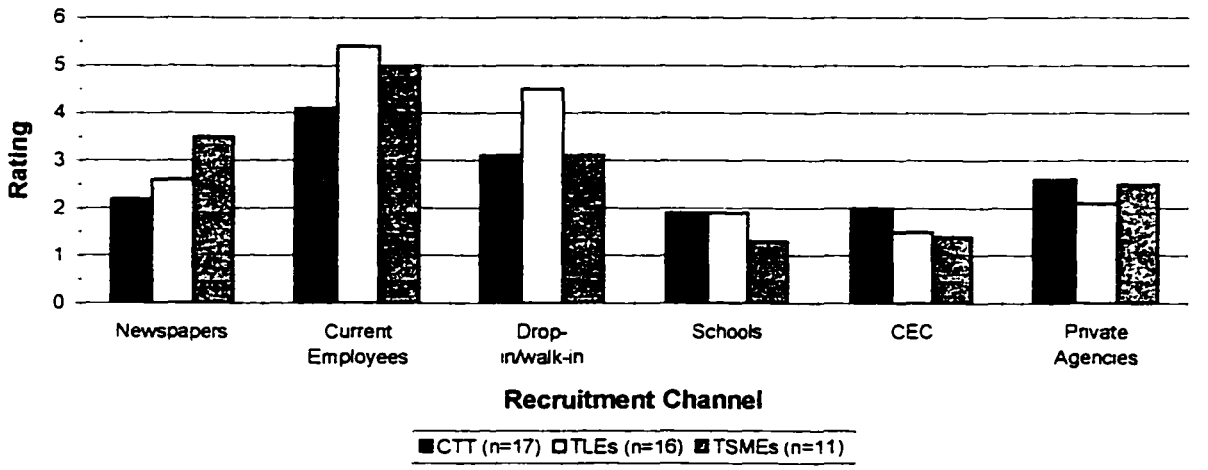
(Vice President Operations, CTT, 1/12/97)

Trends and remarks describing the current state of the CTT labour market appear to suggest a degree of labour market tightness, at least relative to the experience of food processors in Toronto. Many researchers would suggest that labour market looseness is one major reason for the apparent shift towards increased labour flexibility (Pollert 1991; Swift 1995; Betcherman 1996; Peck 1996), accented by a shift in power relations from employees to employers (Drache 1991; Tomaney 1994).

The next logical question was to explore the usefulness of a number of common recruitment channels for hiring production employees. Responses were recorded with the use of a 6-point attitude rating scale (1-6), from 'not useful' to 'very useful'. Recruitment channel results, as a rating of usefulness, are presented in Appendix B, Table 1.6.

In overall terms, the three recruitment channels rated as most useful for food processors in this study were: 1) current employees/word-of-mouth; 2) drop-in/walk-in, and; 3) newspapers/classifieds. With an overall mean rating of 4.8, current employees/word-of-mouth was, by far, the most frequently used channel for hiring production employees. This common recruitment channel was rated as the most useful form of hiring in all study groups. The popularity of this channel was highlighted by a minimum rating of 4 given by Toronto LEs. Figure 5.4 provides a graphical comparison, by study group, of the mean rating given to each recruitment channel.

**Figure 5.4: Comparative Use of Recruitment Channels**




Rating the use of recruiting methods provides insight and understanding into the hypothesis that local labour markets are segmented, both socially and spatially (Peck 1989, 1992, 1996; Hanson & Pratt 1992, 1995; Rutherford 1995). The strongly biased recruiting patterns uncovered for food industry firms in this study provides opportunity for analysis of

labour market segmentation. The hiring of family and friends, through informal recruitment channels, appears deeply entrenched in the corporate culture of food processors. As one Toronto LEs HR manager stated (13/11/97) in discussion of referrals for family and friends, "It is not a guaranteed hire...it is, however, a guaranteed interview". A number of participants commented on the benefits of hiring through current employees:

"Current employees act as an informal and inexpensive screening process."
(Vice President Human Resources, Toronto LEs, 4/12/97)

"Generally people are not going to bring someone in who isn't going to be a good worker. It [current employees] acts as a personal recommendation and screening process. Good people are going to refer good people."
(Employee Relations Manager, Toronto LEs, 27/11/97)

"When someone brings in their sister, I expect the sister to have the same appreciation [for the work]. It works in training as well, because the new person may get to work with their friend...it becomes peer level...the comfort level grows. It's part of being socialized and getting into the work."
(Vice President Operations, CTT, 1/12/97)

"One real advantage...is that you tend to represent your community...which is the goal of any employment equity program. We have a map on our wall that shows where everyone was born and right now we have 66 different countries represented...we are very proud of that..."
(Human Resources Manager, Toronto LEs, 13/11/97)

Concurrently, many interview participants seemed to recognize various negative implications associated with using one recruitment method so intensely:

"If you could summarize this plant, 'nepotism' would be it. Ninety percent of the employees here are either married to one another or offspring...there is tremendous pressure to continue hiring spouses and/or children of existing employees. When you have someone saying they are going on strike if you don't hire their son, it is difficult to look for alternatives."
(Human Resources Manager, Toronto LEs, 26/11/97)

"When you hire relatives and friends...which can be an easy trap to fall into...it becomes a difficulty when there are conflicts over employee attitude or performance, especially when it reaches the point where an employee may have to be terminated."
(Vice President Human Resources, Toronto LEs, 4/12/97)

"It [current employee/word-of-mouth hiring] can make my job both easier and more difficult at the same time...because of the family ties that bind many of the plant floor employees. Instead of having one person getting upset because of discipline, I have three people upset."
(Personnel Manager, Toronto SMEs, 28/11/97)

"The biggest issue is diversity...if your workforce is largely homogeneous, using word-of-mouth will not likely help to diversify it."
(Director, Human Resources, Toronto LEs, 12/1/98)

As described above, acknowledged concerns largely revolved around internal labour market issues and industrial relations experiences. However, a few participants also recognized that intensive, non-diverse, hiring has external labour market implications:

"The drawback...is that sometimes you do not necessarily attract the skills that you need."
(Human Resources Manager, Toronto LEs, 13/11/97)

"We probably don't dip into the wider labour pool enough. It's a more expensive process, but I might be missing out on some good employees and skills."
(Personnel Manager, Toronto SMEs, 28/11/97)

Given the admitted benefits and problems associated with a heavy reliance on current employee/word-of-mouth recruiting, the possibility for change in past practices appears mixed. A few participants look forward to initiating change:

"We have thought about that in the last couple weeks [high school recruiting]. I believe, that for longer term employees, you need to have people that have accomplished something...I'm not looking for drop-outs. Now, I realize that the majority of these people will not stay on, but I believe that you will have a more motivated workforce...perhaps to pay for college or pay off debt...people that carry responsibility."
(Plant Manager, CTT, 23/10/97)

"I am trying to get away from that [hiring family and friends]...but it's hard to advertise for production work when you have 10,000 people standing in line for a job on an eight to nine year seniority list."
(Human Resources Manager, Toronto LEs, 26/11/97)

Others, however, seem content with current hiring norms:

"I don't really know [about any hiring implications]...it just seems to work for us. We've hired that way for years."

(Vice President Operations, Toronto LEs, 19/11/97)

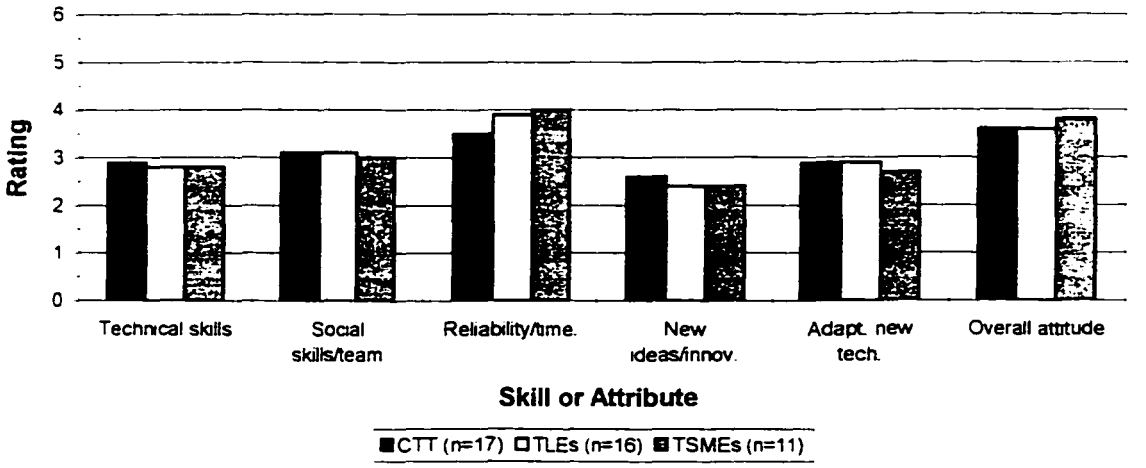
The highly biased recruitment practices amongst firms in this study, augmented by insightful and interesting commentary, support the assertion that employee selection and compensation are not solely based on worker education, training and productivity (Hanson & Pratt 1991, 1992; Rutherford 1995; Peck 1996). Personal and social factors are highly evident. While these factors may work to the short-term benefit of the firm, social segmentation of the local labour market is further ingrained.

Critical to the issue of recruitment are the perceptions held by employers with regards to skills and attributes available from the local labour market. Certain skills and attributes correspond closely with ideals traditionally identified as either Fordist or post-Fordist. Technical skills, reliability/timeliness and overall attitude are more closely aligned with Fordist principles of work. Whereas, social/team skills, new ideas/innovativeness and adapting to new technology are most often identified with a shift towards increased flexibility. Employer ratings are outlined in Appendix B, Table 1.7. Figure 5.5 provides a graphical comparison of results by each study group.

Overall, the two skills and/or attributes that clearly received the highest rating of local labour market quality were, as follows: 1) reliability/timeliness, and; 2) overall attitude. With a mean overall rating of 3.8 and 3.7 respectively, these two attributes were consistently rated highest in all study groups. By comparison, the lowest rated skill and/or attribute, with

a mean score of 2.5, was the quality of local labour for new ideas/innovativeness. Mean ratings and ranges showed little variance between the CTT and Toronto.

**Figure 5.5: Comparative Quality of Local Labour Markets**




Responses to questions of local labour market quality varied widely. First, participants acknowledged that high quality technical skills are not generally an important factor or need within the industry. The following comments provide insight:

"Our needs are the lower and mid-end of technology...these are not high-tech plants. You can attain that [technical skills] fairly easily from people coming out of the local educational system. It is not like we are making robotic arms or anything."

(Employee Relations Manager, Toronto LEs, 27/11/97)

"We hire for a specific job...if they have technical skills, I don't know. If they do...I'm not aware of it or I don't need it. Maybe I do need it...but I'm certainly not looking for it."

(Plant Manager, CTT, 23/10/97)

"In terms of any technical skills that an employee may bring...that's great, but I can pretty much train anyone off the street to perform a lot of the jobs on the plant floor."

(Personnel Manager, Toronto SMEs, 28/11/97)

Second, reflective of the rating given to reliability/timeliness, participants spoke about the strong need for this attribute:

"People can come in with all the credentials and talk a good game, but the bottom line is if they don't show up for work it's all for not."
(Vice President Operations, CTT, 1/12/97)

"New ideas may be great...good social skills may be great...but I need people here on-time and willing to work."
(Personnel Manager, Toronto SMEs, 28/11/97)

Third, interview participants also commented on the current overall state of local labour market attitudes towards work:

"The general attitude towards work around here sucks. I don't know what it is. I think it is, 'Why should I work for $8 an hour'...in a way, how can you blame them."
(General Manager, Toronto SMEs, 10/11/97)

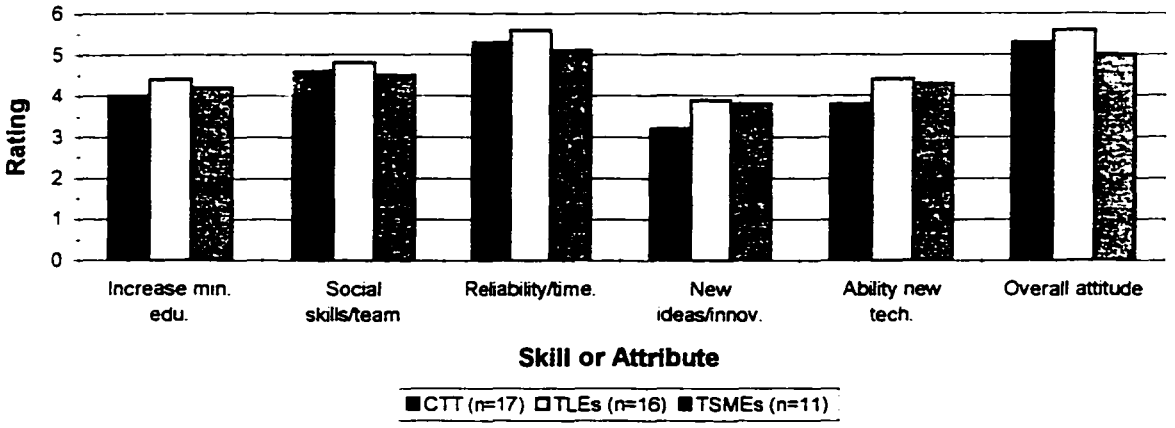
"That [attitude] goes up and down...just like the weather. Basically what I find is if you give the employees a good pep talk and you are on top of it, the overall attitude is O.K."
(Plant Manager, CTT, 23/10/97)

The trends and remarks provided by management point to the predominance of traditionally Fordist skills and attributes in the local labour market for food processing employees. This prevalence of Fordist ideals is expressed as both a function of managements' perception of the local labour market and firm needs. Fordist sentiments were perhaps best summarized through the comments of one Toronto LEs vice president operations (19/11/97), "We need our employees here on time. That's priority one."

Given current perceptions of the local labour market situation, employers were asked to rate the changing importance that their firm places on certain skills and attributes when recruiting new production employees. Results are available in Appendix B, Table 1.8.

Figure 5.6 offers a graphical comparison of the changing importance of skills and attributes by study group. Reliability/timeliness and overall attitude are strong Fordist ideals. In contrast, the flexibility thesis puts emphasis on increased levels of minimum education, social/team skills, new ideas/innovativeness and an ability to adapt to new technology.

**Figure 5.6: Comparative Changing Importance of Skills & Attributes**




Overall, with a rating of 5.3, reliability/timeliness and overall attitude were equally rated as the two highest skill and/or attributes. These two attributes were consistently rated most important in all study groups. With a min-max of 5 and 6 respectively, Toronto LEs were highly definitive in their rating of reliability/timeliness and overall attitude. The two lowest overall ratings were 3.6 and 4.1, given to new ideas/innovativeness and a new hires ability to use new technology.

Participants seemed to achieve a degree of consensus on the subject of increased minimum education levels. Remarks indicate that this variable is not critically important:

"I don't place a lot of importance on hiring people with better team skills or education."
(General Manager, Toronto SMEs, 10/11/97)

"Really, with most tasks here, we don't need a lot of skills. For most of our employees...these are their first real jobs [immigrants]."

(Vice President Operations, Toronto LEs, 19/11/97)

"We don't put value in...'must have grade 12'...I think it's a joke when so many job applications for this type of job state...'must have grade 12'. Do you honestly think that's got anything to do with education or is that just a screening tactic so they think they won't get 'riff-raff'...I think it's the latter."

(Vice President Operations, CTT, 1/12/97)

Many firms held the opinion that even if they paid better wages, they would not likely attract better educated people, largely due to working conditions in the industry:

"Paying people higher wages does not mean that you will get better people. It's partly the image and the type of work that has to be done in this industry."

(Vice President Human Resources, Toronto LEs, 4/12/97)

"Because of the nature of the industry, especially considering the working conditions, paying better wages does not necessarily mean I will get better people."

(General Manager, Toronto SMEs, 10/11/97)

The ability of production employees to introduce new ideas and be more innovative was rated as the lowest variable, especially in the CTT. Supporters of the post-Fordist shift contend that increased worker involvement and innovation are central in the new era of flexibility (Piore & Sabel 1984; Scott 1988). However, Smith *et al.* (1990) found that the ability of workers to present new ideas on production and process was highly resisted. Findings in this study support the contentions of Smith *et al.* (1990). The following comment helps to illustrate this resistance to worker ideas on production and process:

"A new process costs money. When you have people always talking about new ideas, they seem to forget that they should be working with what is there today. When you have an employee always talking about new ideas, new ideas, they never make the old things work."

(Plant Manager, CTT, 23/10/97)

Finally, many participants had a sense that, despite the popular attention afforded to team building and worker innovation, the basic attributes of reliability/timeliness and attitude remain the bottomline issues:

"Overall attitude comes before team building. Without a good attitude among employees, team building will likely be unsuccessful"
(Vice President Human Resources, Toronto LEs, 4/12/97)

"[Reliability and attitude]...team building flows out of those two things...team building is what you do after you get them here."
(Human Resources Manager, Toronto LEs, 13/11/97)

"This is the food industry...if you're suppose to start a line running at 7 am and one person is missing, you can't start. Reliability is very, very important."
(Production Planner, Toronto LEs, 4/12/97)

A few participants did not wish to downplay the importance of team building and the development of other social skills for production workers. Their comments suggest a current and/or future strategic shift, although cautious, towards increased functional flexibility:

"I would be careful not to slight team building, as we have undertaken it here with some success...we have tried to instill within the plant the concept of the internal customer. Our teams set their own schedules and maintenance records...we try to emphasize both technical and soft skills."
(Vice President Human Resources, Toronto LEs, 4/12/97)

"People must have at least grade 12. We need them to be able to read, write and understand English. We wouldn't need this if we wanted to stay status quo. But if you are introducing new technology, it's difficult to train if the workers can't speak English or count."
(Director, Human Resources, Toronto LEs, 12/1/98)

"They are not really forming teams, but the individual worker is being linked much more to the output...they are given more information. You need more than a warm body showing up for that. The concept of team...I would use the more general concept of involvement...they have to be involved in the process."
(Employee Relations Manager, Toronto LEs, 27/11/97)

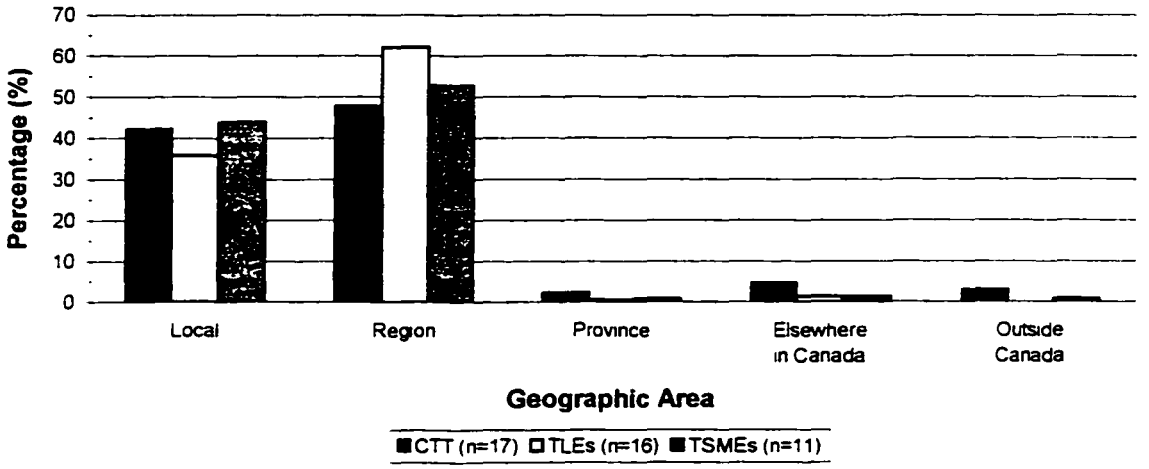
In comparing the ratings and comments from the previous section on local labour market quality, to ratings in this section, we observe a marked increase in employer expectations. Of note is the changing importance given to skills and attributes closely associated with more flexible forms of production. Management ratings and comments allude to a belief that local labour is somehow inflexible, a notion anticipated by Stanford (1995). Despite a shift, however, towards increased emphasis on more flexible hiring demands, Fordist traditions continue to dominate. This tendency towards both continuity and change is well captured by the comments of one Toronto LEs HR manager (26/11/97):

"You want people who are going to show up, are in fairly good health, have minimal literacy skills, have the ability to possibly learn how to use a computer down the road, who are open [to use new technology] and have a good overall attitude."

After exploring social segmentation, we turn our attention to the spatial forces operating in the local labour market through firm recruitment behaviour. Participants were requested to estimate the percentage of production employees hired from particular geographic areas. Areal definitions were guided by previous local labour market studies (see Hanson & Pratt 1992; Rutherford 1996b). The spatial distribution of new hires may provide an indicator of labour market boundaries and, as such, offer insight into spatial segmentation within the local labour market. Final results are offered in Appendix B, Table 1.9. Figure 5.7 presents a graphical representation of results by study group.

The recruitment techniques of food processors in this study appear to produce a highly localized workforce, with 40 percent of all new hires located within 5 km of the plant site. Comparisons on a by group basis produce similar results.

**Figure 5.7: Comparative Recruitment Geography (%)**




While figures indicate a strong tendency towards localized labour recruitment, evidence of a purposeful strategy to target specific geographic areas remains unclear. Comments on this issue were mixed:

"A lot of our employees actually walk to work...we are largely surrounded by an old residential neighbourhood. I think that is one advantage of our location...many of the employees seem to like it."

(Vice President Operations, Toronto LEs, 19/11/97)

"Personally, I don't care where they come from. If a person comes here and asks for a job...if we think he fits in...we hire him."

(Plant Manager, CTT, 23/10/97)

It has been suggested, however, that important social implications and relationships are produced when employers, either by design or default, utilize a highly localized labour force (see Hanson & Pratt 1991, 1992, 1995; Peck 1996). For example, reliance on word-of-mouth recruitment often produces a labour force which is highly localized (Hanson & Pratt 1992). Furthermore, intensively local workforces often employ a high proportion of female

labourers (Hanson & Pratt 1991, 1992). Both these dynamics may be apparent for food processing firms in this study, given the predominance of current employees and word-of-mouth recruitment channels and the high percentage of female production employment.

### *5.3.4 Training*

Levels of employee training represent an important indicator in measuring a real or apparent shift from Fordism to flexibility (Peck 1996). This section provides a summary for Questions 2.11 through 2.19 of the survey, including the provision, amount, type, source, budget allocation and network activities pertaining to production employee training. First, participants were asked whether their firm was a training provider or non-provider. Participants were also requested to provide, on average, the number of training hours per year that production employees receive. Hours per year is considered a fairly standard measure of quantity for employee training within most manufacturing industries.

An overwhelming majority of firms, 93 percent, indicated that they provide training for production employees. All study participants in Toronto, including SMEs, indicated the provision of employee training. The only firms that do not provide training were located in the CTT, nearly 18 percent. Notably, these firms employed 15 or fewer total employees.

Findings on the provision of training by large firms are comparable with previous studies on training; however, the findings for SMEs in this study appear inflated. For example, results from Statistics Canada's 1987 survey on training and development indicated that 92 percent of large firms and only 27 percent of SMEs provided training (Rechnitzer 1990). The 1991 National Training Survey revealed that 94 percent of large firms and 69

percent of SMEs provided training (CLMPC 1994). More recently, Baldwin & Johnson (1995) found that only 59 percent of growing SMEs, on a cross-sectoral basis, engaged in employee training. Training provision results for SMEs in this study could be biased by the small sample or survey participation bias.

In overall terms, adjusted figures reveal that food processing production employees in the three study groups receive 14.8 mean hours per year of employer-provided training. By comparison, the Canadian labour market average is 76 hours per year, 67 hours for women and 84 hours for men (CLFDB 1995). At 18.5 hours per year, workers with Toronto LEs receive the most mean hours of annual training. Training hours received by production employees in the CTT and Toronto SMEs are comparable, at 12.8 and 12.5 mean hours respectively. Results, with descriptive statistics, are available in Appendix B, Table 1.10.

Participants who indicated the provision of training were asked to further describe the types or forms of training provided. Six categorical descriptions of training were listed for participants, as follows: 1) Informal on-the-job; 2) Job/task specific; 3) Team/social skills; 4) Multi-task; 5) Basic education (i.e. language, math), and; 6) Other. Participants were allowed to indicate multiple training types. The current level of dedication and complexity regarding training may be approximated through the type of training activities pursued by firms. Furthermore, according to Amanor-Boadu *et al.* (1996), any information that offers insight into firm level training activities and training sources provides a research contribution currently unavailable for Canadian food processors.

The type of training provided speaks to a possible shift from a Fordist, to a post-Fordist, work environment. Training regimes dependent on informal, task specific,

procedures are most often associated with Fordist environments. Other forms of training, including multi-tasking, basic education and team working, are often highlighted by supporters of flexibility. Insight into combined Fordist and flexible training is important to measure. Hybrid training may point to a degree of experimentation with new forms of production. Results are presented in Table 5.6 and aggregated by era of production.

**Table 5.6: Type(s) of Training Provided by Group (%)***

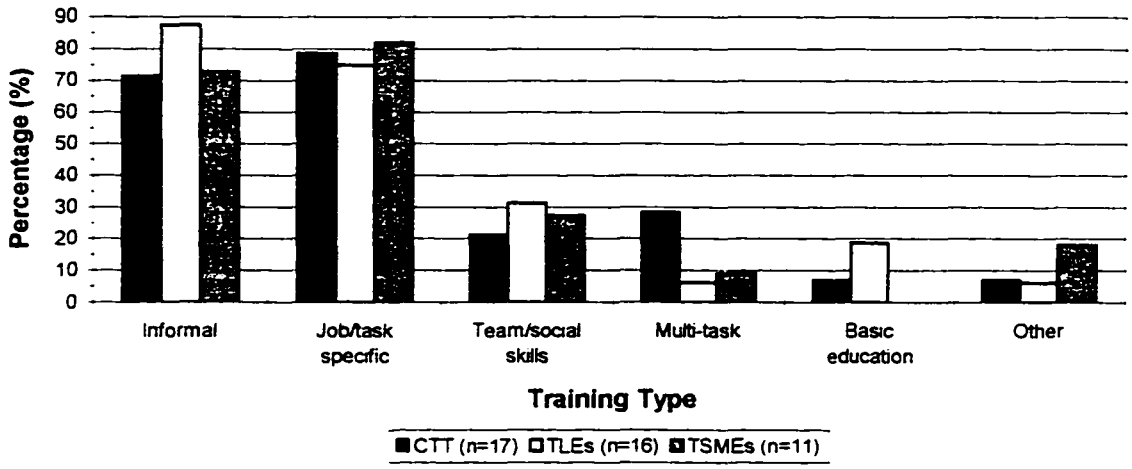
| | Group | | | |
|---|---|---|---|---|
| **Training Type** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Informal on-the-job** | 71 | 88 | 73 | 78 |
| **Job/task specific** | 79 | 75 | 82 | 78 |
| **Team/social skills** | 21 | 31 | 27 | 27 |
| **Multi-task** | 29 | 6 | 9 | 15 |
| **Basic education** | 7 | 19 | 0 | 10 |
| **Other^** | 7 | 6 | 18 | 10 |
| **Aggregate^** | | | | |
| **Fordist** | 59 | 56 | 73 | 61 |
| **Flexible** | 18 | 6 | 0 | 9 |
| **Hybrid** | 24 | 38 | 27 | 30 |
| **Total** | 100* | 100 | 100 | 100 |

*Note: CTT n=14; Toronto LEs n=16; Toronto SMEs n=11.
^ aggregated figures include 3 CTT firms providing no form of training.
'Other' responses are aggregated as Fordist.
Figures may not total 100 due to rounding.

Source: Author.

Three firms in the CTT indicated that they currently provide no form of training for their production employees. The total absence of employee training would be associated with an ultra-Fordist approach to production. As such, these three firms are included in the aggregated percentages by associated era of production. Figure 5.8 provides a graphical comparison of the types of training provided by individual study group.

**Figure 5.8: Type(s) of Training Provided (%)**




Fordist style training regimes dominate. Informal and task specific training account for 78 percent of all training received by production workers. Disaggregated by study group, Toronto SMEs seem to be the most traditionally Fordist in nature. No firms in this group are completely pursuing flexible training regimes, although 27 percent have hybrid training programs. In comparison with the Toronto-based study groups, participants in the CTT appear to have more aggressively incorporated flexible training practices into their human resource strategies, particularly focused on multi-tasking and building team/social skills.

Ratings indicate the predominance of Fordist style training regimes. Remarks by participant firms relying on informal and job/task specific training are offered:

"Because we do different things everyday, informal on-the-job training seems to work for us. If I was running a mass production facility...I might have a different view on employee training. Also, the majority of people here are coming and going."
(Vice President Operations, CTT, 1/12/97)

"Speed is important and that takes time to build-up. We don't have a formal training program...just get in and start working as quickly as possible."
(Production Planner, Toronto SMEs, 4/12/97)

A few firms have instituted, either in whole or in part, training programs which are associated with more flexible forms of production. However, the particular type of training undertaken and individual experiences vary widely. The following interview comments help to illustrate the experiences of firms who have put a focus on team/social skills training:

"We used to go with the traditional line...went to work teams in 1994. [Successful?] Yes...but the pay-off takes a while to realize. You have to be patient. We had to increase the amount of formal training we were giving employees...they [employees] needed a little social training...to learn to work better together...even just to improve their literacy skills."
(Plant Manager, Toronto LEs, 5/2/98)

"We implemented work teams about 4 years ago. It has been successful, but it has been a slow process. It takes constant attention to help make the employees feel truly empowered. But, we have seen tangible benefits...less waste on the production line, improved productivity. The work teams are encouraged to make suggestions, and they do, sometimes before the engineers will even develop process suggestions."
(Vice President Human Resources, Toronto LEs, 4/12/97)

Problems with basic literacy and numeracy are well documented in the food industry (Amanor-Boadu *et al.* 1996). A number of firms found this skill deficiency to be problematic. As such, they offer training to improve basic education. Results appear mixed:

"We had to increase the minimum education...I think all but 3 people on the plant floor were illiterate. We are currently going through an ESL [English as a Second Language] course and attempting to teach people computers. The production environment is changing so

rapidly...it is very difficult when no one can read or write English...how can they operate a computer when they can't read what the screen is telling them. It's been very well received."
(Human Resources Manager, Toronto LEs, 26/11/97)

"We have had classes in the past for teaching English...for help with basic finances...it doesn't seem to matter...it doesn't seem to give me a better employee."
(Vice President Operations, CTT, 1/12/97)

Interestingly, one interview participant commented on the apparent emergence of a bifurcated internal workforce, a core and periphery, which came to their attention when the firm undertook some training programs. Divergence in the labour market, either internal or external, has been anticipated by Norcliffe (1994) and Allen & Henry (1997). Other interview participants, when prompted, also identified this trend:

"Yes...I think that so. You end up, over time, with a growing core of employees trained in multiple tasks. And, of course, you tend to value these employees more."
(General Manager, Toronto SMEs, 10/11/97)

"I think that happens. We have a handful of people that receive training in multiple areas of the plant...others just want to stay with a single task."
(Vice President Operations, Toronto LEs, 19/11/97)

"There is a large group of employees who come...do their job...and have no interest in learning anything else. There are others who have aspirations and part of our job is to identify them and assist them."
(Human Resources Manager, Toronto LEs, 26/11/97)

Based on ratings and comments, there is definitely no management consensus on the best type of training regime for food processors. A few firms, particularly in the CTT, have made tentative steps towards the institution of a more 'flexible' training culture. However, Fordist training traditions remain entrenched. As such, there is little evidence of a definitive shift towards increased functional flexibility for production workers.

As expected, the majority of employer-provided training is offered on an informal on-the-job basis. Formal in-house sources, the next greatest source of training, mainly focus on health and safety issues. Taken together, these employer-provided sources account for over 85 percent of production employee training. For some firms, machinery and equipment vendors offer some degree of employee training. Apprenticeships, sector-based initiatives, college programs and private consultants, carried little importance as a source of training for food processors in this study. Complete results are available in Appendix B, Table 1.11.

Interviewed participants were asked to identify the source of training which has provided the best value for the firm. Participants often found this question difficult to answer, as many of them had not often considered the direct value of different training sources or the overall value of employee training. The following quotes offer a sample of participant remarks:

"That's difficult to pinpoint...I think we have been able to get good value from our own in-house initiatives. A lot of formal training as of late has been on health & safety issues."
(Plant Manager, Toronto LEs, 5/2/97)

"That's an excellent question. I think we get our best value from our in-house training. Particularly with the hiring of a continuous improvement officer and with the reinforcement and follow-up with production employees...our day-to-day in-house initiatives."
(Vice President Human Resources, Toronto LEs, 4/12/97)

"Whenever it [training] can be done by peers, or at least semi-peers, such as senior operators...that's always better than going out and bringing somebody in."
(Employee Relations Manager, Toronto LEs, 27/11/97)

"To be honest...I've hardly considered that. When I think about it...it's probably health & safety training that the employees receive in-house."
(Personnel Manager, Toronto SMEs, 28/11/97)

With an array of training sources available, from both the private and public sectors, food processors in this study prefer in-house initiatives. Little interest was shown in other sources of employee training. For example, one CTT participant (23/10/97) said of apprenticeships, "too expensive...we abandoned that." Private consultants were described as, "too expensive", and, "you pay too much for a lot of up-front development time". Only one participant, from the Toronto LEs group (27/11/97), expressed interest in sector-based training initiatives, stating, "Some of the sector-based initiatives would probably be preferred because you're not reinventing the wheel...they tend to be cheaper as well."

Participants were to provide an estimate of the plant training budget for 1991, 1993 and 1996. Three types of response were received. First, some participants were able to provide an estimate of their training budget. Second, some participants were unable to identify the training budget largely because it was buried in other budgets or did not exist formally. Finally, other participants did not wish to disclose training budget figures. Results of these varied responses are accounted for as dollar averages in Appendix B, Table 1.12.

Training budgets are often expressed on a per employee per annum basis (see Rechnitzer 1990; Larson & Blue 1991). This type of budget per capita figure offers a better comparison of training allocations across locations and sectors. Some studies express training expenditures on a per trainee basis, however, this reporting structure tends to inflate figures and excludes those employees not receiving training. Training budgets by group, as a percentage of total employment, are presented in Table 5.7. Due to the small sample, these figures should be observed with caution.

Overall, training budgets per employee grew at a rate of 17 percent between 1991 and 1996. However, growth has slowed since 1993; from 10 percent between 1991 and 1993, to 7 percent in the latest period. Training expenditures were highest in both Toronto-based study groups. Between 1991 and 1996, training budgets grew 31 percent in Toronto LEs and 158 percent in Toronto SMEs. By comparison, training expenditures, while peaking in 1993, declined by 5 percent in the CTT over the same period.

**Table 5.7: Annual Training Budgets per Employee by Group ($)***

| | Group | | | |
|---|---|---|---|---|
| **Year** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **1991** | 198 | 259 | 126 | 208 |
| **1993** | 215 | 253 | 221 | 228 |
| **1996** | 188 | 340 | 325 | 244 |

*Note: CTT n=6; Toronto LEs n=8; Toronto SMEs n=7.
Only includes those firms providing an identifiable training budget.
Calculated as total training budget divided by total employment on a yearly basis.

Source: Author.

How does this overall average rate of $244 per employee per year on training compare with other sectors or study results? In 1987 Statistics Canada reported that, for those firms providing training across all industrial sectors, the average annual expenditure on informal and formal training was $240 per employee, with SMEs spending the largest amount, $400 (Rechnitzer 1990). At $160 per employee, the food, beverage and tobacco industry was found to spend the least on employee training. Firms in the machinery and

equipment industry spent the most, at $350 (Rechnitzer 1990). More recently, Larson & Blue (1991) sampled large firms from across various industries in Canada and revealed that the average annual expenditure on training was $450. Based upon these figures, it is likely that current training budget allocations for food processors in this study, while growing, remain below the overall national average and below the average for other manufacturers.

Finally, participant firms were asked with regards to their formal network affiliations with two specific organizations: 1) Canadian Grocery Producers Council (CGPC), and; 2) Grocery Products Manufacturers of Canada (now known as the Food & Consumer Products Manufacturers of Canada, FCPMC). First launched in 1995, the CGPC is a joint training partnership between food manufacturers and labour unions. Provided with seed funding from Human Resources Development Canada in 1996, the mandate of the CGPC is to provide high quality training programs to meet the needs of food manufacturers in Canada. The GPMC (now FCPMC) is the largest national representative organization for food manufacturers, marketers and food service companies.

It is argued, especially by advocates of flexibility, that formal network arrangements offer firms the ability of achieving lower cost structures in various business functions, for example, in R&D. Research interest for this study is specific to the purpose of inter-firm networking in order to achieve improved training regimes. While this relationship may be difficult to measure directly, membership in organizations dedicated to training issues, such as the CGPC, may be a proxy for interest in sector-based training initiatives. A sector-based approach to employee training may offer cost advantages, especially for SMEs (Rutherford 1995). Firm membership, by group, is presented in Table 5.8.

Participants indicating CGPC membership were further asked if their plant site had participated in any CGPC training activities. Three Toronto LEs and one Toronto SME had taken part. CGPC training activities received an overall mean rating of 4.5, based on only four responses. Responses ranged from 4 to 6. An overall rating of 4.5 leans towards the effective end of the scale, however, the small return limits further insight. Members of the GPMC (or FCPMC) were asked to rate the effectiveness of the organization at meeting firm objectives. The overall rating of 3.4 lies almost in the exact middle of the attitude scale, perhaps indicating a general feeling of indifference or apathy for the GPMC (FCPMC).

**Table 5.8: Firm Membership by Group (%)***

| | Group | | | |
|---|---|---|---|---|
| **Organization** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **CGPC only** | 12 | 0 | 0 | 5 |
| **GPMC*only** | 0 | 31 | 46 | 23 |
| **Dual member** | 18 | 38 | 9 | 23 |
| **Neither** | 71 | 31 | 46 | 50 |
| **Total** | 100* | 100 | 100* | 100* |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Figures may not total 100 due to rounding.
GPMC now known as the Food & Consumer Products Manufacturers of Canada (FCPMC).

Source: Author.

Results indicate that half of the firms in this study are neither members of the CGPC or the GPMC. As such, a large percentage of firms are not formally networked into Canada's largest sectoral-based training body nor are they members of Canada's largest food

industry association. Firms in the CTT appear to be the least formally networked. The GPMC (now FCPMC) claims far greater membership for Toronto-based firms than they do firms in the CTT area. Furthermore, based on the ratings provided, the GPMC seems to better meet the objectives of their large, Toronto-based, members.

## 5.4 Summary of Major Findings

- In both the CTT and Toronto, processors have instituted aggressive external flexibility strategies. Firms have dramatically increased the use of part-time, non-standard, work arrangements. Interview comments augment this finding, pointing to a clear strategy of numerical flexibility. Given the overall study average, the most radical drop in the full to part-time production employee ratio was in the CTT. Individualized employment relations are also evident, considering that over 40 percent of production workers in this study were not covered by collective agreements.

- Production related employment is overwhelmingly unskilled, at 90 percent of total production employment. Firms in the CTT appear to rely on unskilled production workers to a greater extent than firms in Toronto. Disaggregation of job functions reveals an occupational composition which is traditionally Fordist.

- Female labour appears critical to the flexibility strategies of food processors, in both the CTT and Toronto. The use of female labour is lowest in the CTT. Interviews disclose a conscious strategy, at least partially, of targeting a percentage of female labour in

production. Participant remarks also allude to a relationship between a general intensification of the labour process (e.g. increased line speeds) and increased female participation in production.

- Competitive strategies indicate increased attention to service issues. Toronto LEs place more emphasis on increasing product quality than firms in the CTT or Toronto SMEs. New product development and niche markets are not priorities. However, a post-Fordist shift may be suggested given the move away from purely price driven strategies.

- The elements of production restructuring remain grounded in Fordism. The mass production line continues to dominate work practices in both the CTT and Toronto. However, a degree of flexibility is apparent. Firms in the CTT, especially, have instituted, or are experimenting with, flexible work organizations. Flexible team work strategies are also evident at a few Toronto-based LEs.

- Recruitment of production employees is not a difficult task for most firms in the CTT and Toronto. This is largely attributed to the looseness of local labour markets and the low skill requirements needed. However, interview comments suggest that the current CTT labour market exhibits a greater degree of labour market tightness.

- Processors in this study, particularly in Toronto, depend heavily upon internal labour market strategies, particularly the hiring of family and friends through informal recruitment channels. This hiring bias contributes to a highly localized workforce.
- There is evidence of an increase in employer expectations in the skills and attributes demanded from the local labour market. However, despite a shift towards increased emphasis on more flexible hiring demands, Fordist ideals continue to dominate, especially in the CTT.

- A majority of firms provide employee training. However, production workers receive relatively few hours of annual training and the type of training is largely Fordist in style. A few firms have instituted, or are experimenting with, training programs associated with more flexible forms of production. Firms in the CTT appear more aggressive in incorporating flexible training practices. There exists a definite preference for in-house training initiatives. Current training expenditures per employee, while increasing, likely lag behind the overall national average and the average for other manufacturing industries. Training expenditures per employee are lowest in the CTT.

## 6.0 Conclusions & Discussion

Economic and social restructuring, globally, locally and sectorally, has been highly evident over the last two decades (Tickell & Peck 1992; Betcherman 1996). While the extent of the shift from a traditional Fordist structure of production and organization to post-Fordism is contested, it is clear that change is underway. Contemporary debate over a real or apparent transition from Fordism to post-Fordism or flexibility has often involved analyses of the labour market (Hudson 1989; Lovering 1990; Storper & Scott 1990; Pollert 1991; Hanson & Pratt 1992, 1995; Amin 1994; Tomaney 1994; Rutherford 1995; Peck 1996). As such, labour, flexibility and place have become highly interrelated (Peck 1996).

Achieving new labour flexibilities are central to the post-Fordist shift. As such, capital has been pursuing labour flexibility, both across regions and in situ, through the implementation of internal and external flexibility strategies (Peck 1996). Internally, firms have moved towards individualized employment relations and enhanced levels of functional flexibility (Peck 1996; Vickery & Wurzburg 1996). External labour strategies have largely involved a push for increased numerical flexibility, including growth in non-standard work arrangements and the purposeful targeting of certain recruitment channels (Hanson & Pratt 1992; Peck 1996; Vickery & Wurzburg 1996). Taken together, these strategies have generated a map of the local labour market which is both socially and spatially segmented (Peck 1989, 1992, 1996; Hanson & Pratt 1991, 1992, 1995; Rutherford 1995).

Internationally, the forces of globalization, to some extent, have homogenized the basic elements of flexibility. However, diverse social, institutional, historical and regulatory frameworks appear to have generated unique applications, regulations and forms of labour

flexibility across many regional economies (Pollert 1991; Peck 1992, 1996). The identification of these multiple forms of flexibility highlights the continued significance of locality within a global set of changing economic and social conditions.

It is clear that the aggressive pursuit of increased labour flexibility raises a number of problems and contradictions. External flexibility may induce firms to underinvest in employee training and may actually undermine labour control through the destruction of collective agreements (Peck 1992, 1996; Rutherford 1995). Under internal flexibility, firms may induce higher turnover rates through improved training regimes, while concurrently isolating themselves from opportunities in the external labour market (Peck 1992, 1996). Worker training and skill development issues are inherent to these above difficulties.

The Canadian labour market has not been isolated from fundamental economic and social changes over the past two decades (Rutherford 1996a). While similar to the experiences of the U.S. and the U.K., it appears that a distinctly Canadian version of Fordism has evolved (Donner 1991; Drache 1991; Norcliffe 1994; Stanford 1995; Chaykowski & Slotsve 1996; Rutherford 1996a). This distinction has had important implications for the contested shift towards increased flexibility. Notwithstanding, industry in Canada continues to demand further labour market flexibilities.

Food processing is one of Canada's largest manufacturing industries (Globe & Mail 1992; Statistics Canada 1997). Both globally and in Canada, food processing is characterized by a number of factors that help in exploring the contested shift to flexibility. First, the industry is dominated by extremely large, highly concentrated, vertically oriented firms which rely heavily on mass production techniques (ILO 1989; Kim & Curry 1993;

Winson 1993; TCI 1995; Food in Canada 1994, 1995b, 1996). Second, unlike many other large manufacturers, there is little evidence of a general move towards post-Fordist agglomeration. Third, the industry has a long history of adversarial relations between labour and management (ILO 1989; Winson 1993). Fourth, food processors invest relatively little into new technologies and R&D (Messer 1992; Lanclos & Hertel 1995). Fifth, the food industry has undergone, and continues to experience, a period of intensive restructuring (Gouveia 1994; Stanley 1994; Ufkes 1995). Finally, the industry employs a large, low to semi-skilled, workforce, relying on a large percentage of non-standard and female workers (Smith *et al.* 1990; Baxter & Mann 1992; Winson 1993; Amanor-Boadu *et al.* 1996).

Given the above context, the objectives of this research were twofold. First, to synthesize and evaluate literature pertaining to labour flexibility and the wider Fordist/post-Fordist debate. Second, with a focus on production restructuring, recruitment and training, to explore the real or apparent shift towards increased flexibility within Ontario's food processing industry through case studies of two regional economies, Canada's Technology Triangle (CTT) and the City of Toronto. Results from 44 plant surveys and 12 employer interviews offer a number of interesting conclusions and grounds for further discussion.

Given the geographic interests apparent in this study, research findings were summarized at the regional level. However, the results could perhaps also be organized as a comparison of Fordist firms with those firms with the most flexible attributes. For example, are groups of firms consistent in applying Fordist or flexible strategies and practices? Intensive interview methods reveal a degree of consistency in the range of contradictory behaviour among predominately Fordist and flexible firms, both within a region and across

the study regions. Further to this discussion is the general treatment and analysis of the food processing industry as a homogeneous group in this study. Table 4.2 provides a summary of participating plant sites disaggregated by major product category. The non-proportional nature of study firms, by product category and region, may be a consideration in interpreting the research results.

Surveyed food processors in the CTT and Toronto have been pursuing an explicit strategy of external labour flexibility. Figures indicate an overall spectacular increase in part-time production employment against a backdrop of comparatively slow or stagnate full-time employment growth. In the 1991 to 1993 period, Toronto SMEs experienced the largest drop in full-time employment levels, at 8.2 percent. This trend may expose a difficulty for SMEs in attempting to cushion themselves from economic downturns through restructuring of the supply chain. There is a sense that large scale manufacturers, especially in the North American automobile sector, have restructured buyer-supplier relations in a manner that further insulates them from economic slowdowns (Rutherford 1997).

By 1996, study firms had an average full-time/part-time production employee ratio of 4:1, down from 9:1 in 1991. Given the overall study average, the most radical drop in the full-time/part-time employment ratio was in the CTT. Supportive of other research observations, the search for numerical flexibility amongst food processors in this study is clear (Kenney 1989; Smith *et al.* 1990; Baxter & Mann 1992; Kim & Curry 1993). Comparative research of this nature might offer a potential path for further study, particularly over a longer time period.

External labour market strategies are also being pursued through attempts at individualizing employment arrangements. Over 40 percent of production workers in this study were not organized and, as such, not covered by collective agreements. Levels of unionization are highest in Toronto, which may reflect the Fordist era growth origins of Toronto's food industry. By comparison, fewer than 50 percent of production workers in the CTT are unionized. Individualizing employment contracts is one main strategy firms undertake in their attempts to achieve increased levels of labour flexibility (Peck 1996). The absence of organized labour agreements likely leaves individual employees more susceptible to employer demands for non-standard work arrangements and wage concessions. Future research may wish to consider this issue, and other similar labour flexibility issues, from the viewpoint of the worker.

Skill is an important construct of power in the local labour market (Hanson & Pratt 1991, 1995; Peck 1996) and, as such, is a critical element in external labour strategies. Approximately 90 percent of production-related employees in this study were classified as unskilled. The percentage of production workers classified as unskilled is highest in the CTT, at about 96 percent, and lowest in the Toronto SMEs group, at 75 percent. It is likely that the absence of collective bargaining arrangements, particularly for low skilled workers, shifts the balance of power in favour of the employer (Drache 1991; Tomaney 1994). Furthermore, a reliance on a high percentage of low skilled production employees reveals a traditionally Fordist occupational structure.

Labour flexibility for food processors in this study appears highly predicated on the participation of a high percentage of female labour. About 40 percent of the total production

related workforce is female, compared to only 15 percent in Canada's automotive assembly sector (Robertson 1998). It is apparent that, in many study firms, a conscious strategy exists of targeting a percentage of female labour in production. The use of female labour is highest in Toronto, relative to the CTT. This regional difference may be related to the larger labour pool that firms in Toronto are able to draw upon. A reliance on female labour in food manufacturing supports arguments put forth by other researchers (Smith *et al.* 1990; Baxter & Mann 1992; Tomoda 1992; Winson 1993; Ufkes 1995). Of particular research interest may be further insights into the current and future role of female labour in the food industry. If food manufacturers purposefully target a high percentage of female labour, and concurrently provide little significant training, what are the implications for the local labour market?

One weakness of this study was the inability to formulate correlations or statistical significance due to the size and uneven distribution of the dataset. Future studies may attempt to strive for more statistically accurate conclusions. However, this is suggested with caution. Research into the food industry is difficult. For example, Ernst & Young's annual survey of Canadian food and beverage processors, published in Food in Canada, receives only about 40 responses nationwide from large scale manufacturers.

The competitive strategies undertaken by study firms suggest more emphasis on service issues. Toronto firms, especially Toronto LEs, tend to focus more attention towards product quality and place less emphasis on serving niche markets, relative to firms in the CTT. The reasons for these differences are unclear, however, two theories are offered. First, perhaps an emphasis on quality by Toronto LEs is a function of protecting nationally

recognized brand-names in the marketplace and/or reflects a strategic shift towards value-added food products. Second, less emphasis on niche markets might be expected, given the large scale production orientation of large Toronto-based firms. Regardless, a focus on service, and away from purely price driven strategies, may suggest a post-Fordist shift.

The key elements of production restructuring, including work practices, technological change and management-labour relations, remain grounded in Fordism. As anticipated by Smith *et al.* (1990), Kim & Curry (1993) and Winson (1993), the traditional mass production line remains the work practice of choice for a majority of food processors in this study. While food manufacturers appear to be far behind other manufacturers in the application of new forms of work organization (ILO 1989), a degree of flexibility is apparent. Firms in the CTT, for example, have instituted, or are experimenting with, more flexible forms of work organization, including team working and job rotation. A handful of Toronto firms are also pursuing team work strategies.

Variations in work practices by regional economy may be related to differences in local institutional arrangements, practices and norms. For example, as an individual mode of production, the mass production line appears most entrenched in the CTT. However, in terms of emerging work practices that are considered more flexible, the CTT is also the location of greatest flexibility. For example, the use of work teams and job rotation has emerged to a greater degree in the CTT than in Toronto. A number of factors may contribute to this trend. First, in comparison to Toronto, the CTT has the lower rate of unionization. This may allow CTT employers to more easily alter work practices and pursue external labour flexibilities. Second, firms in the CTT employ a large percentage of unskilled

production workers. A generally deskilled workforce may permit employers to shift employees to new tasks or work practices with less resistance than might be expected from more skilled workers.

In terms of technological change and investment, findings support arguments that food manufacturing exhibits low levels of investment and development in both production and process technologies (ILO 1989; Messer 1992; Lanclos & Hertel 1995). Results suggest that food processors in this study do not lend themselves to a corporate culture of innovation. Only 53 percent of firms in the CTT were even aware of future technological changes that would have an important impact on the flow of work. Levels of awareness were higher in Toronto. The pursuit of new, more flexible, work practices and numerical flexibilities in the CTT might suggest an effort to avoid or delay the costs associated with new technological investments. One cost might include expenditures on worker skill development. Current attitudes and initiatives with regards to technology reflect strong Fordist traditions.

A few firms identified HACCP (Hazards Analysis of Critical Control Points) as motivation for new technological investments. HACCP represents a new global standard of guidelines for the food industry pertaining to food quality and safety (GFTC 1997). The basic premise of HACCP, as borrowed from the auto industry, is to check product quality and safety at regular intervals in the production process, as opposed to only end-of-the-line. If implemented effectively, firms should realize cost benefits because any potential problems with product runs can be identified and rectified earlier in the production process.

If more widely accepted, the new technologies and regulatory policies that accompany HACCP will require workers with higher skills than currently exists, a skill trend

anticipated by Amanor-Boadu *et al.* (1996). It was suggested by one participant that firms in the U.S. and Europe are currently far ahead of Canadian processors in terms of technology. Specifically cited was the case of new, large-scale, dairy and cheese plants in Italy and Australia that are literally operated by a handful of skilled technicians. Labour reducing technologies which accompany HACCP may have a significant impact on low and semi-skilled production workers.

The recruitment of production employees is not a problem for most study firms. This is largely attributed to the overall looseness of local labour markets for unskilled workers. However, trends and comments point to tendencies between location and the availability of local labour. Almost 30 percent of CTT-based processors perceived wage and employment pressures in the local labour market. These pressures manifested themselves through employee poaching by local non-food manufacturers. As such, food processors in the CTT and Toronto appear to be grappling with a distinct set of local labour market dynamics.

Food processors in this study depend heavily on internal labour market strategies. The hiring of family and friends though informal recruitment channels appears ingrained in the corporate culture. Furthermore, the workforce is geographically highly localized. Localized workforces often employ a high percentage of females, a dynamic apparent in this study. These highly biased hiring channels and patterns support the arguments of researchers concerning the social and spatial segmentation of the local labour market through employer-employee interactions (Hanson & Pratt 1991, 1992; Rutherford 1995; Peck 1996).

There is evidence of an increase in food manufacturers expectations in the skills and attributes demanded from the local labour market. There is a sense that employers, over the

recent period, have been able to increase minimum standard requirements for many positions in the workplace (Stanford 1995). These new standards apply to both hard and soft skills. Findings from this study lend support to this argument. Increased expectations appear to apply to both the traditional Fordist skills and attributes and the 'new' flexible skills. Nevertheless, Fordist ideals continue to dominate. An interesting variation by regional economy, however, does emerge. CTT-based firms place relatively less importance on new hires with the skills and attributes more closely identified with increased labour flexibility, including the ability of workers to present new ideas and use new technology. This could be a function of CTT strategic emphasis on numerical flexibilities rather than functional flexibilities.

Employee training is an inherent aspect of the flexibility debate. A majority of firms in this study do provide some form of employee training, however, the employees that likely require the most training, production workers (Amanor-Boadu *et al.* 1996), receive few hours of annual training. Furthermore, the type of training emphasized, informal on-the-job and task specific, is largely Fordist in style. This type of training likely provides production workers little opportunity to develop transferable skills. It must be stated that the goal of this research was not to provide or suggest answers or mechanisms for the broad range of issues addressed in this research. Prescription offers a very fruitful path for future research.

A few firms have instituted, or are experimenting with, training programs associated with more flexible forms of production. For example, two firms in Toronto are attempting to address problems of literacy and numeracy through basic education classes, often in cooperation with the CGPC. One Toronto LE has aggressively turned towards team and

social skills training with a degree of success. In particular, firms in the CTT have moved towards a more flexible training culture, including the introduction of team skills and multi-task training. The emergence of flexible training regimes in the CTT may be related to the incorporation of more flexible work practices in this regional economy.

Conclusively, this study has shown that restructuring in the food processing industry certainly does not appear to constitute an outright rejection of Fordism. A real shift to a post-Fordist/flexible paradigm is not highly evident. Instead, this is an industry characterized by aspects of both continuity and change (Smith *et al.* 1990). A number of findings highlight this conclusion. First, the post-Fordist/flexibility argument has been heavily criticized for a dependence on increased levels of non-standard work arrangements, largely induced through loose labour markets and changing regulations (Pollert 1991; Stanford 1995; Swift 1995; Peck 1996; Betcherman 1996; Allen & Henry 1997). Given the recent history of regulatory change in the food industry (Novek 1989), findings in this study appear to support the contentions forwarded by critics of the flexibility thesis.

Second, locality, as anticipated by Ufkes (1993a), Fagan (1995) and Pritchard (1998), appears to play a influential role in shaping local outcomes, despite global pressures for harmonization. Restructuring outcomes vary between food industry firms in the CTT and Toronto. Three examples are offered. First, the pursuit of numerical flexibility appears most aggressive in the CTT. Perhaps not coincidentally, the CTT is the regional economy with the lowest rate of unionization and the highest percentage of unskilled employees. Second, firms in the CTT appear to be implementing, or experimenting with, more flexible work practices, while, concurrently, maintaining traditionally Fordist skill and attribute expectations for the

local labour market when hiring new employees. Third, firms in the CTT and Toronto engage very distinct local labour market dynamics, while maintaining a highly localized workforce. Both sector and geography appear to matter.

Finally, and perhaps most critically, researchers argue that the flexibility thesis has ignored the resilience of mass production in food manufacturing (Smith *et al.* 1990; Kim & Curry 1993). These observers contend that the food industry has been able to maintain diverse product lines without production diversity or enhanced labour skills. Evidence from this study supports this contention. Given the current era of loose labour markets and falling expectations, there is little incentive for food manufacturers to provide skill enhancement opportunities for workers. Instead, the food industry has been able to reinvent itself through the pursuit of numerical flexibilities, a high percentage of female labour and a general intensification of the labour process.

# Appendix A:

# Cover Letter & Survey

University of Waterloo

Waterloo, Ontario, Canada
N2L 3G1

Department of Geography
Faculty of Environmental Studies
Isaiah Bowman Building
519/885-1211

Fax Number
519/746-0658

September 22, 1997

Dear Participant,

My name is Matthew Denomme and I am a graduate student in the Department of Geography at the University of Waterloo. Under the supervision of Professor Tod Rutherford, I am conducting a research project on labour supply and human resource development issues in Ontario's food processing industry. This project has been reviewed and approved by the Office of Human Research at the University of Waterloo. The food processing industry is one of the largest employers in Canada and is nearly a $20 billion industry in Ontario. As you are aware, the food sector has undergone, and continues to experience, a period of change and restructuring. However, the food processing industry has received little attention in recent years. It is my contention, based on the contribution of the industry to employment and output, that change within Canada's food processing industry deserves examination.

I would appreciate if you would complete the attached survey. The survey explores various human resource issues with regards to production employees. Completion of the survey is expected to take about 15 minutes. Your interest in a voluntary, follow-up interview is requested at the end of the survey. Certainly all information you provide will be treated as confidential and you may omit any question you prefer not to answer.

Please return the completed survey in the pre-paid envelope provided within 2 weeks, though a late response is welcome. If you have any questions about the survey, or would like additional information before reaching a decision about participation, please contact the Office of Human Research at (519) 888-4567 ext. 6005, or Matthew Denomme at (519) 886-9997.

Thank you in advance for your interest and support in this project.

Yours sincerely,

Matthew J. Denomme
Researcher

UW@40.celebrate
UNIVERSITY OF WATERLOO
1957-1997

# Ontario's Food Processing Industry

**Matthew J. Denomme**
**Department of Geography**
**University of Waterloo**

## INTRODUCTION

This survey is intended to gather information about labour supply and human resource development issues in Ontario's food processing industry. If you have any questions about the survey please do not hesitate to call **Matthew Denomme at (519) 886-9997** or the **Office of Human Research at (519) 888-4567 ext. 6005**.

The personal information asked for below is intended solely for the use of the researcher. Your name and other data will be used only to contact you should an answer need clarification or should you agree to a personal interview at a later date. All responses will remain **completely confidential**.

| | |
|---|---|
| **Name:** | **Date:** |
| **Company Name & Division:** | **Position:** |
| **Telephone Number:**<br><br>**Fax:**<br><br>**E-mail:** | **Address:** |

## PART 1: Background

1.1) Year this site was established:_____

1.2) Please indicate ownership status of this establishment and the location of the company headquarters (if applicable):

**Canadian?** ⇒ Location of headquarters (HQ)
City:_____ Province:_____

**Foreign?** ⇒ Location of parent HQ
City:_____ Country:_____

**Joint Foreign & Canadian?** ⇒ Location of main HQ
City:_____ Country:_____

1.3) Please check which of the following functions this establishment performs?

- ☐ Production
- ☐ Product development
- ☐ Strategic planning
- ☐ Distribution
- ☐ Sales/marketing
- ☐ Other (please specify): _____

1.4) How many people (total) were employed at this establishment during the following years?

_____**1991** _____**1993** _____**1996**

1.5) How many of the following type(s) of workers are ***currently*** employed at this establishment?

_____ management
_____ marketing/sales
_____ engineers/scientific
_____ skilled production workers
_____ office/clerical
_____ shipping/warehouse
_____ unskilled production workers
_____ other (please specify):

1.6) How many ***production*** employees were employed during the following years?

| | **1991** | **1993** | **1996** |
|---|---|---|---|
| **Part-time** | _____ | _____ | _____ |
| **Full-time** | _____ | _____ | _____ |

1.7) Please estimate the percentage of ***production*** employees that are: Male _____%
Female_____%

1.8) Are your production employees represented by a union? ☐ Yes
☐ No (go to Part 2)

1.9) What percentage of your production employees are unionized?_____%

1.10) Please list which union(s) represent the employees: _____

_____

**PART 2: Workplace Practices & Human Resource Management**

2.1) Please circle the **3** competitive strategies that best apply to your establishment:

a) price
b) serving niche markets
c) increasing product quality
d) product monopoly
e) developing new products
f) responding to customers/suppliers
g) reputation for service
h) other (please specify):_____

2.2) How would you ***best*** describe the work practices at your firm?

☐ Independent ☐ Work teams ☐ Job rotation
☐ Delegation ☐ Production line ☐ Other (please specify): _____

2.3) Please indicate how ***significant*** changes in technology have been to your establishment and the flow of work?

**not significant very significant**
**<-1——2——3——4——5——6->**

Please expand on your above thoughts on the significance of technology:

2.4) Are you aware of any future technological changes that will have an ***important*** impact on the flow of work at ***your*** establishment? ☐ Yes ☐ No

If you wish, please expand on your above answer:

2.5) Does your establishment have any problems recruiting ***production*** employees? ☐ Yes ☐ No

If ***Yes***, in which occupations and why?

If ***No***, please explain why not.

2.6) How ***useful*** would you rate the following methods for hiring production employees at your establishment?

| | **not useful** | | | | | **very useful** |
|---|---|---|---|---|---|---|
| Newspapers/classifieds | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Current employees/word of mouth | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Drop-in/walk-in | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Schools (high school, colleges) | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Canada Employment Centres | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Private Employment Agencies | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Other (please specify): | <-1 | 2 | 3 | 4 | 5 | 6-> |

If you wish, please comment on your above ratings:

2.7) How would you rate the ***quality*** of the local labour market for production employees in terms of the following skills or attributes:

| | **low quality** | | | | | **high quality** |
|---|---|---|---|---|---|---|
| Technical skills | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Social skills/team skills | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Reliability/timeliness | <-1 | 2 | 3 | 4 | 5 | 6-> |
| New ideas/innovativeness | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Adapting to new technology | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Overall attitude | <-1 | 2 | 3 | 4 | 5 | 6-> |

Please expand on your perceptions of the quality of the local labour market:

2.8) Please rate the ***changing importance*** that your establishment places on the following qualities and attributes when hiring new production employees:

| | **no importance** | | | | | **very important** |
|---|---|---|---|---|---|---|
| Increased minimum education | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Social skills/team skills | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Reliability/timeliness | <-1 | 2 | 3 | 4 | 5 | 6-> |
| New ideas/innovativeness | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Ability to use new technology | <-1 | 2 | 3 | 4 | 5 | 6-> |
| Overall attitude | <-1 | 2 | 3 | 4 | 5 | 6-> |

Please comment further about the changing importance of the above ratings:

2.9) Please estimate percentage of production employees hired from the following areas:

a) Local/Neighbourhood (within 5 km of site)_____%
b) Region (between 5-50 km) _____%
c) Province _____%
d) Elsewhere in Canada _____%
e) Outside of Canada _____%

2.10) Please circle on what type(s) of issues production employees are ***most*** often consulted?

a) work organization
b) training
c) market conditions
d) product development
e) new technology
f) wages/conditions
g) market strategies
h) other (please specify):_____

2.11) Does your firm provide ***training*** for production employees? ☐ Yes
☐ No (go to 2.16)

2.12) On average, approximately how many hours of training per year do your production employees receive?_____**Hrs.**

2.13) How would you ***best*** describe the type(s) of training received by your production employees?

☐ Informal on-the-job ☐ Team/social skills ☐ Basic education (i.e. language, math)
☐ Job/task specific ☐ Multi-task ☐ Other (please specify):_____

2.14) Estimate what percentage of your training is provided by the following sources:

_____ informal on-the-job
_____ vendor-provided
_____ apprenticeships
_____ sector-based training initiatives
_____ formal in-house
_____ college/university programs
_____ private consultants
_____ other (please specify):

2.15) Please estimate your establishment's training budget for the following years:

**$_____1991 $_____1993 $_____1996**

2.16) Is your firm a member of the Canadian Grocery Producers Council (**CGPC**) on employee training and development? ☐ Yes
☐ No (go to 2.18)

2.17) Has your establishment participated in any **CGPC** training activities? ☐ Yes
☐ No (go to 2.18)

If ***Yes***, how would you rate their effectiveness for your establishment?

**not effective** **very effective**
**<-1——2——3——4——5——6->**

Please explain how the **CGPC** could improve their services:

2.18) Is your establishment a member of the Grocery Products Manufacturers of Canada (**GPMC**)? ☐ Yes
☐ No

If ***Yes***, what is the main objective of the **GPMC**:_____

2.19) How effective has the **GPMC** been at meeting the objectives of ***your*** establishment?

**not effective** **very effective**
**<-1——2——3——4——5——6->**

Please explain how the **GPMC** could improve their services:

**Would you be interested in providing a follow-up interview?**
☐ **Yes, you may contact me for a future interview.**
☐ **No, thank you.**

# THANK YOU FOR YOUR TIME & COOPERATION

# Appendix B:

# Summary Tables

**Table 1.0: Employment Levels by Group* (1991, 1993, 1996)**

| | | | | Group | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CTT | | | Toronto LEs | | | Toronto SMEs | | | Overall | |
| Year | P/T | F/T | Total* | P/T | F/T | Total* | P/T | F/T | Total* | P/T | F/T | Total* |
| **1991** | **61** | **2940** | **4165** | **300** | **2600** | **3830** | **44** | **377** | **584** | **410** | **5967** | **8579** |
| n | 14 | 14 | 14 | 13 | 13 | 13 | 10 | 10 | 10 | 37 | 37 | 37 |
| Min | 0 | 1 | 3 | 0 | 40 | 85 | 0 | 10 | 12 | 0 | 1 | 3 |
| Max | 20 | 2363 | 3115 | 90 | 630 | 1000 | 21 | 85 | 160 | 90 | 2363 | 3115 |
| Mean | 4 7 | 213 6 | 297.5 | 23 1 | 200 0 | 294.6 | 4 4 | 37 7 | 58 4 | 11.1 | 161 3 | 231 9 |
| St. Dev. | 7 2 | 622 8 | 816 8 | 27.0 | 148.7 | 235 4 | 7 0 | 21 3 | 42 2 | 18 8 | 391 6 | 520 8 |
| | | | | | | | | | | | | |
| n^ | 13 | 13 | 13 | 12 | 12 | 12 | | | | 35 | 35 | 35 |
| Min | 0 | 1 | 3 | 0 | 40 | 85 | | | | 0 | 1 | 3 |
| Max | 20 | 280 | 370 | 90 | 320 | 440 | | | | 90 | 320 | 440 |
| Mean | 5.1 | 46.2 | 80.8 | 20 0 | 164.2 | 235.8 | | | | 10.0 | 85.0 | 127 5 |
| St. Dev. | 7 4 | 74 4 | 101 5 | 25 7 | 78 9 | 106 9 | | | | 17 3 | 85 9 | 119 1 |
| | | | | | | | | | | | | |
| **1993** | **380** | **3841** | **5582** | **567** | **3579** | **5071** | **64** | **381** | **592** | **1011** | **7801** | **11245** |
| n | 17 | 17 | 17 | 15 | 16 | 16 | 11 | 11 | 11 | 43 | 44 | 44 |
| Min | 0 | 1 | 3 | 0 | 45 | 95 | 0 | 7 | 14 | 0 | 1 | 3 |
| Max | 260 | 2962 | 4248 | 110 | 600 | 1000 | 21 | 80 | 150 | 260 | 2962 | 4248 |
| Mean | 22 4 | 225.9 | 328.4 | 37 8 | 223 7 | 316.9 | 5 8 | 34 6 | 53 8 | 23 5 | 177 3 | 255 6 |
| St. Dev. | 62 1 | 710 3 | 1015.5 | 36.2 | 164 3 | 235.0 | 8 0 | 21 1 | 39 2 | 45 6 | 451 9 | 646 0 |
| | | | | | | | | | | | | |
| n^ | 16 | 16 | 16 | 14 | 15 | 15 | | | | 41 | 42 | 42 |
| Min | 0 | 1 | 3 | 0 | 45 | 95 | | | | 0 | 1 | 3 |
| Max | 32 | 345 | 420 | 110 | 495 | 588 | | | | 110 | 495 | 588 |
| Mean | 7.5 | 54.9 | 83.4 | 33.4 | 198.6 | 271.4 | | | | 15 9 | 100 9 | 142 8 |
| St. Dev. | 10 7 | 88 7 | 108 7 | 33 1 | 134 7 | 153 7 | | | | 24.0 | 121.2 | 149 4 |
| | | | | | | | | | | | | |
| **1996** | **465** | **3972** | **5358** | **940** | **3353** | **5157** | **93** | **374** | **585** | **1498** | **7699** | **11100** |
| n | 17 | 17 | 17 | 15 | 16 | 16 | 11 | 11 | 11 | 43 | 44 | 44 |
| Min | 0 | 2 | 3 | 0 | 48 | 100 | 0 | 12 | 22 | 0 | 2 | 3 |
| Max | 240 | 3020 | 3973 | 200 | 500 | 930 | 25 | 62 | 82 | 240 | 3020 | 3973 |
| Mean | 27 4 | 233 6 | 315 2 | 62 7 | 209 6 | 322 3 | 8 5 | 34.0 | 53.2 | 34.8 | 175 0 | 252 3 |
| St. Dev. | 58 3 | 723 6 | 949 9 | 57 1 | 151 4 | 241 8 | 9 9 | 15 3 | 21 7 | 53.7 | 458 0 | 608 1 |
| | | | | | | | | | | | | |
| n^ | 16 | 16 | 16 | 14 | 15 | 15 | | | | 41 | 42 | 42 |
| Min | 0 | 2 | 3 | 0 | 48 | 100 | | | | 0 | 2 | 3 |
| Max | 80 | 360 | 500 | 200 | 450 | 750 | | | | 200 | 450 | 750 |
| Mean | 14 1 | 59 5 | 86 6 | 56.4 | 190.2 | 281 8 | | | | 27 0 | 99 5 | 147 5 |
| St. Dev. | 20.5 | 92.3 | 121.4 | 53 7 | 134.7 | 185 7 | | | | 39.8 | 119.0 | 166.5 |

*Note P/T & F/T refers only to part-time & full-time production employees
Total refers to total site employment (all production & non-production), not sum of P/T & F/T
n^ indicates descriptive statistics adjusted for outlying variables (CTT=1, Toronto LEs=1).

Source: Author.

## Table 1.1: Part-Time & Full-Time Production Employment* (1991, 1993, 1996)

| Group | Year | | | % Change | | |
|---|---|---|---|---|---|---|
| **P/T** | **1991** | **1993** | **1996** | **'91-'93** | **'93-'96** | **'91-'96** |
| **CTT** | 4.7 | 22.4 | 27.4 | 376.6 | 22.3 | 483.0 |
| **CTT^** | 5.1 | 7.5 | 14.1 | 47.1 | 88.0 | 176.5 |
| **TLEs** | 23.1 | 37.8 | 62.7 | 63.6 | 65.9 | 171.4 |
| **TLEs^** | 20.0 | 33.4 | 56.4 | 67.0 | 68.9 | 182.0 |
| **TSMEs** | 4.4 | 5.8 | 8.5 | 31.8 | 46.6 | 93.2 |
| **Overall** | 11.1 | 23.5 | 34.8 | 111.7 | 48.1 | 213.5 |
| **Overall^** | 10.0 | 15.9 | 27.0 | 59.0 | 69.8 | 170.0 |
| **F/T** | | | | | | |
| **CTT** | 213.6 | 225.9 | 233.6 | 5.8 | 3.4 | 9.4 |
| **CTT^** | 48.2 | 54.9 | 59.5 | 13.9 | 8.4 | 23.4 |
| **TLEs** | 200.0 | 223.7 | 209.6 | 11.9 | -6.3 | 4.8 |
| **TLEs^** | 164.2 | 198.6 | 190.2 | 21.0 | -4.3 | 15.8 |
| **TSMEs** | 37.7 | 34.6 | 34.0 | -8.2 | -1.7 | -9.8 |
| **Overall** | 161.3 | 177.3 | 175.0 | 9.9 | -1.3 | 8.5 |
| **Overall^** | 85.0 | 100.9 | 99.5 | 18.7 | -1.4 | 17.1 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Figures represent the mean.
^ indicates figures adjusted for outlying variables (CTT=1; Toronto LEs=1).

Source: Author.

## Table 1.2: Type(s) of Workers by Group & Aggregated by Function*

| | Group | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | CTT | | Toronto LEs | | Toronto SMEs | | Overall | |
| **Job Function** | **Avg./plant*** | **Total** | **Avg./plant*** | **Total** | **Avg./plant*** | **Total** | **Avg./plant*** | **Total** |
| **Management** | 26.8 | 456 | 21.1 | 338 | 5 | 55 | 19.3 | 849 |
| **Marketing/sales** | 2.1 | 36 | 9.8 | 157 | 2.4 | 26 | 5 | 219 |
| **Engineers/scientific** | 1.1 | 19 | 9.5 | 152 | 1.4 | 15 | 4.2 | 186 |
| **Skilled production** | 9.1 | 155 | 38.4 | 614 | 10.0 | 110 | 20.0 | 879 |
| **Office/clerical** | 40.2 | 683 | 22.7 | 363 | 2.8 | 31 | 24.5 | 1077 |
| **Shipping/warehouse** | 2.1 | 35 | 9.6 | 153 | 1.7 | 19 | 4.7 | 207 |
| **Unskilled production** | 244.4 | 4155 | 184.7 | 2955 | 29.4 | 323 | 169.0 | 7433 |
| **Other*** | 0.0 | 0 | 41.3 | 660 | 0.2 | 2 | 15 | 662 |
| **Aggregate** | | | | | | | | |
| **Production*** | 253.5 | 4310 | 264.3 | 4229 | 39.5 | 435 | 204.0 | 8974 |
| **Management** | 26.8 | 456 | 21.1 | 338 | 5.0 | 55 | 19.3 | 849 |
| **All Other Functions** | 45.5 | 773 | 51.6 | 825 | 8.3 | 91 | 38.4 | 1689 |
| **P/M Ratio*** | | **10:1** | | **13:1** | | **8:1** | | **11:1** |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Some participants identified P/T production employees as "Other".
Avg./plant figure is ratio of job function total to n cases.
Aggregate Production totals are the sum of Skilled, Unskilled & Other job functions.
P/M Ratio is the rounded ratio of Production employees to Management.

Source: Author.

## Table 1.3: Competitive Strategies by Group (%)*

| | Group | | | |
|---|---|---|---|---|
| **Strategy** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Price** | 41 | 49 | 46 | 43 |
| **Niche markets** | 53 | 25 | 46 | 41 |
| **Increasing quality** | 35 | 63 | 55 | 50 |
| **Product monopoly** | 6 | 0 | 0 | 2 |
| **New product dev.** | 29 | 19 | 18 | 23 |
| **Response** | 77 | 56 | 64 | 66 |
| **Service** | 53 | 63 | 64 | 59 |
| **Other** | 6 | 19 | 9 | 11 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.

Source: Author.

## Table 1.4: Work Practices by Group (%)*

| | Group | | | |
|---|---|---|---|---|
| **Work Practices** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Independent** | 6 | 6 | 0 | 5 |
| **Delegation** | 12 | 6 | 18 | 11 |
| **Work teams** | 35 | 25 | 18 | 27 |
| **Production line** | 71 | 69 | 64 | 68 |
| **Job rotation** | 12 | 0 | 9 | 7 |
| **Other** | 0 | 0 | 0 | 0 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Some participants indicated the use of more than one current work practice.
These multiple entries are included in the data, as such, figures may not total 100.

Source: Author.

## Table 1.5: Management-Labour Consultation by Group (%)*

| | Group | | | |
|---|---|---|---|---|
| **Issue** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Work organization** | 82 | 75 | 91 | 82 |
| **Training** | 59 | 56 | 46 | 55 |
| **Market conditions** | 0 | 6 | 0 | 2 |
| **Product development** | 18 | 6 | 18 | 14 |
| **New technology** | 29 | 44 | 18 | 32 |
| **Wages/conditions** | 41 | 50 | 55 | 48 |
| **Market strategies** | 6 | 0 | 9 | 5 |
| **Other** | 6 | 6 | 0 | 5 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.

Source: Author.

## Table 1.6: Recruitment Channel Ratings by Group*

| | Group | | | |
|---|---|---|---|---|
| **Method** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Newspapers** | **2.2*** | **2.6*** | **3.5*** | **2.6*** |
| Min | 1 | 1 | 1 | 1 |
| Max | 5 | 5 | 6 | 6 |
| St. Dev. | 1.2 | 1.3 | 1.6 | 1.4 |
| **Current employees** | **4.1*** | **5.4*** | **5.0*** | **4.8*** |
| Min | 1 | 4 | 2 | 1 |
| Max | 6 | 6 | 6 | 6 |
| St. Dev. | 1.7 | 0.6 | 1.1 | 1.3 |
| **Drop-in/walk-in** | **3.1*** | **4.5*** | **3.1*** | **3.6*** |
| Min | 1 | 1 | 1 | 1 |
| Max | 6 | 6 | 5 | 6 |
| St. Dev. | 1.7 | 1.5 | 1.8 | 1.7 |
| **Schools** | **1.9*** | **1.9*** | **1.3*** | **1.8*** |
| Min | 1 | 1 | 1 | 1 |
| Max | 4 | 6 | 2 | 6 |
| St. Dev. | 1.1 | 1.5 | 0.5 | 1.2 |
| **CEC*** | **2.0*** | **1.5*** | **1.4*** | **1.7*** |
| Min | 1 | 1 | 1 | 1 |
| Max | 5 | 2 | 2 | 5 |
| St. Dev. | 1.4 | 0.5 | 0.5 | 1.0 |
| **Private agencies** | **2.6*** | **2.1*** | **2.5*** | **2.4*** |
| Min | 1 | 1 | 1 | 1 |
| Max | 6 | 5 | 4 | 6 |
| St. Dev. | 1.9 | 1.4 | 1.5 | 1.6 |
| **Other*** | **0.0*** | **0.0*** | **0.0*** | **0.0*** |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Rating is based on a scale from 1-6; from 'not useful' to 'very useful'.
Bolded figures represent the mean rating.
CEC refers to Canada Employment Centres.
'Other' responses were nil.

Source: Author.

## Table 1.7: Local Labour Market Quality Ratings by Group*

| | Group | | | |
|---|---|---|---|---|
| **Skill or Attribute** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Technical skills** | **2.9*** | **2.8*** | **2.8*** | **2.9*** |
| Min | 1 | 1 | 1 | 1 |
| Max | 5 | 5 | 5 | 5 |
| St. Dev. | 1.1 | 0.9 | 1.3 | 1.1 |
| **Social Skills/team skills** | **3.1*** | **3.1*** | **3.0*** | **3.1*** |
| Min | 2 | 2 | 2 | 2 |
| Max | 5 | 4 | 5 | 5 |
| St. Dev. | 0.8 | 0.7 | 1.2 | 0.8 |
| **Reliability/timeliness** | **3.5*** | **3.9*** | **4.0*** | **3.8*** |
| Min | 1 | 2 | 3 | 1 |
| Max | 5 | 5 | 5 | 5 |
| St. Dev. | 1.3 | 0.9 | 0.6 | 1.0 |
| **New ideas/innovative** | **2.6*** | **2.4*** | **2.4*** | **2.5*** |
| Min | 1 | 1 | 1 | 1 |
| Max | 5 | 4 | 5 | 5 |
| St. Dev. | 1.1 | 0.7 | 1 | 0.9 |
| **Adapting to new tech.** | **2.9*** | **2.9*** | **2.7*** | **2.9*** |
| Min | 1 | 2 | 1 | 1 |
| Max | 5 | 5 | 6 | 6 |
| St. Dev. | 1.2 | 1.0 | 1.3 | 1.1 |
| **Overall attitude** | **3.6*** | **3.6*** | **3.8*** | **3.7*** |
| Min | 2 | 2 | 1 | 1 |
| Max | 5 | 5 | 5 | 5 |
| St. Dev. | 0.8 | 0.8 | 1.3 | 0.9 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Rating is based on a scale from 1-6; from 'low quality' to 'high quality'.
Bolded figures represent the mean rating.

Source: Author.

## Table 1.8: Changing Importance Ratings of Skills & Attributes by Group*

| | Group | | | |
|---|---|---|---|---|
| **Skill or Attribute** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Increased min. education** | **4.0*** | **4.4*** | **4.2*** | **4.2*** |
| Min | 2 | 1 | 1 | 1 |
| Max | 6 | 6 | 6 | 6 |
| St. Dev. | 1.3 | 1.3 | 1.5 | 1.3 |
| **Social Skills/team skills** | **4.6*** | **4.8*** | **4.5*** | **4.7*** |
| Min | 2 | 1 | 2 | 1 |
| Max | 6 | 6 | 6 | 6 |
| St. Dev. | 1.0 | 1.2 | 1.2 | 1.1 |
| **Reliability/timeliness** | **5.3*** | **5.6*** | **5.1*** | **5.3*** |
| Min | 2 | 5 | 2 | 2 |
| Max | 6 | 6 | 6 | 6 |
| St. Dev. | 1.1 | 0.5 | 1.1 | 0.9 |
| **New ideas/innovative** | **3.2*** | **3.9*** | **3.8*** | **3.6*** |
| Min | 1 | 2 | 2 | 1 |
| Max | 6 | 6 | 6 | 6 |
| St. Dev. | 1.5 | 1.3 | 1.3 | 1.4 |
| **Ability to use new tech.** | **3.8*** | **4.4*** | **4.3*** | **4.1*** |
| Min | 1 | 2 | 2 | 1 |
| Max | 6 | 6 | 6 | 6 |
| St. Dev. | 1.4 | 1.3 | 1.4 | 1.4 |
| **Overall attitude** | **5.3*** | **5.6*** | **5.0*** | **5.3*** |
| Min | 2 | 5 | 1 | 1 |
| Max | 6 | 6 | 6 | 6 |
| St. Dev. | 1.1 | 0.5 | 1.4 | 1.0 |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Rating is based on a scale from 1-6; from 'no importance' to 'very important'.
Bolded figures represent the mean rating.

Source: Author.

## Table 1.9: Recruitment Geography by Group (%)*

| | Group | | | |
|---|---|---|---|---|
| **Geographic Area** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Local/Neighbourhood*** | 42 | 36 | 44 | 40 |
| **Region*** | 48 | 62 | 53 | 54 |
| **Province** | 2 | 1 | 1 | 1 |
| **Elsewhere in Canada** | 5 | 1 | 1 | 3 |
| **Outside Canada** | 3 | 0 | 1 | 1 |
| **Total** | 100 | 100 | 100 | 100* |

*Note: CTT n=17; Toronto LEs n=16; Toronto SMEs n=11.
Local/Neighbourhood (within 5 km of plant site).
Region (between 5-50 km).
Figures may not total 100 due to rounding.

Source: Author.

## Table 1.10: Mean Annual Hours of Employer-Provided Training by Group*

| | Group | | | | | |
|---|---|---|---|---|---|---|
| **Training** | **CTT** | **CTT^** | **Toronto LEs** | **Toronto SMEs** | **Overall** | **Overall^** |
| **n** | 17 | 16 | 16 | 11 | 44 | 43 |
| **Hours/year*** | **17.9** | **12.8** | **18.6** | **12.5** | **16.8** | **14.8** |
| **Min** | 0.0 | 0.0 | 5.0 | 5.0 | 0.0 | 0.0 |
| **Max** | 100.0 | 50.0 | 60.0 | 40.0 | 100.0 | 60.0 |
| **St. Dev.** | 24.7 | 13.1 | 16.2 | 11.8 | 18.9 | 14.0 |

*Note: Hours/year refers to mean annual training hours received by production employees.
Bolded figures represent mean annual training hours.
^ indicates descriptive statistics adjusted for an outlying variable (CTT=1).

Source: Author.

## Table 1.11: Source(s) of Training by Group (%)*

| | Group | | | |
|---|---|---|---|---|
| **Source** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **Informal on-the-job** | 53 | 55 | 52 | 54 |
| **Vendor provided** | 6 | 9 | 8 | 8 |
| **Apprenticeships** | 2 | 0 | 1 | 1 |
| **Sector-based initiatives** | 3 | 0 | 1 | 1 |
| **Formal in-house** | 30 | 33 | 38 | 33 |
| **College/university programs** | 1 | 1 | 1 | 1 |
| **Private consultants** | 4 | 2 | 0 | 2 |
| **Other** | 1 | 0 | 0 | 0 |

*Note: CTT n=14; Toronto LEs n=16; Toronto SMEs n=11.

Source: Author.

## Table 1.12: Average Training Budgets by Group ($)*

| | Group | | | |
|---|---|---|---|---|
| **Year** | **CTT** | **Toronto LEs** | **Toronto SMEs** | **Overall** |
| **1991** | 88,900 | 40,200 | 8,100 | 47,000 |
| **1993** | 112,400 | 68,900 | 13,100 | 69,000 |
| **1996** | 82,600 | 83,100 | 18,300 | 65,500 |
| **Adjusted^** | | | | |
| **1991** | 12,400 | 40,200 | 8,100 | 21,200 |
| **1993** | 16,300 | 68,900 | 13,100 | 33,700 |
| **1996** | 33,000 | 83,100 | 18,300 | 46,400 |
| **Unknown (%)** | 24 | 25 | 36 | 27 |
| **Undisclosed (%)** | 18 | 19 | 0 | 14 |

*Note: Unadjusted yearly figures: CTT n=10; Toronto LEs n=9; Toronto SMEs n=7.
^ indicates adjusted yearly figures: CTT n=9; Toronto LEs n=9; Toronto SMEs n=7.
Dollar figures are rounded to the nearest hundredth.

Source: Author.

# Appendix C:

# Survey Raw Data Results

**Survey Raw Data Results**

| Question # | 1.1 | 1.2 | 1.3 | | | | | | 1.4 | | | 1.5 | | | | | | | | 1.6 Production Employment | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTT | Site | Owner | Site Functions | | | | | | Total Employment | | | Types of Workers | | | | | | | | Part-time | | | Full-time | | |
| Group | Est | Status | 1 | 2 | 3 | 4 | 5 | 6 | 1991 | 1993 | 1996 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1991 | 1993 | 1996 | 1991 | 1993 | 1996 |
| A | | 1 | 1 | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | |
| B | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| C | | 2 | 1 | 1 | | 1 | 1 | | | | | | | | | | | | | | | | | | |
| D | | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| E | | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| F | | 1 | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| G | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| H | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | |
| I | | 1 | 1 | 1 | | 1 | 1 | | | | | | | | | | | | | | | | | | |
| J | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| K | | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| L | | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| M | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| N | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| O | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| P | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| Q | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| Total | | | 17 | 14 | 8 | 10 | 7 | 1 | 4165 | 5582 | 5358 | 456 | 36 | 19 | 155 | 683 | 35 | 4155 | 0 | 66 | 380 | 465 | 2990 | 3841 | 3972 |
| Average | 1954 | | | | | | | | 298 | 328 | 315 | 27 | 2 | 1 | 9 | 40 | 2 | 244 | 0 | 5 | 22 | 27 | 214 | 226 | 234 |

| TSMEs | 1.1 | 1.2 | 1.3 | | | | | | 1.4 | | | 1.5 | | | | | | | | 1.6 Production Employment | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Site | Owner | Site Functions | | | | | | Total Employment | | | Types of Workers | | | | | | | | Part-time | | | Full-time | | |
| Group | Est | Status | 1 | 2 | 3 | 4 | 5 | 6 | 1991 | 1993 | 1996 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1991 | 1993 | 1996 | 1991 | 1993 | 1996 |
| R | | 1 | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| S | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| T | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| U | | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| V | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| W | | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| X | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| Y | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| Z | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AA | | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| AB | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| Total | | | 11 | 10 | 5 | 6 | 4 | 0 | 584 | 592 | 585 | 55 | 26 | 15 | 110 | 31 | 19 | 323 | 2 | 44 | 64 | 93 | 377 | 381 | 374 |
| Average | 1962 | | | | | | | | 58 | 54 | 53 | 5 | 2 | 1 | 10 | 3 | 2 | 29 | 0 | 4 | 6 | 8 | 38 | 35 | 34 |

| TLEs Group | 1.1 Site Est | 1.2 Owner Status | 1.3 Site Functions | | | | | | 1.4 Total Employment | | | 1.5 Types of Workers | | | | | | | | 1.6 Production Employment | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | Part-time | | | Full-time | | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 1991 | 1993 | 1996 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1991 | 1993 | 1996 | 1991 | 1993 | 1996 |
| AC | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AD | | 2 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AE | | 2 | 1 | 1 | | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AF | | 2 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AG | | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| AH | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AI | | 1 | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| AJ | | 3 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| AK | | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | | | |
| AL | | 1 | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| AM | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AN | | 2 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| AO | | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| AP | | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| AQ | | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| AR | | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| Total | | | 16 | 12 | 8 | 9 | 7 | 0 | 3830 | 5071 | 5157 | 338 | 157 | 162 | 614 | 383 | 153 | 2955 | 660 | 300 | 567 | 940 | 2600 | 3579 | 3353 |
| Average | 1947 | | | | | | | | 295 | 317 | 322 | 21 | 10 | 10 | 38 | 23 | 10 | 185 | 41 | 23 | 38 | 63 | 200 | 224 | 210 |

| 1.7 Gender % | | 1.8 Union | | 1.9 | 1.10 | 2.1 Competitive Strategies | | | | | | | | 2.2 Work Practices | | | | | | 2.3 | 2.4 | | 2.5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | Female | Yes | No | Union % | Unions | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | Technology Rating | Future Technology Yes | Future Technology No | Recruit. Problems Yes | Recruit. Problems No |
| 35 | 65 | | 1 | | | 1 | | 1 | | 1 | | | | | | | 1 | | | 2 | | 1 | | 1 |
| 66 | 33 | | 1 | | | 1 | | | | | 1 | 1 | | 1 | | | | | | 2 | | 1 | | 1 |
| 100 | 0 | | 1 | | | | | | 1 | 1 | 1 | | | | | 1 | | | | 5 | | 1 | | 1 |
| 50 | 50 | | 1 | | | | 1 | 1 | | | | 1 | | | | | 1 | | | 1 | 1 | | 1 | |
| 100 | 0 | | 1 | | | | | 1 | | | 1 | 1 | | 1 | | | | | | 2 | 1 | | | 1 |
| 88 | 12 | 1 | | 100 | UAW | 1 | 1 | | | | 1 | | | | | 1 | | 1 | | | 2 | 1 | | 1 | |
| 45 | 55 | 1 | | 92 | UFCW | 1 | 1 | | | | 1 | | | | | 1 | 1 | | | 2 | 1 | | | 1 |
| 60 | 40 | | 1 | | | | 1 | | | | | 1 | 1 | | | | 1 | | | 6 | 1 | | 1 | |
| 50 | 50 | 1 | | 100 | UFCW | 1 | | 1 | | | 1 | | | | | | 1 | | | 5 | 1 | | | 1 |
| 85 | 15 | 1 | | 55 | UFCW, SEA | | 1 | | | 1 | 1 | | | | | 1 | | | | 5 | | 1 | | 1 |
| 16 | 84 | 1 | | 100 | SEA | | 1 | | | 1 | 1 | | | | | 1 | 1 | 1 | | 5 | | 1 | | 1 |
| 60 | 40 | 1 | | 100 | UFCW | | 1 | | | | 1 | 1 | | | | | 1 | | | 3 | | 1 | | 1 |
| 90 | 10 | | 1 | | | | 1 | | | | 1 | 1 | | | | | 1 | | | 2 | 1 | | | 1 |
| 50 | 50 | | 1 | | | | 1 | | | 1 | | 1 | | | | 1 | | | | 5 | 1 | | | 1 |
| 40 | 60 | 1 | | 100 | UFCW | | 1 | | | | 1 | 1 | | | 1 | | 1 | | | 4 | | 1 | 1 | |
| 80 | 20 | 1 | | 30 | TEAM | 1 | | 1 | | | 1 | | | | | | 1 | | | 5 | 1 | | 1 | |
| 100 | 0 | | 1 | | | 1 | | | | | 1 | 1 | | | | | 1 | | | 2 | | 1 | | 1 |
| | | 8 | 9 | | | 7 | 9 | 6 | 1 | 5 | 13 | 9 | 1 | 2 | 1 | 6 | 11 | 2 | 0 | | 9 | 8 | 5 | 12 |
| 65.6 | 34.4 | | | 84.6 | | | | | | | | | | | | | | | | 3.4 | | | | |

| 1.7 Gender % | | 1.8 Union | | 1.9 | 1.10 | 2.1 Competitive Strategies | | | | | | | | 2.2 Work Practices | | | | | | 2.3 | 2.4 | | 2.5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | Female | Yes | No | Union % | Unions | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | Technology Rating | Future Technology Yes | Future Technology No | Recruit. Problems Yes | Recruit. Problems No |
| 100 | 0 | | 1 | | | | 1 | | | | 1 | 1 | | | | | 1 | | | 1 | 1 | | 1 | |
| 80 | 20 | 1 | | 100 | UFCW | | 1 | 1 | | | 1 | | | | | | 1 | | | 3 | 1 | | 1 | |
| 50 | 50 | | 1 | | | 1 | | | | | 1 | 1 | | | | | 1 | | | 5 | 1 | | | 1 |
| 90 | 10 | 1 | | 60 | UFCW | | | 1 | | | 1 | 1 | | | 1 | | 1 | | | 5 | | 1 | | 1 |
| 80 | 20 | | 1 | | | | 1 | 1 | | | 1 | | | | | | | 1 | | 3 | | 1 | | 1 |
| 60 | 40 | 1 | | 100 | BC&T, UFCW | | 1 | | | | 1 | 1 | | | | | 1 | | | 5 | | 1 | | 1 |
| 70 | 30 | 1 | | 100 | TEAM, BC&T | 1 | | | | | | 1 | 1 | | 1 | | | | | 4 | | 1 | | 1 |
| 65 | 35 | 1 | | 100 | TEAM,UFCW | 1 | | | | | 1 | 1 | | | | | 1 | | | 5 | | 1 | | 1 |
| 0 | 100 | | 1 | | | | 1 | 1 | | 1 | | | | | | 1 | | | | 3 | 1 | | | 1 |
| 40 | 60 | 1 | | 100 | BGPW | 1 | | 1 | | 1 | | | | | | | 1 | | | 4 | 1 | | | 1 |
| 10 | 90 | | 1 | | | 1 | | 1 | | | | 1 | | | | 1 | | | | 2 | 1 | | | 1 |
| | | 6 | 5 | | | 5 | 5 | 6 | 0 | 2 | 7 | 7 | 1 | 0 | 2 | 2 | 7 | 1 | 0 | | 6 | 5 | 2 | 9 |
| 58.6 | 41.4 | | | 93.3 | | | | | | | | | | | | | | | | 3.6 | | | | |

| 1.7 Gender % | | 1.8 Union | | 1.9 Union % | 1.10 Unions | 2.1 Competitive Strategies | | | | | | | | 2.2 Work Practices | | | | | | 2.3 Technology | 2.4 Future Technology | | 2.5 Recruit Problems | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | Female | Yes | No | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | Rating | Yes | No | Yes | No |
| 95 | 5 | 1 | | 30 | UFCW, IBT | 1 | | 1 | | | 1 | | | | | | 1 | | | 5 | 1 | | | 1 |
| 44 | 56 | 1 | | 100 | UFCW | | 1 | 1 | | | | | 1 | | | | 1 | | | 5 | 1 | | 1 | |
| 50 | 50 | | 1 | | | | | 1 | | | | | 1 | | | 1 | | | | 5 | | 1 | 1 | |
| 90 | 10 | | 1 | | | 1 | | | | 1 | | 1 | | | | 1 | | | | 6 | 1 | | | 1 |
| 70 | 30 | 1 | | 100 | | 1 | | | | | 1 | | | | | | 1 | | | 5 | 1 | | | 1 |
| 50 | 50 | | 1 | | | | 1 | | | | 1 | 1 | | | | 1 | | | | 4 | 1 | | | 1 |
| 100 | 0 | 1 | | 100 | UFCW | | | 1 | | | 1 | 1 | | 1 | | 1 | | | | 1 | | 1 | | 1 |
| 50 | 50 | 1 | | 100 | UFCW | | | 1 | | | 1 | 1 | | | | | 1 | | | 4 | | 1 | | 1 |
| 52 | 48 | | 1 | | | 1 | | 1 | | | | 1 | | | | | 1 | | | 4 | 1 | | | 1 |
| 30 | 70 | 1 | | 100 | UFCW | | 1 | | | | 1 | 1 | | | | | 1 | | | 1 | | 1 | | 1 |
| 45 | 55 | | 1 | | | | 1 | | | | 1 | 1 | | | | | 1 | | | 3 | 1 | | | 1 |
| 42 | 58 | 1 | | 100 | BC&T | | | 1 | | | 1 | 1 | | | | | 1 | | | 3 | 1 | | | 1 |
| 45 | 55 | 1 | | 100 | BGPW | 1 | | 1 | | 1 | | | | | | | 1 | | | 4 | 1 | | 1 | |
| 50 | 50 | 1 | | 100 | CAW | 1 | | 1 | | 1 | | | | | | | 1 | | | 6 | 1 | | 1 | |
| 40 | 60 | 1 | | 100 | BC&T | | | 1 | | | 1 | 1 | | | | | 1 | | | 3 | 1 | | | 1 |
| 70 | 30 | 1 | | 100 | TEAM, BC&T | 1 | | | | | | 1 | 1 | | 1 | | | | | 5 | | 1 | | 1 |
| | | 11 | 5 | | | 7 | 4 | 10 | 0 | 3 | 9 | 10 | 3 | 1 | 1 | 4 | 11 | 0 | 0 | 4.0 | 11 | 5 | 4 | 12 |
| 57.7 | 42.3 | | | 93.6 | | | | | | | | | | | | | | | | | | | | |

| 2.6 Recruitment Methods Ratings | | | | | | | 2.7 Local Labour Market Quality Ratings | | | | | | 2.8 Changing Skills & Attributes Ratings | | | | | | 2.9 Recruitment Geography % | | | | | 2.10 Employees Consulted (Mang./Labour Relations) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2 | 6 | 6 | 4 | 5 | 4 | | 5 | 5 | 4 | 4 | 3 | 4 | 4 | 6 | 6 | 4 | 5 | 6 | 94 | 1 | 5 | 0 | 0 | 1 | 1 | | 1 | 1 | | | |
| 3 | 4 | 1 | 3 | 4 | 1 | | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 100 | 0 | 0 | 0 | 0 | 1 | | | | | | | |
| 4 | 3 | 2 | 2 | 2 | 5 | | 4 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 100 | 0 | 0 | 0 | 0 | 1 | 1 | | | 1 | 1 | | |
| 1 | 1 | 1 | 1 | 1 | 1 | | 2 | 2 | 5 | 2 | 3 | 4 | 2 | 6 | 6 | 2 | 2 | 6 | 0 | 100 | 0 | 0 | 0 | 1 | | | | | | | |
| 2 | 5 | 3 | 1 | 2 | 3 | | 3 | 3 | 4 | 2 | 2 | 4 | 4 | 5 | 5 | 2 | 2 | 6 | 10 | 88 | 2 | 0 | 0 | 1 | 1 | | | | | | |
| 3 | 4 | 4 | 4 | 1 | 2 | | 2 | 3 | 3 | 2 | 3 | 3 | 5 | 5 | 6 | 3 | 4 | 5 | 20 | 80 | 0 | 0 | 0 | 1 | 1 | | | 1 | | | |
| 1 | 4 | 6 | 1 | 4 | 1 | | 2 | 2 | 1 | 2 | 2 | 3 | 5 | 6 | 6 | 4 | 4 | 6 | 90 | 10 | 0 | 0 | 0 | 1 | | | | | 1 | | |
| 2 | 6 | 2 | 2 | 1 | 6 | | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 5 | 6 | 5 | 3 | 6 | 20 | 20 | 2 | 8 | 50 | 1 | | | | | | | 1 |
| 1 | 6 | 5 | 1 | 1 | 1 | | 4 | 3 | 5 | 4 | 5 | 5 | 6 | 5 | 6 | 3 | 5 | 6 | 20 | 70 | 10 | 0 | 0 | 1 | | | | | 1 | | |
| 5 | 5 | 3 | 2 | 1 | 4 | | 3 | 4 | 2 | 2 | 1 | 3 | 5 | 5 | 4 | 5 | 4 | 5 | 0 | 10 | 20 | 70 | 0 | 1 | | | | | 1 | | |
| 4 | 5 | 3 | 1 | 1 | 1 | | 4 | 3 | 3 | 3 | 2 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 60 | 40 | 0 | 0 | 0 | | 1 | | 1 | | | | |
| 1 | 2 | 2 | 2 | 2 | 4 | | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 2 | 5 | 5 | 80 | 20 | 0 | 0 | 0 | 1 | 1 | | | | 1 | | |
| 2 | 3 | 3 | 4 | 4 | 1 | | 2 | 3 | 3 | 2 | 2 | 4 | 5 | 5 | 5 | 1 | 3 | 5 | 5 | 95 | 0 | 0 | 0 | 1 | 1 | | | 1 | 1 | 1 | |
| 1 | 1 | 1 | 1 | 1 | 6 | | 3 | 4 | 5 | 4 | 5 | 5 | 4 | 4 | 6 | 6 | 6 | 6 | 0 | 100 | 0 | 0 | 0 | | 1 | | | | | | |
| 2 | 6 | 5 | 2 | 1 | 1 | | 3 | 3 | 4 | 2 | 2 | 4 | 4 | 4 | 6 | 3 | 4 | 6 | 50 | 50 | 0 | 0 | 0 | 1 | 1 | | | | 1 | | |
| 2 | 5 | 4 | 1 | 1 | 3 | | 5 | 3 | 4 | 2 | 3 | 3 | 4 | 4 | 6 | 3 | 4 | 5 | 50 | 50 | 0 | 0 | 0 | 1 | 1 | | | 1 | | | |
| 1 | 4 | 1 | 1 | 2 | 1 | | 1 | 2 | 5 | 1 | 2 | 3 | 2 | 4 | 5 | 2 | 2 | 5 | 20 | 80 | 0 | 0 | 0 | | | | 1 | | | | |
| 2.2 | 4.1 | 3.1 | 1.9 | 2.0 | 2.6 | | 2.9 | 3.1 | 3.5 | 2.6 | 2.9 | 3.6 | 4.0 | 4.6 | 5.3 | 3.2 | 3.8 | 5.3 | 42.3 | 47.9 | 2.3 | 4.6 | 2.9 | 14 | 10 | 0 | 3 | 5 | 7 | 1 | 1 |

| 2.6 Recruitment Methods Ratings | | | | | | | 2.7 Local Labour Market Quality Ratings | | | | | | 2.8 Changing Skills & Attributes Ratings | | | | | | 2.9 Recruitment Geography % | | | | | 2.10 Employees Consulted (Mang./Labour Relations) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 6 | 5 | 1 | 1 | 1 | 4 | | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 30 | 70 | 0 | 0 | 0 | 1 | 1 | | | | 1 | | |
| 3 | 2 | 1 | 1 | 1 | 4 | | 1 | 2 | 3 | 2 | 2 | 5 | 6 | 6 | 6 | 5 | 6 | 6 | 50 | 50 | 0 | 0 | 0 | 1 | 1 | | | | 1 | | |
| 2 | 5 | 4 | 2 | 2 | 4 | | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 5 | 5 | 4 | 4 | 5 | 15 | 75 | 5 | 5 | 0 | 1 | | | | | 1 | | |
| 3 | 6 | 1 | 1 | 1 | 1 | | 5 | 5 | 5 | 5 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 70 | 5 | 10 | 10 | 1 | | | | | | | |
| 1 | 6 | 1 | 1 | 1 | 1 | | 3 | 4 | 5 | 2 | 3 | 5 | 4 | 4 | 5 | 3 | 3 | 6 | 100 | 0 | 0 | 0 | 0 | 1 | 1 | | | | | | |
| 3 | 6 | 5 | 1 | 1 | 1 | | 2 | 2 | 4 | 2 | 3 | 4 | 5 | 5 | 6 | 4 | 5 | 5 | 40 | 60 | 0 | 0 | 0 | 1 | | | | | 1 | | |
| 4 | 5 | 5 | 2 | 2 | 1 | | 3 | 2 | 4 | 2 | 2 | 3 | 5 | 5 | 6 | 3 | 4 | 5 | 10 | 90 | 0 | 0 | 0 | 1 | | | | | 1 | | |
| 2 | 5 | 5 | 1 | 1 | 1 | | 2 | 2 | 4 | 2 | 2 | 3 | 5 | 4 | 6 | 3 | 5 | 5 | 30 | 70 | 0 | 0 | 0 | 1 | | | | | 1 | | |
| 5 | 5 | 4 | 2 | 2 | 2 | | 4 | 4 | 4 | 3 | 3 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 94 | 6 | 0 | 0 | 0 | 1 | 1 | | 1 | 1 | | 1 | |
| 3 | 5 | 3 | 1 | 2 | 4 | | 3 | 4 | 4 | 2 | 2 | 4 | 4 | 6 | 5 | 5 | 5 | 5 | 50 | 50 | 0 | 0 | 0 | | 1 | | | 1 | | | |
| 6 | 5 | 4 | 1 | 1 | 4 | | 3 | 2 | 4 | 2 | 3 | 3 | 2 | 3 | 5 | 2 | 2 | 6 | 60 | 40 | 0 | 0 | 0 | 1 | | | 1 | | | | |
| 3.6 | 5.0 | 3.1 | 1.3 | 1.4 | 2.6 | | 2.8 | 3.0 | 4.0 | 2.4 | 2.7 | 3.8 | 4.2 | 4.6 | 5.1 | 3.8 | 4.3 | 5.0 | 44.0 | 52.8 | 0.9 | 1.4 | 0.9 | 10 | 6 | 0 | 2 | 2 | 6 | 1 | 0 |

| 2.6 Recruitment Methods Ratings | | | | | | | 2.7 Local Labour Market Quality Ratings | | | | | | 2.8 Changing Skills & Attributes Ratings | | | | | | 2.9 Recruitment Geography % | | | | | 2.10 Employees Consulted (Mang./Labour Relations) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2 | 5 | 4 | 3 | 1 | 5 | | 5 | 3 | 4 | 3 | 4 | 3 | 4 | 4 | 5 | 4 | 5 | 5 | 5 | 95 | 0 | 0 | 0 | 1 | 1 | 1 | | 1 | | | |
| 2 | 5 | 5 | 1 | 2 | 1 | | 3 | 3 | 2 | 3 | 4 | 4 | 2 | 4 | 5 | 2 | 3 | 5 | 80 | 20 | 0 | 0 | 0 | 1 | | | | | | | 1 |
| 4 | 5 | 4 | 2 | 2 | 4 | | 4 | 3 | 5 | 4 | 5 | 4 | 5 | 5 | 5 | 5 | 4 | 6 | 35 | 65 | 0 | 0 | 0 | 1 | 1 | | | | 1 | | |
| 1 | 6 | 6 | 6 | 1 | 1 | | 2 | 3 | 4 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 0 | 100 | 0 | 0 | 0 | 1 | 1 | | | 1 | | | |
| 1 | 6 | 6 | 1 | 1 | 1 | | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 10 | 90 | 0 | 0 | 0 | 1 | | | | | | | |
| 5 | 5 | 3 | 2 | 1 | 3 | | 3 | 4 | 4 | 3 | 4 | 4 | 5 | 5 | 6 | 4 | 5 | 6 | 50 | 50 | 0 | 0 | 0 | 1 | 1 | | | 1 | 1 | | |
| 2 | 5 | 1 | 1 | 1 | 1 | | 1 | 2 | 3 | 2 | 3 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 10 | 90 | 0 | 0 | 0 | 1 | 1 | | 1 | 1 | 1 | | |
| 1 | 6 | 6 | 5 | 2 | 2 | | 2 | 3 | 3 | 2 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 70 | 10 | 0 | 20 | 0 | | 1 | | | 1 | | | |
| 2 | 4 | 6 | 1 | 1 | 1 | | 3 | 3 | 5 | 3 | 4 | 4 | 5 | 4 | 6 | 3 | 6 | 6 | 5 | 95 | 0 | 0 | 0 | 1 | | | | | | | |
| 2 | 6 | 6 | 1 | 2 | 1 | | 3 | 2 | 5 | 1 | 2 | 5 | 1 | 1 | 6 | 2 | 2 | 6 | 80 | 20 | 0 | 0 | 0 | 1 | | | | | 1 | | |
| 1 | 6 | 4 | 1 | 2 | 1 | | 2 | 3 | 5 | 2 | 2 | 3 | 5 | 5 | 6 | 3 | 3 | 6 | 50 | 50 | 0 | 0 | 0 | 1 | 1 | | | | 1 | | |
| 4 | 6 | 5 | 1 | 1 | 1 | | 3 | 4 | 5 | 2 | 2 | 5 | 4 | 5 | 6 | 2 | 2 | 6 | 20 | 80 | 0 | 0 | 0 | 1 | | | | | 1 | | |
| 3 | 5 | 3 | 1 | 2 | 4 | | 3 | 4 | 4 | 2 | 2 | 4 | 4 | 6 | 5 | 5 | 5 | 5 | 50 | 50 | 0 | 0 | 0 | | 1 | | | 1 | | | |
| 3 | 5 | 3 | 1 | 2 | 4 | | 3 | 4 | 4 | 2 | 2 | 4 | 4 | 6 | 5 | 5 | 5 | 5 | 50 | 50 | 0 | 0 | 0 | | 1 | | | 1 | | | |
| 4 | 6 | 5 | 1 | 1 | 1 | | 2 | 3 | 3 | 2 | 3 | 3 | 4 | 4 | 6 | 3 | 4 | 6 | 30 | 70 | 0 | 0 | 0 | 1 | | | | | 1 | | |
| 4 | 5 | 5 | 2 | 2 | 2 | | 3 | 2 | 4 | 3 | 2 | 3 | 5 | 5 | 6 | 4 | 5 | 5 | 30 | 60 | 10 | 0 | 0 | | | | | | 1 | | |
| 2.6 | 5.4 | 4.6 | 1.9 | 1.5 | 2.1 | | 2.6 | 3.1 | 3.9 | 2.4 | 2.9 | 3.6 | 4.4 | 4.8 | 5.6 | 3.9 | 4.4 | 5.6 | 35.9 | 62.2 | 0.6 | 1.3 | 0.0 | 12 | 9 | 1 | 1 | 7 | 8 | 0 | 1 |

| 2.11 Training? | | 2.12 | 2.13 Type of Training Provided | | | | | | 2.14 Training Sources as % | | | | | | | | 2.15 Training Budget | | | | | 2.16 CGPC | | 2.17 Participat | | CGPC | 2.18 GPMC | | 2.19 GPMC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yes | No | Avg. Hrs. Per Year | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1991 | 1993 | 1996 | Unknown | Undisc | Yes | No | Yes | No | Rating | Yes | No | Rating |
| 1 | | 8 | 1 | 1 | | | | | 93 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | | | | 1 | | | 1 | | | | | 1 | |
| | 1 | 0 | | | | | | | | | | | | | | | 0 | 0 | 0 | | | | 1 | | | | | 1 | |
| 1 | | 18 | 1 | 1 | | 1 | | | 15 | 0 | 0 | 0 | 50 | 10 | 25 | 0 | | | | | 1 | 1 | | 1 | | | | 1 | |
| | 1 | 0 | | | | | | | | | | | | | | | 0 | 0 | 0 | | | | 1 | | | | | 1 | |
| 1 | | 13 | 1 | 1 | | | | | 10 | 0 | 0 | 0 | 80 | 0 | 10 | 0 | 1,000 | 1,000 | 3,000 | | | | 1 | | | | | 1 | |
| 1 | | 6 | 1 | 1 | | | | 1 | 60 | 0 | 0 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 1 | | | | | 1 | |
| 1 | | 12 | | 1 | | | | | 20 | 0 | 0 | 0 | 80 | 0 | 0 | 0 | 5,000 | 5,000 | 5,000 | | | | 1 | | | | | 1 | |
| 1 | | 50 | 1 | 1 | | | | | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | | 1,000 | 10,000 | | | | 1 | | | | | 1 | |
| 1 | | 8 | 1 | 1 | | | | | 65 | 5 | 0 | 0 | 20 | 0 | 10 | 0 | | | | 1 | | 1 | | 1 | | | | 1 | |
| 1 | | 10 | 1 | 1 | 1 | | | | 60 | 10 | 10 | 0 | 15 | 5 | 0 | 0 | 700,000 | 1,000,000 | 500,000 | | | 1 | | 1 | | | 1 | | 3 |
| 1 | | 35 | | | 1 | 1 | | | 20 | 30 | 0 | 20 | 30 | 0 | 0 | 0 | 100,000 | 150,000 | 300,000 | | | 1 | | 1 | | | 1 | | 3 |
| 1 | | 6 | 1 | | | | | | 90 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | | | | 1 | | | | | | | | | |
| 1 | | 12 | | 1 | 1 | 1 | | | 60 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 1,000 | 1,000 | 4,000 | | 1 | | 1 | | | | | 1 | |
| 1 | | 100 | | | | 1 | | | 50 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | | | | | 1 | | 1 | | | | | 1 | |
| 1 | | 16 | 1 | 1 | | | | | 50 | 20 | 0 | 0 | 30 | 0 | 0 | 0 | 5,000 | 5,000 | 8,000 | | | | 1 | | | | | 1 | |
| 1 | | 10 | 1 | 1 | | | 1 | | 60 | 20 | 0 | 0 | 10 | 0 | 10 | 0 | | | | 1 | | 1 | | 1 | | | 1 | | |
| | 1 | 0 | | | | | | | | | | | | | | | 0 | 0 | 0 | | | | 1 | | | | | 1 | |
| 14 | 3 | | 10 | 11 | 3 | 4 | 1 | 1 | | | | | | | | | 812000 | 1163000 | 830000 | 4 | 3 | 5 | 11 | 0 | 5 | | 3 | 13 | |
| | | 17.9 | | | | | | | 53.1 | 6.1 | 1.6 | 2.9 | 29.6 | 1.1 | 4.3 | 0.7 | 81200 | 105727 | 75456 | | | | | | | | | | 3 |

| 2.11 Training | | 2.12 | 2.13 Type of Training Provided | | | | | | 2.14 Training Sources as % | | | | | | | | 2.15 Training Budget | | | | | 2.16 CGPC | | 2.17 Participat | | CGPC | 2.18 GPMC | | 2.19 GPMC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yes | No | Avg. Hrs Per Year | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1991 | 1993 | 1996 | Unknown | Undisc | Yes | No | Yes | No | Rating | Yes | No | Rating |
| 1 | | 8 | 1 | | 1 | | | | 80 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | | | | 1 | | | 1 | | | | | 1 | |
| 1 | | 16 | 1 | 1 | | | | | 10 | 0 | 0 | 0 | 90 | 0 | 0 | 0 | | | | 1 | | | 1 | | | | 1 | | 1 |
| 1 | | 6 | 1 | 1 | | | | | 30 | 0 | 0 | 0 | 70 | 0 | 0 | 0 | | | | 1 | | | 1 | | | | | 1 | |
| 1 | | 6 | 1 | 1 | | | | | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10,000 | 10,000 | 40,000 | | | | 1 | | | | | 1 | |
| 1 | | 6 | 1 | 1 | | | | | 80 | 0 | 10 | 5 | 0 | 5 | 0 | 0 | | | | 1 | | | 1 | | | | 1 | | 3 |
| 1 | | 5 | | 1 | | | | | 0 | 30 | 0 | 0 | 70 | 0 | 0 | 0 | 20,000 | 30,000 | 40,000 | | | | 1 | | | | 1 | | 2 |
| 1 | | 5 | | 1 | | | | 1 | 40 | 30 | 0 | 0 | 30 | 0 | 0 | 0 | 10,000 | 20,000 | 30,000 | | | | 1 | | | | 1 | | 3 |
| 1 | | 5 | 1 | 1 | | | | 1 | 30 | 20 | 0 | 0 | 50 | 0 | 0 | 0 | 15,000 | 30,000 | 10,000 | | | | 1 | | | | 1 | | 3 |
| 1 | | 30 | 1 | | 1 | 1 | | | 85 | 5 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 4000 | | | | 1 | | | | | 1 | |
| 1 | | 10 | 1 | 1 | 1 | | | | 40 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 | 2,000 | 2,000 | | | 1 | | 1 | | 4 | 1 | | 5 |
| 1 | | 40 | | 1 | | | | | 80 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 2,000 | 0 | 2,000 | | | | 1 | | | | | 1 | |
| 11 | 0 | | 8 | 9 | 3 | 1 | 0 | 2 | | | | | | | | | 57000 | 92000 | 128000 | 4 | 0 | 1 | 10 | 1 | 0 | | 6 | 5 | |
| | | 12.6 | | | | | | | 62.3 | 7.7 | 0.9 | 0.6 | 38.2 | 0.5 | 0.0 | 0.0 | 8143 | 13143 | 18288 | | | | | | | 4 | | | 3 |

| 2.11 Training | | 2.12 | 2.13 Type of Training Provided | | | | | | 2.14 Training Sources as % | | | | | | | | 2.15 Training Budget | | | | | 2.16 CGPC | | 2.17 Participat | | CGPC | 2.18 GPMC | | 2.19 GPMC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yes | No | Avg. Hrs Per Year | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1991 | 1993 | 1996 | Unknown | Undisc | Yes | No | Yes | No | Rating | Yes | No | Rating |
| 1 | | 10 | 1 | 1 | | | 1 | | 60 | 20 | 0 | 0 | 10 | 0 | 10 | 0 | | | | 1 | | 1 | | | 1 | | 1 | | |
| 1 | | 8 | 1 | 1 | | | | | 25 | 10 | 5 | 0 | 50 | 5 | 5 | 0 | | | | | 1 | | 1 | | | | | 1 | |
| 1 | | 30 | | | 1 | | 1 | | 20 | 0 | 0 | 0 | 70 | 0 | 10 | 0 | 85,000 | 130,000 | 125,000 | | | | 1 | | | | 1 | | 5 |
| 1 | | 60 | 1 | 1 | 1 | | | | 60 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 100,000 | 100,000 | 200,000 | | | | 1 | | | | 1 | | 2 |
| 1 | | 16 | 1 | | | | | | 50 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | | | | 1 | | | 1 | | | | 1 | | 5 |
| 1 | | 20 | 1 | 1 | 1 | 1 | | | 40 | 20 | 0 | 0 | 40 | 10 | 0 | 0 | | | | 1 | | | 1 | | | | | 1 | |
| 1 | | 24 | 1 | 1 | | | | | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 1 | | | 1 | | | | | 1 | |
| 1 | | 8 | 1 | 1 | | | 1 | | 60 | 10 | 0 | 0 | 20 | 5 | 0 | 5 | 0 | 0 | 8,000 | | | 1 | | 1 | | 6 | 1 | | 6 |
| 1 | | 8 | 1 | | | | | | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 1 | | | | | 1 | |
| 1 | | 6 | 1 | | | | | | 70 | 10 | 0 | 0 | 20 | 0 | 0 | 0 | 60,000 | 75,000 | 50,000 | | | | 1 | | | | 1 | | 2 |
| 1 | | 10 | 1 | 1 | | | | | 70 | 10 | 0 | 0 | 20 | 0 | 0 | 0 | 5,000 | 5,000 | 5,000 | | | | 1 | | | | | 1 | |
| 1 | | 6 | 1 | 1 | | | | | 80 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | | | | | 1 | 1 | | | 1 | | 1 | | 4 |
| 1 | | 40 | 1 | 1 | 1 | | | | 40 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 12,000 | 50,000 | 0 | | | 1 | | 1 | | 4 | 1 | | 5 |
| 1 | | 40 | 1 | 1 | 1 | | | | 40 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 60,000 | 200,000 | 260,000 | | | 1 | | 1 | | 4 | 1 | | 5 |
| 1 | | 6 | 1 | 1 | | | | | 70 | 20 | 0 | 0 | 10 | 0 | 0 | 0 | | | | | 1 | 1 | | | 1 | | 1 | | 2 |
| 1 | | 5 | | 1 | | | | 1 | 0 | 30 | 0 | 0 | 70 | 0 | 0 | 0 | 40,000 | 60,000 | 100,000 | | | | 1 | | | | 1 | | 3 |
| 18 | 0 | | 14 | 12 | 6 | 1 | 3 | 1 | | | | | | | | | 362000 | 620000 | 748000 | 4 | 3 | 6 | 10 | 3 | 3 | | 11 | 6 | |
| | | 18.6 | | | | | | | 56.3 | 8.8 | 0.3 | 0.0 | 33.1 | 1.3 | 1.6 | 0.3 | 40222 | 68889 | 83111 | | | | | | | 4.7 | | | 3.9 |

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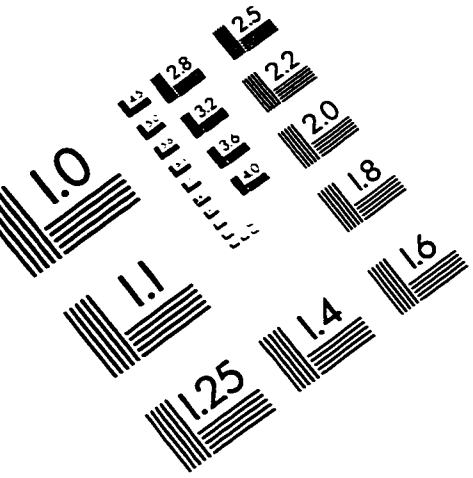
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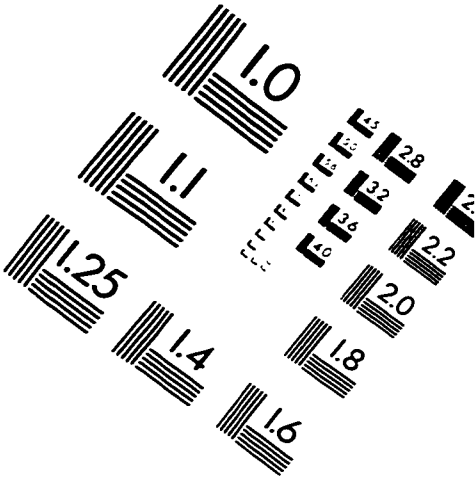
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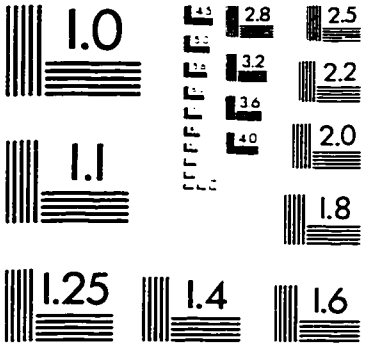
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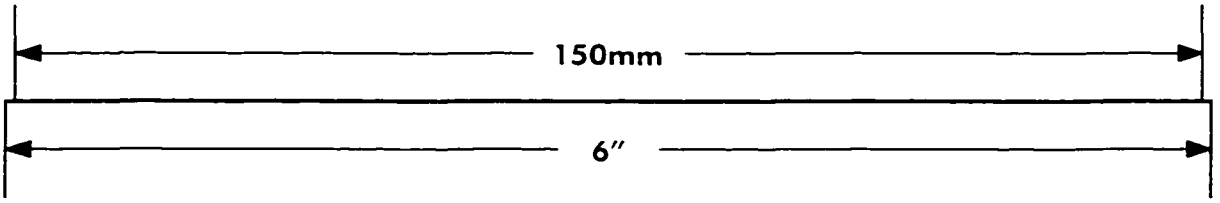
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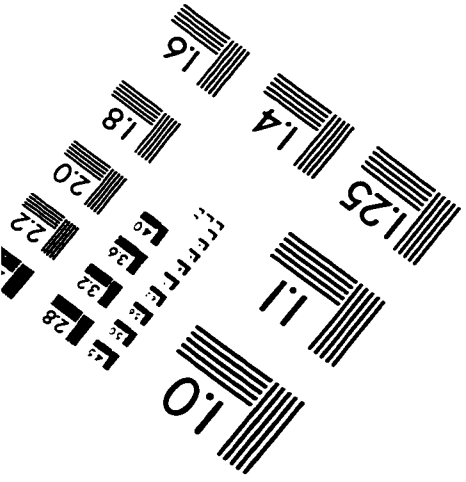
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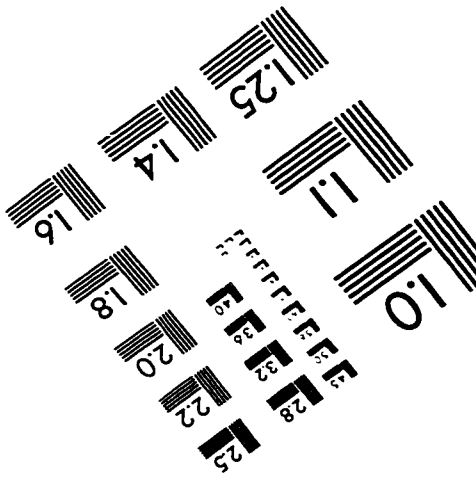



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