SELF-EMPLOYMENT AND THE NATURE OF THE CONTEMPORARY CANADIAN ECONOMY.

by

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ABSTRACT

Recent transformations within modern economies have often been discussed under the concept of "restructuring". However this term, despite its widespread use in sociology, has little explanatory power. What is needed instead is a consideration of how restructuring has taken place. Three major theoretical positions which attempt to provide this understanding are Marxist monopoly capitalism, post-fordism and post-industrialism.

Each of these paradigms provides a different understanding of the nature and operation of contemporary capitalist formations. My purpose in this thesis is to determine which of these different viewpoints is most applicable to the Canadian situation. I will do so through an examination of changes in the self-employed sector of the Canadian economy since 1960.

The self-employed sector, besides being of intrinsic interest because of its recent attention by politicians and the popular media, is an important testing ground for the relative validity of the above theories in the Canadian context. Each framework is consistent with a set of well-defined and contrasting predictions about what should happen to the overall size of the self-employed sector, as well as expectations about the direction of ascriptive inequality, both within the sector and in the larger society.

Using time series regression procedures, declines and increases in the size of the entrepreneurial sector over the last thirty or so years are documented. In addition, the importance of increases in the sector is examined by modelling the effect of unemployment on self-employment. Predictions about ascriptive inequalities are tested through an investigation of earnings functions within the self-employed and employed populations.

The results of these analyses suggest that a post-fordist understanding of the
contemporary Canadian economy is most appropriate. Self-employment has clearly increased since 1960, and ascriptive inequalities, particularly by gender, have persisted throughout much of the latter half of this period. The implication of this is that in order to understand the larger processes shaping our economy, as well as the nature of work beyond self-employment, we are most likely to find answers in discussions about post-fordism.
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Chapter One: Introduction

Introduction

The Canadian economy is undergoing significant reorganization. Technological change, the entry of women into the labour force, the globalization of capital and markets and the growing importance of different types of knowledge for economic success has restructured Canadian economic life. New opportunities and markets have been created, often involving different forms of work organization and discipline, while some older sectors and varieties of labour relations have declined in importance.

Sociological investigations of these and related phenomena have recently taken place under the banner of "restructuring". Yet this term, as it is often used (Halford and Savage, 1995), has little explanatory power. That is, restructuring is better understood as a new buzzword for "social change" than as a theoretical explanation of the processes occurring in modern economies. What is needed instead is a focus on theories of restructuring, or theories of social change to help us understand the nature and direction of contemporary social and economic transformations.

In sociology, an incredibly diverse range of theories of social change have been proposed, dating from the founders of the discipline. Comte's Law of Three Stages, Marx's historical materialism, Weber's ideas about rationality and Durkheim's forms of solidarity were all attempts to understand the nature of social order and social change. More recently, theories of industrialization and modernization have been replaced by claims about post-industrialism, post-fordism and post-modernism. As a partial response to the latter, theorists are beginning to
discuss the nature of the late modern age, and visions of the risk society are beginning to take hold. And probably most importantly, feminist theory has forever altered the ways we view the social world.

Many of these theoretical frameworks have been subjected to extensive philosophical elaboration and empirical examination, while others have received far less sustained attention. In some cases, the work that has been done is now in need of updating. In this thesis, I will address some of the current empirical deficiencies surrounding two major neo-Marxist arguments about the nature of contemporary capitalism—monopoly capitalism and post-fordism—as well as arguments about post-industrial society.

Among the many research designs that could be employed to examine propositions about the changing nature of capitalism, I will focus upon one crucial stratum of the capitalist economy—the self-employed. In particular, I analyse recent historical changes in the size of the self-employed sector in Canada, and what has happened to earnings inequalities within this stratum. Changes in the size of the self-employed stratum, and of inequality within this sector, provide important clues about which of the above theories is most applicable to contemporary Canadian reality.

Theoretical Issues

It might be tempting to dismiss the study of the petite bourgeoisie because it constitutes a small—and some would argue a declining (see Clement, 1988; Cuneo, 1984)—proportion of the labour force. Studying self-employment is not relevant for the study of macro-level change within capitalism, some reason, because such change is better examined with reference to the
population of employees. Indeed, one might continue, if entrepreneurs do differ from wage-earners, these differences are more of an annoyance or source of error and not of primary theoretical interest. Many studies of macro-economic change and social inequality employ exactly this reasoning to focus solely on wage-earners (e.g., Baxter, 1994; Christofides and Swidinsky, 1994).

However, the exclusion of the self-employed from macro-level analyses of economic change can no longer be sustained. Evidence shows that the size of the self-employed population, after declining for most of this century, has held steady or increased in recent years across most of the industrialized world\(^1\) (Steinmetz and Wright, 1989; Acs and Audretsch, 1993). This sector may become an increasingly important component of an economy in the future. With this possibility, the entrepreneurial sector takes on more importance. Furthermore, the end of the demise of the petite bourgeoisie in itself represents a major change which has important implications for the processes altering the operation of modern capitalist economies.

**The Definition of Self-employment**

Before discussing the larger theoretical frameworks of monopoly capitalism, post-fordism and post-industrialism, some sense of the object of study is necessary. In Canada, as elsewhere, researchers have examined various aspects of an indefinite sector of the economy, usually defining it in one of three ways. One definition equates this sector with Marx's "petite bourgeoisie"—small-scale capitalists who rely primarily on their own capital and labour, rather

\(^1\) Patterns in underdeveloped areas vary by country, but in many cases mirror the rise in self-employment rates found in developed regions.
than the exploitation of others to earn a living (Bechhofer and Elliott, 1981; 1985). Within this literature, there has been extensive debate about whether the petite bourgeoisie should be considered a "class" in the true Marxian sense of the word (Aldrich and Weiss, 1981; Bechhofer and Elliott, 1981; Wright, 1986). Another prominent strand of research in this tradition concerned the political and ideological attitudes of these people. The early conclusion was that the petite bourgeoisie tended to hold rather conservative political views, especially concerning state intervention in the economy. But Hakim (1988) in Britain and Edward Bell (1989) in Canada have suggested that there is no easy equation between members of this sector and distinctive political attitudes.

Second, a slightly different phenomenon is captured by studying self-employed individuals. Here, whether or not self-employed people exploit the labour of others is ignored. The object of study is defined simply as those individuals who work not for others, but for themselves (Bogenhold and Staber, 1991; Casey and Creigh, 1988). Self-employment is often used as a definition of a person's status as petit bourgeois, or as an entrepreneur.

Finally, research has examined the role of small business in the economy. The definitions of what, exactly, constitutes "small", as opposed to "medium" or "large" business, varies between studies. Nevertheless, typical definitions establish an arbitrary boundary of 20, 50 or 100 employees per firm or establishment as the upper limit for small businesses (Granovetter, 1984; Young and Francis, 1991). Much of the recent research in this area concerns the contributions of small firms to an economy.

Another tradition, more prevalent outside of sociology, isolates the "entrepreneur" as an object of study. Much research in this vein continues Schumpeter's (1950) classic questions
about what distinguishes the entrepreneur from others, and the importance of entrepreneurship to the economy (Begley and Boyd, 1987; Young and Francis, 1991). This tradition is more distant from my concerns in this thesis because entrepreneurialism is by no means limited to small firms or the self-employed. That is, my focus is on an economic group defined more by its formal relations to others in the economy than its innovative or entrepreneurial capacity or potential.

Although the first three concepts are not identical, they do overlap significantly, and are sometimes even used as measures of one another. For example, Cuneo (1984) employs two categories of self-employed individuals—those who hire no labour and those who hire "no or some" labour (Cuneo, 1984:272)—to examine trends in the size of the "pure" and "diluted" petite bourgeoisie. Similarly, Young and Francis (1991) examine entrepreneurship in small manufacturing firms through interviews with the self-employed founders of these companies.

The conceptual overlap of the petite bourgeoisie, the self-employed and small business, is also reflected in the congruity of hypotheses concerning these phenomena. For example, Granovetter (1984:333), in his examination of small business, speculates that small firms may concentrate in uncertain, "peripheral" industries, allowing big business to control "core" sectors of the economy. This argument is also considered by Cuneo (1984), Clement (1988), Berger (1981) and Steinmetz and Wright (1989) in their studies of the petite bourgeoisie, and in discussions of self-employment by Hakim (1988), Portes and Jensen (1989), and Waldinger (1986). Similarly, Cuneo (1984) and Steinmetz and Wright (1989) examine the sectoral distribution, and supposed decline numerically, of the petite bourgeoisie, while Granovetter
(1984) investigates these claims with respect to small business and Hakim (1988) tests their relevance for the self-employed.

The focus of my research is self-employment. The primary reason for this is the nature of the theoretical positions being investigated. Specifically, while arguments about monopoly capitalism often focus on the petite bourgeoisie, proponents of post-fordism and post-industrialism (see below) have focused on the self-employed sector, dropping some of the conceptual baggage which accompanies the Marxist terminology. In order to assess these theories in relation to each other, a common ground is necessary. Despite warnings not to completely conflate the two (Linder and Houghton, 1991), empirical investigations of the petite bourgeoisie and the self-employed almost always use identical indicators (Cuneo, 1984; Steinmetz and Wright, 1989). I leave it to other researchers to differentiate empirically the petite bourgeoisie from the self-employed. Throughout this thesis, I will use the terms "self-employed", "petite bourgeoisie" and "entrepreneur" interchangeably.

With this definitional issue clarified, a summary of the major theoretical orientations informing this thesis is necessary. The following discussion is necessarily short. Longer versions of each tradition, including treatment of their historical development, comes in the next chapter.

Monopoly Capitalism

The basic argument underpinning the framework of monopoly capitalism was developed by Baran and Sweezy (1966). They followed Marx's original logic on the concentration and centralization of capital in increasingly large firms up to a point, but
diverged on the inevitability of a violent revolution. Rather, they claimed that monopoly capitalism had become a relatively stable form of capitalism during the twentieth century. It is precisely this difference which distinguishes the monopoly capitalist framework from a more orthodox Marxist argument.

Monopoly capitalism is dominated by a core of very large firms which continued to push small firms and the self-employed towards the margins of economic survival. The long-run fate of the petite bourgeoisie under monopoly capitalism has been decided, both theoretically and empirically. Theoretically, it is doomed on the basis of Marx's original arguments, as well as the fact that these small entrepreneurs operate at the very margins of the economy. Empirically, there was no evidence, up until the 1970s at least, which might have given any hint to the contrary.

But the fact that this stratum has persisted well into the twentieth century, and continues to exist even under conditions defined by Baran and Sweezy (1966) as indicative of monopoly capitalism, raised doubts for some about the validity of this framework. But it was not until the 1970s that the persistence of the petite bourgeoisie was investigated seriously by academics (Bechhofer and Elliott, 1974; 1978; 1981). At roughly the same time, the small business sector was being defended by David Birch (1979; 1981) for its contribution to economic growth and job creation, and Mark Granovetter (1984) articulated a classic statement about the theoretical interest of the sector.

Even later, some research began documenting the persistence, and occasionally even growth in the self-employed sector. Steinmetz and Wright (1989) found that in the U.S. and in at least four other countries, self-employment is on the rise. In Canada, relatively little
sociological attention has focused on the self-employed sector in recent years. Earlier studies were virtually unanimous in their conclusions about the continuing decline of this sector (Johnson, 1972; Szymanski, 1983). Only Carl Cuneo (1984) pointed to a period of persistence of the sector between 1931 and 1951, but concurred that overall, the self-employed were doomed to extinction.

Despite this evidence of the eclipse of the self-employed sector, there are suggestions that the situation may now be different in Canada. Cohen (1988) hints that the size of the Canadian self-employed sector grew in Canada between 1975 and 1986, a trend supported by OECD data (OECD, 1992) and by Crompton's (1993) analysis of Canadian census data.

This conflicting evidence about self-employment in Canada poses an interesting theoretical problem. If the sector has not increased in size, we can be fairly safe in assuming that the Canadian economy is best characterized as a monopoly capitalist formation. But if self-employment has grown, we need to consider other theoretical understandings of modern economies. Two frameworks which argue that the self-employed sector should grow in size are post-fordism and post-industrialism.

Post-fordism

The theoretical challenge of post-fordism to that of monopoly capitalism is interesting because it is consciously informed by Marxism, and indeed shares some of the central principles of the monopoly capitalist framework. Specifically, post-fordism also argues that modern economies are split into a core and periphery and that we have entered a new long wave of capitalist development. Where the two positions differ, at least in regard to the
concerns of this thesis, is over the importance of knowledge in social and economic life, and the future of small firms and the self-employed.

The notion of a post-fordist economy is one in which large-scale systems of mass production and consumption have been replaced by specialized production and consumption. "Flexible specialization" is a mode of production based on flexible and adaptable technology, especially "information technology" such as computers and telecommunications. These technologies operate to the advantage of small firms, by offsetting prohibitive start-up costs and the advantages of economies of scale realized by large firms. Moreover, the ability to turn quickly from one product to another, and to develop individualized products for individual customers allows small firms and self-employed individuals to establish and exploit market niches.

But despite the rather rosy scenario that is sometimes associated with flexible specialization, many post-fordists retain Braverman's (1974) caution that technological "improvements" can just as easily be used to deskill workers. Moreover, a post-fordist economy is still split into a core and periphery, although the self-employed are not automatically assigned to the periphery as they are under the monopoly capitalist framework. The key point here is that the post-fordist form of organization is more flexible and decentralized than the mass production systems of old, thereby promoting a growth in the number of the self-employed.
Post-industrialism

Although few of the progenitors (Bell, 1976; Touraine, 1971) of the post-industrial society thesis have considered the relevance of their ideas for the self-employed, some researchers have begun to investigate these connections empirically. Steinmetz and Wright argue that post-industrialism is consistent with a growth in overall self-employment as part of a "qualitatively new phase of economic development" (Steinmetz and Wright, 1989:987). The reason is that the emergent sectors of the post-industrial society, the myriad service sectors, are relatively decentralized and favour self-employment, at least initially. Service-sector expansion is primarily the result of the vastly increased importance of knowledge in social life, which is the defining feature of post-industrialism. This prediction is consistent with a notion of the post-industrial society as little more than "not industrial society" based on the relative sizes of different economic sectors. This rather straightforward understanding of post-industrialism was used by Boyd, Mulvihill and Myles (1991) to investigate the causes and consequences of service-sector expansion for employees in Canada.

A more nuanced version of the post-industrial position draws on the emphasis placed on knowledge in the original theoretical mappings. As Steinmetz and Wright (1989:987) later argue,

One of the hallmarks of post-industrialism, it is often argued, is the importance of knowledge, communication and information. One might hypothesize that the expansion of various kinds of "high-tech" services opens up greater possibilities for self-employment since in many instances these services require relatively little physical capital.

In summary, monopoly capitalist theory continues the original Marxist contention about the eventual disappearance of the self-employed while the post-fordist and post-
industrial theses reverse the prediction and argue that self-employment is an important component of future society. Post-fordism and post-industrialism are both consistent with an overall rise in self-employment, although a more nuanced version of post-fordism might lead one to predict a continuing stagnation of self-employment in manufacturing (Kumar, 1992) and a refined interpretation of post-industrialism would suggest that growth in self-employment should be concentrated in high-technology services (Steinmetz and Wright, 1989).

But as is evident from the above discussion, simply examining the growth or decline in self-employment is not sufficient to distinguish between these three different positions. If the sector has continued to decline, then we have more support for arguments about monopoly capitalism than for post-fordist or post-industrial visions, but if the sector has increased in size, we have no way as yet of distinguishing between these latter two theses. Therefore, it is necessary to examine predictions from these postions on other issues. One such issue concerns the direction of social inequality in contemporary society. It is possible to connect issues of the growth in self-employment with the nature of inequality by examining changing levels of inequality within the self-employed sector. One such dimension is earnings inequalities among the self-employed.

**Post-industrialism, Post-fordism and Inequality**

The overall implication of the post-fordist framework is that inequalities will persist, and possibly even increase, under post-fordism. There are several reasons for this. Among the most important is that post-fordist society is inherently capitalist society, which is based fundamentally on inequality. Also, there is a recognition in the post-fordist literature that,
despite the importance of flexible specialization, the destruction of fordism also creates large numbers of low-paying, unskilled jobs, primarily in the service sector.

In contrast, the level of ascriptive inequality should decrease in post-industrial society. Although some theorists are optimistic and others more pessimistic, the clear message from the proponents of post-industrialism is that the overall level of earnings inequality will be reduced in the information age. The reason is that knowledge is now the basis of economic production, and social life more generally. It no longer matters who you are, or even who you know—your type and level of knowledge has become the overriding factor in rewards determination.

But this is not to say that all inequality will disappear. Rather, post-industrialism retains the notion that inequalities on the basis of merit or knowledge are necessary to maintain motivation within a society (Aron, 1967; Kumar, 1992). What will disappear though, are inequalities in remuneration which are based on a person's ascriptive characteristics such as their sex, race/ethnicity or age. This idea has a close parallel in "human capital theory", developed in neo-classical economics (Becker, 1964; Mincer, 1974).

Clearly then, post-fordism and post-industrialism differ on the direction of earnings inequality in contemporary society. Moreover, since they both point to the self-employed stratum as an emergent sector of the economy, what is happening to earnings inequalities within this sector bears even more directly on these two frameworks than the more general levels of remuneration differences among employees. As I will elaborate in later chapters it would be nonsensical for either position to argue that self-employment will rise while simultaneously contending that overall levels of earnings differences are a more valid indicator of the validity of that framework than earnings inequalities within self-employment. By
investigating earnings differences among the self-employed, we will be able to assess the validity of the post-fordist and post-industrial frameworks for describing the nature of the Canadian economy. These trends will also be compared to those found among employees to provide an overall picture of earnings in the Canadian economy.

Conclusion

The above discussion laid out briefly the major problems informing this thesis. To reiterate, I will investigate trends in the decline and/or growth of self-employment over the last thirty or so years, and then examine the levels of earnings inequalities within self-employment to provide important clues about which of three major theoretical frameworks provides the best understanding of contemporary Canadian reality. If self-employment has declined over the period, then Marxist arguments about monopoly capitalism would appear to be most accurate. If self-employment has increased, both the post-fordist and post-industrial positions receive support. In order to further differentiate between these two positions, it is necessary to turn to another issue, in this case earnings inequality. If earnings differences based on ascriptive characteristics are persisting over time, especially among the self-employed, the post-fordist thesis would appear to be most accurate. If ascriptive differences are declining, Canada is best characterized as a post-industrial society. And while no single study can ever provide the definitive pronouncement on these paradigms, this research does investigate trends in one of the few important areas where these theoretical frameworks differ in their predictions.

In the following chapter, I will outline these theoretical frameworks in much more detail including a discussion of their history and interconnections. In chapter three, I will
discuss the data sources and methods used in the subsequent analyses. In chapter four, the decline and growth of the self-employed sector in Canada between 1953 and 1994 will be analyzed using time series regression models. The findings will be related closely to findings in the empirical literature, so much of this latter material will not appear in chapter two, which focuses on larger theoretical concerns. Chapter five presents an analysis of earnings differences in the self-employed and wage-earning sectors of the Canadian economy for the period 1971 to 1986. Again, the rather large literature on earnings differences will be discussed in detail in this chapter and not in chapter two. Finally, chapter six summarizes the major conclusions of this research, and provides some important directions for future research.
Chapter Two       Theoretical Outline

Introduction

Anthony Giddens writes that, "[t]he distinctive feature of sociology lies in its overriding concern with those forms of society that have emerged in the wake of the 'two great revolutions'" (1982:9) (the French Revolution and the industrial revolution). Like the writings of the founders of the discipline, this definition of sociology emphasizes the disjuncture between traditional and modern society. Comte's Law of Three Stages, Durkheim's mechanical and organic solidarity, Marx's historical materialism and Weber's formal and substantive rationality all embody the notion that modern society constitutes a radical break with the past.

For Giddens, these two upheavals are a shorthand way of encapsulating the range of social transformations identified by the sociological founders as important in the constitution of modern society. In the vocabulary of Marxism, the industrial revolution can be viewed as a fundamental transformation in the economic base of society while the French revolution recasts the superstructure. In Weberian terminology, the former represents the triumph of substantive over formal rationality in the productive sphere while the latter shifted the nature of authority and control in society at large. These two revolutions also are consistent with Comte and St-Simon's Law of Three Stages and the glorification of science and industry as the basis for all elements of modern society. They also illustrate Durkheim's ideas about a shift to a more voluntary and vocationally-based form of social cohesion.

Although Giddens' definition of sociology excludes writing that professes to be sociological, there is little doubt that he captures accurately the driving forces behind one of
the most influential sub-areas in the field. Specifically, the myriad writings on contemporary society as modern, industrial, capitalist, fordist, imperialist, democratic, bureaucratic, technological and welfare-statist, while substantial in their own right, have also directed sociological inquiry in two important ways. First, these debates have reached into other areas of sociological inquiry such as feminism, social inequality, the family and even criminology and forced scholars to pay attention to the connections between their work and the defining characteristics of modern society.

Second, each formulation has produced its negation or transcendence, usually in the form of arguments about late-capitalism, post-industrialism, post-fordism, post-capitalism, post-colonialism and post-modernism. The goal behind these formulations is to develop new conceptual frameworks for understanding contemporary society (e.g., Habermas, 1975; Beck, 1986; Lindblom, 1986). In most cases, the object is to understand socio-economic change, or, to use the current buzzword, "restructuring".

The term "restructuring" is usually used to highlight a whole range of transformations, although the exact list of changes may vary (Halford and Savage, 1995). But cataloguing a series of modifications in no way explains them. To make sense of which changes are important, and why they have come about, we must rely on other frameworks, such as those developed around late-capitalist, post-industrial, post-fordist, post-modern and post-colonial visions of society.

Some of these frameworks have been subjected to empirical examination. For example, Brym (1989), Carroll (1986) Cuneo (1984) and Clement, (1975) have examined arguments about "corporate" or monopoly capitalism, Neis (1991), Penn (1992) and Garrahan and
Stewart (1992) have investigated the contours of post-fordism in Canada and Britain, and Steinmetz and Wright (1989), Wright and Singelmann (1982) and Boyd, Mulvihill and Myles (1991) have tested elements of the post-industrial society. This thesis contributes to this body of empirical research by examining the applicability of these three major sociological theories about the nature of contemporary society to the understanding of current Canadian reality. Specifically, I will focus on the self-employed sector of the economy and document how its size has changed over the last thirty or so years, and what has happened to the earnings of individuals within the sector. As I will show, the seemingly marginal self-employed stratum actually provides telling clues about how to best understand the nature of contemporary Canada.

This chapter lays out the theoretical groundwork for the later empirical chapters. It begins with a review of early theories which characterize modern society as either "capitalist" or "industrial" and traces how these ideas were replaced by "monopoly capitalist", post-fordist and post-industrial arguments. Next, I will outline the major criticisms of these later theories. Finally, the chapter ends with a discussion of the nature and direction of inequality implicit in these theories of contemporary society.

Each of these three frameworks will be considered in turn. For each paradigm, I trace the major lines of argument in the literature, discuss the primary criticisms mounted against them and consider the nature and direction of social inequality, either expressed or implied by each framework. This discussion of inequality will be related to the large empirical literature on a key measure of inequality, that of earnings inequality. Throughout, I will show how the self-employed sector provides decisive clues about the applicability of these frameworks to Canada.
Theories of Modern Society

As reflected in Giddens' quote above, the birth of sociology is tied closely to the emergence of "modern" society. In broad terms, two opposing views rose to prominence and, to a large extent, continue to hold sway today. The first paradigm in which the capitalist nature of modern society is emphasized has its origins in the writings of Karl Marx. The second framework which focused on the industrial character of modern society draws more from the works of Weber, Comte and Durkheim.

Modern Society as Capitalist Society

Marx's sweeping analysis of capitalism is familiar terrain in sociology. Therefore, a brief sketch of some of his major points should prove sufficient. Despite differences in emphasis, there is a consensus that Marx viewed economic activity as the prime motor of social change. Moreover, each type of society (agrarian, feudal, capitalist, socialist) was based on a dialectic of opposing forces which both brought it about in the first place, but eventually destroyed it. In capitalist societies, the dialectic consisted of the opposition between the owners of private property and those who did not own property. Marx predicted that this great conflict would eventually destroy capitalism.

The reason is that not only was the bourgeoisie pitted against the proletariat, but individual members of the ruling class were forced to compete with one another. This

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1 Marx has been labelled an economic determinist by some for his idea that the economic base of a society determines its superstructure. Others have pointed out that although the mode of production is extremely influential, there is a recognition in his writing that the superstructure can and does act back on the base (Fromm, 1956).
competition was driven by a survival of the fittest ethos in which the accumulation of wealth was the only protection against poverty and servitude. Capitalism, to a much greater degree than previous societies, was based on economic growth. In order to keep pace, individual capitalists had to expend capital to acquire the best possible technology, which would allow them to produce their goods at a cheaper rate. This forced them to pay out as little in wages as possible, to ensure that they had sufficient capital to purchase new technologies to keep up with their competitors. In this struggle, the winners continue to accumulate capital while the losers are forced out of business and into the class of non-owners. Small firms and the self-employed were at a great disadvantage in this scenario, and Marx predicted their imminent disappearance. As he said,

The lower strata of the middle class—the small tradespeople, shopkeepers, and retired tradesmen generally, the handicraftsmen and peasants—all these sink gradually into the proletariat, partly because their diminutive capital does not suffice for the scale on which modern industry is carried on, and is swamped in the competition with the large capitalists, partly because their specialized skill is rendered worthless by new methods of production. (Marx, 1948:17)

As this process continues, the size of the proletariat swells while the bourgeoisie shrinks. Eventually, the proletariat becomes so large, and the differences in wealth between the proletariat and the bourgeoisie become so obvious that the proletariat becomes "class-conscious" and violently overthrows the bourgeoisie, thus ending a society's capitalist era.

These themes were later taken up by several sociologists, most notably by those associated with the "Frankfurt School". Max Horkheimer, Erich Fromm, Herbert Marcuse and Theodor Adorno were among the early members to emigrate to Paris and then the United States as Hitler took power in Germany. Until that time, Marx's ideas were virtually ignored in
North American academia, with history departments, and the occasional economics department, being the important exceptions\(^2\).

But with the emigration of the Germans to New York and the creation of the New School for Social Research, Marxism began to exert a serious influence in North America. One of the central issues confronting these and other scholars at the time was the apparent vitality of capitalism in the face of Marx's predictions about its destruction. Much effort was put into developing explanations of this persistence, in the form of theories of "late capitalism".

**Theories of Late Capitalism**

Theories of late capitalism take two forms. The first consists of attempts to "get Marx right", primarily through exegetical work on his original texts. These versions emerged and flourished in the 1960s and 1970s, particularly in France and Germany. The second, and later, category contains efforts to update traditional Marxist theory in light of the many criticisms raised against it by industrial society theorists and others (Hirsch, 1991). This latter category emerged out of the decline of the former and generated significant activity throughout the 1980s.

Ironically, many of the early arguments about late capitalism were developed in response to Dahrendorf's criticisms of Marx and Marxism in *Class and Class Conflict in Industrial Society* (Grabb, 1984). Althusser, Poulantzas, Fromm and Carchedi were highly

\(^2\) This did not mean that North American social science lacked a critical or radical element. Rather, it was based on different foundations such as Christian Ethics (e.g., the Women's Christian Temperance Union) or a more pragmatic interest in social justice (e.g., C. Wright Mills' *The Power Elite* (1956) or Veblen's *Theory of the Leisure Class* [1899]) (Mullins, 1973).
critical of the way in which Dahrendorf and others (especially the structural-functionalists) had exaggerated the importance of economic processes in Marx's writings. As Erich Fromm remarked in the forward to a translation of Marx's writings,

... even in those countries where all of Marx's writings have been published, his thought was given a one-sided and distorted interpretation. All the emphasis was put on the economic aspect of his teaching, and little on the philosophical-humanist aspect (Fromm in Bottomore, 1956).

Similarly, Louis Althusser (Althusser, 1969; Althusser and Balibar, 1970) believed that most Marxists had distorted Marx's ideas. However, he put little stock in Marx's humanist tendencies and felt that his later, "more scientific" writing was far more important. Althusser, along with Godelier, Poulantzas and others responded to what they felt were inaccurate interpretations of Marx and created a version of Marxism which came to be known as French structuralism, sometimes called Althusserian structuralism or structural Marxism. This school was characterized by its focus on "abstract theory" and a general disdain for the real world (although Poulantzas would later break ranks on this). What was important to the French structuralists was to articulate Marx's scientific concepts to explain how societies operated, in much the same manner as Comte and Saint-Simon were concerned with uncovering and describing the scientific laws of societal evolution.

French Structuralism

French structuralism focused on the state, the economy and ideology as the central features of capitalist society. There was a strong emphasis on the economic sphere of life, primarily in efforts to show how the state was crucial in linking bourgeois ideologies to
capitalist production. Yet Althusser was careful to distance the school from pure economic
determinism. He argued that political and ideological structures could occasionally
"overdetermine" (i.e., override) economic structures so that there was no simple
correspondence between economic logic and social development. Rather the political and
ideological spheres in particular possess "relative autonomy" from the economic sphere
(Althusser and Balibar, 1970).

The problem with French structuralism, however, was that it rarely if ever addressed
itself to the real world. The attitude of many French structuralists was that if real world events
conflicted with their theories, it was our understanding of those events, not their theories
which must be wrong. This forced many structural Marxists, most notably Nicos Poulantzas
(1975), to begin to relate theoretical propositions to empirical events. Poulantzas felt that
French structuralism, with its focus on abstract theory, had lost touch with Marx's principle of
praxis; the relation of mental labour to physical labour (Jessop, 1991a). Althusser's disregard
for real world events meant that it was virtually impossible to apply any of his ideas to work
for change. In addition, real world events, such as declining unionization rates throughout most
of the industrialized world, the rise of neo-conservative ideologies and political parties and the
crumbling of avowedly socialist and communist societies forced many Marxists to switch from
"getting Marx right" to "making Marx relevant". One could no longer simply assume the
relevance of Marxism in the face of these transformations.

Following Poulantzas, many Marxists turned from definitional issues and conceptual
debates within abstract Marxist theory to an investigation of empirical phenomena. In their
early attempts, many of these scholars relied upon their various interpretations of structural
Marxism for guidance. Not surprisingly, this directed many of them to the study of the state.

But French structuralism was not the only version of Marxism which inspired less abstract examinations of the state during the 1960s and 1970s. Some Marxists drew heavily on another tradition, namely "elite theory" (Michels and Mills are two of the classic works in this tradition). In particular, Ralph Miliband articulated his "instrumental Marxist" theory of the state in *The State and Capitalist Society* (1973). In his view, the state was the "instrument" of the capitalist class. Miliband, like Poulantzas, felt a need to tie his theoretical arguments to real world events, and focused heavily on the interpersonal connections between capitalists, politicians and state bureaucrats in developing his instrumentalist view of capitalist class rule. Poulantzas objected strongly to Miliband's ideas and the two carried on a celebrated debate during the mid-70s in the *New Left Review*.

Retaining some of his structuralist roots, Poulantzas argued that the state possessed "relative autonomy" in its relation with the ruling class. Although early on, both men garnered supporters, Poulantzas' views guided much of the research on the state during the late-70s and early-80s. Indeed, the idea of the "relative autonomy of the state" produced an enormous amount of paper as people argued about what it actually meant and attempted to illustrate its presence and operation within various existing societies. Indeed, in Marxist circles, this body of writing was often referred to simply as "state theory" (Jessop, 1991a).

But the problem with state theory and its central concept, the relative autonomy of the state, was that it could not be adequately operationalized. That is, there was no way to show empirically whether a state was relatively autonomous or not. In French structuralist theory, the state was seen to act in the long-term interests of the capitalist class, which meant that on
particular issues it might act against the bourgeoisie in order to preserve its dominance over the long run. Yet in this framework, there is no possibility for the state to act against the capitalist class. If it supports the bourgeoisie on one issue then it is favouring capital over labour in the short run, and if it acts against the bourgeoisie it is favouring capital over labour in the long run. Many Marxists perceived the absurdity of this position and abandoned investigations of the relative autonomy of the state.

But this did not mean that they abandoned the entire framework of French structuralism. Rather, they retained the idea that the state was a crucial "third party" in contemporary capitalism, and began to address it in more sophisticated ways. This produced a more fractured, but arguably more useful body of Marxist ideas as some scholars began studying "the welfare state" (Korpi, 1982; Esping-Anderson, 1990; Myles, 1989) while others retained an interest in the connections between the state and the capitalist class (Brym, 1989; Carroll, 1986; Clement, 1975) and still others focused on the ways in which the state governed relations, particularly economic relations (Aglietta, 1979; Lipietz, 1986). But the state was not the only object of inquiry for Marxist scholars. Indeed, the forcefulness of these later programmes of research derives primarily from a shift to other aspects of contemporary capitalist society.

It is these latter two bodies of work on the capitalist class and on economic governance which are of central concern to this thesis. Interestingly, they each make different claims about the eventual fate of the petite bourgeoisie. On the one hand, arguments by Baran and Sweezy (1966), Braverman (1974), Clement (1988), Cuneo (1984) and Brym (1989) among others about the monopolistic character of modern capitalism retain the Marxian prediction about the
disappearance of the self-employed in the face of modern industry. On the other hand, Aglietta (1979), Lipietz (1986) and other "regulation theorists" reverse the prediction and argue that the self-employed, and the small business sector more generally, forms an essential component of a new "post-fordist" era of capitalism (Hirst and Zeitlin, 1991; Gilbert, Burrows and Pollert, 1992).

Monopoly Capitalism

Unlike many of the debates discussed above, there is an identifiable Canadian version of monopoly capitalist theory, which differs significantly from the terms of debate in other countries. Where theories of monopoly capitalism from other countries, particularly the United States, emphasized processes of capital concentration, deskillling, and deindustrialization (Baran and Sweezy, 1966; Braverman, 1974), Canadian debates retained a strong interest in the capitalist class, from both the instrumental/structural Marxist debate and from John Porter's (1965) path-breaking, non-Marxist analysis of Canadian elites. Both strands provide relevant insights for this research.

The non-Canadian branch of theorizing about the age of monopoly capitalism was first articulated by Baran and Sweezy (1966). Their fundamental insight into the nature of contemporary capitalism was that the traditional image of an economy based on unfettered markets with independent and autonomous participants was no longer accurate. Modern capitalist economies, they argued, were dominated by very large firms. They criticised much of the work within Marxism at the time for not recognizing the importance of this shift in the very nature of capitalism.
Baran and Sweezy agreed with Marx and other Marxists that in the previous century, capitalism was "competitive", based on smaller firms run by individual entrepreneurs, embedded in competitive markets. No single firm, or small group of firms, controlled a market or industry. Moreover, they also recognized, along with Marx, that as the development of capitalism progressed, the concentration and centralization of capital in a few very large firms was inevitable (Marx, 1848).

It is at this point that Baran and Sweezy (1966) departed from other Marxists. Instead of continuing the orthodox Marxist line through to its revolutionary conclusion, they claimed that monopoly capitalism became a relatively stable form of capitalism, much like competitive capitalism of an earlier era. In the process, small firms disappeared and large monopolistic and oligopolistic firms took control not only of particular markets, but of entire industries and even nation-states. Capitalism was no longer competitive. These large firms formed the core of the economy and essentially worked in cooperation with each other to manage their markets, competing with each other only for "market share" through advertising (see also Galbraith, 1967). Small firms and the self-employed formed the uncertain periphery of the economy, destined to disappear.

These ideas provided the context in which Harry Braverman (1974) wrote his influential study Labour and Monopoly Capital. Although he agreed with Baran and Sweezy that analyses of contemporary capitalism must focus on its monopolistic character, his central point was to illustrate the continuities in capitalist exploitation in spite of this transition. This book established that the terms of debate in economic sociology for at least a decade would centre on deskilling and proletarianization (Burrows, Gilbert and Pollert, 1991).
Braverman argued that the logic of capitalist development inevitably eroded the skills of workers, in both manual and non-manual occupations. He showed how Frederick Taylor's principles of scientific management were being applied just as successfully in the office as they had been on the shop floor, with the result that work in both the manufacturing and service sectors was becoming increasingly deskilled. The idea, then, that the rise of the service class refutes Marx's predictions is challenged directly by Braverman. Instead, he argues that the actual content of work may be different in the service sector, but the fragmentation and routinization of tasks in the office clearly makes these workers part of the proletariat.

Braverman's labour process theory has been attacked, modified, and applauded, but rarely ignored. His work still contributes one of the central hypotheses to any investigation of the nature of skill and work under capitalism. However, what is often left out of these investigations is the connection between the structure of capitalism and the conditions of work (Crompton and Jones, 1984). Specifically, it is under conditions of *monopoly capitalism* that the degree of deskilling and proletarianization of workers that Braverman's documents is possible. If the conditions of capitalism change, we might also see changes in the level of deskilling.

In contrast to this emphasis on the deskilling and degradation of the proletariat under monopoly capitalism, Canadian scholars have focused more on the capitalist class, and the relations between different classes. This difference stems largely from conscious attempts to construct a distinctively Canadian sociology in the 1970s, as well as a desire to continue a distinctively Canadian debate, the terms of which were set by John Porter (1965) and some of his early challengers such as Kari Levitt (1970). However, Canadian scholars shared with their
international counterparts a belief that modern economies were built around very large firms.

Both Porter and Levitt focused on Canadian elites. But whereas Porter documented their existence in many spheres and claimed that they did not "rule" Canada in any crude Marxist sense, Levitt contended that foreign multinational corporations and their directors ruled the Canadian economy in very direct ways. The indigenous Canadian elite, in her view, served as functionaries for more powerful interests, based primarily in the United States. Levitt's ideas won initial appeal, notably among Porter's own students Wallace Clement and Gregg Olsen. Clement (1975) and Tom Naylor (1975) wrote extremely influential works on the Canadian capitalist class documenting how this class stifled its own development as its "merchant" members sided with a foreign bourgeoisie against domestic "industrialists".

Later, this "merchants against industry" thesis came under sharp attack and many scholars began arguing that the Canadian bourgeoisie is an independent and powerful group in its own right. The crucial flaw in the Naylor-Clement thesis was that in their breakdown of the Canadian elite into a merchant category and an industrial category, they listed the railroad barons in the merchant category. They did so even though Marx himself insisted that capitalists in the transportation sector should be considered industrialists. One of the most important works to oppose the Naylor-Clement thesis is William Carroll's *Corporate Power and Canadian Capitalism* (1986). Carroll shows quite clearly that the Canadian bourgeoisie is much more internally unified, and much less connected to foreign capitalists than would be expected if Clement and Naylor were correct. He also suggests that each major bank in Canada forms the centre of a tightly interlocked group of very large firms, and that together these networks control much of the Canadian economy. Although his view is probably more forceful
now than the merchants against industry position, newer research has also modified Carroll's position.

Michael Ornstein (1989) in his analysis of the capitalist class in Canada claims that, "[a]lthough they do not rule, there is now abundant evidence that capitalist classes are conscious of their class interest and organized to pursue it" (1989:151). Similarly, Brym (1989) reviews the extensive literature on the Canadian capitalist class and reaches much the same conclusion. What is interesting about Brym's work is that he shows clearly how Canadian scholars have integrated both structural and instrumental Marxist insights into their empirical investigations of the Canadian bourgeoisie.

Brym's work continues a long line of research on the growth of very large companies and the people who run them (particularly trans-national companies) by both Marxist (e.g., Gunder-Frank, 1969; Clement, 1975) and Non-Marxist scholars (e.g., Chandler, 1990; Schumpeter, 1950). An inevitable consequence of the growth of these companies, in both camps, is the destruction of the small firm sector. Predictions about the self-employed are unmistakable. As Cuneo says, "[t]he petite bourgeoisie as a class is obviously being destroyed" (Cuneo, 1984:298). Clement (1988) was similarly pessimistic in 1988, although he has changed his mind recently (Clement and Myles, 1994).

But not only is the petite bourgeoisie predicted to disappear, it is viewed as a fundamentally dependent class, buffeted by the actions of other classes. Because it is perceived as an archaic anomaly in the age of monopoly capitalism, this class is affected by, but has no effect on, the bourgeoisie or the proletariat. This has led some scholars to argue that the self-employed sector acts as an economic buffer, absorbing excess labour during recessions and
releasing labour during recoveries (Linder, 1983; Bogenhold and Staber, 1991). Linder (1983) and others state explicitly that the self-employment rate should therefore be negatively correlated with the unemployment rate for two reasons.

First, the modern petit bourgeoisie\(^3\) is not "independent" in the same sense that it was in the nineteenth century because modern-day entrepreneurs are controlled by larger companies and/or banks through loans and unequal market relations. In this sense, the present-day petit bourgeoisie may be nominally "self-employed" but in reality they have no control over the operation of their businesses. In this sense, they can be seen as the "employees" of the larger corporations in their environment and the banks who have loaned them money or control their access to markets (Linder, 1983; 1992). For some, this sector also acted as a political/ideological mouthpiece for the core capitalist firms, and consequently these large firms had an interest in keeping a few small firms around to promote their ideas. A large body of research during the 1980s investigated the political/ideological orientations of this sector (Bell, 1989; Myles and Turegun, 1994; Sprague, 1988).

Another argument is that self-employment will almost always exist under capitalism, just because there will always be some very small markets and/or market niches which large firms will not bother to serve (Berger, 1981). Therefore, there will always be some opportunities for individuals to run a business at the margins of a capitalist economy. As a consequence, Marx's prediction about the disappearance of the petit bourgeoisie should be

\(^3\) I use the term "modern" here instead of "new" to differentiate between contemporary members of this class and the arguments about the "new petite bourgeoisie" (Poulantzas, 1975) which is really concerned with the rise of the managerial class and not self-employed individuals in any sense of the word.
interpreted more figuratively than literally. The tremendous declines in self-employment throughout this century are stronger evidence in favour of Marx's ideas than is the persistence of a residue of self-employment at the very periphery of the economy evidence against his claims (Linder, 1992).

In chapter four, I will examine the trends in the self-employment rate in Canada over the last thirty or so years to assess the validity of the claim about the decline in self-employment. I will also investigate the effects of changes in the unemployment rate to determine whether the self-employed sector is indeed as dependent and marginal as monopoly capitalist arguments suggest.

But the idea that the self-employed, and small business sector more generally, are slated for destruction has been challenged from three directions. First, various researchers have tried to establish the importance of the petite bourgeoisie to capitalist economies, most notably in terms of their ability to create jobs. Second, a more theoretical challenge has been mounted from within Marxism by those theorists associated with the "regulation school". Finally, arguments about the arrival of a post-industrial society challenge directly a monopoly capitalist understanding of economic change, and with it the decline and supposed dependence of the self-employed sector. The first two challenges will be discussed directly, while the arguments about post-industrialism require a treatment of the theories of industrial society. Consequently this latter challenge will require a separate section.

Self-employment, Small Business and Jobs

David Birch (1979) claimed that eighty percent of all new jobs created in the U.S.
economy were created by small firms. Many of these small firms are wholly owned by individuals. Consequently, if these small-scale entrepreneurs are disappearing, so is the most important source of job creation in the economy.

Birch's ideas have become accepted wisdom among politicians throughout the western world. Indeed, his ideas have forced governments of all political persuasions to take an interest in small firms and even to set up programs to aid in the creation and maintenance of small enterprises (Picot, Baldwin and Dupuy, 1994). In Canada, the idea that small business creates jobs was a major impetus behind the establishment of federal and provincial agencies to assist small entrepreneurs, as well as the collection of data on small firms.

However, there is one serious flaw in Birch's analysis, and the conclusions that people frequently draw from his investigation are often unwarranted. The flaw is that he only looked at data on job creation among firms and did not subtract the number of jobs lost by size category. In other words, he did not account for the volatility of jobs in firms of different sizes.

The small business sector is, and always has been, relatively volatile. Even though it may be the largest source of jobs created—and some even doubt this (see Acs and Audretsch, 1992)—it is also likely that it is the sector responsible for the most job loss. Thus, the net contribution of jobs to the economy by small firms may be small. Indeed, for the West German economy (Fritsch, 1992) and for the American economy (Acs and Audretsch, 1992), when the number of jobs lost is subtracted from the number of jobs created in each size category, small firms contribute a negligible number of jobs to the overall economy. In addition, Acs and Audretsch (1992) claim that Birch's figure of 80% of jobs created by the small business sector is simply not possible. That is, given the clear trend toward larger firm sizes for most of this
century, there simply aren't enough small firms around to generate 80% of the new jobs in the U.S. economy.

Birch's research has generated a lengthy debate about the possible sources of job creation in many national economies, with several researchers trying to find evidence to support his conclusions using different definitions of "small" business, or different measures of job creation across different economies. The prevailing opinion, collected together in an edited collection by Acs and Audretsch (1992) is that the number of jobs created by the small business sector in western economies, however the sector is defined, is not disproportionately large.

Surprisingly, the situation appears to be different in Canada. Picot, Baldwin and Dupuy (Baldwin and Picot, 1994; Picot, Baldwin and Dupuy, 1994) have found recently that even after accounting for job losses, small firms do contribute a disproportionate share of new jobs to the overall Canadian economy, and also to the manufacturing sector alone. There are two reasons for this difference. First, the Canadian economy is structurally different than the American economy, employing proportionately more people in small firms in the first place (Cohen, 1988; Crompton, 1993). Second, the data used by Picot and colleagues is truly longitudinal, not cross-sectional, which adds greatly to the ability of the data to address this issue. Most previous studies, both in Canada and in other economies have been forced to rely on cross-sectional data.

But not only is the small firm sector important for job-creation in Canada, there are reasons to believe that this sector has a broader theoretical importance. In particular, two theoretical frameworks, regulation theory and post-industrialism, contend that small firms, and
in particular the self-employed, will constitute an integral component of the economy of the future.

*Regulation Theory*

Regulation theory, the other major branch of Marxism to emerge from French structuralism, is sometimes called the French regulation school, or post-fordism after its defining concept (Hirst and Zeitlin, 1991). Regulation theory borrows from structural Marxism a focus on the state as a principal actor in capitalist societies. But there is also recognition that the state cannot be the focal point of all analyses (Jenson, 1989). Although it has a broader theoretical base, this school is mostly known for its arguments about post-fordism.

The broader theoretical concept upon which post-fordism is based is that all societies possess a distinctive "regime of accumulation" (Aglietta, 1979). A regime of accumulation refers to the general principles around which a society organizes economic production. This regime is always stabilized by a "mode of regulation", the particular institutional and customary arrangements which induce agents to reproduce the principles of production. Underlying both of these concepts is the "objective law" of capitalism that the rate of profit will fall. That is, capitalism is inherently unstable because of the tendency for the rate of profit to fall, and hence particular institutional arrangements must be developed to regulate a particular form of production. Within regulation theory, the most developed set of arguments concerns Fordist and Post-Fordist regimes of accumulation.
Fordism and Post-Fordism

Regulation theorists claim that virtually all of the capitalist democracies were based on a regime of fordism and have now moved into a phase of post-fordism (Jessop, 1991b; Bonefeld, 1991, Hirsch, 1991). These theorists retain the idea from Marx that capitalist development is the engine of growth, but they recognize that we are living in "new times" (Hall and Jacques, 1989) or in the era of the "second industrial divide" (Piore and Sabel, 1984) or under conditions of "disorganized capitalism" (Lash and Urry, 1987). That is, society is still capitalist, but in a very different form from what Marx experienced.

Post-fordist thinkers often remain attached to their left-wing radical roots, often citing Gramsci's original analysis of the fordist era as a key source. Post-fordism is a more encompassing attempt by the left to understand fundamental changes in the nature of contemporary capitalism than the theories of monopoly capitalism discussed earlier (Mathews, 1989). Specifically, post-fordism goes beyond the economy to consider both cultural and political change as well. But despite a desire for a socialist end of history, these thinkers realize that post-fordism is merely the next "long-wave" (Bonefeld, 1991) of capitalism, and that capitalism has proved remarkably resilient to destruction. Although post-fordism results in some supposed benefits for the left (i.e., a revival of working skills and craft production and a service class which is not wedded to capitalism and even challenges it at points), they realize that the whole purpose behind the restructuring leading to post-fordist society is to strengthen, not to weaken, capitalism.

But logically, to reach a post-fordist stage, an economy must pass through a fordist period. Fordism refers to a regime of accumulation based on mass production and mass
consumption. This regime was epitomized in Henry Ford's assembly-line factories where workers performed simple, repetitive tasks for high wages, which in turn allowed these workers to purchase the fruits of their labour (Clarke, 1991; 1992). That is, the decomposition of work into simple and repetitive tasks produced enormous gains in output while relatively high wages created markets for these mass produced goods. Workers and capitalists struck "the compromise" in which workers relinquished control over the pace and content of their work in return high wages and job security. Stabilizing this system of production was the Keynesian welfare state, which provided many of the necessities for the reproduction of labour (health care, education, welfare and unemployment insurance, occupational safety, etc.), albeit at different levels between national economies, as well as a general framework for negotiations between capital and labour (Clarke, 1992).

The beginning of the fordist era is dated slightly differently by different authors, but it almost always includes the period from World War II until the late-1960s (see Clarke, 1991 for an exception). Aglietta, the central figure in the Parisian regulation school, dates the fordist era from 1929. The stock market crash in 1929 was the culmination of structural pressures which eventually tore apart the pre-fordist regime of accumulation based on "extensive accumulation" (Aglietta, 1979). The regime of extensive accumulation was based on two principles: competitive regulation and the continual discovery of new products and methods of production. That is, competition between individuals kept wages relatively low, which hindered consumption. Offsetting this, competition between firms made the creation and discovery of new markets necessary for survival. This regime is "extensive" in the sense that capitalism is being extended into all areas of the world and all areas of life (Clarke, 1991).
The end or crisis of fordism, which ushers in an era of uncertainty followed by a new post-fordist regime of accumulation is more clearly delineated in time. The crisis, according to the majority of commentators, occurs in the late 1960s (Aglietta, 1979; Clarke, 1991; Gilbert, Burrows and Pollert, 1992; Hirsch, 1991). Unlike the crisis of the regime of extensive regulation, which was based on a problem of revenue or "underconsumption" (i.e., profits fell because increased output was not matched by adequate demand), the crisis of fordism was induced by a problem of cost. Specifically, expenditures through the Keynesian welfare state coupled with spiralling wage demands put a squeeze on profits in the face of the near saturation of mass markets.

The enormous expense of the welfare state and large-scale bargaining arrangements could not be sustained as economic growth slowed during the 1970s and both states and companies searched for new methods of organizing production. Many states were facing a crisis of legitimacy while firms were encountering the rigidities produced by inflexible payments (for labour, benefits and debt) and flexible demand (the levels of demand in mass markets were beginning to fluctuate as they neared saturation) (Hirsch, 1991; Jessop, 1991b). The way out of both of these dilemmas was a re-organization of production which shifted much of the responsibility, but little of the control, for goods and services to others (i.e., states and large firms remain oligopsonistic buyers of goods and services from small firms and individual employees) (Habermas, 1975). The key to this restructuring is the notion of "flexible specialization".
Flexible Specialization

Flexible specialization has a two-pronged relationship to the theoretical framework of post-fordism. On the one hand, it is an integral piece in the post-fordist puzzle. On the other hand, many flexible specialization theorists take great pains to distance their arguments from those of post-fordism (Hirst and Zeitlin, 1991). However, in both instances, there is general agreement on the meaning of flexible specialization (Hirst and Zeitlin, 1991; Gilbert, Burrows and Pollert, 1992).

There are two primary differences between these two uses of the concept. First, post-fordists invariably make connections between the economy and society, including value-judgements about the benefits and drawbacks of fordism versus post-fordism. In contrast, flexible specialization theorists prefer only to argue that the benefits of either paradigm cannot be determined in general, but must be evaluated within the context of each specific occurrence (i.e., within each society or district) (Hirst and Zeitlin, 1991; Piore and Sabel, 1984). Second, flexible specialization theorists tend to emphasize that the knowledge content of work has increased with more flexible technologies, while post-fordists often retain Braverman's caution that technological "improvements" can just as easily be used to deskill workers. However, theorists in both camps tend to sneer at the more popular literature on "flexibility" as a method of cutting costs (Hirst and Zeitlin, 1991; Gilbert, Burrows and Pollert, 1992).

Flexible specialization as a concept is less a theory of economic change than an ideal-typical model of economic organization which is different from fordist mass production. The central point is that small-scale, craft-based production represents a different mode of production than mass production. Flexible specialization theorists claim that small-scale
artisanal production has always existed alongside fordist mass production. Indeed, the biggest factor contributing to the "re-birth" of small-scale production, as occurred in the third Italy, is the demand for customized goods. In contrast, fordism faltered because it is primarily supply-driven, where the goal is to supply people with enough income to consume the homogenized goods they help to produce.

Although mass production set the pace and purpose of production during the fordist or mass production era, it did not do so because of an innate superiority or efficiency. Rather, political decisions, many of them aimed at boosting war production, helped mass production become dominant. Therefore, political will can lead to the re-establishment of small-scale flexible production. Indeed, some flexible specialization theorists, such as Piore and Sabel (1984), wish for this in such strong terms that small-scale production is romanticized as the "renaissance of craft production" (Kumar, 1992:63).

Flexible specialization, as a mode of production is based on flexible and adaptable technology, especially "information technology" such as computers and telecommunications.

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4 Indeed, this is one of the most telling criticisms of post-fordist arguments. Specifically, it is very difficult to argue empirically that a fordist era ever existed which dominated economic production to the point of being "paradigmatic" in any sense (see Gilbert, Burrows and Pollert, 1992).

5 The first Italy refers to the highly industrialized north and the second Italy is the relatively impoverished southern region of the country. The third Italy refers to a dynamic area of small firms in industrial districts in the central and north-eastern regions including Tuscany, Umbria, Marche, and Veneto. The distinguishing feature of the third Italy is that whereas self-employment and small businesses usually constitute about 10% of the economy, in this region they make up approximately 40%. This "anomaly" was the primary empirical impetus behind the development of both post-fordist and flexible specialization theory (Kumar, 1992).
This "cabling of the republic" (Hirsch, 1991:25) is an integral component of the modern production paradigm according to both flexible specialization and post-fordist theorists. Moreover, they agree that this clearly works to the advantage of small firms, primarily by offsetting prohibitive start-up costs and the advantages of economies of scale realized by large firms. That is, the ability to turn quickly from one product to another allows small firms to establish and exploit market niches, sometimes to be followed later by large firms who push them out. But large firms are also embracing flexible specialization and realizing economies of scope rather than scale. That is, large plants of flexible manufacturing technologies allow giant firms to make products for several small markets at once, and to shift rapidly into new, often smaller markets (Hirst and Zeitlin, 1991; Kumar, 1992).

But beyond agreement on the general features of flexible specialization, differences emerge between adherents of post-fordism and flexible specialization. While the desire to resist making value judgements about different economic paradigms may be laudable to some, it is precisely these judgements which endow post-fordist theories with an advantage over flexible specialization theorists. To talk simply of mass production and flexible specialization as two ideal-types leaves bare the interesting questions such as why mass production is failing currently in most of the industrialized world, why it ever became dominant in the first place, and why governments are promoting small-scale production instead of shoring up existing fordist arrangements. More broadly, flexible specialization on its own cannot deal adequately with the connections between economy and society. As explained briefly above, the more encompassing discussions of post-fordism shed some light on these questions.

However, post-fordist theories suffer from problems of specificity. That is, although
something called post-fordism is identified as the regime which follows the collapse of fordism, post-fordist thinkers are reluctant to identify a specific mode of regulation which stabilizes the regime. Nor are they quick to delineate its central features. Polemically, Simon Clarke has argued that post-fordism is best defined as "not-fordism" (1992:13). In defense, Hirsch says, "Whether, how and in what form a new post-fordist capitalist social formation will emerge from the current crisis can be predicted only with difficulty" (1991:24). Fortunately, for my research at least, there is a general consensus that self-employment will increase under post-fordism.

**Post-fordism and Self-employment**

Self-employment is rarely the major concern of most research in the post-fordist tradition. As such, references to changes in this sector tend to be minimal. This makes the consistency of the statements about the sector all the more surprising.

Occasionally, discussions of self-employment under post-fordism are difficult to penetrate. For example, Bonefeld says,

> The post-Fordist reproduction of labour power is seen as leading to a massive expansion of a new form of subsistence production in the informal sector (ranging from self-production and self-exploitation in cooperatives to community initiatives and moonlighting) and new enthusiasm for home work (ranging from do-it-yourself to romantic cottage life) (Bonefeld, 1991:55-56)

Clearer statements can be found in Kumar (1992). He argues that,"The rise of flexible specialization as a significant, not merely peripheral or "interstitial", phenomenon in contemporary industrial economies is undoubtedly partly responsible for the strong revival of small firms, as widely documented (e.g., Lash and Urry, 1987: 104, 115, 133, 148)" (Kumar,
1992:63-64). Even more specifically, he argues that the transition from fordism to post-fordism is generally characterized in the literature by several factors including a "... rise in the number of flexi-time, part-time, temporary, self-employed, and home workers ... [and] a culture of entrepreneurialism..." (Kumar, 1992:67-68).

According to Kumar (1992), these changes in the post-fordist economy only come about because of flexible specialization. Flexible specialization is only possible because of the enormous scientific-technological advances made during the fordist era. In turn, flexible specialization induces increases in the number of small firms and the self-employed, growth in non-manufacturing sectors, and the continuing decline of national economies in the face of the globalization of capital and markets. Accompanying this, the segregation of the economy into a core and periphery, already present under fordism, becomes accentuated in post-fordism. In the post-fordist framework, the segmentation of the economy into a core and periphery occurs on the basis of skill, stability and wages, as in more orthodox versions of dual economy theory (Edwards, 1979). But unlike monopoly capitalist arguments, the self-employed are not automatically assigned to the periphery.

The Problems of Post-Fordism

Until now, I have not discussed in any detail the various criticisms which have been launched at the post-fordist framework. My purpose in doing so was to present a summary of the paradigm as a whole before revealing its shortcomings. In this section, I will show that the problems of post-fordism as a theoretical framework can be grouped into three categories. Specifically, it is not clear how we know that we have entered a "post-fordist" stage of society,
nor are the links within post-fordism specified in an adequate manner. Finally, despite claims that it is a grand theory of social change, the post-fordist framework generally overlooks fundamental issues of social inequality, particularly by gender and ethnicity.

What is "post" about post-fordist society? How do we know that we are living in "new times" or in the era of the "second industrial divide"? The usual answers to these questions from post-fordist theorists is to point to various changes in the conditions of modern society such as the decline of the welfare state, "economic restructuring", increased self-employment, class fragmentation and so on. Yet, as many critics have pointed out, the seeds of many of these changes were often planted long ago, and the empirical changes upon which these theories are built are merely the manifestations of deeper and longer historical processes. For example, Hirst and Zeitlin (1991) argue that many of the changes characteristic of the post-fordist era were actually present during fordism. They also cite evidence gathered by Bernstein that dates many of the characteristics of post-fordism back to 1899.

Post-fordism has also come under sharp attack from more conventional Marxists. Simon Clarke (1992) argues that fordism should not be equated with inflexibility and post-fordism with flexibility. He claims that fordist mass production actually introduced significant flexibility into the work process by incorporating technological change into the very heart of the productive process.

Clarke also raises two questions about the empirical validity of a fordist era in the first place, much less a post-fordist one. First, he argues that what might be called "fordism" as a regime of accumulation was not fully developed anywhere until the mid 1960s. Yet since the collapse of fordism took place during the late 1960s, he claims that it is inappropriate to
characterize this short period as a defining long-wave in capitalist development. Second, he points out that pure cases of fordism and post-fordism have never been documented. Rather, fordism is more a symbolic concept, a way to characterize the rise of the United States as a world power. MacDonald (1991) in her review of the post-fordist literature, also claims that the transition to a new age is often assumed on the basis of very little evidence.

Post-fordist writers have also been criticized by other Marxists for being duped by the New Right. As Pelaez and Holloway (1991) phrase it, "The proponents of the post-fordist thesis are said to have mistaken the desires of the Right for their actual fulfilment in practice" (Pelaez and Holloway, 1991:140). Post-fordists often counter with the claim that orthodox Marxists are living in the past, and are trying to force an outdated and unworkable model of political action onto a changed reality. As John Mathews says,

The time for simple, mechanical formulae is long past. Marx's philosophical insight that dialectic logic could be applied to capitalism as a total system, with capital identified as thesis and proletariat as antithesis, and that this would generate in time an historical synthesis of the two, is breathtaking in its scope, and subversive of the existing order, but utterly irrelevant to any real political programme of transformation (Mathews, 1989:8).

Later, Mathews refers to the idea that the working class is the true revolutionary agent under capitalism as a "ticket to nowhere for a transformative political project" (Mathews, 1989:9).

Regardless of whether the post-fordist project is merely a mouthpiece for New Right rhetoric in the guise of social democracy or a genuine attempt to understand a new period of capitalism, the framework suffers two more serious problems. Related to the problem of demonstrating empirically the transition to a new age is the issue of the causal links within the post-fordist framework. What causes the changes highlighted in these theories, or are they...
causes of other processes? Do some of the changes cause the others, and if so, which is cause and which effect? Good answers to these sorts of questions are hard to find in most investigations of the new society.

Martha MacDonald points out that within the post-fordist camp, there has been intense debate over what, exactly, within fordism has produced its downfall. Where some theorists take a technological determinist track, others argue that institutionalized bargaining arrangements and bureaucratic rigidities are at fault, and still others place the blame on market saturation. This debate about the causes of post-fordism, is important internally—especially since many of the writers are also interested in political strategy and the fate of labour unions. However, it does not answer the broader questions about how these causes are related to the actual processes characterized as post-fordist. For example, why should saturated markets, inflexible bargaining or the development of new technologies inevitably produce a rise in the number of self-employed people in an economy?

The term post-fordism encompasses so many changes that it is extremely difficult to weave a theoretical web capable of keeping the paradigm together. Critics have claimed that post-fordism has simply become a catch-all category to represent social and economic conditions, however contradictory, from the mid 1970s onwards (Hirst and Zeitlin, 1991; MacDonald, 1991). This hodge-podge approach to characterizing post-fordism is hampered by a confusion over whether post-fordism as a paradigm is descriptive, or predictive. MacDonald asks, "Does it [post-fordism] provide new opportunities for small firms/functional flexibility, or could it provide these opportunities?" (1991:196 italics in original).

Second, post-fordist theorists have rarely considered systematically the nature and
direction of inequality in modern society. This is in sharp contrast to earlier research in the monopoly capitalist and other traditions which were firmly centred on grasping the features of inequality (Clement, 1975; Fox, 1989; Porter, 1967). Most surprisingly, gender and ethnic inequality, endemic to all western societies goes almost unnoticed in post-fordism. Indeed, its arguments are built around changes in work that could be considered the preserve of white males.

In its most literal interpretation, post-fordism is a theory of changes to assembly-line production in auto plants, an area of employment that has historically been dominated by white males. If we broaden post-fordism to refer to mass production in general, there are still very few women employed in mass manufacturing (the notable exception being sweatshops in the textile industry) (Boyd, Mulvihill and Myles, 1991). By focusing on this rather limited vision of work, post-fordists, when they do consider inequality, tend to think almost entirely in terms of class inequalities, and most notably how the destruction of unions produces the possibility for increased levels of inequality (Mathews, 1989). Women, if they are brought into the analysis at all, are treated only in passing as "non-proletarian wage-labour" (Hirsch, 1991:24) necessary for capitalist reproduction. Similarly, ethnic inequalities are subsumed under problems of the international organization of capital, while intra-national ethnic differences are often ignored (Mathews, 1989). In other words, post-fordists fail to consider gender and ethnic differences throughout an economy, preferring instead to locate these inequalities only at specific sites such as class or international divisions.

The exclusion of women is not limited to the "fordist" era in post-fordism. What is even more troubling is that post-fordist scholars fail to consider the implications of the social
construction of "skill" in placing flexible specialization at the centre of a new regime of accumulation. Crompton and Jones (1984) in Britain and Gaskell (1992) in Canada, among others, have shown convincingly how, in spite of the technical skill requirements of jobs, gender differences get redefined as skill differences, with women relegated to "unskilled" labour. Promoting skilled labour as the basis of flexible specialization thus promotes mens' work over womens' work. Flexible specialization theorists, who claim value-neutrality regarding the benefits and drawbacks of mass production and flexible specialization, do not escape the charge of sexism because both paradigms are based on male work.

This latter problem in the post-fordist framework is somewhat surprising given the dramatic rise in the importance and influence of feminist scholarship in sociology over the past twenty years. Especially since the 1970s, feminists have painstakingly documented the connections between capitalism and patriarchy. In Canada, this initially took the form of a debate about the importance to capitalism of women's domestic labour, subsequently labelled the "domestic labour debate" (see Hamilton and Barrett, 1986 for a collection of key articles in this debate). The argument was that the work that women performed in the home—cooking, cleaning, raising children and the like—was a necessary precondition of capitalist production because this was the only way in which the labour force could be maintained and reproduced. In other words, women performed "reproductive work" in the home, reproducing the labour force not only by bearing and raising children, but also by providing male workers with the health and sustenance to carry out their jobs.

But beyond this, feminists have shown that even when women do enter the labour force, they also face significant barriers to advancement. Occupational segregation and prestige
(Kilbourne et al., 1994), career mobility and earnings (Langton and Pfeffer, 1994; Hannan, Schomann and Blossfeld, 1990) skill (Gaskell, 1992) and authority (Boyd, Mulvihill and Myles, 1991) are just a few of the areas in which women are unequal with men in paid work. Moreover, Fox (1989) has argued that many of these studies are misleading, based as they are on male employment patterns. These issues receive scant attention within the post-fordist framework.

But there is yet another set of arguments which challenges in very direct ways the Marxist underpinnings of both the monopoly capitalist and post-fordist positions. In particular, the very notion that modern societies are essentially capitalist has been challenged by scholars who argue that it is the industrial character of contemporary societies which is their most important feature.

**Theories of Industrial Society**

There are two key ideas which characterize the numerous and diverse theories of industrial society. The first is that industrial society has evolved past a truly capitalist society. The second is an optimistic outlook about the power of industrialism to solve not only economic problems of scarcity, but socio-political issues as well.

Part of the explanation for the diversity of industrial society theories is that they were proposed by people from several disciplines, but most notably from economics and sociology. For example, W.W. Rostow's (1971) *The Stages of Economic Growth* is the classic piece from economics contesting Marx's claims about the inherently exploitive nature of modern
capitalism. Indeed, his subtitle, "A Non-Communist Manifesto" reveals clearly his antipathy towards Marx. For Rostow, all societies follow a five stage path (which coincidentally is exactly the number of stages in Marx's writings) progressing through a very long stage of very simple agrarian production to the inklings of capitalism and industrial production. Full-blown industrialism is the "take-off" stage in which societies undergo a transition to a new type of society, driven by industrial production (Rostow, 1971). The final stage (as it is for Marx and many other writers) is a romantic "end of history" where problems disappear in the face of the enormous productive potential of industrialism. Implicit in this five stage model is an assumption that societies will converge socio-culturally as well.

Perhaps the quintessential expression of a theory of industrial society from an interdisciplinary team of social scientists is Clark Kerr et. al's *Industrialism and Industrial Man* (1962). Indeed, as Margaret Archer (1992) argues, two of their key assumptions have formed the core of industrial society research ever since. Specifically, they proposed that industrialism is a driving force in social life, determining, rather than being determined by, other aspects of social existence. Additionally, they claimed that industrialism harmonizes social structures by "the pure logic of the industrialization process" (Kerr et. al., 1962:33). That is, industrialism produced social structural conformity, wiping out any pre-existing cultural differences.

In sociology, the notion of the industrial society has a long pedigree, beginning with Saint-Simon's journal *L'industrie* first published in 1816. Saint-Simon, Comte and Spencer all regarded the transition to a scientific-industrial society as, "the most fundamental transformation in human history" (Badham, 1984:13), in which the turbulence and disillusionment of eighteenth and nineteenth century Europe would finally be resolved. This
resolution would come about through the scientific discovery of the natural laws of societal evolution. All three men agreed that science and industry were the essential determinants of the structure of modern society, so much so that politics no longer concerned the nature of the good society, but rather performed the task of allocating individuals and resources to bring about the realization of the scientific society as quickly as possible. Industry and science, then, become synonymous with human purpose.

In contrast, Durkheim and Weber later criticised the central importance of industry in modern society. For them, the strict logic of industrial development and structural determination was too narrow. For Durkheim, the anomic character of modern society was a consequence of science and industry, not a problem which industrial production would eventually resolve. He argued that this normlessness could only be overcome by the establishment of a new moral order which transcended industrialism, not one in which it was the guiding purpose. Similarly, Weber argued that industrial efficiency as a social good is a key component of the bureaucratic iron cage (Badham, 1984). Later, Bell (1962), Aron (1967) and Lipset (1969) among others, resurrected science to the measure of progress with their "end of ideology" (Bell, 1962) ideas.

But despite these differences, the two key features of industrial society theory mentioned earlier are common to all versions. Giddens elaborates on these points, arguing instead that there are six common features of the industrial society perspective. All of them are essentially more detailed derivatives of the two more general characteristics. They are: i) that the movement from traditional to industrial society is the most significant in human existence; ii) that this transition is fundamentally progressive despite the contradictions and
chaos arising from the transition itself; iii) that class conflict is evidence of industrial infancy rather than the manifestation of structural contradictions; iv) that the rise of liberal democracy is part and parcel of the transition to industrialism; v) that social structural convergence is inevitable; and vi) that modernization must always take place through industrialism (Giddens, 1982:26-29).

These principles of industrial society were subjected to heavy criticism by Goldthorpe (1971), Westergaard (1972), Bottomore (1973) and Giddens (1982) among others. They pointed primarily to two problems in these arguments.

First, industrial society theory was based on a technologically determinist view of society. Industrialism did not just serve as the engine of economic growth, but also of social change in general. Although some theorists recognized an interaction between technology and society (in particular Durkheim and Weber), technology held primacy of place in most versions. The problem here, according to Goldthorpe and others was that technological development does not follow a linear path. That is, there is no way to show that a certain development is the necessary consequence of a previous advance. Rather, the historical and political context in which innovations emerge can often affect their acceptance. Many of the studies of technology in the 1960's and 1970's made this point in forceful fashion (e.g., Perrow, 1984).

Second, the notion that industrialism standardized social structures, and the implicit assumption that the US form of industrialism was the pinnacle of modern society (or was at least the farthest along the road), was criticised for its evolutionary overtones. There was no non-circular way to demonstrate the superiority of the US or British version of industrial
society, so to assume that any one is fundamentally superior is unjustified.

These two problems brought about the fall of theories of industrial society. However, Margaret Archer (1990) has recently pointed to yet another problem. She argues that they all share an implicit isomorphism between structure and culture. That is, there is no recognition in any of the versions of industrial society theory that culture could be an important variable which was capable of influencing the course of industrial development in a society "not just at the beginning but in perpetuity" (Archer, 1990:99).

This criticism may seem somewhat akin to beating a dead horse. That is, given the other problems of industrial society theory is it really necessary to tear apart its cultural implications as well? But Archer argues convincingly that a cultural critique is necessary because many of the early critics, including herself, believed in the general cultural principles associated with industrial society (Archer, 1990). In particular, ideas like egalitarianism within a meritocracy (as opposed to more radical forms of egalitarianism), and a belief in the power of science were and are key elements in the later writings of many of these critics, especially Goldthorpe (see Goldthorpe, 1983). Moreover, the cultural baggage of theories of industrial society carried over to their successors, the myriad theories of post-industrial society (see also Badham, 1984; Kumar, 1992).

**Theories of Post-Industrial Society**

Much of the sociological community has moved beyond the theories of industrial society to consider or articulate theories of post-industrial society (or some other "post"-type society such as post-capitalist, post-materialist, post-colonialist or post-modern). The term
"post-industrial society" encompasses a wide range of theoretical writing. However, the major variants of post-industrialism all agree on at least one central principle, namely that the vastly increased importance of knowledge, and particularly scientific knowledge, in all spheres of life is what distinguishes post-industrial from industrial society. In addition, unlike post-fordist arguments which emphasize changes in the relations of production, post-industrial theorists place transformations in knowledge at the very centre of modern society. As Daniel Bell, one of the leading proponents of post-industrialism puts it,

> My basic premise has been that knowledge and information are becoming the strategic resource and transforming agent of the post-industrial society... just as the combination of energy, resources and machine technology were the transforming agents of industrial society. (Bell, 1980:531).

There are two main variants which embody this central premise. Each of these frameworks is generally associated with a particular theorist, either Daniel Bell, or Alain Touraine.

The Information Society

Closely associated with Danel Bell (1962; 1976; 1979) this tradition is relatively optimistic about the infusion of knowledge into the core of social life. For some commentators (e.g., Toffler, 1975; 1981) the application of science and technology to economic production takes on almost exclusive importance. Here, the great gains in productivity and output made possible by these innovations during the early and middle parts of this century constitute a social "revolution" on par with, or in excess of, the industrial revolution. Others recognize the importance of science to production, but claim that the importance of knowledge has an impact
on social life independent of its influence through the economic sphere. For example, Daniel Bell argues that scientific knowledge has resulted in "the end of ideology" (1962). Science accomplished this in two ways.

First, the application of science to economic production has resulted in enormous leaps in productivity and economic growth. This has two consequences. First, a new class emerged to coordinate the links between science and production, namely a managerial/technical class. Second, upward mobility into this class, as well as a general rise in living standards means that virtually everyone was able to consume the vast array of goods produced for mass markets. This increase in consumption, coupled with a homogeneity of consumer goods, reduced the ideological and utopian visions which accentuated previous ideological struggles.

Second, scientific knowledge has an independent effect in suppressing political conflict. Specifically, science has been elevated to the status of final arbiter in all individual and collective problems. Struggles between unions and management, the benefits of socialism versus capitalism, artistic merit, matters of legal guilt, the possibilities of future society, finding inner peace and choosing a mate can all be settled in the presence of science. That is, by studying any problem scientifically, a singular truth can be established which can form the basis for the resolution of the problem. Consequently, conflicting ideological visions cannot withstand the power of science and the levels of politicization and conflict in society diminishes.

Science, then, is not only the basis of social structure, but of culture as well. These links are captured well by Ernest Gellner who remarked that, "[m]odern science is inconceivable outside an industrial society: but modern industry is equally inconceivable
without modern science. Roughly, science is the mode of cognition of industrial society, and industry is the ecology of science" (Gellner, 1972:179). In other words, science, industry and society were mutually constitutive of each other within the information society.

But Bell and others, (see Lipset (1969) and Aron (1967)) did not immediately recognize the central problem of the tight interlocks between culture and social structure that they had created with their end of ideology ideas. The problem with the logic of reciprocal determination was that not only was industrial development an indicator of progress, industrial development was progress. In this post-political, or non-ideological age, a technical/scientific solution existed for every problem. Raymond Aron's famous quote illustrates this idea nicely.

Beyond a certain stage in its development industrial society itself seems to me to widen the range of problems referable to scientific examination and calling for the skill of the social engineer. Even forms of ownership and methods of regulation, which were the subject of doctrinal or ideological controversies during the past century seem to . . . belong to the realm of technology. (Aron, 1967:164-5)

Bell (1979) later realizes that his theory of post-industrial society is despairingly accurate. He despises the nihilistic, self-indulgent anti-rational consumption culture characteristic of post-industrial society, and all too consistent with his theoretical writings. Yet he also realizes that if he is right, there is no escape from this cultural quagmire because post-industrial culture is incapable of sustaining a moral debate about the good society.

But Bell later puts aside his doubts about culture and modern morality to focus on "theoretical knowledge" as the basis not only of economic value and growth, but of society itself. Although it is never clear if or how theoretical knowledge differs from scientific knowledge, theoretical knowledge becomes a vital source of freedom and betterment in
contemporary society. Specifically, he argues that an "explosive mix" (Kumar, 1992:49) is transforming society as computers are coupled with telecommunications. The world is linked in one massive knowledge grid created by satellites, fibre-optic cable, and other communication systems. Previous societies were time-bound and space-bound, says Bell, but we have entered the era of instantaneous communication.

For Bell, knowledge does not just aid production in post-industrial society, it is becoming the principal economic activity. Bell calculates the importance of "information industries" (primarily telecommunications manufacturing and service companies and business services) and finds that over 50% of wages earned and 46% of GNP is produced by these industries. "It is in this sense that we have become an information economy" (Bell, 1980, 521). Further, "knowledge, not labour is the source of value" (Bell, 1980:506).

According to Bell, knowledge has a positive effect on work for two reasons. First, the upgrading of the knowledge content of work, is supposed to add to, not subtract from, the skills of workers. New technologies enhance rather than limit peoples' abilities to both perform their jobs and control their work. Second, an expansion and creation of new work and activity in the "knowledge sector" of the economy occurs under post-industrialism, such that workers in this sector become predominant in the economy. Moreover, within the knowledge sector, the more skilled information workers will constitute the core of the information economy. This is in clear contrast to Braverman's ideas about the deskilling and Taylorization of work, including work in the service sector, discussed earlier.

Beyond this, Bell said little about changing economic structures per se. That is, he made no predictions about what might happen to the petite bourgeoisie. However, his ideas are
consistent with a growth of this sector, given the liberating effects of new technologies, allowing people more control over their work (including who they work for, and the widespread availability of computers as the primary tool in the knowledge society) and the growth of specialized knowledge services (Steinmetz and Wright, 1989; Wright and Singelmann, 1982).

The Programmed Society

For Alain Touraine (1971), knowledge and science are also important in the economic and socio-political spheres, but their effects are far more sinister than in Bell's vision. Touraine points to many of the changes identified by Bell, and indeed even says, "knowledge is a production factor" (Touraine, 1971:12). But he lacks Bell's sense of optimism about the liberatory effects of knowledge. Instead, he shares with Weber, Foucault and Habermas the idea that knowledge is intimately linked with control.

For Touraine, one of the major implications of the penetration of science into all spheres of life is that it has transformed the nature of power and control in post-industrial societies. This sense is captured in his preferred term for modern societies as "programmed societies" (Touraine, 1971:3). Instead of the bare exercise of force, power in modern societies is exercised through social integration, cultural manipulation and political, as opposed to physical, aggressiveness (Touraine, 1971). People are integrated economically as they participate in the fordist-style mass production and consumption made possible by science, but also are integrated socially through the major state bureaucracies such as the mass education system and various civil registries.

People in modern societies are also subjected to cultural manipulation which limits their
forms and ideas of expression. Cultures are manipulated by powerful economic actors and the state. For example, mass education systems develop standardized curricula which do not greatly challenge existing economic and political orthodoxies in a country, and media images present a limited range of ideas. But these powerful economic actors are not the Marxian bourgeoisie. They are more likely to be "technocrats", although Touraine does not want to make this ruling class into the post-industrial equivalent of the capitalist class. Instead, he says,

If property was the criterion of membership in the former dominant classes, the new dominant class is defined by knowledge and a certain level of education. The question is whether there exists a superior level of education with characteristics distinct from those of lower levels, the acquisition of which creates a system of social selection and the possession of which acts as a symbol of membership in the higher class (Touraine, 1971:51).

Finally, unlike Bell and Toffler, who claim that knowledge reduces socio-political conflict, Touraine argues that in post-industrial societies the knowledge explosion has resulted in increased political aggressiveness. Instead of using physical force to sway opinions as in previous times, Touraine claims that political groups (at all levels, from formal political parties to single-issue, neighborhood organizations) are increasingly numerous and vocal in their demands. Yet in this unequal struggle, the more powerful and well-funded organizations tend to hold sway, turning back demands from groups which challenge too radically the existing order. Moreover, political expression is subject to cultural manipulation, making even the

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6 However, Touraine is careful not to equate this group with an integrated and organized ruling class which pursues its interests singlemindedly. As he says, "We will not accept the image proposed by C. Wright Mills of a power elite which acts as a defined group and cohesively defends the supposedly unified interests of all its members. . . " (Touraine, 1971:44).

7 Touraine later pursues this issue in much greater detail in his writings on social action and social movements (Touraine, 1989).
expression of radical ideas difficult and often impossible (see also Baudrillard, 1974).

Thus, for Touraine, as for Marx, economic activity constantly exerts a powerful, if not
decisive, influence on social phenomena. However, his is not a theory of economic conspiracy.
Rather, much of the reason that economic forces are so powerful in the programmed society is
that prevailing knowledge (i.e., science) highlights its significance. We are constantly
bombarded by measures of how well we are doing as a society. These measures are almost
exclusively economic. This is primarily because the economy is the most subject to scientific
measurement. Therefore, it takes on an importance in our lives far beyond its worth.

Touraine said even less than Bell about what the coming of post-industrialism might
mean for entrepreneurs. However, at one point, he says,

As Galbraith reminds us, economic progress [in a post-industrial society]
depends more and more not only on the quantity of available labour and capital
but on the ability to innovate, to accept change and to utilize every work

And although entreprenuerialism (i.e., innovation) and flexibility (i.e., acceptance of change
and utilizing all work capacities) are not isomorphic with self-employment, this definitely
suggests increases in self-employment are likely.

Later, Touraine also speaks of the growth and importance of a diverse stratum, which
certainly seems to include some self-employed. He argues that the programmed society
produces a class of technocrats (who are clearly employees), but alongside it we should also
expect the growth of another group of people who are,

... closely connected with the great organizations but their identity is not
defined by their hierarchical authority in them. Often they even enjoy great
independence from the organizations that utilize their services. They are agents
of development, for their work is defined by the creation, diffusion, or
application of rational knowledge; they are not technocrats because their function is defined as *service*, not as production (Touraine, 1971:64, italics in original).

This stratum has two layers. The first consists of "professionals", some of whom are self-employed, but many of whom are not. Touraine identifies those professionals involved in teaching and public health as particularly important members of this sub-group. And while self-employment among medical doctors is undoubtedly high, there are many other professionals involved in public health and especially teaching who are not self-employed. Thus, we should see some growth in self-employment because of the growth of this sub-group, but it is in the second component of this stratum where even more growth in self-employment should occur.

The second, and lower layer consists of "experts". Of these people, Touraine says,

> They take part in the functioning of organizations without entirely belonging to them, even when they are on the payroll: consulting engineers, accountants, jurists, psychologists, labor physicians, instructors and educators. Their number is increasing rapidly and will grow even more in the coming years (Touraine, 1971:65).

Again, this sub-group is not synonymous with the self-employed, but clearly a large proportion of these people will work for themselves. The fact that he is unequivocal about the growth of this sub-group is also of interest here.

Also, in his later writings on social movements, Touraine speaks of a fracturing of society which accompanies the growth of knowledge (Touraine, 1989). According to this logic, we might also expect a fracturing of companies and/or a growth of individualism, resulting in more self-employed individuals. Yet the image of the programmed society is one that is controlled, suggesting that small producers are somewhat dependent under post-
industrialism. But the message from all of these points is that self-employment will increase under conditions of post-industrialism.

The concept of the programmed society is also consistent with the writings of another major thinker on modern society, Jurgen Habermas. It may seem strange to discuss Habermas' ideas under the banner of post-industrialism, especially given his connections to Marxism and the Frankfurt School. However, the bulk of his writing is concerned with the production, distribution and control of knowledge in modern society. As such, he addresses the central feature of post-industrial theories and so I have chosen to discuss his work here rather than in a more Marxist context. Margaret Archer, (1990) also classifies Habermas as a post-industrial theorist.

Like Bell and Touraine, Habermas identifies the rise of the service class, the importance of scientific knowledge in industrial production, increased welfare and transformations in the nature of social conflict as key elements in modern society. He also falls victim to the conflation of culture and structure, resulting from the rise of scientific knowledge (Archer, 1990). That is, the ends and the means of progress are identical. He argues that, "scientific/technical progress has become an independent source of surplus value" (Habermas, 1968:104). This form of progress has consequently become an ideology not in the sense of conscious manipulation, but because it is driven by an interest in control of the "object-world". This "technocratic consciousness" is so pervasive that it represses other interests. But it is not the only truth for Habermas, as Bell, at least in his earlier writings, suggested. As technocratic consciousness infiltrates the socio-cultural realm, it represses other interests, such as the human race's "emancipatory interest", or moral sense, because the scientific interest recasts
humans and human relations in its own form (i.e., as objects to be controlled). Thus, moral problems become technical problems, just as Bell, Aron and others predicted. The difference is that Habermas never celebrates this transformation (Archer, 1990).

On the contrary, he attempts to articulate a fully secular source of emancipatory interests and a way to act on them. This is the driving problem behind the development of his theory of communicative action, and its central concept, the "ideal-speech situation". While there are numerous problems with his momentous project, and his writings cannot be neatly subsumed under the label of programmed society, his over-riding interest in the importance of knowledge in modern life clearly relates his ideas to discussions of post-industrialism. Like Touraine, Habermas limits his optimism about the power of science and knowledge in the new society, in direct contrast to Bell and Toffler. Yet unlike Touraine and Bell, he actively includes notions of agency through the ideal-speech situation.

As was the case with Touraine, it is difficult to determine Habermas' views toward the self-employed and how they might fare in a post-industrial society. Luckily, the leading contemporary Marxist, Eric Olin Wright (Wright and Singelmann, 1982; Steinmetz and Wright, 1989) has elaborated and tested his understanding of postindustrialism for this stratum. He points to the emphasis on the importance of information to argue that if the theory is correct, we should expect to find an overall increase in the size of the petite bourgeoisie, and particularly in various "high-technology" services, not because large corporations do not operate in these areas, but rather because most high-tech services require relatively small

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8 This is true of Touraine's earlier writings, but not so much of his more recent ideas on social movements (Touraine, 1989).
amounts of initial capital outlay (Steinmetz and Wright, 1989). There is nothing in the writings of Bell, Touraine or Habermas to seriously contradict this line of reasoning, and much to support it. Consequently, we can feel safe arguing that in a post-industrial society, we should see an increase in self-employment.

Problems with Post-industrialism

Some of the major criticisms of post-fordist explanations of social change discussed earlier have also been aimed at post-industrialism, with similar success. Specifically, the notions of the information society or the programmed society suffer problems of historical accuracy, internal specificity and gender blindness.

What is "post" about post-industrial society? How do we know that we are living in the programmed society or in the new information age? Critics have pointed out that the seeds of the information era were planted long ago, and the empirical changes upon which post-industrial theories are built are merely the manifestations of deeper and longer historical processes. For example, Beniger (1986) argues that the characterization of modern society as "post-industrial" or "information-based" is correct, but he shows quite clearly that the processes leading to the development of the information society have been building over the past hundred years.

Beniger points out that the industrial revolution was followed by a "control revolution," without which, neither industrial society nor post-industrial society are possible. Specifically, the application of inanimate power to production made possible exponential leaps in productive potential, but this potential needed to be strictly controlled. For example, faster and
faster transportation technologies such as the steam locomotive, for reasons of safety needed to be carefully monitored and controlled. Also, the use of machinery in goods manufacture required precise controls on through-put through scientific management. Accompanying this, we see the rise of Weber's bureaucracy to manage all of the information required for this heightened level of control. Thus, Beniger concludes that by 1939 at the very latest, all of the structural features of the information society were in place—including rudimentary computer designs—yet this is far earlier than when the birth of post-industrial society is supposed to have taken place.

Post-industrialism also suffers problems of internal specificity. Bell, Touraine, Toffler and others say little about why knowledge has become so important in the modern age, nor do they often recognize the contingent nature of the technological developments which have bolstered knowledge production and distribution. Particularly in the work of Toffler and Bell, there is a sense that scientific developments have proceeded as inevitable consequences of previous advances. That is, innovations are characterised as the necessary outcome of previous knowledge. While this makes for an integrated story, it is not necessarily accurate, nor are the causal links well specified. Indeed, many of the most persuasive arguments about the causes and direction of information change in the modern age have been made by people trying to refute post-industrialism (Beniger, 1986; Kumar, 1978).

Theories of post-industrialism suffer similar difficulties incorporating gender as do post-fordist arguments. The post-industrial society framework isolates changes in scientific disciplines and technologies as the basis of future society. Yet like post-fordism, this elevates male work to the vanguard of change. Every traditional "scientific" discipline at the post-
secondary level in Canada still has more male students than female students (Arai and Guppy, 1993). This imbalance is accentuated by the numbers of male versus female graduates from these disciplines who are in the labour force. Consequently, by emphasizing the increased importance of science to economic production and social life, post-industrialism inadvertently places men and male work ahead of women and female work.

*Post-fordism and Post-industrialism: Parallels and Contrasts*

From the above reviews of the post-fordist and post-industrial theses, there are some obvious similarities and differences between the two positions. Briefly, the post-fordist and post-industrial theses are attempts to understand the "restructuring" of modern societies over the past century. Both models agree that knowledge has become a crucial factor in modern economic production—and in social life more generally—and that the number of small businesses and self-employed individuals should increase.

Where the two positions diverge are on the issues of the sectoral distribution and autonomy of the self-employed sector and the direction of social inequality in contemporary society. The first of these two issues of contention, along with the prediction about increases or decreases in the level of self-employment, are the driving questions behind my analyses in chapters four and five.

*Trends in Self-employment in contemporary Canada*

The first main question, to be addressed in chapter four, is as follows: *Has the rate of self-employment increased or decreased during the transition to a new stage of capitalism or
a new type of society? Monopoly capitalist arguments suggest that the self-employed and small business sectors should have virtually disappeared by now in the face of capital concentration and globalization. In contrast, the post-fordist or post-industrial theses contend that there should be evidence of increases in the level of self-employment if Canada has entered its respective "post" stage.

The key period of declines or increases in self-employment is from World War Two onwards for all three theories. Monopoly capitalism was supposedly in the process of consolidating itself during this period, and economies were thought to be shifting from fordist to post-fordist arrangements especially since the 1960s. For the post-industrial framework, the developments in computing and telecommunications, so integral to the knowledge society are also a post-World War Two phenomenon. Therefore, in chapter four I will analyse the trends in the self-employed sector in Canada throughout much of this period. Because of data restrictions which I will discuss in chapter three, I will only be able to analyse these trends from 1960 to 1994.

But determining the relative validity of these theoretical positions is not possible using only this one issue. Specifically, declines in self-employment are consistent with the monopoly capitalist framework, but increases in self-employment are consistent with both post-fordism and post-industrialism. To differentiate between these two positions requires the investigation of other issues. One critical area in which these two frameworks diverge is over the direction of social inequality.
Post-fordism, Post-industrialism and Inequality

Neither the post-fordist nor post-industrial theses make explicit predictions about the course of social inequality in contemporary society. This is somewhat surprising, given that both frameworks purport to be encompassing theories of social change (Gilbert, Burrows and Pollert, 1992; Kumar, 1992). However, it is possible to elicit the implications about the nature and direction of inequality contained in each framework.

The overall implication of the post-fordist framework is that inequalities will persist, and possibly even increase, under post-fordism. The reasons for this are threefold. First, post-fordist society is inherently capitalist society, which is based fundamentally on inequality. Second, certain characteristics of post-fordism, such as the decline and fracturing of unions, and the individualization and privatization of social life removes some of the most effective channels of progressive social action of the fordist period. Finally, there is a recognition in the post-fordist literature that, in spite of the importance of flexible specialization, the destruction of fordism also creates large numbers of non-unionized, low-paying, unskilled jobs primarily in the service sector.

Since post-fordism is merely another form of capitalism, the implication is that inequalities will persist rather than decline. The divisions along which inequalities will be manifested, however, receive very little treatment in the post-fordist literature. Consequently, it is necessary to turn to other bodies of work to articulate the connections between capitalism and inequality.

Orthodox Marxism posits that capitalism is based on inequalities between capitalists and workers, and that all other forms of inequality are epiphenomenal to this class division.
Specifically, inequalities based on gender, race/ethnicity, age or any other ascriptive characteristic stem primarily from the unequal relations which are at the very heart of capitalism. Consequently, reducing or eliminating these inequalities is dependent upon the elimination of capitalism.

This view has garnered some support amongst strict Marxists, and also been embraced to some degree by certain Marxist feminists (Seccombe, 1974). Other Marxist feminists have proposed less economistic frameworks, including particularly culture and ideology as important elements in the derivation of patriarchy from capitalism (Barrett, 1980). Nevertheless, the basic argument is that patriarchy is a manifestation of class cleavage, and the best way to eradicate gender inequality is to eliminate class inequality, specifically by overthrowing capitalism.

However, this position has come under sharp attack, primarily on empirical grounds. That is, some commentators point out that patriarchy pre-dates capitalism, and that bourgeois women also suffer oppression at the hands of men (Walby, 1990). Consequently, it seems unreasonable to equate patriarchy with capitalism, or to argue that patriarchy is some derivative of class relations.

Other feminists, notably the proponents of "dual systems theory" (Eisenstein, 1981; Hartmann, 1979; Walby, 1990), have argued that capitalism and patriarchy are inter-related structures of oppression. There are many different specifications of how these two structures are related, but the general tenor of the arguments is that capitalism interacts with patriarchy to oppress women in many different spheres of the economy and social life.

But the problem with many of these formulations is that patriarchy as a concept or
structure of oppression is ambiguous (Fox, 1988). In some versions, patriarchy is biologically determined (Mitchell, 1975) without a material base and without a set of specific actions to sustain it, while in others patriarchy is so entrenched in our view of the world that it is not clear how we even know it exists (Smith, 1990). Moreover, the connections between capitalism and patriarchy are not well-defined (Adam, 1993).

Silvia Walby (1990) has gone some way toward resolving some of these problems by arguing that there are two basic forms of patriarchy, public and private, but that we need to examine particular manifestations (i.e., societies) to illustrate the different ways in which these two forms operate. She argues that with the development of the welfare state, private patriarchy (i.e., the control of women by their husbands within the household) declined in favour of public patriarchy (i.e., the control of women through state structures). It is unclear what will happen to the shift to public patriarchy with the decline of the welfare state. That is, are we on the road back to private patriarchy, or is some new form beginning to emerge?

Another charge which has been directed at both feminist theories and writings on capitalism is that race/ethnicity has always been an important, and sometimes overriding determinant of inequality and conflict (Hooks, 1984; Reich, 1980). Hooks (1984) has shown that the emphasis in much feminist writing, that the family and the household is a primary site of women's oppression under capitalism, is not true for all women. Specifically, the household, and particularly women's control over what goes on in the household, is often a crucial point of resistance to patriarchal oppression for women of colour.

Similarly, Gordon, Edwards and Reich (1982) show that employers have always used race as a stratifying variable in economic relations. Racial minorities have been used as strike-
breakers, and their race has been held against them in promotion and remuneration decisions. Moreover, Julie White has documented the often uneasy relationships between women, members of racial minorities and unions in Canada (see for example, White, 1990; 1993). But despite disagreements over theoretical issues, there is general recognition in all of these bodies of work that class, race/ethnicity and gender are and will remain significant sources of inequality in capitalist society.

In contrast, the level of inequality should decrease in post-industrial society. Although some thinkers are cheerily optimistic and others more pessimistic, the clear message from the proponents of post-industrialism is that the overall level of inequality will be reduced in the information age. This is not to say that all inequality will disappear. Rather, some "legitimate" inequalities will persist because different individuals will possess different types and levels of abilities.

Coming out of its predecessor, post-industrialism retains the notion that inequalities on the basis of merit perform the useful function of maintaining motivation within a society (Archer, 1990; Kumar, 1992). That is, if everyone receives equal remuneration, is eligible for the same jobs and can expect the same rate of upward mobility and the like, regardless of abilities or effort, there is no motivation for individuals to work hard, or strive to meet their maximum potential. Therefore, some inequalities must exist in order for a society to get the most out of its members and to continue to progress.

However, despite the persistence of these "legitimate" inequalities, "illegitimate" inequalities are clearly predicted to decline under post-industrialism. That is, the selection of people for jobs, positions in educational institutions and the like on the basis of sex, ethnicity,
age and other ascriptive characteristics will gradually be eliminated in the knowledge society. This is because, as Bell says, knowledge is the source of value in post-industrial society (Bell, 1980). There are two inter-related dimensions of this issue.

First, science and knowledge have not only taken on increased importance in economic production per se, but also in the selection of people engaged in this production. What matters are peoples' abilities (i.e., their knowledge), not their skin colour, gender or age. People have different abilities and educations which are not necessarily congruent with sex or racial/ethnic distinctions. Consequently, hiring and paying people based on ascriptive characteristics instead of their actual abilities cannot guarantee that the "best and brightest" individuals will be placed into appropriate occupations and/or pay scales.

Second, and relatedly, this knowledge of the importance of peoples' abilities versus their personal characteristics becomes increasingly widespread in post-industrial society. Indeed, hiring and remunerating on ability as a way of maximizing productivity and potential is an "established scientific fact". In other words, ascriptive discrimination is "not scientific" or "not rational", and so will be eliminated.

It should be noted that this rather rosy view of inequality is more characteristic of the literature on the information age than that on the programmed society. Touraine and Habermas in particular, are more sceptical of the beneficial effects of knowledge. Whereas the implication of Bell and Toffler's vision of the reduction of inequality is one of movement upwards (i.e., the disadvantaged are raised to the level of the advantaged), Habermas, and especially Touraine, are non-committal on the issue.

For example, in one paragraph, Touraine seems to be arguing that the reduction of
inequality will take place both by a homogenization of the middle and lower strata and by a general upward trend for all classes. He says, "The notion of class therefore tends to disappear and it is most frequently replaced by the above mentioned image of society which separates a central mass from a privileged minority at the top and the more numerous marginals at the bottom" (Touraine, 1989:183). Later in the same paragraph he claims, "But concrete experience has another story to tell: social barriers are constantly lowered, even if it is true that some luxury goods become common among the rich before they are diffused more slowly among the rest of the population" (Touraine, 1989:184). In both cases though, it is clear that in post-industrial societies—while an overall homogenization of differences may not take place—we should expect to see a decrease in ascriptive differences.

Habermas also reveals some ambivalence about the process by which social inequality is reduced. On the one hand, he points to the rise of the service class and increases in standards of living throughout the twentieth century. On the other hand, he also emphasizes the repressive features of technocratic consciousness, especially as it invades the socio-cultural realm. Archer (1990) explains Habermas' idea succinctly by stating that, "As it [technocratic consciousness] embraces the social sciences . . . observed regularities (like the connection between measured intelligence and school achievement or the persistence of gender roles) are taken as invariant, with no reflection about whether they merely express forms of social domination" (Archer, 1990:105).

In this thesis, I will not be able to determine the exact specification of the mechanisms by which inequalities persist or are reduced. That is, I will not address the questions of how patriarchy and capitalism are related, with each stratified in particular ways by race/ethnicity,
nor how reductions in inequality, if any, have taken place. Rather, my focus is on the relative merits of three theories about the nature of contemporary capitalism. An important determinant of their validity concerns their predictions about the direction of social inequality. As such, my only concern here is to investigate the more basic question about the existence of gender and racial/ethnic inequality in Canada, and its persistence or decline during a key period of economic transformation. This, then, becomes the second major question informing this thesis.

Specifically, have the levels of earnings inequality among the self-employed, particularly by gender and ethnicity, declined, persisted or increased in Canada in recent years?

I will examine this question in relation to one important indicator of inequality, namely earnings inequality, in chapter five. Of course, there are multiple dimensions of inequality, and it would not be possible to examine them all in any one work. Instead, I chose to examine earnings for two reasons. First, since two of the three theories highlight the self-employed sector as ascendant in modern economies, examining the levels of inequality within this sector provides more decisive clues about their relative merits than overall levels. Earnings are one of the few measures which provide this possibility for the self-employed. Other standard measures of inequality, such as educational attainments or occupational segregation or prestige, may reveal a different picture than the one provided by an analysis of earnings. However, rather than invalidating the analysis of earnings, this possibility only points to the need for further research in the area.

Second, earnings, in some ways, represent the cumulative effects of other dimensions

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9 This is not to excuse these frameworks for neglecting gender and ethnic inequality. Rather, theorizing the links between these different bodies of literature is a different project.
of inequality. That is, previous inequalities in educational opportunities and attainments, domestic responsibilities, career mobility and the like all come to bear on a person's earnings. This is not to suggest that there is some easy equation by which we can calculate the exact contribution of previous inequalities to current levels of earnings. Indeed such a claim is not necessary. Rather, earnings capture or reflect, albeit imperfectly, some of these earlier differences and disadvantages. Moreover, they are an important determinant of peoples' economic life-chances.

Conclusion

This chapter began with a quote from Anthony Giddens, defining his vision of sociology. Following his dictum that sociology is fundamentally the study of societies generated out of the industrial and French revolutions, I reviewed the history of some of the major sociological accounts of the structures and processes of modern societies, including a discussion of how some of these issues have been applied and discussed within the Canadian context. Post-industrialism, post-fordism and monopoly capitalism are three important characterizations of contemporary social formations, which are consistent with a series of overlapping predictions about the fate of the self-employed and of inequality in general. The purpose of this thesis is to investigate the applicability of these claims to Canada by testing the validity of these predictions for the self-employed.

The next chapter will review the data and methods to be used to investigate these claims. In chapter four, I will examine whether the self-employed sector has increased or decreased recently in Canada, as well as provide some indication of how much significance we
can attribute to these changes. Subsequently, in chapter five I will examine earnings differences by gender and ethnicity among the self-employed and employee populations in Canada.
Chapter Three: Data and Methods

Introduction

Data for this thesis come from three sources: taxation statistics published by Revenue Canada taxation, the Labour Force Survey conducted monthly by Statistics Canada and the Canadian Census, also produced by Statistics Canada. Taxation data are compiled from Taxation Statistics published yearly by Revenue Canada. Data from the Labour Force Survey were taken from the monthly releases of the bulletin entitled The Labour Force, and also from the online database CANSIM, maintained by Statistics Canada. Data from the Canadian Census were gathered from various Census publications, as well as the Public Use Microdata Files for individuals. After a brief review of the nature and purpose of these datasets for this thesis, I will discuss separately each dataset and the methods of analysis in finer detail.

The Taxation and Labour Force data were used primarily for analyses of historical changes in the size of the self-employed sector. Consistent data by industrial sector for the self-employed date back to 1960 in Taxation Statistics. Although the publication itself dates from the 1945/46 year, information on many sectors only goes back to 1960. Consequently, the analysis of changes in this sector concentrates on this latter period, although the overall trends for the entire period are also reported.

Data on the self-employed sector in the Labour Force Survey are not reported by industrial sector for much of the period 1953 to 1994, except for the unhelpful distinction of "agricultural" versus "non-agricultural". Consequently, only overall trends in self-employment from this source will be analysed. The Labour Force Survey actually began in 1945 with
quarterly surveys until November 1952. After this date, surveys were conducted and reported on a monthly basis. However, this entire period is not usable in the time series analyses conducted in chapter four. The reason is that in order to control for population growth over time, a self-employment rate (and an unemployment rate) rather than the aggregate level of self-employment (and unemployment) is the appropriate dependent variable. Consistent denominators for these rates date back to 1961 only. As such only the 1961 to 1994 period will be analysed.

Finally, information from the Public Use microdata files of the Canadian census are used to estimate earnings inequalities in the self-employed and wage-earning sectors of the economy in chapter five. Data from the 1971, 1981 and 1986 microdata files were pooled before samples of the self-employed and wage-earning sectors were drawn. The 1976 file does not contain vital information on items like "class of worker" necessary to separate the self-employed from wage-earners, nor the dependent variable "income from wages and self-employment". The 1991 file was not available as of 15 March, 1995 at the UBC Library and hence is not included in this thesis.

**Taxation Statistics**

Data were collected on the total number of tax-filers by industrial/occupational sector who were self-employed for each year from 1960 to 1990. Subsequent issues of *Taxation Statistics* were not available through the UBC Library. Although data are reported separately for tax-filers who paid tax in a particular year and those who did not pay tax, for all of the analyses in this thesis these categories were combined. Data are also reported for total earnings
by gender and type of employment (e.g., employee versus self-employed) giving a rough indication of gender inequality in these two populations. However, there are no further breakdowns so a more detailed analysis of earnings inequality is conducted using the microdata files.

The data on the number of self-employed tax-filers by sector is for the unincorporated self-employed only. The reason is that the breakdown between employment and self-employment in the taxation data is done on the basis of the primary source of income. Technically, incorporated individuals receive wages or salaries and thus are considered employees.

This distinction between the self-employed and the employed is also used in the Labour Force Survey data and published census documents, but not in the microdata files. The rationale for this is to maintain consistency between these datasets and the Survey of Establishments and the System of National Accounts (Statistics Canada, 1992:54, Cat. No. 92-301E). Unfortunately, these are the datasets that I will use to estimate changes in the size of this sector over time. Consequently, the analyses based on two of the three datasets in this thesis under-report the true number of self-employed people.

There are two ways to approach this problem. First, the incorporated self-employed can be treated as employees. The benefit of this position for this thesis is that it allows me to take a conservative approach to increases in the size of the self-employed sector. Increases in self-employment have been well documented in other countries (Scase and Goffee, 1982; Steinmetz and Wright, 1989), so it could be considered inappropriate to possibly bias the results by including more individuals in the sector. That is, by adding an estimated number of
people to the sector each year, an apparent increase might simply be the result of these estimates. It also avoids the problem of including among the self-employed, people who are technically employees. The drawbacks are that if the incorporated self-employed are considered as truly part of the entrepreneurial sector, excluding them underestimates the true size of this sector.

Steinmetz and Wright (1989) face a similar problem in the U.S. data. They tackle the problem by assessing changes in the unincorporated sector only, and also by estimating the size of the incorporated sector to correct for under-estimates. Although the actual figures change, they report no substantive differences between the two measures of the sector.

The problem of what to do with the incorporated self-employed is more difficult in Canada than it is in the United States. Steinmetz and Wright report that tax laws changed significantly in 1967 to make it advantageous for entrepreneurs to incorporate. They then used estimates produced by the U.S. Bureau of Labor Statistics of the number of incorporated self-employed to correct the underestimates in the actual data. The relative stability of tax laws, except for the change in 1967 made it less difficult for Steinmetz and Wright to make plausible estimates of changes in the size of the incorporated self-employed sector.

In Canada, tax laws surrounding incorporation have changed several times, beginning in 1949, with the latest revision in 1984 (although the 1995 federal budget may produce further changes, especially for the incorporation of professionals). The initial change made it advantageous to incorporate, while subsequent revisions have sometimes removed and sometimes restored some of these advantages (Salyzyn, 1986). Thus, it is more difficult to make reasonable assumptions about the effect of tax changes on the size of the incorporated
sector.

It is possible to estimate the size of the incorporated sector for the years 1971, 1981 and 1986 from the microdata files. When this is done, there appears to be very little change in the proportion of incorporated self-employed in relation to the unincorporated self-employed. Specifically, between 1971 and 1986, the incorporated self-employed as a proportion of the total self-employed grew from 29% to 31%, with the unincorporated proportion falling (from 71% to 69%). What this suggests is that if we assume that these rates of growth and decline are linear, the incorporated self-employed are replacing their unincorporated counterparts at a very slow pace. And while it might be reasonable to assume linearity in the trend between 1971 and 1986, extrapolating back to 1960 is much more problematic given the changing legal context.

In light of these problems, I have chosen not to correct the actual self-employment figures reported in the taxation statistics, or the labour force survey data. This means that the figures reported in this thesis under-estimate the true number of self-employed people in Canada. However, there do not appear to be substantial differences between the two sectors in terms of earnings. The full earnings models estimated for the self-employed and employee sectors reported in chapter five were also estimated for the unincorporated and incorporated self-employed separately. The results revealed no significant differences between the two sectors.

The taxation data were analysed using time series regression techniques. The actual procedures are the same as those used for the Labour Force Survey data, so I will discuss the particulars of these procedures in the next section.
The Labour Force Survey

Data from the Labour Force Survey, conducted monthly by Statistics Canada since November 1952, were taken from published documents and the CANSIM Main Base online database licensed to UBC. Both monthly and annual data were analysed. The CANSIM database provided monthly estimates of the total population of Canada 15 years of age and over, plus both seasonally adjusted and unadjusted estimates of the total civilian labour force, the number of unemployed and the unemployment rate. The CANSIM matrices from which these series were drawn are as follows:

D767284  - Total Population fifteen and over
D767285  - Unadjusted Total Civilian Labour Force
D767287  - Unadjusted Total Unemployed
D767289  - Unadjusted Unemployment Rate

All of the above matrices are monthly estimates of the numbers of people in each category (or the corresponding rate) 15 years of age and over. All of these series date back to January, 1966. The series were downloaded to a personal computer for analysis using SPSS for Windows. For earlier data, and for data on the numbers of self-employed, I was forced to rely on two publications from the Labour Force Survey. The periodical Historical Labour Force Statistics (Cat. No. 71-201) provided corresponding figures for the above matrices back to April, 1961 while the monthly bulletin entitled The Labour Force provided all of the estimates for the number of self-employed people each month. These data were entered
manually. Since the CANSIM database is really just an online version the data contained in these two publications, there is no reason to expect a discrepancy between the two sources.

The mean annual values of each of the above series were calculated and used for the yearly analysis of changes in these data. A quick comparison of the calculations with the published annual averages revealed no differences. Analyses were also run on the actual monthly data. Specifically, three different versions of the monthly data were used: the raw, unadjusted series; series from which the seasonal effects have been removed by seasonal decomposition; and series which have been adjusted by an X-11 ARIMA procedure.

Statistics Canada reports seasonally adjusted values for all of the above series. However, Hylleberg (1986) cautions against the uncritical use of adjusted data provided by official agencies. He claims that most agencies adjust series on an individual basis without any consideration for how these data might be used in a regression context. The result is that if different series are adjusted by different filtering models, these filters can confound attempts to model structural relationships between different series. Consequently, he recommends that when using adjusted data, that the same filter is used to adjust all of the series that are to be entered into a regression model.

One way to ensure consistent seasonal adjustment among different series is to adjust them all by a process of seasonal decomposition. The raw monthly Labour Force data were adjusted in this manner, and the results presented in Table 4.4 in chapter four. However, the objection to the use of this procedure is that more accurate adjustment methods have been developed and are now the standard seasonal adjustment methods in many if not all official agencies.
To meet this objection, and also ensure consistency in the seasonal filters, I also adjusted all of the raw monthly series by X-11 ARIMA, using an ARIMA \((0,1,1)(0,1,1)\) additive model as the filter. This model fit both the number of self-employed and unemployed quite well from my own estimation of the processes generating the two series, and were also the models selected by the "best fit" option within SPSS for Windows. There was no clear indication of whether the models should be additive or multiplicative, but the additive form fit the processes better, so this was the form chosen.

It is not feasible to include data from the Labour Force Survey before 1961. The reason is that a consistent denominator for the self-employment and unemployment rates does not pre-date April, 1961. Before this date, estimates of the total adult population and the total labour force were for the number of people in each group aged 14 and over, while after this date, the number of people aged 15 and over can be used. There is some overlap between these two definitions, but neither one spans the entire period of the Labour Force Survey.

This is not a major problem in any case. The theories of post-fordism and post-industrialism focus primarily on changes from the 1960s onwards, and arguably from the 1970s onwards. Therefore, data from before 1961 would be a boon, but the lack of it does not jeopardize the examination of the theories in any way.

There is some debate about whether examining trends in the size of the self-employed sector should be based on an analysis of rates or the aggregate numbers of the self-employed. Meager (1992) claims that the use of rates is inappropriate because rate changes may be as much if not more a product of changes in the denominator than in the numerator. Instead, he urges the use of the absolute numbers of the self-employed.
However, there are two problems with Meager's argument. First, we must be careful about which denominator his comments are applicable to before we opt for an analysis of levels. That is, he is correct about the confounding effects of changes in the denominator if the denominator is either the total labour force or the total employed. Both of these populations fluctuate with the business cycle and their sizes relative to the number of self-employed could quite easily muddle the results. However, if the total adult (fifteen and over) population is used, these effects are minimized, or disappear completely. There is no reason to expect the total population fifteen and over to fluctuate with the business cycle. Dramatic events like stock market crashes or huge economic booms are unlikely to effect the size of the entire adult population in any substantial way. Although crashes may induce a certain number of suicides or emigration, and booms may attract immigrants or cause people to have larger families, events on a magnitude sufficient to make a significant difference in the size of the adult population are rare. Therefore, rates based on this denominator will reflect almost entirely, changes in the numerator.

The problem with examining the overall levels of self-employment over time, as Meager (1992) has recommended, is that there is no control for population growth. Even with a decreasing self-employment rate, the overall number of self-employed individuals can rise. This will occur any time the rate of the labour force aged population growth outpaces the declines in the self-employment rate. With a stable self-employment rate, the absolute number of entrepreneurs will always rise as long as the total adult population continues to grow. This biases the data in favour of increases in self-employment. But using a self-employment rate based on the total adult population avoids this problem as well. Therefore, in all of the
regression models presented in the next chapter the dependent variable will be the self-
employment rate as a proportion of the total population fifteen years of age and over.

The actual estimation of the regression models for these data, as well as the taxation
data discussed above, were first performed using ordinary least squares (OLS). However, with
time series data, there is a strong probability that the errors will be autocorrelated. In other
words, the error terms for different points in time will be correlated, violating one of the
assumptions of OLS regression (Ostrom, 1990). The consequences of violating this assumption
are that the model will appear to fit the data much better than it actually does (i.e., the R² value
will be inflated) and the significance tests for the coefficients will be biased against the null
hypothesis. The reason that the coefficient of determination is inflated is that, with serial
correlation, especially positive serial correlation, it is much easier to predict the value of the
dependent variable than when serial correlation is not present (Ostrom, 1990). The reason that
the significance tests are biased against the null hypothesis is that in the presence of
autocorrelated errors, the variances of the coefficients are significantly underestimated.
However, the parameter estimates do remain unbiased (Pindyck and Rubinfeld, 1976).

The conventional test for autocorrelation is the Durbin-Watson d. This statistic ranges
in value from 0 to 4, with values near two indicating no serial correlation, values near zero
indicating positive serial correlation and values near four suggesting negative serial correlation.
In total, there are four different limits for the significance levels of d, an upper and a lower
bound on either side of the midpoint of the range. The upper bound in both cases is the more
stringent test of the assumption of no autocorrelation.

The Durbin-Watson ds for each of the regression models estimated by OLS are
presented in Table 3.1. The actual, corrected models are presented in chapter four. It is clear from Table 3.1 that all of the models exhibit serial correlation when estimated by OLS. The only model in which the Durbin-Watson statistic lies in the uncertainty zone between the upper and lower bounds is model 3 in the taxation data. In this case, it is appropriate to err on the side of conservatism and conclude that autocorrelation is present.

There are numerous processes for correcting for autocorrelated errors. In the regression context, there are several different estimation procedures, and in the Box-Jenkins (i.e., ARIMA) context, it is possible to estimate an almost infinite number of different models to account for time-dependent processes. But as Ostrom (1990) points out, there are no mechanical rules for deciding upon which method to use. Rather, the choice of method depends upon many factors, including the ultimate goals of the research. As Ostrom and others have pointed out, time series analysis in the regression context allows the testing of explicit structural relationships among variables, while ARIMA models are atheoretical in the sense that the goal is to determine the model which is most likely generating the observed process. Since the purpose of this thesis is to test several explicit relationships, time series regression models are more appropriate for this thesis.

There are several different generalized least squares (GLS) procedures for correcting for autocorrelated errors. In this thesis, I have chosen to use the iterative Prais-Winsten procedure. This procedure is superior to some others such as the Cochrane-Orcutt or Hildreth-Lu formulations because unlike these latter ones, it incorporates the initial observation into the final estimation process. The other common method which does not lose the first observation is the Beach-McKinnon full maximum likelihood procedure, which is used by Steinmetz and
Wright (1989) in their analysis of U.S. data.

Johnston (1984) notes that the results from the iterative Prais-Winsten and the Beach-McKinnon procedure are very similar. He summarized the results of several studies which have compared the performance of these various estimators on several measures. The conclusions of these studies are that the iterative Prais-Winsten and Beach-McKinnon procedures perform better than other methods such as the Cochrane-Orcutt procedures. Moreover, in those studies where the iterative Prais-Winsten and Beach-McKinnon estimators were compared explicitly, the former performed as well or better on all fronts. Johnston, in his summary of a study by Park and Mitchell claims, "Their range of estimators includes an iterative version of Prais-Winsten, with $p \ [\rho]$ estimated from the least-squares residuals, and they find this to be the best of the feasible estimators" (1984:326). Consequently, I have chosen to use the iterative Prais-Winsten estimator over the Beach-McKinnon procedure.

As noted above, I will estimate a succession of time series regression models for annual data from tax returns, as well as both annual and monthly data from the Labour Force Survey. The actual models, which appear in chapter four, are the same as those used by Steinmetz and Wright (1989), with one exception. For the annual data from the taxation statistics and the Labour Force Survey, only three models will be estimated. The reason for not including their last model, which estimates the changing effects of the unemployment rate on the self-employment rate over time, is that this variable introduces a very high degree of multicollinearity into the equation. Specifically, the correlation between time and unemployment over time is 0.95.

The objection to dropping this last model might be that the resulting final model is
misspecified, which likely introduces more serious problems of estimation than
multicollinearity. However, when this last model is estimated (i.e., the interaction term is
included) there is no improvement in the fit of the model whatsoever. Also, the interaction
term is not significant, although since multicollinearity can bias t-tests towards nonsignificance,
this latter result should be treated with caution. Multicollinearity in the monthly data is not
nearly as bad, so all four models estimated by Steinmetz and Wright are calculated for these
data.

**Public Use Microdata Files**

In chapter five, data from the Public Use Microdata files are used to estimate patterns
in earnings inequalities in the self-employed (incorporated and unincorporated together) and
the wage-earning sectors. Census data for the years 1971, 1981 and 1986 were pooled, which
resulted in a total sample of 639,649 eligible cases. Data from the 1976 was excluded because
the tape does not include information on key variables such as class of worker, income, or
ethnicity.

The microdata tapes for the three years included here provide information for each
respondent on variables such as sex, ethnic background, industry, class of worker (i.e.,
unemployed, self-employed with or without paid help, wage-earner, unpaid family labourer),
income from various sources, highest level of schooling, and year of immigration to Canada.
Although all cases for each year were eligible for analysis, some cases were excluded because
of missing values on key variables such as class of worker, income and ethnicity, or who were
unemployed or out of the labour force.
Some preliminary equations were estimated using this entire dataset. However, the cost of computer time to run these analyses on UBC's mainframe was becoming prohibitive. As a result, I was forced to take samples from this larger sample and download the data to a personal computer to finish the analysis. Samples of 14923 and 16852 wage-earners and entrepreneurs respectively were drawn from the population of eligible cases. These samples represent 0.35% and 35% random samples of the eligible cases in each category. The benefit of these smaller samples are that the tests of statistical significance are much more meaningful than they would have been if the entire sample had been used.

The self-employed sector was separated from the employee sector by means of the "Class of Worker" variable. "Self-employed" refers to all people who were coded as either "incorporated self-employed" or "unincorporated self-employed" on this variable. Wage-earners are those people coded as employees. The small class of unpaid family labourers was excluded from the analysis. The reason is that, by definition, these people do not earn income from their primary source of employment. Since the dependent variables in all of the equations for this thesis are income-based measures, including these respondents would only distort the findings. The analysis was also run using "major source of family income" to separate the self-employed from employees with no changes in the results.

Several variables were modified before inclusion in the equations. Marital status was dichotomized to married (1) and not married (0). A series of dummy variables were created

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1 This is not to deny that unpaid family workers may be considered part of the petite bourgeoisie or that their labour is unimportant in the operation of the family firm. Rather, it is only because this thesis is focused on individuals and individual income that these people are excluded.
from the ethnicity variable, with "British" serving as the reference category. Likewise, dummy variables were created from the occupation (reference: managerial) variable. Variables were also created to carry the effect of sex by ethnicity and the effect of sex over time.

The biggest problem with these data surrounds the categorization of ethnicity. In the 1981 Census, people were no longer asked to trace their ethnicity through the male line to only one group. Instead, the question allowed respondents to choose more than one ethnic ancestry. The question was generalized further in 1986, allowing people to define their ethnic lineage (male line, female line or both), and to choose the number of ethnic groups to which they could report a connection. This may have resulted in very inconsistent measures of ethnicity, and created problems of how to deal with people who claim multiple ethnicities. For this thesis, only people who identify with a single ethnic group will be included. Although often used, this practice is problematic. To get some indication of the extent of the problem, the actual equations reported in chapter five were also run using place of birth and home language as indicators of ethnicity. The fact that these separate analyses produced only minor differences in the results suggests that a person's reported ethnic identification is a relatively robust indicator of ethnicity.

The dependent variable in all of the equations reported in chapter five is total income from wages and self-employment. The actual reported values for "self-employment income" 

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2 These variables are not identical indicators of ethnicity. For example, people could report "United States" as a place of birth, but not as a "home language" or "ethnicity". The most important difference between the analyses is that the place of birth and home language measures were less likely to register significance, primarily because of the smaller numbers of people not born in Canada and not speaking English at home (the two reference categories for these variables).
and "wage and salary income" were modified in two ways and then summed before the
equations were estimated. First, all incomes were adjusted for inflation using CPI values, with
1981 serving as the base year. Second, for those people who reported incomes equal to the
upper income limits set by Statistics Canada to protect confidentiality, corrected median values
were estimated using the Pareto curve and used instead of the "limit" values.

Several procedures for estimating corrected income values for data which have been
truncated were tested by Parker and Fenwick (1983). They examined the results of four
different estimation procedures based on the Pareto curve against a dataset in which income
values had not been truncated. The models differed in terms of the precise estimation of the
Pareto curve, as well as whether or not the mean or the median income value was used as the
corrected value. They concluded that the median value appeared to be the far more accurate
indicator so this is the one used in this thesis. Li (1992) in his analysis of earnings inequalities
using only the 1986 public use tape does not correct the limit values on the grounds that the
proportion of cases reporting a limit value is very small.

The variable "total income from wages and self-employment" was chosen over total
income, self-employment income and wage income because it is the most accurate reflection of
respondents' earnings from their primary source of work. Self-employment income was not
used because incorporated entrepreneurs record their earnings as wage income, and self-
employment income among employees is minimal. The reason for not using total income is that
it includes income from all sources and may include revenue which is not as relevant to
this thesis (e.g., government transfer payments, private pension income, etc.). The full model
was also estimated using total income as the dependent variable which resulted in only minor
changes in the estimated equations.

Some studies of earnings take the log of earnings before estimating the equations (Maxim, 1992 Christofides and Swidinsky, 1994; Mincer, 1974). Two reasons are often cited for using log-transformed values, one theoretical and one statistical. The theoretical reason concerns the "marginal utility" of different amounts of income. For example, an extra $5,000 per year for someone earning $10,000 a year is of much greater importance than for someone who earns $60,000 per year. Using logged income, or "log-dollars", captures some sense of this difference. The statistical rationale for using logged income is that actual income values may violate the assumptions OLS regression, making results unreliable and/or difficult to interpret. Taking the logs of income values before estimation often improves this situation considerably (see Hardy, 1993 for a good discussion of these issues).

However, in this thesis the results are presented in actual dollars for three reasons. First, the data were also analyzed using log-dollars with no significant changes in the results. Second, using log-dollars tends to suppress differences in income at the higher end of the income distribution, but these differences may be important, especially when making comparisons between the self-employed and wage-earning sectors. Finally, although log-dollars can be roughly interpreted in percentage terms or as "rates of return", the interpretation of actual dollars seems more straightforward.

The microdata were analysed using ordinary least-squares regression on a personal computer using SPSS for Windows. Multiple regression equations were estimated for the self-employed and wage-earners separately. Variables were entered into the equations

3 The residuals from each equation are not noticeably different either.
hierarchically, in the following order: sex; ethnicity dummy variables; human capital and "effort" controls; occupational controls; sex by ethnicity interaction variables; and finally a variable carrying the effect of sex over time.
Table 3.1: Durbin-Watson $d$s from Initial OLS Estimation of the Time Series Models Presented in Chapter Four.

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Taxation Returns, 1960-1990</td>
<td>0.342</td>
<td>1.008</td>
<td>1.157*</td>
<td>--</td>
</tr>
<tr>
<td>Annual Labour Force Survey (LFS), 1961-1994</td>
<td>0.107</td>
<td>0.8</td>
<td>0.873</td>
<td>--</td>
</tr>
<tr>
<td>Raw Monthly LFS, 04/61-12/94</td>
<td>0.038</td>
<td>0.244</td>
<td>0.229</td>
<td>0.232</td>
</tr>
<tr>
<td>Seas. Decomposed Monthly LFS, 04/61-12/94</td>
<td>0.023</td>
<td>0.209</td>
<td>0.214</td>
<td>0.214</td>
</tr>
<tr>
<td>X-11 Adjusted Monthly LFS, 04/61-12/94</td>
<td>0.018</td>
<td>0.173</td>
<td>0.176</td>
<td>0.176</td>
</tr>
</tbody>
</table>

Notes:
* Indicates that the test statistic falls in the "uncertainty zone" between the upper and lower Durbin-Watson limit values.
$d$s without stars are significant at the .01 level, indicating that the null hypothesis of nonautocorrelation should be rejected.
-- Model not estimated because of problems of multicollinearity.
See chapter four for more details on the individual models.
Chapter Four: The Resurgence of Self-employment?

Introduction

In chapter two I laid out the theoretical contours of the thesis. This entailed the identification of three distinct theoretical frameworks—monopoly capitalism, post-fordism and post-industrialism—which make both overlapping and contrasting projections about key trends in contemporary society. Primarily because of these overlaps, the relative merits of each of these frameworks cannot be determined with reference to a single trend or issue. Consequently, I have chosen to examine two issues to better differentiate between these positions. In this chapter, I will examine empirically trends in the growth and decline of self-employment, while in chapter five the focus will be on earnings inequalities within self-employment in comparison to differences between employees.

After a very brief review of the major theoretical arguments, the trajectory of the self-employment rate in Canada will be documented. This will be done using two different datasets to provide some sense of the robustness of the trends. Initially, these trends will be documented graphically in order to provide a visual sense of the changes in the level of the self-employment rate between 1960 and 1994. Later, whether or not Canada has experienced a "significant" resurgence of self-employment during this period, and the relationship between this resurgence and the unemployment rate will be tested through a succession of time series regression models.
Growth or Decline in Self-employment

Almost 150 years ago, Marx predicted the imminent disappearance of the "petit bourgeoisie", or the small, independent capitalist. For much of this century, within Marxism (and indeed among non-Marxists as well) this prediction posed no theoretical or empirical difficulties. Empirically, the decline of the petit bourgeois sector throughout the first sixty years of this century is unmistakable. Theoretically, this decline was evidence of the increasing concentration of capital in large companies.

Empirically, there was no evidence, up until the 1970s at least, which might have suggested that the decline in self-employment might have ended. However, during the 1980s, some research began to suggest that the self-employed sector was indeed recovering some of its losses. For example, in Italy, self-employment still constituted a sizable and vigorous component of the economy (Acs and Audretsch, 1993). The self-employment rate in Italy is much higher than elsewhere, with almost one-quarter of the labour force in self-employment. In other countries, the rate varies between about 7 and 15 percent. Further, Steinmetz and Wright (1989) summarize the overall trends in the size of the self-employed sector for nine different countries between 1970 and 1985. In Germany, France, Luxembourg, the Netherlands and Denmark, self-employment rates dropped off slightly throughout the period. In Belgium, The United Kingdom, Ireland, Italy and the United States though, the rates are U-shaped, declining until the late-1970s and then increasing again. Across Europe overall, the pattern is also U-shaped.

Steinmetz and Wright did not examine trends in the self-employment rate in Canada. In fact, there has been relatively little sociological study of the self-employed in Canada. Twenty
years ago, Leo Johnson (1972) examined Canadian trends in self-employment between 1932 and 1972, concluding that the sector had exhibited a steady decline in size throughout the period. Cuneo (1984) studied self-employment rates between 1931 and 1981, concluding that the petit bourgeoisie "persisted" between 1931 and 1951, but declined thereafter. Szymanski (1983) examined trends across several countries including Canada between 1960 and 1978, also concluding that the sector had declined.

Despite all this evidence of the destruction of the self-employed sector, there are suggestions that the situation may now be different in Canada. In other words, is all of this evidence of decline capturing only one side of the U-shaped pattern found in some countries or have declines continued throughout the 1980s in Canada as has happened in some other countries? Cohen (1986) hints that the size of the self-employed sector did grow in Canada between 1975 and 1986\(^1\) and this trend is supported by OECD data (OECD, 1992). Moreover, Steinmetz and Wright (1989) found a small but significant increase in self-employment in the U.S., our closest neighbour, from the mid-1970s onwards. More recently, Crompton (1993) has documented a "renaissance" of the self-employed in Canada, concluding that the shift to a service economy has produced an increase in self-employment over the past twenty years.

Myles and Turegun (1994) argue that progress on the explanations for this resurgence, if indeed it has occurred, is in its infancy. They review some of the major factors that have been proposed to explain this revival. They conclude that the shift to a service economy, which has been well documented in Canada (Boyd, Mulvihill and Myles, 1990; Crompton, 1993), and

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\(^1\) Cohen only examines two points in time, which makes the interpolation of a distinct trend rather difficult.
investments in information technologies are only partial answers. They also mention the
development of post-fordism as a possible cause, but provide no mention of its explanitory
power.

This conflicting evidence about self-employment in Canada poses an interesting
empirical problem. But the issue becomes even more engaging when it is tied to conflicting
theoretical predictions about what a growth or decline in this sector suggests about the larger
economy. In this chapter, I am not concerned primarily with the causes of any possible
resurgence in self-employment in Canada. Rather, my goal is to investigate whether or not self-
employment has or has not increased recently and what this means for different theoretical
understandings of the Canadian economy. Before proceeding to a consideration of the
evidence, it will be useful to review very briefly the major theoretical understandings of
declines and increases in self-employment.

**Monopoly Capitalism**

As noted in chapter two, Baran and Sweezy (1966) develop the basic argument
underpinning the framework of monopoly capitalism. As monopoly capitalism stabilized, small
firms disappeared and large monopolistic and oligopolistic firms took control not only of
particular markets, but also of industries and even nation-states. In Canada, a large body of
writing has examined empirically the historical development of monopoly capitalism out of a
frontier staples economy (Naylor, 1975; Clement, 1975; Carroll, 1986; Williams, 1980). And
despite some internal disagreements over the categorization of specific fractions of the
capitalist class, the fact that the Canadian economy is now based around monopolies is
unquestioned. Also as noted above, Carl Cuneo's position was that the eventual destruction of the petite bourgeoisie was obvious. Moreover, some researchers have claimed that any persistence of this class in recent years was due more to unemployment than the dynamism of the class itself (Linder, 1992).

Post-fordism

In contrast, a post-fordist understanding of contemporary economies is consistent with an increase in self-employment. Like the monopoly capitalist position, post-fordism argues that modern economies are split into a core and periphery, that capitalism is unstable, and that we have entered a new long wave of capitalist development. Where the two positions differ, at least in regard to the concerns of this thesis, is over the importance of knowledge in social and economic life, and the future of small firms and the self-employed.

Within the post-fordist framework, flexible specialization, as the new dominant mode of production, allows small firms and self-employed individuals to establish and exploit market niches, leading to substantial increases in the size of this sector. However, the effects of these new technologies on the self-employed is not always beneficial. Many post-fordists argue that much of the growth in self-employment will occur in the economic periphery, although they do acknowledge that some self-employed individuals will participate in the high-paying, highly skilled core of the economy. Moreover, growth in self-employment is not strictly dependent on the use of new technologies under post-fordism. Rather, growth can occur simply as a result of the increased flexibility of the entire regime of accumulation brought about in part by these technologies (Neis, 1991).
Post-industrialism

As outlined in chapter two, there are two main variants of the post-industrial society thesis—an optimistic version of the "information society" associated with Daniel Bell (Bell, 1962; 1971; 1979) and the more pessimistic writing of Touraine and others on the "programmed society". Both strands argue that the defining characteristic of the post-industrial age is that knowledge, rather than industrial production, has become the basis of contemporary society. Both strands are also consistent with increases in overall self-employment.

Although few theorists of the post-industrial age have made explicit predictions about self-employment, Steinmetz and Wright (1989) have ably mapped the connection between the theories of post-industrialism and expected empirical trends in the size of the self-employed sector. They argue that in a post-industrial society we should expect an increase in overall self-employment because of the decentralization of the post-industrial economy, and particularly the service sector. As this sector expands, so should self-employment. But they also contend that various high-technology industries should experience an increase in self-employment because businesses in these industries can be started with small amounts of capital. Unfortunately, because of data limitations, I will not be able to investigate the latter claims about sectoral growth in self-employment, but instead will focus on overall levels.

In summary, monopoly capitalist theory continues the original Marxist contention about the eventual disappearance of the self-employed while the post-fordist and post-industrial theses reverse the prediction and argue that self-employment should be on the increase in modern society. However, these frameworks also differ over the nature of the self-employed sector in general. Under monopoly capitalism, the self-employed are a dependent
legacy of an earlier era, while in the post-industrial age the self-employed are a dynamic and resurgent class. After a brief discussion of these different characterizations, I will investigate trends in the growth or decline of the self-employed sector over the last thirty years.

**Self-employment: Autonomous or Dependent Class?**

According to the monopoly capitalist thesis, the self-employed or petit bourgeois sector is an archaic residue of an earlier era of capitalism. As such, it is doomed to extinction in the face of huge monopolistic firms. To the extent that it does persist, it does so only at the munificence of the core sector, and in this sense its survival is dependent upon the core sector.

There are two senses in which this class or stratum is dependent. First, the class is seen to be a political functionary of the larger sector. That is, individual entrepreneurs often espouse right-wing, conservative political attitudes. Coupled with the fact that these people are reminiscent of an earlier halcyon period of capitalism, they provide strong ideological support for an unfettered capitalist economy. Because of this, large firms are quite content to have the self-employed do their ideological work for them, and allow them to persist for this reason.

But this argument has been challenged on empirical grounds. Hakim (1988) for instance shows that it is very difficult, if not impossible, to characterize the self-employed sector politically. Attitudes within the sector, in Britain at least, run the gamut from the extreme right to the extreme left. In light of the diversity of political viewpoints held by members of this class, research in this area appears to be dissolving.

But the self-employed are also argued to be dependent on the large-scale sector in more material terms. Specifically, self-employment is fundamentally a marginal form of work.
This marginality has at least two dimensions. First, people, in general, do not choose to be self-employed, but fall into running their own businesses because other options have been exhausted (Ram, 1992). Second, the entrepreneurial sector is often viewed as essentially a "passive resource" (Myles and Turegun, 1994:109) which helps the large-scale sector to be a bit more flexible. Laid-off workers can become self-employed and hired on a contract basis, thereby saving firms from paying benefits, and from committing to a long-term salary. More generally, the self-employed act as a reserve labour pool, of often relatively skilled workers, who can be easily coaxed out of their businesses whenever the economy improves. In other words, self-employment can be seen as a form of unemployment.

Marc Linder (1992) has probably been the most vocal proponent of this position, piecing together an eclectic mix of arguments from both Marxist and non-Marxist traditions. He argues, among other things, that the self-employed sector is really just a form of unemployment and therefore is not worthy of study in its own right. He shows that the self-employment rate is positively related to the unemployment rate in the construction industry. From this he concludes that self-employment in general is a dependent stratum which increases and decreases in size depending on changes in the unemployment rate. These claims mesh well with traditional Marxist arguments, as well as with the logic of monopoly capitalist theory.

Arguments about post-fordism are somewhat equivocal on the issue of the relationship between self-employment and unemployment. Some commentators clearly favour the idea that self-employment is basically a product of unemployment. For example, Joachim Hirsch argues,

On the basis of unemployment, a marginalized production and service sector is
developing. This marginal . . . sector with its small production, craft and retail businesses and its many forms of "alternative" services fills, as it were, the gaps and niches which the world-market oriented process of hyperindustrialization leaves or opens up.

On the other hand, people like Piore and Sabel (1984) argue that the revival of craft production in small firms and shops through flexible specialization is "at the heart of the theory of post-fordism" (Kumar, 1992:63). According to this logic, the new post-fordist society is based fundamentally on an independent, autonomous small firm and self-employed sector. Kumar (1992) also notes that an important element of post-fordist society is the rise of individualistic and entrepreneurial cultural values, which would presumably translate into a vigorous self-employed sector.

In contrast to these differences within post-fordism about the dependence of the self-employed sector on unemployment, the post-industrial thesis shows no similar cracks. A defining feature of the post-industrial age is the de-centralization brought about by the spread of knowledge and technology throughout a society (Badham, 1984). A key component of this de-centralization as a spur to self-employment is that knowledge, particularly in the form of the computer, allows individuals to avoid high business start-up costs and to exploit small, specialised markets (Steinmetz and Wright, 1989). Consequently, the growth of self-employment under post-industrialism is not a response to unemployment, but a response to the growth and spread of knowledge.

It is now time to turn to an examination of these different predictions in relation to some actual data. First, a brief picture of the size of the self-employed sector in Canada, and how it has changed in absolute terms over the past thirty years will be presented. Following
this, the differing expectations regarding the growth or decline in the self-employed sector, as well as whether or not unemployment should be related to self-employment will be tested in a succession of time series regression models.

The Growth of Self-employment

As implied above, much of the conventional wisdom about the self-employed sector is in need of updating. The OECD (1992), Cohen (1988) and Crompton (1993) are the notable studies which have documented the rate of self-employment in Canada beyond 1981. These reports suggest that previous claims about the continuing decline of the self-employed are no longer accurate, and that the self-employment rate has rebounded significantly.

One way to assess this possibility is to examine the total number of self-employed people in Canada over time. Table 4.1 shows the estimated average number of self-employed individuals in Canada for each year between 1961 and 1994. In 1961, there were 969,000 self-employed individuals, while by 1994 the number had risen to over 1.3 million people. This represents approximately 10% of the labour force in this year (The Labour Force, Cat. No. 71-001). The sheer number of self-employed people in Canada provides even further justification for the study of this sector. Not only is it important theoretically, but well over a million people earn a livelihood by running their own business. Moreover, as can be seen in Table 4.1, the number of entrepreneurs has been increasing steadily since 1976, with only some small dips in 1986 and 1989.

Although the total number of self-employed individuals gives us some sense of the importance of the sector in absolute terms, it does not necessarily tell us much about the
relative importance of the sector vis a vis the rest of the Canadian working population. That is, if population growth has exceeded the increases in self-employment documented in Table 1, then the size of the entrepreneurial sector in relation to the rest of the labour force may actually be declining. The obvious growth in self-employment shown in Table 1, may be purely the product of population growth. Yet all of the theories mentioned above make arguments about the relative size of the sector, so any population-related increases in self-employment are uninformative in this context. The way to determine whether the size of the self-employed sector has actually grown, after population growth has been controlled, is to analyze the self-employment rate.

We can get an immediate sense of whether this is true simply by plotting the self-employment rate over time. Figure 4.1, which illustrates the annual rate of self-employment in Canada between 1953 and 1990 shows that the self-employment rate has indeed increased dramatically in recent years. Data for the numerator in this rate are taken from the annual publication *Taxation Statistics*. The denominator in the rate is the total population of Canada fifteen years of age and older. More details on why this value is chosen for the denominator instead of the total labour force will be discussed later in the section on unemployment.

Figure 4.1 reveals that the pattern of unincorporated self-employment in Canada is U-shaped, consistent with what Steinmetz and Wright (1989) found for the U.S. and many European countries. The rate in Canada is lowest in the mid to late 1970s. Thus it is not surprising that many of the earlier studies of the stratum predicted the eventual disappearance of the class (Cuneo, 1984; Johnson, 1972). What these studies documented was only one side of the curve.
The other point to note about the pattern in Figure 4.1 is that the stratum has recovered between 1980 and 1990, all of the ground it lost between 1953 and 1977. That is, the self-employment rate was the same in 1990 as it was in 1953. Moreover, the rate of recovery is significantly faster during the latter period than the earlier rate of decline. Steinmetz and Wright (1989) only examine levels up to 1985, but at that time in the U.S. the self-employment rate had not recovered to its 1953 level. Further growth in the sector between 1985 and 1990 may have changed this conclusion.

The U-shaped pattern revealed in the data from taxation returns is also present in data from the Labour Force Survey. Figure 4.2 shows the annual self-employment rate based on the population 15+. Again, the rate reflects only the unincorporated self-employed. The increase in self-employment up to 1990 shown in the previous figure is continued here through the end of 1994.

But there are also differences between Figures 4.1 and 4.2, the most notable being the larger initial decline registered in the Labour Force Survey rate. Partly because of this, the Labour Force Survey rate also does not climb back to its earlier level as is the case in the taxation rates. In other words, the Labour Force Survey rate more closely mirrors those found by Steinmetz and Wright (1989) for the U.S.

One reason for the difference between these two rates is the different way in which the data are collected. The taxation data are based on filed tax returns while the Labour Force Survey data are obviously the results of this survey. It is difficult to decide which rate is more "accurate". In order to be included in the taxation data, an entrepreneur must have operated a business which generated more income than from other sources. This probably biases these
results towards more stable enterprises, as well as those organized enough to file tax returns, and against relatively fleeting enterprises, and those engaged in the informal economy. The Labour Force Survey rate may pick up the more fleeting companies, but not necessarily those who participate in the informal economy. The reason is that participation in the Labour Force Survey requires a commitment to fill out a questionnaire over a period of months, and involves answering questions about potentially sensitive topics.

If these remarks are true, it is not surprising that the taxation rate is more stable than the Labour Force Survey rate. As with any enterprise, the longer a company/individual stays in business, the less likely it will go out of business. Therefore, if a company stays in business long enough to file a tax return, it is reasonable to assume that its chances of being in business next year are better than for more transient operations.

However, this does not readily explain the large initial drop in self-employment in Figure 4.2. That is, a reasonable assumption from the taxation data is that there exists a core of entrepreneurs who have operated businesses over a relatively long period of time. If we choose to view the large initial decline in self-employment in Figure 4.2 as evidence of the destruction of the more transient self-employed and the persistence of more stable entrepreneurs, this does not explain why there were more short term self-employed thirty years ago than there are today. Conversely, if we view the initial decline as the destruction of both short term and long term enterprises, the relative persistence of the self-employed according to the taxation data becomes anomalous. Given that it is unclear as to which rate is more accurate, both sets of rates will be examined with time series models.

These patterns suggest that the prediction from monopoly capitalism about the
continuing decline of the petit bourgeois is wrong. The predictions from post-industrialism
and post-fordism seem to be supported. However, monopoly capitalists might argue that this
reversal of fortune does not represent a significant increase in self-employment. That is, the
apparent concave pattern may simply be a result of the scale of the graph and the real pattern
would be more accurately characterized as persistence.

One way to answer this concern is to assess how well different curve specifications fit
the data according to a time series regression model. Steinmetz and Wright (1989) do exactly
that and find that a simple trend variable, time, as well as a quadratic time variable are
statistically significant when regressed on two different specifications of the annual self-
employment rate. The same process can be followed with these two Canadian datasets. But
before doing so, a discussion of the potential relationship between self-employment and
unemployment is necessary.

Self-Employment and Unemployment

As mentioned, Marc Linder (1983; 1992) and others (Bogenhold and Staber, 1991)
have claimed that the self-employed sector is fundamentally a dependent stratum and as such
its size is dependent upon the number of unemployed people in an economy. In particular, the
argument is that the two groups are positively related, such that an increase in unemployment
will produce and increase in self-employment. Linder, (1992) along with others, have found
that unemployment has had a significant, positive effect on self-employment in several
countries. For example, Steinmetz and Wright (1989) found that the unemployment rate is
positively related to the self-employment rate in the U.S. (although they conclude that its effect
is declining), while Bogenhold and Staber (1991) reach similar conclusions in their investigation of rates in eight different countries [although see Meager, 1992 for a critique of Bogenhold and Staber (1991) and Linder and Houghton, (1991) for a critique of Steinmetz and Wright (1989)]. These conclusions are supported by many micro-level, qualitative studies which often point out that a lack of waged employment opportunities "forces" people into self-employment (Bogenhold and Staber, 1991; Ram, 1992).

But despite these trends, there is also evidence to suggest that increased unemployment does not lead to increased self-employment. That is, several studies have also failed to find a significant relationship between unemployment and self-employment. Recently, Payne and Payne (1993) analyzed the different chances of recently unemployed people versus employed people to enter self-employment in Britain between 1979 and 1989, and found that there were no overall differences between these two groups. However, they did find that well-educated males and younger females had greater propensities towards self-employment as a result of being recently unemployed. But despite some significant effects of unemployment on self-employment among certain sub-groups, there is no clear overall relationship between the two phenomena. The lack of consensus between studies has led Meager (1992) to conclude that the results of these studies are, "... at best inconclusive, and at worst contradictory" (Meager, 1992:128).

Meager (1992) and Linder and Houghton (1991) have recently attacked this whole area of study by publicly criticizing two important studies on this topic. Meager criticises Bogenhold and Staber (1991) and Linder and Houghton (1991) criticize Steinmetz and Wright (1989) on several separate grounds.
Linder and Houghton (1991) criticize Steinmetz and Wright (1989) on two important issues. First, Linder and Houghton argue that using official statistics to measure the self-employment rate is unwarranted and hence the rise in self-employment documented by Steinmetz and Wright may be an artifact. Second, Linder and Houghton contend that the self-employed cannot be equated with the petite bourgeoisie because many people who are self-employed are only "nominally" self-employed. That is, many people who label themselves as self-employed for official purposes are really employees because they sell only their labour power, have been fired and re-hired on contract by the same company in order to avoid unions and/or benefits payments, or are the victims of other such "employer scams" (Linder and Houghton, 1991:734).

Steinmetz and Wright (1991) provide a convincing rebuttal of these two points in a response to Linder and Houghton's criticisms. They admit that official estimates of self-employment may be off, but it would need to be shown that these official estimates have been getting worse over time for the rise in self-employment to be artifactual. In other words, if the rise in self-employment is a product of poor recording, it would need to be demonstrated that these recording methods have been getting worse at the same rate or higher than the increase in self-employment.

The other possibility is that official estimates are improving and that the rise in self-employment is simply an artifact of better recording techniques. That is, the increase in self-employment may simply be the result of official agencies doing a better job at finding the self-employed. Steinmetz and Wright do not address this possibility in their reply, but it seems unlikely that official estimates of self-employment are any worse or better now than in the past.
Regarding the equation of the self-employed with the petite bourgeoisie, Steinmetz and Wright again agree that the two phenomena are not identical. However, they are correct in pointing out that there is far more overlap between these two groups than Linder and Houghton are willing to admit. Linder and Houghton contend that many of the nominally self-employed are in reality employees because they sell only their labour power in a market. They cite carpenters who provide their own tools and "service providers who use no means of production" (Linder and Houghton, 1991:729) as two examples of this group of people. Steinmetz and Wright rebut these examples by arguing that in order for an independent carpenter to be classified strictly as an employee, it would have to be shown that this person sold "their labour power only to one contractor or capitalist rather than to a variety of contractors and that they do not sell their products directly to consumers" (Steinmetz and Wright, 1991:739). A similar situation would have to exist for fee-for-service providers in order for them to be classified as employees.

What Linder and Houghton (1991) (and later Linder alone [1992]) are really pointing to in their critique of Steinmetz and Wright is that the self-employed sector contains some marginal members. In other words, the boundaries between self-employment, waged employment and even unemployment are not clearly delineated, nor is the official definition of self-employment always the appropriate one. In this sense, their critique is more relevant for decision-makers in major data-collection agencies than to the users of the data such as Steinmetz and Wright. Clearly there are carpenters, fishers, accountants, janitors, doctors and others who operate very close to these dividing lines, and we need to be sensitive to this. However, Linder and Houghton's solution of throwing the baby out with the bathwater is
hardly necessary. More refined data on marginal workers, entrepreneurs and the unemployed, which would allow the investigation of different definitions of these categories would be of tremendous benefit. However, until such data become available, researchers interested in these problems will be forced to use existing official estimates.

Meager (1992) directs a more focused attack on the work of Bogenhold and Staber (1991). Specifically, he questions several methodological aspects of Bogenhold and Staber's work, most of which are internal to their models and the handling of the data. But there are two key points which generalize to other studies, including this one. First, the theory underlying the claims that unemployment is positively related to self-employment is fundamentally an argument about flows between unemployment and self-employment, while typical investigations, including Bogenhold and Staber (1991) and Steinmetz and Wright (1989) use data on the stocks of unemployment and self-employment.

The reason that most studies use "stock data", of course, is because that is what is usually available. Good data which tracks the nature of peoples' labour market participation is currently nonexistent in Canada and elsewhere. A notable exception to this is the Labour Force Survey data in Britain used by Payne and Payne (1993).

However, it may be possible to address this concern, if only indirectly. In particular, "stock data" and "flow data" are not as unrelated to each other as Meager implies. Specifically, flows are a prime determinant of stocks. Knowing the flow rates for two different stocks when one is trying to investigate the relationship between these stocks is obviously the most desirable situation. However, when this is not possible because of data limitations, one must make do with information about the stocks.
In this situation, the frequency with which information on the stocks is recorded may become very important. That is, the smaller the time interval between estimates of the stocks, the better is one's sense of changes in them. The primary determinant of these changes, obviously, are the rates of in- and out-flow. Translated back to the connection between self-employment and unemployment, Steinmetz and Wright (1989) examine this relationship using annual data from 1948 to 1985 in their study, while Bogenhold and Staber also use annual data. In Canada, it is possible to use both annual and monthly estimates from the Labour Force Survey, beginning in April, 1961 to investigate these trends, which provides a finer sense of the changes in self-employment and unemployment over time. This does not mean that the monthly data can be equated with "flow data" in any direct sense, but it does alleviate some of the concern about using stock data by capturing much more of the change occurring in the stocks over time. Consequently, I will analyze both annual and monthly data in this thesis.

The second point made by Meager is that he claims that analyzing the self-employment rate is very questionable. Rather, the appropriate dependent variable, according to him is the self-employment level. He chastises Bogenhold and Staber for using the self-employment rate taken as a proportion of total employment.

Meager is partially right and partially wrong in this criticism. He is right in criticising Bogenhold and Staber for using total employment as the denominator of the self-employment rate, but is wrong in arguing that examining the level of self-employment is a better measure. As Meager ably demonstrates, changes in the self-employment rate calculated as a proportion of total employment (or the total labour force) are most likely to be the product of changes in the denominator (total employment) and not the numerator (self-employment). Specifically, the
size of the denominator will shrink as unemployment rises, simply because there will be an increase in discouraged workers (retirees, students returning to school, etc.). When this happens, even if self-employment remains unchanged, the self-employment rate will increase because the denominator has shrunk. Moreover, changes in the denominator are likely to outweigh changes in the numerator simply because the total labour force is much larger than the total number of self-employed.

Meager's proposed solution to this is to examine the levels or total numbers of self-employed individuals. But this is unsatisfactory because, as mentioned previously, it does not provide for any control for population increase. In Table 4.1 we clearly saw that the numbers of self-employed people have increased dramatically. By just looking at the numbers of self-employed people, between 1961 and 1994 in Canada, self-employment appears to have increased by almost 40%. But even if the rate of self-employment remained stable over this period, an increase in population would lead to a higher number of self-employed people. Population increase is unlikely to be a problem over the short term, but over a period of even ten years, the effects are likely important.

The solution to both of these problems is to calculate a self-employment rate based on the total adult population as a denominator. This is what Steinmetz and Wright (1989) do, for precisely these reasons. Staber and Bogenhold (1993) also use this denominator in a later study. In all of the following regression models, the rate analyzed is calculated on the basis of the total population fifteen years of age and over, which will also be referred to as the "total adult population". Figure 4.3 plots the monthly self-employment rates as a proportion of the total population aged fifteen and over. Comparing it with the previous figures reveals that it
follows the same overall U-shaped pattern as the annual Labour Force data, only with monthly fluctuations.

Time Series Regressions

Figures 4.1, 4.2 and 4.3 all revealed that the self-employment rate has increased in recent years, which suggests that the Marxian prediction about the disappearance of this class is off the mark. However, as was suggested, this evidence might be countered by arguing that the up-turn in self-employment is not significant, and that at worst, we are witnessing the temporary persistence of this class, not its resurrection. Moreover, since the self-employment rate should be related to the unemployment rate, this persistence is merely the result of higher levels of unemployment experienced recently in Canada.

While I can say nothing about the long term future of this class, we can get a sense of how seriously we should treat the recent growth of this sector as well as the relationship between unemployment and self-employment rates. This can be done through the estimation of a succession of time series regression models\(^2\). I will estimate models for the annual taxation data, the annual Labour Force Survey and the monthly Labour Force estimates. The models to be employed are those outlined by Steinmetz and Wright (1989), with the one exception noted in chapter three\(^3\).

\(^2\) Ordinary least squares (OLS) estimation depends upon an assumption of no serial correlation among the errors. While not shown, serial correlation is present in all of the data used in these models estimated by OLS, requiring the use of estimated generalized least squares regression.

\(^3\) The exception is that a model including a term carrying the effect of unemployment over time introduces a high degree of multicollinearity in the annual data.
Before proceeding to an investigation of the models, it is important to point out a key difference between the models for the annual data and the models for the monthly data concerning the expected direction of the coefficient for the unemployment rate. In the annual data, a coefficient which is either positive or negative and significant lends support to the Marxian "unemployment push" (Meager, 1992:128) hypothesis. The reason is that over this longer period of time, what is being measured are aggregate changes within each year. If the Marxian prediction is right, and unemployment has gone up in one year, we should expect to see an increase in the self-employment rate because a higher overall unemployment rate will induce more people to start their own business. This logic is consistent with a positive coefficient. On the other hand, if unemployment has gone down in a year, we should also expect the self-employment rate to go up because this suggests that at least some of the previously unemployed have left this status by becoming self-employed (Meager, 1992).

This ambiguity is not present in the monthly data. Specifically, if the unemployment push hypothesis is correct at this level, we would expect the coefficient for the unemployment rate to be negative and significant. The reason is that on a monthly basis what we would be capturing, at least partially, is the transition or "flow" of people from unemployment into self-employment. In other words, a negative and significant coefficient for the unemployment rate would suggest that the unemployment rate has decreased in that month because some people have started their own business. A positive and significant term for unemployment though, would not support the Marxian prediction. The reason is that people cannot be unemployed and self-employed at the same time (i.e., in the same survey). Therefore, if unemployment and self-employment are positively related, it suggests that both populations are gaining or losing
recruits, but not by people moving from one of these categories to the other.

With this difference in mind, we can now turn to an examination of the models. Table 4.2 presents the results of estimated generalized least-squares regressions using an iterative Prais-Winsten estimator of $p$, as a correction for autocorrelated errors\(^4\) for the annual taxation data. The numbered columns represent different models.

The results in column 1 confirm the impression from Figure 4.1 that the self-employment rate has increased recently, offsetting any losses during earlier periods. Specifically, the fact that the time term is not significant in this model indicates that there is no discernible linear increase or decrease in the self-employment rate over the 1953 to 1990 period.

In model 2 of Table 4.2, the quadratic time term is positive and highly significant, suggesting that the shape of the self-employment rate over the period is parabolic. Again, there is no distinguishable trend over time. The result for the time-squared term mirrors the findings of Steinmetz and Wright (1989), but they find that the self-employment rate has been decreasing over their time period. Again, because their time span does not match the period investigated in this thesis, the results are not strictly comparable. If good data were available back to 1948 in Canada, we might see an overall downward trend in the self-employment rate here as well.

In column 3, the effect of the unemployment rate is included in the model. As is evident, the unemployment rate does seem to have a significant effect on the self-employment rate. Steinmetz and Wright use the Beach-MacKinnon estimator of $p$, but Johnston (1984) concludes that there is no difference in efficiency between these two methods.

\(4\) Steinmetz and Wright use the Beach-MacKinnon estimator of $p$, but Johnston (1984) concludes that there is no difference in efficiency between these two methods.
rate, as far as the taxation data are concerned. And as discussed above, the negative sign of the coefficient does not necessarily indicate evidence against the Marxian unemployment push hypothesis. One way to interpret this coefficient is that over the 1960 to 1990 time period, decreases in unemployment have produced increases in self-employment because previously unemployed people have become self-employed.

On the other hand, the negative coefficient could indicate that the Marxian prediction is wrong. In other words, another equally plausible interpretation of the negative coefficient is that self-employment may increase during periods of economic recovery (if high unemployment is associated with economic stagnation as suggested by Bogenhold and Staber, (1991)). Here, it would not be necessary to make arguments about the self-employed sector leading the economy out of a downturn, as is suggested in some of the job-creation literature (Birch, 1979). It could simply be that many people respond to the increasing opportunities of an economic upswing by turning to self-employment. Thus, these results do not provide any convincing evidence either way about the status of the unemployment push hypothesis.

Some of this ambiguity may be resolved by looking at the results from a different set of data. If we turn from the taxation data to the annual data from the Labour Force Survey reported in Table 4.3, we see that the results in column 1 in both tables are very similar. However, the findings are slightly different between the two tables in columns 2 and 3. There is one important similarity and two important differences between these two tables.

First, the quadratic time variable is still positive and significant, indicating that the rate over the period is concave. Further, as Steinmetz and Wright (1989) argue, this indicates that the recent increase in the self-employment rate is statistically significant.
As for the differences, the first point is that there is a significant and negative overall trend in the self-employment rate once the parabolic shape of the rate has been controlled. In other words, over the slightly longer time period, and with a different measure of the self-employed population, the rate appears to have dropped, unlike in the taxation data where the rate was unchanged. This is more consistent with Steinmetz and Wright's (1989) results than the results from the previous dataset. It is also more consistent with the results of many investigators of self-employment in Canada who have emphasized the decline of this sector up until at least the late 1970s.

Second, and more importantly, in column 3 the term for the unemployment rate is not significant. In other words, changes in the unemployment rate have no effect on changes in the self-employment rate as these measures are employed in the Labour Force Survey. This strengthens the case against the Marxian dependency argument because according to a slightly different definition of self-employment, unemployment has no effect. That is, regardless of whether the negative coefficient for the unemployment rate in the previous table indicates support for or evidence against the unemployment-push hypothesis, the fact that this result is not robust across a different specification of the rates casts doubt upon its accuracy in the first place.

It could be argued further that even the existence of a significant result in Table 1 is problematic. As Johnston cautions when using any time series regression model, "... it would be advisable to apply more stringent significance levels than usual in testing coefficients in models with autocorrelated disturbances" (1984:327). The reason is that all of the procedures for correcting for autocorrelated disturbances are quite error prone, and "seriously
underestimate standard errors, making estimated coefficients appear to be much more
significant than they really are" (Johnston, 1984:327). If so, we might want to question
whether a coefficient which reaches the .05 level of significance is really significant. A more
appropriate course of action would be to use the \( p = .01 \) as a minimal level of significance in this
context. If we follow this logic, then unemployment does not have a significant effect in the
taxation data either.

What these two tables suggest is that the unemployment rate either has an ambiguous
effect or no effect on the self-employment rate in Canada between 1960 and 1994. This
contrasts with the results of Bogenhold and Staber (1991) and Steinmetz and Wright (1989),
but is generally consistent with the findings of Payne and Payne (1993) for different countries
and over slightly different time periods.

As noted above, examining the relationship between unemployment and self-
employment with annual data does not necessarily lead to firm conclusions. This is not the case
if we examine the connection between these trends using monthly data. To repeat, if the
unemployment push hypothesis is correct, we should see a negative and significant coefficient
for the monthly unemployment rate in a regression model. This would suggest that as people
leave unemployment, at least some of them are becoming self-employed. The relationship is
not exact, of course, because we do not know for sure where the formerly unemployed have
gone.

A positive and significant coefficient would be evidence against the unemployment
push hypothesis when we are examining the relationship between the unemployment and self-
employment rates in the same month. The reason is that this would suggest that both
populations are gaining new members from elsewhere, presumably the population of employees or people not previously in the labour force such as students, retirees or people previously unpaid for their work ("homemakers", etc.).

Table 4.3 presents the results of four models of the self-employment rate, which correspond to those estimated by Steinmetz and Wright (1989). All of the models in this table are based on the raw, unadjusted data for each variable. The results in columns 1 and 2 are the same as those in Table 4.3, which is comforting given that the data in Table 4.3 are merely the annual mean values of these data. Specifically, column 1 shows that there has been no significant change in the self-employment rate over the 1961 to 1994 period, and column 2 confirms that the shape of the self-employment rate is parabolic.

But in column 3, an important difference emerges. Specifically, the unemployment rate exhibits a strongly significant effect on the self-employment rate in the expected direction (i.e., consistent with an unemployment push hypothesis). This suggests that on a monthly basis, as the unemployment rate drops, the self-employment rate rises. In column 4, the effect of unemployment on self-employment continues to hold. The last term in this model suggests that the effects of unemployment have not changed over time.

The question that then arises is whether these patterns continue to hold once the seasonal effects are controlled. In other words, is the effect of unemployment dependent upon seasonal variations? This question can be examined by using seasonally adjusted data. However, data which has been seasonally adjusted by official data collection agencies such as

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5 The only differences are the exact estimation procedure, that the data here are monthly rather than annual, and the exact calculation of the time and time-squared terms. See chapter 3 for details on these differences.

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Statistics Canada may not always be adequate for the purposes of this investigation. The reason, as Hylleberg (1986) notes, is that these agencies usually make seasonal adjustments on each series independently. The goal is usually to model (and subsequently remove) seasonal variations as accurately as possible within a particular series, without much consideration for how the data might be employed in an explanatory context. This may introduce problems when the goal of a research programme is to identify relationships between two or more series. If different series are adjusted using different filters, the results are unreliable and can often produce confusing models. Consequently, Hylleberg (1986) recommends using the same filter to adjust all of the series used in a regression model.

To ensure consistency in the seasonal filters, I employed two different seasonal adjustment methods. First, the raw series are adjusted by seasonal decomposition and the results presented in Table 4.5. Second, the raw series were also adjusted by an X-11 ARIMA procedure, using an ARIMA (0,1,1)(0,1,1) additive model, with the results presented in Table 4.6 This model fit both the self-employment and unemployment rates quite well from my own estimation of the time-dependent processes generating these two series, and were also the models selected as the "best fit" models generated automatically by SPSS for Windows. There was no clear indication of whether the models should be additive or multiplicative, but the fit of the above model was better in the additive context than in the multiplicative one.

In Table 4.5, the first two columns again reproduce the results found in the annual data, with the slight exception that in column 1 there appears to be a slightly significant downward movement in the self-employment rate over the period. The interesting model is again shown in column 3 where the effect of the unemployment rate on the self-employment rate shown in the
unadjusted data disappears in the adjusted data. The term for the unemployment rate is nowhere near significant, and its sign is in the opposite direction to what would be expected.

Column 4 shows that the effect of unemployment over time is not changing, but there appear to be some problems with this model. Specifically, the fact that the time term loses significance suggests that multicollinearity might be a problem. Indeed, if we examine the correlations among the independent variables, we see that the correlation between time and the unemployment rate over time is 0.95. The statistical significance of the results in this model are therefore somewhat unreliable. However, since the other coefficients do not suffer problems of multicollinearity, and the unemployment rate is insignificant in the previous model, the results in column 4 are not that important.

In Table 4.6 the results presented are for data that have been seasonally adjusted by the X-11 ARIMA method used by Statistics Canada. Once again, the results in the first two columns are familiar from previous models. In column 3, the nonsignificant effect of the unemployment rate on the self-employment rate reported in the models of the seasonally decomposed data is confirmed. Also, the results in column 4 are very similar to those in column 3. As with the previous data, there are problems of multicollinearity in model 4.

The overall message of these two tables is that the effects of the unemployment rate on the self-employment rate are purely seasonal. That is, once the seasonal variations are removed, so is the influence of unemployment on self-employment. The most likely explanation for this result is that the self-employed sector is very heterogeneous. The results actually lend some support to the arguments made earlier about there being a core of self-employment which is relatively immune to the pushes of unemployment and a more marginal sector which
can be affected by it. It is impossible to say from the results presented above just which sector is larger or more important. However, the fact that unemployment affects self-employment on a purely seasonal basis suggests that the marginal sector is the smaller of the two.

One final consideration in evaluating these different models concerns the fit of the model to the data. One measure of this fit, of course, is given by the coefficients of determination for each model, but another, and more appropriate in this context measures the degree of serial correlation in the data after the model has been estimated. In table 4.4, there appears to be some residual autocorrelation in the data, indicated by the values of the Durbin-Watson statistics. This suggests that the models for these data are misspecified. Serial correlation does not appear to be a problem in the other monthly or annual series, casting some doubt on the validity of the seasonal effects of unemployment on self-employment.

These results are in direct contrast to the conclusions presented by Bogenhold and Staber (1991) for eight different countries. They are also at odds with the findings of Steinmetz and Wright (1989) for the U.S., although Steinmetz and Wright do conclude, on the grounds that the effect of unemployment on self-employment is decreasing over time, that the unemployment push hypothesis would appear to be declining in force.

Explanations of these differences are hard to come by. Part of the reason is surely due to national differences. Bogenhold and Staber, in their cross-national investigations of the unemployment push hypothesis, found that in some countries the push effect did not appear to operate. Specifically, in Norway, Sweden, Belgium and Japan the unemployment rate was a non-significant predictor of the self-employment rate. If we now include Canada in this group, it is unclear what these five nations have in common which would mitigate the unemployment
push effect.

As Meager (1992) points out, the institutional structures of different nation-states will likely have strong effects on the relationship between these two processes. He cites the example of Germany, where legislative control over the entrance to certain occupations with high self-employment rates would suggest that unemployment push effects should be minimized in this country.

This leads to speculation about why there appears to be no unemployment effect in Canada. Since this is predicted by the post-industrial framework, the argument is that it is the knowledge explosion which is driving self-employment rather than unemployment. This need not lead automatically to claims about the vitality of economies with large numbers of self-employed, as in the job-generation literature. It may simply be that the decentralization of the economy which accompanies the transition to the information age has been exploited by more and more people setting up their own businesses. Indeed, it may even be that knowledge, or education, is attenuating the link between unemployment and self-employment. Specifically, it may be that unemployment is an important provocation to self-employment, but the transition form unemployment to self-employment now includes an intermediary period of schooling.

If training and/or schooling is becoming an increasingly common stage between unemployment and self-employment, then the lack of an effect in the above models may be misleading. That is, unemployment may have a strong effect on self-employment, but this effect does not show up in aggregate rates. For example, an initial increase in unemployment will displace many workers who may then upgrade their skills before starting a business. During this time, unemployment and self-employment rates have likely fluctuated for other reasons,
masking the effects of that initial displacement.

Payne and Payne (1994) are able to shed some light on the relationship between unemployment, training and self-employment in Britain. They found that unemployed men aged 16 to 24 were more likely to become self-employed than the same men who had just left full-time education. In other words, full-time training for younger men does not lead to higher self-employment. This is not surprising given that training at this younger age usually consists of either university, college or technical school training. None of these types of education would necessarily lead to a high propensity to self-employment. Indeed, it might even be argued that with a few exceptions, technical and university programs produce employees. Hotel management, sound engineering, plumbing, sociology, nursing and education are not programs in which self-employment is a natural or inevitable work outcome.

The two notable exceptions to this of course are medicine and law. A very large proportion of doctors and lawyers are self-employed in Canada and elsewhere (Taxation Statistics, 1990). However, the sheer length of time required to complete law school and medical school, coupled with stringent entrance requirements makes these types of programs unlikely avenues between unemployment and self-employment. Other programs such as chartered accountancy and chiropractry pose similar barriers for similar reasons.

However, certain training programs may indeed intervene between unemployment and self-employment. Established programs which require relatively little time (e.g., real estate licensing) and new government sponsored training programs for "entrepreneurial success" may provide very feasible links from unemployment to self-employment. Indeed, some of the

6 They do not investigate this relationship for women.
government sponsored programs target specifically the unemployed population, and sometimes unemployment insurance benefits are even tied to participation in these programs.

The possibility that training and schooling mediates the unemployment to self-employment process also fits well with the emphasis in post-industrial theory on the increasing importance of knowledge in social life. Indeed, it might even be argued that according to the post-industrial thesis, unemployment should be linked to self-employment through schooling. As people gain more knowledge, they become more able to participate in the dynamic entrepreneurial sector.

But returning to school is only one reason why the unemployment to self-employment link may not show up in aggregate Canadian data, and there are surely others. It is difficult to derive a purely post-fordist explanation for this phenomena because of the splits among post-fordists about whether or not there should even be a link between unemployment and self-employment. On the one hand, Hirsch (1991) quite clearly expects high aggregate levels of unemployment to increase the size of a marginal sector of the economy, composed largely of the self-employed. Yet this rather traditional Marxist prediction is at odds with the tables presented above.

On the other hand, the literature which focuses more exclusively on flexible specialization seems to suggest that self-employment and unemployment are only related coincidentally. Participation in craft-based production, demands high levels of skill and autonomy (Piore and Sabel, 1984, Hirst and Zeitlin, 1991), traits which are not necessarily dispersed throughout the ranks of the unemployed. At the national level, an argument which contends that self-employment should be increasing as the Canadian economy switches from
mass production to flexible specialization, regardless of what happens to unemployment levels, is not seriously jeopardized by any of the data presented above. The only slight inconsistency is that there seems to be a fairly strong relationship between self-employment and unemployment in the seasonal data. This probably points to some of the diversity in the sector, with the more marginal self-employed dropping in and out of the category in response to unemployment. When seasonal fluctuations are controlled however, these effects disappear. More research on the interconnections between unemployment, education and self-employment is clearly necessary.

Conclusion

In this chapter, I reviewed the major theoretical arguments informing this thesis with reference to expectations about changes in the self-employment rate over time, and whether or not any increases in self-employment should be the product of higher rates of unemployment. After a brief discussion of the overall size of the self-employed sector in Canada, I then presented results from two different datasets, tracking graphically the self-employment rate over the last thirty or so years. These trends were then tested more rigorously in a sequence of time series regression models.

The main message from these analyses is that the Marxist claim that the petite bourgeoisie or the self-employed are on the eve of destruction receives little or no support. The self-employment rate has clearly increased in recent years, and this increase has been important. The time series models reveal that the shape of the self-employment rate is parabolic, first decreasing and then increasing. This latter increase has basically wiped out any
decreases the sector experienced earlier in the taxation data, while the later increases did not reach the initial levels in the Labour Force Survey data. Additionally, the unemployment rate has no non-seasonal effect on self-employment, further undermining the Marxian prediction about the self-employed sector being a dependent stratum. Indeed, even this seasonal effect is questionable, given the possibility of misspecified models on these data.

The results clearly favour the post-industrial and post-fordist predictions that the self-employed sector should be increasing in size and importance in the contemporary Canadian economy. The post-industrial thesis also suggests that the self-employment rate should be independent of the unemployment rate, which is supported in the results. The post-fordist framework, on the other hand is equivocal on this issue. Therefore, it is necessary to test these two frameworks against each other on other concerns. That will be the focus of the next chapter, which will examine earnings inequalities within the self-employed sector.
Figure 4.1: Annual Self-employment Rate, 1960-1990.

Source: Taxation Statistics
Figure 4.2: Annual Self-employment Rate, 1961-1994.

Source: The Labour Force (Cat. # 71-001).
Figure 4.3: Raw Monthly Self-employment Rate, 1961-1994.

Source: The Labour Force (Cat. # 71-001).
Table 4.1: Annual Numbers of Self-employed Individuals, Canada, 1961-1994.

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<tr>
<th>Year</th>
<th>Number of Self-employed (thousands)</th>
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<tbody>
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</tr>
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<td>938</td>
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<td>1963</td>
<td>932</td>
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Table 4.2: Time Series Regressions on the Annual Self-employment Rate, Taxation Data, 1960-1990.

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<td>(53.67)</td>
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<td>.00014035**</td>
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<td></td>
<td>(-.09)</td>
<td>(1.59)</td>
<td>(2.86)</td>
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<td>.00002172***</td>
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<td></td>
<td></td>
<td>(4.96)</td>
<td>(6.10)</td>
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<tr>
<td></td>
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<td></td>
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<td>.543</td>
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<td>.00103173</td>
<td>.00097043</td>
</tr>
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<td>1.65 (1.364)</td>
<td>1.78 (1.435)</td>
</tr>
<tr>
<td>N</td>
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<td>34</td>
<td>34</td>
</tr>
</tbody>
</table>

Notes:

"Time" is a trend variable calculated by dividing each case number by 12.
"Time squared" is calculated to maximize the t-value for this term.
"Unemp. Rate" is: (raw number of unemployed ÷ population 15+).
The numbers in parentheses beside the Durbin-Watson values are the upper bounds for the appropriate models. A Durbin-Watson value greater than these numbers indicates that we should not reject the null hypothesis of nonautocorrelation.

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<th>b (3)</th>
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<td>-.00073898***</td>
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<tr>
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<td>(-1.73)</td>
<td>(-12.10)</td>
<td>(-8.19)</td>
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<tr>
<td>Time squared</td>
<td></td>
<td>.00007063***</td>
<td>.00007062***</td>
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<td>(11.60)</td>
<td>(11.46)</td>
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<tr>
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<td>(.07)</td>
</tr>
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<td>0.866</td>
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<tr>
<td>Std. Error</td>
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<td>0.00153658</td>
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Notes:
The numbers in parentheses beside the Durbin-Watson values are the upper bounds for the appropriate models. A Durbin-Watson value greater than these numbers indicates that we should not reject the null hypothesis of no positive autocorrelation.

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<td>(24.55)</td>
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<td>(10.89)</td>
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<tr>
<td></td>
<td></td>
<td>(1.25)</td>
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<td>.393</td>
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<td>1.64 (1.715)</td>
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Notes:

"Unemp. Rate X Time" is the unemployment rate multiplied by time.
The numbers in parentheses beside the Durbin-Watson values are the upper bounds for the appropriate number of regressors, but for only 200 cases, which is the limit of the Savin and White table (SPSS, 1993). The actual bounds for 405 cases are undoubtedly higher. A Durbin-Watson value greater than these numbers indicates that we should not reject the null hypothesis of nonautocorrelation, while a value lower than these bounds is evidence of autocorrelation.

<table>
<thead>
<tr>
<th></th>
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<tr>
<td></td>
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<td>(28.13)</td>
<td>(27.28)</td>
<td>(19.88)</td>
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<td>(3.41)</td>
<td>(2.90)</td>
<td>(.87)</td>
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<td></td>
<td>(14.89)</td>
<td>(14.99)</td>
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<td>2.06 (2.285)</td>
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<tr>
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<td>405</td>
<td>405</td>
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Notes:
The dependent variable and the unemployment rate have been seasonally decomposed. The numbers in parentheses beside the Durbin-Watson values are the lower bounds for negative autocorrelation for the appropriate number of regressors, but for only 200 cases, which is the limit of the Savin and White table (SPSS, 1993). The actual bounds for 405 cases are undoubtedly closer to 2. A Durbin-Watson value lower than these numbers indicates that we should not reject the null hypothesis of nonautocorrelation, while a value higher than these bounds is evidence of negative autocorrelation.

<table>
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<td>(3.32)</td>
<td>(3.16)</td>
<td>(1.39)</td>
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<tr>
<td>Durbin-Watson</td>
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<td>N</td>
<td>405</td>
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Notes:
The dependent variable and the unemployment rate variables were seasonally adjusted using the X-11 ARIMA procedure with an ARIMA (0,1,1)(0,1,1) additive model. The numbers in parentheses beside the Durbin-Watson values are the lower bounds for negative autocorrelation for the appropriate number of regressors, but for only 200 cases, which is the limit of the Savin and White table (SPSS, 1993). The actual bounds for 405 cases are undoubtedly closer to 2. A Durbin-Watson value lower than these numbers indicates that we should not reject the null hypothesis of nonautocorrelation, while a value higher than these bounds is evidence of negative autocorrelation.
Chapter Five: Earnings Inequalities in Self-employment

Introduction

In the preceding chapter, I showed that the self-employed sector has followed a U-shaped pattern of decline and growth between 1960 and 1990. Unlike the U.S. pattern in which overall decline far outstrips the modest growth since the mid-1970s, the self-employed in Canada have regained much of the losses since 1960. This is strong evidence against claims that this sector is doomed to extinction, and lends support to both post-industrial and post-fordist interpretations of recent economic changes.

Chapter Two outlined the key points of similarity and difference between post-fordist and post-industrial visions of modern society. Both frameworks predict a rise in self-employment. But they diverge over the direction of ascriptive inequality in modern society. Post-industrialism is consistent with overall decreases in the levels of inequality within a society, and especially within a key sector of the post-industrial economy, the self-employed or small business sector.

In contrast, post-fordist theory is consistent with the persistence of ascriptive inequality. The capitalist basis of modern society is not altered under the post-fordist framework. And since ascriptive characteristics have always been used as a basis for rewards under capitalism, there is no reason to believe that these processes have been significantly mollified by the transition to post-fordism. Indeed, there is some speculation that the shift to post-fordism might even increase these inequalities (Lovering, 1990).

Chapter Two also presented a brief outline of how notions of inequality embedded
within post-industrialism and post-fordism connect to other bodies of theory and research on inequality—and specifically earnings inequality—from other traditions, notably feminism and neo-classical economics. In this chapter, I will review briefly the arguments about inequality from both the post-fordist and post-industrial standpoints, elaborate on the literature on earnings inequality and then proceed to an examination of the data.

**Post-industrialism, Post-fordism and Inequality**

As mentioned in chapter two, an overall neglect of the issue of inequality represents a major flaw in both the post-fordist and post-industrial frameworks. But despite this, it is possible to elicit some general predictions about the nature and direction of inequality which we might expect if Canada has entered a post-industrial or post-fordist stage.

The overall implication of the post-fordist framework is that inequalities will persist, and possibly even increase, under post-fordism. As Hirsch argues, the post-fordist workplace is characterized by, "new hierarchies among the wage earners and a systematic individualization of work relations" (Hirsch, 1991:25). Since post-fordism is merely another form of capitalism, there is no reason to expect decline, even though some post-fordist thinkers emphasize that post-fordism results in some benefits for the "left" such as the rise of a service class uncommitted to the goals of capitalists and an increase in the number of small, craft-based enterprises (Rustin, 1989 cited in Kumar, 1992). The reason is that these benefits have clearly been accompanied by setbacks in the traditional strengths of the left under fordism—namely the weakening of mass unions and collective bargaining arrangements, decreases in electoral support for social democratic political parties and the gradual destruction of the Keynesian
Welfare State (Whyman and Burkitt, 1993). From Hirsch's emphasis on the individualization of the post-fordist workplace, it seems clear that he is worried about the destruction of precisely these avenues and outcomes of collective (i.e., unionized) action.

Further, an important component of the post-fordist society is the increasing polarization of the economic core from its periphery begun under fordism. Bonefeld claims that increased flexibility reinforces a divide within the workforce between, "...a qualified core worker and a peripheral post-Fordist mass worker" (Bonefeld, 1991:55). This post-Fordist mass worker, "...is characterised as an individualized, flexible, non-unionised worker with low income, short-term employment contracts and fewer safety provisions" (Bonefeld, 1991:55). Similarly, Hirsch contends that,

Alongside the computer-based rationalization of industrial production, ... there develops a peripheral production and service sector, which in terms of working conditions is also characterized by uncertain and badly paid jobs, mostly requiring little skill and with minimal or no provision of social security (Hirsch, 1991:55).

There is some empirical support for this position. Overall levels of economic inequality, in the form of wage variance, skill levels and poverty levels, while remaining steady or declining slowly for many years, began to rise during the 1980s (Morris, Bernhardt and Handcock, 1994). Much of this research arose out of Braverman's work on the skill content of jobs, but was also carried forward in the deindustrialization literature where the focus was wages, not skills (Myles, 1988). Post-fordism, then, is concurrent with increasing economic inequality.

However, it is not just overall amounts of variance in wages, skills and the numbers of people in poverty that are important. Rather, the concentration of groups of people based on
certain ascribed characteristics at the ends of the wage, skill and wealth continuums is also of particular interest. The most salient ascriptive characteristics reported and studied in the literature are gender and race/ethnicity. Indeed, as noted by Morris, Bernhardt and Handcock (1994), the polarization of inequality does not occur equally for all gender and racial groups.

But as noted in chapter two, explaining the connections between capitalism, gender and racial/ethnic oppression is very difficult. There is currently no consensus on how to theorize the connections between these three elements, but some tentative conclusions are possible. It is unreasonable to argue that patriarchy is simply a derivative of capitalism, but articulating an alternative structure of patriarchy has also been problematic. Moreover, racial oppression has been shown to be an important stratifier within both capitalism and patriarchy. Nevertheless, despite disagreements over theoretical issues, there is general recognition in all of these bodies of work that class, race/ethnicity and gender are and will remain significant sources of inequality in capitalist society, competitive, monopolistic or post-fordist.

In contrast, the level of inequality should decrease in post-industrial society. The clear message from the proponents of post-industrialism is that inequalities will decline in the information age. This is not to say that all inequality will disappear. Rather, some "legitimate" inequalities will persist because different individuals will possess different types and levels of abilities (Aron, 1967). These predictions are consistent with another strand of theorizing, developed mainly in neo-classical economics, called human capital theory.

Research on earnings inequality abounds in both sociology and economics. One of the central objects of study in both disciplines is the "gender gap", or the difference between the earnings of women and men. More recently, earnings gaps between people from different
ethnic and immigrant backgrounds has also received attention. The theory most frequently investigated in this literature is "human capital theory" (Becker, 1962). It is an attempt, developed primarily within neo-classical economics by people like Gary Becker, Sherwin Rosen and Jacob Mincer, to explain earnings gaps between individuals by market returns to particular characteristics. The argument is that people entail costs in order to acquire formal skills, which in turn should make them more productive. Therefore, when these people re-enter the labour market, their greater skills will make them more productive and consequently deserving of more income (Becker, 1962). Thus, the "gender gap" in earnings is not necessarily the result of women being paid less than men because of their gender, but because on average they possess less human capital—specifically in the form of work experience and education—and/or they are not able to employ their human capital as efficiently as men (Rosen, 1987).

The classic empirical assessment of human capital theory in economics is Mincer's study of earnings in 1974. He showed that he could explain over fifty percent of the variance in earnings among non-farm white men solely on the basis of education, weeks worked and age. Further, he specified that the basic human capital earnings function consisted of measures of education, job experience and a measure of cumulative job experience (job experience squared). This model has been used in countless studies with data from different countries and time periods and appears very robust (Maxim, 1993). In Canada, Maxim (1993) examined this basic model among self-employed and wage-earning men and found that it explained almost 29% of the variance in earnings.

But despite the obvious power of human capital theory to explain differences in
earnings, there are two major problems with Mincer's model. First, he is not able to specify the mechanisms under which human capital exerts an influence on earnings, nor is his model correctly specified, leaving out several key variables which predict earnings (Maxim, 1993).

An older tradition in economics argues that the industry in which a person works is the prime determinant of earnings (Swedberg, 1990), while sociologists from both Marxist and non-Marxist persuasions have argued that occupational differences are important (Wright, 1985; Goldthorpe, 1979; Kilbourne, et al., 1994). Other factors which are often thought to affect earnings are "effort" variables, some of which were identified by Mincer (1974), such full or part-time status, weeks worked and hours worked, and personal characteristics such as marital or immigration status (Goyder, 1981; Maxim, 1993; Portes and Jensen, 1989).

Regarding the links between human capital and earnings, dual-economy theory, segmented labour markets, and "signalling" theory or "credentialism" have all been proposed as correctives to the original human capital model. Specifically, these arguments attempt to explain the mechanisms by which human capital variables exert an influence on earnings.

Dual economy theory argues that human capital elements receive different returns in different portions of the market. For example, the labour markets of large firms, governments and certain professional and semi-professional groups pay a higher rate of return to education and experience than is found in more peripheral sectors of the economy (Sorenson, 1990). Segmented labour market theorists argue that institutional structures such as internal labour markets and professional certification requirements affect returns to human capital in similar ways (Edwards, 1979).

Signalling theory, derived primarily in neo-classical economics, attenuates the links
between human capital credentials, actual human capital and earnings. The argument is that human capital credentials may or may not indicate actual human capital (or skills) in any individual case, but that employers use these credentials, along with other noticeable signals such as a person's sex, race/ethnicity and age in hiring and remuneration decisions as indicators of probable productivity. These signals are used instead of actual productivity and skill measurements because it is too expensive to investigate the latter on an individual basis. This argument has also been labelled as a process of "statistical discrimination" (Bielby and Baron, 1986:759).

Theories of credentialism deny the link between attributes and productivity even more strongly than signalling theory. The argument is that educational credentials indicate socialization to particular, elite subgroups and this is rewarded by other members of these groups (see Hunter and Leiper, 1993 for a good review of these positions).

Empirically, the majority of Canadian studies, in sociology at least, find some support for human capital theory, but also show that it is inadequate to account for the gender gap in earnings (Christofides and Swidinsky, 1994; Fillmore, 1990; Gunderson and Riddell, 1991; Hunter and Leiper, 1993; Li, 1992; Maxim, 1993). However, one of the problems with much of this research for the concerns of this thesis is that much of it has been focused exclusively on employees (Christofides and Swidinsky, 1994; Kidd and Shannon, 1994). The contribution of various factors to earnings may be very different in the self-employed sector.

Sex Segregation in Self-employment

There is general agreement that women do not fare as well as men in their
opportunities for economic success. Women tend to receive lower amounts of remuneration for their work, and face more barriers to advancement than men. Although these claims are meant to apply to all forms of work, they have been derived primarily from the study of waged employment. But there are good reasons for believing that running one's own business will allow a person to escape these barriers.

Most importantly, being self-employed means being one's own boss, which may allow women to escape the "glass ceiling" and differential pay for equal work found in other forms of employment. Also, given that women in Canada are currently acquiring more education and are beginning to break into the traditionally male-dominated disciplines such as law, medicine and engineering (Arai and Guppy, 1993), there is the possibility that they will be qualified to enter the higher-paying technical and professional sectors of self-employment.

On the other hand, all other forms of work are gendered despite the existence of pay equity and civil rights legislation, and guarantees against discrimination in the Charter of Rights and Freedoms (Cuneo, 1990). Therefore, if the force of law is not sufficient to curtail these inequalities, it may be unreasonable to expect self-employed women to escape their effects. There may be important structural obstacles to earnings equity in self-employment, not adequately addressed through more formal mechanisms such as the law (Kay and Hagan, 1994).

Also, the situation for women may be worsened by their concentration in lower-paying jobs when they do work for wages (Boyd, Mulvihill and Myles, 1991), and that even in the same job women earn an average of only 70% of what men earn. This may make it more difficult for women to acquire sufficient capital through wages and credit to establish their own
businesses in higher-cost, but better-paying industries.

The available Canadian data suggest that women and men do not experience self-employment equally. Although many more women than men have started businesses recently, women have lower average earnings, are concentrated in household and personal service industries (unlike men who are substantially represented in agriculture, construction and business services), and run their own firms on a part-time basis much more often than men (Cohen, 1988). While not conclusive¹ these data suggest that the supposed autonomy of self-employment for women is at least partially illusory. Indeed, Belcourt et.al. (1991) conclude that women may escape a "glass ceiling" in wage work by becoming self-employed, but that they then enter a "glass box" where pressures from all sides (e.g., customers, workers, family, other business people) impinge upon their success.

Racial/Ethnic Segregation in Self-Employment

Broad predictions about ethnic segregation in self-employment may be derived from arguments analogous to those presented above for differences by sex. Being one's own boss may eliminate the barriers to upward mobility for ethnic minorities found in the wage labour market. Also, Canadians from various ethnic groups are now acquiring high levels of education—and immigrants to Canada continue to possess, on average, more years of schooling than people born in Canada (Arai and Guppy, 1993)—which may open new opportunities for these people.

¹ Cohen only provides figures for 1986 so we have no idea if women and men are becoming more or less equal over time(Cohen, 1988:75).
But the literature on ethnic enterprise has also given rise to more specific hypotheses about the fate of ethnic entrepreneurs in self-employment. These propositions have been generated from a close examination of social relations within various ethnic communities or "ethnic enclaves", primarily in Britain and the United States.

Self-employment has been found to be a route of upward mobility within certain ethnic groups (Portes and Jensen, 1989; Waldinger, Aldrich and Ward, 1990). The reason is that certain features of ethnic and immigrant communities provide good opportunities for ethnic enterprise. Specifically, the size of an ethnic community within a particular locality, and the extent to which it is isolated linguistically from the larger community are associated with higher rates of ethnic entrepreneurship (Evans, 1989). In turn, entrepreneurs who participate in an ethnic economy have higher average earnings than co-ethnic employees (Portes and Jensen, 1989).

Once established, the degree to which ethnic entrepreneurs can move beyond the enclave economy to serve the wider community influences their economic success (Ram, 1992). As Waldinger and Ward (1990:78) argue, the more ethnic entrepreneurs are able to mobilize ethnic resources to establish firms and exploit opportunities -- created either by entrepreneurs from other ethnic groups vacating markets or simply by serving the larger society -- the more successful these individuals tend to be in comparison to entrepreneurs from other ethnic groups.

There is some debate about the influence of the recency of immigration on success in self-employment. For example, Portes and Jensen (1989) found that more recent immigrants to the Cuban enclave economy in Florida fared better than Cubans who had left their home
country earlier. If this finding is borne out in other ethnic groups, this would suggest that one's immigration status rather than, or in combination with, one's specific ethnic background, may be important for entrepreneurial success. However, the immigration of Cubans to the Miami area may be relatively unique in that many "successful" entrepreneurs may have fled the Castro regime, which in turn might have boosted average earnings. Therefore, these patterns may not be replicated in Canada.

Finally, there is a suggestion that women from minority backgrounds may experience a "double negative" on earnings, one for their gender and one for their race. Part of the reason for this potential double penalty might be overt discrimination (i.e., both gender and ethnic discrimination), but part of it also might be that minority and "majority" women differ in terms of their actual time spent in the labour force. Beach and Worswick (1993) and before them Goyder (1981) investigated this latter possibility among women, using the 1973 Canadian Mobility Survey. Both studies found that time spent at home had important effects on earnings, although Beach and Worswick (1993) found no differences in the relative effects of time at home between native-born and foreign-born women.

But few studies have examined differences in earnings by race/ethnicity among self-employed Canadians. The primary study (Li, 1992) which has examined both gender and racial gaps by social class in Canada indicates that there are both similarities and differences between capitalists and wage-earners. Li (1992) finds that both gender and race, alone and in combination, affect peoples' earnings, although the effects are stronger among wage-earners.

What is most likely is that group characteristics and recency of immigration interact to enhance success in self-employment.
than among capitalists. Moreover, gender has a stronger effect than race, although race is an important stratifier among men. Maxim (1993), in a study focused specifically on the self-employed versus wage-earning sectors, also finds that visible minority males earn significantly less than white males, but unlike Li, his results show that race has a stronger effect among the self-employed than among wage-earners. This is somewhat surprising, given that both studies are based on the same data. The primary differences are that Li uses the entire eligible sample from the 1986 microdata file while Maxim uses a sample of 6708 wage earners and 6603 self-employed males, between the ages of 25 and 64 who are not in the agricultural sector. Also, Li uses multiple classification analysis whereas Maxim employs multiple regression (with a correction for selection bias via a probit model) in his analyses. These methodological differences may account for differences in the results.

These numerous studies of racial inequality in earnings suggest that there may be important effects on earnings by *ethnicity* as well. Yet it is unclear what the use of visible minority-white (e.g., Christofides and Swidinsky, 1994; Li, 1992; Maxim, 1993), or native-born versus foreign-born (e.g., Beach and Worswick, 1993) dichotomies are designed to capture. Li is quite clear that his use of the visible minority indicator is an attempt to measure racial differences, while Christofides and Swidinsky are less committal on the issue. And while this is not the place to get into an extended debate about race, ethnicity, and adequate definitions of each, the use of a dichotomy to capture the effects of these ascriptive elements can be problematic. This is not to say that ethnicity is necessarily a better measure. Rather, the point is that an interesting empirical question about ethnic versus racial effects arises when we allow ourselves to consider other definitions of these concepts.
Further, in terms of the data used in this research and by Li (1992), using a person's ethnic identification rather than the visible minority indicator contains another dimension of difference. That is, the visible minority indicator is a derived variable, based on people's responses to questions about their ethnic lineage. Besides the distinct possibility that the visible minority indicator misclassifies individuals (e.g., "Latin American" is one group within the visible minority indicator which might include many "whites"), the ethnicity data allow a much fuller differentiation of the earnings expectations of different individuals based on their heritage. Therefore, an important supplementary question in this research will be to examine whether or not ethnic differences between wage-earners and entrepreneurs mirror the racial differences reported by Li and others.

Data and Methods for Earnings Analysis

Data for this chapter come from the Public Use Sample Tapes (individual files) of the Canadian Census for the years 1971, 1981 and 1986 (the 1976 tape does not include information on key variables such as class of worker, industry, income, or ethnicity). The microdata tapes provide information for each respondent on variables such as sex, ethnic background, industry, class of worker (i.e., unemployed, self-employed with or without paid help, wage-earner, unpaid family labourer), income from various sources, highest level of schooling, and year of immigration to Canada. Although all cases for each year were eligible for analysis, some cases were excluded because of missing values on key variables such as class of worker and ethnicity, or who were unemployed or out of the labour force. To make the analysis manageable, a sample of 14923 and 16852 wage-earners and entrepreneurs.
respectively were drawn from the population of eligible cases. These sample sizes are between 2.5 and 3 times larger than previous samples taken from these tapes to analyse earnings (Maxim, 1993), but not as large as others which use the eligible data from an entire tape (Li, 1992).

The biggest problem with these data surrounds the changes in the measures of ethnicity across the three time periods. However, as mentioned in chapter three, the models below were also estimated using place of birth and home language as indicators of ethnicity, with very few changes in the results.

Multiple regression equations were estimated for the self-employed and wage-earners separately. Variables were entered into the equations in blocks, according to a specific logic. Variables for a person's sex and ethnic background were entered first, to determine if indeed any earnings differences were evident. Relevant controls for human capital (i.e., knowledge), personal characteristics and occupation were then entered to discover if earnings differences by sex or ethnicity disappeared once these characteristics were controlled. Subsequently, terms carrying the combined effects of gender and ethnicity were entered to investigate the "double penalty" idea, and finally, because sex seemed to exhibit such a consistent influence, the changing effect of sex over the period was investigated with the addition of a further interaction term.

The dependent variable in Table 1 is total income from wages and self-employment. This variable was chosen over total income, self-employment income and wage income because it is the most accurate reflection of respondents' earnings from their primary source of work. The full model was also estimated using total income as the dependent variable which
resulted in only minor changes in the estimated equations. Also, using logged income values did not change the substance of the results either, so the tables are presented using real dollars.

Results

The presentation of the results in this chapter is slightly different than what is commonly found in papers presenting regression results. Instead of presenting the model-building history in one table, I have created one table for each step in the model-building process including results for both the self-employed and wage-earners. This allows for easier comparisons across the two populations. Before discussing the actual models, some sense of the differences between these two populations is necessary.

Table 5.1 shows that the self-employed, on average, are older, with higher incomes but less education than employees. They are also more likely to be married, but less likely to be female or to have been born outside Canada than employees. The self-employed stratum is slightly more ethnically diverse than the employed stratum, with fewer people reporting British and French ancestries. Among the remaining ethnic categories, half have higher percentages among employees and the other half have higher percentages among the self-employed.

Occupationally, there are few major differences between the two sectors. The most important are a much higher proportion of employees than self-employed in clerical occupations, and a very low percentage of employees in agriculture compared to one-quarter of the self-employed. Overall, the self-employed stratum exhibits roughly the same level of diversity on these key variables as does the population of employees.

Turning now to the regression equations, in Table 5.2, the only variable affecting
earnings is a person's sex. As can be seen, sex has a highly significant effect on earnings in the expected direction (i.e., women earn approximately $8000 less than men per year in the wage-earning sector and about $8800 less among the self-employed). Sex is also a much better predictor of earnings among employees than among the self-entrepreneurs, explaining 12.6% versus 2.8% of earnings variance in the respective populations.

In Table 5.3, the ethnicity dummy variables are added to the equations, which adds to the proportion of variance explained, but ethnicity is clearly not as important a factor on its own as is a person's sex. Explained variance increases by 0.4% and 2.0% in the wage-earning and self-employed populations respectively. It should be noted here that other relevant controls have not yet been entered into the model so these coefficients are not measuring strictly the effects of sex and ethnicity. Rather, they are measuring sex and ethnic effects, plus some of the variance due to other factors not yet included in the model. So while we might want to conclude that the effects of these ascriptive barriers lends more support to the post-fordist than post-industrial thesis, it is too early to tell because we have not entered those variables which post-industrialism and human capital theory claim should effect earnings.

But before entering these variables, one point about Table 5.3 should be noted. The results in this model are somewhat at odds with Peter Li's (1992) results on income differences by race. In particular, of those ethnic groups which might be considered part of a racial minority (according to a visible minority indicator) only one (Native) exhibits a statistically significant coefficient in the expected direction among employees. Similarly, among the self-employed only people from Chinese backgrounds have significantly different expected earnings, but in the opposite direction to that predicted by Li's results. In addition, race does
not tell the whole story here because a racial dichotomy is insufficient to account for the significant differences in expected income between people within the racial majority.

In particular, employees from French, Italian and "other" ethnic backgrounds earn significantly less than British employees, while workers of Jewish ancestry earn significantly more than British workers. Among the self-employed, German and Ukrainian entrepreneurs earn significantly less than British business owners, while Chinese, Italian and Jewish entrepreneurs earn substantially more than self-employed British people. However, we will need to introduce the relevant controls before anything conclusive can be said about the differences between the effects of ethnic ancestry as opposed to racial or visible minority backgrounds on earnings.

If we return to the examination of post-fordism versus post-industrialism, proponents of post-industrialism, and of human capital theory, might argue that the effects of sex and ethnicity on income in the above models are spurious and will disappear when controls for differences in knowledge or human capital are introduced. The two most important components of human capital are formal education and job experience, or what Becker calls individual-specific and firm-specific human capital (Becker, 1962). Other factors which might affect earnings, such as "effort" controls and personal and family characteristics are also added in at this stage. Here, years of schooling is used as a measure of individual-specific human capital, and age is used as an indicator of firm-specific human capital.

There is evidence to suggest that formal degrees/diplomas have an effect on earnings over and above years in school (Hunter and Leiper, 1993). However, it is not possible to construct a consistent degree measure across the 1971 to 1986 microdata files. Age is highly
correlated with a standard proxy of job experience (or firm-specific human capital), age minus years of schooling minus six (p=0.97). This high level of correlation is also reported by Maxim (1993). The mean number of hours of work per week and the number of weeks worked per year are entered as indicators of the amount of time people spend at work, and marital status and immigration status are entered as relevant personal characteristics. The results of introducing these controls into the equations are presented in Table 5.4.

The first thing to note about the inclusion of these variables is that the fit of the model is improved dramatically over the previous two models. Moreover, the fit is much better among employees than among the self-employed. Explained variance shoots up 30 percentage points among employees and 7.5 percentage points among the self-employed. However, sex and ethnicity remain important predictors of income, even though fewer ethnic backgrounds register significant effects in both populations. Thus, while there is ample support for the idea that differences in human capital affect peoples' incomes, it is also clear that these differences do not eliminate earnings inequalities by gender and ethnicity.

As an aside, the introduction of human capital and effort variables into the equation points up two important differences between the two sectors with respect to work effort and personal characteristics. First, the effects of work effort are much stronger among employees than among the self-employed. Second, marital status has a stronger effect among entrepreneurs than among employees. However, neither of these results are very surprising.

Examining the work effort variables, we see that the number of weeks worked in the previous year has approximately twice the effect among employees as among the self-employed. Also, the mean number of hours per week has a significant, positive effect among
employees, but a non-significant (yet still positive) effect among entrepreneurs. This is to be expected since many employees work for an hourly wage rather than a salary, and many entrepreneurs charge flat rates for a product or service, regardless of the amount of effort they put into producing it. Moreover, we should expect to see an effect for the number of weeks worked among entrepreneurs because this will presumably bear a close relation to how much the business is open during the year (e.g., seasonal versus non-seasonal businesses). The actual hours worked though, may be a little more removed from total income because administrative work does not usually bring a direct return to business operators.

The effect of marriage on income is also not surprising. Much of the ethnographic literature on self-employment points out the importance of a spouse in the operation of a small business. Perhaps most dramatically, Bertaux and Bertaux-Wiame (1981) show convincingly that without a wife running the retail component of an artisanal bakery in France, the bakery would cease to exist. More generally, the contribution of spouses and children as "unpaid family labour" to a small operation is so well established that the Canadian census has listed unpaid family labour as a class of work throughout this century. In part, this may contribute to the relatively large size of the marriage coefficient, with spouses and children's contribution to a family income being reported only by the business owner³.

Turning back to the effects of the two human capital variables specifically, on the one hand the results in this model appear to offer some support for the post-industrial thesis. Specifically, education has a stronger effect among the self-employed than among employees.

³ This is not to suggest that all business owners do not pay family members for their work. There are clearly some tax advantages to splitting incomes among family members.
This suggests that in this crucial sector of the post-industrial economy, knowledge is indeed an important component of success. However, the results are at odds with those of Maxim (1993) who found that education, measured either as years of schooling or in terms of certifications acquired, is not a significant predictor of earnings in self-employment. A more complete specification of the model may eliminate these differences, so I will not discuss them here.

On the other hand, the fact that age has a stronger effect on earnings among employees is somewhat troubling for post-industrialism. It is also at odds with much of the literature on entrepreneurship which points out that work experience is crucially important for entrepreneurial success (Young and Francis, 1991). One explanation for the minimal effects of age among the self-employed in comparison to employees in this model is that age is simply too crude a measure of work experience to assess accurately the importance of the industry-specific knowledge so important in self-employment. In contrast, age is likely a good measure of a person's time in the labour force, which comes closer to the way in which "experience" is most often constructed among wage-earners.

However, the first part of this argument may be difficult to sustain. It is certainly possible that age does not reflect industry-specific work experience among the self-employed. But there are also good reasons to suggest that age should be a good predictor of relevant work experience. Specifically, while some people may choose to set up a business in an industry that they know little about, a good many people will stay within an industry with which they are familiar. Indeed, the identification of a need that is not being served in a market

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4 As mentioned previously, Goyder (1981) and Beach and Worswick (1993) are able to construct a good measure of time out of the labour force. Unfortunately, the Census data do not allow this possibility.
that a person knows well may be the initial spur to self-employment. A more detailed investigation of this anomalous finding is clearly necessary. Moreover, before we can draw any firm conclusions about the importance of knowledge for earnings in self-employment, more variables need to be included in the model. Specifically, since occupation and education are strongly related, we need to separate these effects.

In Table 5.5, controls for occupational differences are added to the equations, which reveals that occupation does have an effect on earnings, but that ascriptive characteristics are still important. The effect of sex persists, as do the effects of ethnicity albeit in slightly different form. Among employees, the effects of ethnicity seem to be converging around race to some degree. That is, people from African and Native ethnicities can expect significantly lower incomes than people from British backgrounds, but racial categories still cannot explain lower incomes for people of French ancestry or the higher incomes for people from Jewish backgrounds. Among the self-employed, there is no convergence of ethnicity around race. The only groups registering a significant effect are Italian and Jewish, and in both cases the effect of ethnicity is positive. This is consistent with Li's claim that race has a stronger effect among wage-earners than among capitalists, and goes against Maxim's (1993) results to the contrary.

In Table 5.5, the results regarding the human capital variables of age and education documented in Table 5.4 change dramatically. Specifically, formal education now registers roughly half the effect among the self-employed than among employees, whereas in the previous model education had a greater effect in the former population than in the latter. Also, the effects of age, as a proxy for job experience and knowledge, completely disappear in the entrepreneurial sector once occupational controls are introduced.
This appears to be fairly strong evidence against the post-industrial thesis. The limited support for post-industrialism in Table 5.4 is no longer present because knowledge appears to have less of an effect on earnings in the self-employed sector than in the employed sector. Since post-industrialism identifies self-employment as a key component of the post-industrial age, it doesn't make sense that success in this sector would not be based on the principal feature of post-industrialism (i.e., knowledge).

But the minimal effects of knowledge on self-employed earnings does not bear directly on the validity of the post-fordist framework. The only connection between them is that the findings tend to contradict a rival of post-fordism. To return to gender and ethnicity, one of Li's main conclusions is that gender and race have both an independent and combined effect of earnings. Specifically, men earn more than women, and whites earn more than visible minorities, but also white men earn more than non-white men, who in turn earn more than white women and non-white women. Christofides and Swidinsky (1994) find similar patterns among the employed population only. Previous models have already shown the independent effects of these factors. In Table 5.6, the results of introducing sex by ethnicity interaction terms are presented.

The first point to note about the results in Table 5.6 is that the interaction of sex and ethnicity appears to be important among employees. This is consistent with the results reported by Li (1992) and Christofides and Swidinsky (1994), but slightly at odds with results reported by Beach and Worswick (1993) who find no overall double penalty for immigrant women. However, including these interaction terms improves the fit of the model by only 0.2%, which is far from overwhelming. Among the self-employed, there is no significant improvement in the
fit of the model. Since Li uses multiple classification analysis, in which tests of statistical significance are not possible, and Christofides and Swidinsky deliberately exclude the self-employed, it is unclear if these results replicate or contradict the results of other studies.

The interpretation of some of the coefficients in Table 5.6 is slightly different than in previous models. Of particular interest here are the coefficients for sex, the ethnicity dummies and the interaction terms (e.g., Ukrainian Gender Gap, Scandinavian Gender Gap, etc.). The fact that the coefficient for sex is negative and significant in both populations suggests that British women earn $6200 and $7700 less per year than British men depending on whether they are employees or self-employed.

The coefficients for the ethnicity dummies measure whether there is a significant difference between men in that ethnic group and men from British backgrounds. That is, the coefficients measure the effects of ethnicity among men only. Among employees, the findings are consistent with other research (Li, 1992; Christofides and Swidinsky, 1994), but also show that ethnicity has an effect on earnings independent of race. That is, it is not only men from visible minority backgrounds who experience differential earnings because of their ethnicity.

Among the self-employed, ethnicity seems to have very little effect on male earnings. Only Jewish and Italian men have significantly different (and higher) earnings than British men. Race does not register any effect among self-employed men, although the signs of the coefficients are generally in the expected direction. This finding is not surprising given that self-employment has often been found to be a route of upward mobility among immigrants and people from non-dominant ethnic groups, especially in relation to co-ethnic employees (Portes and Jensen, 1989). It is also consistent with Li's (1992) observation that the effects of race are
stronger among employees than among capitalists. In this context, Maxim's (1993) results to the contrary appear anomalous.

Finally, the interaction terms can be interpreted in two ways. They measure whether there are significant ethnic differences between sex groups, or whether there are significant sex differences between ethnic groups. For example, the term for the French gender gap shows that the gap between men and women is smaller for people from French backgrounds than for people from British backgrounds. Analogously, the same term shows that the gap between men and women is smaller for the French than for the British. Among employees then, the gender gaps for people from several ethnic backgrounds appear to be smaller than the gap among British people. And although ethnicity has a generally negative effect on earnings among male employees, the much larger gap between British men and British women suggests that the effects of sex are still stronger than the effects of ethnicity. Among the self-employed, none of the gender gaps by ethnicity are significant. In combination with the highly significant and negative effect for British women versus British men, this also suggests that sex appears to act as a master status on earnings determination for entrepreneurs.

The results in Table 5.6 provide some evidence against the post-fordist model. Specifically, the interaction of gender and ethnicity (or the double penalty for women from minority ethnic backgrounds) has no effect on self-employed earnings. One way to interpret this is to suggest that as the self-employed sector increases in size the overall amount of ascriptive inequality will decline because the combined effects of gender and ethnicity do not

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5 The gaps are smaller because the coefficient is positive. If it had been negative, the gaps would have been wider. See Hardy (1994) for an explanation of why both interpretations are acceptable.

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operate in the sector. This would provide some support for the post-industrial position. However, another equally plausible interpretation of these results is that gender acts as a "master status" or overriding factor in earnings determination in self-employment.

Given these two possibilities, a better test of the relative validity of post-industrialism versus post-fordism is to investigate whether the effects of sex have changed over time. Indeed, the examination of the changing effects of a key ascriptive variable over time is probably the best test of these positions, given that their predictions about decreases or persistence in the levels of inequality are really predictions about changes over time. And while we could also investigate the changing effects of knowledge over time, this would not provide as much grounds for differentiating between the positions. The reason is that both positions highlight the importance of knowledge in modern economies, albeit the emphasis is certainly stronger in post-industrialism. Therefore, evidence of an increase in the effect of knowledge over time on earnings is not as good a test of these two positions as whether or not the effect of sex has changed over time.

The final model examines whether the importance of a person's sex has changed over the 1971 to 1986 period. From the change in the R-squared value between Table 5.6 and Table 5.7, it is clear that there has been no change in the effect of sex over this time frame. That is, women could expect as much of an earnings penalty based on their sex in 1986 as they could in 1971 in both the self-employed and wage earning sectors of the economy. Moreover, the coefficient for the interaction term in both populations is not significant. This is rather clear evidence that the effects of sex on earnings have not changed over the 1971 to 1986 period. In other words, the post-fordist framework is more consistent with these results than the post-
industrial framework.

Discussion

How do these overall findings relate to the propositions from the post-industrial and post-fordist approaches to gender and ethnic inequality outlined previously? Is Canada a post-industrial or post-fordist society? In general, there is more support for characterizing Canada as post-fordist, although there are also elements of post-industrialism at work.

To reiterate, both post-industrial and post-fordist approaches to modern society isolate the self-employed sector as a site where important changes are taking place. What is happening to inequalities within the self-employed sector is especially important for assessing the validity of these approaches, although inequalities in the wage-earning sector are also of interest given its size. Under post-industrial conditions, inequalities, especially those not based on knowledge, should decrease. In a post-fordist society, inequalities should persist, and given that gender and race/ethnicity are such salient divisions of identity, inequalities should continue particularly along these lines. But before discussing these specific issues, it will be useful to summarize the similarities and differences between my findings on the self-employed sector and other empirical research on earnings inequalities.

It is not the case that women have achieved earnings equality with men in the self-employed sector, despite the potentially liberating effects of being one's own boss. Overall, gender plays an important part in the determination of expected earnings in both sectors. This is not surprising, given that previous studies have found similar patterns (Maxim, 1993). It is also rather predictable that human capital, effort and occupational variables are found to be
important factors in the determination of income, but they do not eliminate differences by sex and ethnicity. Replicating results reported by Maxim (1993), the factors determining predicted earnings operate differently in the self-employed sector than among employees. Specifically, sex, ethnicity, human capital and occupational variables account for about half of the variance in earnings among employees, but only about one-quarter of the variance among entrepreneurs in both the present research and in Maxim's (1993) analysis.

In addition, both Li (1992) and Maxim (1993) suggest that there are important differences between the earnings functions in the self-employed versus the employee populations. Maxim suggests that years of schooling is not important for predicting self-employed income, but is important among employees. In these results, education does have an effect on earnings among the self-employed, but the magnitude of the coefficient is less than half the value estimated for employees. Li reports that gender and ethnicity have stronger effects on earnings among employees than among capitalists. These results are also replicated in this research. But despite these broad similarities to previous research, there are five important differences revealed in this study.

First, ethnicity clearly has an effect on earnings which cannot be reduced to race, or visible minority status. At one level, this is not surprising given the small numbers of people classified as visible minorities (Li, 1992; Christofides and Swidinsky, 1994). However, this finding is nonetheless important, revealing that there are significant differences in earnings among "white" Canadians. Indeed, in this research ethnic differences are more important than racial differences in determining predicted income, especially among the self-employed where racial differences are insignificant. Moreover, the fact that these results do not change using
two other indicators of "ethnicity" (i.e., home language and place of birth) suggests that these findings are relatively robust, despite the problems created by changes in the ethnicity variable over the 1971 to 1986 period.

Second, the interaction of sex and ethnicity does have an effect of expected earnings among employees, but has no effect among entrepreneurs. However, the importance of these effects is minimal even among employees, increasing the fit of the model by only 0.2%. In contrast, Li (1992) and Christofides and Swidinsky (1994) report that the combined effects of gender and race are "important" in determining predicted income.

One possible explanation for this lack of effect is that the overall sample sizes are too small to permit accurate estimation of these combined effects. While this may be partly true, the results are also consistent with the idea of gender acting as a "master status" in earnings determination. In all of the models presented above, gender exerted a stronger influence on earnings than ethnicity. Moreover, even in the results presented by Li (1992) and Christofides and Swidinsky (1994) a person's sex had a much stronger effect on earnings than their race. Therefore, knowing a person's ethnic identification may not help much in predicting their earnings once their sex is known. This may be especially true in the self-employed sector where the interaction of sex and ethnicity adds nothing to the fit of the model.

Third, ethnicity operates much differently among the self-employed than among employees. There are two aspects of this difference. First, among the self-employed, people from most ethnic backgrounds can expect no return to their ethnicity. However, people from Jewish and Italian ancestry can expect higher average incomes than the rest of the self-employed. Among employees, when ethnicity does affect income it usually suppresses it,
except among people from Jewish backgrounds.

Also, ethnicity does not act as a stratifying variable among self-employed males, but does create a hierarchy among male employees. This is consistent with the idea that self-employed males are participating in "ethnic economies", which has been shown to increase incomes for entrepreneurs (Portes and Jensen, 1989). However, it is also compatible with the notion that the "ethnic penalty" in the entire economy is simply less for entrepreneurs than it is for wage-workers. The situation is different for women entrepreneurs. Whether they participate in ethnic economies or not, they experience a significant gender penalty across ethnic groups.

Fourth, although human capital and effort controls make large improvements to the fit of the model in both populations, an important indicator of human capital registers no significant effect among the self-employed. Age, as a proxy for work experience, or firm-specific human capital, makes no difference to expected earnings for self-employed individuals. This result is also reported, but not discussed, by Maxim (1993). The most likely explanation for this lack of effect is that age does not adequately capture the industry-specific experience so important for entrepreneurial success.

Finally, the results show that the effect of a person's sex on earnings has not changed in either the self-employed or employee sector between 1971 and 1986. This may be because changes in the effect of gender on earnings have taken place over a longer period than was examined in this study. Even though this is probably true, it is still somewhat surprising to find that nothing has changed for women over this period. After all, during this time the gap

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6 A similar result is also reported by Li (1992) for racial differences.
between that average earnings of men and women working full-time over an entire year decreased by approximately ten percent. What the results above suggest is that this overall decrease is more the product of the changing profiles of the male and female labour forces than a decrease in the earnings penalty for being female. That is, the proportion of women in higher paying occupations and industries has likely increased, but the earnings disadvantage incurred by their sex has not decreased.

What do these findings mean for post-fordist and post-industrial views of Canada? In general, they are more consistent with a post-fordist rather than a post-industrial vision of contemporary Canadian society. There are three reasons why this is the case.

First, although human capital and effort variables account for the largest portion of variance explained in both the self-employed and wage-earning populations, "knowledge" is not the sole determinant of earnings in either case, nor are the results in this chapter very different from other research (Christofides and Swidinsky, 1994; Maxim, 1993; Mincer, 1974). Human capital has always been important in earnings determination, and there is no evidence to suggest that its effects are becoming more pronounced over time. Further, if we look at the importance of the knowledge variables within the self-employed sector in model four, once occupational differences have been controlled, we find that work experience (age) has no significant effect on earnings and years of schooling has less than half the effect among entrepreneurs that it does among wage-earners. If post-industrialism was correct, we should have seen more of an effect for age and years of schooling among the self-employed, given their importance in a post-industrial society. The fact that knowledge variables have less of an effect in this sector is evidence against the post-industrial position.
Second, the effects of sex, and to some degree ethnicity, persist throughout all of the models examined here. In other words, women earn less than men regardless of other factors in both populations. Gender, then, appears to be a master status as far as earnings among the self-employed and wage-earning populations are concerned.

Further, among wage-earners, identification with a non-British ethnic heritage tends to either suppress, or have little effect on earnings. Among the self-employed, Jewish and Italian ancestry elevates earnings relative to other ethnic groups. Here it is important to distinguish between earnings penalties and the more general effects of ethnicity on earnings. In other words, the fact that some non-racial minorities experience a positive ethnic effect on their earnings cannot be equated with support for the post-industrial framework, or even evidence against post-fordism. The reason is that post-industrialism is consistent with a decrease in the overall effects of ethnicity, not just the negative effects of particular ethnic backgrounds. Indeed, post-industrialism predicts decreases in any and all non-knowledge based inequalities. Therefore, the positive effect of Jewish and Italian ancestry on earnings among the self-employed goes as much against post-industrialism as would negative effects for these or any other ethnic backgrounds.

Finally, the effects of sex have remained the same while the effects of ethnicity have decreased slightly over the 1971 to 1986 time period. This latter finding provides some support for the post-industrial thesis that ethnic inequalities are "regressing" towards the mean. However, the importance of these changes are minimal. When combined with the unchanging effect of sex, these results provide further evidence of the dominant effect of sex on earnings.

Again, this is most consistent with the post-fordist prediction about the persistence of
inequalities under a new stage of capitalism. This finding suggests that we need to be careful when interpreting changes in overall levels of earnings inequality during this period, and in the future.

The stability of the earnings penalty for women means that we have to be cautious in interpreting any decreases in overall earnings inequality. If we do see decreases in inequality, it is not necessarily because of a reduced gender penalty. Rather, it may simply be due to shifts in the composition of the economy. In other words, the number of women entering self-employment far exceeds that of men, yet the gender penalty may be less in this sector than in the wage-earning sector. Although the amount of the penalty is greater among entrepreneurs than among wage-earners across all models, average earnings are higher in self-employment. Therefore, a growth in the size of the self-employed sector might produce a decrease in the overall level of earnings inequality between women and men, yet the actual penalty for being female may not have changed.

Conclusion

This chapter has examined only one aspect of gender and ethnic inequality among employees and entrepreneurs, specifically, inequalities in earned income. Other dimensions of inequality, which in some cases may be much more important than income inequality cannot be covered with the data used in this study. Therefore, it is impossible to say in an overall sense whether inequalities are declining, remaining stable or increasing in Canada. However, the message in the area of earnings is clearly one of persistence. These continuing differences suggest that the post-fordist, rather than the post-industrial, vision of contemporary Canada is
more accurate. In the final chapter, these results will be integrated with those of chapter four to provide an overall assessment of post-fordist and post-industrial visions of Canada in the second half of the twentieth century.
Table 5.1: Selected Characteristics by Employment Status

<table>
<thead>
<tr>
<th></th>
<th>Self Employed</th>
<th>Wage Earners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age</td>
<td>44</td>
<td>36</td>
</tr>
<tr>
<td>Mean Real Self-Employed Income</td>
<td>$9380.33</td>
<td>$15641</td>
</tr>
<tr>
<td>Mean Real Wage Income</td>
<td>$7160.06</td>
<td>$13963.16</td>
</tr>
<tr>
<td>Mean Real Combined Income (Dependent Variable)</td>
<td>$19387.83</td>
<td>$15244.86</td>
</tr>
<tr>
<td>Mean Years of Schooling</td>
<td>11.2</td>
<td>11.8</td>
</tr>
<tr>
<td>Percent Female</td>
<td>19.1</td>
<td>42.3</td>
</tr>
<tr>
<td>Percent Married</td>
<td>81.7</td>
<td>64.5</td>
</tr>
<tr>
<td>Percent Non-immigrant</td>
<td>76.7</td>
<td>80.5</td>
</tr>
<tr>
<td>Ethnicity (Percent)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>British</td>
<td>36.6</td>
<td>40.7</td>
</tr>
<tr>
<td>French</td>
<td>23.9</td>
<td>28.6</td>
</tr>
<tr>
<td>German</td>
<td>9.2</td>
<td>5.3</td>
</tr>
<tr>
<td>Scandinavian</td>
<td>2.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Polish</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Italian</td>
<td>3.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Jewish</td>
<td>3.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Other European</td>
<td>4.6</td>
<td>3.3</td>
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<tr>
<td>Chinese</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Aboriginal</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>African/Black</td>
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<td>0.9</td>
</tr>
<tr>
<td>Other</td>
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<td>7.5</td>
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<tr>
<td>Occupation</td>
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<td></td>
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<tr>
<td>Managerial</td>
<td>7.4</td>
<td>8.0</td>
</tr>
<tr>
<td>Science/Engineering</td>
<td>2.2</td>
<td>4.0</td>
</tr>
<tr>
<td>Social Science</td>
<td>2.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Teaching</td>
<td>0.9</td>
<td>5.0</td>
</tr>
<tr>
<td>Health</td>
<td>4.6</td>
<td>4.8</td>
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<tr>
<td>Arts</td>
<td>3.3</td>
<td>1.1</td>
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<tr>
<td>Clerical</td>
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<td>20.4</td>
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<tr>
<td>Sales</td>
<td>16.3</td>
<td>9.3</td>
</tr>
<tr>
<td>Services</td>
<td>8.9</td>
<td>12.4</td>
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<tr>
<td>Farming</td>
<td>25.0</td>
<td>2.0</td>
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<tr>
<td>Other Primary Occs.</td>
<td>2.5</td>
<td>1.4</td>
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<tr>
<td>Processing</td>
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<td>4.5</td>
</tr>
<tr>
<td>Machining</td>
<td>7.6</td>
<td>11.0</td>
</tr>
<tr>
<td>Construction</td>
<td>9.3</td>
<td>5.6</td>
</tr>
<tr>
<td>Transport Operators</td>
<td>4.2</td>
<td>3.9</td>
</tr>
<tr>
<td>Other</td>
<td>1.3</td>
<td>5.2</td>
</tr>
</tbody>
</table>
All Tables are unstandardized OLS coefficients (B) and standard errors (S.E. B) on Real Earnings Employees and Self-employed.

--- p< .001  --- p < .01  --- p <.05 for all tables

**Table 5.2: Model One - Sex**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Employees</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Self-employed</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>S.E. B</td>
<td>B</td>
<td>S.E. B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>17784.30***</td>
<td>109.14</td>
<td>18676.55***</td>
<td>168.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex (female)</td>
<td>-7936.76***</td>
<td>171.42</td>
<td>-8786.64***</td>
<td>402.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.1256***</td>
<td></td>
<td></td>
<td>.0275***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.1256***</td>
<td></td>
<td></td>
<td>.0275***</td>
<td></td>
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<td></td>
<td></td>
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</table>
Table 5.3: Model Two - Sex and Ethnicity

<table>
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<tr>
<th>Variable</th>
<th>Employees B</th>
<th>S.E. B</th>
<th>Self-employed B</th>
<th>S.E. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>18324.92***</td>
<td>148.76</td>
<td>18285.28***</td>
<td>259.54</td>
</tr>
<tr>
<td>Sex (female)</td>
<td>-7951.95***</td>
<td>171.22</td>
<td>-8748.07***</td>
<td>399.26</td>
</tr>
<tr>
<td>African/Black</td>
<td>-833.23</td>
<td>902.98</td>
<td>4932.44</td>
<td>2768.31</td>
</tr>
<tr>
<td>Chinese</td>
<td>-907.96</td>
<td>646.36</td>
<td>3196.85**</td>
<td>1205.68</td>
</tr>
<tr>
<td>French</td>
<td>-1171.89***</td>
<td>205.19</td>
<td>261.41</td>
<td>399.38</td>
</tr>
<tr>
<td>German</td>
<td>-615.18</td>
<td>384.40</td>
<td>-1414.80**</td>
<td>556.36</td>
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<tr>
<td>Hungarian</td>
<td>-683.80</td>
<td>1024.37</td>
<td>1404.42</td>
<td>1534.88</td>
</tr>
<tr>
<td>Italian</td>
<td>-852.94*</td>
<td>429.41</td>
<td>2119.54**</td>
<td>831.66</td>
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<tr>
<td>Polish</td>
<td>-86.41</td>
<td>687.74</td>
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<td>Scandinavian</td>
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<td>478.21</td>
<td>-759.45</td>
<td>753.57</td>
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<td>Jewish</td>
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<td>809.49</td>
<td>14486.52***</td>
<td>875.17</td>
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<td>Native</td>
<td>-4748.21***</td>
<td>1242.14</td>
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<td>Other Ethnicity</td>
<td>-1201.62***</td>
<td>336.04</td>
<td>419.91</td>
<td>598.64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measures</th>
<th>Employees</th>
<th>Self-employed</th>
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</thead>
<tbody>
<tr>
<td>R²</td>
<td>.1300***</td>
<td>.0472***</td>
</tr>
<tr>
<td>R² Change</td>
<td>.0044***</td>
<td>.0197***</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.1292***</td>
<td>.0464***</td>
</tr>
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Table 5.4: Model Three - Sex, Ethnicity and Human Capital Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Employees B</th>
<th>S.E. B</th>
<th>Self-employed B</th>
<th>S.E. B</th>
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<td>16116.55***</td>
<td>2628.86</td>
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<td>168.09</td>
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<td>-716.31</td>
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<td>1208.67***</td>
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R²                      | .4388***         |          | .1223***         |          |
R² Change                | .3087***         |          | .0751***         |          |
Adjusted R²              | .4380***         |          | .1211***         |          |
Table 5.5: Model Four – Sex, Ethnicity, Human Capital and Occupational Variables. 
(Non-significant variables entered in previous models not shown)

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<td>--</td>
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<td>--</td>
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<td>Service Occs.</td>
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<tr>
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$R^2$ .4740***
$R^2$ Change .0352***
Adjusted $R^2$ .4727***
Table 5.6: Model Five - Sex, Ethnicity, Human Capital, Occupational and Sex By Ethnicity Interactions (Occupational and Human Capital variables not shown)

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</tr>
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R²: .4757***  .2748***
R² Change: .0017*** .0004
Adjusted R²: .4740*** .2727***
Table 5.7: Model Six - Model Four plus Sex by Year Interaction
(Most variables not shown)

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<th>S.E. B</th>
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<td></td>
<td>.2748***</td>
<td></td>
</tr>
<tr>
<td>R² Change</td>
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<td></td>
<td>.0000</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
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<td>.2728***</td>
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Chapter Six: Conclusion

Introduction

The initial problem which piqued my interest in the topic of this thesis was that the self-employment rate appeared to be rising in many western economies. The increases documented elsewhere were marginal at best, but they suggested at least that the sector was not being continually eroded. At the time, early in 1991, I had not encountered any updated treatment of the self-employed sector in Canada, but my suspicions were that the rate was possibly rising here as well. About a year later, the OECD report suggested that this was indeed the case (OECD, 1992).

But an increase in self-employment, according to my understanding of the nature of contemporary capitalism at the time, should not be possible. In other words, my views were planted firmly on the Marxist side of the fence, and I thought of the Canadian economy as one dominated by monopolies. The petite bourgeoisie, I had assumed, was doomed to extinction.

Yet if the sector was increasing in size, this suggested that there was a distinct possibility that my understanding of the Canadian economy was at least partially wrong. I began to read the literature on the causes of the increase in self-employment, but found much of it unsatisfactory. The principal reason for my dissatisfaction was that much of this literature said nothing about what an increase in self-employment implied about the nature of an economy. Following Curran's advice to "rethink economic structure" (1990:125) to properly account for the importance of small business and the self-employed in modern economies, I decided to focus my attention on what an increase in self-employment would mean for the
Canadian economy rather than an assessment of the relative merits of different factors causing
this resurgence. That is, the very fact that self-employment seemed to be on the increase in
Canada was far more interesting to me than the relative weights of a series of putative causes
for this increase.

But I was not yet ready to give up on a Marxist understanding of the economy in
general and this sector in particular. Luckily, I found myself in extremely good company
(Linder, 1983; 1992, Clement, 1988; Light and Sanchez, 1987; Bonacich, 1980, Wright,
1985). I wanted to be able to determine whether or not the self-employed sector had indeed
increased in size in recent years, and if so, whether this increase was important enough for me
to modify my understanding of our economy.

On the other hand, I also wanted to be prepared to alter my understandings to the
extent dictated by my results. I began to re-investigate some of the writings on post-industrial
society, and to explore some of the more recent discussions of post-fordism, ideas about the
development of a risk society, and postmodernism. All of these bodies of work made little
mention of self-employment, although they were all concerned with changing economic
structures. I could see that the post-industrial and post-fordist visions of society were clearly
consistent with increases in self-employment, but the writings on the risk society were not as
well developed and the postmodern literature was too diverse to allow firm predictions.
Kumar (1992) reached a similar conclusion, although he did not consider the writings on risk.

Ideas about post-fordism and post-industrialism had also been subjected to sustained
empirical examination. Bell's initial works on post-industrialism included data on the shift of
the U.S. economy to the tertiary sector, and further investigations have extended this focus on
services to other contexts (Boyd, Mulvihill and Myles, 1991; Cobble, 1991; Franklin and Lembke, 1993; Gibson, 1994; Hagan, et al., 1991). Many discussions of post-fordism have also included an empirical component, although much of this work focuses on specific firms or industries rather than national or even regional economies (Gilbert, Burrows and Pollert, 1993; Kim and Curry, 1993; Rainnie, 1991).

The more developed theoretical writings, plus a body of empirical work led me to consider the post-fordist and post-industrial frameworks as more feasible alternative understandings of modern economies than the postmodern and risk-oriented literatures. This is not to say that these latter frameworks might not provide an even better understanding of current Canadian reality than post-fordism or post-industrialism. Rather, my sense was, and still is, that these positions are not sufficiently developed to derive specific predictions about changes in the self-employed sector. Consequently, I chose to leave these frameworks for investigation at a later date.

As I read more about post-industrialism and post-fordism, it became obvious that it would be hard to distinguish the relative validity of these two positions simply on the basis of their predictions about changes in the size of the self-employed sector. After all, they both argued that the sector should increase if a society was truly post-fordist or post-industrial. There were some important differences between the positions regarding how dependent the self-employed sector should be on the size of the unemployed stratum, but they were not sufficient to draw any firm conclusions. I felt that I needed to be able to differentiate these positions on another issue.
In the course of my reading, I was continually struck by the very different outlooks embodied in these two branches of writing. I had remembered the post-industrial literature to be quite optimistic in many ways. Post-industrialism, and indeed its predecessor, were closely linked to notions of the movement from ascription to achievement in modern society. On the other hand, much of the writing on post-fordism seemed to be still rooted in the pessimism of Marx and Braverman concerning the exploitive nature of capitalism. And since post-fordism was just another incarnation of capitalism, there was a clear sense that ascriptive barriers would remain an integral component of post-fordist social formations.

Of course there was variation within these camps over just how optimistic or pessimistic we should be about the presence of ascriptive inequalities in modern society. For example, much of the writing which emphasized flexible specialization within post-fordism, was quite cheery about the development of industrial districts, autonomy and stability in the workplace, and high wages for highly skilled individuals (Piore and Sabel, 1984; Hirst and Zeitlin, 1991). Similarly, some of the writing on post-industrialism emphasized the negative consequences of this transformation. For example, Touraine (1971) and Habermas (1975) pointed to the homogenizing and alienating tendencies accompanying the diffusion of scientific knowledge and Boyd, Mulvihill and Myles (1991) illustrated how gender continued to act as a key component of occupational stratification in the development of the service sector.

But despite these variations, a marked difference in predictions about the future of social inequality in society remained between the two camps. To some extent, post-fordists agreed with some of the writing concerned only with flexible specialization, that flexible specialization could produce benefits for a select few, but much of their empirical work
demonstrated that ascriptive barriers continued to function in many flexibly specialized operations (Casey and Laczko, 1992; Leman, 1992). The dominant sense of the writing was that capitalism would continue to exploit the salient divisions of identity, such as gender, ethnicity and age, in the quest for profits (Bonefeld, 1991; 1993; Jessop, 1991b; Mathews, 1989).

Also, much of the work on post-industrial society continued to emphasize the equalizing tendencies of the knowledge explosion and the growth of services. Specifically, knowledge became an increasingly important determinant of people's life-chances in the post-industrial society. Those who had it would be rewarded, regardless of their gender, ethnicity, age or anything else. Those who did not, would not receive as much reward. Ascriptive barriers were likely still in place according to the post-industrial thesis, but their influence should undoubtedly be declining.

But how to examine ascriptive barriers? Gender, race/ethnicity and other characteristics shape all aspects of work in contemporary society. I wanted to be able to link an examination of changes in the size of the self-employed sector to an examination of ascriptive barriers in economic life, so I chose to investigate earnings inequalities with special emphasis on earnings differences within self-employment. Since both post-industrialism and post-fordism predict that this sector should increase in size and importance in contemporary society, changes in the levels of earnings inequalities within this sector provide an even better way to assess the relative merits of post-industrialism and post-fordism than a more aggregated investigation of entrepreneurs and employees combined.
Part of the rationale for choosing to investigate earnings differences as opposed to other differences was data-driven. Specifically, good data on earnings were available from the Canadian census which had not been investigated sociologically over time to date. The other major reason was that earnings can be seen as a culmination of a range of ways in which asccriptive barriers might continue to operate in modern societies (e.g., barriers in job selection, educational attainment, occupational mobility, access to credit, etc.). This leaves bare the exact operation of these forces, but it gives us some sense of one of their "end-results".

That, in a nutshell, is how this thesis came into being. An empirical irregularity spurred me to think harder about the nature of the Canadian economy, and in the process to formulate alternative understandings and decisive ways to assess the relative validity of these different views. The principal claim of this research is that the self-employed sector, rather than being a marginal stratum unworthy of scholarly inquiry, actually provides decisive clues about how to best understand our current economic world. The rest of this chapter summarizes the theoretical frameworks which were tested in this thesis in relation to its major findings. The chapter concludes with some of the possible avenues of future research, which will hopefully be taken up by myself and others.

**Monopoly Capitalism and Self-employment**

The basic argument underpinning the framework of monopoly capitalism followed Marx's original logic on the concentration and centralization of capital in increasingly large firms. This concentration did not necessarily lead to revolution, because monopoly capitalism had become a relatively stable form of capitalism during the twentieth century. Monopoly
capitalism was dominated by a core of very large firms which continued to push small firms and the self-employed toward the margins of economic survival. Eventually, the sector would disappear completely.

The continued existence of this class, which constitutes direct evidence against these ideas, has been incorporated into the framework by minimizing the importance of the increase. It has been argued that any increase or persistence in self-employment is only the result of a movement of people out of unemployment and into self-employment. For Linder (1983; 1992) this means that self-employment is just another form of unemployment and not intrinsically interesting. For others, such as Bogenhold and Staber (1991), self-employment is dependent upon unemployment because losing a job is a spur to self-employment.

The evidence in chapter four contradicts both of these arguments for Canada. Analyses using two different datasets, one with annual estimates of the self-employment rate and one with both annual and monthly estimates, revealed that the self-employment rate in Canada has increased significantly since the late 1970s. An objection to this conclusion might be that the self-employment rate estimates in the taxation data indicate persistence rather than increase over the 1960 to 1990 period. In other words, the difference between the tops and the bottom of the U-shaped curve are less than 0.1 percentage points. This view actually receives some support in the first model of the taxation data which shows that there is no significant linear change in the rate over the period.

However, there are two reasons why this position is unsustainable. First, the quadratic time term is highly significant in the next model, and for all of the other models and other datasets in which it is entered. This reveals that the best way to understand changes in the self-
employment rate is along a U-shaped curve. Second, this sense of persistence is not evident in the Labour Force Survey data which clearly shows initial declines in the sector which are followed by increases. Moreover, the magnitude of the changes in these data are much greater than in the taxation data which minimizes the force of this objection.

The results of the effects of the unemployment rate on the self-employment rate provide some minimal support for monopoly capitalist arguments. That is, the unemployment rate registers a significant effect on the self-employment rate in the annual taxation data, and in the unadjusted monthly Labour Force Survey data. The sign of the coefficient is consistent with an unemployment push hypothesis, but as noted in chapter four, a significant coefficient in either direction could be interpreted as support for this argument. However, problems of model specification in the monthly Labour Force Survey data make the relationship between unemployment and self-employment in these data questionable.

The results from the annual taxation data are contradicted by findings using annual Labour Force Survey data. Specifically, the unemployment rate does not register a significant effect on the self-employment rate in these data in either direction. As mentioned in chapter three, it is hard to come to a firm conclusion about which of these datasets is more accurate because of problems in both. However, there are a couple of ways to strengthen the argument against the unemployment push hypothesis, and very little in the way of favouring it.

First, the effects of unemployment on self-employment in the annual taxation data disappear if we apply more stringent levels of significance, as Johnston (1984) advises. Second, when we control for seasonal distortions in the monthly Labour Force Survey data, the significant effect of unemployment disappears, even at the .05 level of significance.
Specifically, when we adjust the raw data by means of seasonal decomposition, or by a consistent X-11 ARIMA filter, the unemployment rate registers no significant effect on the self-employment rate.

The conclusion is that the monopoly capitalist arguments about continued declines in self-employment, and about self-employment being dependent on unemployment receive very little support in this thesis. And since an increase in self-employment is strong evidence that capital is no longer concentrating in large firms, we must question the entire monopoly capitalist framework as a way of understanding the Canadian economy (see also Myles and Turegun, 1994). Indeed, the autonomous rise in self-employment recently in Canada forces us to turn our attention to the post-fordist and post-industrial visions of economic change which both predict that self-employment should be on the increase.

Post-fordism, Post-industrialism and Self-employment

Post-fordist theory is somewhat ambiguous on the issue of whether or not the unemployment rate should affect the self-employment rate. Some commentators such as Joachim Hirsch (1991) argue that unemployment is a principal cause of self-employment while others such as Kumar (1992) contend that the self-employed are an integral part of the post-fordist order. The post-industrial framework is more consistent, arguing that self-employment and unemployment are only tangentially related. This is not to say that the unemployed cannot become self-employed in a post-industrial society. Rather, the size of the self-employed sector is independent of the size of the unemployed sector.
Both of these positions receive support from the results of the models estimated in chapter four. As stated above, self-employment has clearly increased in Canada recently, and this increase is not tied to changes in the unemployment rate over the period. We might conclude from chapter four that the post-industrial vision receives more support than the post-fordist position because it is more consistent in its predictions. However, there is no evidence which goes directly against the post-fordist position in this chapter, and even some slight evidence which favours the post-fordist framework over the post-industrial framework.

The evidence is that there does appear to be some effect of the unemployment rate on the self-employment rate, even though this effect is marginal at best. Specifically, the fact that the unemployment rate significantly affects the self-employment rate in the annual taxation data and in the unadjusted monthly Labour Force Survey data suggests that unemployment does have an effect on parts of the overall self-employed sector. The monthly effect suggests that unemployment affects the more marginal members of the entrepreneurial stratum. This is somewhat difficult to mesh with the significant effect in the taxation data because presumably those who file tax returns are the more stable and long-term self-employed. More research on which components of the self-employed sector are vulnerable to fluctuations in unemployment is clearly needed. Nevertheless, the fact that unemployment does affect self-employment at the aggregate level in some cases suggests that the post-fordist waffle on this issue may not be entirely mistaken.
Post-fordism, Post-industrialism and Ascriptive Inequality

In order to get a better sense of whether post-fordism or post-industrialism is a more accurate understanding of recent changes in the Canadian economy, we need to examine other issues. In this thesis, I chose to examine earnings inequalities because the two positions differ on whether or not inequalities should persist or decrease in modern society.

The overall implication of the post-fordist framework is that inequalities will persist, and possibly even increase, under post-fordism. There are three principal reasons for this. First, post-fordist society is simply another form of capitalism, which is based fundamentally on inequality. Second, some features of the post-fordist age, such as the destruction of unions, the rise of entrepreneurialism and the individualization and privatization of social life removes some of the most effective channels of social action of the fordist period. Finally, there is a recognition in the post-fordist literature that, the destruction of fordism also creates large numbers of low-paying, unskilled jobs primarily in the service sector. Moreover, inequalities should persist along salient divisions in society, which historically have been gender and race/ethnicity along with class. There is no reason to expect that gender and race/ethnicity should be replaced by other divisions under post-fordism.

In contrast, the level of inequality should decrease in post-industrial society. Although some thinkers are cheerily optimistic and others more pessimistic, the clear message from the proponents of post-industrialism is that the overall level of inequality will be reduced in the post-industrial age. This is not to say that all inequality will disappear. Rather, some "legitimate" inequalities will persist because different individuals will possess different types and levels of abilities, and inequalities based on these characteristics are necessary to maintain
motivation within a society (Aron, 1967). However, inequalities based on ascriptive characteristics such as gender and race/ethnicity should decline as knowledge becomes more and more the ultimate basis of rewards.

Before discussing the results from chapter five in relation to post-industrialism and post-fordism, it will be useful to summarize the similarities and differences between my findings on the self-employed sector and other empirical research on earnings inequalities.

To begin with, there are three broad similarities between my results and much of the literature. First, consistent with other research, women earn less than men, and gender exerts a stronger effect than racial/ethnic background on earnings. Second, human capital, personal characteristics and occupational controls are also very important in earnings determination, and controlling for these factors reduces the gender and ethnic gaps in earnings. Finally, this research is consistent with findings by both Li (1992) and Maxim (1993) which point to important differences between the earnings functions in the self-employed versus the employee populations. Some of the specific findings about these differences are replicated here, while others are contradicted. Most importantly, Li's result that gender and race/ethnicity have stronger effects among employees than among "capitalists" is supported, while Maxim's finding that years of schooling has no effect among the self-employed is contradicted. If Maxim is right, the post-industrial thesis receives even less support than is indicated in this research. But despite some findings which are consistent with previous research, there are also some important differences revealed in this study.

Specifically, ethnicity clearly has an effect on earnings which cannot be reduced to race, or visible minority status. This should hardly be surprising. As Li (1992) shows, in the 1986
Public Use Sample, less than eight percent of the people actively involved in the labour force were classified as visible minorities (Li, 1992:495). That significant differences between "white" Canadians exist is not surprising given the small percentage of people categorized as racial minorities.

Also, the interaction of sex and ethnicity has some effect on earnings among employees, but has no effect among entrepreneurs. However, the importance of these effects is minimal even among employees, increasing the fit of the model by only 0.2%. This is in contrast, to results reported by Li (1992) and Christofides and Swidinsky (1994) who show that the combined effects of gender and race are "important" in determining predicted income. However, it is consistent with the findings of Beach and Worswick (1993) who suggest that there are no overall differences in earnings between native-born and foreign-born women. The fact that Christofides and Swidinsky (1994) and Beach and Worswick (1993) both exclude the self-employed from consideration suggests that the specification of the disadvantaged group is important in determining the final results (i.e., visible minority versus immigrant) among employees.

The same logic may explain the discrepancy between these results and those of Li (1992) who shows that gender and ethnicity do interact to affect earnings among capitalists. However, there are two other possible reasons for this difference. First, it may be that the samples in this research are too small to adequately capture the combined effects of gender and ethnicity on earnings. But it is equally plausible that Li has overestimated the importance of the effects he reports. That is, the earnings differences he reports for the race-by-gender subgroups are on the order of a few hundred dollars. In particular, for the petite bourgeoisie, the
difference in average income between white and non-white males is $408 while the same
difference for females is only $68. The really large differences are between men and women
(over $6500 for white men versus white women and over $6000 for non-white men versus
non-white women). This is quite consistent with the "gender as master status" argument
outlined earlier. And since Li uses multiple classification analysis, it is impossible to determine
the statistical significance of his results.

But despite that fact that ethnicity has less effect on earnings than sex, ethnicity does
operate differently among the self-employed than among employees in two ways. First, among
the self-employed, people from all ethnic backgrounds, except those from Jewish and Italian
ancestry who can expect a positive return to their ethnicity, do not earn significantly more than
British entrepreneurs. In contrast, among employees, when ethnicity does affect income it
usually suppresses it, except among people from Jewish backgrounds.

There is also some evidence that males from minority ethnic backgrounds are
participating in ethnic economies. Self-employment in enclave economies has been shown to
increase incomes for entrepreneurs in relation to coethnic workers (Portes and Jensen, 1989).
This is consistent with the results in chapter five which show that ethnicity has negligible
effects on earnings among self-employed males, but has stronger and negative effects among
male employees\(^1\). However, the result is also compatible with the notion that the "ethnic
penalty" is simply less for entrepreneurs than it is for wage-workers. The situation is different
for women entrepreneurs. Whether they participate in ethnic economies or not, they experience

\(^1\) A similar result is also reported by Li (1992) for racial differences.
a significant gender penalty across ethnic groups. That is, women do not escape the glass
ceiling by becoming self-employed.

One interesting result which bears most directly on the post-industrial thesis is that age,
as a proxy for work experience, or firm-specific human capital, makes no difference to
expected earnings for self-employed individuals. This result is also reported, but not discussed,
by Maxim (1993). This is rather strong evidence against the post-industrial position, which
contends that the self-employed sector is an important post-industrial class and that knowledge
should be the primary determinant of remuneration throughout the economy. The fact that self-
employment is expanding, but that one important measure of knowledge does not have a
significant effect on earnings contradicts the basic logic of the post-industrial thesis.

Finally, the results show that the effect of a person's sex on earnings has not changed in
either the self-employed or employee sectors between 1971 and 1986. It may be the case that a
longer time period is necessary to pick up changes in the effects of gender on earnings. But
given some of the other changes that have happened during this period (e.g., the movement of
women into traditionally male fields) it is somewhat surprising to find that absolutely nothing
has changed over this more limited time frame. Some of this change is likely reflected in the
fact that the gap between males and females working full-time throughout the year has
narrowed. What the research in this thesis suggests is that decreases in wage gaps are most
likely to be the product of changes in the proportion of women and men in different
occupational and/or industrial groups and not the result of decreases in the earnings penalty for
women.
What do these findings mean for post-fordist and post-industrial views of Canada? In general, they are more consistent with the post-fordist prediction of the persistence of inequality rather than a post-industrial vision of declining ascriptive inequality for three reasons.

First, once other relevant factors have been controlled, age, as a proxy for a particular form of knowledge (i.e., work experience) has no significant effect on earnings. In addition, a person's year in school has a smaller effect among entrepreneurs that it does among wage-earners. This seems to contradict the post-industrial position which, if it were correct, we should expect to see strong effects for both of these variables among the self-employed, given their prominence under post-industrialism.

Second, gender is the strongest ascriptive determinant of earnings in both populations. Moreover, it registers an effect regardless of the controls introduced into the models. And while this does not exactly constitute "persistence" of ascriptive inequality over time, as suggested by the post-fordist framework, gender appears to be a very durable basis of earnings inequality.

The reason is that post-industrialism is consistent with a decrease in the overall effects of ethnicity, not just the negative effects of particular ethnic backgrounds. Indeed, post-industrialism predicts decreases in any and all non-knowledge based inequalities. Therefore, the positive effect of Jewish and Italian ancestry on earnings among the self-employed goes as much against post-industrialism as would negative effects for these or any other ethnic backgrounds.
Finally, we also have evidence of the persistence of inequality over time, consistent with post-fordism. The last model in chapter five showed that the effects of sex have remained the same over the 1971 to 1986 time period.

When we combine the results of chapters four and five, we see that the post-fordist framework is the one which receives the most support from this research. Therefore, Canada is best characterized as post-fordist rather than post-industrial.

However, this is not to suggest that the entire post-fordist framework has been vindicated in this thesis. Far from it. I have said nothing about the serious problems of internal consistency and historical accuracy that critics have raised against post-fordism (and against post-industrialism for that matter). All I am suggesting is that the post-fordist framework provides for a better understanding of current Canadian reality than post-industrialism.

It might be tempting to argue that since I have not been able to counter the problems with post-fordism just mentioned, the thesis is a test of one useless theory against another. However, this would be a rather facile conclusion. My goal here was not to validate either theoretical framework in its entirety. Such a quest is naive and futile. We work with imperfect theories constantly. In this research, I have shown that the imperfections of post-fordism are a little less glaring than those of post-industrialism when trying to come to grips with recent changes in our society. From here, there are several directions for future research. I will highlight three.

First, alternative measures of the relationships between education, self-employment and earnings would clarify our understanding of the importance of education for people in this sector. Limitations in the 1971 census data meant that the only measure of formal schooling
available to me was years of schooling. Better measures, including particularly the type of
education are available for the 1981 and 1986 data, and presumably 1991 as well. Paul Maxim
(1993) has examined the importance of credentials in self-employment, but little has been done
in the way of determining whether the type of training (e.g., field of study and/or
college/university/technical differences) is important. In particular, matching a person's type of
training with the actual work performed would provide clues about whether or not training is
important for its own sake. Hunter and Leiper (1993) have investigated skill and educational
differences among employees, but nothing similar has been done for the self-employed in
Canada.

Second, a more sustained analysis of the connections between unemployment, self-
employment and education is clearly called for. Unemployment has no effect on self-
employment in Canada at the aggregate level, but it is clear from the ethnographic literature
that unemployment can act as an important catalyst to self-employment. My suspicion is that
one of the reasons that the unemployment rate has no effect on the self-employment rate is that
skill upgrading and/or management training is interceding between the two processes. This is
not inconsistent with a post-fordist economy because post-fordism stresses the importance of
knowledge to economic production. This will require the collection of additional data than is
presently available.

Finally, following Meager (1992) I think an analysis of the relationship between
unemployment and self-employment should also be conducted with true flow data. The use of
monthly data in this thesis is a significant improvement over the annual data used in most
studies, but it is clearly still data on the stocks of these populations. Again, this will require
different data collection strategies than are currently the norm. Unfortunately, there is no way to collect true flow data for the past, but hopefully it can be done for the future. An important step in this direction in Canada may come from the Survey of Labour and Income Dynamics (SLID) currently being conducted by Statistics Canada.

Concluding Remarks

The primary purpose of this research has always been to develop a better understanding of the current Canadian economy. The question that then arises is why one would choose to focus on self-employment for clues about a much larger entity. To this I have three answers.

First, an examination of self-employment is only one among many ways in which the three theoretical paradigms guiding this thesis could be investigated. Other areas that could have been investigated include changes in educational institutions and the levels of education or "knowledge" throughout the current labour force, changes in union structures and collective bargaining structures and strategies, or even alterations in large, as opposed to small, firms. Any one of these avenues of investigation might provide interesting insights into the nature of the contemporary economy. But there is no guarantee that they would provide better or more decisive information about our current economic structure than the above research on self-employment. Indeed, some of these alternative research avenues do not allow adequate differentiation between the three paradigms to allow for meaningful testing. For example, all three frameworks point to the growth of knowledge and its increased importance in the workforce, as well as the growth and globalization of large firms. It is not clear to me that
there is a better way to examine the relative merits of post-fordism, post-industrialism and monopoly capitalism than by looking at the self-employed sector.

Second, self-employment provides an ideal testing ground for monopoly capitalism, post-fordism and post-industrialism because it is precisely in relation to this sector that important differences between these three paradigms emerge. That is, there are clear and contrasting predictions about what should happen to the self-employed sector and the level of ascriptive inequalities in society under each framework. Moreover, there are good data available on exactly how these facets have changed in this sector over a period of time which all three positions point to as important.

Finally, the self-employed sector has an intrinsic interest beyond the way in which it has been addressed in this research. My focus on the testing of particular theories has forced me to downplay a description of the important diversity within the self-employed sector. Some sense of the gender, ethnic, occupational and personal diversity comes out in the regression tables in chapter five, but the sense of what it means to be self-employed, working conditions in owner-run businesses and even how people become self-employed in the first place cannot be addressed with the data used in this research.

Moreover, the focus in this research on the unincorporated self-employed in chapter four (the incorporated self-employed are included in the earnings analyses in chapter five) really only captures one form of self-employment. Specifically the incorporated self-employed are missing from the analysis of changes in the size of the sector, as are many of those who participate in the "informal economy". There are suggestions that the size of the informal economy is growing rather rapidly, and clearly many of these participants are "self-employed".
In this sense, this research underestimates the true importance of this sector by not being able to capture these two important sub-groups of the entrepreneurial sector. And while it is always difficult to acquire good data on underground operations—regardless of whether those involved are violating criminal or fiscal regulations—this should not deter us from using what is available. That is, the unincorporated self-employed may not be completely representative of the entire sector, but trends within this group are clearly important in their own right.

Clearly, an analysis of changes in the size of the self-employed sector, as well as earnings inequalities within both the employed and self-employed populations, cannot be used to decide the ultimate fate of any of the three paradigms informing this research. An analysis of self-employment tells us little about things like the reorganization of unions and collective bargaining, or whether scientific progress has become both the goal and the means of modern progress. Rather, studying changes in the self-employed stratum has provided us with indications about the larger processes shaping modern economies. Here in Canada, it is within the post-fordist paradigm that we are most likely to find the satisfactory understandings we seek.
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