Three Essays on Women in the Economy

By

Linda DeRiviere

A Thesis
Submitted to the Faculty of Graduate Studies
In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF PHILOSOPHY

Department of Economics
University of Manitoba
Winnipeg, Manitoba
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Three Essays on Women in the Economy

BY

Linda DeRiviere

A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of Manitoba in partial fulfillment of the requirement of the degree

Of

Doctor of Philosophy

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Table of Contents

	Page No.
Abstract	3
Acknowledgments	5
1. Introduction	7
1.1 References	27
2. Compensating Differentials or Discrimination: Revisiting the Gender Earnings Gap	
2.1 Introduction	33
2.2 Literature Review	35
2.3 Theoretical Framework	46
2.4 The Empirical Questions	56
2.5 Research Methodology: The sample Data and Empirical Specifications	58
2.6 The Means and Descriptive Statistics	61
2.7 The Regression Tests	71
2.8 Decomposition – The Measurement of Wage Discrimination	76
2.9 Other Explanations for Long Hours	83
2.10 Concluding Remarks and Policy Implications	87
2.11 References	90
Appendix A.2: Table A.2.1 Selected WES Variables and Definitions	105
3. The Private Costs for Youth Engaged in the Sex Trade: An Empirical Examination of the Lifelong Employment, Earnings and Health Effects	
3.1 Introduction	108
3.2 The Literature	109
3.3 Reasons Why a Youth May Enter the Sex Trade and the Consequent Effects in the Legitimate Labour Market	112
3.4 Description of the Data Collection: The Participants and how they were Chosen	116
3.5 Methodological Limitations	119
3.6 The Demographics: Before Entry into the Sex Trade	121
3.7 The Demographics: After Exiting the Sex Trade	124
3.8 The Empirical Model	129
3.9 Discussion of the Fixed Effects Estimator	131
3.10 The Regression Results	133
3.11 Random Effects Estimates and the Sex Trade Workers' Future Wage Predictions	138
3.12 Lifelong Private Costs of Non-Participation from Addictions and Prolonged Health Effects	139
3.13 The Value of Lost Earnings when Compared to Other Women in Society: The Wage Decomposition	144
3.14 Concluding Remarks	150
3.15 References	153

Appendix B.3.1 – Lowess Smoother Graph 160
Appendix B.3.2 -- SLID Variables 162

4. An Examination of the Fiscal Impact from Youth Involvement in the Sex Trade: The Case for Evaluating Priorities in Prevention
4.1 Introduction 163
4.2 The Literature 168
4.3 Research Methodology and the Participants: How they were Chosen 171
4.4 The Cost Categories and Estimation Methods 174
4.5 Methodological Limitations 179
4.6 An Overview of the Demographics 182
4.7 The Findings: The Financial Impact of the Demand on Fiscal Resources 186
4.7.1 The Fiscal Costs Related to Violence in the Sex Trade 192
4.7.2 Health Care Costs 194
4.7.3 The Policing, Justice and Corrections System 202
4.7.4 The Community's Viewpoint: The Fiscal Effects of the Demand on Community Social Services 209
4.7.5 Child Protection Services 210
4.7.6 Income Assistance and Housing Subsidies: Were these Costs Avoidable? 212
4.7.7 Other Government and Not-for-Profit Support Services 215
4.8 Sensitivity and Risk Analysis 219
4.9 Concluding Remarks 221
4.10 References 223
Appendix C.4.1 -- Definitions of Economic Terms 231
Appendix C.4.2 -- List of Community Contacts 233
Appendix C.4.3 -- Ndaawin Financial Report 235

5. Conclusion 236

Appendix D.5.1 -- Consent to Review TERF Files 246
Appendix D.5.2 -- Consent Form for the Labour Market Interview 248
Appendix D.5.3 -- Consent Form for the In-depth Interview 250
Appendix D.5.4 -- Labour Market Interview Instrument 252
Appendix D.5.5 -- In-depth Interview Instrument 258

Abstract

This volume is composed of three essays on women's status in the economy. The first essay, entitled "Compensating Differentials or Discrimination? Revisiting the Gender Earnings Gap" addresses the issue of women's inferior earnings in the labour market attributed to the persistent wage gap even in the higher strata of the labour market, such as managerial and professional jobs. This essay uses a 'rat race' theoretical model applied to the Statistics Canada – Workplace and Employee Survey to test whether the gender wage gap is falling in the number of hours worked above the full-time work week. The findings reveal that when women compete with men in this stratum of the labour market, they are forced into a social welfare reducing allocation of inefficiently excessive hours. Women are apt to be aware of this form of discrimination, thus they opt out of rat race situations, as it is counterproductive to quality of life considerations.

The second essay entitled "The Private Costs for Youth Engaged in the Sex Trade: An Empirical Examination of the Lifelong Employment, Earnings and Health Effects" examines the lifelong wage scarring effects for individuals who had been involved in the sex trade for a period during their youth. The Statistics Canada – Survey of Labour and Income Dynamics (SLID) combined with data collected from personal interviews with former sex trade workers are utilized to compare the former prostitutes' wages and employment status to similar women in SLID. Random and fixed effects models applied to panel data reveal that former sex trade workers experience less favorable outcomes in the labour market, as the earlier events in their lives have interfered with the acquisition of human capital endowments and the job

experience needed to enhance earnings in the mainstream labour market. The essay concludes that there are multiple reasons for policymakers to fund prevention programs which counteract the conditions of vulnerability that bring youth to this lifestyle and the factors that keep them in it.

The third essay entitled "An Examination of the Fiscal Impact from Youth Involvement in the Sex Trade: The Case for Evaluating Priorities in Prevention" uses data collected from personal interviews with former sex trade workers and an economic costing methodology to calculate the incremental fiscal resources expended to provide supports and services to the respondents. The findings reveal that the government recoups the net present value of the investment in a prevention strategy if fewer than two youth are dissuaded from engaging in the sex trade. These cost assessments have implications of paramount importance for evaluating the priorities of public policy on investments in prevention programs.

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The two essays on youth in the sex trade are based on an economic cost study, which was conducted in collaboration with RESOLVE (a family violence research centre) at the University of Manitoba, CS/RESORS Consulting, Ltd. and the National Crime Prevention Strategy (NCPS) of the Department of Public Safety and Emergency Preparedness Canada. There are many people to thank for their generous support throughout the conduct of this project. The ongoing support from Dr. John Loxley from the Economics Department is appreciated, in particular, for providing the opportunity to work on this challenging project and for generously funding the participants' honorariums. Dr. Susan Prentice is thanked for providing invaluable input as it pertained to the methodological challenges. Special thanks are due to the

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This study would not have been possible without the collaboration of the staff at many community agencies and government departments who thought the research was important enough to warrant their participation. Nor would the study have been conducted were it not for the very spirited and generous individuals who agreed to participate and share their life stories. Special thanks are given to the economic cost study's participants.

As a final note, the Statistics Canada Research Data Centre in Winnipeg is acknowledged for permitting the access to confidential micro data in the Survey of Labour and Income Dynamics and the Workplace and Employee Survey. Funding from the Social Sciences and Humanities Research Council (SSHRC) and a University of Manitoba Graduate Fellowship is also gratefully acknowledged.

Chapter 1
Introduction

> "Most economists have not yet grappled with the demands of intersectional scholarship, which recognizes the intertwined nature of gender, race, class, caste and other influences on the economic situations of individuals and groups. Among economists, feminist economists may have made the most progress and be best positioned to break further ground, though we can do better and much remains to be done" (Brewer et al. 2002: 3)

The work in this dissertation is grounded in an emerging feminist rethinking of economics, in particular, as it applies to innovative social and labour market policy. The overall argument of this research is that the real economic problems of women can only be understood if we examine their different experiences of culture and race/ethnicity, and of privilege and disadvantage in the labour force (Brewer et al. 2002; Browne and Misra 2003; Wilkinson 2003). Though recognizing that these structures may be interpreted through different theoretical approaches (e.g. Marxism, Institutionalism), the current work is rooted in the prevailing neoclassical paradigm[1]. This approach frames the three essays of the volume. Theories of human capital are drawn upon, as well as concepts of marginal cost analysis, and econometric tests are relied on for the empirical modeling, though not exclusively[2].

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[1] Typically, the concept of gender is grounded in a system of social power imbalances within cultural practices, thus this notion aligns itself with Institutionalist approaches to labour market theory. However, it is argued that a variety of categories of institutional power are also a standard tool in neoclassical economics (an example is monopoly power) (Jennings and Waller 1990; Pollak 1994).

[2] Underlying a human capital approach is the theoretical assumption of methodological individualism, that is, autonomous and rational economic actors who invest in education and training in order to receive pecuniary rewards in the labour market. These actors will weigh the net present value of the lifetime benefits (earnings) from these investments against the present day opportunity costs of making such investments (Polachek and Siebert 1993). In a similar vein, marginal cost analysis is rooted in the notion of opportunity costs. It appeals to the idea of the scarcity of society's resources, which forces economic agents to make choices when faced with this scarcity. The latter concept is the competitive idea of giving up one thing to get another. For more complete definitions, see Appendix C.4.1. The cost-of-illness approach, which is discussed later in the introductory chapter, provides an example of

This volume does not introduce new theoretical approaches. Feminist scholarship concedes that it does not have "a paradigm of our own" (Feiner 1996). However, taken as a whole, the thesis does advance a type of convergence of orthodoxy (i.e. human capital and marginalist theories) with various conceptualizations of Institutionalism as having a role in the inquiries posed in the essays. Thus, the thesis makes a methodological contribution to the discipline by paralleling mainstream categories with notions of social ideals and culture. In this approach, key policy issues are illuminated as they relate to women with unequal circumstances in their roles as economic and social actors.

Indeed, one could argue a case for the utter incompatibility of methodological individualist ideas integrated with the role of culture in situating agents within the labour market. This is truly a contradiction in terms, but the work is good method, since it is grounded in a logical approach to economic practice. For instance, in contrast to the conventional tradition, larger questions are posed about institutional constraints concerning the realities of pre-existing cultural practices and gender assumptions.

All three essays demonstrate how non-market factors, such as social norms, are embodied in labour markets. The standard tools of choice theory are given some validity in this volume[3]. As well, the research takes a multidisciplinary approach in which insights from sociology and feminist theory are employed, in order to draw attention to the dynamic complexities of socially-constructed preferences and values

---

both marginal cost analysis and a human capital approach. The latter is focused on the productivity or human development effects in the economy (i.e. the impact on productivity), in addition to the individual outcomes from the accumulation or lack of human capital.

[3] Some analysts stress "constraints" or "barriers to real choices" as opposed to choice theory (Jefferson and King 2001).

in the work that women perform (Nelson 2003). Thus, the knowledge claims that are advanced from the studies in this dissertation are rooted in practical research about women's real lives.

It is well-acknowledged in the discipline that neoclassical theorizing has limitations and that institutionally-based perspectives may offer descriptive analyses that supplement its models (Harding 1995; Nelson 2003). This volume accepts a human capital approach for its theoretical adequacies and strengths, in terms of applications to empirical data. However, Whalen (1996) argues that, "mainstream economics is *not* the only game in town" (p.20). Plainly, human capital (and even marginalist) approaches do leave some things unexplained, but as Jefferson and King (2001) assert, it was "never intended to be a theory of everything" (p.71). To date, in labour economics, human capital methods have the best to offer at the level of theory, though many analysts argue that there are limits in terms of understanding the economic realities of women (Harding 1995).

This dissertation will illustrate that, at the level of practical application, human capital approaches in combination with other supply-and-demand side causal variables as well as decomposition analysis, yield some very telling evidence about the status of women in the labour market. In fact, orthodoxy is strengthened by drawing vigorously on insights from other disciplines and by challenging it with questions posed by alternative approaches. This is what makes the current work a feminist economics. A type of intersectional thinking advances economic knowledge by merging mainstream categories of human capital and marginalist approaches with

the vigor of other Institutionalist tools, in terms of informing labour market policy and strategies for improving women's well-being.

Though I acknowledge that individualistic behaviors (e.g. acting out of self-interest) are a guiding principle in the discipline, the work is critical of the many simplistic ideas, such as the atomized rational economic man[4]. The notion of a neutral economic agent whose decision-making is detached from any social influences grossly misrepresents women's realities that are often situated in poverty, race and class (Barker 1995; Dickerson 2002; England 1993; Ferber and Nelson 1993; Harding 1995). Therefore, by drawing upon the ideas of other disciplines, I challenge the neutrality stance, which is the discourse of conventional economics (Barker 1995; England 1993; Ferber and Nelson 1993; Harding 1995; Longino 1993; Nelson 2003).

Thus, in the current research, the standard practices of the prevailing paradigm that necessitate certain simplifications of the analysis are not entirely abandoned, but they are amended to help fill the glaring gap of feminist inquiry in labour economics. Variables such as labour market power, family structure and race/ethnicity are embodied in the analysis. In particular, this work shares the critique of other analysts that policy prescriptions, which flow from the theory and its explanations, are not

[4] The key theoretical tenets of orthodoxy are the notions of methodological individualism in contrast to culture, as well as a "positivist" scientific discourse as opposed to "normative" constructions (Nelson 2003). The atomized (i.e. the separative self) rational economic man is an autonomous agent who acts in isolation and is disconnected from environmental influences. This actor's behavior is out of rational self-interest. The agent's preferences and decision-making are non-intersecting with those of other human beings. The human capital investment approach is one framework that will "operationalize" this neutrality (i.e. everybody in society is equal, and they just need to invest in human capital in order to reap favorable monetary returns). While these are guiding ideological principles, many mainstream economists acknowledge that, in practice, there are inadequacies with the concept of neutrality, as it is not realistic or observable. Social values highly influence human behaviors (Harding 1995).

"neutral" (Nelson 2003). Many compelling issues can not be examined through rose-colored glasses of the neutrality standpoint.

What links the three essays in this volume is the notion of intersectional categories of discrimination or domination faced by women based on gender, class and race/ethnicity. Such multiple and intersecting structures of oppression impact on women's social and economic equality in the work place, in the private sphere and in accessing fiscal resources (Brah and Phoenix 2004). These interdependent social constructions may explain to some extent why we observe race and gender hierarchies within a stratified labour market. Racism and gender discrimination are not mutually exclusive categories. In fact, analysts argue that they co-exist in complex and interlocking ways (Brewer et al. 2002; Browne and Misra 2003; Dickerson 2002).

In many ways, intersectional analysis aligns itself with Institutionalist theories of the labour market. The thrust of the argument is that human capital theory is irrelevant in positioning particular groups within the labour market. Irrespective of educational status, many visible minorities will find themselves in the secondary labour market with low pay and few opportunities for advancement (Phillips and Phillips 2000). Though it is not the intention here to review the entire literature or debates on intersectionality, I would like to point out that intersectional analysis is used in limited ways in the three essays. First of all, without negating the role of human capital investments, I use the intersectional systems of oppression approach to simply draw attention to the idea that there is a certain amount of unexplained stratification in the labour market, which contributes to a hierarchy of favoritism.

Secondly, and more importantly, I use intersectional analysis to show that single dimensional labour market policies for Aboriginal women are simply unacceptable. Only holistic policy strategies beginning in their youth can prepare them appropriately for any future labour market attachments. Intersectional approaches to labour market phenomena can help to shape policy in these ways.

Traditional empirical methodologies are also amended to a more descriptive format in two of the substantive chapters of this dissertation. Case study interviews give women with certain experiential status a voice to participate in economic conversations. In contrast to purely quantitative methods, an exploratory story-telling process gives a better elaboration of some concrete economic and social problems in how women experience the workforce. The essays illustrate that economic knowledge about women and work must be grounded in the histories and struggles of its subjects if it is to shed light on the phenomena that we are investigating.

Capturing qualitative information from study participants is a key issue as it pertains to feminist insights, since it makes a difference in how the data are interpreted. This survey method also makes a difference in how a variety of compelling policy concerns are applied, and it may have a substantial effect on which groups in society have access to economic resources ultimately. Concerning the qualitative methodological strategy, Wilkinson (2003) proposes:

> "The chief advantage of qualitative research is an in-depth investigation of individuals that garners more detail about the characteristics of the intersections of diversity. The researchers can return to the quantitative information and situate the results of the qualitative study within the general framework of society and as a result, come to a better understanding of how certain life situations and social barriers may prevent equal participation. This multi-method approach is superior in capturing the complexity of various intersections (p.31-2)."

This work also extends beyond the issue of gender as a category of differentiation in economics in order to analyze the convergence of earnings and employment outcomes within particular groups of women who have different rankings in terms of status in the economy. This level of empirical analysis is a fairly recent trend in feminist economics, since the labour market experiences of women have traditionally been compared to men's and not to each other[5].

The first essay, entitled *Compensating Differentials or Discrimination? Revisiting the Gender Earnings Gap,* brings into question the persistent gender earnings differential in the Canadian economy. The Statistics Canada Workplace and Employee Survey (WES) is relied upon to test the gender earnings disparities for management and professional workers in business and finance who work hours in excess of the full-time standard.

My hypothesis is that fewer cumulative hours for women results in a type of lost tenure in the traditional male-dominated good jobs of the economy, leading to a flatter overall earnings profile despite the achievement of relatively high labour market status. From a theoretical stance, I advance a rat race theory, which proposes that the majority of women are enticed into a separating equilibrium at a lower level of earnings and hours, since they face discrimination in their attempts to compete aggressively with men in the labour market based on work hours.

[5] See Power and Rosenberg (1995) or Tijdens (2002) for examples of this approach.

The empirical analysis, which considers both supply-side and demand-side causal variables, confirms that women's hours above the standard workweek matter very much to earnings. However, an application of Horrace and Oaxaca's (2001) decomposition technique reveals that conventional empirical approaches do not fully explain gender earnings disparities, as men clearly have a more favorable pay structure on the higher echelons of the labour market. Traditionally, in labour economics, this variation is referred to as discrimination. The analysis also supports the theoretical argument of a rat race in the pay-hours mix.

This paper makes a significant contribution to the growth of knowledge in labour economics, since previous analysts have focused on women's part-time or intermittent employment patterns only in explaining gender pay disparities. No other work has examined women's overtime hours above the standard workweek as a key contributing factor to the earnings gap.

The dominant story of this paper concerns the motivations of the contemporary working woman in the corporate sector. While preferences relating to her labour supply are portrayed as a rational economic choice, this research is a clear example of the many unresolved issues in such decision-making processes. There appears to be a persistent nostalgia for women's traditional roles in the work-life balance. This occurs irrespective of status in the labour force and the presence of children, though the latter is nevertheless part of the intricacies of women's diverging economic prospects.

The bias may be situated within a sorting process or a form of stratification between men and women in the good jobs of the economy, with women being

concentrated at the lower end of the pay structure. What remain unclear are the broader social contexts that lead to inequities in the distribution of work hours and pay between men and women. Is it the constraint of discrimination (a barrier to real choice from workplace rules) or individual choice? Is the cult of female domesticity a part of the exclusionary processes that position women on the lower end of the hierarchy of jobs?

Bearing in mind the earlier quote of Wilkinson (2003), we may pose the question: What type of information can be captured from a qualitative format, which would inform economics and illuminate policy? First, we need to know whether fewer working hours for this female cohort is the outcome of the presence of children and other personal obligations (caring for elderly relatives, etc.). In contrast, are women socialized to anticipate a more holistic and less competitive lifestyle? Policy solutions may or may not involve longer-hours day care, flexible hours or even a maximum hours rule[6]. The point is this: The first essay provides a good example of the many unanswered questions that remain from utilizing the conventional tools of econometrics. A future research format of combining quantitative and qualitative data would strengthen the study of women in this relatively privileged labour market.

However, the scrutiny of qualitative research, which expands our current insights into the true mechanisms at work, is applied in the next two essays only. These manuscripts illustrate that gender is only one form of socially-constructed hierarchy in the labour market, as it must be located within other forms of social allocation (Brewer et al. 2002; Browne and Misra 2003; Wilkinson 2003).

[6] Though the first essay and the concluding chapter do outline such policy solutions, it is acknowledged that, based on quantitative data alone, we can not be truly certain of the reasons why the majority of women work fewer hours overall than do males.

These two essays deal with the issue of prostitution, for which there are major deficiencies and theoretical under-development in the field of economics[7]. There is a paucity of prostitution literature in mainstream economics, and the existing approach has led to erroneous assumptions of rational and calculating agents in unflawed markets, who often make tradeoffs between marriage and prostitution. In particular, these autonomous actors are believed to profit lucratively from this lifestyle (Edlund and Korn 2002). Thus government intervention, other than a legalized regulating role to the state, is thought to be useless at best and in all probability harmful. This conventional approach provides an extreme example of the construction of economic analysis in androcentric terms. In both essays, I clearly argue against a neoclassical view of the sex trade.

Notwithstanding the fact that not all women are in the marriage market, analysts in economics ubiquitously fail to acknowledge the social and historical context as it pertains to the pre-existing vulnerabilities that bring women to the sex trade and the coercive factors that keep them there. A dominant assumption is that sex trade workers are all adult women. To the contrary, there is evidence that the majority of sex trade workers begin their engagement in prostitution before the age of consent. Most are poorly equipped with the tools essential to fully evaluate their options. Thus, it is counterproductive to separate the issue of adult prostitution from child exploitation (Gorkoff and Runner 2003).

[7] This research evolved from an economic cost study, which was prepared for RESOLVE (a family violence research centre) at the University of Manitoba and the National Crime Prevention Strategy (NCPS) of the Department of Public Safety and Emergency Preparedness Canada. The study was one part of the evaluation of Ndaawin, a community service organization whose main objective is to respond to Aboriginal youth at risk of being exploited through prostitution.

In the City of Winnipeg, there are estimates of 400-600 visible sex trade workers who are primarily youth. Youth prostitution in Manitoba is mainly an Aboriginal issue (Manitoba Child and Youth Secretariat 1996; Social Planning Council of Winnipeg 2002). It is well-documented that these youth, the vast majority of which are female, risk lifelong consequences from constant exposure to violence, health threats and exacerbated addictions while engaging in the sex trade. This brings into question the validity of conclusions of autonomous individuality and choice, which fails to methodically theorize the lives and human behaviors of the youth who are exploited through prostitution[8].

Not only does prostitution involve gender subordination in terms of the commodifying of the sexuality of sex trade workers, but how should we conceive the fact that the majority of prostitutes in this province are Aboriginal women? For any economist who wishes to study this compelling topic, there is a need to contemplate the forms of discrimination in their childhood experiences and their cultural histories, which make them vulnerable to sexual exploitation. These early life circumstances lead to the consequent detachments from the formal labour market.

This unique approach to the issue of prostitution is my further contribution to economic inquiry. The research is unprecedented in both the prostitution and economics literatures, thus making a significant contribution to the body of empirical work in labour economics. No other Canadian economist has studied the labour market patterns of former prostitutes. Until now, we had no knowledge of whether these individuals leave the sex trade with the adequate physical and mental health

[8] Jefferson and King (2001) argue that "rationality may involve no more than accepting the only option available" (p.92). While it is true that people make personal choices, the key point is that their preferences are rooted in environmental factors.

capacities needed to deal with the demands of working at a legitimate job. Nor had any studies captured data on the potential for exited prostitutes to rely exclusively on income assistance programs and other government services once they leave this lifestyle.

Given this contextual background, the second essay is entitled, *The Private Costs for Youth Engaged in the Sex Trade: An Empirical Examination of the Lifelong Employment, Earnings and Health Effects.* From a labour economist's perspective, the time spent in prostitution beginning in the adolescent years usually implies a significant detachment from formal schooling and the legitimate labour force. This phenomenon raises the question of whether there are large and permanent scarring effects on the consequent employment and earnings outcomes in the mainstream for former sex trade workers following an exit from prostitution.

For this essay, sixty-two primarily Aboriginal former sex trade workers were interviewed to explore whether, after transitioning into mainstream society, the individual had lost significant opportunities to acquire income-earning productivity attributes. The empirical work involved random-and-fixed effects modeling applied to panel data. The finding is that the prostitute leaves the sex trade with low education and training, as well as few labour market attachments. On the surface, it appears that the women simply did not "invest" appropriately in their human capital.

Due to the experience in the sex trade, the former prostitute is likely to face several employment-related challenges and may incur substantial private costs in terms of lost earnings compared to similar women in society. The crucial question is

whether the individual can recover from these scarring effects, since these issues are closely linked to the significant demand on social programs over the sex trade worker's lifetime.

However, the empirical work also points to the relevance of investments in education and training for the women who are able to take advantage of a variety of state supported networks offered in the community. Some participants obtained good job opportunities with high pay as a result. Equally as important, the study also points to the importance of the early formation of labour market attachments for Aboriginal adolescents. This essay clearly illustrates the strength of human capital approaches in analyzing survey data and in calculating lifelong productivity losses.

But here is the crux of the matter. A neoclassical economist who does not consider a broad perspective may propose that state funded investments in the former sex trade worker's education and job training can be the only policy solution. However, the study's results need more context, as they must be opened up to different interpretations if we are interested in enhancing the welfare of those who are exploited through prostitution. Human capital is not the only policy solution, though it is one of many good solutions, which I discuss shortly. A methodological individualist approach in terms of making knowledge claims and in discussing everyday concrete issues simply will not do. There is nothing neutral about the lives of former sex trade workers. We can not assume that they started out on a level playing field, as there is an entire historical and social context that must be considered in making policy decisions.

In terms of gender-oriented public policy, this essay illustrates that one-dimensional labour market strategies may reinforce inequities experienced by minority women. Not all women experience the labour force in the same ways (Brewer et al. 2002). The managerial or professional woman is on a higher echelon of the labour market hierarchy and, though she still experiences some discrimination, her needs may be less complicated. For exited sex trade workers, there are risks in formulating policies that are directed at eliminating gender discrimination only, for example, offering free education or training. The challenge is that, without allocating financial resources to putting in place an extensive support system, such policies fail to recognize the range of (and history of) systemic issues faced by these women.

At a program level, the human capital approach needs to be amended. For example, the young Aboriginal women in this study need a holistic or "human development" approach to policy when addressing the questions of their labour market attachments and starting at an early age. Simply offering the women education or flex hours and free day care at the entry point into the formal labour market, while helpful, is a single dimensional approach that does not fully conceptualize their lived experiences. Human capital approaches could be broadened to include factors, such as life skills training, personal development, family healing strategies and addictions counseling. Their integration into the mainstream will likely entail the creation of public sector employment.

Moreover, the Aboriginal woman's lived experiences of child-rearing differ substantially from the white middle-class experience, since the notion of family has a

different meaning in Aboriginal culture[9] (Blackstock 2003; Coleman et al. 2001; Cross 1986). The former sex trade workers in this study face multiple layers of labour market disadvantage within a full array of deeply-rooted dimensions – ethnicity, history of colonization, class, gender, racism, geographic segregation, family violence, child abuse and addictions – thus, only a complex set of integrated policies from an intersectional stance can empower them with equal opportunities for education and access to decent jobs in the work force. These women face unique disadvantages, and their issues can not be subsumed simply within the gender dimension (Brewer et al. 2002; Wilkinson 2003)[10].

The third essay is, *An Examination of the Fiscal Impact from Youth Involvement in the Sex Trade: The Case for Evaluating Priorities in Prevention.* It uses a case study interview method to estimate a series of fiscal costs on the demand for public services over the period of engagement in sex trade activities and following the transition into mainstream society for a sample of eight informants. The main argument is that the government could easily recoup its annual funding to a prevention strategy designed to dissuade entry into this lifestyle if only a few youth are diverted from prostitution. Given the fact that there are high numbers of street-

[9] Differences in child-rearing practices could influence policy as well, since Aboriginal peoples often use a kinship system for day care needs.

[10] Some analysts might argue that this dissertation's presentation of "binary oppositions" – women versus men in the labour market; Aboriginal women versus Aboriginal sex trade workers – merely perpetuates the stereotypes that intersectional analysis is intending to avert (Brewer et al. 2001; Wilkinson 2003). For example, this work assumes that women's lives would be better if policy strategies ensured their preparedness for strong labour market attachments starting at a young age. Indeed, such a stance should be no surprise, since this work is rooted in the empirical analysis of labour market phenomena. However, it is acknowledged that what constitutes "normal" or "success" should not necessarily involve women participating in the labour market. For example, what if women would prefer to focus on their reproductive tasks? In this sense, intersectional analysis is not truly operationalized in this work.

based youth sex trade workers in the local region, these cost assessments have implications of paramount importance for evaluating the priorities of public policy on investments in prevention programs.

This essay demonstrates how mainstream tools in economic costing, such as the concept of opportunity costs, can inform policy at the program level. The study is the first of its kind in Canada. No other studies have accounted for the incremental fiscal resources expended to provide substantial amounts of supports and services to sex trade workers, in particular, after they leave this lifestyle.

Withholding crucial financial resources from prevention programs, such as Ndaawin and other early-life programs that deal with family dysfunction and addictions will reinforce intersectional discrimination. For young Aboriginal women, there is a further dynamic of structural discrimination, since they have subordinate gender roles within their own communities. Consequently, these youth are more vulnerable to being coerced into prostitution and other crime activities by male partners, and they are easily entrapped into dysfunctional relationships (Gorkoff and Runner 2003; RESOLVE and CS/Resors Consulting, Ltd. 2004).

Wilkinson (2003) refers to such vulnerabilities in people's lives as "identity markers" (i.e. the intersections of identity described earlier), which ultimately define their realities within social institutions (the labour market, the criminal justice and health systems, etc.). Such identities are mutually reinforcing. Hence, instead of treating Aboriginal peoples as a "problem", the state has a key role in protecting children, upholding their rights and, in particular, ensuring that "intersectional thinking" is used in policy and program development in order to reflect their

everyday lives (Brewer et al. 2002; Wilkinson 2003). There are few other options to break down the formidable barriers that these children face.

Hence, my contribution to economics is provided by three unique studies, which are situated within the notion that non-market relationships exist in the form of socially-constructed hierarchies in the labour force, and they heavily influence market outcomes. I will now briefly review the cost-of-illness approach to the economic costing methodology, which is included in this introductory chapter since the approach is utilized in two essays of this volume.

A Note on the Economic Costing Methodology:

As stated earlier, the current work is rooted in the dominant neoclassical paradigm. The economic cost analysis utilized in Chapters 3 and 4 is based on a fairly well-developed approach in terms of its rigorous cost estimation guidelines. This method has been widely utilized to estimate health outcomes. It is known as the cost-of-illness methodology (COI) (Single et al. 1996). Cost of illness studies have been conducted in the area of substance abuse, cardiovascular diseases, tobacco and alcohol use (Choi and Pak 1996; Choi et al. 1997; French et al. 1991; Kaiserman 1997; Manning et al. 1991; Rice et al. 1990; Single et al. 1996).

Underlying the COI method is the classification of costs into direct, indirect and intangible costs. Within this approach, lost time in the labour market, for example due to absenteeism, is viewed as lost production in the economy. This is referred to as the human capital approach, whereby forgone employment compensation is recorded as indirect costs (Glied 1996; Rice 1967; Rice and Cooper 1967; Rice and Hodgson

1982). A particular advantage of this costing methodology is that it is well-suited to a bottom up approach that emerges from a personal interview methodology. There is theoretical underdevelopment in the economics of prostitution and survey samples are generally non-representative due to the hidden nature of this work. COI is suitable to these circumstances, since it is a method of inductive reasoning, which permits the calculations of observed facts for a specific subsample from which behavioral explanations are devised to explain those facts. For instance, it is useful for tracking cost avoidance categories of expenditures (French et al. 1991), such as the reduction in public service utilization that emerges from investments in prevention strategies.

The method also allows for the calculation of the effects of morbidity, that is, lost production in the labour market due to the burden of illness. While many studies focus on the direct health costs of life-threatening illnesses, what may be of greater significance to the demand on a wide range of public resources are the non-life threatening conditions. One example is stress-related mental health issues, which may cause lifetime dependence on income assistance and housing subsidies due to a lack of participation in the labour market. The COI approach is well-suited to capturing such costs, as it is a practical valuation method for the purposes of the current volume. This is shown in the two essays on youth sex trade workers.

Critics of the human capital approach raise several important questions and methodological considerations, which are compatible with feminist values. For instance, the theoretical core of this approach is that national income is a suitable measure of societal welfare. However, analysts question whether production in the economy, which is derived from an individual's earnings, is the most appropriate

measure of the economic value of human contributions. Of interest to feminist values is that the human capital approach does not account for lost household services and reproductive caring work due to illness or premature death, since these are not valued in the national accounts in terms of wages and earnings. Analysts struggle with the practical implications of such inaccuracies, since these omissions cause a tendency to undervalue productivity losses (Hankivsky et al. 2004; Kuchler and Golan 1999).

In terms of methodological approaches to costing, the stratified labour market described earlier raises questions about the selection of wage rates or earnings categories as it pertains to influencing the calculations of economic values. Critics argue that individuals who earn more money and who are usually men are assigned a larger value of life. Indeed, when costing out the value of premature death, should this mean that white middle-and-upper class men's lives are given higher value, since they are apt to be better positioned on the job hierarchy? (Hankivsky et al. 2004). Serious consideration must be given to the fact that economic values reflect the distribution of earnings in the labour market (Kuchler and Golan 1999).

For sex trade workers, it is known that there is substantial lifelong anxiety, pain and suffering from engaging in this lifestyle. Their families and friends are apt to suffer as well (Gorkoff and Runner 2003). Indeed, a cost-of-illness framework is only complete if it considers these quality of life issues. The human capital approach incorporates no explicit estimation of such difficult to value intangible costs (Hankivsky et al. 2004).

The cost-of-illness approach is criticized for not fully capturing the total societal effects from diseases or particular illnesses. Moreover, estimates derived

from this costing methodology are viewed as a lower boundary to the value of societal losses, due to the valuation biases described above (Kuchler and Golan 1999). In particular, some analysts argue that quality of life is difficult to measure using dollars (Hankivsky et al. 2004).

In contrast, a utility approach is a better unit of measurement for quality of life (Kuchler and Golan 1999). For instance, within the COI framework, an alternative to the human capital approach is the utility valuation or "willingness-to-pay" methodology, in which the value of an outcome is measured in terms of human preferences over risks. The human capital approach measures dollars (used to purchase consumption items) while willingness-to-pay measures the utility of consumption purchased with dollars. A value of life can be produced from these estimates. For example, a contingent valuation approach measures how much individuals are willing to pay or give up in order to reduce their probability of contracting a serious illness or to avoid pain and suffering or lower the risk of death (Choi and Pak 2002; Levin and McEwan 2001).

In these ways, the methodology is well-suited to capturing the quality-of-life issues, whereby values are attached to goods that are not marketed. The method also recognizes that individual preferences are unique. However, the utility measure of social welfare is subjective and difficult to implement where it concerns the accumulation of accurate data (Kuchler and Golan 1999).

Despite some weaknesses as a measure of welfare and given the specific objectives of this dissertation, cost-of-illness studies, particularly within the human capital framework, can provide a reasonable valuation of the economic impacts. It can

trace the flows of dollars spent on direct public expenditures and the earnings that are forgone as a result of illness and other adverse societal outcomes. Such an accounting is helpful as a guide to showing which government programs improve public welfare (Kuchler and Golan 1999). Thus, in the current study, this standard practice in economic costing methodology is the chosen method of estimation.

To sum up the discussion, research on the status of women in the workforce often excludes important considerations, which would increase our knowledge of how to shape the structure of policy strategies in cases where we want to change the status quo. The contribution of this work is twofold. It demonstrates women's diverse economic prospects by extending the analysis beyond a narrower focus on market exchanges to some of the structural factors that account for their positioning in the labour market. Second, it takes a holistic bottom-up approach to the economic costing of events in women's lives in order to evaluate the consequent impediments to work force mobility, as well as the effects on public resources.

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CHAPTER 2

Compensating Differentials or Discrimination? Revisiting the Gender Earnings Gap

2.1 Introduction

Canadian women have made great strides towards economic independence in the forty years since the period of second wave feminism. Despite the empirical evidence for these gains, current research does not explain the persistent pay gap when both men and women experience similar continuity and productivity characteristics in competitive markets within the labour force. The main question posed in this study is the following: If we examine the occupational categories in which individuals typically share comparable productivity attributes, do the unexplained gender earnings disparities persist? If so, are the residual pay variations a function of differences in work hours above the full-time standard workweek? In a further dimension, it is predicted that higher total earnings may be positively correlated with larger firm sizes where a good deal of unpaid overtime is worked in the occupations under study. Investigating these questions involves testing the earnings implications for management employees and professional workers in business and finance who work in excess of the standard full-time hours. This paper proposes two main reasons why women earn less than males in these occupations. Generally, a separating equilibrium characterizes the earnings and work hours of males and females. However, when women compete with men in this stratum of the labour market they are forced into a social welfare reducing allocation of inefficiently excessive hours. In this competitive pay-hours mix, women encounter discrimination in which they work progressively higher numbers of hours than males for less pay.

Following a discussion of the relevant literature in Section 2.2, the theoretical framework is developed in Section 2.3. The empirical questions and research methodology are described in Sections 2.4 and 2.5 respectively. This study makes use of the Statistics Canada, Workplace and Employee Survey (WES). In Section 2.6, the empirical question of earnings inequality is addressed by examining the work patterns of women who occupy management and professional jobs in business and finance on at least a full-time basis and with equal levels of Mincerian productive qualities compared to men. In this exercise, individuals with dissimilarities in their career patterns such as part-time work and other discontinuities of work experience are excluded from the descriptive comparisons. These occupational classifications are selected since it is these employees who work most of the unpaid overtime in the labour force. The regression estimates presented in Section 2.7 show that gender labour market outcomes are still divergent even when women's career profiles approach that of men. However, an emphasis on total hours worked yields findings that support the notion of added effects on job tenure in one's work activities, which influence wage returns to these occupations. Furthermore, these effects are only partly explained by the individual choices of maximizing economic agents. An application of Horrace and Oaxaca's (2001) decomposition technique in Section 2.8 substantiates the findings by providing another empirical test. While any theory of no gender earnings discrimination is rejected in these occupational categories, the distributional analysis does confirm a pattern of narrowing differential in the number of hours worked above the standard full-time week. However, earnings discrimination prevails in these occupational categories for those females who join the socially

inefficient rat race of excessive hours. Concluding remarks are offered in the final Section 2.9.

2.2 Literature review

Explaining the persistent gender differential in employment and earnings is essential to the advancement of women's interests in an economy linking social and economic power to the top-level jobs. During the past four decades striking changes in the gender earnings gap have spawned an abundant literature. However, that the progression toward equality is slow and substantial variations persist in gender pay levels is well established in the research (Baker et al. 1995; Blau et al. 2003; Blau and Kahn 1997; O'Neill and Polachek 1993). The Canadian research agenda is directed at empirical reviews of gendered experiences in the labour market covering a range of issues. Studies have traced the widely perceived discrimination portion of the pay gap, as well as the influences of occupational and industrial segregation (Baker et al. 1995; Christofides and Swidinsky 1994; Drolet 2002; Finnie and Wannell 1999; Kidd and Shannon 1994).

Since the 1970s and 1980s, a popularized approach to the study of gender in neoclassical labour market economics has been to speculate about the associations between women's intermittencies and a lower degree of commitment to the labour force. The discourses allude to the negative effects of women's choices of part-time or part-year work, which is further explained by gender social roles (Browning 1992; Phipps et al. 2001; Polachek and Siebert 1993). The work-family mix interferes with reproductive work, or it jeopardizes quality of life (Rice 2000; Whittington et al. 2000). These role-conflict constraints are perceived as not being imposed on coupled

men to whom benefits accrue from the division of labour within the family (Folbre 1995; Sirianni and Negrey 2000).

Another significant literature proposes that the childhood socialization process leads young women to voluntarily choose occupations with low rates of skill atrophy[11] featuring flatter lifelong earnings profiles but lower penalties for intermittency (Drolet 2002; Duncan and Prus 1992; Kohn and Schooler 1982; Polachek and Siebert 1993; Polachek 1981). These differences explain why we do not observe large clusters of women in the high atrophy senior management jobs and several high-paying professional occupations[12]. In more recent studies, interest in the topic is expanded to examine the worker's major field of study in a further attempt to account for the atrophy-related earnings gap (Drolet 2002; Duncan and Prus 1992). Nonetheless, the empirical work related to intermittency and atrophy theories has minimal power in explaining the link between occupational segregation within traditionally male-dominated jobs and the lower lifetime earnings profiles of women.

In the current study, however, the emphasis is shifted to a different set of questions since the earlier group of studies excluded the minority of women who had broken into male-dominated jobs. Several women do not drop out of the labour force for any significant period of time during the span of their work careers; hence, attributing economic constraints entirely to reproductive demands does not provide a complete story. Moreover, most women in the higher occupational echelons of the labour market, such as those in management or professional type occupations,

[11] Skill atrophy refers to the rate at which a worker's skills depreciate when they leave the labour force for any period of time. Periods of labour force exit are called intermittencies. Women choose jobs for which their market returns to acquired skills in education and training fall at a slower rate should they decide to spend fewer years in paid work.

[12] This fact is confirmed by data in the Statistics Canada CANSIM database.

distinctively possess lengthy tenure, plentiful education and years of experience. Thus, this group of attributes is not likely to provide a complete explanation of differential returns among the earnings functions for the workers in the top jobs in the economy[13].

There are three aspects of the literature in labour economics that inform the current paper: the executive compensation literature, the research on work schedules and unpaid overtime, as well as the gender wage gap literature. The latter perspectives are incomplete unless joined with an organizational literature on gendered experiences and work styles within the top jobs in the labour market. In these ways, the present work seeks to integrate multiple perspectives to the topic.

The executive compensation literature has received considerable attention over the past four decades. Until very recently, the study of CEO pay was usually situated within the context of U.S. or Japanese companies (Barkema and Gomez-Mejia 1998; Joh 1999; Zhou 2000). Compensation studies of senior level positions in a Canadian context are a fairly recent outcome of the 1993 Ontario Securities Regulation, which requires that publicly-traded (and state-funded) firms divulge the pay of top executives (Park et al. 2001, 2000; Preyra and Pink 2001; Sandler 2001; Taras 1997; Zhou 2000, 1999). Analysts draw heavily on theories in the finance, human resources, personnel and the industrial relations literature. The emphasis is

[13] Formal education, tenure and experience are the standard productivity-related characteristics that have been verified in the economic theoretical literature (Polachek and Siebert 1993). The proposition that productivity factors contribute little to pay disparities is supported by many studies. Human capital is widely believed to be an irrelevant factor in the gender earnings gap within this stratum of the labour market. Generally, in executive or professional occupations in business and finance, there are few disparities in formal schooling levels and training (Bertrand and Hallock 2001; Davidson and Cooper 1985; Finkelstein and Hambrick 1988; Wajcman 1996). Variables such as the responsibility in a senior position (in both current and past jobs) as well as the firm's ability to pay, both proxied by firm size, overshadow the traditional Mincerian productivity factors. Education and experience only ease the initial climb up the corporate ladder (Agarwal 1981).

mostly on theorizing about firm size or profitability as determining the executive pay mix with a narrow focus on senior level chief executive staff in a for-profit corporate world. Later extensions delve into the topics of risk aversion and environmental forces (Bartlett et al. 1992; Beatty and Zajac 1994; Bloom and Milkovich 1998), as well as speculating about the nonprofit sector (Hallock 2002; Preyra and Pink 2001). Nevertheless, these studies propose that pay must be linked to the behavioral-altering incentives facing an individual.

Although these studies are a good starting point for investigating the theoretical roots for contractual arrangements, of particular significance to the current study is the fact that there is a relative paucity of women in these jobs. Male and female comparisons in the senior jobs have been recently studied by Bertrand and Hallock (2001) whose findings are that women fill only 2-3 per cent of the top-level jobs. Thus, gender dimensions in terms of economic behavioural incentives in the determination of the pay mix are nonexistent in such research pursuits. Women surface primarily in the organizational literature, which attaches a substantial social element to a variety of supply-side phenomena (Eagly and Johnson 1990; Xie and Whyte 1997). The latter work devotes considerable attention to the comparisons of men and women's domestic support networks, time use barriers that influence the quality of the playing field for women executives (Alimo-Metcalfe 1992), as well as the perceived obstacles to equitable opportunities. Typically entrenched in such studies are the dichotomies of gendered work styles and personality traits[14].

[14] Examples of dichotomous traits in gender styles include autocratic versus participatory; top-down versus bottom-up; control versus harmony; hierarchy versus egalitarian (Claes 1999).

The executive compensation literature does confirm that executives in larger firms are widely perceived to have higher true productivity. This is because they deal with more size-related complexities, they generally manage significant corporate resources (Agarwal 1981), and there is apt to be a hierarchy or tallness in a firm's management structure (Tosi et al. 2000). Some of the empirical work estimates that every 10 percent increase in firm size yields its senior workers a 3 per cent pay raise (Baker et al. 1988; Hambrick and Finkelstein 1995). There is a small body of recent empirical work in a Canadian context that provides support to the pay-firm size nexus (Morissette 1993, 1991; Zhou 2000, 1999). Morissette (1991) found that the pay of professionals and managers in firms with fewer than 20 workers is at 56 per cent of the earnings of the individuals in firms with 500 or more employees. Overall, the available Canadian empirical evidence suggests that the hypothesis of positively correlated firm size and pay is a correct one[15].

Though the core theoretical principles in the executive compensation research revolve around the notion of an individualistically-centered contractual exchange in the private for-profit corporate sector, no research has directed attention to the correlation between hours of work and executive pay. This is not surprising because this series of studies related to contractual practices are conducted in the context of Fortune 500 executives whose pay typically far exceeds any rising individual

[15] In practice, professional pay consultants often tend to stress firm size when counseling organizations regarding compensation packages (Finkelstein and Hambrick 1988). In contrast, pay-for-profitability studies take a performance incentive approach to compensation. This strand of literature discusses the widely-used stock option schemes and the incentive alignment effects of exercise price, as well the latter's timing in the pay mix (Gilson & Vetsuypens 1993; Kole 1997); how executives manipulate stock awards (Garvey et al. 1998); and whether deferred pay should be contingent not only on sales and bottom line profits, but on long-term firm performance such as equity returns (Beatty & Zajac 1994; Bizjak et al. 1993; Finkelstein & Hambrick 1988; Jensen & Murphy 1990).

productivity resulting from a commitment to higher numbers of hours[16]. For instance, several of these studies are steered by databases that provide information on bonuses and deferred payments in executive contracts for publicly-held companies with boards of directors and a significant shareholder base. Intrinsically-motivated individuals are drawn to this type of work where long working hours are central to their life style and a standard part of the contractual arrangement (Finkelstein and Hambrick 1988). Thus, these studies make no mention of work schedules. Emphasis is on the form of pay offered [17] and on what to base it[18]. The primary interest is in gauging the effects of pay policies on the ownership's well-being as opposed to the individual's returns for their competitive attributes in the job market. Moreover, relevant to the current analysis are the deeply embedded biases in the validity of the assumptions, since women are assumed to face the same economic incentives as men, and they behave accordingly.

Consequently, the current study must be linked to another literature on the pay-workhours correlation for the larger group of lower-and-middle managerial levels, as well as professionals in business and finance, both occupations for which female access is not substantially blocked. These individuals are more apt (than the above mentioned chief executive and chief financial officers) to be paid relative to their marginal products or direct contributions to the firm. Thus, traditional choice-theoretic facets are investigated. They also work for much smaller establishments. Hence, this group of employees figures more prominently in some of the empirical

[16] See Zhou (2000) for a comprehensive analysis of average pay in the U.S. and in Canada.
[17] Examples include base salary, bonus, stock options and long-term deferred arrangements.
[18] Examples include gross sales, stock value, profitability or long-term performance plans, such as return on equity (dividends and capital gains).

literature that is tied to work schedules, specifically, the relationship between unpaid overtime hours and earnings. The fact that this group of workers is usually exempt from legislative coverage for receiving overtime pay directly is also a feature that contributes to the analysis.

Despite the fact that overtime, whether paid or unpaid, is an ongoing facet of labour market activity[19], it has not been an area of vast interest in the research. There is a more abundant literature on paid overtime, which is most often initiated by firm demand, such as Trejo's (1991) multi-occupational study of compensating differentials and paid overtime. The latter topic appears in the research dealing with labour-management relations and collective bargaining issues.

The existing research on work schedules and unpaid overtime finds resonance with a growing trend in work-related stress and its correlation with long hours at the job. This topic also provides the context in which women are included in the analysis of unpaid work hours. Storey (2000) asserts that,

> "The emerging dominance of market forces in the 1980s typified by the 'greed is good' ethic of Gordon Gecko, in *Wall Street*, has been somewhat tempered by an increased emphasis on quality of life of the 1990s. There appears to be a trend towards viewing work as just one component of life rather than the 'be-all and end-all'" (p.29).

The discourse of work-life balance is commonly used by analysts who study management and professional workers (Cooper et al. 2001; Green 2001; Hyman et al. 2003; Karambayya 1998; Rice 2000), and topics, such as the value of flextime in

[19] Unpaid overtime in the Canadian economy totals 9.5 million hours per week. Greater than half of Canadian overtimers (53%) are not paid for their hours (Duchesne 1997).

reducing stress and personal conflicts[20] (Ezra and Deckman 1996; Sharpe et al. 2002). Another strand of human resources literature focuses on overtime and burnout in specific professions, such as public accountants (Hooks and Higgs 2002; Sweeney and Summers 2002) and lawyers (Landers et al. 1996) and teachers (Drago 2001). While these accounts emphasize that agents do not operate independently of their non-market lives, there appear to be few published studies giving economic explanations for unpaid overtime and its correlation to a worker's base pay.

A few notable exceptions include a recent British study that integrates the unpaid work hours within several occupations into the Mincerian framework. The researchers propose various theoretical possibilities of uncertainty over workflows, bid auctions, gift exchange and teamwork to explain why individuals agree to donate their time. This work does confirm the empirical fact that, due to the variability and complexity of their tasks, managers and professional workers experience a gap between paid and actual hours worked. Often workers mask their own productivity, or it becomes concealed within organized teamwork. In other situations, vying for promotion and one-upmanship over their colleagues, some managers will underreport their actual hours worked in order to impress their employers by appearing as highly productive employees (Bell and Hart 1999, 1998; Bell et al. 2000).

Another complementary literature relating to the internal structures of the neoclassical firm applies a variety of adverse selection models to examine workers' norms as they pertain to excessive hours. Higher hours may signal greater

[20] Interestingly, the higher one's earnings the better their chances of having a flexible schedule at work (Sharpe et al. 2002). This suggests that highly-paid managers and professional workers in business and finance work excessive hours, but the burden of any existing domestic demands is potentially mitigated by flextime arrangements.

commitment and productivity. This small body of research suggests the possibility that competitive mechanisms motivate workers to choose an inefficient and social welfare reducing rat race equilibrium of excessive work hours (Akerlof 1976; Miyazaki 1977; Ramirez 2000). In their gender analysis of lawyers, Landers et al. (1996) propose that it is inherent in a professional work environment that rat race equilibrium will result, which precludes firms from making offers of short-hour jobs to suit any group of workers' preferences. These are the only studies that employ well-established theoretical insights within the field of economics to account for the pay-hours link, and few studies provide a gender accounting of excessive work hours.

The Canadian literature on paid and unpaid overtime has mostly evolved into a number of empirical studies summarized in Statistics Canada publications (Drolet and Morissette 1997; Duchesne 1997; Galarneau 1997; Marshall 1996; Statistics Canada: Labour Force Update 1997). These studies have found that unpaid overtime is associated with the mostly highly paid, educated and tenured workers in the labour force, including managers, administrators and professionals (Duchesne 1997). Moreover, twice as many women as men who work over 50 weekly hours prefer to work fewer hours[21] (Drolet and Morissette 1997). Women are not as fully engaged in spending extra time at work compared to men, since they work fewer than 80 percent of the unpaid hours contributed by males[22] (Duchesne 1997).

[21] A British survey reported that half of the female respondents and 25 per cent of the male respondents would forgo earnings for more personal time and a better quality of life (Rice 2000).

[22] Another key finding is that, in Canada, unpaid overtime hours are only slightly more prevalent in larger firms (Duchesne 1997). This suggests that, if men are more highly concentrated in larger firms, they are not working a higher average amount of overtime compared to their female counterparts who may be overrepresented in smaller firms.

While the thrust of the empirical research has been to describe the problem of excess hours being spent at work, for the occupations of concern to this study, they do not link the latter as a predictor of the gender wage gap problem. One exception is a recent cross-Canada study of chartered accountants in both, public practice and in industry, which found that women worked on average 42 hours per week compared to 47 hours for men. For individuals classified as working greater than 50 hours per week, 18 percent of men worked these excessive hours compared to 6 percent of women[23]. The study attributed the gender pay gap to work hours. In this profession, analysts found a direct correlation between hours worked and higher earnings. They asserted that this was the "crux of the matter for women, who tend to work fewer hours" (Clark 1999).

Analysts have asserted that working unpaid overtime is both a demand-side (e.g. industry) and supply-side phenomenon (e.g. family structure). For instance, a good deal of spousal support at home may encourage an individual's large investments in hours at work (Grossbard-Shechtman et al. 1994). On the demand side, research emphasis has been given to the intensified work patterns in some segments of the labour market since the 1980s. Most theorizing on the subject attributes this phenomenon to economic restructuring including the "organizational de-layering" of the 1980s and 1990s and the consequent employment instability (Karambayya 1998; Storey 2000; Wajcman 1996). One survey by the British Institute of Management stated that 80 per cent of executives reported an upward shift in work on their plates (Green 2001). Indeed, longer hours on the job have been used as a

[23] For individuals working 41-50 hours per week, 52% were men and 40% were women; < 40 hours per week: 30% men and 53% women; < 35 hours per week: 8% men versus 20% women (Clark 1999).

proxy for the growing intensification of work (Hyman et al. 2003). What is not well-investigated in the prior literature is whether they are working extra hours gratuitously or if they reap rewards in the form of a higher earnings base. Moreover, not only has the theoretical literature given minimal attention to the unpaid hours in the managerial function, but other professionals in business and finance have been neglected as well[24].

Both, the executive compensation research and the literature on work schedules and overtime have not widely applied any gender analysis. Some studies have ascertained that women are typically located in the less prestigious lower level positions within the highly-paid senior occupations of the labour market (Bertrand and Hallock 2001; Davidson and Cooper 1985). However, another key finding is that, irrespective of the management level, women's earnings are still less than men's (Davidson and Cooper 1985), and so there must be other factors that are causing the compensating differential to men. What is not known is the correlation between the different levels within an occupation or profession and the consequent work hours.

To date, there also does not appear to be any systematic attempt to examine the correlation between gendered work styles and their corresponding practices as they pertain to work hours. There is an established organizational literature in sociology and psychology on women in management (Eagly and Johnson 1990; Xie and Whyte 1997), some of which proposes that men and women have different leadership styles (Cejka and Eagly 1999; Eagly and Karau 1991; Karau and Eagly

[24] Several private and public sector industries hire financial and investment experts or human resources specialists who also experience variability in their hours of work. There is, however, specific descriptive research on the work practices of certain professionals in business and finance. An example is the work of Almer and Kaplan (2002) on public accountants.

1999; Kolb 1999; Martell et al. 1996; Powell 1990; Twenge 1997; Wajcman 1996). However, the interpretation of these study results often depend on the methodologies used in the data collection and evaluation procedures, including gender biases in the latter. For instance, it is widely perceived that women managers tend to share power with subordinates[25] (Martin 1993), which may potentially lead to fewer hours and higher efficiency on the job. Overall, however, the consensus is that likeness in men's and women's styles overshadows any distinctions or peculiarities (Wajcman 1996; Xie and Whyte 1997; Twenge 1997). Some analysts also argue that economic pressures determine the extent of hierarchy or teamwork, as well as the rigidity of policies and practices in the workplace (Claes 1999; Davidson and Cooper 1992; Helgesen 1990). In concluding this discussion, there is a serious failure to produce accounts of the economic incentives that lead women to work unequal numbers of hours compared to men and how this factor materializes into pay variability. The study's theoretical framework is presented in the next section.

2.3 Theoretical Framework

The literature informs us that, for the selected occupations of the current study, men and women share similar productivity attributes, concerning education, work experience and tenure, as well as work styles, the latter being incited by incentives and pressures external to the firm. Thus, the notion that hours of work differ by gender because of dissimilar work styles is dispelled. However, by engaging in the inspection of work hours, the current contribution to the subject may offer an

[25] Masculine values are stereotypically associated with traits, such as competitiveness, autocratic and controlling, as well as individualism. Feminine values are widely perceived to be more participatory, consensus-based or democratic, and oriented towards team work or flatter hierarchies. In practice, a blend of the two styles tends to evolve over time with shifting emphasis along the continuum of stereotypic qualities (Claes 1999).

alternative approach to the pay contract problem than supplied by the conventional compensation literature. One additional personal attribute of the executive is accentuated. This is particularly relevant for middle-and-lower level managers, as well as professional occupations in business and finance within the Canadian economy. The analysis of the pay contract is redirected towards a choice-theoretic approach by posing the question of whether willingness to work longer hours matters to compensation. This is consistent with the gift exchange theory proposed by Bell and Hart (1999), which found a positive relationship between unpaid hours and higher wages (p.285). Workers are paid a premium under an implicit agreement to work unplanned extra hours (Akerlof 1982).

Though Akerlof (1976) was the first to elaborate on market failure within the theoretical framework of rat race hours, the current work is in the spirit of Landers et al.'s (1997, 1996) adverse selection model of work hours in the legal profession. The analysts propose a two-period utility model in which there is interdependency between partners and associates within law firms as it pertains to ensuring that the latter develop strong work norms. The idea is that they are apt to one day become partners and share in the value of the partnership and its profits. Thus, the firm gains by instituting strict self-selection mechanisms that force associates with partnership potential into revealing their higher productivity through long work hours. In contrast, associates with weaker propensities for excessive work input will self-select into short hours, thus signaling their lack of potential in terms of joining the partnership in future. What makes the rat race socially inefficient is that workers are forced into a situation of welfare reducing excessive hours in which there are no incentives to

deviate to a shorter hours schedule whereby the marginal rate of substitution is equated with their budget constraint (or the wage).

The current work's graphical analysis borrows partly from the contributions of Miyazaki's (1977) self-selection screening mechanisms, which occur in the neoclassical profit-maximizing firm. The analyst describes the overwork phenomenon on the basis of internal labour markets, in which the workers in a group (e.g. teamwork) are also interdependent based on each other's productivity[26]. In the current work, there are no complementarities among groups of workers (i.e. men and women) in the productive process. There is an incentive for the firm to exploit gender work propensities, so as to create a separating equilibrium that reinforces gender discrimination. For instance, some firms may respond to the influx of women in management and professional occupations by setting the requirement for unpaid overtime hours just high enough to offer women a less than utility-maximizing work contract.

In contrast to an adverse selection model, any hidden private information or asymmetries about the employee's type, in terms of work propensity, is not central to the current analysis, since social norms and expectations dictate that women are apt to work fewer hours. Likewise, men are likely to work longer hours. Thus, the current analysis is closer to a price discrimination approach in which the firm assesses productivity levels by observing actual work hours. Males and females are perceived

[26] Landers et al. (1997) sketch a broadly similar graphical exposition of the rat race model (p.172-3). Also, see Ramirez (2000) for an adverse selection model of the internal labour market in which multiplicative effects in the production process drive the earnings-hours mix and the potential for rat race equilibria.

as differentiated services in the labour market and, as preferred customers who are willing to work excessive hours, males are given an edge in the earnings contract

Workers' Preferences

Consider the following utility model, which is assumed to be a function of consumption and hours.

$$U_i\,(E, H) = E - C_i\,(H)$$

U_i denotes the utility of individual i $(i=1, 2)$ who is in search of the utility-maximizing labour contract. E is the individual's total paid earnings, including base, bonus and stock options. Differences in ability are held constant, since it is assumed that both men and women are equally efficient, though ability may be observable if the individual exerts low effort (hours) and receives high pay (this is an empirical question). Nevertheless, the firm can not typically observe the individual's work ethic, though it may seek a way to exploit a self-selection mechanism. Moreover, educational signaling has no role in the model. Thus, earnings or observed productivity can only be contingent on the set of unpaid overtime hours chosen by the individual. A willingness to work higher numbers of hours allocates the worker to a specific level within the occupation. The latter is the simple utilitarian rationale that earnings equal utility, which is derived from self-seeking behavior.

H denotes the number of unpaid hours that the individual works over and above the full-time regular weekly hours, which may be a proxy for effort (e).

i represents the two types of management and professional workers $(i=1, 2)$. Type 1 tends to work many hours in excess of the standard full-time week. The Type 2 individual works approximately the standard full-time week, which may differ

slightly by firm or industry, but it is generally in the range of 35-40 hours per week. Type 1 worker is viewed by employers as having stereotypical male traits ($i=1=m$) and Type 2 possesses female traits ($i=2=f$), though they are not mutually exclusive categories. Workers also know their own type.

$\boldsymbol{C}_i$ is the individual's opportunity cost of hours of work or disutility of high effort, in particular, work efforts in excess of the standard workweek. In this model, the social structure matters very much. The opportunity cost is higher for women with children (and presumably a small minority of males). However, the presence of children does not exclusively influence the costs. As described in the literature, women typically have a lower propensity to work excessive hours. Quality of life issues are fundamental to the structure of women's work schedules, since they are more attuned to the issue of extra hours as a disruptive force in the balance of life (in both family life and in social networks). The shape of the utility function is a factor that creates a self-selection mechanism, since it differs based on gender.

$\partial C_i(H)/\partial H > 0 \quad \forall \ H$ -- the opportunity costs are growing in hours worked, since individuals need more income to offset the additional hours of work;

$\partial^2 C_i(H)/\partial H^2 > 0$ -- the utility function is increasing at an increasing rate

$\partial C_1(H)/\partial H < \partial C_2(H)/\partial H$ In other words, the opportunity costs to Type 1 workers (usually males) are known to be less than the opportunity costs to Type 2 workers (typically females), for all $H>0$; or $\boldsymbol{C}_2(H) > \boldsymbol{C}_1(H)$

In the individual arena, unpaid work simply lowers the returns to the executive's acquired productivity attributes (Bell and Hart 1999). However, it is

required due to the unexpected events in the job. Justifiably though, unplanned hours are a force that will drive up the pay contract to offset their losses. Put simply, people expect to be paid what they are worth, and thus earnings can not be treated in isolation from hours of work. Frey (1997) proposes that feelings of unfairness may crowd out the individual's intrinsic work efforts, especially at the senior level. Of course, the implicit assumption in the current analysis is that individuals are mostly extrinsically-motivated, and so they command monetary incentives. For instance, excessive work hours involve a sacrifice of the strongly preferred leisure[27] (Rice 2000). In line with other research, it is expected that employees will experience diminishing returns to their efforts as overtime becomes unduly excessive and under-performance may occur (Landers et al. 1996).

Firms' Preferences

From the organization's perspective, the activities of senior level workers are not easily observed (Finkelstein and Hambrick 1988; Lulfesmann 2002), but some efficiencies deserving of rewards may be evident, such as visibly long hours on the job, even though true productivity is typically indeterminate. Of course, the employer has an interest in capping pay to what is needed to secure the requisite services. Hambrick and Finkelstein (1995) assert that the firm's goal is to "minimize CEO pay, subject to the ability to attract and retain a 'satisfactory' CEO" (p.190). However, Agarwal (1981) asserts that variations in the supply of executives drive the structure of competitive pay offers. Otherwise, firms will be outbid by other companies who will attract the better-quality employees (p.43). Thus, for the occupations in question

[27] One British survey of 2000 subscribers (senior managers and professionals) to "Management Today" found that 76 per cent of respondents felt that they did not spend enough time with their families or social network (Rice 2000).

and holding constant the particular state of an economy, an added force behind the earnings function is the employer's pay-workhours sensitivity in setting the terms of salary and bonus agreements.

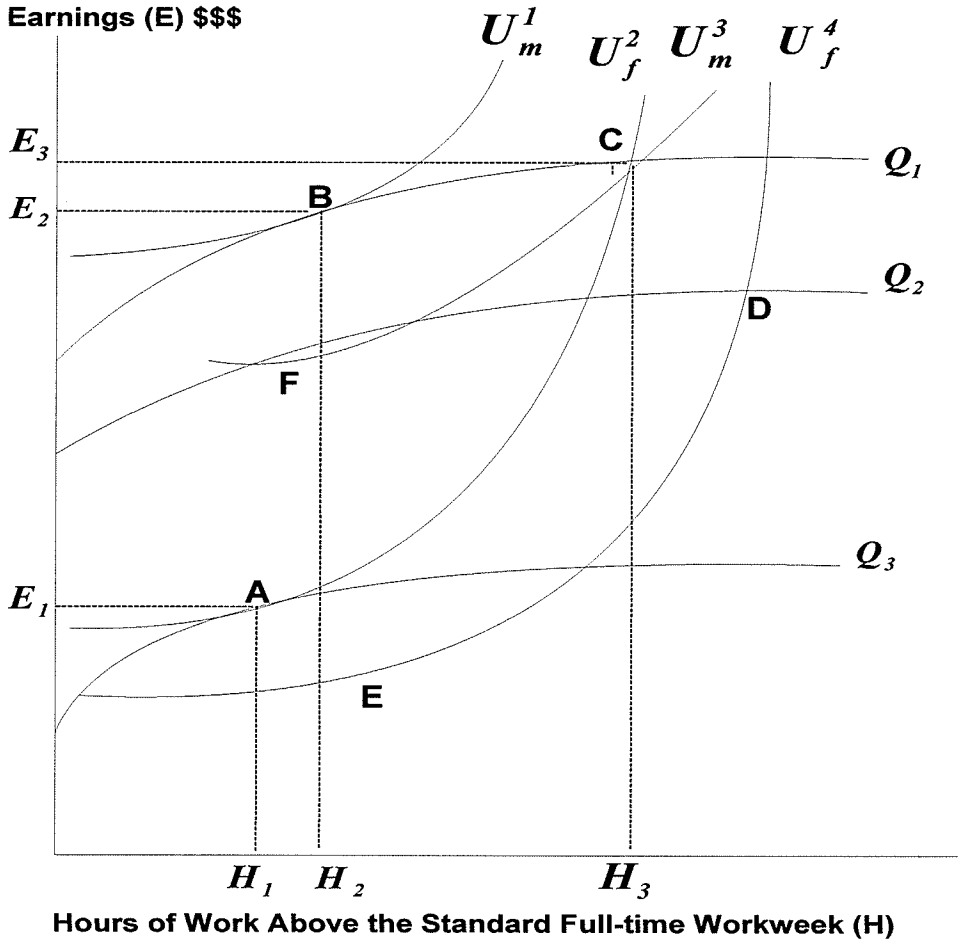
In this model, wage equals marginal productivity of the manager or professional worker. Unlike other more generic types of jobs, there is no need for cross-subsidization of workers (for example, high producers who subsidize the slackers), as found in firms with an internal labour market (Miyazaki 1977). Those who work above the full-time standard workweek are perceived by firms as deserving more pay for effort. The firm's earnings frontier is:

$$Q = f\{\theta_m; \theta_f; H_f; H_m; S; K\}$$

$\boldsymbol{Q}$ is an earnings frontier, which is associated with the firm's ability to set a particular pay-hours mix. This frontier depends on output, as a function of the inputs, and a production function that exhibits constant returns to scale technology. The graphical representation of Figure 1 depicts the basic predicted model, which also shows the attainability of hours and earnings by workers. The level or height of Q is partly a function of the industry in which the firm operates and partly related to firm size. For instance, there may be a set of larger firms within an industry that operate alongside a subset of smaller firms within that same industry.

$\boldsymbol{Q_1}$ is an earnings frontier associated with jobs (typically male-dominated) within a firm in which there is a high overtime culture. It could be a specific industry, a subset of firms within an industry or even a subset of jobs within a firm. There are multiplicative effects from the types of jobs that these workers undertake, but the assumption is that they are relatively similar for all jobs in this stratum of the labour

FIGURE 1: Earnings-Hours Pay Structure for Management and Professional Occupations in Business and Finance



Women and men are generally found in a separating equilibrium at Points A and B, with the latter being unattainable by women, as this earnings-hours mix is reserved for males. Most women choose jobs that require A work hours with lower commensurate pay (E_1 H_1). However, when some women wish to distinguish themselves as having higher productivity by competing with men in the higher paying jobs, there are two phenomena that may occur. First, their opportunity costs of employment are greater (the shape of the female utility functions is steeper at Points C and D); therefore they command higher earnings in exchange for more work hours. Second, the structure of employment is such that women must offer longer work hours than males in order to signal their worth to self-interested employers. Firms only offer women an inefficiently high rat-race earnings-hours structure. This results in an allocation at Point C for those women who do manage to attain the higher male earnings frontier (E_3 H_3) or more likely Point D where they achieve higher earnings than the mean for females, but nevertheless they still work socially inefficient excessive hours on a lower utility function. Excessive hours at Point D increase the probability that women will ultimately opt for a higher utility function at Point A, since the former is a less than utility-maximizing work contract. Thus, women are likely to be stuck in a trap of lower equilibrium at Point A.

market (and thus held constant). Firms may also have preconceived notions that Type 1 workers are typically male, and they are perceived as having higher productivity. Thus, the firm may statistically discriminate by implicitly setting the requirement for unpaid overtime hours just high enough to screen out women.

Q_3 is the earnings frontier associated with a low overtime culture. It could be a low overtime industry or subset of firms within an industry (a specific firm can offer both types of contracts and people will self-select into their type). As a result, certain firms in the economy prefer to hire a larger proportion of Type 1 workers, since they need them to work unpaid overtime. Q_3 firms hire primarily Type 2 workers, since they are not willing to work significant amounts of unpaid overtime. The firm's primary objective is to match worker types with dissimilar propensities to work excessive hours to their internal production needs.

θ_m refers to the proportion of male management and professional occupations in business and finance within the industry or firm type, for example, a male-dominated industry or firm.

θ_f refers to the proportion of female management and professional occupations in business and finance within the industry or type of firm, for example, a female-dominated industry or firm.

H is a proxy for effort (e).

H_f denotes female hours above the standard full-time workweek (35-40 hours per week).

H_m denotes male hours above the standard full-time workweek (35-40 hours per week).

S refers to the labour input of subordinate workers, proxied by the total number of workers that are monitored or supervised.

$K = k \in (1 \ldots n)$ – these are the many specific and finite level of tasks in the firm, which are required to produce the firm's total output. A higher value of K equals a higher value of Q, and it may also be viewed as a proxy for the requirement of conceptual thinking and planning on the part of the manager or professional. Thus, K may be a proxy for firm size. These tasks are exogenous, and they are also related to the technology in the industry.

To summarize some of the key relationships:

$$\partial Q / \partial H > 0; \quad \partial^2 Q / \partial H^2 < 0; \quad \partial Q / \partial \theta_m > \partial Q / \partial \theta_f > 0; \quad \partial Q / \partial S > 0; \quad \partial Q / \partial K > 0;$$

Finally, earnings disparities are contingent on the set of unpaid overtime hours chosen, which informs us about the type of industry, firm or job that the individual chooses to work at, as well as S and K.

Firms offer the contract and the executive worker has the ability to choose their effort level and the corresponding payoff. In this theoretical framework, there are four separating equilibria: Point A, B, C and D (denoted in Figure 1) with Points C and D being an inefficient pay-hours allocation. Point A consists of low overtime workers who are primarily women. High overtime workers are found at Point B, and they are primarily men. These are neoclassical equilibria since they can not be upset for most workers. The set of contracts offered to males and females are generally separating because women have a high propensity to choose point A and males

choose B. The majority of low hour women do not try to mimic males. The employer expects it and they do not have to allocate substantial resources to ensuring that a self-selection process will occur.

If a woman wants to earn a higher than average income, she will have to work at socially inefficient levels in order to signal commitment (effort is visible, ability is not observable), thus the individual finds herself in a rat race at Point C with any luck, but she is likely to attain Point D only. Some males will move from Point B towards Point C. However, since there are not substantial numbers of women in a rat race allocation, excessive gender competition is not observed. There are no factors that force the masses of men to move from point B to C.

2.4 The Empirical Questions

Given the theoretical framework and the potential for a rat race pay-hours mix in which men and women compete vigorously, the empirical tests will investigate the following research questions:

1. Are the majority of men and women in a separating equilibrium in the labour market for management jobs, as well as professionals in business and finance? Put differently, do most women self-select into point A at lower unpaid overtime hours and earnings. It is hypothesized that the employer may anticipate such an equilibrating mechanism; thus, no resources are allocated to ensuring that a self-selection process occurs. Since these workers typically share similar productivity attributes, we expect to observe a positive correlation between total earnings and hours worked above the standard full-time weekly hours.

2. For women and men who work in the selected occupations, what is the presence and role of children in choosing hours? Do women seek longer hours only if the pay structure is commensurate with their higher opportunity costs, as shown in Figure 1, Point C?

3. What proportion of women in these occupations finds themselves in a rat race at Point C or D? Do women work inefficiently high numbers of hours (more so than men) at higher earnings levels, for instance at earnings levels in excess of the mean female earnings? This is an indicator that they can only achieve Points C or D on Figure 1 associated with a stereotypic male pay frontier. It also suggests that an increase in earnings requires an upward distortion in unpaid overtime hours from women having to signal their worth. Hours of work in excess of the male average is indicative of costly signaling, which is not a socially optimal mode of work organization.

4. Does the residual portion of the earnings gap decline in the number of hours worked above the full-time standard weekly hours? If so, this would indicate a dissipating discrimination component to the wage gap.

In concluding this section, the advantage of this study's approach is its reliance on observed overtime hours to build a model of the processes that decide pay and which take into account gender-based wage discrimination. The relative impact of overtime hours, as well as firm level factors, will be examined as the driving force behind compensating differentials for an extra commitment to hours and as a major contributor to the earnings function. To date, no economic accounts have investigated

female aversion to excess hours in demanding jobs as a potential contributor to the wage gap. The study's methodological framework is now presented.

2.5 Research Methodology: The Sample Data and Empirical Specifications

The framework for investigating the relationship between pay and overtime is particularly suited to the Statistics Canada, Workplace and Employee Survey (WES), which collects data on a cross-section of occupations in the private sector across the entire Canadian economy. Hence, the survey does not specifically target the highly-paid Fortune 500 chief executives. Only a small minority of individuals earn over $200,000 per annum. It is also necessary to choose the highest-paid occupations for which female workers have significant continuity in their work profiles. This is widely believed to be the case for female managers (Davidson and Cooper 1985). Other research that studied professional women's work patterns after giving birth found that, compared to other women, these individuals do not make huge adjustments to their annual hours (Whittington et al. 2000). Therefore, the earnings implications for two broad occupational categories are tested: management and non-management professional occupations in business and finance[28].

Firm profitability or performance is impossible to measure using WES. However, firm size, as measured by the number of employees, is a reasonable gauge of sales performance and the complexity of the executive's job, as well as levels in the management structure. As established in the literature review, empirical investigations have consistently verified that these are underlying factors in executive

[28] For the empirical analysis of the current study, professional occupations in business and finance are combined with management occupations because the former are also major contributors to the management of an organization. These positions, which are generally a significant part of the firm's management team, are listed in Appendix A-2.

earnings. Tosi et al. (2000) observed a strong empirical relationship between firm size and executive pay dissimilarities that far exceeded other performance measures (profits, return on assets, etc.) by approximately nine times (p. 329). Therefore, WES's proxy measurement of size by the number of employees working at a firm is accepted.

To test the questions posed by the theory, various descriptive tests and regression estimates are calculated using the Stata econometric software package. The data for the empirical analysis is provided by the 2002 WES cross-sectional sample data from the micro employee files. The sample for the two occupational categories comprises 1,622 female respondents who worked in excess of 35 hours per week, which is defined as standard full-time hours for these occupations[29]. The 2002 male sample totals 2,305 observations. The survey also excludes any earnings from self-employment. WES is an ideal survey for the current study, since it captures information about regular office hours and extra overtime hours (paid and unpaid) worked during any given week. This allows for testing of the contribution of unpaid overtime hours to the worker's total earnings, which is especially suited to the questions posed in this study.

Due to the complex sample design of WES, the descriptive data are calculated using weighted averages. For the regression analysis, Statistics Canada requires that researchers who use WES calculate variance estimates using mean bootstrap

[29] This is a departure from Statistics Canada's standard definition of full-time work as 30 hours or more per week. In this study, full-time hours are defined as 35 or more hours per week (1820 hours per annum).

weights[30] (for the specific procedures, see Chowhan and Buckley 2005; Pierard et al. 2004).

Executive compensation studies generally use as the dependent variable, salary, commission, bonuses and, when available, deferred payments. An added benefit to WES's comprehensive approach is that it captures a breakdown of earnings, such as regular and overtime pay, bonus and shift pay, and profit-sharing. Though the use of total earnings is often relied on as a reasonable proxy for overall compensation (Agarwal 1981; Tosi et al. 2000), it is criticized for disregarding other facets of pay and the heterogeneity of contractual agreements negotiated by agents[31] (Kole 1997). Moreover, the use of total earnings is in contrast to most economic studies, which employ hourly wages. Since this study is attempting to capture the effect of unpaid overtime hours on the executive's total earnings package (base salary, commission, and bonuses, etc.), then hourly wages is inappropriate as the dependent variable. A shortcoming in the methodology of this paper is that current pay may depend on past cumulative contributions, that is, the commitment to hours of work over several periods. WES's panel covers a two-year period only, which does not allow for an appropriate longitudinal investigation of changes in pay given a change in unpaid overtime hours worked. The WES data also does not permit the inclusion of deferred payments such as stock ownership in the firm.

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[30] Statistics Canada surveys are designed for descriptive purposes. Such complex surveys may pose problems of stratification, unequal probabilities of selection and clustering, which could lead to misleading inferences and conclusions. Therefore, sampling variance estimates must take account of survey design. Bootstrapping tools (for example, mean bootstrap weights) manage the problem of model resiliency to different survey designs, which is often encountered when using regression techniques.

[31] For instance, pay contracts may be negotiated by a working group within the board of directors who are usually given a good deal of freedom in setting the pay mix. Consequently, this leads to substantial heterogeneity of the non-pecuniary aspects of the remuneration package (Kole 1997).

2.6 The Means and Descriptive Statistics

Consider the following data drawn from the Statistics Canada: 2004 CANSIM Database (Table 1), from which vast differences emerge in how men and women experience the labour market, within the three selected occupational categories of Senior and Other Management, and Professional Occupations in Business and Finance. Not only do the CANSIM data confirm the lower presence of women, however, it also points to a persistent and sizeable wage gap between men and women with similar career profiles. The female-to-male wage gap is approximately 80 percent in these occupations despite women's full-time commitment to paid work; that is, the wage gap persists even under conditions where women's career profiles mirror men's.

TABLE 1: Gender Representation in Senior Occupations and Categories of Work Hours in the Statistics Canada: CANSIM database

			41-49 hours/wk		Over 50 hrs/wk		
Occupation	**Percentage female in the occupation**	**Female earnings as a % of male earnings**	**% male**	**% female**	**% male**	**% female**	**Female to male ratio of work days lost for personal reasons**
Senior management	22.2%	78.6%	7.8%	1.3%	24.9%	16.6%	3.57
Professional occupations in business & finance	51.5%	80.1%	6.8%	2.9%	19.5%	5.2%	2.96
Other management	37.7%	78.8%	10.1%	6.9%	26.8%	14.9%	3.02

Data were retrieved from the 2004 CANSIM Database: Series 2820009, 2820069, 2820023, 2820030, and 2820081. All calculations were prepared by the author.

Moreover, women account for only 22.2 percent of Senior Managers and 37.7 percent of Other Management Occupations. They fare better in the Professional

Occupations in Business and Finance, at 51.5 percent representation. Table 1 further indicates that there is a strong positive correlation between male respondents and overtime hours worked in excess of the standard full-time weekly hours, while also establishing that women in the same occupational categories are not investing heavily in hours at work. Males work a higher percentage of overtime in all categories of 40 or more weekly hours. For instance, of the total employed males in Professional Occupations in Business and Finance, 19.5 percent work over 50 weekly hours compared to 5.2 percent of females. In all three occupations, women also lose threefold more days of work for personal reasons compared to men. These figures are consistent with Duchesne (1997) who reports similar gender differences in an overview of the occupational and industrial incidence of paid and unpaid overtime work in the Canadian economy.

This overview forms the basis for further testing of the WES sample data to determine whether the lower female commitment to hours of work causes a type of lost tenure in the traditional male-dominated good jobs of the economy. A flatter overall earnings profile may be observed despite the achievement of relatively high labour market status. Employers may think of it as a different type of skill atrophy, thus from the latter's perspective, it lowers a woman's level of productivity in performing the required job tasks.

Table 2 summarizes the statistical means of certain explanatory variables that are retrieved from the WES database. The relatively narrow gap in the higher schooling categories indicates that the women who work in excess of full-time yearly hours have invested in equivalent amounts of formal schooling compared to

TABLE 2 -- WES Sample Means of Selected Variables Summarized for Respondents Working at Least 35 Hours per Week

	2002 MALE	2002 FEMALE	GENDER GAP
Observations	2,305	1,622	
Earnings from employment	$72,257	$50,528	69.9%
Personal Characteristics			
Age	45.2	43.8	Women are 1.4 yrs younger
Education1	7.5%	5.0%	
Education2	35.2%	42.3%	
Education3	47.6%	46.2%	
Education4	8.8%	9.9%	
Education5	4.1%	1.6%	
Tenure (in months)	127.1	125.3	Age adjusted: 111.8%
Years experience (FTE)	20.5	18.5	Age adjusted: 97.1%
Immigrant	25.9%	11.9%	
Visible Minority	19.8%	18.9%	
Disability	4.6%	4.6%	
Family Status:			
Coupled	78.3%	72.9%	
Preschool children	22.9%	14.2%	Women are less likely to have preschool children
School age children	34.6%	34.3%	
Industry characteristics			
Male-dominated industry*	35.8%	21.7%	
Even-gender industry**	20.9%	15.5%	
Female-dominated***	43.3%	62.8%	
Firm characteristics			
Fewer than 20 employees	28.9%	22.3%	Males are more apt to work for smaller firms
20-99 employees	28.4%	26.2%	
100-499 employees	14.0%	15.0%	
Over 500 employees	28.7%	36.5%	Women are more likely to work for larger firms
Covered by a collective agreement	22.1%	30.9%	Women are more likely to be covered by a collective agreement
Number of staff supervised	15.1	6.92	Women supervise fewer workers

Formal definitions of the variables are provided in Appendix A.2. The figures in Table 2 are weighted averages calculated for the occupational codes 01 -- Managers and 02 -- Professionals in the 2002 WES survey.

* Male-dominated variable: a binary variable for the industries where there is a high concentration of males. Examples include forestry, mining, oil and gas extraction; capital intensive tertiary manufacturing; construction; primary product manufacturing; transportation, warehousing and wholesale trade.

** Even-gender variable: a binary variable for the industries where there is approximately equal male and female representation. Examples include real estate, rental and leasing operations; business services; finance and insurance; information and cultural industries.

*** Female-dominated variable: a binary variable for the industries where there is a high concentration of females. Examples include labour intensive tertiary manufacturing; retail trade and consumer services; education and health services.

men, though they are slightly less likely to hold a higher degree, such as a doctorate. This evidence lends support to the idea that females predicted a pattern of continuous labour market participation, as well as anticipating their employment choices. Women in these occupations may have foreseen considerable amounts of time spent in the work force irrespective of domestic plans. This is also reflected in their 18.5 mean years of equivalent full-time experience compared to 20.5 years for men in similar occupations.

The difference is accounted for by the fact that the average female respondent is simply at a lower point on her age-earnings path because she is 1.4 years younger. Likewise, the tenure variable indicates a high degree of work continuity and a strong attachment to the labour force, since women have worked at their firms for equal amounts of time compared to males. However, as noted in the literature review, these minimal experience and tenure effects may not substantially influence gender earnings variability for the occupations under study.

A lower mean in the coupled variable (72.9%) indicates that women are less likely than men to be in a marriage or common-in-law relationship. Moreover, there appears to be a lack of compatibility between the presence of preschool children in the home and female career ambition compared to males. However, the genders are equally as likely to have school age children[32].

Other findings reported in Table 2 establish that fewer women are working in the high-paying male-dominated industries, and they are more apt to work in the female-dominated industries, such as health and retail. It is noted that there is

[32] Some research findings in the literature propose that female managers and other professionals in business and finance are likely to be older, childless and not coupled (Davidson and Cooper 1985). This suggests an element of incompatibility between domestic demands and career ambitions.

substantially similar gender representation in different firm sizes, the latter having been established as influencing pay (Morissette 1991). Women are more likely to be covered by a collective agreement, which may reflect their disproportionate presence in larger firms and in the health or educational services industries. On the issue of firm size, Bertrand and Hallock (2001) found that their female sample managed companies with fewer workers, lower sales and assets[33] (p.6). As noted earlier, however, these researchers examined only senior level managerial executives within a group of larger public companies. In the current study, for the respondents who do occupy senior positions, the pay gap may not be attributed to women's absence in bigger firms. However, males do supervise at least twice as many employees as females.

Since the female respondents who work extra hours share with men similar productivity-related characteristics and the lower mean age may account for a minute portion of the earnings gap, economic theory informs us that those women should also share similar earnings power. Despite this prediction, the women who work in excess of 35 hours per week face divergent earnings outcomes. As shown in Table 2, the mean earnings for the female group in 2002 total $50,528, which is 69.9 percent of the average male wage of $72,257[34].

To address the first empirical question, one method of determining whether men and women are in a separating equilibrium at Points A and B on Figure 1 is to

[33] Firm size was roughly 35-45 percent smaller, and it accounted for approximately 1/3rd of the pay gap (Bertrand and Hallock 2001: 6-7).

[34] The gender wage dispersion is narrower than Bertrand and Hallock's (2001) finding of an overall 45 per cent wage gap. Indeed, the researchers analyzed the top five executive compensation packages for several hundred publicly-traded companies with average earnings of around $1 million per annum (p.5).

ask them if, given their rate of pay, they would prefer to work: (1) the same number of hours for the same pay; (2) fewer hours for less pay; (3) more hours for more pay. The WES variable *prf_hrs* captures such data on preferences[35]. In Table 3, the aggregate trends for these classifications of preferences are cross-tabulated to the presence of children, age, coupled status, average earnings, unpaid overtime hours and standard weekly work hours.

The majority of workers are in a separating equilibrium at Points A and B in Figure 1. Around three-quarters of males and females are satisfied with their hours (classification #1), though there are disparities in regular paid weekly hours, unpaid overtime and earnings, with a wage gap of 67.5% disfavoring women. Males work 59.1% more unpaid overtime, in addition to two more regular weekly office hours. Moreover, women in these jobs are less likely to have dependent children, in particular, preschoolers.

As predicted in the theory, there are not substantial numbers of women in a rat race. Thus, there is little excessive gender competition, which would upset the separating equilibrium by forcing masses of men to move from point B to C. In category #2, more women than men want fewer hours, as only 11.3% of males find themselves in a rat race competition (Point C on Figure 1). To address the second empirical question, the women have much higher opportunity costs of working more hours than women in the other classifications, due to the higher presence of preschool children, and so they command higher earnings of 18.7%.

[35] Landers et al. (1996) argue that there are problems with this approach, since the respondents' consumption patterns may be established (p.176). This would cause them to choose their current level of work hours. Since these analysts had the option to use a different methodology, they asked "how would you prefer to adjust to a small wage increase over the coming year?"

Table 3: Preferences for Hours (2002)

	Female		Male	
Year: 2002	Observations	Mean	Observations	Mean
WES variable: Prf_hrs #1 Same hours	**Figure 1 Point A**		**Figure 1 Point B**	
Observations	1,219		1,690	
% of sample	75.2%		73.3%	
Annual earnings		$49,178		$72,882
Unpaid weekly overtime hours		2.9		4.5
Paid weekly hours		39.3		41.4
Preschool children		13.0%		24.8%
School age children		32.5%		35.8%
Coupled (married or common-in-law)		71.0%		81.1%
Respondent's age		44.1		45.9
Average tenure		131.9		138.5
WES variable: Prf_hrs #2 Reduce Hours	**Figure 1 Point D**		**Figure 1 Point C**	
Observations	242		261	
% of sample	14.9%		11.3%	
Annual earnings		$58,360		$90,453
Unpaid weekly overtime hours		7.3		6.6
Paid weekly hours		39.9		42.2
Preschool children		22.1%		9.6%
School age children		44.7%		48.5%
Coupled (married or common-in-law)		90.2%		83.6%
Respondent's age		44.5		47.2
Average tenure		117.7		132.5
WES variable: Prf_hrs #3 Increase Hours	**Figure 1 Point E**		**Figure 1 Point F**	
Observations	161		354	
% of sample	9.9%		15.4%	
Annual earnings		$44,433		$58,863
Unpaid weekly overtime hours		5.4		4.1
Paid weekly hours		38.5		41.2
Preschool children		6.4%		24.0%
School age children		25.9%		22.0%
Coupled (married or common-in-law)		50.5%		64.8%
Respondent's age		39.6		41.4
Average tenure		89.1		83.4
Total observations (2002)	1,622		2,305	

Note that for both sexes, the earnings are higher at Point C and D than at Point A and B, as well as for the envious individuals who prefer to increase their hours (category #3). A similar pattern emerges for unpaid overtime, though the envious

females work more hours than those in equilibrium mostly in an effort to catch up in the earnings race (they are apt to be younger workers possibly starting out in their careers). A woman at Point D (wanting fewer hours) in a rat race and earning around $58,360 is working more unpaid overtime than an envious man (wanting more hours) who also earns a similar amount. There may be an element of discrimination in the rat race pay-hours mix, as women work more unpaid overtime than men for lower earnings at Point D (this is also shown in Table 5 below). To sum, the empirical evidence is indicative of a positive correlation between total earnings and unpaid overtime hours above the standard weekly full-time hours. Women must also be compensated with higher earnings to offset their opportunity costs at Points C and D.

To further elaborate on the second empirical question regarding the role of children in choosing hours, the preferences of women with and without children are analyzed in Table 4.

TABLE 4: The Preferences of Women With and Without the Presence of Children

	♀ with children observations	Means	♀ without children observations	Means
Observations	779 (48.0%)		843 (52.0%)	
Weekly unpaid overtime		2.87		4.93
Weekly paid hours		39.8		38.9
Annual earnings		$50,857		$50,228
Number supervised		5.9		7.8
Age		43.5		44.0
Coupled		86.4%		60.6%
Prefer same hours	586	75.2%	633	75.1%
Prefer fewer hours	134	17.2%	108	12.8%
Prefer more hours	59	7.6%	102	12.1%

The data show that women in these particular occupations are permanently entrenched in the labour market despite the presence or absence children. The hours they work (paid and unpaid combined) are not substantially correlated with the

presence of children. Women without children are only slightly apt to work more paid and unpaid hours combined (around 1 hour per week). They also supervise 1.9 more employees. Around 75% of both groups are in equilibrium in terms of hours, though more women without children are envious and they would prefer more hours. This is probably due to the fact that this group has lower mean earnings.

Evidence for the third empirical question is revealed in Tables 5a and 5b, which addresses the issue of whether women work more hours than men at higher earnings levels. Overtime is generally increasing in total earnings for women and men who work 35+ hours per week. Up to the mean female earnings of around $50,000, there are minor gender disparities in unpaid overtime hours. However, for those women who may potentially be allocated to an earnings frontier above their mean earnings (which is typically reserved for males), the data indicate that they are not only in a rat race, but any movement to a higher earnings category leads to a disproportionate increase in unpaid overtime hours relative to males.

TABLE 5a: Unpaid Overtime by Earnings Levels (2002)

	Female		**Male**	
Earnings levels	observations	mean unpaid overtime	observations	mean unpaid overtime
>20,000	1,583	**4.06**	2,289	**4.74**
>30,000	1,422	**4.44**	2,196	**4.83**
>40,000	1,131	**5.28**	1,984	**5.05**
>50,000	*790*	***5.92***	*1,687*	***5.54***
>60,000	460	**7.48**	1,307	**5.53**
>70,000	255	**8.08**	1,001	**6.22**
>80,000	158	**7.43**	747	**6.64**
>90,000	99	**8.34**	547	**6.67**
>100,000	56	**8.47**	401	**6.94**
>120,000	33	**10.07**	229	**5.95**
>130,000	25	**11.34**	192	**5.83**
>140,000	19	**11.94**	166	**5.70**
>150,000	11	**10.96**	130	**5.58**

As it pertains to Figure 1, whereas males may potentially reach Point B, the female may have to signal her worth with more hours at Point C. However, there is a good possibility that she can only achieve Point D on a lower utility function. Thus, upward distortions in working hours are even more socially inefficient for women than men when they work high levels of unpaid overtime. Likewise, the evidence in Table 5b reveals that women who prefer fewer hours must emit more costly signals of their abilities at higher earnings levels.

TABLE 5b: Unpaid Overtime by Earnings Levels for Workers Preferring Fewer Hours (Category #2)

Category #2: prefer fewer hours	Unpaid overtime: Female	Unpaid overtime: Male
<40000	2.00	1.28
<50000	2.22	2.33
<72000	7.39	6.21
>50000	9.73	7.29
>90000	8.81	7.17
>120000	11.18	6.60

Another way to test the existence of a rat race allocation for this cohort is to examine whether low earnings workers want to reduce their hours at the same rate as high wage workers. If the two are equal, this will discredit a rat race theory. For instance, low wage earners are not expected to be in a rat race in large numbers. In contrast, it is mostly high wage workers that want to work fewer hours.

Tables 6a and 6b show that most individuals are in a separating equilibrium (Prefs #1) irrespective of earnings levels, since preferences do not appear to change substantially at the higher wage levels. However, the data reveal large differences in workers' preferences to reduce their hours when earnings are below versus above the mean levels for each sex. Rat race pay-earnings mixes on Figure 1 (for instance, Point

C or D) vary based on wage levels, and it fluctuates more for women below and above their mean wage. Around 9% of female workers wish to reduce their hours at wage levels below $40,000, whereas 23% of women who earn above the mean male wage wish to reduce their work hours. Likewise, at least half as many men wish to reduce their hours below $40,000 per year (7.7%) compared to the high earners (14.5%). Another clear pattern in the data is that a higher percentage of males compared to women are apt to want to increase their hours at all earnings levels (preferences category #3).

TABLE 6a: Breakdown of Female Preferences in 2002: Percentage that Prefer the Same Hours (#1), Working Fewer Hours (#2) and Working More Hours (#3)

Prefs	<40000		<50000		>50000		>72000		>76000	
	observs	%	observs	%	observs	%	observs	%	observs	%
#1	347	77.1	608	76.9	582	73.7	168	72.1	141	72.7
#2	42	9.3	86	10.9	149	18.9	55	23.6	46	23.7
#3	61	13.6	97	12.2	59	7.4	10	4.3	7	3.6
Total	450	100.0	791	100.0	790	100.0	233	100.0	194	100.0

TABLE 6b: Breakdown of Male Preferences in 2002: Percentage that Prefer the Same Hours (#1), Working Fewer Hours (#2) and Working More Hours (#3)

Prefs	<40000		<50000		<72000		>72000		>100000	
	observs	%	observs	%	observs	%	observs	%	observs	%
#1	184	64.1	373	67.1	949	71.5	725	75.7	306	76.3
#2	22	7.7	38	6.8	120	9.0	139	14.5	58	14.5
#3	81	28.2	145	26.1	258	19.5	94	9.8	37	9.2
Total	287	100.0	556	100.0	1327	100.0	958	100.0	401	100.0

2.7 The Regression Tests

The final empirical question on the payoffs to women for a commitment to extra hours worked in the foregoing occupations requires an estimation of separate regression equations by gender. Both equations consist of the standard productivity-related attributes that have been verified in the economic literature. Following other

researchers who join employer-specific information with individual productivity-related characteristics (Christofides and Swidinsky 1994; Eberts and Stone 1985), the approach in this paper is to estimate the conventional Mincerian earnings equation with an additional vector of explanatory variables that control for other relevant earnings determinants. In the spirit of Horrace and Oaxaca (2001), two OLS equations are specified in semi-logarithmic form for the female and male groups, both non-linear in the experience and tenure variables, expressed as follows:

$$(1) \qquad lnE_i^f = \alpha^f + z_i^f \theta^f + \sum_{j=2}^{J} \beta_j^f d_{ij} + \varepsilon_i^f$$

$$i = 1, \ldots, F; j = 1, \ldots, J; \quad f = female$$

$$(2) \qquad lnE_i^m = \alpha^m + z_i^m \theta^m + \sum_{j=2}^{J} \beta_j^m d_{ij} + \varepsilon_i^m$$

$$i = 1, \ldots, M; j = 1, \ldots, J; \quad m = male$$

The dependent variable lnE_i is the natural logarithm of earnings of the i^{th} worker. The independent variables z are listed into four groups: (1) a vector of individual human capital characteristics controlling for level of schooling, experience, experience squared, tenure, tenure squared, as well as other personal traits such as immigrant, visible minority and disability; (2) variables to identify family status, such as coupled and the presence of school age or preschool children; (3) dummy variables

to classify occupational and industry[36] characteristics, such as union coverage and number of people supervised; (4) Firm-specific variables are also examined, for instance, the influences on earnings formation of small, medium and large-sized firms.

Economists traditionally measure earnings rewards to job tenure based on months or years worked at a firm. However, in these senior-level occupations, a weak significance in the tenure coefficient is predicted. The use of additional weekly hours in a job may account for the extra monetary gains in these positions. This approach addresses the theory that varying returns in these occupations may be attributed to differences in commitment to the job. This study's model utilizes the *Overtime* variables, which are categorizations of weekly unpaid overtime hours as reported by the WES survey respondents. For the purposes of decomposition analysis, overtime is classified as follows:

Constant (the chosen reference group) Overtime1: the respondent worked Zero hours of unpaid overtime above their standard weekly hours.

Overtime2: 1 to 10 hours above their standard weekly hours.

Overtime3: 11 to 20 hours above the standard weekly hours.

Overtime4: greater than 20 hours above the standard weekly hours.

[36] The approach of combining demand and supply side variables is not without controversy, as a selectivity bias may be imposed on the earnings estimation (Reilly 1991). On the one hand, respondents in the sample have clearly made themselves competitive and, therefore, they self-selected into these particular occupations irrespective of employer customs and social rules. However, it may also be the case that females in the current study self-selected into particular firm sizes based on household size considerations or coupled status. This is reflected in their earnings opportunities. Their participation in specific firms or industries is presumably voluntary. However, women's opportunity costs of working excessive overtime are generally higher, and so this is a supply-side choice based on their own personal circumstances. The drawback to these methods is that the effects of selection bias may cause some females with an average set of attributes to experience an upward or downward bias in their earnings compared to any randomly selected female within the sample. The bias is related to the relationship between randomly selected females within the sample and not randomly selected females outside the sample.

The α 's, $\beta's$ and θ's are vectors of estimated coefficients and ε is the error term. D_{ij} is a dummy variable equaling '1' if the respondent works in any one of the *overtime2, overtime3 or overtime4* categories and '0' otherwise.

The Ordinary Least Squares (OLS) regression estimates and standard errors are reported in Table 7. The standard errors are White-corrected in the presence of heteroskedasticity. The overall fit of the equations is good, with an R-square primarily over .32. All estimates have the predicted signs and order of magnitude. The coefficients of the explanatory variables are interpreted as the percentage change in earnings for a one-unit change in the variable.

With the exception of higher education levels, the productivity variables and personal traits explain very little of the earnings formation. The key findings show support for a theory of compensating differentials, as there are increasingly favorable returns to men and women from working hours in excess of the standard full-time norm per year. The female coefficients tend to rise as more overtime is worked; however, in contrast to males their returns to overtime in excess of 20 hours per week are subject to diminishing returns. This is one indication from the empirical analysis that it may not be worthwhile, in a monetary sense, for women to work such excessive hours. Not surprisingly, women are heavily disfavored in the majority of industries with the exception of a few male-dominated industries.

Table 7: Regression estimates for workers in managerial and professional occupations in business and finance (using the WES 2002 survey micro data files).
Dependent variable: log of total earnings from employment

	Male		Female	
	Coefficients	Standard Errors	Coefficients	Standard Errors
R-squared	.326	--	.395	--
Sample size	2305	--	1622	--
Constant	10.063	.102*	10.003	.071*
Personal characteristics				
Education1	-.187	.091*	-.023	.115
Education2	-.034	.042	-.018	.035
Education3	.171	.053*	.166	.037*
Education4	.188	.042*	.194	.039*
Education5	.278	.067*	.443	.118*
Tenure	.001	.000	.001	.000*
Tenure Squared	-.000	.000	-.000	.000*
Experience	.039	.007*	.020	.004*
Experience Squared	-.000	.000*	-.000	.000*
Immigrant	-.005	.039	.037	.045
Visibility Minority	.011	.042	-.001	.044
Disability	-.126	.045*	-.062	.056
Overtime2 (1-10 hours)	**-.035**	**.039**	**.076**	**.065***
Overtime3 (11-20 hours)	**.146**	**.050***	**.258**	**.060***
Overtime4 (>20 hours)	**.740**	**.337***	**.149**	**.071***
Family status:				
Coupled	-.011	.036	.037	.031
Preschool children	.074	.030*	-.013	.039
School age children	-.030	..031	-.008	..029
Firm characteristics:				
Firm Size: 20-99 employees	.269	.047*	.147	.052*
Firm Size: 100-499 employees	.217	.051*	.215	.055*
Firm Size: >500 employees	.258	.043*	.292	.049*
Union coverage	-.028	.031	-.029	.053
Number of employees supervised	.0004	.000*	.0007	.000*
Industry characteristics:				
Forestry, mining, oil, gas	.332	.063*	.381	.114*
Labour intensive tertiary mfging	.200	.065*	.004	.092
Primary product manufacturing	.179	.056*	.095	.053
Secondary product mfging	.120	.063	.004	.074
Capital intensive tertiary mfging	.168	.095	.240	.105*
Construction	.376	.062*	.055	.078
Transportation, warehousing and wholesale trade	.256	.074*	.176	.091
Communications, other utilities	.296	.057*	.305	.096*
Retail trade/consumer services	.115	.067	-.174	.080*
Finance and insurance	.662	.114*	.155	.070*
Real estate, rental, leasing	.243	.079*	.200	.073*
Business services	.292	.052*	.204	.059*
Information and cultural industry	.237	.063*	.079	.059

* Statistically significant at the 95% confidence level using mean bootstrap weights.
The left-out binary variables: Education – grade 12 or less; Overtime – zero hours; Firm size -- fewer than 20 workers; Industry – Education and Health Services.

There are not likely to be wage disparities for those individuals who are covered by a collective agreement, since there are similar negative returns to both men and women (-.028 and -.029 respectively)[37]. Private sector males in managerial or professional occupations gain more significant pecuniary rewards from living in a household with preschool children, while women have insignificant earnings losses in the presence of children. Males are definitely favored with a higher rate of return in smaller establishments and women receive slightly better returns in the larger of firm sizes.

2.8 Decomposition – The Measurement of Wage Discrimination

Wage decomposition techniques have received much scholarly attention over the past three decades, as these methods have significant informative power (Christofides and Swidinsky 1994; Drolet 2002; Fields and Wolff 1995; Kidd and Shannon 1997). Several studies have examined specific occupations in the high pay stratum of the labour market, such as teaching and engineering (Morgan 1998; Wood et al.1993). Bertrand and Hallock (2001) studied the wage gap for top executives in U.S. public companies. The key advantage of their study is that they had access to subcategories of occupations within the generic managerial category, which permitted the analysts to assess the role of gender segregation with these groupings. The researchers observed that the gender pay residual (the unexplained portion of the pay gap) is minimal when taking into account factors such as the diverse nature of the top

[37] The reader is reminded that this research examines two specific occupational categories, managers and professional occupations in business and finance. In a union setting, there is the likelihood of fewer disparities in the distribution of earnings between management and workers, since relative equity and equality are key principles guiding this type of work environment. However, relative to other non-union workplaces, the manager or professional may face a negative earnings return compared to their non-unionized colleagues.

jobs. Notably, however, few women work in the jobs that they analyzed (2%-3% of the sample)[38], since their study dealt with top executive positions, where the average female salary was $900,000 per annum (males earned on average $1.3 million/year).

Finnie and Wannell (1999) studied the link between work hours and gender pay disparities for recent bachelor's degree graduates. Differences in hours explained 31 percent of the pay residual two years after graduation and 38 percent of the residual only five years after leaving university. However, this study and others are silent on the gender distribution of hours in excess of the full-time workweek and its implications for the gender wage gap, in particular, whether the extent of the discrimination is abridged through higher base earnings when women work more unpaid overtime.

The goal of this section is to address the final empirical question of the current study. Does the residual portion of the wage gap decline in the number of overtime hours and also by firm size? Following Horrace and Oaxaca (2001), the regression estimates (calculated from the 2002 WES survey data) are employed to measure the unexplained gender wage gap within the four specified categories of weekly unpaid overtime hours: *overtime1, overtime2, overtime3, overtime4*. Horrace and Oaxaca's (2001) method calculates estimates that are not sensitive to the chosen reference group for any of the dummy variable groupings in the model, such as the overtime categories. Their technique corrects for the identification problem, known to be a common problem when working with binary variables. Bootstrap estimates of the standard errors and confidence intervals add rigor to the decomposition technique.

[38] The 1995 U.S. Federal Glass Ceiling Commission also reported around 5 per cent female representation in the top-level jobs of Fortune 1000 companies (Claes 1999).

Bootstrapping is a crucial determinant of the statistical significance of the estimates. Using the estimated regression parameters, two estimates of the unexplained portion of the earnings gap, or that which can not be accounted for by the observed attributes, are calculated for comparative purposes:

$$(3)\quad \hat{\delta}_j = (\hat{\beta}_j^f - \hat{\beta}_j^m) + (\hat{\alpha}_f - \hat{\alpha}_m) + \overline{z^f}(\hat{\theta}^f - \hat{\theta}^m)$$

$$(4)\quad \hat{\phi}_j = (\hat{\beta}_j^f - \hat{\beta}_j^m) + (\hat{\alpha}_f - \hat{\alpha}_m) + \overline{z_j^f}(\hat{\theta}^f - \hat{\theta}^m)$$

Equations (3) and (4) may be explained by the following decomposition:

$(\hat{\alpha}_f - \hat{\alpha}_m)$ --- the difference between the female and male intercept terms;

$(\hat{\beta}_j^f - \hat{\beta}_j^m)$ --- the difference between the female and male coefficients for the *overtime* categories: *overtime2, overtime3 and overtime4*;

These two terms make up the intercept in both equations. The gap between the male and female intercept terms is the summation of the left-out *overtime* reference group – 0 hours – as well as all of the chosen reference groups for the other dummy variables. For example, the firms with 19 or fewer employees were omitted. The latter category, plus several others, is summed up into the intercept term.

$\overline{z^f}(\hat{\theta}^f - \hat{\theta}^m)$ --- the difference between the female and male coefficients for all other variables (industry types, productivity characteristics, etc.) multiplied by the average female characteristics for the entire sample of respondents who work in excess of 35 hours per week. Note that the $\overline{z^f}$ term differs slightly in equations (3) and (4). Equation (4) measures this predicted value based on the average female characteristics varying for each category of overtime hours, thus both the intercept

and the slope are shifting. However, as argued by Horrace and Oaxaca (2002) both equations adequately correct for the identification problem (p. 613).

The estimates of the residual portion in the distribution of earnings are reported in Table 8. For illustrative and comparison purposes, the coefficient estimates for an additional set of overtime classifications are provided: 1-7 hours, 8-15 hours and above 15 hours. The residual estimate is the left-over differential that can not be attributed to our chosen independent variables. In other words, women who possess the same characteristics as men are still paid less in each category of overtime worked. The estimates of delta (δ) and phi (ϕ) indicate the value of the lower pay in log points. For example, a woman who works between 1 and 10 hours of unpaid weekly overtime can expect to earn .199 log points less than her male counterpart, holding constant the mean characteristics of the entire female sample (i.e. the delta estimate). If the mean female characteristics are allowed to vary for each category of overtime hours (the intercept and slope are shifting), females can expect to earn .207 log points less than males.

Table 8: Decomposition Results by Category of Unpaid Overtime Hours

		Coefficient Estimate δ	Standard Errors*	Coefficient Estimate ϕ	Standard Errors*
0 hours	Constant	-.311	.045	-.309	.047
1 to 10 hours	Overtime2	-.199	.034	-.207	.035
11 to 20 hours	Overtime3	-.199	.084	-.173	.090
>20 hours	Overtime4	-.902	.351	-.823	.357
0 hours	Constant	-.304	.046	-.301	.047
1 to 7 hours	Overtime2	-.171	.038	-.177	.039
8 to 15 hours	Overtime3	-.139	.060	-.154	.064
>15 hours	Overtime4	-.450	.112	-.352	.116

* All standard errors are statistically significant at the 95% confidence level using bootstrap standard errors and confidential intervals (500 repetitions). The constant is the summation of the left-out overtime category of zero hours, plus all of the chosen reference groups for the other binary variables in the regression (firms with fewer than 20 workers, high school education, etc). In Table 8, the coefficient estimates for two sets of unpaid overtime hour classifications are provided for comparison purposes. The 2002 WES survey data is used for this analysis.

The results also lend some support to the prediction that the unaccounted-for residual may be narrowing in the numbers of hours that women work above the standard full-time year, though there are diminishing returns. In quantitative terms, the earnings value of the residual in log points is falling when a woman increases her work hours, as shown by the declining negative coefficient in each category of *Overtime (1-- constant, 2, and 3)*.

Thus, Table 8 reveals that earnings discrimination in log points, while not completely eliminated, is falling in the number of unpaid overtime hours worked by women. An employer's distaste for female management or professionals may be less apparent in terms of the fairness of the corresponding labour market returns. However, convergence in the wage is the least promising for women who work in the highest category of unpaid overtime (*Overtime4*). A small minority of female respondents commits to this level of market work, and when they do, they find themselves in a competitive rat race pay-hours allocation (Point C or D on Figure 1), in which they work more hours for lower returns. As an alternative, utility-maximizing women with higher opportunity costs of personal time may find themselves better off working fewer hours of unpaid overtime each week.

An alternative explanation for women's earnings and hours is simply that they work more hours in larger firms and, thus, they receive commensurate returns for their efforts in larger establishments. However, as shown in Table 9, unpaid overtime is not necessarily increasing in firm size, though there is a gap between the smallest and largest establishments. Earnings are not necessarily increasing in firm size for

males, and neither are they correlated with the number of people supervised for either gender.

TABLE 9: Hours, Earnings, Family Status, Age and Tenure by Gender and Firm Size

Female (♀-- 1,622)	**Firm 0-19**	**Firm 20-99**	**Firm 100-499**	**Firm 500+**
Weekly unpaid overtime	2.03	3.85	2.69	5.69
Hours	40.0	38.9	38.7	39.5
Tenure (months)	115.7	104.3	119.5	148.5
Annual Earnings	$39,240	$48,789	$51,688	$58,187
No. staff supervised	4.15	6.73	10.29	7.36
Age	43.1	40.8	44.3	46.1
Preschool children	18.1%	19.8%	9.4%	9.6%
School age children	20.1%	32.7%	35.5%	43.5%
Coupled	62.5%	79.0%	66.4%	77.4%
No. of observations	262	446	428	486
Male (♂ -- 2,305)	**Firm 0-19**	**Firm 20-99**	**Firm 100-499**	**Firm 500+**
Weekly unpaid overtime	3.62	5.08	4.41	5.55
Hours	42.1	42.1	40.5	40.6
Tenure (months)	121.1	114.4	122.9	147.7
Annual Earnings	$57,768	$89,054	$74,373	$69,190
No. staff supervised	6.63	12.52	30.77	18.52
Age	45.1	44.3	43.9	46.9
Preschool children	20.8%	18.9%	21.1%	29.8%
School age children	26.2%	34.9%	34.1%	43.2%
Coupled	73.2%	79.7%	83.1%	79.7%
No. of observations	509	769	557	470

The earlier regression coefficients also confirmed that supervisory status is not apt to contribute to the earnings function as significantly as overtime hours. Likewise, the presence of preschool children falls dramatically in firm size for women; however it rises in firm size for men. This may reflect the higher mean age for women, but it may also indicate that family friendly policies are not prevalent in larger Canadian firms.

Table 10 reports decomposition results by firm size, also using the 2002 WES survey data. The analysis is provided to address the possibility that discrimination against women who work excessive hours is falling in firm size. Estimates of phi (ϕ)

are used to account for the likelihood that the mean characteristics of female workers may be changing between overtime classifications in the different firm sizes.

TABLE 10: Decomposition Results by Categories of Unpaid Overtime Hours Using the 2002 WES Survey Data

		(1) Coefficient Estimates ϕ	Standard Errors	(2) Coefficient Estimates ϕ	Standard Errors*
Overtime1	Left out reference group	-.290	.046*	-.299	.048*
	Zero hours for all firm sizes				
Overtime2	Firm <19 employees	-.261	.105*	-.179	.106*
	Firm 20-99 employees	-.304	.067*	-.391	.062*
	Firm 100-499 employees	-.187	.077*	-.296	.082*
	Firm >500 employees	-.032	.082	-.049	.063*
Overtime3	Firm <19 employees	.096	.168	-.168	.220
	Firm 20-99 employees	-.272	.137*	-.145	.190
	Firm 100-499 employees	-.353	.134*	-.224	.184
	Firm >500 employees	-.078	.077*	-.265	.088*
Overtime4	Firm <19 employees	-.248	.442	-1.393	.447*
	Firm 20-99 employees	-.647	.374*	-1.622	.757*
	Firm 100-499 employees	-.394	.188*	-.183	.307
	Firm >500 employees	-.164	.124*	-.222	.252

* Statistically significant at the 95% confidence level using bootstrap standard errors and confidence intervals (500 repetitions). The constant is the summation of the left-out overtime category of zero hours in all firm sizes, plus all of the chosen reference groups for the other binary variables in the regression.
In Table 10, Columns (1) and (2) represent different classifications of unpaid overtime hours for illustrative purposes.
Column (1): overtime hours are defined as: Overtime1: zero hours of unpaid overtime; Overtime2: 1-7 hours; Overtime3: 8-15 hours; Overtime4: >15 hours
Column (2): overtime hours are defined as: Overtime1: zero hours of unpaid overtime; Overtime2: 1-10 hours; Overtime3: 11-20 hours; Overtime4: >20 hours

There is less consistent evidence that discrimination is falling in firm size, though females who work the Overtime2 or Overtime3 categories (1-15 hours or 1-20 hours) may face overall reductions in discrimination. Column (1) in Table 10 illustrates that, for larger firms in excess of 99 workers, gender pay disparities may be lowered relative to smaller firms irrespective of overtime category (though there are exceptions: Overtime3 -- Firm<19 employees and Firm100-499 employees). Though discrimination may be falling in overtime categories, it rises sharply in all firm sizes

when females work in excess of 15 unpaid weekly overtime hours (and also when women in larger firms work in excess of 7 hours per week). It is possible that women face less discrimination in larger firms, even though wage disparities seem to be rising in the number of hours that they work (Overtime4 classification). Overall, however, there is no discernible pattern of dissipating gender discrimination that emerges from this analysis, since the results are less clear and consistent[39].

2.9 Other Explanations for Long Hours

In concluding this discussion, a further explanation for why these senior employees work so many hours is that they simply adapt to long hours over their careers, and they develop a strong work ethic. The theory is that commitment mechanisms explain consistently excessive hours over their tenure (Landers et al. 1997). If this were the case, we would observe that overtime hours are the same across tenure groups and that the degree of work satisfaction increases with tenure. In Table 11a, for women there is no indication of a strong correlation between tenure and overtime hours, as the latter fluctuates across tenure groups. There is also no indication that the degree of work satisfaction increases substantially with tenure. For instance, a larger percentage of individuals want to work fewer hours in the higher tenure groups. Moreover, wages are observably increasing in tenure; however, it cannot be argued that the substitution effect is at work since hours are not increasing correspondingly. Nor is there evidence of a backward bending supply curve, since hours are not falling in higher earnings either.

[39] This is particularly apparent in the figures of Column (2), whereby it is less clear that discrimination is falling in firm size, though workers who exceed 20 hours of unpaid overtime per week fare better in firms with greater than 99 workers. For the most part, however, discrimination is falling in overtime categories, though there are sharp diminishing returns when individuals in smaller firms work in excess of 20 hours.

Table 11a: Female Preferences, Earnings and Unpaid Overtime by Tenure Group

Tenure Group (in months)	Preferred Hours	2002 Observations	2002 %	Total Earnings	Unpaid Overtime
0 – 50	1 same	366	73.8	45,561	3.09
Up to 4 years	2 fewer	58	11.7	57,328	4.21
	3 more	72	14.5	42,288	5.82
	Total	**496**		**46,447**	**3.68**
51-100	1 same	257	74.3	45,149	3.18
Up to 8 years	2 fewer	56	16.2	59,797	15.32
	3 more	33	9.5	42,683	4.91
	Total	**346**		**48,679**	**6.44**
101-200	1 same	307	77.3	51,581	2.83
Up to 17 years	2 fewer	65	16.4	56,812	3.67
	3 more	25	6.3	54,556	5.82
	Total	**397**		**53,449**	**3.25**
201-300	1 same	190	74.2	52,932	1.94
Up to 25 years	2 fewer	48	18.8	64,473	3.03
	3 more	18	7.0	41,440	3.68
	Total	**256**		**53,561**	**2.11**
>300	1 same	99	78.0	55,789	4.43
>25 years	2 fewer	15	11.8	49,728	7.71
	3 more	13	10.2	54,219	6.21
	Total	**127**		**55,012**	**4.93**
Grand Total		**1622**			

The result is slightly different for males. Though there is no evidence supporting the presence of substitution and income effects in the higher earnings associated with tenure, unpaid overtime is fairly flat over a wide range of tenure categories. There is some evidence that the degree of job satisfaction is increasing slightly in the higher tenure categories (which suggests that males have adapted to long hours), however, inconsistently in the category of those who prefer fewer hours (#2). Nevertheless, in the earlier Table 3, we observe that the average tenure of those males who want to keep the same hours (138.5 months) approximates the average

tenure of those who want to reduce their hours (132.5 months), which is an indicator that commitment mechanisms are not the primary explanation for excessive hours.

Table 11b: Male Preferences, Earnings and Unpaid Overtime by Tenure Group

Tenure Group (months)	Preferred Hours	2002 Observations	2002 %	Total Earnings	Unpaid Overtime
0 – 50	1 same	417	65.4	63,080	4.58
Up to 4 years	2 fewer	76	11.9	102,107	5.97
	3 more	145	22.7	57,995	3.85
	Total	**638**		**65,948**	**4.53**
51-100	1 same	385	74.6	66,923	5.18
Up to 8 years	2 fewer	50	9.7	134,138	5.39
	3 more	81	15.7	56,424	3.76
	Total	**516**		**68,429**	**4.80**
101-200	1 same	390	74.7	75,986	4.02
Up to 17 years	2 fewer	62	11.9	62,852	7.64
	3 more	70	13.4	62,677	5.44
	Total	**522**		**71,898**	**4.92**
201-300	1 same	279	80.4	87,469	4.53
Up to 25 years	2 fewer	33	9.5	105,299	6.18
	3 more	35	10.1	67,816	4.53
	Total	**347**		**87,280**	**4.69**
>300	1 same	219	77.6	81,881	4.15
>25 years	2 fewer	40	14.1	88,141	5.88
	3 more	23	8.3	66,733	6.31
	Total	**282**		**81,808**	**4.42**
Grand Total		**2305**			

Conversely, there is every indication in Tables 12a and 12b that pay is more apt to be correlated with hours (unpaid overtime) than supervision of staff, tenure (this is relatively similar across categories) or education. There is a significant wage gap for both groups in each category of overtime hours: >10 and <11 hours (female managers: 62.4%; female professionals: 81.2%; male managers: 74.1% and male professionals: 65.1%). But again, there is evidence of the incompatibility between the

presence of children and higher female earnings (i.e. female managers and professionals who work in excess of 10 hours per week). Males who work overtime in excess of 10 hours per week are less likely to have preschool children than other males who worker 10 or fewer hours per week, as well as females.

Table 12a: Female ♀	Overtime >10 Managers	Overtime <11 Managers	Overtime >10 Professionals	Overtime <11 Professionals
Observations	71	465	87	999
Hours	37.9	40.2	38.8	39.2
Tenure	120.4	125.9	119.5	125.9
Unpaid overtime	**20.6**	**2.2**	**16.2**	**2.0**
Annual earnings	**$73,649**	**$45,971**	**$60,832**	**$49,388**
Preschool	2.1%	18.6%	10.6%	13.5%
School age	15.4%	30.4%	23.9%	39.0%
Coupled	87.4%	65.4%	61.2%	75.8%
Staff supervised	**26.9**	**10.3**	**3.12**	**3.41**
Education1	5.3%	6.4%	8.7%	3.9%
Education2	22.2%	39.9%	19.5%	47.5%
Education3	82.8%	28.0%	72.0%	48.9%
Education4	4.2%	5.1%	15.8%	12.4%
Education5	1.3%	0.4%	4.9%	1.9%

Table 12b: Male ♂	Overtime >10 Managers	Overtime <11 Managers	Overtime >10 Professionals	Overtime <11 Professionals
Observations	258	930	104	1014
Hours	42.9	42.4	40.2	40.3
Tenure	139.2	130.1	129.3	122.1
Unpaid overtime	**15.8**	**3.3**	**17.2**	**3.1**
Annual earnings	**$97,870**	**$72,552**	**$100,233**	**$65,247**
Preschool	16.4%	22.5%	10.8%	25.3%
School age	52.6%	31.0%	39.8%	34.4%
Coupled	90.8%	79.2%	79.2%	75.1%
Staff supervised	**55.3**	**19.6**	**5.8**	**4.6**
Education1	14.4%	8.6%	0.4%	5.8%
Education2	32.8%	34.0%	32.0%	37.1%
Education3	51.4%	35.2%	59.2%	57.4%
Education4	9.2%	8.4%	20.9%	8.0%
Education5	1.1%	0.6%	14.9%	7.0%

2.10 Concluding Remarks and Policy Implications

In this study, occupational categories in which female and male workers typically share similar productivity attributes were examined. It investigates whether any residual pay variations (in other words, discrimination against women) may be to some extent a function of differences in work hours above the full-time workweek. In a further dimension, it was predicted that higher total earnings were positively correlated with larger firm sizes where it is perceived that a good deal of unpaid overtime is worked in the occupations under study. It was also proposed that a separating equilibrium characterizes the earnings and work hours of males and females in this stratum of the labour market, irrespective of firm size. However, when women compete with men, they are forced into a social welfare reducing rat race of inefficiently excessive hours. In this competitive allocation, they may encounter discrimination, in which women work progressively higher numbers of hours than males for less pay.

To investigate these questions, a sample of management and professional employees in business and finance who work at least standard full-time hours (defined as 1820 hours per year) was examined from the Statistics Canada, Workplace and Employee Survey (WES). Several descriptive statistics, plus the complementary regression and decomposition methods permitted the investigation of whether fewer cumulative hours for women results in a type of lost tenure in the traditional male-dominated good jobs of the economy leading to a flatter overall earnings profile despite the achievement of relatively high labour market status.

A series of descriptive cross-tabulations revealed that fewer than 10% of women work in excess of ten hours of unpaid overtime per week, thus women in these occupational categories are not investing heavily in hours at work. A lower female commitment to extra hours worked may be interpreted as an inferior attribute from the employer's perspective, thus invoking lesser monetary offers. However, the findings revealed that economic efficiency is not necessarily promoted when women work excessive hours. The first set of regression estimates reveal that total worked hours tend to dominate the usual productivity-related attributes, and they are more statistically relevant. This suggests that work hours are a key indicator of the pay contract. Further, a minority of women and men who compete find themselves in a rat race whereby women work higher hours than males for lower pay. An application of Horrace and Oaxaca's (2001) decomposition technique substantiates the findings of a pattern of dissipating earnings differential in the number of hours worked above the standard full-time week. However, the distributional analysis shows that earnings discrimination increases in these occupational categories for those females who join the socially inefficient rat race of excessive hours.

The significance of these results is that they extend the standard theoretical and empirical framework by investigating new ways of understanding economic incentives through a gender lens. While Canadian policy initiatives should be geared towards the gendered context of labour market stratification, the issues extend well beyond these distributional consequences and into the sphere of quality of life issues. The literature search revealed that, for women, there is a lack of viable options for leveling the playing field, although a rising trend in the flex-time option has eased the

pressure to some degree. Other policy analysts have toyed with the "Maximum Hours Rule", a type of legislated employment standard, which has been used for interns and residents in U.S. hospitals (Landers et al. 1996). The idea is to shift the work culture of senior managers and professionals in order to give qualified women a better advantage by eliminating the disparities in women's work hours relative to men. A secondary goal is to expand employment for lower-level assistant positions. Conversely, how does the state formulate policy options in the for-profit private sector, which has long been a labour market tournament of workers engaging in individualistically-centered contractual exchange derived from competitive behaviour? Perhaps, there are few policy responses which can speak to the overwhelming evidence that the majority women in the good jobs of the economy do not buy into the male model of competitive drive at all costs. The key findings reveal a continued prevalence of gender earnings dispersion in the pay structure of these occupational categories.

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Appendix A-2 -- TABLE A.2.1: Selected WES Variables and Definitions

VARIABLES	DEFINITION
Dependent Variable: log earnings [logarithm of yr_waget]	Logarithm of earnings from all sources: bonuses, shift work, productivity pay, etc.
Productivity Characteristics [WES variable in parenthesis]	
Age [birthdat]	Respondent's current age
Education1 [edc_1]	Trade
Education2 [edc_2; edc_3; edc_12]	Some college, including nursing; completed college; industry certified training or certification courses.
Education3 [edc_4; edc_5; edc_6; edc_7; edc_8]	Some university; teachers college; university certificate, diploma below bachelor; BA, BSc; university certificate above BA.
Education4 [edc_9]	MA; MSc; MPA
Education5 [edc_10; edc_11]	Degree medicine; dentistry, etc. Doctorate
Tenure [strtemp]	Duration of current main job expressed in months
Tenure Squared	Calculated by the author (tenure times tenure)
Experience [yrs_exp]	Years of full-time working experience
Experience Squared	Calculated by the author (Experience times Experience)
Immigrant [imgr_yr]	Dummy variable equal to '1' if the respondent reported a year of immigration to Canada and '0' otherwise
Visible Minority [eth_1 – eth_19]	Dummy variable equal to '1' if the respondent reported a non-Caucasian racial heritage and '0' otherwise
Disability [redc_wrk]	Dummy variable equal to '1' if the respondent reported that they have a condition or health problem that limits the kind of activity they can do at work or school and it is expected to last six months or more; '0' otherwise
Overtime [uover_wk]	Total hours paid in all jobs that exceed the full-time standard of 1820 hours per year [35 hours per week]
Overtime1 [uover_wk]	Unpaid overtime hours – 0 hours
Overtime2 [uover_wk]	Unpaid overtime hours – 1-10 hours
Overtime3 [uover_wk]	Unpaid overtime hours – 11-20 hours
Overtime4 [uover_wk]	Unpaid overtime hours – greater than 20 hours
Family Status	
Coupled [marital; comn_law]	Dummy variable equal to '1' if the respondent is married or in a common-law living arrangement and '0' otherwise
Preschool [dpnd_kid; kid_1-8]	Dummy variable equal to '1' if the respondent's child less than age 6
School age [dpnd_kid; kid_1-8]	Dummy variable equal to '1' if the respondent's child is between ages 6 and 17

VARIABLES	DEFINITION
Industry and firm variables	
Even-gender industry [dom_ind]	Industries with an approximately even gender composition: real estate, rental and leasing operations; business services; finance and insurance; information and cultural industries
Male-dominated industry [dom_ind]	Male-dominated industries: forestry, mining, oil and gas extraction; capital intensive tertiary manufacturing; construction; primary product manufacturing; transportation, warehousing and wholesale trade.
Female-dominated industry [dom_ind]	Female-dominated industries: labour intensive tertiary manufacturing; retail trade and consumer services; education and health services
Firm size at the location where employed: less than 20 employees [BLMA]	Dummy variable equal to '1' if the respondent's place of work has less than 20 employees and '0' otherwise
Firm size at the location where employed: 20-99 employees [BLMA]	Dummy variable equal to '1' if the respondent's place of work has 20 to 99 employees and '0' otherwise
Firm size at the location where employed: 100-499 employees [BLMA]	Dummy variable equal to '1' if the respondent's place of work 100 to 499 employees and '0' otherwise
Firm size at the location where employed: >500 employees [BLMA]	Dummy variable equal to '1' if the respondent's place of work has 500 to 999 employees and '0' otherwise
Union coverage [union]	Dummy variable equal to '1' if the respondent is a member of a union or covered by a collective agreement and '0' otherwise.
Number of staff supervised [sup_peop]	How many people the respondent supervises on a day-to-day basis.

WES Occupational Categories

01: Senior Management: the most senior managers in the workplace and other senior managers whose responsibilities would normally span more than one internal department. Examples include president of a single local company; retail store manager; plant manager; senior partners in business services firms; production superintendent; senior administrator in public services enterprises; vice-presidents; assistant directors; assistant administrators.

01: Specialist Managers: managers who generally report to senior management and are responsible for a single domain or department. This category would normally include assistant directors or the equivalent in small workplaces. Examples include department managers and heads (engineering, accounting, research and development; personnel; computing; marketing and sales, etc.); heads or managers of specific product lines, junior partners, assistant administrators with responsibilities for a specific domain; assistant directors in small locations (without an internal department structure).

02: Non-Management Professionals: employees whose duties would normally require at least an undergrad university degree or the equivalent. Examples include marketing and market research professionals; lawyers; engineers, economists, science professionals, sociologists, psychologists, architects; computing professionals whose duties require at least an undergrad degree in computer science; professional project managers and supervisors not included in senior managers and specialist managers.

Chapter 3

The Private Costs for Youth Engaged in the Sex Trade: An Empirical Examination of the Lifelong Employment, Earnings and Health Effects

3.1 Introduction

Youth engagement in the sex trade is among the most stressful of work situations. At a private level, individuals risk constant exposure to violence, health threats and growing addictions. From a longer-term perspective, linked to this lifestyle are threats of lifetime earnings losses in the legitimate labour market from illness and post-traumatic stress reactions. After transitioning into mainstream society, these individuals are the most vulnerable to poverty and other forms of social and economic marginalization from a lack of marketable skills that improve their chances of gaining employment. Dropout rates in high school are substantial. The lifelong impact of the harm to physical and mental health from pain, suffering and lost quality of life is immeasurable.

Despite these grim realities, no Canadian research to date has attempted to quantify the lifelong productivity outcomes from youth engagement in the sex trade. There have been a few recent Canadian studies that have estimated the economic costs of child abuse (Burgess et al. 2003) including the personal costs of abuse (Bowlus et al. 2002) and the costs of violence against women (Day 1995; Greaves et al. 1995). However, from the private viewpoint, no research has investigated the extent to which these individuals' economic options are reduced after exiting from this lifestyle. In the current study, the main research question is as follows: To what

extent does the individual incur a private cost as it pertains to lifelong employment-related productivity after rejoining mainstream society?

3.2 The Literature

A small literature in economics conceptualizes prostitution through supply and demand dimensions within the context of market choices and the assumption of rational economic actors. These studies illicit a great deal of controversy. Reynolds (1986) investigates the incentives and disincentives of exchanges in the prostitution market within four types of legal and political frameworks: laissez-faire, regulation, control and zoning. She concludes that there is little need for public intervention to help prostitutes leave this lifestyle, as individuals make utility-maximizing decisions based on the incentives and financial rewards offered to them. Likewise, in addition to arguing that prostitutes capitalize on monopoly profits, Sieberg (2001) uses a pimping model to overcome a Prisoner's Dilemma that emerges from the exchange of prostitution services. The analyst argues that criminalization of prostitution intensifies the adverse aspects of the sex trade by institutionalizing the role of the pimp and organized crime (though legalized prostitution only assigns the extortionist role to the state). Edlund and Korn (2002) build a model that views wives and prostitutes as substitutes, with the latter being an inferior good within male preferences. Moreover, the prostitute's earnings premium reflects the high opportunity cost of lower marriage possibilities (and marriage market earnings) in future, since men are not apt to marry women of questionable social reputability. Indeed, the prostitute's opportunity costs are lowered if she migrates and she does not reveal her secret to potential marriage partners.

In a departure from these views, a large and primarily sociological literature proposes that the economics of prostitution is more complex than its portrayal as just another vocational decision. The aforementioned studies assume that the individual is a free choosing economic actor with perfect information. Since the majority of adult sex trade workers first engage in prostitution as adolescents (Badgley 1984; Busby et al. 2002; McCarthy 1995; McIntyre 2002) the issue must be understood within the context of child exploitation. A central argument is that, in the transition from adolescence to an age of consent, the individual is no less a victim when evaluating his or her options, since the pre-existing vulnerabilities that brought them to this lifestyle have not changed. Though there is an economic exchange, prostitution services are not typically produced and sold by willing parties who maximize an expected utility function (Miller 1988). Analysts propose that many sex trade workers would prefer to leave this lifestyle, in particular, if viable alternatives are available (Farley and Barkan 1998; Kingsley and Mark 2000; Tutty and Nixon 2003).

Aside from assuming away the coercive context of the sale of sex, the aforementioned economic studies -- Edlund and Korn 2002; Reynolds 1986; Sieberg 2001 -- depict that prostitutes are well compensated in comparison to women in the legitimate labour market. In contrast to this view, other analysts debate whether the financial gain is a misconception (Gorkoff and Runner 2003), since most individuals retain only a small portion of their earnings. The prostitute gets considerably less than minimum wage after feeding a drug addiction and a pimp or drug dealer guised as a boyfriend generally extorts any residual earnings (McKeganey and Barnard 1996; RESOLVE and CS/RESORS Consulting, Ltd. 2004). Hence, earnings from

prostitution hardly constitute invested funds for the future and the opportunity costs are high.

In support of this stance, there is an empirical literature, which examines the harmful health effects from risk-taking behaviors in stressful jobs (Currie and Madrian 1999). The long-term health threat from sex trade activities and the violence associated with it is the high probability of developing post-traumatic stress disorders (Farley and Barkan 1998; Nixon and Tutty 2003) and contracting sexually transmitted infections (STIs), such as HIV/AIDS (Jackson and Highcrest 1996; Poulin et al. 2002) and, in particular, the hepatitis viruses (Downe 2003). In a recent British Columbia study, Benoit and Millar (2001) found that 54.2% of respondents contracted a sexually transmitted infection while in the sex trade and 57.8% of these individuals had multiple incidents of infection (p.75). Approximately one-third had contracted the Hepatitis C virus and 3.1% of women were HIV positive. The long-term psychological effects are evident in the endless amount of personal time engaged in counseling and the treatment of addictions needed to cope with everyday stress (Farley and Barkan 1998).

After transitioning into mainstream society, the individual's private cost is a reduction of income-earning activities and employment-related productivity from chronic illnesses for the duration of her work life. Much research links the deleterious effects of substance abuse and other mental health problems to lower labour market participation and detrimental wage outcomes (Ettner 1997; Ettner et al. 1997; Farahati et al. 2002; Kessler and Frank 1997; Mullahy and Sindelar 1995, 1993). In the economics literature, human capital investment theory is often used to explain the

substantive wage effects of such negative shocks to health (Currie and Madrian 1999).

The next section begins with a brief overview of the literature on which factors bring the youth into prostitution. Sociologists have mostly taken up this issue, but a substantial economics literature deliberates the adverse outcomes from the scarring effects attributed to a youth's early detachments from the legitimate labour market, thus provoking important reasons why the study of youth prostitution is relevant to the economics literature.

3.3 Reasons Why a Youth May Enter the Sex Trade and The Consequent Effects in the Legitimate Labour Market

To begin with, a significant literature explores the risk factors that bring about youth entry into the sex trade and the consequences from involvement in this lifestyle from a variety of perspectives. Though the writings diverge in the degree of emphasis on these factors and on the extent to which they may overlap, a range of published reports identify a close correlation between conditions of vulnerability that may serve to lure youth into the sex trade (Benoit and Millar 2001; Bittle 2002; Kingsley and Mark 2000; Shaver 1996; Tutty and Nixon 2003). These include:

- a young age and female;
- premature departure from the family home or other care arrangements;
- peer influences, including substance misuse;
- a history of various forms of child abuse;
- a low level of formal education;
- poor job prospects and a difficult financial situation;
- few community supports, thus little reasonable expectation of better alternatives;

- an Aboriginal heritage and family poverty.

Though there are significant disparities in the findings of the various inquiries, the 1984 Badgley Committee Report established that 96% of prostitutes begin working in the sex trade before the age of 18. Contributing to the initial entry into prostitution may be a history of childhood abuse. In Winnipeg, many youth are runaways (68%), often escaping family problems or simply homeless (38%) because of inadequate care arrangements, and so the consequent economic necessity drives them into the sex trade (Social Planning Council of Winnipeg 2002: 14). Access to social assistance is limited because they are underage[40]. Moreover, the literature reports an intense mistrust of the traditional foster care model, making it a nonviable option for many vulnerable youth (Kingsley and Mark 2000: 20). Their prospects for employment are poor and work in the formal labour market, if it can be obtained at all, relegates them to minimum wage jobs. The current Manitoba rate of $7.00 per hour (Government of Manitoba 2004) yields an annual income of less than $14,000, an amount considered to be hardly enough for survival.

Hence, the initial decision to enter the sex trade is often a choice made out of a struggle for economic survival. The youth will exchange sex for money in order to get food and cigarettes, a place to stay, or illicit drugs and alcohol. More often than not, members of their social network, who are already engaging in prostitution, will recruit the youth into the work. Sometimes, boyfriends, pimps or gangs profit from exploiting young women by also coercing them into prostitution (Busby et al. 2002; Kingsley and Mark 2000: 35-36; Tutty and Nixon 2003). Although some youth

[40] Access to social assistance funding is available to some youth ages 16-18 (Canadian Housing 2002: 105).

engage in drug use before entry into sex work, the conditions of their lives as sex trade workers exacerbate the substance abuse problem, as it becomes a coping strategy (Busby et al. 2002). Educational and training or vocational opportunities are further limited as the personal circumstances of the youth make it difficult or impossible to have a sufficiently stable life to participate in these activities.

Indeed childhood poverty is a risk factor, however, youth of Aboriginal descent are over-represented in the groups of people who experience exploitation in the sex trade. They make up 90% of the youth sex trade in Manitoba (Social Planning Council 2002). On the streets and as targets of racism, being young and Aboriginal places them at high risk for violence (Cler-Cunningham and Christensen 2001; Kingsley and Mark 2000; Social Planning Council 2002). Though prostitutes are primarily of the female biological gender (around 80%), there is a sparse research on transgender sex trade workers, thus knowledge about the experiences of this group is virtually non-existent (Weitzer 2000).

In sum, the literature established that there are consistencies such drug use, running high risks of violence, poor self-care and contracting a range of diseases. In trying to exit and stay out, the sex trade worker's challenge is that she has dropped out of school prematurely. The intangible aspects of prostitution are lower self-esteem and, over time, there is a risk that the individual will become apathetic about looking for alternatives. Outweighing a potentially small earnings premium from prostitution is the elevated risk that the individual will not engage in the mainstream labour market in future[41].

[41] The complete study documented that the prostitute has a gross earnings premium while engaged in the sex trade compared to similar Canadian women in the formal labour market. However, the hourly

However, even if the youth does eventually enter the legitimate labour market, she is apt to be penalized with a lifelong wage and employment disadvantage attributed to the earlier detachment from the workforce. Although the years of engagement in the sex trade are not formally defined as "youth unemployment", the analysis of this study is linked to a substantial empirical literature on the wage scarring effects from shocks to a youth's labour market attachments (Arulampalam 2001; Burgess et al. 1999; Dolton and O'Neill 1996; Gregg and Tominey 2004; Gregg 2001; see Machin and Manning 1999 for a detailed discussion of the literature).

For instance, using the National Child Development Longitudinal Survey (UK), Gregg (2001) explored the long-term relationship between youth unemployment and later joblessness. Those individuals who experienced long spells of unemployment in excess of a year by age 23 had a higher probability of joblessness later on between ages 28 to 33, for instance, 19% of the time or nearly another year (p. 640). These findings were more strongly correlated for men, mostly because the period of analysis covered women's prime reproductive years when they were less likely to be legitimately unemployed. Nevertheless, the worsening of employment prospects was not primarily explained by family background characteristics (for example: an Aboriginal heritage in the current study)[42]. Knights et

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rate is not based on a 40-hour standard workweek. Sex trade workers, in particular those who are street-based, habitually work long days that often exceed 12 hours, and much time is spent waiting around for customers to make an offer. Thus, the net hourly wage is often much less than minimum wage. Moreover, after deducting the costs of illicit drugs and alcohol, as well as payments to pimps, escort agency owners and other related costs, she retains net surplus funds of approximately 10% (RESOLVE and CS/RESORS Consulting, Ltd. 2004).

[42] The debate in the literature is directed at whether individual heterogeneity is primarily responsible for the unemployment, or conversely, the scarring effects from past employment status (Knights et al. 2002; Magnac 2000). The scarring effects are also referred to as state dependence in the literature.

al. (2002) included women in their study, and they also found that past job attachments are a strong predictor of current outcomes in the labour market (p.293).

In an updated study of the same longitudinal data, Gregg (2004) utilized an instrumental variables method to assess the effects of a spell of youth unemployment on earnings twenty years later. The analyst controlled for key childhood factors, such as behavioral problems or family poverty (i.e. factors that cause individual heterogeneity), since the survey captured such detailed data. His findings revealed that a six-month bout of unemployment before age 23 results in an 8% wage drop at age 42. Multiple spells of joblessness caused an enduring 12%-15% wage scar over the 20-year period. This is not inconsistent with Arulampalam's (2001) findings of a 5.7% wage penalty after one spell of joblessness, and three years later – 13.5% lower earnings, though the study examined men only.

Thus, the former youth prostitute wanting to change her life faces considerable odds and few chances for social and economic mobility from sizeable negative shocks to both, health and work capacity. The focus of the following sections is on using the knowledge established in these various literatures to develop a methodology to illustrate the lifetime productivity outcomes that are the direct result of these issues.

3.4 Description of the Data Collection: The Participants and How They Were Chosen

Data collection involved personal interviews with individuals who, in past years, had been involved in the sex trade, and they had transitioned into mainstream

society for at least one year[43]. Around 40% of participants were contacted through the Transition, Education and Resources for Females (TERF) program at the New Directions for Children, Youth, Adults and Families agency in Winnipeg. This life-skills program assists individuals who want to exit the sex trade. The former TERF clients signed a consent form giving permission for a review of their file at New Directions, which served as a crosschecking technique on demographics and reported events (e.g. transgender status; date of exit from prostitution; access to social assistance, etc.). Other participants heard about the study at a variety of service provider agencies in the community. All participants had to be over age 18[44].

The main instrument for data collection was a twenty-question survey that gathered demographic information and the respondent's income from legitimate sources, education, training, and work history data over the past six years, as well as the role of chronic health issues in their reintegration into the mainstream labour market[45]. Information was accumulated on their first work experiences in paid jobs

[43] Approximately four years was the average length of time that the participants were out of the sex trade. In the development stages of the study, the expectation was that the sample would be skewed towards those who had recently exited, since there was a good chance that these potential participants were still in contact with the TERF program staff and other service provider agencies that assisted in recruiting individuals. The one-year mark provided some evidence of the participants' plans with respect to training, education and participation in the mainstream labour market.

[44] For the purposes of the current study, the terms "youth" and "women" are used interchangeably. An individual is considered a youth up to age 24, according to the United Nations definition (Kingsley and Mark 2000). The majority of respondents began working in the sex trade as adolescents, however, their engagement in this lifestyle continued well into their adult years.

[45] The participants were asked if they have reduced their labour supply in the legitimate labour market due to any health conditions that are related to their prior sex trade activities. See Currie and Madrian (1999) for a discussion of potential measurement errors from self-reported methods, for example, the over-reporting of poor health in order to justify non-participation. Although the analysts argue that the method of health measurement matters very much to the results, most of the research analyzes the economic incentives of elderly white men, for example, their self-reports of health in securing early retirement or disability benefits. A lack of analysis of females is a major shortcoming of the existing literature. The exception is Ettner (1997) who argues that women are less likely to feel pressure from the social stigma of non-participation in the labour force. Thus, they are not apt to over-report poor health status as a justification for not working in a paid job. Kreider (1996) also found that men were more apt to over-report disabilities than women (cited in Currie and Madrian 1999).

during the adolescent years, as well as the extent of illicit drug and alcohol use prior to engaging in the sex trade. Sixty-two respondents agreed to participate in this survey, which represents approximately 10%-15% of the visible sex trade (primarily youth) in Winnipeg. The questionnaire and reviews of the participants' files at TERF received approval from the Joint-Faculty Research Ethics Board at the University of Manitoba. Since the literature review established that the local sex trade has disproportional representation by individuals of Aboriginal descent, the expectation was a high response rate from this demographic group. As predicted, 90.3% of the respondents are of Aboriginal heritage. The majority of the participants had experienced disruption in their families of origin, and they faced many of the conditions of vulnerability described earlier.

When grappling with the issue of whether or not to include males in the study, it was decided to keep the analysis within certain narrow parameters. While young males represent 10-25% of the visible sex trade (Davis 1995; Fraser 1985; Shaver 1996) and this study ought to speak to their experiences, the inclusion of males would most certainly skew the earnings analysis, since the labour market is structured in a gendered way. After transitioning into mainstream society, statistically-speaking, the males who enter the labour market will gain a 30%-40% earnings advantage over women, probably through occupational segregation (Phillips and Phillips 2000). Transgender persons are included only if female identified. While recognizing that not all transgenders fall into strict categories of man or woman, given the narrow parameters of this study, their gender had to be female and not necessarily their sex. Approximately 20 percent of the sample was transgender persons though not

necessarily visibly so[46]. Presumably, these individuals will enter the labour market as women and face the same earnings disadvantages as other women. Thus, the entire sample (n=62) is female. Table 1 lists an overview of the demographics of the sample.

TABLE 1: The Participants' Characteristics and History of Involvement in the Sex Trade (n=62)	**Averages**	**%**
Aboriginal		90.3
Transgender		19.4
History of Involvement in the Sex Trade		
Age of entry into the sex trade	16.2	
Number of years involved	10.1	
Number of years since transitioning into mainstream society	3.8	

3.5 Methodological Limitations

Weitzer (2000, 1999) argues that most of the research in the area of prostitution relies on "convenience samples". These are non-random and non-representative samples of the population of sex trade workers, since they are apt to be composed of individuals who have contact with community services agencies. The most victimized or the poorest individuals may self-select into the study causing a sample bias. However, it is well documented in the literature that the world of prostitution is not very accessible to outside researchers, thus making random sampling virtually impossible. There are many barriers including ethical considerations that limit the extent to which researchers can draw on this population. Indeed, large samples are also rare (i.e. those exceeding 200 respondents). Similar barriers to access were encountered in gathering data for the current study. Recall

[46] This means that it is not necessarily visibly apparent to the layperson that the individual is a transgender person. As with the social environment, however, these individuals may be confronted with discriminatory behavior in the workplace, which is not encountered by other sex trade workers of the female biological gender. Additional analysis of the issue is beyond the scope of the current study.

may also be a significant issue, though the participants' TERF files provided supporting documentation on many reported events. For these reasons, the findings and conclusions of this study are qualified in terms of representing the wide array of experiences within the population of sex trade workers in Winnipeg. The conclusions drawn may not be generalizable to reflect the economic reality of all prostitutes in the region.

There are further methodological limitations in the current study. For instance, how do we validate a claim that there is something intrinsic about the experience of engaging in prostitution that makes the individual prone to negative future health, educational and employment outcomes? The participants may have insufficient education to enhance their employability, but perhaps due to an Aboriginal heritage their education would have been no different had they not engaged in the sex trade. They struggled with addictions as prostitutes, but is this the cause or the consequence of sex trade activities or are both drugs and prostitution the signs of personal traits or family background? Since the route of causation is a significant issue, we must address certain questions relating to their pre-market experiences. For instance, do adverse events (sex trade involvement) predict the current low wages and non-participation, or did the disadvantaged family of origin and abuse issues cause the harmful events and consequently the low wages.

To help answer these questions, the next section reports findings that pertain to the issues of the respondents' attachments to schooling and labour market participation in early adolescence, the role of drug addictions preceding the initial entry into prostitution and their current health status.

3.6 The Demographics: Before Entry into the Sex Trade

One unique aspect of this study involved examining the respondents' work experiences and job aspirations before and after their involvement in the sex trade. A key finding is that, in spite of distressful childhood circumstances, prior to involvement in the sex trade, these individuals had plenty of pre-market aspirations about their future working lives. The majority, as adolescents, had a variety of paid work experiences in the formal labour market. For most, there were few indications that it was so excessive as to interfere with their schooling[47]. However, after transitioning into mainstream society, some respondents gave accounts of substantially downscaled aspirations[48]. This section discusses the reasons for the lower expectations, which were identified by the women to be highly correlated with the health issues, addictions and the violence that they had sustained over the years of involvement in the sex trade.

Approximately 69.3% of the respondents, as youth, had at least one paid part-time job during the school year or they had received work experience at a summer job before becoming involved in the sex trade. This figure is 77.4% when babysitting jobs are included. Typically, babysitting or paper carrier was the youth's first work experience. Subsequent jobs included a variety of tasks in restaurants, customer

[47] There is a literature on the negative correlation between a youth's work hours and school performance (Eckstein and Wolpin 1999, 1998; Huang et al. 2001; Mannell and Zuzanek 2002).

[48] A downscaled career goal occurs, for example, when a respondent who had previously aspired be a nurse and wished to acquire a university education to obtain this occupation, was now willing to settle for a job as a nurse's aid. Indeed, the latter is an equally important job but the pay is considerably lower.

service and cashier, telemarketing, gas station attendant, a job at an amusement park, landscaping, yard work, maintenance, and many other typical adolescent jobs.

At the risk of over-generalizing, these findings provide some evidence that the majority, as adolescents, were initiated into the formal labour market possibly in anticipation of the future, which is that they would fully integrate into the workforce as adults. The labour force participation rate, prior to sex trade involvement, is higher than recent estimates of other Canadian adolescents. However, the estimate of 69.3% for the current study's sample does not represent a snapshot of youth employment at one particular point in time. One Ontario study found that 50.1% of high school students and 37.1% of youth in Grades 7 or 8 held part-time jobs (Mannell and Zuzanek 2001). Similarly, Statistics Canada's (2004) publication: "Latest Release from the Labour Force Survey" (July 9 2004) reported that, in June 2004, 42.1% of youth students ages 15-19 worked at jobs in the labour market. Since the majority of the informants of the current study most likely resided in poorer communities throughout their youth, they would not have had access to an available supply of family funds for extra spending money. Some youth may have also worked at a job in order to contribute to family finances. Nevertheless, there appeared to be a strong work ethic among the women during their early adolescent years prior to the full engagement in the sex trade.

The respondents were also asked to think back to any "dream jobs for the future" that they may have aspired to when younger (around age 11-12 or before entry into the sex trade). During their youth, 85.5% of respondents had aspired to work at the following jobs: writer, journalist; professions, such as teacher, nurse and

lawyer; psychologist; social worker; counselor; landscaper; manage a clothing store; mechanic; child care worker; work with the elderly or physically challenged; costume designer; artist; cartoonist; graphic artist; flight attendant; pilot; police officer; financial administrator; radio announcer; broadcasting career; banker; secretary; and musician. The majority of respondents (88.5%) could articulate the education requirements needed to accomplish these goals, for example, a Bachelor of Social Work, Bachelor of Education, and a business administration or graphics arts course at a community college. This is further evidence that the youth had given some thought to their future employment goals.

On the issue of drugs, just over two-thirds (67.7%) had either not used drugs or alcohol before the initial entry (14.5%) or they had been casual users and self-identified as not being addicted in any significant way (53.2%)[49]. Approximately one-third of the adolescents had struggled with alcohol or drug misuse prior to their involvement in the sex trade[50]. However, once engaged in prostitution, the majority of the youth switched from alcohol and marijuana to more addictive substances, such as smoking crack or rock cocaine, crystal meth (methamphetamine) and injecting heroin or cocaine. Several respondents commented that the lifestyle perpetuated the increased use of substances, since the work is extremely stressful, and drugs became a coping mechanism. Only 4.8% of the participants reported that the use of addictive substances did not progress to a serious addiction. Moreover, though entry into prostitution often involves a process that occurs over a period, for at least 61.3% of

[49] It is also not unknown for around half of Canadian female youth (age 15) to engage in alcohol or illicit drug use. According to the Statistics Canada: 1998 Cansim Database, Series 1100001-3 -- 58% drink liquor, 55% have been really drunk at least once and 41% have used Hashish or Marijuana.
[50] Mullahy and Sindelar (1995) have found that early onset alcoholism has an indirect effect on human capital investments, selection into the labour force, and thus lifetime earnings.

the respondents, school dropout was intimately linked with the peer influences of their social network and their progressive engagement in the sex trade, including the use of drugs[51].

3.7 The Demographics: After Exiting the Sex Trade

During their transition into the mainstream, 38.7% of these women had downscaled their future work goals or they had no specific goals at all; 45.2% had maintained the same career goals; and 16.1% of respondents had upgraded their aspirations for future employment. Though adolescent aspirations are potentially overly ambitious, a more important finding is related to the achievement of post-transition goals when the women had already reached adulthood. For instance, when the participants were asked if they had achieved their post- sex trade employment and education goals, the responses included:

- 66.1% had either not achieved their goals or the question was not applicable because they had not set any particular goals after exiting the sex trade;
- 22.6% had partly achieved their goals (one example is the completion of a grade 12 equivalency diploma, after which the individual was currently seeking work);
- 11.3% had achieved their employment and/or education goals.

The reasons for not having fully achieved employment goals were cited by respondents as follows (there is some overlap of categories):

- addictions and concerns about relapses were the primary reasons cited for not having achieved employment goals (44.6%); some individuals said that they wanted to proceed slowly and needed to work on self first and personal issues;

[51] For some participants, this information was confirmed in their TERF files, as well as the influences of learning difficulties in school.

- physical health problems (14.5%);
- depression;
- some respondents were concentrating on achieving stability in their lives or needing to heal first with respect to unresolved childhood abuse issues;
- some women expressed a need to concentrate on their parenting skills or gaining access to their children who were placed in other formal care arrangements;
- low self-esteem, which led to a lack of self-confidence to apply for a job;
- a lack of available funds to pursue an education;
- a few individuals did not feel motivated to pursue their goals at the present time;
- younger participants said that they were still young enough and had plenty of time to get an education and a job.

Hence, the interviews produced evidence that, irrespective of prior family dysfunction or poverty, the respondents had plenty of work aspirations combined with employment experiences and many remained connected to their schooling in the earlier part of their engagement in prostitution. After a period in the sex trade, the individual's aspirations are lowered, and they have a substantial build-up of periods of detachment from the labour market. They have lost significant opportunities to gain income-earning productivity attributes.

On the question of the former prostitutes' current health conditions, pre-market risk factors in the family history did not appear to play a role in the illnesses afflicted on the participants, which currently prevent attachments to the labour market, such as HIV/AIDS and the Hepatitis C virus. Since the informants gave accounts of contracting such illnesses while engaging in the sex trade, it is assumed that these youth began their lives with reasonable endowments of good health.

However, due to the sex trade activities and the lifestyle associated with it – intravenous drugs, violence and poor health habits – they currently bear the private costs of rapidly depreciating health by substituting away from labour force participation, as well as lower wages relative to the average for women in the population[52]. Specific health effects and their influences on earnings are discussed more fully in later sections.

In the empirical sections of this study, the issue of whether a lesser role should be given to family heritage is addressed further. By conducting analysis using the Survey of Labour and Income Dynamics (SLID), it will be illustrated that in addition to the many employment-related challenges, the participants' wages also differ from a sample of other Aboriginal women in Canadian society[53], mostly attributed to lower earnings-enhancing attributes from the events of her youth. In Section 3.10, various regressions are estimated using the Stata econometric software package. A unique aspect of this study is that the regression analysis is based on panel data for both

[52] Some of the empirical work treats health as endogenous – for instance, health affects wage levels and vice versa (Currie and Madrian 1999).

[53] Since the majority of the participants were of Aboriginal descent, their characteristics are compared to other Aboriginal women found in the Survey of Labour and Income Dynamics (SLID). The SLID sample comprises 180 female Aboriginal respondents from the Manitoba and Saskatchewan region only, since average wages in these provinces are relatively consistent. It is assumed that the representative sample of Canadian Aboriginal women in SLID have not been involved in prostitution. Though there are problems with making comparisons between the two groups of women, in theory, their characteristics and labour market attributes should be similar enough to make some qualified causal inferences about the effects of sex trade involvement on productivity attributes and earnings. A small number of respondents were not of Aboriginal heritage though one is a visible minority. However, these participants' labour market characteristics and attributes are not at all dissimilar from the Aboriginal sample. Therefore, for the purposes of the decomposition analysis that follows, they are pooled with the Aboriginal sample. This is expected to understate the productivity losses, since four respondents should probably be compared to other Caucasian women in SLID. However, this group is too small a sample for the regression and decomposition analysis that follows. Since the Survey of Labour and Income Dynamics public use files do not identify the Aboriginal observations, approval was sought to use the internal files at the Statistics Canada, Winnipeg Research Data Centre in order to conduct the labour market analysis.

groups of women[54]. The standard Mincerian productivity variables that have been verified in the economics literature will be estimated. Family variables, such as coupled status and presence of children are also included, in addition to public sector and the union variable. The technical aspects of the econometric work on the cross-sectional time series data are presented in the next section.

Comparisons of Labour Market Demographics with Aboriginal Respondents in the Survey of Labour and Income Dynamics (SLID)

	Interview Respondents n=62		SLID Respondents n=180	
TABLE 2: Participants' Characteristics	**Averages**	**%**	**Averages**	**%**
Current age in years	30.1		35.5	
Years of elementary and/or high school	8.7		11.0	
Graduated from high school or GED		25.8		57.2
Received vocational or specific training		25.8		10.6
Received some university or a degree		6.5		31.1
Family Status:				
- single, separated, divorced				
no children in household		62.9		33.9
- married or common-in-law				
no children in household		14.5		13.9
children present in household		3.2		29.4
- lone-parent		19.4		22.8
Working years received income assistance (over age 17)		65.7		*N/A
Years received income assistance in the past 6 years		65.3		15.9

*N/A: not available

[54] For several women, the earnings history in the panel covered the period after the exit from the sex trade. However, in a few cases, if a respondent was currently participating in the TERF program or if they were in the transition period, their recent work history generally provided a good basis for future earnings estimation. The only exception is if the individual was engaging in specific training or a university program, in which case, past employment would underestimate future earnings. Such participants were rare. A transitioning program, in and of itself, will not enhance earnings relative to the participants' past jobs in the mainstream labour market, as it is not a job-training program. It is a life-skills program. Likewise, a grade 12 or equivalency diploma (GED) does not ameliorate earnings by itself, though it may improve employability in a low-paying job. This is the justification for using the participants' past work experiences as a comparative basis for the regression analysis.

	Interview Respondents n=62		SLID Respondents n=180	
TABLE 3: Labour Force Characteristics	**Averages**	**%**	**Averages**	**%**
Respondents with a long-term chronic illness		22.5		**Not released
Respondents with work limitations*** (excluding individuals with a long-term chronic illness)		34.0		**Not released
Respondents with work limitations or a long-term chronic illness		56.5		20.5
Respondents reporting excellent, very good and good health		67.7		87.5
Average number of days per month missed at the place of employment*	2.4		Not available	
Respondents that are currently employed		27.4		75.0
Employed in the public or not-for-profit sector*		37.5		33.6
Pension Plan provided by the employer*		23.2		50.0
Medical Insurance provided by the employer*		33.9		48.5
Unionized/covered by a collective agreement*		12.5		31.4
Job tenure at place of employment (in months)*	10.6		52.7	
Average hourly wages for employed individuals (2003 dollars)	$8.77		$11.77	

The figures reported in Tables 2 and 3 are based on the last year of the 6-year panel data, with the exception of the income assistance variable or when otherwise noted. Hourly wages are an average over the panel (converted into 2003 dollars). Working years on income assistance is calculated as the number of years that the respondent accessed assistance since age 18 for at least part of the year divided by 'age minus 18 years'.

* Based on the participant's current or last job held (not necessarily in the last year of the panel).

** Statistic Canada would not release these figures to be listed separately; therefore, the chronic illness and work limitations variables are combined in the third row of Table 3. The majority of these respondents have a long-term chronic condition.

*** A work limitation may occur if the respondent has a sex trade related health issue, which in her estimation, is preventing full participation in the labour market for a temporary period only.

Tables 2 and 3 list the descriptive statistics for some of the key labour market variables. For most youth, this work is a temporary life experience, but the data clearly show that it results in a permanent impact on lifetime productivity. For

instance, the exited sex trade worker has a much lower probability of receiving a high school diploma, and overall she has 2.3 fewer years of formal schooling[55]. Given the research question stated earlier, in Section 3.12, a random effects model estimates the lifelong productivity effects from having engaged in prostitution. In Section 3.13, the Oaxaca decomposition calculates the wage differential between the SLID respondents and the women in the current study. Concluding remarks are offered in Section 3.14.

3.8 The Empirical Model

The wage returns to the participants for their acquired personal traits are estimated with two separate regression equations for the current study's sample of sex trade workers and the Aboriginal women in the Survey of Labour and Income Dynamics (SLID)[56]. Following Wooldridge (2002)[57], the equations are specified in semi-logarithmic form, both non-linear in experience and tenure, expressed as follows:

$$(1) \quad w_{it} = \alpha + x_{it}\beta + \nu_i + \varepsilon_{it}$$

The dependent variable w_{it} is the natural logarithm of wages of the *ith* individual at time period *t*. The independent variables x_{it} consist of K time-varying regressors or explanatory variables listed into two groups: (1) a vector of individual

[55] In a British Columbia study of sex workers, Benoit and Millar (2001) found that 37.7% of exited respondents had completed grade 12 (Aboriginal respondents, 33%) (p.19).

[56] For the sample of sex trade workers, the last six years of labour market activities (1998-2003) are used and wages are adjusted to 2001 constant dollars in order to maintain consistency with the SLID survey. Though using the years 1998-2003 may pose a weakness in the methodology in terms of comparing the same periods (i.e. 1996-2001), doing so would have resulted in the loss of too many units of analysis from lack of labour force participation during the years 1996-1997. Some participants were exclusively involved in the sex trade during this period. For several individuals, a substantial amount of labour force participation was observed during the years 2002 and 2003, following the transition into mainstream society. Any adverse effects of this methodological divergence for the purposes of regression analysis are expected to be minor. Both panels are unbalanced, such that complete data on all chosen variables is missing and this causes different group sizes across units.

[57] The Stata Release 8 -- Cross-Sectional and Time Series manual was also used as a resource to develop this section.

productivity or human capital characteristics controlling for level of schooling, experience, training, job tenure; plus health and family status; (2) dummy variables to classify specific job characteristics, such as union status and public sector employment. β is a vector of estimated coefficients and α is the intercept term.

ν_i: the person-specific residual or random disturbance is constant over time, though it varies across individuals; for sex trade workers ν_i may be the individual heterogeneity related to ability, past abuse, person-specific family background, reduced coping mechanisms resulting from post-traumatic stress disorders, social skills, health problems and institutional factors, such as the availability of community support services;

ε_{it}: the overall error term with a mean of zero, and also assumed to be not correlated with itself or the explanatory variables (strict exogeneity of the explanatory variables is assumed);

$\nu_i + \varepsilon_{it}$ are also not correlated. Consider the following modification of (1):

$$(2)\quad \overline{w_i} = \alpha + \overline{x_i}\,\beta + \nu_i + \overline{\varepsilon_i}$$

such that, $\overline{w_i} = \sum_t {}^{w_{it}}\!/_{T_i}$; $\overline{x_i} = \sum_t {}^{x_{it}}\!/_{T_i}$; $\overline{\varepsilon_i} = \sum_t {}^{\varepsilon_{it}}\!/_{T_i}$; Equation (2) is simply a transformation of the data into person-specific averages. Equation (2) is the between estimator. Equation (1) minus (2) gives us differencing equation (3) on which OLS estimation is performed, and it yields the fixed effects estimator by eliminating ν_i.

$$(3)\quad (w_{it} - \overline{w_i}) = (x_{it} - \overline{x_i})\,\beta + (\varepsilon_{it} - \overline{\varepsilon_i})$$

The random effects estimator is constructed from a matrix-weighted average of the coefficients derived from equations (2) and (3) above, the between and within estimators, which is equivalent to the following equation (4):

$$(4)\ (w_{it} - \theta\overline{w_i}) = (1-\theta)\,\alpha + (x_{it} - \theta\overline{x_i})\,\beta + \{(1-\theta)\,\nu_i + (\varepsilon_{it} - \theta\overline{\varepsilon_i})$$

$$\theta = 1 - \frac{\sigma_\varepsilon}{\sqrt{T\sigma_\nu^2 + \sigma_\varepsilon^2}}$$ [58]

Two types of information emerge from cross-sectional time series analysis. First, we are interested in knowing the wage changes "between" the respondents for a one-unit difference in an explanatory variable (the *x's*). Second, for a given individual or within the cross-section unit, we want to know the change in the dependent variable (*w*) for a one-unit change in an explanatory variable (*x*) over time (i.e. the effect on *w* when *x* changes within person). The latter is called Fixed Effects estimation, which is a "within regression estimator". The former is Random Effects estimation, which is a GLS estimator. These two regression models applied to panel data predicted the respondents' earnings for each cross section observation.

3.9 Discussion of the Fixed Effects Estimator

One very frequent problem in econometric analysis is that of an omitted-variable bias. For example, factors such as ability, coping skills and low self-esteem are difficult-to-measure unobservables that are not generally captured in Statistics Canada's labour market surveys. This means that, in the current study, the presence of these standard sociological or psychological constraints can not be added to the

[58] Suppose the variance estimator $\sigma_\nu^2 = 0$, which implies that $\nu_i = 0$, then $\theta = 0$ (always), and pooled OLS can be used to estimate equation (1). If $\sigma_\varepsilon^2 = 0$, this implies that $\varepsilon_{it} = 0$ and $\theta = 1$ and $R^2 = 1$, thus the fixed effects estimator explains 100% of the variation in wages.

regression equation so that comparisons can be made with Aboriginal women in the Survey of Labour and Income Dynamics.

However, a bias in the coefficients (β's) may be created by these unobserved personal traits or sample heterogeneity (which are assumed to be constant over time[59]) if they are correlated with the observed explanatory variables (x's). A fixed effects model applied to panel data, that is, the same cross-section unit over a period, is one way to solve the omitted variable issue by using a method (equation 3 above) to difference out the bias. This does away with the source of bias (the unobserved fixed effect) in the data caused by the unmeasured characteristics, such as time-specific fixed factors, and thus making the estimates consistent. Since the sample of sex trade workers is sufficiently heterogeneous, controlling for these individual fixed effects can correct the problem by removing the inconsistency in the estimates. The model essentially provides OLS estimates of the returns to the standard productivity-enhancing explanatory variables (examples: experience, job tenure, education), which are corrected for any individual heterogeneity that is a source of bias in the coefficients.

To illustrate, consider the example of past abuse. Past abuse is potentially a negative determinant of the wage, but it is difficult to measure and customarily excluded from wage regressions. Similarly, past abuse may also be negatively related to the productivity returns for the full-time work experience that an individual acquires in the labour market. The individual may lack self-confidence or

[59] A key assumption is that the unobservables do not vary over time. For example, if factors resulting in low self-esteem are omitted, such as past abuse, the fixed effects estimates will be unbiased as long as these factors affecting self-esteem are constant over time. Past abuse is a constant factor. Moreover, changes in self-esteem involve a very long process over several years; therefore, this assumption is not at all unrealistic. Thus, the fixed effects estimator manages the omitted variables problem adequately.

interpersonal skills, which leads to discontinuities in work experience and lower net returns. This choice or "self-selection" is correlated with past abuse. The OLS estimator will not capture how much of the change in w (wages) is related to the increase in x (experience) and how much is in fact attributed to unobserved effects such as past abuse. It will incorrectly assign a portion of the influence of the unobserved effects to the experience coefficient[60], as well as several of the other regressors in the equation.

3.10 The Regression Results

The regression estimates and t-scores are reported in Table 4. The overall fit of the equations is good with a high R-square for the sex trade group of respondents. All estimates have the predicted signs and order of magnitude. The coefficients of the explanatory variables are interpreted as the percentage change in earnings for a one-unit change in the regressor.

The following variables are relevant to the earnings function:

Human capital: The earnings function is enhanced if the sex trade worker acquires some vocational schooling or training for a specific occupation or if they have ever been enrolled in university. In an earlier testing of relevant variables, a high school education alone did not ameliorate earnings in a significant way. The returns to university and vocational training are weakly positive for the SLID respondents, with the exception of returns to university in the random effects equation. On average, the human capital variables reveal increasingly favorable wage returns though years of experience and job tenure are subject to diminishing returns.

[60] This is a function of the magnitude of the correlation with the included independent variables.

TABLE 4: Regression Results **Sex Trade Workers n=62** **SLID sample n=180**

	Random Effects (t-score)	Fixed Effects (t-score)	Random Effects (t-score)	Fixed Effects (t-score)
Health Status	.1027 (2.52)	.1248 (2.40)	-.0098 (-0.25)	.0268 (0.62)
Years of experience	.0336 (1.70)	.0967 (1.75)	.0259 (4.01)	.0936 (5.56)
Experience Squared	-.0032 (-2.30)	-.0037 (-1.48)	-.0002 (-1.49)	-.0009 (-2.10)
Job Tenure	.0129 (2.64)	.0130 (2.21)	.0023 2.98	.0029 (3.01)
Job Tenure Squared	-.0001 (-2.23)	-.0001 (-1.59)	-.0000 (-3.60)	-.0000 (-3.56)
University	.2296 (2.98)	.2159 (2.02)	.2045 (4.98)	.0329 (0.51)
Vocation	.2561 (5.28)	.1470 (2.03)	.0476 (0.57)	.0048 (0.02)
Public Sector	.2321 (5.36)	.1954 (3.31)	.2740 (6.97)	.2798 (5.45)
Union	.0296 (0.55)	.0378 (0.51)	.0364 (0.89)	-.0394 (-0.76)
Social Assistance	.0912 (2.33)	.0704 (1.30)	-.0221 (-0.55)	.0067 (0.14)
Hours worked/2000	.1287 (1.84)	.1224 (1.32)	.0135 (0.34)	-.1316 (-2.84)
Coupled	.0072 (0.15)	.0502 (0.65)	.0299 (0.79)	.1051 (2.02)
Presence of school age children	.0893 (2.80)	.0479 (0.76)	.0363 (1.89)	.0139 (0.41)
Presence of pre-school children	-.1036 (-3.32)	-.1359 (-2.25)	-.0235 (-0.94)	-.0012 (-0.02)
Constant	1.530	1.435	1.874	1.411
R-square: Within Between Overall	.7130 .7998 .8037	.7447 .5652 .6129	.2139 .5438 .5068	.3055 .3432 .3254
Sigma_u: estimate of σ_v	.1067	.2406	.2294	.5710
Sigma_e: estimate of σ_ε	.1494	.1494	.1783	.1783
Rho	.3378	.7218	.6231	.9110
Hausman Specification Test: Chi-Square (14) Probability>Chi-Square	18.81 .1721	N/A	71.33 .0000	N/A
*Root mean square error	N/A	-.5012	N/A	-.8246

*the root mean square error is a measure of the standard deviation of $v_i + \varepsilon_{it}$. It is the correlation of v_i and x_{it}. Of course, the fixed effects estimator eliminates such a correlation.
Formal definitions of the variables are provided in Table B.3.2 of Appendix B.

Family considerations: The presence of pre-school children[61] in the home does nothing to boost earnings though the results are weakly negative for SLID respondents. Conversely, the returns are positive for those individuals with school age children though not significantly so in the fixed effects equation. This is a typical finding for non-Aboriginal women, as well.

Occupation and location in the labour market: Respondents who work in the public sector fare much better than those who have jobs in private sector industries, which typically relegate them to minimum wage jobs. Public and not-for-profit sector employment is closely correlated with higher-paying occupations, such as teaching or outreach worker. Though the results are not included in this paper, earlier tests revealed that those respondents who work for organizations that fund an employer-sponsored pension plan and the provision of group medical benefits also receive higher returns from employment even if they themselves are not covered under such benefits plans. Both groups fare better in the public sector with the Aboriginal women in SLID receiving a higher wage premium.

Health status: The health effects are strong in the former sex trade workers' earnings function. However, health status also determines whether an individual will participate in the labour force, as well as the extent of participation, for instance, full-time, part-time and casual worker[62]. The effect of good health on wages appears to be more robust for the sex trade workers.

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[61] The presence of children in the home is not time constant for the sex trade worker group, since temporary placements with relatives or in foster care arrangements is common.

[62] In their study of lone-parent mothers, Wolfe and Hill (1995) found that health issues were more apt to affect the supply of work hours than wage levels.

Conversely, the results indicate that coupled status and union participation do not contribute to the wage function. The insignificant union variable was expected. Some women who work in garment factories typically earn low hourly wages despite being covered by a collective agreement. The number of years receiving income assistance was only significant in the random effects model for the sex trade group. Former sex trade workers seem to get higher wages when they work more hours in a job relative to the full-time standard, though this variable is not consistently significant.

Furthermore, explanatory variables such as education or vocation appear to more positively determine wages in the random effects regression because of their correlation with unobserved variables. For several sex trade workers, their willingness to access community services, such as the TERF program, gave them ample support to pursue vocational training and many opportunities to gain strong skills through volunteering. These extra tools helped some individuals when they sought out high-paying jobs that offer substantial returns to their efforts, often in the public sector. These factors may have mitigated some of the wage scarring effects from non-participation in the earlier period of their lives.

Hence, institutional factors, such as support in the community, may be an unobserved fixed factor that creates variability in the wage structure between cross-section units. As such, the random effects estimate is greater than the fixed effects coefficient for these variables. This is potentially explained by the fact that some sex trade workers took advantage of institutional supports and, consequently, they received greater opportunities for securing high-paying employment. The regression

estimates show that when the fixed effects model removes the heterogeneity, the returns to the vocation variable declines from 25.6% to 14.7%; the public sector coefficient falls from 23.2% to 19.5%; the university coefficient from 22.9% to 21.6%. The opposite effects are observed for the health, years of experience and job tenure variables. The random effects estimates understate the potential benefits of these variables by not controlling for the negative effects of factors in the individual's history or environment that are correlated with them.

Consider a further example of heterogeneity between the sex trade workers and the SLID respondents, which may be created by institutional supports. The "social assistance" variable captured the participants' access to income assistance for each of the last six years. For the group of sex trade workers, the fixed and random effects models show a positive correlation between access to social assistance and higher wages though not statistically significant in the fixed effects model. Nevertheless, the results seem to suggest that sex trade workers, who are often encouraged to access this type of financial support during the transition period, may have benefited through higher wage returns when they eventually joined the mainstream labour market. Temporary access to such assistance may help the personal healing process, and it can eventually lead to higher productivity returns.

Therefore, the respondent's access to the institutional infrastructure of community support services, though unobserved in the regression analysis, may potentially make important contributions to higher future wage returns[63]. Consistent with these predictions, the regression estimates indicate that when the fixed effects

[63] Some individuals do not access community support services when they exit the sex trade, though they may receive income assistance for a period. They usually rely on relatives or a boyfriend for financial support.

model removes the individual participants' heterogeneity, the returns to the social assistance variable declines from 9.1% to 7.0%. This suggests that institutional factors in the community may be correlated with the receipt of social assistance.

3.11 Random Effects Estimates and the Sex Trade Workers' Future Wage Predictions

This model preserves some of the heterogeneity in the cross-section units. Since it is a generalized least squares (GLS) estimator, it is efficient if ν_i is uncorrelated with the explanatory variables (x's). Two tests determined if the more efficient coefficients from the random effects model may be used to predict the sex trade workers' wages, in order to calculate the future earnings losses in the legitimate labour market.

First, the Breusch and Pagan (1980) Lagrange Multiplier Test for random effects detects whether or not the Var(ν_i) = 0, in other words, no unobserved effect. The test statistic of 10.83 is larger than the 95 percent critical value for chi-squared with one degree of freedom, 3.84. This test makes a strong case for the random effects model, as opposed to the standard OLS regression model with only one constant term α (Greene 2000). It indicates that there are some "individual effects". However, the next question to be posed is whether these individual effects are correlated with the explanatory variables in the model.

The Hausman test (Hausman 1978) determines the choice between the fixed-and- random effects estimators[64]. The null hypothesis is that the person-specific effects are uncorrelated with the other explanatory variables in the model. For the

[64] The Hausman statistic evaluates the consistency of the random effects estimator by examining the extent to which it diverges from the fixed effects estimator. The latter is consistent even if the individual effects are correlated with the included observed regressors (x's).

sample of sex trade workers, the Hausman test statistic of 18.81 determined that there was no systematic difference between the two economic estimators (random effects and fixed effects coefficients). The critical value from the chi-squared table with 14 degrees of freedom is 23.7, which exceeds the calculated test statistic for our sample of sex trade workers. This suggests that, for the overall regression model, the individual effects are not substantially correlated with other regressors in the model, thus the null hypothesis cannot be rejected. Since the random effects model is correctly specified, it will predict the participants' future earnings losses, in such cases where there is non-participation in the labour market attributed to a sex-trade related illness, such as depression from trauma reactions, Hepatitis C, HIV/AIDS or, likewise, part-time work in the future for these same reasons[65]. These estimates are presented in the next section.

3.12 Lifelong Private Costs of Non-Participation From Addictions and Prolonged Health Effects

The interview instrument gathered data on the relationship between health and productivity in the labour market following the respondent's transition into mainstream society[66]. For the sample of 62 participants, taking into consideration that some participants have a health issue but did not identify it (around 10%) and others

[65] A Chow test of pooled OLS estimators from a regression specification that combined the observations of both groups, yielded a value of F(14,379) = 2.41 (Prob>F=.0031). This figure exceeds the critical value of around 1.70 in the 95th percentile of the F-distribution. Thus, the hypothesis is rejected that the coefficients for the sex trade workers and the respondents in SLID are the same. Since there are structural differences in the equations, the two groups cannot combine to form a pooled sample of observations in order to predict the sex trade workers' potential earnings losses from illness and non-participation in the labour market.

[66] For the purposes of this paper, illness is defined to include both physical and mental health conditions. Diminished mental health may occur from conditions, such as depression and ongoing struggles with addictions. The extent of disability from illness may range from very severe to causing minor restrictions in every day activities.

may have reported more than one condition (53.2%), a breakdown of health conditions is as follows[67]:

- Ongoing addictions-related issues[68]: 75.8%
- Depression: 35.5%
- Hepatitis viruses (in particular, Hepatitis C): 29.0%
- Chronic fatigue: 6.5%
- HIV/AIDS: 4.8%
- Learning disabilities, possibly from heavy drug use: 4.8%
- Cancer: 1.6%

No health-related productivity losses occurred for 11.3% of respondents. Entry into the labour market on a full-time basis was immediate, though a few individuals worked at part-time jobs temporarily before taking on full-time work[69]. A further 6.6% of respondents have not contracted an illness, but they reported no particular plans to participate in the labour market in future. However, the objective of analyzing the correlation between health and labour force participation was to estimate the value of future productivity losses resulting from illness, which occurred in one of three ways as follows: (% of respondents in parentheses)

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[67] The transgender respondents had a slightly lower prevalence of health problems when compared to the other former sex trade workers in the full sample (n=62). For instance, 25% reported depression, 16.7% contracted hepatitis C and 66.7% struggled with addictions, although 25% have a long-term chronic health problem.

[68] Ongoing struggles with drug and alcohol addictions are highly correlated with post-traumatic coping reactions. Several respondents reported that drugs are a coping mechanism, since the work is extremely stressful.

[69] For those respondents who entered the labour market immediately following the transition into mainstream society, approximately one-half subsequently experienced bouts of unemployment and periods of access to income assistance. If there was no direct evidence of a correlation between these periods of exit from the labour market and specific health conditions, they were excluded from the calculations of earnings losses that follow.

- The individual has a serious illness, and there is a high probability that she will not participate in the labour market in the future (22.5%);
- Following transition, the respondent had a sex trade related health issue that prevented participation in the mainstream labour market for a period (the average transition period was 3.44 years), but the condition did not continue for the duration of her work life. She re-entered (or expected to re-enter) the labour market in a part-time (4.8%) or full-time (50.0%) capacity depending on the extent of the health issues. For example, this may be the case if the respondent does not hold a job in the labour force for a few years after transitioning due to concerns about relapses relating to addictions. The individual may want to concentrate on personal development by participating in a transitioning and life skills program or attend regular AA meetings and group counseling for a period before making plans to look for a job.
- The respondent entered the labour market on a full-time basis immediately following the transition, and she eventually switched to part-time work. A portion of each workday is lost, for example, if an individual anticipates working on a less than full-time basis in the future due to chronic physical and/or mental health issues. This condition is expected to continue for the duration of her work life (4.8%).

For the first two cases, the entire workday is lost for at least a part of the individual's work life. Based on the respondent's work history and training in the mainstream job market, the random effects model described earlier was utilized to

predict the sex trade worker's potential earnings[70]. This was followed by a calculation of the present value of future earnings for the number of work years that she would not participate in the labour market[71]. In the third case, for those who lost a portion of the workday due to health issues, the productivity losses were based on the value of the partial daily hours lost. Similar present value techniques were then applied.

The findings revealed that these individuals incur large personal costs in terms of lost earnings from lower productivity due to prolonged negative health impacts, both physical and mental health. As summarized in Table 5, the net present value of lost earnings in the formal labour market, net of income taxes, which is directly attributed to short-term and long-term health conditions that prevented full or partial participation in paid jobs, totals $5,328,023[72]. Furthermore, if we consider the former

[70] The respondent may have accumulated some work experience before entry into the sex trade. It was also common for many participants to have sporadic bouts of employment in the mainstream labour market while they were involved in the sex trade. Intermittency and discontinuity characterize the work patterns of the typical sex trade worker in the sample. The predicted labour market wage approximates the minimum wage for around half the participants.

[71] There are difficulties with this human capital approach. In the calculation of the present value of lost lifetime earnings, the selected discount rate will heavily influence the net value of the productivity costs. A higher discount rate leads to a lower net present value.

[72] For the labour market earnings losses that extend beyond the year 2003, and to account for wage changes over time, the Treasury Board of Canada's guidelines are followed with respect to discount rates and the use of an inflation factor. Since the other components of the complete cost-benefit study, for instance the fiscal and societal effects, required observance with the Treasury Board's recommendations with respect to the evaluation of government-funded projects, for the personal productivity effects, consistency with these guidelines was maintained. An inflation rate of 2% is applied in this study, which is an average of the Conference Board of Canada's projected Consumer Price Index from 2004 to 2020 (Hales et al. 2002). To discount future productivity losses to the present value, the average of three market rates were calculated: a personal unsecured loan (since the respondents are generally poorer individuals), an unsecured line of credit and a 36-month rate on a car loan and for up to eight financial institutions. The average interest rate was around 7.5% in 2003. These figures were retrieved from the LoanBanx website (available online at: www.opiemarketing.com). The rates are quoted as of September/October 2003.Though the Treasury Board recommends that this rate should approximate the social discount rate of 10%, a discount rate of 9.5% with an applied inflation factor of 2% is equivalent to the market rate of 7.5% without inflation, calculated above. Therefore, 9.5% as the discount rate and a 2% inflation factor is used in order to meet the Treasury Board's recommendations. This rate will be applied to future earnings losses in the labour market. Future costs after the year 2003 are estimated to age 65 only. The rationale is that labour market earnings losses should not be calculated beyond the individual's typical working life.

sex trade workers' earnings losses as it pertains to the differences in their pay structure (attributed to wage scars) compared the women in SLID, there is a further loss of $105,080. However, a few women who work on a part-time basis have better structures compared to the average for the women in SLID; thus, the net present value of lifetime earnings due to the more positive wage structure amounts to a net gain for these participants.

All calculations in Table 5 are based on predicted future wages in 2003 dollars. The future earnings losses depend to some degree on the participant's expectations about the future and plans for educational or vocational upgrading. If the respondent had recently left the sex trade, she estimated how long she expected to be out of the mainstream labour market. Participants typically gave a conservative estimate for the transition period (for example, one more year). Only seven individuals provided a future estimate that exceeded two more years as of the interview date, and there were usually extenuating circumstances that could account for the longer prediction (e.g. ongoing addictions and personal issues).

Consequently, the figure for the transition period is a low estimate. Since several other participants have contracted serious illnesses, or they have major issues with addictions that will not be resolved for many years, longer projections for non-participation may be viewed as accurate for those individuals. Likewise, for participants who have been out of the sex trade for several years, their labour market patterns are established. Thus, earnings losses are predictable.

This method is not expected to have a substantial influence on the net present value of future costs past age 65.

Table 5: Summary of Labour Market Earnings Losses Due to Health Effects

	Percentage (%)	Full-time Equivalent Years Lost	Dollar value of labour market losses n=62 (2003 dollars)	Dollar value of loss due to pay structure
Respondents not participating in the labour market due to chronic illness or a permanent disability*	22.5%	455	$2,680,764	$144,825
Respondents who lost earnings in the labour market during the transition into mainstream society**	56.5%	120.5	$1,689,206	$20,527
Respondents who participate in the labour market on a less than full-time basis due to work limitations:				
- Respondents who exited the sex trade with a physical or mental health limitation that prevents full-time work hours	4.8%	54	$525,657	($83,881)
- Respondents who entered the labour market on a full-time basis after exiting the sex trade and then switched to part-time work due to health issues	4.8%	45.1	$432,396	($58,227)
Respondents with no particular plans to ever participate in the labour market after exit (not related to health issues)	6.6%	169.5	$0.00	***
Respondents who participated in the labour market on a full-time basis immediately after exit (no health related productivity losses)	11.3%	0.00	$0.00	$81,336
TOTALS	--	**844.1**	**$5,328,023**	**$105,080**

* Non-participation is directly attributed to sex trade related health problems. The majority are afflicted with the Hepatitis C and HIV/AIDS viruses.
** Lost labour market time may be due to dealing with addictions and healing. These figures exclude years for academic upgrading. The reader should note that the percentage column does not add up to 100% due to the overlap of categories. For example, some respondents who incurred earnings losses during the transition also fall into other categories of productivity losses.
*** There is no recorded work history for these participants or any plans to participate in future. Scarring effects are indeterminate.

3.13 The Value of Lost Earnings when Compared to Other Women in Society: The Wage Decomposition

An estimation technique, commonly applied in labour economics, and which is of value to this study is decomposition analysis. This involves the use of regression

techniques to decompose an observed wage gap from the two wage equations for each of the groups of respondents in Tables 2 and 3, the sex trade workers in the current study and the women in SLID. For this particular application, the random effects coefficients are used for both groups, since we are interested in preserving the heterogeneity across the observational units when analyzing the wage disparities.

The regression coefficients are employed to estimate the portion of the wage gap that is accounted for by the observed attributes (*x's*) and to measure the unexplained part of the wage gap. The decomposition equation is listed as follows:

Equation 5

$$\bar{w}^{Slid} - \bar{w}^{S.T.} = (\bar{x}^{Slid} - \bar{x}^{S.T.})\beta^{SLID} + (\beta^{SLID} - \beta^{S.T.})\bar{x}^{S.T.}$$

(1) (2) (3)

Interpretation:

(1) A vector of the mean differences in the log of wages of the SLID group minus the log of wage of the sex trade workers equals the inter-group wage differential, which is broken down into two components on the right hand side of the equation. The total wage differential between the groups is $2.50 per hour.

Based on the split-sample regression estimates, the respondents of the current study sustained a productivity loss related to labour market earnings, in the following ways:

(2) The effects of variations due to differences in the respondents' average personal characteristics (e.g. health status, human capital endowments, such as university, job experience and tenure, vocational, general or specific training; family status; union or public sector job; history of accessing social assistance).

A matrix of observations on the observed explanatory variables *(x's)* define these personal traits. The decomposition procedure weights the differences in the means of the explanatory variables by the regression coefficients (β's) of the SLID group. The variables are superscripted "SLID" and "S.T." to identify the respondents from the Survey of Labour and Income Dynamics versus the sex trade worker group. This explained differential, which favors the Aboriginal women in SLID, amounts to $1.95 per hour ($4,056 per annum) [73].

(3) The balance of the wage variation is a differential that can not be explained by the observed variables that are included in the regression equation, though there could be some influences from the unobserved effects. The differences in the estimated regression coefficients (β's) are weighted by the sex trade workers' explanatory variables *(x's)*. For unknown reasons, women in SLID receive preferential treatment in the labour market. The differential totals $0.55 per hour ($1,144 per annum). This unexplained component is due to the differences in pay structure. In theory, there should be no reason why the SLID group's regression coefficients are any different from the estimates of those respondents who had worked in the sex trade. A number of factors relating to the effects of past exploitation, such as fewer skills for coping with stress, low self-esteem,

[73] This figure is based on 2,080 hours per annum. Of course, it is not completely certain that fewer endowments are attributed specifically to sex trade work. Indeed, there may be several other sociological or economic factors influencing the variables. For example, the effects of abuse and poverty in the family of origin may contribute to lower lifelong earnings. However, we have two groups of women for which there is no known reason for the vast dissimilarities in their productivity characteristics and earnings. By comparing the interview respondents to other Aboriginal women in SLID, this is one way to hold the poverty variable constant. The major difference between the two groups is that one has spent a good deal of their youth in the sex trade when they would otherwise be accumulating human capital and skills in school and gaining training experience through part-time work in the labour force. Therefore, it may not be unreasonable to make causal inferences about a correlation between lower productivity attributes and a youth's participation in the sex trade.

depression and diminished physical and mental health may explain these differences.

Indeed the choice of econometric model has an effect on the results. If we are interested in excluding the time-constant unobserved factors, the fixed effects estimators are used to decompose the wage gap. Only the fixed effects estimates are guaranteed to be consistent, given the specification (the unobserved effects model). The differences due to explanatory variables total $4.49/hour, which disfavors the sex trade workers who have few productivity traits compared to the women in SLID. When the sex trade workers do acquire wage-enhancing attributes, they have higher fixed effects coefficients (β's) than the women in SLID, totaling $1.92 per hour. The social returns to supporting and educating former sex trade workers may have a substantial impact on the prior wage scarring effects. The net wage differential using this model is $2.57 per hour, which is comparable to the random effects model.

To illustrate this point, for the full sample of employable participants (excluding those who have a long-term disability or who will not participate in future), the net present value of lost lifetime earnings attributed to the observed explanatory variables totals $1,495,909, indicating that former sex trade workers have lower wage-boosting personal traits compared to the women in SLID. However, on a positive note, the women who do participate in the labour market have an offsetting net gain in pay structure compared to women in SLID totaling a net present value of $96,156.

This study's findings established that participants generally had a lower and flatter earnings profile at all age levels. Four figures in Appendix B.3.1 illustrate an

application of the Lowess smoothing technique, a locally weighted regression smoother, which depicts the relationship between wage and age over the life cycle. The age groupings, which are divided into the categories – 16-60, 16-25, 26-35 and 36-45 -- illustrate that former sex trade workers have relatively flatter earnings profiles.

While it is not known with full certainty that the unexplained earnings differential is attributed to a youth's involvement in the sex trade, there is considerable evidence that this may be a key factor. During the interviews, several participants reported that their history of sex trade involvement affected their educational achievements, chances for employment or, if employed, they reported having high levels of stress and sometimes a poor ability to keep a job. Moreover, 56.5% of respondents reported having a limitation in their daily work or school activities compared to 20.5% of SLID respondents (Table 3).

In closing this discussion on the econometric analysis, for both the random and fixed effects models, separate regression equations are estimated (Table 4), which partially compare respondents to others in their own group, that is, sex trade workers to other sex trade workers and SLID women to other SLID women. For sex trade workers, the data indicate that individuals are generally classified into one of two groups. One group of sex trade workers acquired a grade 12 equivalency diploma and possibly some vocational training. They networked in the community by volunteering and ultimately secured good-paying jobs even in the private sector. They generally had better health, as well. However, in deriving the regression coefficients, they are compared to another group of sex trade workers who generally did not upgrade or

improve their skills in terms of acquiring employability attributes and so the latter are relegated to minimum wage jobs when they do participate in the legitimate labour market.

Consequently, the wage gap among sex trade workers as a group is significant and this may be why we observe the large returns to variables such as university, vocation, hours worked and health. There is also a disproportionate number of minimum wage workers in the sample of exited sex trade workers, which could explain the substantial differential in the constant term compared to the women in SLID (random effects equation). Likewise, within the cross-section units (fixed effects equation), those who upgrade with vocational, specific or university training do much better relative to their prior status in the labour market. Upgrading can sometimes shift up income from minimum wage to $12-$15 per hour. The effect on w when x changes within person is substantial.

There are lower wage disparities among the Aboriginal women who were surveyed in SLID. Fewer Aboriginal women in SLID are minimum wage workers. So when they do improve their skills, the wage effects do not seem to be exacerbated in the same way as observed with the former sex trade workers, even within the cross-section units. In addition, since the Aboriginal women in SLID are a little older and more established in the labour market, as evidenced by substantially more years of full-time equivalent experience (SLID participants: 10.53 years; former sex trade workers: 2.61 years), there are fewer observations that show changes to the university and vocation explanatory variables, and so the marginal effects for the SLID women

are less clear. These factors are reflected in the coefficients of the fixed effects estimation: $\beta_{SLID} < \beta_{sextrade}$, generally.

This may explain why the results from the fixed effects decomposition show that sex trade workers, within their own cross-section units, have much higher returns for some of their personal traits. There are bigger wage changes within the cross-section units of sex trade workers (likewise between the groups) and so, when they are compared to women in SLID these differences are amplified. To some extent, this may positively reflect the community interventions that are available to sex trade workers who want to leave this lifestyle. For example, the provision of social programs as it pertains to drug rehabilitation and counseling, etc. is an investment in mental health that may alter future wages and reverse the earlier scarring employment outcomes (Currie and Madrian 1999).

3.14 Concluding Remarks

The objective of this study was to estimate the employment-related productivity losses for individuals who in past years had been involved in the sex trade. Exploited youth are not a homogeneous group but there are certain consistencies such as the likelihood of drug use and running high risks of contracting chronic illnesses. For sixty-two female and primarily Aboriginal respondents who had left the sex trade, a methodology of personal interviews traced their income, education, training and detailed employment activities, as well as the role of disabilities and health issues in their reintegration into the mainstream labour market. The collection of this data and the Survey of Labour and Income Dynamics permitted

some estimation as to whether sex trade workers have a more or less favorable status compared to other Aboriginal women in the labour market.

The study documented findings of exacerbated addictions, damage to physical and mental health, as well as lower lifetime productivity for this subgroup of individuals who had been entrenched in the lifestyle of a prostitute. Such events in their youth interfered with the acquisition of human capital endowments and job experience needed to enhance earnings in the formal labour market. These issues provoke multiple reasons for Canadian policymakers to be concerned about counteracting the conditions of vulnerability that bring youth to this lifestyle and the factors that keep them in it.

In terms of evaluating priorities for decision-making around contemporary public policy, there are two substantive conclusions. First, the economic consequences from such activities have a lifelong impact on not only the individual, but also a significant demand on public programs to support the former sex trade worker. Above all, these findings highlight the need for state-funded early intervention and prevention programs that provide support to youth who are at risk of becoming involved in the sex trade, in particular, in Aboriginal communities. Practical solutions that nurture the youth's early attachments to the labour force, as well as encouraging them to stay connected to their schooling, could have a profound effect on their future employability and quality of life.

Second, findings from the regression analysis established that the social returns to financially assisting and training transitioned sex trade workers might be substantial in reversing the prior scarring effects of the earlier detachment from the

conventional workforce. Policy options might include subsidized jobs for exited sex trade workers in the non-profit or charitable sectors, for example, in the much needed outreach area which is directed at preventing youth exploitation in the sex trade. The provision of appropriate institutional supports in the community can be a crucial strategy for improving the economic options of those youth who are contemplating a transition into mainstream society, as well as improving work incentives.

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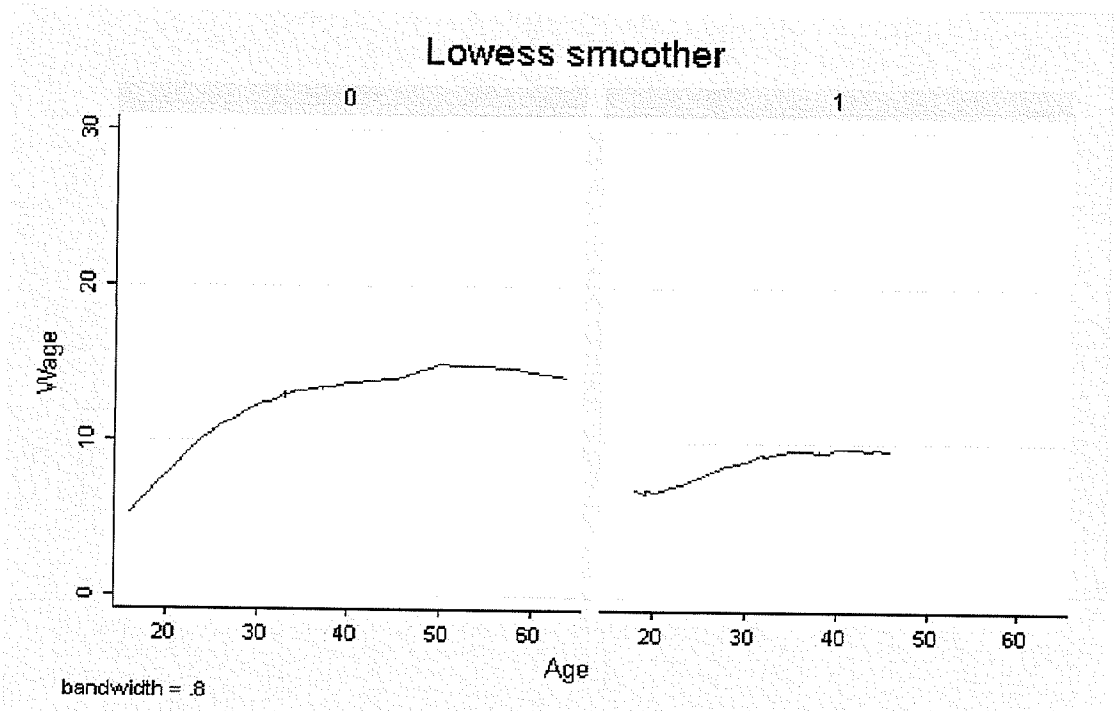
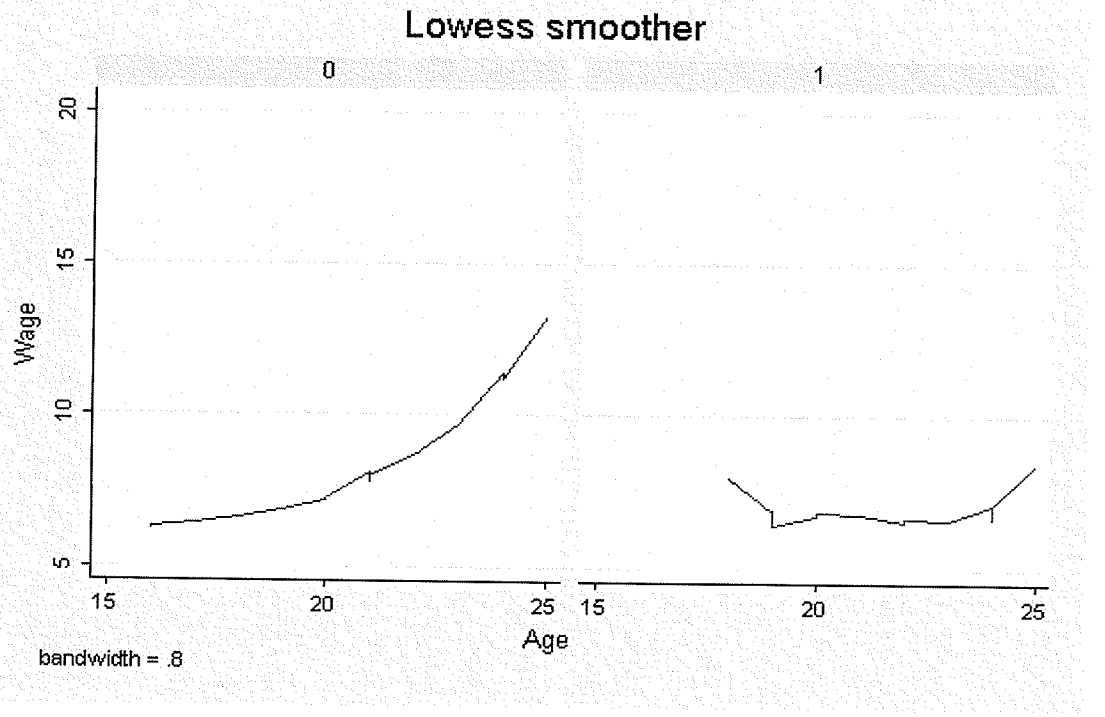
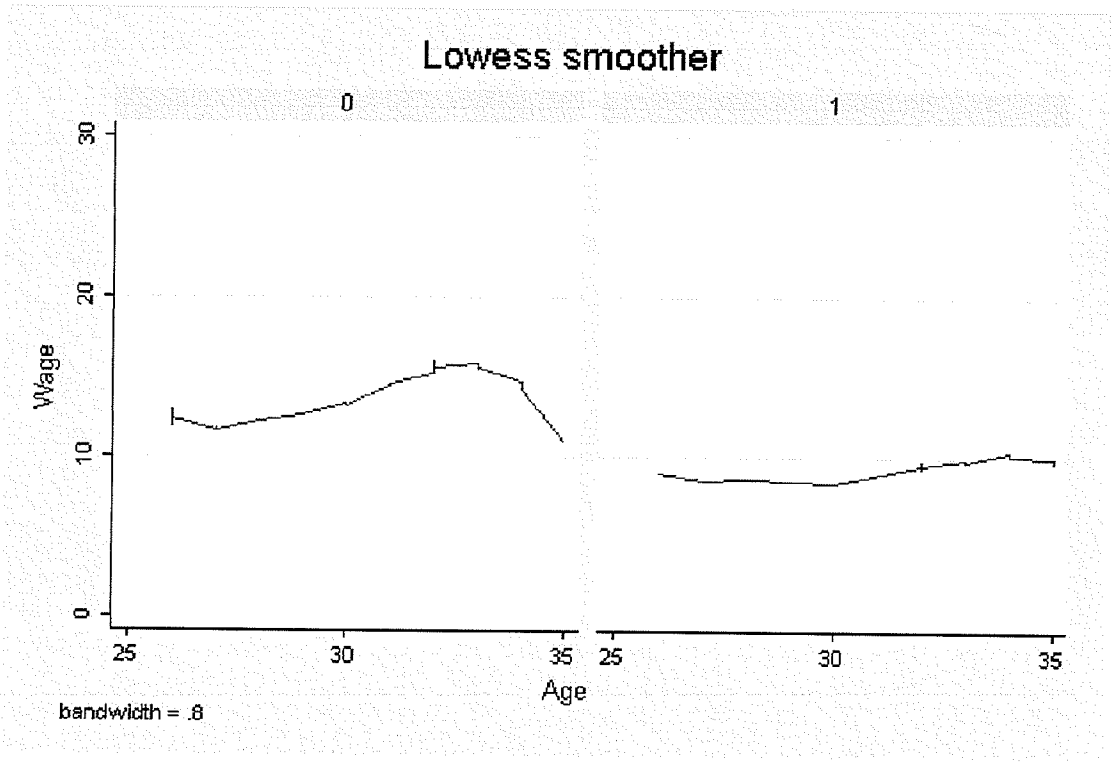
APPENDIX B.3.1 – LOWESS SMOOTHER GRAPHS OF WAGE REGRESSED ON AGE
(SLID sample = 0 -- left graph; Former Sex Trade Workers = 1 -- right graph)






Lowess smoother
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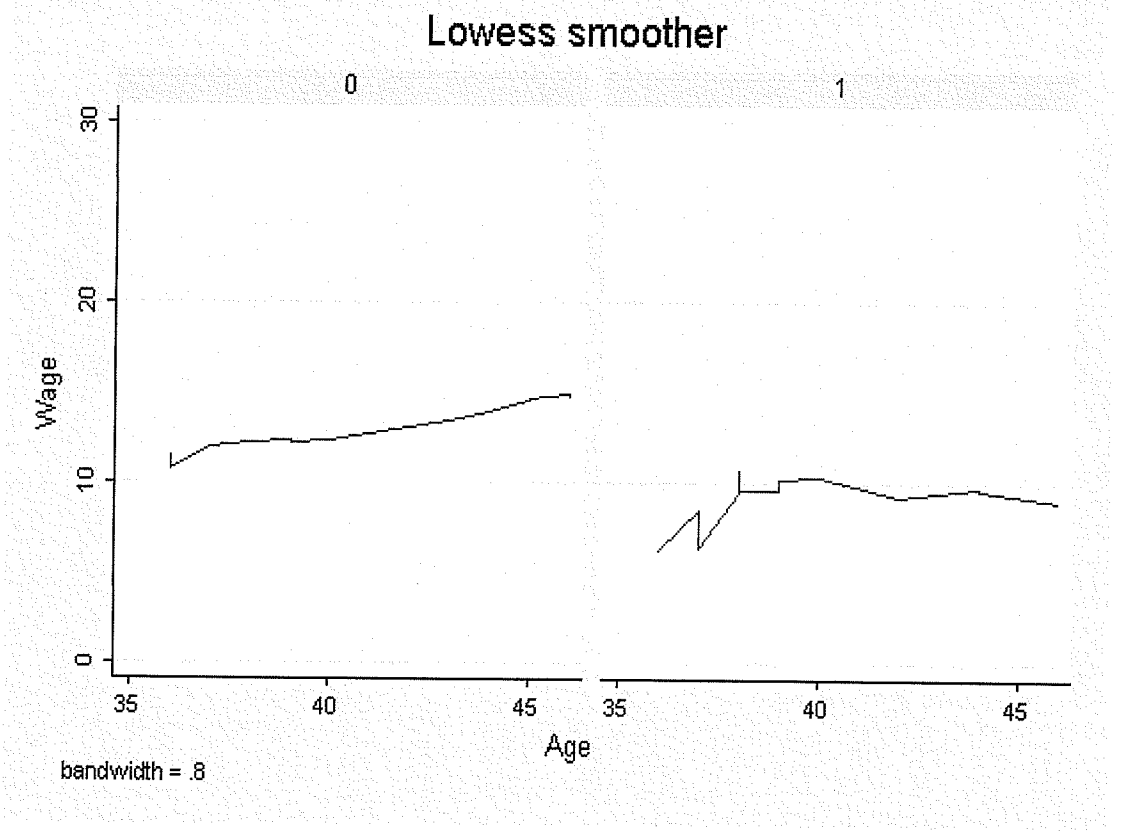
Age
bandwidth = .8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45
Age
bandwidth = .8

APPENDIX B.3.2: Selected SLID Variables and Definitions

VARIABLE	DEFINITION
Dependent Variable: Log of Earnings (earng42)	
Productivity Attributes (SLID variable in parentheses)	
Health Status (crhlt26)	Dummy variable equal to "1" if the respondent's current state of health is excellent, very good, and good during the reference year, and "0" if it is fair or poor
Years of Experience (yrxfte11)	Number of years that the respondent worked at a paid job at least 6 months during the year *and* at least 30 hours per week (defined as full-time)
Experience Squared	Yrxfte11 squared
Job Tenure (jobdur1)	Duration of the current main job expressed in months
Job Tenure Squared	Jobdur1 squared
University (enuniv18)	Dummy variable equal to "1" if the respondent ever attended or received a degree from a university and "0" otherwise
Vocation (dgbsc18/dgtvo18)	Dummy variable equal to "1" if the respondent has received a business, commercial, trade or vocational school certificate, or vocational training for a specific occupation, and "0" otherwise
Social Assistance (sapis42)	Dummy variable equal to "1" if the respondent has received social assistance during the reference year and "0" otherwise
Hours worked/2000 (alhrp28)	Total hours paid at all jobs in the reference year divided by the full-time standard 2000 hours per year.
Firm-related and industry variables	
Public Sector (pubpv10)	Dummy variable equal to "1" if the respondent's job is in the public sector and "0" otherwise
Union (uncoll1)	Dummy variable equal to "1" if the respondent is in a union or covered by a collective agreement and "0" otherwise
Family Status Variables	
Coupled (marst26)	Dummy variable equal to "1" if the respondent is married or in a common-law living arrangement and "0" otherwise
Presence of school-age children (nbsa26)	Number of school-age children in the household
Presence of pre-school children (nbps26)	Number of pre-school children in the household

CHAPTER 4

An Examination of the Fiscal Impact from Youth Involvement in the Sex Trade: The Case for Evaluating Priorities in Prevention

4.1 Introduction

Youth involvement in the sex trade is among the most stressful of life circumstances. At a personal level, individuals risk constant exposure to violence, health threats and growing addictions. From a longer-term perspective, linked to this lifestyle are threats of serious diseases, victimization of their own children and lifetime earnings losses. Transitioning into mainstream society entails substantial amounts of resources absorbed into the treatment of drug and alcohol addictions, mental health therapies, income assistance and housing support.

Despite these grave issues, no Canadian research to date has attempted to quantify the fiscal costs from youth engagement in the sex trade. Recently, in Canada, cost-benefit analysis has been conducted in the area of child abuse (Bowlus et al. 2002; Burgess et al. 2003) and violence against women (Day 1995; Greaves et al. 1995). One of the major differences in the published studies of economic costs is how they vary in their methods for assigning values to society's resources. Some analysts focus exclusively on the health-related fiscal consequences (Day 1995), while others expand the analysis to the productivity effects in terms of labour market returns, as well as the fiscal impact on the criminal justice system and other social services (Bowlus et al. 2002; Greaves et al. 1995). Some studies examine costs to the whole of society, including those costs that are imposed on the community (Choi and Pak 1996). Most of the recent research takes a top-down and societal approach to the

analysis, occasionally making use of data from national surveys (for example, the 1993 Statistics Canada Violence Against Women Survey) in order to make inferences about countrywide prevalence statistics. However, from the government's perspective, there has been no accounting for the incremental fiscal resources expended to provide substantial amounts of supports and services to sex trade workers, in particular, following the transition into mainstream society.

This study of economic costs was one part of the evaluation of Ndaawin, a community service agency whose main objective is to respond to Aboriginal youth at risk of exploitation in the sex trade. Ndaawin, which began its operations in 2001, is a pilot project funded by the National Crime Prevention Strategy. Its mandate was to target prevention services to youth ages 8-13 with culturally-based program activities. The project received funding totaling $799,645 over four years[74]. The predominantly Aboriginal children who participated in the program live in high-risk inner city households in the low-income Lord Selkirk Park area of Winnipeg. Despite their young age, a few children had already used drugs and alcohol. Some children were at high risk of recruitment into prostitution, since certain of their relatives or acquaintances were already engaging in the sex trade (RESOLVE and CS/RESORS Consulting, Ltd. 2004).

The Ndaawin program staff created a safe and fun environment in the neighborhood where children could drop-in and have access to an individualized support system, in particular, given their often-turbulent and dysfunctional home

[74] The funding covered five fiscal year ends (2001-2005). The programming components include a Children's Club, Prevention Curriculum (in local schools), developing a Risk-Assessment Tool, Parenting Support and Community Development. The costs included staff salaries, benefits and general overhead, such as program materials, telephone and supplies.

circumstances. The idea behind a prevention agenda is to change the individual's reference group, to provide positive role modeling and to deal with the social circumstances that make youth more apt to engage in the sex trade to begin with[75]. The evaluators reported that this program received outstanding reviews from its young participants who revealed that they felt a sense of belonging and caring from Ndaawin's staff. The community and local schools were also supportive of this prevention strategy (RESOLVE and CS/RESORS Consulting, Ltd. 2004).

Indeed, from a policy perspective, the longer-term goal of a prevention program is to stop the supply of youth prostitutes by addressing the root causes (Manitoba Child and Youth Secretariat 1996). However, there has been little focus on such prevention measures in most Canadian communities, since Ndaawin is one of the few groundbreaking and innovative initiatives that have received pilot funding in recent times[76]. Thus, the evaluators had no way to compare the costs of Ndaawin's programming and its success rates to other similar initiatives. Moreover, from a program evaluation perspective, the process for measuring identifiable outcomes involved a relatively short period (four years), which did not allow for a comprehensive time-series study of the effects of the project. Nor was it possible to

[75] As part of the Aboriginal teachings, the staff developed culturally appropriate educational tools to help inform the children about self-love, respect for others and their culture, and to improve their awareness about safety, such as learning strategies to stay away from the lure of gangs and the sex trade (RESOLVE & CS/RESORS Consulting, Ltd. 2004).

[76] Since this type of prevention agenda deals with issues of sexual exploitation, child protection agencies mostly intervene in these children's lives, as opposed to community-based services. One important missing piece in the programming is that there is very little overlap and coordination between these two types of social services (RESOLVE & CS/RESORS Consulting, Ltd. 2004). This may be particularly problematic in the City of Winnipeg since there are substantial numbers of youth prostitutes (City of Winnipeg 2001; Social Planning Council of Winnipeg 2002).

carry out any long-term follow-up of the Ndaawin-treated group[77]. It is impossible to determine whether any of these children will engage in prostitution in the future. Thus, to conduct an economic cost study, a strategy was needed to respond to the impracticalities of projecting future outcomes for the Aboriginal youth who had received the intervention and a lack of time-series data considered necessary to pinpoint the identifiable longer-term program outcomes[78].

Recognizing these limitations, the current paper examines the counterfactual situation. For instance, evidence from the outcomes measures in the evaluation

[77] Recent contributions to the field of program evaluation methodologies have adopted the logic model approach, which integrates a project's theory of program change into the cost-benefit projections. This is a "theory-driven" methodology of program evaluation. The logic model compares the inputs that are invested into a program with not only the outputs in terms of program initiatives but also the outcome impacts (Canada: Treasury Board 2002). In the current study, on a short-term basis, a change may refer to what the children have learned from their participation in Ndaawin. The intervention may influence some of their medium-term decisions about choice of friends, the use of illicit drugs and alcohol, as well as the decision to stay in school. The longer term causal relationship is reflected in broader terms, such as the ultimate impact on the social and economic environment. As a final step to the logic model design, a cost-benefit analysis would attempt to evaluate the probable results from the program change impact on public resources and the individual's lifelong productivity.

[78] See Barnett (1992; 1985) for a discussion of the Perry Pre-School Project, in which the researchers evaluated treatment and control groups through to their mid-twenties. This approach is widely utilized in the field of education, and it is often combined with experimental research designs for evaluating treatment and control groups. The idea behind this method is to compare groups, which are equivalent in every way except for the intervention that is applied to one group. The most cited example of this methodology is the post-intervention approach of the Perry Pre-School Project, in which analysts tracked the young program participants and another baseline group for a number of years in order to assess the impact on the government, as well as productivity changes (Barnett 1992, 1985; Kerr 2001; Canada: Treasury Board 2002). A major limitation of the logic model approach applied to economic cost analysis, however, is that prevention programs usually yield most of their benefits far into the future. Unlike the Perry Pre-School Project, evaluations of intervention programs generally extend over a few years only. Thus, the estimation of longer-term outcomes (i.e. lifelong positive externalities from the intervention) requires the use of predictive simulation models. Such techniques deal with the risk that arises from uncertainty in the future outcomes data, which is derived from the experimental design (Levin and McEwan 2001). A simulation program will run the model several times, simultaneously varying the values for many uncertain variables, as well as their probabilities. This procedure is particularly important if there are uncertainties in key variables. However, this process could easily become a technical exercise in mathematical simulation. The analyst will also likely have to draw on longitudinal surveys or prior research results to make such predictions, which could result in misleading generalizations. Moreover, when projecting program outcomes into the future, the net present value of such benefits are expected to be minimal. For example, using the Treasury Board's (1998) recommended 10% social discount rate, the net present value of $100 in 20 years from now is quite low at $14.86. This implies that society places little value on the potentially lower demand for public resources in future, which is created by current prevention programs. In practice, there is unquestionably very little support for such a position (Nas 1996).

suggested that the risks of sexual exploitation have been reduced for some of the children who participated in the Children's Club (and non-participants as well). There is also evidence that a few children were approached for the purposes of prostitution, and they were successfully diverted. The evaluators, as well as the program management, did not report evidence that any of the children had fallen through the cracks (i.e. that they entered the sex trade) during the four years of Ndaawin operations. The fact that there were growing numbers of children who attended the program over four years, attributed to word of mouth referrals, was one indicator of the success of the Children's Club. Moreover, three focus groups with 15 participants from the children's club provided the evaluators with a further indication of the program's success. A few of the numerous comments from these young children during the sessions include:

- "It's not right to (be a hooker). I saw that. My cousin wanted to do that and I told her not to and she listened. She is 10".
- "Drinking and drugs can kill you".
- "[I learned about] being a prostitute. Don't ever be a hooker. You need to learn how not to be one. I've learned not to be one – don't do drugs, wear normal clothes".
- "[has learned about] sexual abuse – I've learned about it more, like men who pick up girls. [Staff member] is teaching me more about it".
- "To stay away from gangs: they pretend to be your friend; they use you for stuff and then make you pay them back; they steal cars; they do drugs" (RESOLVE & CS/RESORS Consulting, Ltd. 2004).

Since the hypothetical course of events that would have taken place for those children who were dissuaded from engaging in the sex trade is indeterminate, another research question is posed: What is the cost avoidance in terms of the potential demand on public resources to provide services to these youth if they had eventually engaged in prostitution? The implications of Ndaawin's success are that, because the children were helped, the government will likely avoid fiscal costs in the areas of health, the justice system, and other social services, including a lifetime dependence on income assistance. This is the fiscal consequence of the labour market effects. A prevention agenda may potentially alter a youth's life path after the government has made social investments in such proactive programs. In the current study, a comparison is made of a range of fiscal costs expended as a policy reaction to the social outcome from an individual's entry into prostitution, such as harm reduction programs, with the public funding allocated to a prevention program. The latter provides services to youth whose lives may be enhanced by a successful diversion from prostitution.

4.2 The Literature

The Canadian research on youth in the sex trade mostly spans the past few decades, and it resonates with an extensive sociological literature, which explores various conceptualizations of prostitution, such as delinquency versus exploitation (Badgley 1984; Bittle 2002; Bramly et al. 1998). Many research initiatives have contributed to the debate on the risk factors that bring youth to the sex trade and the

consequences from involvement in this lifestyle. These pragmatic efforts have influenced innovative social policies (Kingsley and Mark 2000; Social Planning Council of Winnipeg 2002). A range of published reports identify a close correlation between conditions of vulnerability and entry into the sex trade, though the literature diverges in its degree of emphasis on these variables and on the extent to which they may overlap (Benoit and Millar 2001; Bittle 2002; Kingsley and Mark 2000; Shaver 1996; Tutty and Nixon 2003). Some commonalities include:

- a young age and female;
- premature departure from the family home or other care arrangements;
- peer influences, including substance misuse;
- a history of various forms of child abuse;
- a low level of formal education;
- poor job prospects and a difficult financial situation;
- few community supports, thus little reasonable expectation of better alternatives;
- an Aboriginal heritage and family poverty.

Other government steered research, such as the 1984 Badgley Committee Report (Badgley 1984) and, more recently, Benoit and Millar's (2001) study of sex trade workers in British Columbia have expanded our knowledge base by capturing more reliable prevalence statistics on larger samples of those who engage in the sex trade[79]. Moreover, recent qualitative analysis has focused on 'hearing the voices' of

[79] The Badgley Committee interviewed 229 juvenile prostitutes. Benoit and Millar (2001) surveyed 147 current and 54 former sex trade workers in British Columbia. Though their sample includes males (20%), several of the latter's statistics on sex trade workers' characteristics (education, etc.), as well as

exploited youth in detailed accounts of their life experiences (Gorkoff and Runner 2003). This literature informs us that the progressive relationship between expensive addictions and sex work is closely linked (Downe with Ashley-Mika 2003). Thus, youth prostitution is not typically viewed as a labour market with lucrative lifetime career opportunities, as individuals become intensely burned out from a variety of factors – drugs, illness, violence (Busby et al. 2002; Downe 2003; Gorkoff and Runner 2003; McIntyre 2002; McKeganey and Barnard 1996).

At some point, most individuals wish to exit the sex trade. However, the majority will lack the education, training and, in particular, the stable physical and mental health required to integrate into the mainstream labour market (Benoit and Millar 2001). Thus, for most youth, this work is a temporary life experience, but potentially involving a permanent impact on government and community support services. Moreover, there are intergenerational fiscal effects from youth engagement in the sex trade as it pertains to child apprehensions by child protection authorities. The Girl Child Study of sex trade workers (a project of the Status of Women Canada) found that one-third gave birth to some of their children while they were street-based sex trade workers. All were under the age 18 and, of these women, 60% did not have custody of their children (Busby et al. 2002; Tutty and Nixon 2003).

Despite a significant body of qualitative research, there is a clear gap in the literature on prevalence and frequency statistics relating to the sex trade worker's access to public resources, and neither have any studies tracked the participation patterns of former sex trade workers in the mainstream labour force. For instance, do

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the prevalence of certain health conditions (Hepatitis C, HIV/AIDS, depression, etc.) were comparable to the current study's findings. These figures are reported in Tables 1-4.

these individuals leave the sex trade with adequate physical and mental health capacities needed to deal with the demands of working at a legitimate job? Do they leave with adequate coping skills to parent their children effectively? There is little information about the potential for exited prostitutes to rely exclusively on income assistance programs and other government services once they leave this lifestyle, which has significant consequences for public policy[80].

4.3 Research Methodology and the Participants: How they were Chosen

Though economists have contributed little to this literature, the tools of economic cost analysis can help to estimate the fiscal effects of using social services. Since a strategy was considered necessary to respond to the impracticalities of projecting future outcomes for the Aboriginal youth who had received the Ndaawin intervention, an alternative method involved gathering data on the life histories of another comparison group. We could draw on the experiences of individuals who themselves had been involved in the sex trade for a period. Around 40% of informants were contacted through the Transition, Education and Resources for Females (TERF) program at the New Directions for Children, Youth, Adults and Families agency in Winnipeg. This life-skills program assists individuals who want to exit the sex trade. The former TERF clients signed a consent form giving permission

[80] Indeed, some individuals never permanently make the transition into mainstream society, though this group represents a small minority of sex trade workers. Most individuals burn out from drugs, violence and illness within a decade after the initial entry (Gorkoff and Runner 2003). However, the current study gathered evidence that the affliction of physical and mental health conditions determines the level of service utilization as opposed to age or length of time in the sex trade. For instance, the one-time sharing of a needle is all it takes to contract the HIV/AIDS virus, whether the individual is engaged in the sex trade for six months or twenty years.

for a review of their file at New Directions, which served as a crosschecking technique on demographics and reported events (e.g. year of exit from prostitution, access to social assistance, etc.). Other former sex trade workers heard about the study at a variety of service provider agencies in the community. All participants had to be at least age 18[81].

A twenty-question survey gathered demographics and data on the respondent's income from legitimate sources, education, training, detailed employment activities (including their first paid job as an adolescent) and, in particular, the role of health conditions in their reintegration into the mainstream labour market. Data was collected on the extent of drug and alcohol use prior to engaging in the sex trade. Sixty-two respondents agreed to participate in this survey[82]. Since there are an estimated 400-600 street-based sex trade workers in Winnipeg who are primarily youth (Manitoba Child and Youth Secretariat 1996; Social Planning Council of Winnipeg 2002), this sample represents 10.3% to 15.5% of the population of visible prostitutes in the region. This sample also provided key information on the extent of the former sex trade workers' dependence on income assistance over their lifetime, primarily attributed to physical and mental health conditions. As noted

[81] For the purposes of the current study, the terms youth and women are used interchangeably. An individual is considered a youth up to age 24, according to the United Nations definition (Kingsley and Mark 2000). The majority of respondents began working in the sex trade as adolescents, however, their engagement in this lifestyle continued well into their adult years.

[82] The requirement was that the individual had transitioned into mainstream society for at least one year. However, approximately four years was the average length of time that the sixty-two participants were out of the sex trade. In the development stages of the study, the expectation was that the sample would be skewed towards those who had recently exited, since there was a good chance that these potential participants were still in contact with the TERF program staff that assisted in recruiting individuals. Though the ideal situation was to interview women who had been out of the sex trade for a much longer period, the one-year mark gave an idea of the fiscal costs involved in transitioning into mainstream society.

earlier, this data is not available in the current prostitution research in the fields of sociology or economics.

A subsample of eight former TERF clients agreed to participate in a semi-structured case study interview, which collected detailed data on the participants' utilization of health and social services, contacts with the justice system, violent incidents while engaging in the sex trade and treatments related to addictions[83]. Since the average period since exiting prostitution for this subsample is 5.7 years (Table 2), and these individuals have achieved stability in their lives, it can be reasonably assumed that they have made a final transition into mainstream society.

The demographics and prevalence statistics for both groups are listed in Tables 1-4. The majority of the participants had experienced disruption in their family of origin making them appropriate candidates for a preventive strategy. Likewise, in Benoit and Millar's (2001) study, less than 20% of prostitutes had family stability in their early years, which forced many individuals to be self-sufficient at a young age (p.28). As youth, the participants of the current study also had few personal support networks, and neither did they have adequate role models. The majority were encouraged by members of their social group to use alcohol and drugs at a very

[83] Resources were not available to collect such detailed data for all sixty-two participants. The sample size will be specified throughout the text. The interview instruments and reviews of the participants' files at TERF received approval from the Joint-Faculty Research Ethics Board at the University of Manitoba. The case study sample is a non-random one of transitioned sex trade workers from the TERF program. Since individuals had to recollect their experiences during often-violent periods in their lives, human ethics concerns deemed appropriate the recruitment of former TERF clients only. Many of these respondents have received a good deal of counseling since leaving the sex trade. In terms of public resources, there was no great diversity of experiences in the types of services utilized by sex trade workers. There was sufficient variation in the sample concerning the level of services utilized and, consequently, the total dollar value for each participant. However, as elaborated on in the methodological limitations section, the findings of this study are qualified, in terms of generalizing the results to the population of sex trade workers in Winnipeg, until future research with larger and representative samples can establish their accuracy.

young age. Friends and relatives who were already engaging in prostitution recruited several participants into prostitution. The lure of fast money (and the misconceived notion of good money) tends to glamorize this lifestyle, in particular, for socially and economically marginalized women, such as Aboriginals, who are the most vulnerable to being drawn into making these personal choices (Nixon and Tutty 2003; Gorkoff and Runner 2003).

In the current paper, the focus is on reporting the results from the fiscal perspective and thus for the eight case study interview participants only. The exception is the data listed Tables 1-4, which reports the general demographics of the full sample (n=62 participants) for comparative purposes. Using the total sample may provide a better approximation of demographic estimates for the population of sex trade workers.

4.4 The Cost Categories and Estimation Methods

From the literature review, the cost categories were established based on the major risk factors for individual patterns of behavior that potentially generate high access to public services, such as addictions. Within this conceptual framework, the cost analysis is separated into two stages of the lifecycle, the period over which an individual is engaged in sex trade work, typically starting in the adolescent years, and the period following the final transition into mainstream life. The cost categories vary between these two periods, thus requiring separate analysis. An outline of the organizational structure of the paper and the potentially quantifiable variables is

provided in Figure 1 below. This diagram is the main tool guiding the subsequent sections of the essay that deal with specific cost estimation.

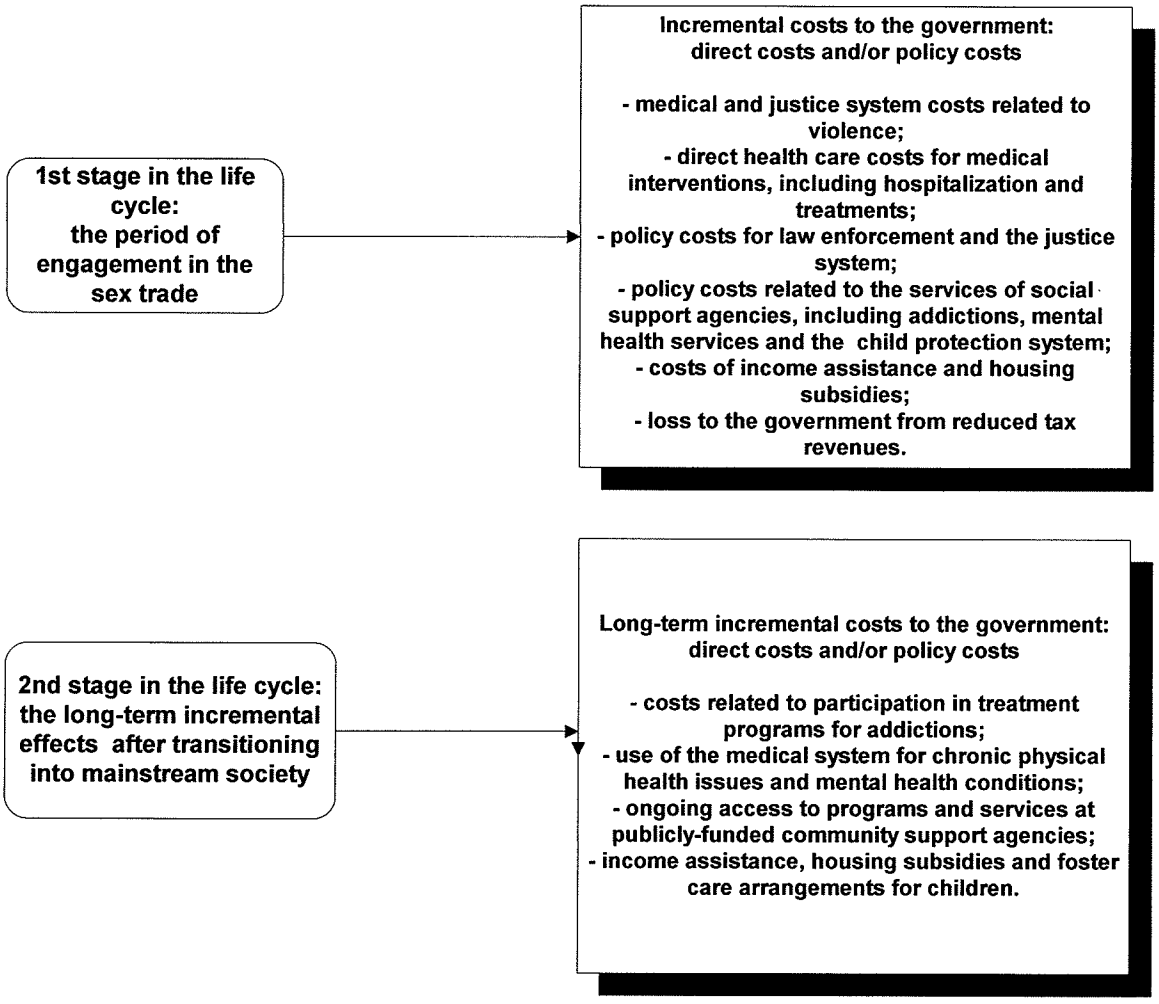
It is common practice to categorize economic costs or opportunity costs related to the use of society's available resources, into direct, indirect and intangible costs[84] (Canada: Treasury Board 1998; Levin and McEwan 2001; Nas 1996). This paper examines the direct fiscal expenditures, which involve actual funds expended on goods and services, such as prescription drugs, health care services and for the provision of support services by publicly funded community agencies. An incremental effects approach requires an accounting of the use of public services only, which is directly or indirectly related to the participants' involvement in the sex trade.

The literature review determined that the economic costs of government-funded programs fall into two broad categories:

- The government incurs most of the fiscal costs in reaction to the social outcome or problem. These are typically direct costs and referred to as policy costs. Policy decisions determine this group of expenditures. Examples include harm reduction programs, such as condom distribution and needle exchange programs, detox facilities, the correctional system and transitioning or life skills programs.
- The second category involves early life intervention strategies, which may potentially alter a youth's life path by preventing the adverse event of entry into prostitution. Ndaawin is one such program.

[84] Definitions of these cost categories and other terms used in economic cost analysis are listed in Appendix C.4.1.

FIGURE 1: A SUMMARY OF THE FISCAL EFFECTS FROM YOUTH INVOLVEMENT IN PROSTITUTION



By using the data collected on the prevalence and frequency of services accessed by the eight case study informants, this permitted detailed cost calculations of the economic consequences from participation in the sex trade. In later sections, estimates are listed based on different scenarios for an array of life situations in terms of conflicts with the law, usage of the medical system, access to income assistance and housing subsidies. This permits an assessment of whether a preventive program such as Ndaawin is a practical long-term investment from the government's perspective when compared to the fiscal costs expended in reactive policy programs that provided services to the case study participants.

The interview methodology, as well as contacts with community agencies, facilitated the use of a bottom-up and incident-based approach to cost estimation. For instance, if during a given year, a respondent conveyed that she accessed a particular drop-in center 4 times per week and the agency reported that their 2003 cost is $20 per drop-in visit, then the fiscal costs were estimated at $80 per week or $4,160 for the year. However, some variables were amenable to assuming that the costs were the same for a number of years in each period. The costs of utilizing certain public services (such as an outreach van) were estimated for a typical year during the participant's engagement in the sex trade. Generally, the decision rule around uncertainty in estimating costs was to use the conservative estimate so as not to overstate the costs.

Based on the data gathered during the interview sessions, contact was made with 75 community agencies and government departments in order to request 2003

annual reports, statistical data, as well as average and marginal costs for a variety of services provided to their clients. The advantage of this approach is that the staff at these agencies has expert knowledge of their costs for the provision of services, and the costs are inflated to 2003 constant dollars[85]. Accordingly, past costs are expressed in a common monetary unit.

The limitation of using this method is that considerable trust was placed in government and community agency staff to provide accurate statistics and cost data. However, many agencies provided supporting documentation for their cost assessments. Reasonableness tests were conducted by reviewing the annual reports or published statistical data, and these documents were compared to the estimates provided by the agencies. Since some of the government departments and community agencies contacted did not fully cooperate with requests for access to information, multiple published studies or the province's budget estimates and statistical reports supplemented the analysis in these circumstances.

Several participants worked in the sex trade while they were residents of other provinces in Canada. Indeed, extension of the analysis to a Canadian context presents many challenges because costs may vary considerably across the country. In theory,

[85] Most of the agencies contacted arrange their budgets by program. To estimate the average costs per client for a particular program, the total annual budget (fixed and variable costs included) was divided by the number of clients served in the program each year, which in most cases was at maximum capacity. On average, approximately 70%-75% of the budgets were allocated to program staffing costs (salaries and benefits), and the balance was for supplies needed to keep the program running. Any insurance costs or building depreciation are excluded, since these are not real resource costs. Since most of the agencies reported that their programs operate with a lengthy waiting list (demand for services exceeds the available supply), then average costs calculated in this way are opportunity costs. Keeping in mind that this is in no way a measure of deservingness of services, the program resources expended to help the respondent could have been used in some other highly valued alternative way, for instance to help another client who was not in the sex trade. For example, if a respondent utilized individual counseling services at a community health clinic, in which demand for this service exceeded the available supply of counselors, then another client may have to wait a bit longer to be helped by a counselor whose services are considered a scarce resource. Hence, an economic cost is incurred.

the fiscal costs, such as the health and correctional systems, should be valued at market prices in the provinces in which they occurred. However, to create consistency within the analysis, the fiscal costs were estimated on the basis of market prices in the Province of Manitoba. For example, the two-month incarceration of a respondent in a correctional facility, in the City of Edmonton, was valued at the per diem rate for the Portage Women's Correctional Facility in Manitoba. This method is expected to understate fiscal costs.

For the costs that extend beyond the year 2003, and to account for price changes over time, the Treasury Board (Canada 1998) makes specific recommendations with respect to discount rates and the use of an inflation factor in the evaluation of government-funded projects. An inflation rate of 2% is applied in this study, which is an average of the Conference Board of Canada's projected Consumer Price Index from 2004 to 2020 (Hales et al. 2002). For the fiscal effects, the Treasury Board's recommends using a discount rate of 10% applied to real dollars (constant, inflation-adjusted dollars). This rate encompasses a broad social point of view of government according to the Treasury Board document. It is applied to future costs, such as social welfare payments: income assistance, housing subsidies, foster care placements for children, plus future medical costs, counseling and expenditures for addictions treatment.

4.5 Methodological Limitations

Weitzer (2000, 1999) argues that most of the research in the area of prostitution relies on "convenience samples". These are non-random and non-

representative samples of the population of sex trade workers, since they are apt to be composed of individuals who have contact with community services agencies. The most victimized or the poorest individuals may self-select into the study causing a sample bias. However, it is well documented in the literature that the world of prostitution is not very accessible to outside researchers, thus making random sampling virtually impossible. There are many barriers including ethical considerations that limit the extent to which researchers can draw on this population. Indeed, large samples are also rare (i.e. those exceeding 200 respondents). Similar barriers to access were encountered in gathering data for the current study. For these reasons, the findings and conclusions are qualified in terms of representing the wide array of experiences within the population of sex trade workers in Winnipeg. The conclusions drawn may not be generalizable to reflect the economic reality of all prostitutes in the region, though the data in Tables 1-4 show similarities to several other Canadian research efforts.

Secondly, the methodology of using personal interviews implies that the reliability of the data depends on the subjective judgments of the participants. Since the recollection of past events is a significant issue, a variety of tools managed this problem. First, a minimum of three sessions (around 1.5 hours each) were held with each case study informant, which allowed for fuller recall and checking back on personal records. The participants had access to the interview instruments in advance of the sessions. Second, the health cost estimates are reported based on the respondents' utilization of services for major health crises only, such as hospitalizations for life-threatening infections or, conversely, where reasonably

consistent behavior was expected, such as bi-annual checkups for sexually transmitted infections. For the year 2003, several participants checked back on their personal calendars to confirm their appointments with medical practitioners.

Third, to estimate the contacts with other social services, the cost calculations take account of the use of services that were accessed by the respondents on a routine basis only and where reasonable recall is the expectation, such as weekly counselling sessions. Services that were accessed sporadically are excluded. Fourth, the participants signed a consent form giving permission for a review of their file at TERF, which served as a cross-checking technique on some reported events. The conduct of these reviews provided supporting documentation of the respondents' involvement with the justice system and other social services, such as income assistance, housing subsidies and contacts with child protection services. Finally, to further enhance recollection, the participants reviewed an extensive checklist of the social services available in Winnipeg. This process helped them to remember some of their one-time contacts, such as participating in a learning assessment or a parenting course. Certain other contacts were memorable in terms of recalling their experiences, such as the number of times the participant stayed in a detox facility or a 30-day addictions treatment program. A stay in these facilities is generally for a preset number of days.

While all methodological approaches have a variety of shortcomings, the main purpose of this research is to capture a snapshot view of how cost efficient and effective Ndaawin program activities could be if they help only a few individuals, although expectations are that many youth will receive lifelong benefits from the

program initiatives. Hence, this was the rationale for the chosen conceptual framework, which involved interviews with transitioned sex trade workers. This line of enquiry had the best chance of providing evidence of the demand on society's institutions in the event that a youth is sexually exploited through prostitution. By no means will the study capture the full realm of costs. This research does manage to capture the typical costs, which may be an underestimate of the true costs, especially when broader societal effects are taken into consideration.

4.6 An Overview of the Demographics

Tables 1-3 list the demographics for the current study's full sample (n=62) with separate figures reported for the eight case study participants. Most of the prostitution research captures primarily qualitative data on family background, abuse, age of entry and years involved in the sex trade. McIntyre (2002) conducted a longitudinal study of the process of leaving prostitution. However, the analyst provides no statistical data on the education, training or employment status of the study's participants, and neither was data captured on the role of health issues in their reintegration into the mainstream.

Though it is difficult to assess whether the current study's sample is representative of the population of sex trade workers in Canada, a comparative analysis with the recent Benoit and Millar (2001) survey and other available sources provides evidence that there are not huge variations in some of the influencing characteristics that lead to a high demand on public resources.

TABLE 1: Participants' Characteristics	Mean n=8	% n=8	Mean n=62	% n=62	Comparisons with other studies in the prostitution literature and the Survey of Labour and Income Dynamics (SLID)
Age	32.75		30.1		Benoit & Millar (2001): 32 years; Cler-Cunningham & Christensen (2001): 25.9 years
Age range (in years)	26 – 46		18 – 46		Benoit & Millar (2001): 17 – 60 years; Busby et al. (2002): 18 – 36 years; Cler-Cunningham & Christensen (2001): 15 – 51 (n=183 female participants)
Aboriginal		87.5		90.3	Benoit & Millar (2001): 14.9%; Busby et al. (2002): 70% Aboriginal in Manitoba; McIntyre 2002: (Alberta) -- 26% Aboriginal; Cler-Cunningham & Christensen (2001): 31.1% (Vancouver, British Columbia)
Years of elementary and high school	8.75		8.7		Benoit & Millar (2001): median Grade 10; SLID Aboriginal women: 11 years
Completed high school or Grade 12 Equivalency Diploma (GED)		37.5		25.8	SLID Aboriginal women - 57.2%; Benoit & Millar (2001): 37.7% of exited prostitutes; 33% of Aboriginal respondents; Cler-Cunningham & Christensen (2001): 37.6% (BC); Shaver 1996: 43% not completed high school (Montreal 1991);
Received vocational or specific on-the-job training		50.0		25.8	SLID Aboriginal women: 10.6% (vocational)
Received some university or a degree		0.0		6.5	SLID Aboriginal women: 31.1%
Those not currently working for a wage (not attributed to a permanent disability)		50.0		50.1	Benoit & Millar (2001): 57.4% of exited sex trade workers are not presently working at a paid job. McIntyre (2002): no figures provided -- few respondents were employed
Respondents with a long-term chronic health problem		25.0		22.5	Not available in other Canadian studies
Respondents with work limitations** (excluding those with a long-term chronic health problem)		50.0		34.0	Not available in other Canadian studies
Currently employed		25.0		27.4	Benoit & Millar (2001): 40.9% female; SLID: 75% of Aboriginal women
Mean wages (paid in jobs after exiting the sex trade)*	$9.79/ hour		$8.77/ hour		Benoit & Millar (2001): median $11,446 per annum, which is 54.4% of earnings in the general female population; SLID Aboriginal women - mean $11.77/hour

For comparative purposes, the demographics for the case study participants (n=8) are listed separately from the sample of former sex trade workers who participated in the labour market interviews (n=62).

*Hourly wages (converted into 2003 dollars) are based on an average over a six-year panel from 1998-2003.

The author calculated the SLID figures. Since the Survey of Labour and Income Dynamics public use files do not identify the Aboriginal observations, special permission was obtained to use the internal files at the Statistics Canada: Winnipeg Research Data Centre.

** A work limitation may occur if the respondent has a sex trade related health issue, which, in her estimation, is preventing full participation in the labour market for a temporary period only.

Former sex trade workers have low education and employability, thus a higher probability of accessing social assistance, irrespective of their family heritage. For instance, though the current study's sample consists of mainly Aboriginal women, these individuals' labour market characteristics are similar to those participants in the Benoit and Millar (2001) study whose sample consists of only 14.9% Aboriginal respondents.

TABLE 2: History of Involvement in the Sex Trade	**Mean n=8**	**Mean n=62**	**Comparisons with other studies in the prostitution literature and the Survey of Labour and Income Dynamics (SLID)**
Age of entry into the sex trade	15.8	16.2	Benoit & Millar (2001): Aboriginal -- median age is 17; McCarthy (1995) – 16.3 years; McIntyre 2002: age 15; Manitoba Child and Youth Secretariat (1996) – 13 to 15 years; Badgley (1984): 50% -- < 15 yrs; Busby et al. (2002): 75% -- <16 years old.
Number of years involved	11.25	10.1	Benoit & Millar (2001): 62.5% 5+ yrs; McIntyre (2002): 6 years; Busby et al. (2002): 22.2% 6-10 years; 34.7% > 11 years; TERF program: 12 yrs (Social Planning Council of Winnipeg 2002)
Number of years since transitioning into mainstream society	5.7	3.8	N/A

Moreover, a comparison with Aboriginal women only in the Survey of Labour and Income Dynamics (SLID) from the provinces of Manitoba and Saskatchewan reveals that the SLID respondents are likely to have higher levels of schooling, with 57.2% having received a high school diploma and 75% participating in the labour market. The evidence suggests that the extent of the respondents' dependence on social assistance may be due to the social and economic marginalization brought on by their sex trade background, in contrast to their Aboriginal heritage.

TABLE 3: Family Status	Total n=8	% n=8	Total n=62	% n=62	Comparisons with other studies in the prostitution literature and the Survey of Labour and Income Dynamics (SLID)
Marital Status: - single, separated, divorced, no children in household - married or common-in-law children in household no children in household - lone parent		50.0 0.0 0.0 50.0		62.9 3.2 14.5 19.4	SLID Aboriginal women only: 33.9% 29.4% 13.9% 22.8%
Number of children born to respondents* (mean in parenthesis)	17 (2.13)		103 (1.66)		McIntyre 2002: 75% of exited sex trade workers subsequently became mothers.
Number of dependent children currently living with respondents	3		21		N/A
Number of children born to respondents and currently in other care arrangements	12		79		Benoit & Millar (2001) study --their respondents' children were at high risk of being placed in other care arrangements (no figures provided); Busby et al. (2002): 33.3% had children under age 18 and while involved in the sex trade; 60% no longer have custody of these children.
Respondents that are currently living with at least one dependent child		37.5		22.6	Benoit & Millar (2001): 42.6% exited sex trade workers.
Respondents who were involved in the child welfare system as youth: foster care, group homes or institutional care arrangements		62.5		Not Avail -able	Benoit & Millar (2001): 57.2%; Aboriginal -- at age 10: 46.7% Gorkoff and Runner (2003): 63.0%; McIntyre (2002): 60.0%
Years received income assistance in the past 6 years		62.3		65.3	SLID Aboriginal women: 15.9%; McIntyre (2002) and Benoit & Millar (2001): no available figures, but the analysts reported a significant reliance on government assistance for those not supported by relatives.

*some children are currently over age 18, and they are no longer dependents.

Nevertheless, their disadvantaged histories involving sexual abuse and poor social skills from family dysfunction may have resulted in substance misuse and the high demand on social services irrespective of engaging in prostitution. Even under these circumstances, however, a program such as Ndaawin offers a personal support system that deals with these social situations. Benefits (or cost avoidance) may accrue

even if there were a possibility that the youth would never have entered the sex trade to begin with.

4.7 The Findings: The Financial Impact of the Demand on Fiscal Resources

The interview process revealed lower lifetime productivity and damage to physical and mental health when a youth is entrenched in the lifestyle of a sex trade worker. There is a significant probability that serious addictions will engulf their lives, including intravenous drug use, which the participants attributed directly to this lifestyle. To summarize the full sample (n=62), just over two-thirds (67.7%) had either not used drugs or alcohol before the initial entry (14.5%) or they had been casual users and self-identified as not being addicted in any significant way (53.2%). Approximately one-third of the respondents had developed an addiction to alcohol or drugs prior to their involvement in the sex trade. However, once engaged in prostitution, the majority of the youth switched from alcohol and marijuana to more harmful substances, such as smoking crack or rock cocaine, crystal meth (methamphetamine) and injecting heroin or cocaine. Several respondents commented that the nature of the work and the lifestyle perpetuated the increased use of substances, as it became a coping strategy.

The remaining sections exemplify the fiscal impact of drug addiction among other sex trade related afflictions. On average, the incremental public services provided to the participants and correlated to this lifestyle exceed $0.4 million over the individual's lifetime. The government recoups the net present value of the

investment in the Ndaawin intervention strategy, totaling $761,143, if fewer than two youth are prevented from becoming involved in the sex trade[86]. Since there is evidence from the outcomes evaluation that the risks of exploitation have been reduced for some of the children who received the intervention, this means that they will likely avoid the fiscal costs that are described in this section -- health costs, criminal justice and the fiscal consequences of labour market losses (for example, lifetime dependence on income assistance), as well as the personal pain and suffering that ensues from this lifestyle.

In Figures 2 and 3, the expected financial values of service utilization is calculated based on data gathered from the case study informants on their demand for public services over two lifecycle periods. This series of fiscal estimates reveals that a prevention strategy has the potential to create cost efficiencies in terms of a long-term reduction in the demand for reactive programming. Key findings of the fiscal effects include:

1. Fiscal expenditures related to violence and the criminal justice system were incurred primarily during the period of involvement in the sex trade. The demand on the justice system following the transition was only for the purposes of clearing up legal matters related to the women's conflicts with the law in the earlier period.

[86] Although actual funding totaled $799,645, the estimated net present value of this support is $761,143. Funding was granted for each of the following fiscal years: 2001-$70,391, 2002-$169,602, 2003-$187,510, 2004-$240,174, 2005-$131,968. An inflation factor is applied to the past years' allocations and the 2004 and 2005 funding is discounted to the 2003 present value, for a total of $761,143. A more detailed financial accounting of the actual expenditures plus the in-kind contributions is provided in Appendix C.4.3.

2. A few case study respondents who had not sought treatment for addictions while engaging in the sex trade, reported that they subsequently stopped using drugs and/or alcohol on their own during the transition period. As shown in Figure 2, the fiscal costs related to violent incidents were lower for these individuals. Likewise, the incremental criminal justice, social services and medical expenditures were around 90% of the expenditures incurred for those who had sought treatment for addictions.

3. Figure 3 reveals a clear pattern in the expenditures. The diagram summarizes the lifelong incremental expenditures from having been involved in the sex trade. Compared to those women for whom addictions treatment was not required, the case study informants who had sought help for addictions had fourfold higher medical costs and 1.6 times costlier access to social support services. Similarly, there is a close correlation between addictions treatment and substantially higher mental health expenditures[87]. As stated earlier, the high probability of exacerbated addictions weighs heavily on the demand for public resources.

4. In sum, the incremental expenditures reported in Figures 2 and 3 total $3.55 million, which is approximately $444,024 per case study informant. This is a conservative estimate, as the methods used in this study likely underestimate the true incremental costs resulting from sex trade activities.

[87] Some respondents did not access treatment following the transition because they felt that it was not required for their particular circumstances. These assumptions were derived from the discussions of addictions treatment during the interviews. This does not mean that the women were not heavy users while involved in the sex trade. All case study informants acknowledged the heavy use of alcohol and/or substances. However, those individuals for whom addictions recovery did not involve access to community resources appear to have lower lifetime costs in all of the social services areas under study. Arguably, however, those who seek help are likely to be referred to other support agencies and, hence, higher expenditures are incurred.

To these expenditures, the value of tax revenues lost to the government from two sources are added:

a. Lost taxes over the period of sex trade activities: these taxes are valued at approximately 10% of potential earnings in the formal labour market, totaling $95,121. Lost tax revenues are estimated from legitimate earnings in the labour market, as opposed to illegitimate earnings from sex trade activities. This underestimates lost tax revenues to the government.

b. Lost taxes from 65 years of productivity losses due to health issues, plus an additional 39 years for which a weighted calculation of workdays lost due to disability is estimated, totaling a net present value of $91,429[88].

In the remaining sections, the specific findings for each of the fiscal cost categories are described in more detail.

[88] For this calculation, the net present value of future productivity losses is summed for each in-depth interview respondent based on projected gross earnings ($839,441) and earnings net of taxes ($748,012). Tax rates varied depending on the respondent's taxable earnings. The difference ($839,441 minus $748,012) equals the net present value of lost taxes to the government. A random effects regression model predicted the participants' future earnings (see the earlier Chapter 3 for a description of the model).

FIGURE 2: FISCAL COSTS DURING THE PERIOD OF INVOLVEMENT IN THE SEX TRADE (average fiscal costs per respondent in parentheses)

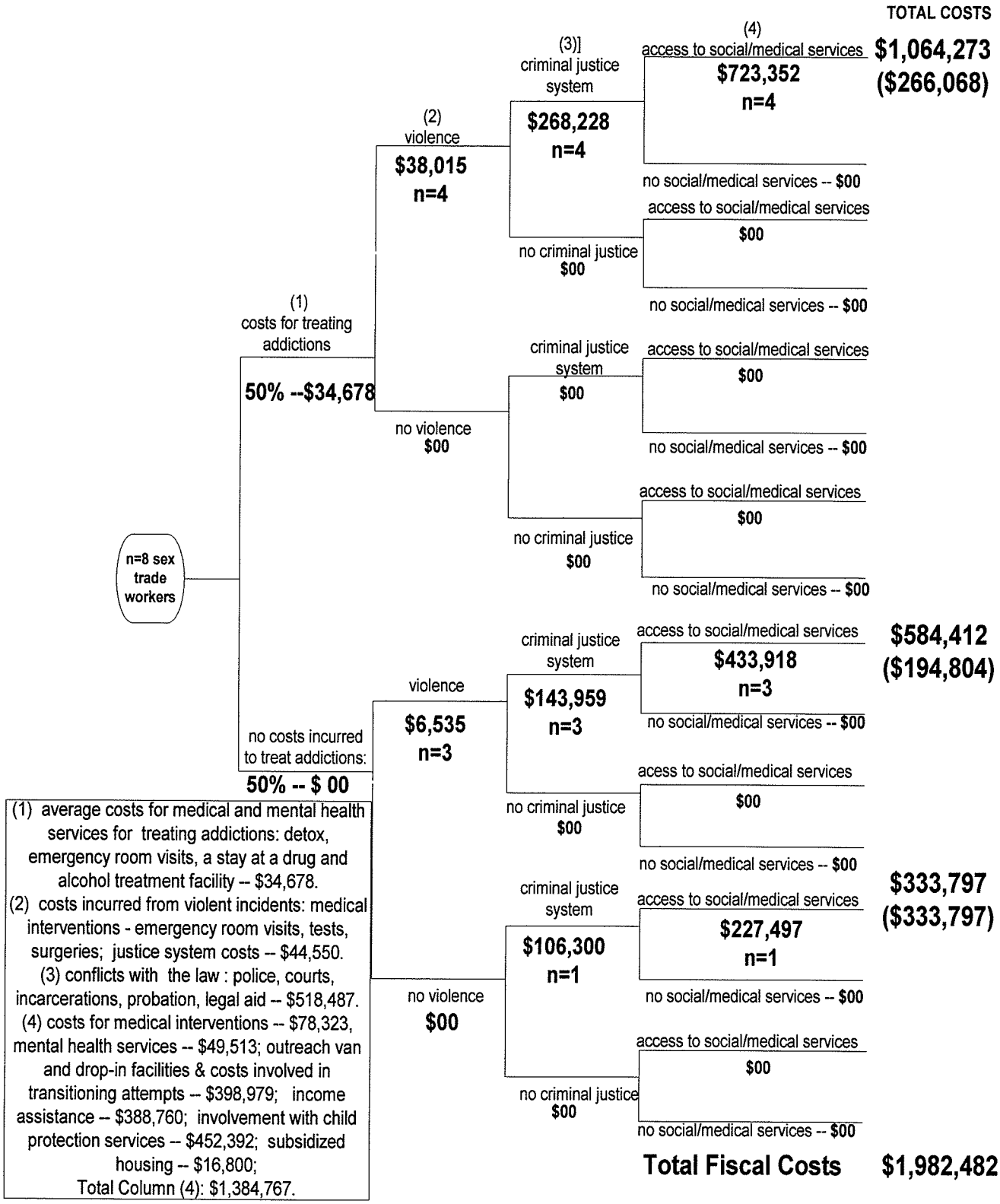
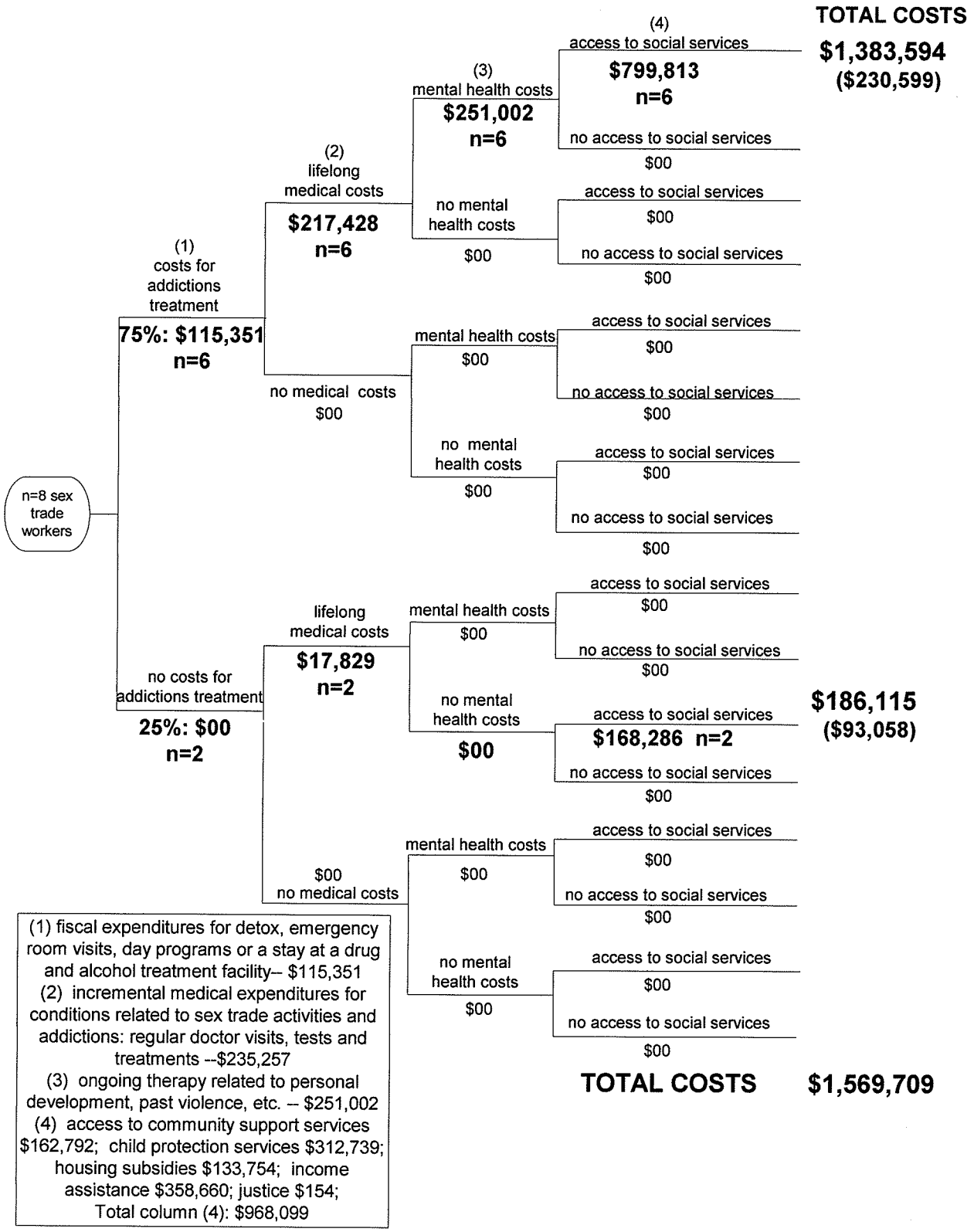


FIGURE 3: LIFELONG FISCAL COSTS FOLLOWING THE TRANSITION INTO MAINSTREAM SOCIETY

(average fiscal costs per respondent in parentheses)



(1) fiscal expenditures for detox, emergency room visits, day programs or a stay at a drug and alcohol treatment facility-- $115,351
(2) incremental medical expenditures for conditions related to sex trade activities and addictions: regular doctor visits, tests and treatments --$235,257
(3) ongoing therapy related to personal development, past violence, etc. -- $251,002
(4) access to community support services $162,792; child protection services $312,739; housing subsidies $133,754; income assistance $358,660; justice $154; Total column (4): $968,099

SUMMARY

Total incremental fiscal costs for the 8 particicipants, including lost tax revenues, for each period of the lifecycle: while the respondent was involved in the sex trade and following the transition into mainstream society -- **$3,738,741 ($467,343 per in-depth interview participant)**

Net present value of government funding allocated to Ndaawin over 5 fiscal years **$761,143**

The investment is recouped if fewer than 2 youth are prevented from becoming involved in prostitution (the average is 1.6 youth).

4.7.1 The Fiscal Costs Related to Violence in the Sex Trade: $44,550 (n=8)

In several studies, the majority of sex trade workers have reported that violence is a major occupational hazard, and the women view it as one of their biggest health threats (Benoit and Millar 2001; Downe 2003, 89; Gorkoff & Runner 2003, 19). Furthermore, prostitutes are concerned about the possibility of contracting sexually transmitted infections from the violence, including HIV/AIDS, though they view it as being "part of the life" (Downe 2003; McKeganey and Barnard 1996; Nixon and Tutty 2003).

Based on the subsample of eight case studies, fiscal costs related to violent acts occurred for 87.5% of respondents and 75% required hospitalization at least once[89]. The respondents conveyed accounts of assault and battery from bad dates and

[89] In McIntyre's (2002) study, 82% of respondents reported violence while in contact with a customer.

pimps[90], rape, being attacked by a gang or other street-involved individuals, kidnapping, a gun held to the head, pulled hair, as well as being kicked, slapped and punched in the face. Many physical injuries requiring medical attention were sustained, such as fractured ribs, a dislocated jaw, major trauma to the head, a broken wrist, ankle and toes, a dislocated finger, lacerations to an eyebrow or lips requiring stitches, black eyes, patches of hair pulled from the head and countless bruises.

The frequency of violence while engaging in the sex trade and from other street-involved persons, though not always requiring access to public services, ranged from one incident for the entire period of involvement in the sex trade to an estimate of three times per week on average. Indeed those who were street-involved met with the majority of violent acts. The range of service utilization, representing 68% of the fiscal costs, included the medical system, such as treating wounds at a drop-in centre, accessing a nurse practitioner, a psychiatrist, medications, hospitalization, emergency services for stitches and a rape kit. Doctors' and surgeons' fees were paid out for day surgery and to repair broken bones[91]. Other expenditures (32%) included police interrogations, investigations, court hearings, trials and meetings with crown attorneys. Some assaults relating to bad dates or violent pimps were investigated and

[90] The participants identified a complex array of personal relationships with boyfriends that were drug dealers and pimps but, essentially, the latter were knowingly living off the avails of prostitution. Thus, in this report, these partners are referred to as pimps. Seven of the eight respondents reported daily abuse, both physical and mental abuse from their partners, often over a period spanning several years.

[91] The costs for visits with medical professionals, such as general practice physicians or psychiatrists, were obtained directly from the Manitoba Health Physician's Manual, which provides a list of the billing tariffs.
(available online at: http://www.gov.mb.ca/health/documents/physmanual.pdf). The 1999 Cost List for Manitoba Health Services provided a secondary source for estimating the costs of procedures, such as day surgery (Jacobs et al. 1999). The respondents were admitted to three hospitals in Winnipeg: the Health Sciences Centre, St. Boniface Hospital and Seven Oaks Hospital. The per diem rates for the latter are $1,150, $1,060 and $685, respectively. These three hospitals' outpatient billing rate to Manitoba Health is $153 per visit and day surgery is $400. This cost data was obtained from staff at the Manitoba Health: Insured Benefits Program, which sets the rates for all health services in the province.

prosecuted[92]. The absolute minimum fiscal expenditures for the scenarios that the case study participants could recall totaled $44,550.

For the majority of incidents, the youth simply returned to work immediately after an assault, partly from a fear of apprehension by child protection authorities. Many respondents reported that illicit drugs generally stultified the emotional pain and suffering. Nevertheless, violence may account for the high prevalence rates of depression, the intensification of anxiety and post-traumatic emotional distress, and the ongoing battle with addictions reported in Table 4 below.

4.7.2 Health Care Costs

Costs incurred while involved in the sex trade	Costs incurred after exiting the sex trade	Total Costs (n=8 case studies)
$78,323 (Figure 2 – Column 4)	**$235,257** (Figure 3 – Column 2)	**$313,580**

Research on prostitution has traditionally focused on two major health issues that have been associated with sex trade activities: HIV/AIDS and the Hepatitis C virus (Downe 2003). From the labour market interviews, the full sample of sixty-two study participants provided data on the role of health issues in the prostitute's reintegration into mainstream society. The findings, as listed in Table 4, reveal that the aforementioned conditions are only a few of a wide range of health-related issues that are afflicted on former sex trade workers and, in particular, which prevents full participation in mainstream society.

[92] The costs of penalties for the perpetrators of violence against the respondents are excluded. These individuals may have also made use of the legal aid system. During the interview process, the issue of violence was understandably a sensitive topic for some respondents, thus limiting the extent to which the investigator could gather complete data in this area. Therefore, these costs are a minimal estimate.

TABLE 4: The prevalence rates of various health conditions reported by former sex trade workers	Current study: Case study subsample n=8 %	Current study: Full sample n=62 %	Prevalence rates in other Canadian research on prostitution
Hepatitis C*	50.0	29.0	Benoit & Millar (2001): 35.2% of exited workers; Downe (2003): no prevalence figures reported, though this was a significant health issue for the respondents.
HIV/AIDS*	Not available	4.8	Benoit & Millar (2001) -- 3.125%; Health Canada (2001) - HIV Incidence: 1% in a Montreal youth study to 36.8% in a Vancouver study
Depression*	37.5	35.5	**Benoit & Millar (2001): 48.1% of exited prostitutes; Aboriginal 30.7% (also includes those who are still working in the sex trade); Downe (2003): no reported figures, but many accounts of depression among the respondents.
Anxiety attacks and emotional trauma*	62.5	58.1	Benoit & Millar (2001): 51.9% & 53.7% respectively, exited workers
Ongoing addictions issues (related to persisting struggles with alcohol and illicit drugs)*	75.0	75.8	Benoit & Millar (2001): 30.8% injected heroin in the last 6 mos; 20.8% exited used crack in the past 6 mos; 17% exited used heroin; Downe (2003): no prevalence figures reported, though many respondents identified addictions as a health issue.
Learning disabilities, due to heavy use of illicit drugs*	12.5	4.8	N/A
Chronic fatigue*	12.5	6.5	Benoit & Millar (2001): 12.9%; Downe (2003): approx.50% -- generalized fatigue
Ever had an abortion	50.0	Not available	Benoit & Millar (2001): 52.8%
Ever had a sexually transmitted infection	50.0	Not available	Benoit & Millar (2001): 54.2%; multiple infections -- 57.8% MacDonald et al. (1994): 68.0%
Ever had Gonorrhea ***	37.5	Not available	Benoit & Millar (2001): 33.8%
Ever had Chlamydia ***	50.0	Not available	Benoit & Millar (2001): 36.3%
Ever had Syphilis ***	37.5	Not available	Benoit & Millar (2001): 22.9%

* Since the labour market interviews gathered data on the role of physical and mental health issues in the former sex trade worker's reintegration into the mainstream labour market, this health information was collected from the full sample of participants (n=62). A minority of participants has a health issue but did not identify it (around 10%) and others may have reported more than one condition (53.2%). The figure of 58.1% for anxiety attacks/emotional trauma incurred by the sixty-two respondents is an estimate based on discussions during the semi-structured interview sessions pertaining to the lack of participation in the labour market.

** Statistics Canada (2000) reported that 6% of females had an incident of depression in 1996/97 (cited in Benoit and Millar 2001, 68).

*** In the general population, the prevalence of these sexually transmitted infections is below 1%: Gonorrhea (.068%), Chlamydia (.97%) and Syphilis (.0004%) (Statistics Canada 2000; also see Downe 2003).

The far right column shows comparisons with other recent literature. For many conditions, which may involve a sustained demand on public resources, the prevalence rates are similar to Benoit and Millar's (2001) study. There is little controversy that the sex trade is a stressful occupational choice, and a consequent hazard after transitioning is the high incidence of suffering from debilitating mental health conditions over their remaining lives (Downe 2003; Gorkoff and Runner 2003). Several of the exited respondents of the Benoit and Millar (2001) study linked their poor psychological health to having worked in the sex trade. Consistent with the current study, over half had sought treatment for a psychological issue, and not surprisingly, their poor sense of emotional well-being persists after an exit (p.70-72).

In the Girl Child study (a project of the Status of Women Canada), 47.5% of the respondents experienced extreme fatigue and sleep deprivation spanning several years over their engagement in prostitution (Downe 2003). Though youth prostitutes tend to avoid medical care while they are involved in the sex trade since they view many practitioners as judgmental and stigmatizing (Benoit & Millar 2001; Nixon and Tutty 2003), the current study's informants (n=8) reported accounts of medical emergencies where contact with the health care system was unavoidable, totaling $78,323. Such instances for conditions related to sex trade involvement only included:

- Regular visits to a clinic for sexually-transmitted infections (STI) testing and treatments; abscesses on the arm from needle use; inflammation of the feet from improper footwear; bladder and kidney infections;

- Hospitalization from life-threatening infections, due in large part to delays in seeking medical attention; pneumonia from sharing pipes; abortions; biopsies for cancerous cells on the cervix; oral thrush; tuberculosis[93];
- Hospitalization for suicide attempts, followed by visits with a psychiatrist;
- Dentist costs for an abscessed tooth, repairs to teeth and gums from heavy cocaine use and poor self-care, paid for by the government through an income maintenance program[94];
- Respondents utilized the services of medical specialists in the fields of internal medicine, psychiatry, orthopedic surgery, gastroenterology and nurse practitioners.

Not surprisingly, women leave the sex trade with tremendous physical and emotional health challenges. Moreover, the estimates of these challenges are incremental costs, which are directly or indirectly related to the individuals' engagement in the sex trade[95]. The respondents revealed that sex trade workers typically get arthritis in the hands, fingers, feet and knees from standing in cold weather for many hours, in particular, during the winter months. Years of wearing improper footwear, such as high heels, caused orthopedic problems with their feet and

[93] The cost for treating an uncomplicated and non-drug-resistant case of tuberculosis in Canada is $2,500 per treatment (1997 dollars), according to the Canadian Institute for Microbiology and Infectious Diseases (CIMID). A drug resistant case totals $330,000. An inflation factor of 2% per annum is applied to adjust these amounts to the 2003 value (Hales et al. 2002).

[94] A dentist supplied estimates of the costs of the particular dental treatments received by the respondents. For instance, an abscessed tooth will most likely require a root canal and filling, averaging around $640. Fillings for decayed teeth usually fall in the range of $80 - $200. These are also the standard recommended fees by the Manitoba Dental Association.

[95] It made no sense to compare the women's usage of the health care system to the general population and possibly even other Aboriginal citizens. Even if individuals had never entered the sex trade, the disadvantages from their earlier lives may have resulted in greater use of the medical system and other social services. Therefore, a more appropriate method was to ask the respondent to identify health care usage, which was directly or indirectly correlated with sex trade activities.

back pain. Poor nutrition, drug and alcohol misuse contributed to conditions such as acid reflux and high blood pressure, as well as intensifying other familial types of illnesses, such as asthma and diabetes. Some women were diagnosed with mental health conditions, such as post-traumatic stress and coping reactions.

Following the final transition into mainstream life, the eight case study informants accessed medical services totaling $235,257, as follows:

- Ongoing follow-up visits to physicians for conditions, such as back problems, arthritis symptoms in hands and knees, STI checkups, monitoring Hepatitis C and liver assessments and monitor depression medication;
- Respondents received free prescription drugs, paid by the government, for conditions such as acid reflux, arthritis, depression, sleep disturbances[96];
- Ongoing dental care to repair tooth decay from years of drug use;
- Medical specialists in the fields of internal medicine, psychiatry. orthopedic surgery, chiropractic care, gastroenterology, physiotherapy, and nurse practitioners[97];
- Participation in the Rebetron study for the treatment of Hepatitis C.

To preserve the anonymity of the eight case study participants, the findings for the full sample (n=62) only are reported, which is that 4.8% of respondents are HIV positive. An earlier literature review of the risk factors and prevalence of HIV in

[96] Estimating the market value of the prescription drugs required the expert advice of a pharmacist who provided the typical costs of the more popular medications for a variety of conditions. For instance, medication for acid reflux averages around $37.50 per month. Likewise, the popular medications for depression cost around $33.00 per month. A prescription for penicillin is priced at an average of $20.

[97] A community support agency supplied the hourly rate for a nurse practitioner's salary and benefits (around $30.20/hour). A visit to a chiropractor costs Manitoba Health $9 (available online at the Manitoba Chiropractors Association's website: mbchiro.org).

female prostitutes in developed countries revealed somewhat mixed and contradictory findings[98]. Some research emphasizes that HIV is largely an issue arising from contaminated needle use and so the incidence in Canada is low even when there is minimal condom use[99]. However, one 1998 Winnipeg study found that 70% of females (of the 608 injection drug users) had been paid to have sex, and 25% did not regularly use condoms with clients. Moreover, 36% had more than 500 lifetime sexual partners, a good indication that they were involved in the sex trade (City of Winnipeg 2001; Health Canada 2004).

Nevertheless, AIDS involves a significant demand on health care costs. The discounted lifetime direct costs for one episode of infection are estimated at $153,000 (Albert and Williams 1997). There is also the possibility (albeit low) that the sex trade worker could transmit HIV to johns. For instance, public health authorities have stated that, during 1998, in Vancouver, sexual contact with prostitutes may have afflicted eight heterosexual men with the HIV infection (Aids Vancouver 2002: 13).

The Hepatitis C virus, contracted by 29% of this study's respondents (n=62), is another alarming health threat of epidemic proportions. In the Benoit and Millar

[98] There are disparities in HIV prevalence rates found in the studies of the Health Canada: 2001 HIV incidence report. The prevalence of HIV varies from 0.95% in a B.C. HIV testing clinic to 16.4% in an Ottawa program. Both statistics apply to non-injection drug users (non-IDU). For the prostitution cohort who also injects drugs, the prevalence of HIV was much higher: 1% in a Montreal street-youth study to 36.8% in a Vancouver study. The Benoit and Millar (2001) study in British Columbia found that 5 of the 160 female respondents (3.125%) were HIV positive. However, the researchers attributed the contraction of HIV to injection drug use (as opposed to sex trade activity). One respondent believes that she had contracted HIV through heterosexual contact with a high-risk romantic partner and not the sex trade (p.74). These conclusions are consistent with other studies, such as Jackson and Highcrest (1996) (cited in Bittle 2002). Injection drug use, sharing needles and sexual contact with high-risk boyfriends are the major transmitters of HIV (Downe 2003), although there is considerable overlap between these variables and sex trade activities.

[99] In some literature, emphasis is on the regular physical assaults afflicted on sex workers and not HIV as the biggest health threat (McKeganey and Barnard 1996). Although, in the Girl Child Project, the respondents associated the assaults with other health problems, such as HIV/AIDS, the hepatitis viruses and their substance abuse (Downe 2003).

(2001) study, approximately one-third of the respondents had contracted Hepatitis C. However, this affliction (and the HIV virus) was attributed to injection drug use (p.81-82). But again, we must consider that several risk behaviors are interconnected for women involved in prostitution and the overlap with injection drug use is often part of the lifestyle. In the Cler-Cunningham and Christensen (2001) study, 80% of female injection drug users worked in the sex trade. Thus, a prevention measure, which dissuades youth from engaging in prostitution, an activity that is co-determinate with drug use, may be a cost effective strategy (see the earlier discussion of the children's comments on what they learned at Ndaawin about drugs and prostitution).

Approximately 85% of Hepatitis C cases will become a chronic illness, causing liver problems, such as cirrhosis, cancer and liver failure (Health Canada 1999, cited in Benoit and Millar 2001). Treating Hepatitis C with the Rebetron medication may cost up to $30,000 for one individual. A liver transplant costs $250,000 in total (Health Canada. Canada's Drug Strategy 2001), though it is improbable that this would be an option for the participants in this study – or most others.

Based on the HIV prevalence estimates in the current study and other research, if a reasonable assumption is that 3% of prostitutes are HIV positive, and there are 500 street-based youth sex trade workers in Winnipeg, this illness could eventually cost the local health care system approximately $2.3 million dollars in direct expenditures. Savings in this area could potentially fund around 12 years of Ndaawin operations or similar prevention activities. Likewise, for Hepatitis C, 25%

of the case study respondents participated in the Rebetron study at an average cost of $25,000 per person. An assumption that 30% of 500 youth sex trade workers in Winnipeg are afflicted with Hepatitis C, with 25.0% requiring Rebetron or a similar treatment, yields a total cost of 38 individuals times $25,000 = $950,000. This could pay for five years of Ndaawin's operations.

Although the consequent health care utilization ought to concern policymakers, the long-term ramifications of these illnesses are their potential for displacing former sex trade workers away from the legitimate labour market. As these conditions exacerbate fatigue and feelings of ill health, the current study's participants experienced physical constraints and depression, which prevented them from working at a job. Thus, these women are apt to depend on social assistance, which is readily available to those who qualify as having physical and mental health limitations. For the full sample (n=62) in the current study, 22.5% of the participants receive disability funding from welfare agencies primarily due to the hepatitis or HIV/AIDS conditions. There is no requirement that they find a paid job in the labour market. The net present value of the government assistance that will be funded to the participants until age 65 totals $1,154,818 (based on 2003 rates)[100]. These individuals will have lost 455 full-time equivalent years in the legitimate labour market from chronic illness. These welfare funds would also cover around 6 years of funding to Ndaawin or a similar prevention strategy.

[100] A 2% inflation factor (Hales et al. 2002) and a social discount rate of 10% is projected (Canada: Treasury Board 1998). The calculated value of $1,154,818 is not included in Figures 2 and 3, which pertains to the eight case study informants only.

4.7.3 The Policing, Justice and Corrections Systems

Cost Category	Costs incurred while involved in the sex trade	Costs incurred after exiting the sex trade	Total Costs n=8 participants
Police	$146,625	$0	$146,625
Courts	$29,483	$632	$30,115
Legal Aid	$30,804	$0	$30,804
Incarceration	$292,328	$0	$292,328
Community Services (Probation/Parole)	$19,247	$0	$19,247
Cost Recoveries		-$478	-$478
Total Costs	**$518,487** Figure 2 – Column 3	**$154** Figure 3 – Column 4	**$518,641**

A further gap in the research is the lack of prevalence and frequency data on the sex trade worker's conflicts with the law and the fiscal processes in their resolution. This part of the interview required detailed recollection of their experiences during a period in which the women were often heavily addicted to substances, though data recorded in the TERF files provided a secondary source of confirmation for several convictions[101].

The majority of the offences and charges occurred throughout the period of engagement in the sex trade. The demand on the justice system following the participants' transition into the mainstream was only for the purposes of clearing up outstanding charges related to their conflicts with the law during the earlier period.

[101] The ideal methodology would have been to access the respondents' charges for offences through justice sources. However, requests for consent to gain access to the participants' private information resulted in none of the women expressing willingness to access personal information of this nature for the purposes of this study (see the in-depth interview instrument for the method of requesting the information).

The eight case study informants' recollections plus the TERF files accounted for 132 charges for the following offences:

- communicating for the purposes of prostitution: 42 charges;
- possession of stolen goods; shoplifting; theft under $1000: 10 charges;
- break & enter: 4 charges;
- uttering threats & public mischief: 2 charges;
- impersonation; fraud, including bad checks & stolen I.D: 6 charges;
- assault, including with a weapon; assaulting a peace officer: 7 charges;
- trafficking/possession of narcotics: 1 charge;
- failure to appear in court; failure to comply breaches; breach of probation: 55 charges;
- robbery, including with violence; armed robbery: 5 charges.

Only one of the eight case study participants, with a minor summary conviction, was not involved with the justice system in any significant way. When asked about the influence of sex trade activities on an individual's involvement in non-prostitution related crimes, the other seven women reported an integral connection between their other crimes and sex trade activities, as well being addictions-related[102]. The women said that they would not have been involved with the law had it not been for their entrenchment in the criminal economy, including their relationships with pimps who were often drug dealers. Moreover, growing addictions typically played a significant role in crimes such as shoplifting, break and enter, as well as trafficking and possession of narcotics. One respondent reported that, like prostitution, these activities were just another way to make money. This suggests

[102] Any charges not related to the respondent's involvement in prostitution are excluded from the analysis.

that the consequent fiscal costs were avoidable. There is the potential for cost savings in the area of justice by helping at risk or vulnerable children to avoid engaging in drug use, gang activity and the sex trade.

Policy costs consist of five categories of direct expenditures: policing, courts, legal aid, incarcerations and community supervision. First, there is the cost of arrest, apprehension and formal investigation by police. The eight participants recalled being processed through the policing system in 70 apprehensions. These yield a total cost of $146,625. For the prostitution related offences, these expenditures are based on the average costs for six staff members in the morals unit of the Winnipeg Police Service[103]. A conservative allowance is included for overhead expenditures for activities related to the prevention and monitoring of prostitution cases. There are overhead costs for ongoing training of police officers in the sex crimes and morals units in sensitivity and cross-cultural awareness. In recent years, substantial costs are incurred in the criminal justice system for their efforts directed at pimps, businesses that facilitate sex trade activities and individuals who buy sex from prostitutes. There is also a cost to conducting regular sweeps of johns (Social Planning Council 2002: 11).

[103] The average staff salaries for the six police officers employed by the Winnipeg Police Service Morals Unit, plus a conservative 10% overhead factor, totals $537,338 per annum. According to the Treasury of Board Canada's: Benefit-Cost Analysis Guide, excluding overhead costs may understate the true costs of an arrest. This figure divided by 205 arrests in the Morals Unit during 2003 equals an average cost of $2,621 per communicating charge. Presumably, this figure is also the marginal cost, since 205 arrests is close to the maximum capacity in a given year due to limited staffing resources (for example, in 2000, the unit made a comparable 231 arrests suggesting that this encompasses the full use of policing resources in the unit). Thus, if the respondent is arrested on a communicating charge, the Morals Unit forgoes the possibility of making another arrest. An opportunity cost is incurred. For any other charges, the police service's total budget is divided by the number of charges for 2003 (average cost: $118,902,488/78,701= $1,511 per charge).

These figures do not include the cost of vehicle seizure and impounding, when used in sex trade related offenses. There are also the costs incurred for the Prostitution Diversion Program. This is excluded from the analysis, since the government is not responsible for paying these costs, because the johns are required to pay a fee of $400 to attend the program. This fee also covers the expenditures for the Prostitution Diversion Program, which is specifically directed at the sex trade workers (Social Planning Council of Winnipeg 2002: 33; City of Winnipeg 2001: 18).

Participants made 70 court appearances mostly in the provincial court system. Typically, a judge only heard the case in one hearing and there was usually an immediate guilty plea. The estimated cost of a court session in the provincial division of $218.75 involves the time of crown attorneys and judges, court clerks and sheriffs officers. In only a few complex cases, such as robbery, a trial took place in the Court of Queen's Bench. Witnesses appeared in court, including attendance by police officers. The staff at Manitoba Justice has stated that court costs are incurred even when an offender fails to appear in court to face their charges. There were 47 accounts of these occurrences. Court costs totaled $30,115.

Corrections and community supervision consist of the following cost categories (per diem in parentheses[104]):

- Following an arrest, there were direct costs of incarceration, usually between 1 night and 7 days in remand or a detention centre while awaiting a court appearance. A stay in remand may occur if the individual cannot make bail or if

[104] The current per diem rates for the Portage Women's Correctional Facility, Winnipeg Remand Centre and Manitoba Youth Centre were obtained from administrative staff at Manitoba Justice. The daily cost of holding an offender in a federal prison is $234.65. These figures are consistent with the Adult Correctional Services in Canada 2002/2003 statistics (Canadian Centre for Justice 2004).

the judge denies bail. The respondents were placed in remand 20 times ($135.96 per day);

- The costs are substantial for holding an inmate in the Portage Women's Correctional Facility ($159.90 per day) or Manitoba Youth Centre ($252.71 per day). The 42 convictions for charges of communicating for the purposes of prostitution resulted in seven jail sentences (approximately 16.7%), although there were some ambiguities for a few incarcerations because they were imposed for a combination of charges. The incarceration rate was lower than the 39% reported in Busby (2003) for women convicted of prostitution-related offences (p.103) and closer to the Davis (1995) findings of 13.6%. Atchinson et al. (1998) also reported that, in Vancouver between 1991 and 1995, 29% of convicted prostitutes were jailed (cited in Weitzer 1999). In the current study, ninety other charges led to nine incarcerations in a women's correctional facility or a youth detention centre.

Since the case study respondents accounted for time spent incarcerated in days, weeks or months, the fiscal costs are based on per diem rates, totaling $292,328. This figure comprises the sum of 177 days in remand[105], 161 days at a youth detention centre and 1,423 days in a women's correctional facility. Since the sex trade worker is likely to return to the street, there is a cycle of arrest, court appearances, incarceration, and parole or probation.

The costs of release involve the probation system. The women received probation 18 times for a total of 26.33 years (documented in the TERF files). Total costs equaled $19,247. Community supervision estimates approximate $767 per year

[105] A few of the women served shorter sentences entirely in remand. Most of the incarcerations were for lengthier periods, for example, two years for robbery or six months for breaches, etc., thus not entailing an excessive demand on memory recall.

for each case requiring minimal supervision (estimated at one contact per month), which was the situation for the majority of respondents[106]. One child abuse report calculated the supervision costs at $13,000/year per person (Bowlus et al. 2002: 71), though this is likely too high a value for the respondents of the current study who required minimal supervision.

The probability was high that a respondent accessed the services of a legal aid lawyer. For 98 percent of the charges related to the above-noted offences, the participants reported that they made use of the services of legal aid counsel, including duty counsel at a court session. The Legal Aid Services Society of Manitoba publishes an annual report of detailed statistical information relating to service statistics, total fees and disbursements by type of case, as well as the average cost per case. Seven of eight case study respondents used the services of legal aid counsel 64 times for a total cost of $30,804 (average cost $481 per case).

There are further intangible societal and fiscal effects from the sex trade worker's conflicts with the law, such as the costs borne by her children. There is a possibility that a prostitute's children will be exposed to a crime culture, including gang activity, which may also expose them to various forms of victimization themselves, including becoming offenders. However, if the children move on to a life of conflict with the law, there is a further inter-generational call upon social services and the criminal justice system (the next section covers apprehensions by child protection authorities). These costs, in turn, can be considerable. In the publication "Jack's Troubled Career: The Costs to Society of a Young Person in Trouble",

[106] These costs were based on the average hourly wage and benefits of a probation officer, as well as annual caseloads, which was obtained from management staff at the community supervision department.

Hepworth (2001) has attempted to capture the costs of these intergenerational effects on the criminal justice system and other social services, which may run as high as $511,500 per child. If abused, children have a higher probability of lower academic achievements and school dropout. Repeating grades is 2.5 times more likely to occur for abused than for non-abused children. They have low self-esteem, depression, anxiety and later on, a higher likelihood of going through the juvenile justice system (Bowlus et al. 2002: 26-30; 33-34). One Ontario report stated that, "victims of child abuse are ten times more likely than other children to commit offences as adolescents" (cited in Mallea 1999: 17-18). In Manitoba, the correctional system costs for youth are formidable at $92,239 per year.

It is also important to keep in mind that prostitution is an economic exchange – there is supply and demand. The current study emphasizes the costs related to the supply side. However, there are also distributional issues within the families of those who buy sex from prostitutes, as there is the possibility that scarce financial resources of the family are drained on such activities. The value of the fiscal effects is indeterminate.

Finally, the fiscal costs for the eight case study respondents are offset slightly by the value of fines that were imposed by the courts, totaling $1,675, of which 71.5% was paid off by working 210 volunteer hours in the community ($1,197). The volunteer work is of beneficial value to the community from a societal perspective and not the fiscal viewpoint. The difference, which was paid directly to the courts, reduces the fiscal costs by $478.

4.7.4 The Community's Viewpoint: The Fiscal Effects of the Demand on Community Social Services

This section examines the participants' involvement with social services agencies, such as child protection services, the employment and income assistance agencies, as well as publicly funded community support organizations. Appendix C.4.2 lists the social service agencies contacted by the respondents within the Province of Manitoba.

Over the past decade, many obstacles that had previously prevented women from leaving the sex trade have been removed with the implementation a wide range of supports to help individuals who are contemplating an exit from prostitution. Recent program initiatives include transitioning programs, vocational training, 24-hour drop-in centers and assistance in finding subsidized housing. Though these services are often fragmented and poorly funded, a consensus is that the state must finance them, since not doing so will simply exacerbate the revolving door in and out of prostitution and thus the demand on public resources (Social Planning Council of Winnipeg 2002).

No prior research, however, has gathered data on the prevalence and frequency of contact with the array of community services accessed by prostitutes. Since the case study informants had been past TERF clients, their files revealed many commonalities in the kinds of public services that sex trade workers access, such as income assistance and addictions treatment facilities[107]. In this section, a series of cost

[107] The respondents of Benoit and Millar's (2001) study also reported accessing similar types of programs (p.84).

estimates illustrates the range of expected fiscal expenditures under different scenarios of service utilization, as informed by the eight case study informants.

4.7.5 Child Protection Services: $765,131

Costs incurred while involved in the sex trade	Costs incurred after exiting the sex trade	Total Costs (n=8 participants)
$452,392 (Figure 2 – Column 4)	**$312,739** (Figure 3 – Column 4)	**$765,131**

The respondents had contact with this agency in one of two ways. As youth themselves, a few individuals were apprehended by the police while working in the sex trade. Two of the interview respondents (25%) had contact with the Child and Family Services (CFS) system in this way. There are costs of interviewing and assessing the youth, placements in group homes, as well as follow-up monitoring of the youth's well-being[108].

Second, there are costs borne by the sex trade worker's family. Since former prostitutes themselves may have lacked adequate parental role models and because they are trying to parent in less than ideal circumstances, there is a distinct possibility of some maltreatment of their own children, including emotional neglect though this is not always the case. For some individuals, motherhood helps them to rethink their life condition and choices, which leads to a final exit from this type of work (Busby et al. 2002). Child protection services may be involved in her life, as efforts are made to

[108] Although such costs are not included in this study, five of the eight respondents (62.5%) had contact with the child welfare system as children before entry into the sex trade. The latter figure is consistent with another study, which found that 60% of the interviewed sex trade workers, looking back on their lives before entry in the sex trade, had contact with the child welfare system. Several youth had been placed in foster homes or group residences (77.8% of those who had contact with the child welfare system) (Tutty and Nixon 2003; Busby et al. 2002). Likewise, in the Benoit and Millar (2001) study, 57.2% of respondents had been in some type of institutional/foster care (p.29).

strengthen her parenting skills or in very difficult cases, to apprehend the children. In the current study, some respondents accessed the services of parenting support workers on a regular basis. Although it is an unintended consequence, the lifetime negative effects of the experience of being in the sex trade (and all that led to it) can be passed on to her children. This can be in the form of emotional strains or particular difficulties in parenting or the after-effects of substance misuse. The latter is evident in the high incidence of Fetal Alcohol and Narcotics Effects/Syndrome (FAS/FNS) in children born to women who are active drug or alcohol users during pregnancy[109].

The findings reveal that 62.5% of the respondents had contact with child protections services agencies concerning their children, including child apprehension and placements with relatives, while engaging in the sex trade. Similarly, the rate was 50% after transitioning into the mainstream[110]. Custodial issues may also disproportionately affect the Aboriginal population. While 1% of non-Aboriginal children (under age 16) are removed from their homes by child protection authorities in response to accusations of abuse, 6% of aboriginal children are in care for these reasons (Kingsley and Mark 2000: 26). The cost of foster care and group home arrangements for a child is formidable (Hepworth 2001).

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[109] The lifetime economic costs for a child with fetal alcohol or narcotics syndrome (FAS/FNS) is well-documented at $1.5 million (Manitoba Children and Youth Secretariat 1997; Oliver et al. 1998). The costs for such drug and alcohol related birth effects were not included in the current study, as none of the participants revealed that their children were born with these conditions, though some individuals were heavy drug and alcohol users. Understandably, this is a very sensitive issue. There are no studies that quote the percentage of sex trade workers who give birth to children with FAS or FNS, so that estimates can be calculated based on probabilities. However, even if the respondents had never entered the sex trade, their Aboriginal heritage and the disadvantages from their earlier lives may have resulted in a higher probability of giving birth to children with FAS or FNS (Oliver et al. 1998). Nevertheless, the exclusion of such costs is expected to underestimate the fiscal effects.

[110] For the entire interview sample (n=62) and excluding the transgender respondents, the findings revealed that 31 of 50 women (62%) gave birth to 99 children, who are at present under age 18, of which 79 children are currently in other care arrangements.

The Winnipeg Child and Family Services agency (WCFS) provided the per diem rates for foster care, including special and kinship rates ($25.44; $47.19 and $26.94 respectively), the per diem for maintaining a child in a residential group home ($253.05), as well as emergency placements in a hotel ($348.44)[111]. Unfortunately, the WCFS agency staff was not able to provide the cost breakdown for staff and administrative overhead involved in the apprehension of a child, the processing of an adoption when a child is already a permanent ward of WCFS and court hearings that deal with access and custodial issues. Nevertheless, for the eight respondents, the costs total 760 days of residence in a group home, 1044 hours of services received by WCFS parenting support workers (consistent appointments for a specific period), 11,193 days in foster care, as well as 2 days in a hotel for emergency placements[112].

4.7.6 Income Assistance and Housing Subsidies: Were these Costs Avoidable?

Cost Category	Costs incurred while involved in the sex trade	Costs incurred after exiting the sex trade	Total Costs (n=8 participants)
Income Assistance	**$388,760** (Figure 2 – Column 4)	**$358,660** (Figure 3 – Column 4)	**$747,420**
Housing Subsidies	**$16,800** (Figure 2 – Column 4)	**$133,754** (Figure 3 – Column 4)	**$150,554**

Data collected from the interviews confirmed that there is a considerable cost for the provision of income maintenance to women in the sex trade and their families, including the possibility of lifelong dependence on assistance after transitioning into

[111] The per diem rates consist of all child maintenance budget costs, including some administrative costs, but exclusive of salaries and operating expenditures.

[112] To reiterate the concept of incremental costs, the expenditures were included if the respondent reported that contact with child protection authorities was directly or indirectly related to her involvement in the sex trade. Reports of child placements were also for significant periods (e.g. years), thus accounting for the large numbers of days in foster care and group homes.

mainstream life[113]. For the eight respondents, the value of social assistance (in 2003 dollars) totaled $388,760 while engaged in the sex trade and $358,660 following the transition in mainstream life, including the net present value of expected future costs after 2003. Several sex trade workers supplemented social assistance with earnings from prostitution, or they fluctuated between the two sources of income.

However, one unique aspect of this study examined the respondents' work experiences in paid jobs before engaging in the sex trade, which was typically in the adolescent years. A key finding is that, in spite of often-difficult childhood circumstances, prior to engaging in the sex trade, there appeared to be a strong work ethic among the youth during their early adolescent years.

For instance, as youth, 69.3% of the full sample (n=62) had at least one part-time job during the school year or a summer job before entering the sex trade (excluding babysitting)[114]. In addition to raising extra spending money and possibly helping with the family finances, these accounts provide some evidence that many youth were accumulating work experience potentially in anticipation of the future, which is that they would fully integrate into the legitimate labour market as adults[115]. Indeed, a preventive program, such as Ndaawin, may have nurtured these significant

[113] Under the current rules, income assistance may be available only on a limited basis, for example, if there are pre-school children in the home, if the recipient actively seeks work, or if she has a disability. However, data from the labour market interviews in the complete study established that ongoing access to income assistance was not uncommon. For each respondent (n=62), the number of years that she had received social assistance is divided by -- current age minus 18 years -- in order to estimate the percentage of her working life in which she accessed income assistance. On average, the 62 respondents received social assistance for 65.7% of their working years over age 18 or approximately eight years.

[114] Statistics Canada's publication: "Latest Release from the Labour Force Survey" (July 9 2004) reported that, in June 2004, 42.1% of youth students ages 15-19 worked at jobs in the labour market.

[115] It is true, however, that some respondents had a history of accessing social assistance in the family of origin.

attachments to the labour market, as well as further encouraging the at risk youth to stay connected to their schooling.

After rejoining mainstream society, there are dismal effects from having engaged in prostitution. For instance, in Table 1, only 27.4% of participants are currently working in the labour force (n=62), 22.5% have a sex trade related chronic illness preventing future participation, and another 34.0% have current work limitations precluding full participation. Some individuals revealed that they work part-time or casually due to a post-traumatic stress disorder, related to the violence that they sustained in the sex trade. Many of these individuals have few coping skills to deal with holding down a legitimate job. What is also not controversial is that an ongoing struggle with a drug or alcohol habit will likely thwart the individual's efforts to enroll in vocational training and to participate in the legitimate labour force. In the current study, around 75% of the exited respondents (n=62) continue to battle their drug and alcohol-related addictions. For these reasons, this study correlates the fiscal expenditures for income assistance with the earlier sex trade activities[116].

Overlapping the receipt of income assistance is the government's provision of social housing services for low-income families. The eight case study informants (62.5%) accessed housing subsidy benefits totaling $150,554, including the expected future costs after 2003. The women may have access to subsidized housing if they are in receipt of income assistance, or if they have a low-paying job and the market value

[116] Expanding the analysis to the full sample (n=62), the disbursements for social assistance paid out to 74.2% of these individuals and their families in 2003 totaled $290,316, which could pay for 1.5 years of Ndaawin's operations. To date, the total cost of assistance to these individuals has exceeded $2.3 million. These totals are not shown on Figures 2 and 3, which is based on the eight case study interviews only. However, as shown in Table 3, this is not an anomaly, since McIntyre's (2002) study in Alberta also found that most former sex trade workers were reliant on relatives or government assistance for financial support.

of the rental property exceeds around 25-30% of their earnings. The majority of respondents meet the eligibility requirements for access to subsidized housing, since in their youth they missed many opportunities to acquire attributes that are known to enhance earnings in the labour market.

4.7.7 Other Government and Not-for-Profit Support Services

Cost Category	Costs incurred while involved in the sex trade	Costs incurred after exiting the sex trade	Total Costs n=8 participants
Addictions	$34,678 Figure 2 – Column 1	$115,351 Figure 3 – Column 1	**$150,029**
Mental Health Services	$49,513 Figure 2 – Column 4	$251,002 Figure 3 – Column 3	**$300,515**
Other Miscellaneous Social Services**	$398,979 Figure 2 – Column 4	$162,792 Figure 3 – Column 4	**$561,771**
Total Costs	**$483,170**	**$529,145**	**$1,012,315**

* includes expenditures, such as street vans, drop-in centers, parenting classes and workshops, transitioning and life skills programs, women's shelters, psychological and learning assessments, etc. A more detailed list is provided in the text.

This section lists the case study respondents' utilization of community support services. All eight women contacted a variety of community agencies throughout the period of sex trade activities, during the exit period (in some cases, there were several attempts to transition) and for ongoing support once in mainstream life. The line of questioning was designed to capture the individual's access to social support agencies, which in her own judgment, was a direct or indirect result of her involvement in the sex trade. For instance, a direct cost was incurred if a woman stayed at a shelter for abused women while attempting to leave a violent pimp. A further example of an indirect cost relates to a stay at a detox facility. While access to these services is not directly correlated with the sex trade, in most cases, the women

reported that there was a significant overlap between the addictions and the lifestyle of a prostitute, the former being perpetuated by the latter[117].

Keeping in mind that entry and exit into this lifestyle often involves a process (sometimes lifelong) of many small steps forward, while engaging in prostitution and during any attempts to exit, the eight case study respondents accessed the following services for a total cost of $483,170:

- Drug detox or stabilization services (58 days); drug and alcohol treatment services, both residential care (264 days) and day treatment programs (56 days);
- Individual, group and crisis counseling services at community agencies (regular ongoing visits), as well as help lines, were accessed 499 times;
- Parenting classes, including the provision of day care while attending;
- The participants stayed in shelters and a youth facility for a total of 24 days;
- Street outreach vans, drop-in centers and other services for street-involved individuals were accessed 11,850 times (the estimate is based on regular daily or weekly visits);
- Transitioning and job training programs were accessed during several attempts to exit.

Around the time of the final transition into the mainstream, plus after this last exit, the respondents accessed the following support services totaling $529,145:

- Drug detox or stabilization services (4 days); drug and alcohol treatment services, both residential care (635 days) and day treatment programs (110 days); addictions counseling (780 sessions);

[117] See the earlier discussion on drug use and addictions, as they pertain to the pre-prostitution period.

- A variety of workshops, such as parenting and family violence courses; a stop-shoplifting program; anger management; chemical dependency workshops;
- the services of Aboriginal Elders and traditional therapies, such as spirituality ceremonies (healing circle, full moon, new moon and sweat lodge ceremonies);
- the women participated in transitioning/life skills programs, sometimes enrolling for more than one year, in order to work on building healthier self-esteem, problem-solving skills and conflict management; upgrading programs to work towards Grade 12 or a Grade 12 Equivalency Diploma (GED);
- free day care services for children while attending courses and classes;
- educational, learning and psychological assessments;
- a stay at a facility that assists individuals in crisis and with suicidal tendencies (10 days);
- individual and group counseling; help lines; some respondents and their family members received sexual abuse counseling services and/or participated in family therapy programs (3,569 regular weekly sessions often over years);
- the children of some respondents accessed psychotherapy services (318 sessions), special resource teachers[118] and a residential program for adolescents (274 days);
- Women's shelters (7days).

Many of these agencies receive much or all of their funding from various levels of government and thus reflect taxpayer involvement in this support. Each time a respondent or her family members utilized any of the above-noted services, an

[118] A few of the respondents' children received special education services such as tutoring for learning disabilities and special schools to deal with behavioral problems (for instance, aggression or general delinquency). Costing out these services proved difficult, however, other research has reported that the Canadian per child cost of special education programs is $293/elementary; $217/secondary school; $1,502/behavioural special education (Bowlus et al. 2002: 86).

incremental cost was incurred that would not have been expended had the individual not been engaged in the sex trade. Furthermore, the majority of the agencies that responded to a request for cost data reported that they generally operate at full capacity and usually have waiting list. In other words, demand for their services exceeds the available supply. This suggests that these organizations have opportunity costs in terms of their resource reallocations. The provision of a service to one client implies that there is another client on the waiting list who is not receiving help. Since the agency holds another highly valued forgone alternative (for example, they may have to turn away another client who is not involved in the sex trade), an incremental cost of using the service is incurred.

Finally, from a fiscal perspective, some respondents will require ongoing social supports in the future. Included in the above-noted figures is the present value[119] of future costs totaling $803,983, as follows:

- Child and Family Services: $233,668
- Income Assistance: $227,189
- Housing Subsidies: $96,354
- Health Care Services: $26,748
- Social Support Services – for example, counseling and ongoing treatment for addictions: $220,024.

In closing this discussion, based on the findings of the current study, there is evidence that reactive programming, while necessary, is often too little, too late. Psychological and physical distress, leading to substantial economic costs, has already occurred long before the stage of transitioning into mainstream society. For

[119] As discussed earlier in this essay, the discount rate is 10% for fiscal expenditures.

many youth, a lack of support in their early life experiences is likely to create impediments to reaching their productive potential. This study has illustrated that the process of trying to exit the sex trade may involve a far-reaching demand on community resources. Moreover, if a sex trade worker makes a significant attempt at exiting, it is a very costly process because, similar to partner abuse, she may return to the sex trade several times before being able to leave for good[120]. There is little debate that drug dependency also sustains the revolving door in and out of the sex trade, which further exacerbates the extensive use of public resources (Tutty and Nixon 2003). Social services may be available in the community, but they may be inadequate to the enormity of the task. Thus, prevention programs that support at risk children could potentially provide great value to society by reducing the supply of prostitutes who may eventually place great demands on the system.

4.8 Sensitivity and Risk Analysis

Generally, economists utilize risk analysis techniques in order to deal with uncertainties, such as the probability that expenditures will be incurred in the future, as well as with respect to the monetary value of the costs. There is one source uncertainty in this study owing to the small sample size. There is no guarantee that the distribution of the sample in the current study is in close proximity to the distribution of the population of sex trade workers as an entire group. A deviating value of significant variables for some of the respondents can have a major effect on the average fiscal costs, though the comparative analysis with the recent Benoit and

[120] Benoit and Millar (2001) reported similar results (p.63), and that over 50% of respondents had tried to exit at least three times, with a mean of 5.8 times (p.60). In McIntyre (2002), 60% of respondents had greater than four attempts at leaving the sex trade.

Millar (2001) survey and other available sources provides evidence that there are not huge variations in some of the influencing characteristics that lead to a high demand on public resources.

In this study, however, there was very little uncertainty in the data on future values. For all of the fiscal variables, the respondents specified how long they expected to access public services in the future. For example, a few respondents will likely access social assistance and housing subsidies for the rest of their working lives due to health conditions that were contracted while engaging in sex trade activities. Since the variables are correlated, these women will most certainly incur lifetime productivity losses in the labour market, as a result. The respondents generally had a plan for the future, in terms of the period in which they expected their children to remain in foster care arrangements, as well as the counseling and addictions services that they needed for support. Therefore, the probability outcomes for the variables are quite high and usage rates of public services are not expected to fluctuate. Most parameter values are relatively certain and risk analysis is a tool that will not necessarily benefit the study to any extent.

Going beyond the deterministic model, sensitivity analysis assesses the effects of changes in the discount rate on the net present value of future fiscal expenditures. For the conduct of sensitivity analysis, the discount rate ranges from 8 to 12% as recommended by the Treasury Board of Canada. These calculations are listed in Table 5. Although the costs are somewhat sensitive to such a change, this does not alter the main results by a material dollar value relative to the total fiscal costs estimated in the study.

TABLE 5: SENSITIVITY ANALYSIS

	Deterministic Model	Maximum NPV		Minimum NPV	
	Discount Rate 10%	Discount Rate 8%	Effect on total costs (+ adds to costs - lowers costs)	Discount Rate 12%	Effect on total costs (+ adds to costs - lowers costs)
1. Net present value of total fiscal costs	803,981	883,479	+79,498	739,434	-64,547

1. Fiscal costs consist of social welfare payments for income assistance, housing subsidies and foster care support payments, as well as health care costs and other general social support services.

4.9 Concluding Remarks

This study examined the fiscal costs for individuals who, in past years, had engaged in the sex trade. A methodology of personal interviews permitted the collection of data on their access to public services. The interviews revealed that there are certain consistencies such as the likelihood of drug use and running high risks of violence, poor self-care and contracting a range of illnesses. By using the data collected on the prevalence and frequency of services accessed by the respondents, a range of fiscal costs of service utilization scenarios is estimated for an array of life situations in terms of conflicts with the law, usage of the medical system, and access to income assistance and housing subsidies. These estimated costs are compared to the annual fiscal investment in a prevention service.

The findings of the current study established that prevention strategies, such as Ndaawin, have a good chance of leading to future savings in fiscal costs. Though the program's long-term success in diverting children from prostitution is uncertain, this study has shown that the program may yield a return on every dollar invested, in

terms of cost avoidance for lifetime health care, justice and other reactive policy costs. Besides the diversion from prostitution, an intervention program may spawn multiple benefits for youth, such as how to avoid sexual abuse, how to stay away from gangs and drugs, how to deal with inter-personal conflicts, and what are the alternatives to prostitution. These types of interventions that build self-esteem may well lead to improved lifetime productivity from higher education and earnings, reduced conflicts with the law and feelings of well-being. Benefits may accrue even if there were a possibility that the youth would never have entered the sex trade to begin with. Indeed, from the government's perspective, the resulting effects would be lower costs for health care, the justice system and community support services.

For youth of Aboriginal descent, policy costs related to culturally appropriate programming may be the best way to promote incremental transformation in their communities (Currie 2001; Kingsley and Mark 2000). Ultimately, the objective is to decrease the involvement of the state and facilitate a social climate of purposive changes by individuals within the framework of a supportive cultural community. The current study provides evidence that a lack of preventive programs eventually places a heavier financial burden of unavoidable costs on institutions and poverty assistance schemes, including social support services, the justice system and corrections, subsidized housing and medical services, thus adding to an already strained societal and fiscal infrastructure.

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APPENDIX C.4.1: DEFINITIONS OF ECONOMIC TERMS

Economic costs as opportunity costs: from an economic perspective, all of society's resources may be used in other most highly valued alternative ways. When society makes a choice about the uses of its scarce resources or its delivery of services, it also sacrifices the positive benefits or opportunities obtained by using the resources in some other way. For example, society's expenditures on police investigations and law enforcement, including human efforts in these activities, pulls resources away from public education about drinking and driving, speeding or child exploitation. The latter alternatives may have resulted in other valuable and gainful societal outcomes. This notion of giving up one thing to get something else underlies economic cost analysis and, in economic terms, it is defined as an 'opportunity cost' (Levin and McEwan 2001).

Direct costs: these costs are the explicit payments on goods and services. Examples include the funds expended on health care services, law enforcement, the judicial system and the child welfare system, etc. Direct costs consist of wages for workers, such as health and administrative employees, as well as equipment, buildings and supplies (Choi and Pak 2002).

Indirect costs: these costs are mostly related to human resources, specifically, lost work time or lost productivity from work absences attributed to physical and mental health issues and premature death. When human beings do not reach their full potential in terms of lifetime earnings power (due to abuse, for example), the consequent economic outcome is an indirect productivity cost to the individual, as well as society (Choi and Pak 2002).

Intangible costs: examples of these costs are the personal pain, suffering, loss of leisure time, the value of lost community cohesion and the loss to society from a growing criminal economy. Precise monetary values are more difficult to assign to these costs but there have been attempts to calculate them by using the willingness-to-pay (WTP) approach (Choi and Pak 2002).

Adjusting factors: Inflation, Net Present Value and the Discount Rate

Inflation factor: this is an adjusting factor to economic cost analysis because the value of money fluctuates over time due to increases (and sometimes decreases) in the general price level of goods and services in the economy, as well as wages in the labour force. These periodic adjustments to the value of money are referred to as nominal dollar changes (i.e. costs unadjusted for inflation). An inflation adjustment removes the price level effects by converting economic values into real dollar units, in other words, constant purchasing power over time. The costs of all future years are adjusted to the price level of a specific base year. The most widely used measure of inflation is the Consumer Price Index (CPI) (Levin and McEwan 2001).

Net Present Value (NPV): when comparing costs versus benefits over a period of time, a dollar's worth of expenditures today is worth more than the value of a dollar at some future date. This is because an invested dollar today will earn interest income. Put differently, any deferred project costs to future years involves lower real resource costs to society. If the costs and benefits extend over a number of years, the time value of money is adjusted together with the inflation factor (constant purchasing power). A present value calculation accomplishes

this task by using a discount rate. It converts the value of program benefits and costs in the future to a present value, in order to compare them to the current or present costs (Levin and McEwan 2001; Choi and Pak 2002).

Discount rate: this is a type of interest rate that is used for the net present value calculation and its value depends on the viewpoint under examination. For personal effects, a standard approach is to use the market interest rate because it reflects a return to private savings or a bank loan, in other words, the consumer's opportunity costs of consumption versus savings. From the state's narrow viewpoint, the cost of government borrowing is an appropriate discount rate. Broader societal effects are adjusted using a social discount rate which, in Canada, has been specified by the government's Treasury Board to be approximately 10%, a rate that reflects private firms' opportunity costs of investment (Levin and McEwan 2001; Canada: Treasury Board of Canada 1998).

Sensitivity analysis: a researcher may want to use a range of discount rates in order to check the sensitivity of the study results (NPV of social costs or benefits) to the choice of a social discount rate or even other crucial assumptions that were made in the cost estimation procedures. Sensitivity analysis is a tool of economic cost analysis, which determines whether some basic assumptions in the study design are irrelevant to the key findings and conclusions (Levin and McEwan 2001).

APPENDIX C.4.2

LIST OF COMMUNITY CONTACTS[121]
(in alphabetical order)

Social Services and Health Agencies

- **Aboriginal Health and Wellness Centre**
- **AFM: Addictions Foundation of Manitoba**
- **River House**
- **Christie House**
- **Alcoholics Anonymous**
- **Anchorage Drug and Alcohol Residential Treatment Centre (Salvation Army)**
- **Andrews Street Family Centre**
- **Child Guidance Clinic**
- **Circle of Life Thunderbird House**
- **Cocaine Anonymous**
- **Crisis Prevention Institute**
- **Elizabeth Fry Society**
- **Family Centre of Winnipeg**
- **Fetal Alcohol Syndrome Program**
- **Harvest Food Bank**
- **Health Sciences Centre**
- **Kinew Housing**
- **Klinic Community Health Centre**
- **Knowles Centre**
- **Laurel Centre**
- **MacDonald Youth Services**
- **Ma Mawi Wi Chi Itata Centre**
- **Main Street Project**
- **Manitoba Adolescent Treatment Centre**
- **Manitoba Employment and Income Assistance**
- **Manitoba Family Services**
- **Manitoba Housing Authority**
- **Manitoba Learning Centre**
- **Manitoba Youth Centre**
- **Marymound Group Home**
- **Mount Karmel Clinic**
- **Narcotics Anonymous**
- **Native Addictions Council of Manitoba**
- **Native Women's Transition Centre**
- **Nelson House Medicine Lodge**
- **New Directions: Families Affected by Sexual Assault/Parent Support Program**
- **New Directions: TERF Program (Training and Employment Resources for Females) Youth and Adult Programs**
- **New Directions: Try Program**

[121] The participants accessed these services, though not all agencies co-operated with the requests for financial and statistical information. A few of these organizations are no longer in operation.

- **Nine Circles Community Health Centre**
- **North End Women's Resource Centre**
- **Operation Go Home**
- **Osborne House Crisis Shelter**
- **Pritchard House**
- **SAGE House**
- **Sagkeeng Treatment Facility**
- **Salvation Army programs**
- **Prostitution Diversion Program**
- **Women's Services shelter on Henry Avenue**
- **Seven Oaks Hospital**
- **St. Norbert Foundation (Behavioural Health Foundation)**
- **St. Boniface Hospital**
- **Street Connections**
- **Sunshine House**
- **Tamarack Rehab**
- **Villa Rosa**
- **Winnipeg Child and Family Services**
- **Winnipeg Regional Health Authority**
- **Wolseley Family Place**
- **YWCA Grief Counseling Services**

Educational Institutions

- **Aboriginal Community Campus**
- **Horizons Learning Center**
- **Manitoba Employment and Income Assistance (Cope Training Program)**
- **St. Norbert Learning Centre**
- **Songadeewin program**
- **Taking Charge**
- **Upward Bound**
- **Urban Circle Training Centre**
- **Winnipeg Adult Education Centre**

Institutions Related to the Justice System

- **Manitoba Justice Department**
- **Legal Aid Manitoba**
- **Portage Women's Correctional Institute**
- **Winnipeg Remand Centre**
- **Winnipeg Police Service**

APPENDIX C.4.3

NDAAWIN FINANCIAL REPORT -- FISCAL YEARS ENDING 2001-2005

Expenditure Category	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	TOTAL 2000-2005	% of budget
Children's Club	18,725	34,078	47,121	53,947	31,345	$185,216	23.2%
Parent Support Group	7,008	24,711	31,402	31,247	12,992	107,360	13.4%
Prevention Curriculum	3,764	11,280	21,359	39,866	22,737	99,006	12.4%
Community Development	27,369	45,248	33,269	41,926	24,072	171,884	21.5%
Subtotal Program Expenses	56,866	115,317	133,151	166,986	91,146	$563,466	70.5%
Management/ Administration	13,525	54,285	54,359	73,188	40,822	236,179	29.5%
Total Ndaawin Expenditures*	**$70,391**	**$169,602**	**$187,510**	**$240,174**	**$131,968**	**$799,645**	**100.0%**
Net Present Value (in 2003 $$) of Total Expenditures	**$73,235**	**$172,994**	**$187,510**	**$218,340**	**$109,064**	**$761,143**	**--**
In-Kind Contributions							
Children's Club	500	500	5,054	2,548	1,806	$10,408	4.4%
Parent Support Group	5,104	17,500	17,500	18,626	6,586	65,316	27.8%
Prevention Curriculum	0	0	0	15,611	8,489	24,100	10.3%
Community Development	0	0	1,512	3,068	1,767	6,347	2.7%
Management	9,627	33,183	33,010	30,766	22,013	128,599	54.8%
Total In-Kind Contributions**	**$15,231**	**$51,183**	**$57,076**	**$70,619**	**$40,661**	**$234,770**	**100.0%**
Net Present Value (in 2003 $$) of In-Kind Contributions	**$15,846**	**$52,207**	**$57,076**	**$64,199**	**$33,604**	**$222,932**	**--**

* The Government of Canada Justice Department: National Crime Prevention Strategy (NCPS) funded these expenditures.

** None of the in-kind contributions originated from government sources.

Chapter 5: Conclusion

This dissertation set out to show that the real economic problems of women must be understood in the context of their lived experiences of privilege and disadvantage in the labour force. Such understandings are embedded in cultural practices and race/ethnicity; thus, a type of intersectional analysis of labour market stratification based on gender, class and race/ethnicity is needed to gain knowledge of women's economic outcomes. The three essays of this dissertation work toward informing economics by examining a diversity of women's economic situations concerning their activities or lack of participation in the Canadian labour market.

What unites the essays in this volume is the idea that, as economists, we may benefit from posing questions about non-market relationships, which are so readily embraced by other disciplines. In this work, I utilized standard tools of economics to conduct empirical work on Statistics Canada micro survey data and a unique data set collected on the workforce activities of former prostitutes. Consequently, the findings show that it is possible to merge human capital categories with institutional analysis in order to gain insights into women's positioning in the economy.

The first essay, *Compensating Differentials or Discrimination? Revisiting the Gender Earnings Gap,* relied on observed overtime hours to build a model of the processes that decide pay and which take into account gender-based earnings discrimination. No other economic accounts investigate female resistance to excessive hours in demanding jobs as a potential contributor to the wage gap. To conduct this analysis, specific occupational categories were examined in which men and woman typically share comparable productivity attributes in the higher echelons

of the Canadian labour market, but they work different hours above the full-time standard workweek. The occupational categories of management and professional jobs in business and finance were selected to accomplish this task. The Statistics Canada Workplace and Employee Survey (WES) provided the micro data for testing gender earnings disparities in these occupations. Econometric tools added rigor to the analysis.

This essay set out to answer four questions:

1. Are the majority of men and women in a separating equilibrium in the labour market for management jobs and professional occupations in business and finance?
2. How does the presence of children influence the choice of hours?
3. What proportion of men and women find themselves in a rat race allocation of inefficiently excessive hours?
4. Does the residual portion of the gender earnings gap decline in the number of hours worked above the full-time standard weekly hours?

The findings relating to Questions #1 and #2 reveal that approximately three-quarters of men and women find themselves in a separating equilibrium, with women working fewer hours for lower pay. There is a lower overall prevalence of pre-school children in women's lives compared to males. However, the presence of pre-school children raises the opportunity costs of working more hours, causing the female survey respondents to command higher pay. Concerning the last two questions, this research shows how institutional factors may create exclusionary processes that influence women's preferences. In contrast, a choice theoretic approach would

normally advance a knowledge claim that women are to be blamed for their lower earnings relative to males, simply because of fewer work hours (a human capital category).

In answering Question #3 and to strengthen these mainstream notions, I consider that there may be cultural practices and values that influence the female agents' decisions. When approximately 15% of women do compete with men in this stratum of the labour market, they are forced into a social welfare reducing rat race of inefficiently excessive hours. The decomposition analysis, based on Horrace and Oaxaca's (2001) approach, addresses the fourth question. It illustrates that work hours above those of the standard workweek are negatively correlated with the unexplained earnings gap, even though females still encounter discrimination in the form of a different pay structure than males within all pay-hours mixes.

However, among those workers where overtime becomes excessive, women work progressively higher numbers of hours for less pay than do males. In this competitive allocation, the unexplained earnings disparity increases. Women are apt to be aware of this form of rising pay discrimination, which requires them to offer more effort. They opt out of rat race situations, as it is counterproductive to quality of life considerations. Consequently, a separating equilibrium generally characterizes the gender earnings-hours mix in this segment of the labour market, which accounts for differences in hours above the full-time workweek.

The challenge for Canadian policymakers is to formulate innovative labour market policy in the for-profit private sector, which has long been a tournament of workers engaged in individualistically-centered contractual exchange derived from

competitive behavior. Uniform policies relating to flex hours, adequate availability of day care and possibly the Maximum Hours Rule could potentially shift job related preferences that more equitably suit women's unique circumstances.

In the introductory chapter, I elaborated on how further research is needed in the form of gathering qualitative data from this occupational cohort. This could advance a deeper understanding of the social contexts that lead to inequities in the distribution of the pay-hours mix. Such analysis could easily supplement micro data, which is captured in Statistics Canada labour market surveys.

The introductory chapter also points out that gender is only one form of socially-constructed hierarchy in the labour market. The professional female cohort of the first essay constitutes a privileged segment of the labour market. While the struggles of this group ought to be considered important, the next two essays make obvious the fact that policies, programs and services needs to focus substantial efforts on the most disadvantaged women in the labour force.

By introducing key considerations described in a sociological literature, the two essays on prostitution illustrate that we must consider the participants' childhood experiences in order to advance our knowledge about their current labour market outcomes. This thinking process led to the collection of a unique data set from former prostitutes, consisting of both quantitative and qualitative information. Such data gathering also directed the empirical applications in which I calculated how such phenomena materialize into productivity outcomes.

The second essay, *The Private Costs for Youth Engaged in the Sex Trade: An Empirical Examination of the Lifelong Employment, Earnings and Health Effects,* set

out to investigate the lifelong employment and earnings scars after sixty-two females of primarily Aboriginal descent have spent a period in the sex trade during their youth. As stated in the introductory chapter, this research is unprecedented in both the prostitution and economics literatures, thus making a significant contribution to the body of empirical work in labour economics.

The main question posed is: To what extent does the individual incur a private cost as it pertains to employment-related productivity after rejoining mainstream society? A random-and-fixed effects empirical methodology estimated human capital and other supply-side variables, as well as key demand side categories. An application of econometric analysis accomplished the task of showing that these individuals are even more disadvantaged in the labour force than similar Aboriginal women who are already known to be marginalized members of society.

The first significant finding is that many women leave the sex trade with chronic health issues, which has a prolonged negative impact on their participation in the labour market. A random effects model applied to panel data estimated the net present value of the lifelong productivity effects for the sixty-two participants to be in excess of $5 million. The former sex trade workers have lost a total of 844.1 full-time equivalent years in the formal labour market from negative health impacts alone. One particular policy conclusion is obvious: Preventing entry into the sex trade is crucial.

The second significant finding is derived from the tools of decomposition analysis, which compares the pay structures of Aboriginal women in the Survey of Labour and Income Dynamics to the former sex trade workers. The former are known

to be among the most marginalized in the labour force. Even so, this analysis shows that former prostitutes' wages are $2.50 less per hour than other Aboriginal women.

The good news is that, in some cases, there are social returns to supporting and educating former sex trade workers that may also have a positive reversing impact on the prior wage scarring effects. In the introductory chapter, I argued that gender and race/ethnicity provoke many reasons for taking a cautious approach to policy, which is derived solely from the human capital method and its explanations. A single-dimensional approach may be appropriate for the professional or managerial employee, but not the Aboriginal sex trade worker whose lived experiences are rooted in family dysfunction, poverty, abuse, addictions and low self-esteem. Human capital approaches must be broadened to address factors, such as life skills training, personal development and addictions counseling[122].

In terms of policy measures derived from these conclusions, if former sex trade workers do enter the legitimate labour market, the focus must be re-directed away from the stigma of their past private behavior and towards an anti-poverty and community development agenda. These women must be able to earn a family wage that enables them to adequately support themselves and, when applicable, their families. This includes appropriate access to child care services. Surprisingly, the econometric results show that the access to social assistance support during the transition period actually helps former sex trade workers in a positive way in terms of their future wage returns. Such policy measures can satisfy both efficiency and equity goals.

[122] In this volume, I refer to micro factors that influence the many disadvantages of former sex trade workers, when in fact such variables overlap with the wider systemic macro-structural issues faced by Aboriginal peoples. Intergenerational poverty is one example.

Moreover, this issue extends well beyond single dimensional solutions, such as the raising of minimum wage. The second essay refers to a potential policy option of state subsidies to the not-for-profit sector, which would create the much needed outreach jobs in the area of prevention and intervention. A key advantage of the story-telling methodology is that, during the interview process, several former sex trade workers expressed an interest in participating in work that is grounded in their own difficult life experiences, such as that which contributes to the eradication of the sexual exploitation of children. The participants' perspectives offer a major contribution to solid policy driven solutions. Few participants spoke of an interest in working in the private sector.

We must also bear in mind that there are a significant number of women who will never work in the labour force in future due to chronic health issues. Their disadvantage is deeply rooted in the fact that prevention was lacking to begin with in the earlier period of their lives. Though these individuals do take advantage of opportunities to contribute to society in purposeful and productive ways (for example, through volunteer work), the final essay elucidates the fact that it is now society's responsibility to continue to support them financially for the rest of their lives.

Providing community services to those who are contemplating an exit from prostitution is absolutely essential and an unavoidable cost to society. The third essay entitled *An Examination of the Fiscal Impact from Youth Involvement in the Sex Trade: The Case for Evaluating Priorities in Prevention* set out to combine the standard tools of economic cost analysis with a story-telling descriptive methodology to evaluate the demand on public resources when youth do engage in the sex trade.

Interviews with eight case study informants were conducted with the objective of collecting data on their utilization of health and social services, contacts with the justice system and violent incidents when engaging in the sex trade. The cost estimates of an array of service utilization scenarios were compared to the annual fiscal investment in a prevention service called Ndaawin.

The research demonstrates the value of government funding to social programs that address the needs of at risk children requiring early life interventions due to family dysfunction and other childhood disadvantages. For instance, the interview process revealed lower lifetime productivity and damage to physical and mental health when a youth is entrenched in the lifestyle of a sex trade worker. There is a significant probability that serious addictions will engulf their lives, which the case study informants attributed directly to the lifestyle of prostitution.

Furthermore, I calculated that the government recoups the net present value of the investment in an intervention strategy, such as Ndaawin, if fewer than two youth are even prevented from becoming involved in the Winnipeg sex trade. The essay provides several calculations of how the government can avoid fiscal expenditures by preventing health problems afflicted on sex trade workers, such as HIV/AIDS and Hepatitis C. There are apt to be fiscal savings in the area of social assistance and housing subsidies by preventing women's detachments from the formal labour market, as well. This analysis makes a key contribution to knowledge in the area of economic policy by illustrating the high cost of failing to invest in early life prevention and intervention.

Overall, the contribution of this work to a feminist economics concerning the enhancement of women's economic condition is twofold. Before the first essay was advanced, we did not know that the gender pay gap for management and professional women was partly attributed to work hours above the full-time workweek. Following the conduct of this research, we now know that such work hours explain pay disparities, but that it also does not fully explain the entire pay gap for this cohort. There is still an unexplained element, referred to as discrimination.

Secondly, in the field of economics, our existing literature informs us that prostitutes are rational and self-interested economic agents engaging in lucrative market exchanges. In fact, prior research proposed that they capitalize on monopoly profits. After conducting the economic cost study in this dissertation, I argue against a neoclassical view of prostitution. This volume advances a knowledge claim that the issue may be a very complex one of childhood exploitation and abuse, and is inextricably tied to a youth's ethnic and class background. We also now know that participation in prostitution creates lifelong impediments to work force mobility, and it also has overwhelming effects on the access to public resources. Therefore, we can only conclude that policy driven solutions must take a holistic bottom-up approach to addressing women's diverse economic prospects.

Economists must extend their analysis beyond a narrow focus on market exchanges to the structural factors that account for women's positioning in the labour market. Concerning policy solutions, this work also raises questions of paramount importance about which groups in society need access to public resources in order to counteract their social and economic disadvantages.

My final comment is in the spirit of Brewer et al.'s (2002) quote that introduced this volume (Chapter 1) concerning the progress of feminist economics toward a scholarship with a diverse research agenda. This dissertation takes one more step forward in breaking new ground toward reconceptualizing the production of knowledge in economics. The three essays show that a feminist methodological approach to economics illuminates a range of inequities faced by women in the labour market and in society generally. This approach provides the best chance for redressing redistributive issues with appropriate policies from both a woman-centered and diversity-centered agenda.

APPENDIX D.5.1
Informed consent for the examination of the participant's file in the TERF Program at New Directions for Children, Youth, Adults and Families

Purpose of the study: We are asking for your help with one part of the evaluation of the Ndaawin Project that is being carried out by RESOLVE at the University of Manitoba. Your file at the TERF Program, as well as your interview responses will help us to gather data about the education and work experiences of youth who have been sexually exploited through prostitution. We want to make cost estimations of those experiences and compare them to that of other Canadian women. With your input, we hope to find out how helpful the Ndaawin program has been for women, young girls and society in general.

Researchers: This part of the study is being conducted by Linda DeRiviere, a Ph.D. student from the Department of Economics at the University of Manitoba under the direct supervision of Dr. John Loxley. Further questions about the research may be directed to Dr. Jocelyn Proulx from RESOLVE at 474-7410. The research has been approved by the Joint-Faculty Research Ethics Board at the University of Manitoba. If you have any concerns or complaints about this research study, they can be reported to the Human Ethics Secretariat at 474-7122.

What you are giving consent to: Your signature on this consent form indicates that you are giving the New Directions agency permission to release your client file in the TERF Program to Linda DeRiviere. She will gather information about your year of birth; ethnic origin; the area where you lived in your youth; age at entry in the TERF program; age that you became involved in the sex trade and whether you had children while involved; how you became involved in the sex trade; the grade that you dropped out of school if this applies to you; whether you obtained a grade 12 equivalency certificate or any other training program while participating in the TERF program; your involvement in volunteer work; whether you struggled with addictions; the types of substance abuse if applicable; whether you experienced physical or sexual abuse as a youth; if you held any other jobs in the mainstream job market from the time that you became involved in the sex trade until your last exit; your job aspirations and ambitions if they are documented in your file; any employment referrals by case workers; your identified usage of community social service agencies; some of your medical issues or addictions that may have caused difficulties for you to get job and keep it. These and other information which may be useful for calculating workforce data will be gathered by Ms. DeRiviere.

Once this file review has been completed, you will be asked to participate in an interview. Your participation is voluntary so you do not have to consent to the file review or the interview. If you do decide to participate, your identity will be kept completely confidential and no one else will have access to your file information. Your name will not appear on file review materials or written notes. Following the preparation of the final report, the materials will be shredded. There is no chance that you can be identified in the final report.

Final report: A summary of the final report will be made available to participants. You may contact Ms. Jane Runner at New Directions (786-7051: extension 260) or Dr. Jocelyn Proulx at RESOLVE (telephone # 474-7410) in order to obtain a copy of the summarized results.

Thank you for participating in this part of the study, which is expected to make a significant contribution to the Ndaawin Project evaluation. Your signature on this form indicates that you have understood to your satisfaction the information regarding the file review component to your participation in the research project and you agree to participate as a subject.

_____ (participant's signature) _____(date)

Please leave a number where I can contact you to arrange for an interview

_____(researcher's signature) _____(date)
Linda DeRiviere

APPENDIX D.5.2
Informed consent for labour market interview participants

Purpose of the study: We are asking for your help with one part of the evaluation of the Ndaawin Project that is being carried out by RESOLVE at the University of Manitoba. Your interview responses will help us to gather data about the education and work experiences of youth who have been sexually exploited through prostitution. We want to make cost estimations of those experiences and compare them to that of other Canadian women. Even if you have not been in the workforce since your exit from the sex trade, you still qualify to participate in this interview. With your input, we hope to find out how helpful the Ndaawin program has been for women, young girls and society in general.

Researchers: This part of the study is being conducted by Linda DeRiviere, a Ph.D. student from the Department of Economics at the University of Manitoba under the direct supervision of Dr. John Loxley. Further questions about the research may be directed to Dr. Jocelyn Proulx from RESOLVE at 474-7410. The research has been approved by the Joint-Faculty Research Ethics Board at the University of Manitoba. If you have any concerns or complaints about this research study, they can be reported to the Human Ethics Secretariat at 474-7122. If you would like to have more information about the research, or anything mentioned below, please feel free to ask Linda DeRiviere to explain it to you. Linda will go through the questions on the interview questionnaire that was given to you before the interview date and she will record your responses in as much detail as possible.

Time commitment and honorarium: Your participation will involve a total commitment of approximately 2 hours for which you will be paid a cash honorarium of $25 in order to cover the costs of your time. Funding for the honorarium payment is provided by Dr. John Loxley. You will have to sign a form stating that you have received the cash honorarium.

Withdrawal from the study: Please note that you are free to withdraw from the study at any time without affecting your relationship with any of the staff or board at the New Directions agency. You are free not to answer questions that you prefer to leave out.

Interview location: All in-person interview sessions will take place at the New Directions offices on the 5th Floor, 491 Portage Avenue.

Confidentiality: While you will not be asked detailed questions about abuse, please note that we are required by law to report current or past unreported cases of child abuse or situations dangerous to children to the legal authorities. The interview will not be tape-recorded or video-taped. Linda DeRiviere will take handwritten notes based on your responses, which will be kept in a locked cabinet at the University of Manitoba. Your identity will be kept completely confidential through a number coding system and no one else will have access to your answers. Your name will not

appear on any interview forms or in Linda's notes. Following the preparation of the final report, your interview responses will be shredded. There is no chance that you can be identified in the final report.

Final Report: A summary of the final report will be made available to participants. You may contact Ms. Jane Runner at New Directions (786-7051: extension 260) or Dr. Jocelyn Proulx at RESOLVE (telephone # 474-7410) in order to obtain a copy of the summarized results.

Thank you for participating in this study, which is expected to make a significant contribution to the Ndaawin Project Evaluation. Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. Please feel free to ask for clarification or new information throughout your participation.

_____ (participant's signature) _____ (date)

_____ (researcher's signature) _____ (date)

Linda DeRiviere

APPENDIX D.5.3
Informed consent for in-depth interview participants

Purpose of the study: We are asking for your help with one part of the evaluation of the Ndaawin Project that is being carried out by RESOLVE at the University of Manitoba. Your interview responses as well as your file at the TERF Program will help us to gather data about the typical life of a youth who is sexually exploited through prostitution, so that we can estimate the personal and social effects of your life experiences. With your input, we hope to find out how helpful the Ndaawin program has been for women, young girls and society in general.

Researchers: This part of the study is being conducted by Linda DeRiviere, a Ph.D. student from the Department of Economics at the University of Manitoba under the direct supervision of Dr. John Loxley. Further questions about the research may be directed to Dr. Jocelyn Proulx from RESOLVE at 474-7410. The research has been approved by the Joint-Faculty Research Ethics Board at the University of Manitoba. If you have any concerns or complaints about this research study, they can be reported to the Human Ethics Secretariat at 474-7122. If you would like to have more information about the research, or anything mentioned below, please feel free to ask Linda DeRiviere to explain it to you. Linda will go through the questions on the interview questionnaire that was given to you before the interview date and she will record your responses in as much detail as possible.

Time commitment and honorarium: Your participation will involve a total commitment of approximately 5 hours for which you will be paid a cash honorarium of $50 in order to cover the costs of your time. Funding for the honorarium payment is provided by Dr. John Loxley. You will have to sign a form stating that you have received the cash honorarium.

Interview location: All interview sessions will take place at the New Directions offices on the 5th Floor, 491 Portage Avenue.

Withdrawal from the study: Please note that you are free to withdraw from the study at any time without affecting your relationship with any of the staff or board at the New Directions agency. You are free not to answer questions that you prefer to leave out. If you become upset during the interview, there will be counseling services immediately available to you.

Confidentiality: While you will not be asked detailed questions about abuse, please note that we are required by law to report current or past unreported cases of child abuse or situations dangerous to children to the legal authorities. However, the interviewer guarantees that you will not be reported to the authorities if you reveal any illegal activities, such as your current use of illegal drugs and money spent on them. There is one limit to this guarantee of confidentiality. If the interviewer were subpoenaed to be a witness in a criminal court proceeding, then this would be an exception as she would have to comply with the court's requirements.

The interview will not be tape-recorded or video-taped. Linda DeRiviere will take handwritten notes based on your responses, which will be kept in a locked cabinet at the University of Manitoba. Your identity will be kept completely confidential and no one else will have access to your answers. Your name will not appear on any interview forms or in Linda's notes as she will use a number coding system. Following the preparation of the final report, your interview responses will be shredded. There is no chance that you can be identified in the final report.

Final report: A summary of the final report will be made available to participants. You may contact Ms. Jane Runner at New Directions (786-7051: extension 260) or Dr. Jocelyn Proulx at RESOLVE (telephone # 474-7410) in order to obtain a copy of the summarized results.

Thank you for participating in this study, which is expected to make a significant contribution to the Ndaawin Project Evaluation. Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. Please feel free to ask for clarification or new information throughout your participation.

_____ (participant's signature) _____ (date)

_____ (researcher's signature) _____ (date)

Linda DeRiviere

APPENDIX D.5.4
LABOUR MARKET INTERVIEW QUESTIONNAIRE

Basic demographic information

1. In what area do you currently reside? For example, state whether you live in a small town or a larger city and the approximate population, if known. If you live in Winnipeg, give the area in the city.

2. What are your current living arrangements:
    a. living with parents or other relatives and friends
    b. you live alone and you are not responsible for supporting dependent children or a partner; this category also includes widowed and separated or divorced
    c. you are married or living common-law, with no children living in your home
    d. you are married or living common-law, with children living in your home
    e. you are a lone-parent who is responsible for the financial support of children
    f. describe any other type of living arrangement if not listed in (a) to (e)

    _____

3. We would like to have information about your current household size. This means that you should list the number of children or other individuals living with you and being financially supported by you, as well as their ages. You should also list your children in foster care, in other care arrangements or no longer living with you.

4. Are you currently the major income earner in the household? Note: the major income earner in the household is the person with the highest income from all sources, for example, earnings from a job or income assistance.

5. What are your *current* sources of financial support? If you wish, you can give the interviewer with a copy of your 2002 Income Tax Return
    a. employment income and/or self-employed earnings (state your earnings)
    b. income assistance, employment insurance, CPP disability, workers' compensation, child tax benefits, GST credit or any other government financial assistance program (please specify and state the amount you receive each month);
    c. support payments from a former spouse (state the amount)
    d. supported partially or entirely by a boyfriend or parents and other relatives
    e. other (please specify):

    _____

6. Have you ever received social assistance, employment insurance, workers' compensation, CPP disability payments or any other government assistance in the

past? Specify how many times and for how long you received any source of income support.

Education and Employment

7. When you were around 11-12 years old (or before entry into the sex trade), what was the dream job that you wanted when you got older? Also, what kind of education did you hope to eventually obtain? When you were exiting from your involvement in the sex trade, what kind of education and job did you hope to eventually get? Did you reach these goals or are you still working on achieving these goals? (explain) If you feel that you did not reach these goals, explain what factors you think prevented you from reaching your goals.

8. We would like to gather information about your current level of education. Have you participated in a special training program or improving your formal education (example: grade 12 equivalency diploma) in any way in the past or currently? Describe the programs or courses and the approximate dates. Your answer should include job placement programs where you received on-the-job training.

9. Have you ever done any volunteer work or taken part in a volunteer training program? Give as much detail as possible (dates, amount of time you volunteered, etc.). If you answered yes, do you feel that it helped with getting a job afterwards?

10. Provide a summary of your job experience *before, during and after exiting* the sex trade, including your current job, as follows:
    a. the company or agency name
    b. the type of industry (for example: social services, health industry)
    c. the type of occupation that you work at (for example: an outreach worker); did you have any supervisory responsibilities in the job?
    d. how did you get the job? (examples: referral from TERF staff or an employment agency; friends or relatives; an ad in the paper)
    e. what is the approximate length of time that you worked in the job; provide the approximate date that you started working in the job and the date you left
    f. provide the reason for leaving the job
    g. specify how many hours you worked each week for which you were paid
    h. specify whether you were considered to be a full-time, part-time, part-year or a casual worker (example: was this a summer job?)
    i. specify your hourly or annual pay (for example: minimum wage + 0.25)
    j. was the job unionized or covered by a union contract?
    k. did your employer provide you with a pension plan? medical benefits?
    l. estimate how many workers are employed at this place of work (approximate numbers will suffice; for example, were there less than 20 employees or over 100 at your place of work?).

11. In your current job, if you work part-time (less than 30 hours per week), but you would like to work more hours, state the reason why this is not possible. We provide some examples below.
    a. caring for own children
    b. caring for elder relative(s)
    c. going to school
    d. could only find part-time work
    e. did not want full-time work
    f. Other (please specify): _____

12. To the best of your knowledge, is your pay competitive within the industry and the type of job in which you work? For example, if you work as a volunteer coordinator/group facilitator, do you think that your pay is similar to the pay scales of other agencies that employ volunteer coordinators/group facilitators? Have you ever compared the pay scales of different organizations in your industry? You only need to explain if you know the answer to this question.

13. Did you have to pay back a student loan for any training or other educational program participation? If yes, how much? An approximate figure will be good enough (for example: round it off to the nearest thousand dollars: $2,000 or $10,000, if you are not sure of the exact amount).

Work absences *after exiting* the sex trade

Note: For questions #14-#19, the interviewer will ask questions about your work absences due to health-related illnesses or addictions. We want to gather information about *work absences only,* and so you do not have to reveal the nature of your health condition(s).

14. If you work at a paid job, on average, how many days per month do you miss work for conditions such as physical illness, depression, stress, ongoing addictions related issues or any other condition? Do you attribute any current missed work time to your past involvement in the sex trade? Explain. (Note: if you attend school or a training program full-time or part-time, answer the question on that basis. Otherwise, if not employed or in an education program, answer the question on the basis of your last job).

15. Does your employer deduct pay and benefits as a result of missed work time? Provide details of your employer's sick day policy.

16. After exiting the sex trade, did you experience any medical conditions that you think are related to your involvement in the sex trade, which slowed down or prevented the completion of an educational or training program (for example, a GED), or seeking a job and fully participating in the job market? Just answer yes or no. If yes, describe the training or educational program or the job situation.

Did this situation last for a very short period of time or did it last for a long time? Explain. You do not have to tell the interviewer any details of your medical condition. We only want to examine the role of illness and addictions in your work force participation patterns. We provide a list of examples below for you to refer to.

a. hepatitis viruses
b. HIV/Aids
c. any learning disabilities, possibly from prior excessive drug use
d. depression and related mental health issues
e. chronic fatigue
f. ongoing addictions-related issues

17. Answer this question if you work at a job *and* if you have an illness or health condition related to your work in the sex trade. Do you think that it has negatively affected how you perform your on-the-job activities? Explain how. Estimate how much you are prevented from performing your daily tasks at your job on a scale of 1 to 5, with 1 meaning that you have very minor restrictions in everyday paid work activities (1: excellent health; 2: very good health; 3: good health) and 5 indicates more severe restrictions in everyday paid work activities (4: fair and 5: poor health). (If you go to school, answer the question on that basis; otherwise, you can answer the question on the basis of your last job held).

18. Estimate how many hours in the day that you are currently prevented from working at a paid job due to physical or mental health issues and/or substance abuse/alcoholism? Put differently, do you only work part-time, casually or not participate in the work force due to these ongoing issues?

19. If you work at a job less than full-time due to ongoing physical or mental health issues, how long do you think this situation will last? Specify the period of time and explain (examples: six months, one year, for a very long period of time).

Answer one final question #20:

20. Think about the period of time before you became involved in the sex trade and also around the time that you entered it. Did you ever come across any information about alternatives to sex work? Use the following list as a guide and specify if it applies to you, and give details.
    a. a school awareness or presentation program or any materials in your school about the health risks and dangers in the sex trade
    b. a non-judgmental school counseling program that you had easy access to and which dealt with abuse, family conflicts and issues related to running away from home
    c. a poster in a bus shelter or posted in a public area, listing contact information on available community support services to get off the streets

and reasonable alternatives to sex work, including help with job searching or financial help

d. a resource pamphlet indicating contact information on available community support services to get off the streets and reasonable alternatives to sex work, including help with job search or financial help
e. a help-line or 24-hour distress line directed at street-based sex trade workers and posted in a public place such as a bus shelter
f. approached by an outreach worker offering information on community support agencies or resources or outreach counseling services
g. other (please specify):

_____

Thank-you very much for your participation!!!!!

Additional questions for labour interview participants who are *not TERF clients*. (For participants who are TERF clients, the following information is usually obtained from the file reviews, however, the TERF participants are asked these questions if the information is not available in the file)

1. What is your year of birth (and month)?

2. Are you an immigrant, visible minority or of Aboriginal descent? Transgender?

3. In what area(s) did you reside during your youth? State how long in each area, whether rural (a small town) or urban (a larger city). If you were raised in Winnipeg, in which area(s) did you reside when you were growing up?

4. How old were you when you became involved in the sex trade? This is the age at which you first exchanged sex for cash or food, drugs, a play to stay, etc., and so it may not necessarily be the time when you first started working on the streets or indoors.

5. In your opinion, why did you become involved? Examples are provided below:
   a. homelessness due to an early departure from your family or foster home, or any other care arrangement
   b. financial need
   c. could not find a job in the formal job market
   d. could not find a decent paying job in the formal job market in order to support yourself
   e. financing drugs
   f. other (please specify):_____

6. Was entry into the sex trade encouraged or forced by another individual(s)? Examples are provided below:
   a. Boyfriend
   b. Gang
   c. Pimp
   d. Relative(s)
   e. Friend
   f. Other(please specify): _____

7. At what age did you exit the sex trade for the last time?

8. If this is applicable to you, did you struggle with addictions as a youth and while in the sex trade? Explain how frequently and how much you used alcohol or drugs. Did your usage of illegal drugs and/or alcohol increase after you started working in the sex trade? Explain by how much, the substances used, etc.

APPENDIX D.5.5

IN-DEPTH INTERVIEW QUESTIONNAIRE (semi-structured format)

Note: when estimating your earnings, expenditures and the numbers of contacts with agencies or service providers, you may estimate the figures on an hourly, daily, weekly, monthly, or yearly basis, whichever is more convenient. The interviewer will then cost out the data accordingly.

If your usage of the health care system has been quite extensive in the past, the interviewer may discuss the option of obtaining your Manitoba Health medical records so that you can trace your health care usage and tests over a period of time. A similar request may be submitted to Manitoba Justice in order to obtain your charges and court records, Legal Aid Manitoba (their fees) and the Winnipeg Police Service (arrest records), as well as Child and Family Services. This is made possible through Manitoba's Freedom of Information and Protection of Privacy Act (FIPPA) and the Personal Health Information Act (PHIA). However, *you are under no obligation* to access any of your records or to share the information with the interviewer. *It is completely up to you.* If you wish to access some of your records, the interviewer will help you to complete the forms and they will be sent at no personal expense to you. All mailing charges etc. will be covered by the interviewer.

You may also refuse to answer any questions below that cause you any personal distress or that you prefer to omit.

SECTION 1: GENERAL DEMOGRAPHICS

Prior to this interview and based on your written consent, the interviewer will have conducted an examination of your file in the TERF Program at New Directions. She will already have obtained some general information about you from the file review. For questions #1-16 and some of the work related questions (#28-39), the interviewer may just confirm the data retrieved from your file or she may ask some questions if the information was not documented in your file.

1. What is your year of birth? (File review)

2. Are you an immigrant, visible minority or of Aboriginal descent? (File review) (The file review reveals if the participant is transgender)

3. In what area(s) did you reside during your youth? State how long in each area, whether rural (a small town) or urban (a larger city) and the approximately population, if known. If you were raised in Winnipeg, in which area(s) did you reside when you were growing up? (File review)

4. In what area do you currently reside? State whether you live in a rural or urban area and the approximate population, if known. If you live in Winnipeg, in which area of the city do you reside?

5. What are your current living arrangements?
   a. living with parents or other relatives and friends;
   b. living alone and you are not responsible for supporting dependent children or a partner; this category also includes widowed and separated or divorced;
   c. you are married or living common-in-law, with no children living in your home;
   d. you are married or living common-in-law, with children living in your home;
   e. you are a lone-parent responsible for the financial support of children;
   f. describe any other type of living arrangement if not listed in (a) to (e) above:

   _____

6. Describe your household size at three points in your life. This means that you should list the number of children or other individuals living with you and being financially supported by you, as well as their ages. You should also list your children in foster care, in other care arrangements or no longer living with you.

   a. at the point of entry into sex trade
   b. at the point of the final exit from sex trade work (File review)
   c. your current household size

7. Are you currently the major income earner in the household? Note: the major income earner in the household is the person with the highest income from all sources, for example: earnings from a job or income assistance.

8. What are your *current* sources of financial support? If you wish, you may provide the interviewer with a copy of your 2002 T1 Income Tax Return.
   a. employment income and/or self-employed earnings (state your earnings)
   b. income assistance, employment insurance, CPP disability, workers' compensation, child tax benefits, GST credit, or any other government financial assistance program (please specify and state the amount you receive each month);
   c. support payments from a former spouse (specify the amount)
   d. supported partially or entirely by a boyfriend or parents and other relatives
   e. other (please specify):

      _____

9. Have you ever received income assistance, employment insurance, workers' compensation, or CPP disability? Specify how many times and for how long you received any source of income support.

10. As a youth and before entry into the sex trade, did you experience any type of abuse? (File review)
    a. Physical
    b. Sexual
    c. No abuse

11. How old were you when you became involved in the sex trade? This is the age at which you first exchanged sex for cash or food, drugs, a play to stay, etc., and so it may not necessarily be the time when you first started working on the streets or in other venues.

12. In your opinion, why did you become involved? Examples are provided below.
    a. homelessness due to an early departure from your family or foster home, or any other care arrangement
    b. financial need
    c. could not find a job in the formal job market
    d. could not find a decent paying job in the formal job market in order to support yourself and/or your family
    e. financing drugs
    f. other (please specify):_____

13. Was entry into the sex trade encouraged or forced by another individual(s)? Examples are provided below. (File review)
    a. Boyfriend
    b. Gang
    c. Pimp
    d. Relative(s)
    e. Friend
    f. Other (please specify): _____

14. Explain how were you involved in the sex trade? Examples: as a street worker or the indoor sex trade or some overlap of both? Provide details. (File review)

15. State the number of years that you were involved in the sex trade, including the period in which you may have exchanged sex for food, drugs etc. but were not yet working on the streets or in other venues. List the approximate dates of any attempted exits that lasted longer than three months. (File review)

16. At what age did you exit the sex trade for the last time? (File review)

SECTION 2: INCOME, EARNINGS, EDUCATION & EMPLOYMENT ACTIVITIES

Estimated earnings while involved in the sex trade

17. On average, how many dates per week did you have contact with and what were your estimated earnings? You may estimate on a daily, weekly or yearly basis.

18. Did your earnings and the number of dates each week vary over the period of time that you were involved in the sex trade? Provide details.

19. List in order the more commonly demanded sex acts requested by johns. Estimate in terms of percentage of time specific sex acts were requested.

20. What was your *typical* fee structure for different types of sex act? Were fees were mostly negotiated with each customer?

21. In your opinion, was this a standard fee structure for other sex trade workers in your immediate social circle at the time?

22. In your estimation, did most sex trade workers in your immediate social circle also have these average earnings and charge similar fees or did it vary with each individual? Explain.

23. Did you ever receive any payments of food, clothing, a place to stay, illegal drugs and alcohol or cigarettes from dates instead of cash? If yes, estimate how much, how often and for how long? What was the estimated dollar value?

24. During any period that you were involved in sex trade work, did you ever share your earnings with a boyfriend, pimp, trick pad or escort agency owner or any other individual? If yes, estimate how often and how much? Specify for approximately how long. Was it ever in exchange for drugs, alcohol, shelter, food, clothing and childcare? Also estimate your personal expenditures on clothing required to conduct business in the sex trade.

25. If you answered yes to sharing your earnings with a partner (whether it was a boyfriend or pimp) in Question #24, do you feel that you gained in return a personal benefit, such as a sense of belonging, love or even personal safety? Give details of any personal gain or a threat that you may have felt which would have caused you to share your earnings.

26. Did you ever receive social assistance, employment insurance, CPP disability or any other government financial assistance, at any time *while involved* in the sex trade? Give details.

27. Were you ever robbed while working in the sex trade? Specify approximately how many times or how often, and estimate your lost earnings per week/month/year from being robbed?

Education and job market activities: general questions (#28 to #31)

28. As of the date of the interview, give details about your level of education or years of formal schooling, including any training programs.

29. If you did not complete grade 12 through the regular schooling system, did you obtain the GED (high school equivalency) certificate? If yes, was this before or after exiting the sex trade? (File review)

30. What was your highest level of education when you became involved in the sex trade? (File review)

31. Did you drop out of school before or after you became involved in the sex trade? Give details if this applies to you. (File review)

Education and employment *while involved* in the sex trade

Answer the following questions #32 to #39: At any time *before and during* the period of your involvement in the sex trade:

32. List the types of jobs that you held, including any casual or occasional work. (File review and see the list of requirements in question 42)

33. What was the longest period of time that you ever worked for a company or organization? (File review)

34. Estimate your years of full-time job experience in the work force at all your jobs combined. Full-time is defined as 30 hours per week or more for at least six months in any year. (Note: this information may have been documented in your TERF file and so the interviewer will calculate it)

35. Estimate your part-time job experience in the work force at all your jobs combined. Part-time is defined as less than 30 hours per week for at least six months of the year. (Note: this information may have been documented in your TERF file and so the interviewer will probably just need to confirm it)

36. Estimate your weeks, months or years of experience as a volunteer worker.

37. Did you take a training program or improve your education in any way while you were still involved in the sex trade? If yes, describe the program(s) and dates.

38. When you were around 11-12 years old or before your involvement in the sex trade, what was the dream job that you wanted when you got older? Also, what kind of education did you hope to eventually obtain? When you were exiting from your involvement in the sex trade, what kind of education and job did you eventually hope to get? Did you reach these goals or are you still working at it? Explain. If you feel

that you did not reach these goals, explain what factors you think prevented you from reaching your goals.

39. Do you feel that you gave up educational opportunities and the ability to earn a decent income in your life as a result of having been involved in the sex trade? If yes, what do you feel that you gave up? Explain in detail.

Education and employment *after exiting* the sex trade

Answer the following questions #40 to #46: At any time *after exiting* the sex trade:

40. Have you participated in a special training program or improving your formal education in any way? Describe the program(s) or courses and the dates after exit. This includes job placement training.

41. Have you ever done any volunteer work or taken part in a volunteer training program since your exit? Give as much detail as possible (dates, amount of time, etc.). If you answered yes, do you feel that it helped with getting a job afterwards?

42. Provide a summary of your job experience after exiting the sex trade, including your current job, as follows: (your resume may help here, if you have one)
    a. the company or agency name
    b. the type of industry (for example: social services, health industry)
    c. the type of occupation that you work at (for example: an outreach worker); did you have any supervisory responsibilities in the job?
    d. how did you get the job? (example: referral from TERF staff or an employment agency)
    e. the length of time that you worked in the job; provide the date that you started working at the job and the date you left
    f. provide the reason for leaving the job
    g. specify how many hours you worked per week for which you were paid
    h. specify whether you were considered to be a full-time, part-time, part-year or casual worker
    i. specify your hourly or annual pay
    j. was the job unionized or covered by a union contract?
    k. did your employer provide you with a pension plan and/or medical benefits?
    l. estimate how many employees worked at this agency or company (approximate numbers will suffice; for example, were there less than 20 employees or over 100 workers?)

43. In your current job, if you work part-time (less than 30 hours per week), but you would like to work more hours, state the reason why this is not possible. We provide some examples below (circle if applicable).
    a. caring for own children

b. caring for elder relative(s)
c. going to school
d. could only find part-time work
e. did not want full-time work
f. Other (please specify): _____

44. To the best of your knowledge, is your pay competitive within the industry and the type of job in which you work? For example, if you work as a volunteer coordinator/group facilitator, do you think that your pay scale is similar to the pay scales of other agencies that employ volunteer coordinators/group facilitators? Have you ever compared the pay scales of different organizations in your industry? You only need to explain if you know the answer to this question.

45. Did you have to pay back a student loan for any training course or other educational program participation? State the approximate amount.

46. Did you ever receive social assistance, employment insurance or any other government assistance, at any time *after exiting* the sex trade? Give details.

Work absences *after exiting* the sex trade

47. On average, how many days per month are you absent from work for conditions such as the examples listed below in (a) to (d). (Circle if applicable and specify the number of days) Do you attribute any current missed work time to your past involvement in the sex trade? Explain. (Note: if you attend school or a training program full-time or part-time, answer the question on that basis; otherwise, if not employed or in an education program, answer the question on the basis of your last job).
    a. physical illness
    b. depression
    c. stress
    d. ongoing addictions-related issues
    e. other (please specify):
    _____

48. Does your employer deduct pay and benefits as a result of missed work time? Provide details of your company's sick day policy.

49. After exiting the sex trade, did you experience any medical conditions which slowed down or prevented the completion of an educational or training program (for example, the GED certificate), or finding a job and fully participating in the work force? If yes, did this situation last for a short period of time or did it last for a long time? Give details.
    Examples of medical issues: (Note: we want to examine the role of illness and addictions in your work force participation patterns)
    a. hepatitis viruses

b. HIV/Aids
c. any learning disabilities
d. depression and related mental health issues
e. chronic fatigue
f. ongoing addictions-related issues
g. Other (please specify):

_____

50. Answer this question if you work at a job *and* if you have an illness or condition related to your work in the sex trade. Do you think that it has negatively affected how you perform your on-the-job activities? Explain how. Estimate how much you are prevented from performing your daily tasks at your job on a scale of 1 to 5, with 1 meaning that you have very minor restrictions in everyday paid work activities (1: excellent, 2: very good and 3: good health) and 5 indicates more severe restrictions in everyday paid work activities (4: fair and 5: poor health). (If you go to school, answer the question on that basis; otherwise, you can answer the question on the basis of your last job held).

51. Estimate how many hours in the day that you are prevented from working at a paid job due to any conditions stated in Question #49? For example, do you only work part-time, casually or not participate in the job market due to ongoing physical or mental health issues, or substance abuse/alcoholism? If you attend school, do you only attend it part-time for these same reasons?

52. If you work in the formal job market fewer than eight hours per day due to any conditions in Question #49, how long do you think this situation will last? Specify the period of time (examples: six months, one year, for a very long period of time).

SECTION 3: VIOLENCE

During *the period in which you were involved* in the sex trade: (Questions 53-58)

53. Have you ever been exposed to violence from a bad date, a pimp/boyfriend or other street-based workers (or anyone else)? Specify.

54. Approximately how many times did this occur when you were involved in the sex trade? Specify the types of violence directed at you, the approximate number of times (1x/wk; 1x/month, etc.), and list the nature of the injuries that you sustained (examples: head injuries, infections from cuts and scrapes, burns, broken bones).

55. If applicable, following these violent incidents, did you ever access the following services which were provided at no charge to you through the public health care system:
    a. medical care by a health practitioner
    b. hospital-based medical services, including emergency services

c. counseling services
d. crisis intervention, for example, at a community support agency
e. other (please specify)

Give details of the medical tests, treatments and therapies provided through the health care system. Specify the numbers of visits, nature of the visits and how long the treatment lasted.

56. Estimate your approximate personal expenses on the following as a result of violence:

    a. personal health supplies or medications for physical injuries
    b. counseling costs for mental health injuries
    c. lost earnings from missed work due to injuries (how many days did you miss work?)
    d. other expenditures (please specify):

    _____

57. Was the perpetrator ever charged by the police and did his/her case go to court? If yes, estimate your personal expenses, including lost earnings, as a result of having to testify at a trial. Possible expenditures include transportation, staying at a hotel and legal costs.

58. Did you ever pursue a legal case (civil case) against a perpetrator? If yes, estimate your personal expenses, including lost earnings during the trial process, legal costs, transportation, staying at a hotel if you lived out of town, and the dollar value of any money awarded to you by a Victim Compensation Board.

SECTION 4: JUDICIAL SYSTEM

59. Have you ever been arrested and involved with any aspect of the police and judicial system? (Examples: arrested and charged with an offence; a hearing; a court trial; incarceration, such as being held in a detention center). If yes, answer questions #60, #61 & #62: (a) to (v). If the answer is no, then go to Section 5: Use of Illegal Drugs and Alcohol, Question #63.

60. During the period that you worked in the sex trade, how many times were you arrested? List in detail your arrests and charges.

61. After you exited the sex trade, how many times were you arrested? List in detail your arrests and charges. If you have never been arrested, then go to Question 63.

62. Start by answering questions (a) to (u) for your *prostitution related charges only* (e.g. communicating for the purposes of prostitution). Provide details about your involvement with the police and justice systems. State whether the procedures were very similar from one arrest to the next. Then do the same for your other 'types' of arrests. Note: we think that the arrest and judicial procedures may be somewhat similar for each 'type' of arrest (example: theft, dealing drugs, failure to appear in

court are each considered to be a 'type' of arrest). Therefore, if this is true, you only have to report the number of arrests and the basic legal procedures that you went through involving the police and justice systems for each type of arrest. The interviewer will help you to sort out the required information.

a. Was there an interrogation at the police station at the point of arrest and were you charged with an offence? Approximately how long were you held at the police station?
b. Were you held in custody for any length of time while awaiting a court appearance? For example, were you held in a detention centre or remand? If yes, estimate the length of time that they kept you in custody.
c. Did you get a lawyer? If yes, what was the dollar amount of the fees paid to a private lawyer? State the total dollar amount of your legal costs.
d. Were you appointed a lawyer from legal aid services?
e. If this applies, were you charged a processing fee by legal aid? If yes, state the amount.
f. If you got a lawyer from legal aid, were you provided with a list of expenditures incurred by legal aid? This includes your lawyer's fees and other charges, such as filing court documents, courier, telephone charges, photocopying. Specify the amount.
g. Did you have to pay back any amount of money to Legal Aid or any other private lawyer once you got a job or other income sources?
h. Describe the legal procedures if the case went to a court hearing or to trial. How many separate hearings did you attend? How long did they last (example: one hour/one day/two weeks)?
i. If your case went to a trial, who testified at your trial? (examples: police officers, social workers or psychologists) Was your trial conducted by judge only, or a judge and jury?

j. Did you have contact with any agencies that helped you with understanding your legal rights, for example, Elizabeth Fry Society? Explain.
k. Did any convictions result in a jail sentence? If yes, for how long and in what institution (example: Portage Women's Correctional Facility)?
l. Did any convictions result in a probationary sentence? If yes, for how long and how often did you meet with a probation officer?
m. Was there an appeal and any re-trial procedures? If yes, list the number of hearings and how long they lasted; also list the numbers of police officers, social workers or psychologists who testified at your re-trial.
n. Was Child and Family Services involved in any way? Give details. (e.g. status of children re: legal guardianship)
o. Did you ever attend the Prostitution Diversion Program?
p. For each type of arrest, what were your approximate lost earnings during court sessions and while held in custody? For instance, estimate how many days of lost income were incurred during the legal procedures? Examples: court appearances, meetings with lawyers and probation officers, child

protection services, lost earnings from being held in custody or attending the Prostitution Diversion Program.

q. What were your estimated personal costs for clothing, childcare, transportation, staying at a hotel and fines imposed by the courts?
r. If the penalty enforced by the court was community volunteer work, how many hours of service were required?
s. Was there a court ordered treatment program? What did it involve? Give details of the name(s) of agencies involved in your treatment program, as well as the services provided, number of times and for how long.
t. Estimate your lost earnings due to missed work from participating in court ordered treatment programs.
u. Repeat the above questions (a) to (t) for all other types of arrests.
v. If this applies, do you feel that your involvement in non-prostitution crimes, for example: theft, robbery or drug dealing, was influenced by your involvement in prostitution and/or your addictions? Explain.

Many of following questions will help us to estimate your own personal costs. Other questions are related to your general use of the public health care system and social services, which will help us to determine some of the social effects. We would like to know which social service agencies that you contacted, for what services, an estimation of how many times or how often, and also how long in days, weeks, months or years. Examples include the number of weekly or monthly visits to outreach services or drop-in centers; contact with help or crisis lines; stays at group homes or safe houses; your use of food banks and church programs.

SECTION 5: USE OF ILLEGAL DRUGS AND ALCOHOL

Answer questions 63-71 which are related to the *period of work in the sex trade*:

63. Did you struggle with addictions as a youth and while in the sex trade? List your usage of illegal drugs and/or alcohol before entry into the sex trade and also when you first started working in the sex trade, and how often they were used (example: how many ounces of alcohol per day; we want to estimate if there was an increase/decrease in the use of alcohol/substances after getting involved in the sex trade). State how long this lasted in months or years.

64. When you were first working in the sex trade, on average, how much money per day (or week, or month) did you spend on drugs, alcohol or other illegal substances? If it is easier, you can estimate your usage and costs in terms of percentage of earnings (an example: 50% of daily earnings were spent on crack-cocaine).

65. Was there an increase or decrease in your drug and/or alcohol habit over the period of time that you worked in the sex trade? Explain when and how it increased or decreased over that time period. Give details.

66. During your involvement in the sex trade, *if* there was an increase or decrease in the use of alcohol and/or illegal drugs, estimate how much your costs increased or decreased per day, week or month (you can base it your percentage of earnings). Specify the time period that applies to the changes in money spent on these substances.

67. At any time, were your earnings used to supply another person's drug or alcohol habit? Give details on the approximate number of times, how much and for how long.

68. During the period of work in the sex trade, were you ever hospitalized or did you take part in a treatment program related to substance abuse or alcoholism? If yes, give details of the program, the services you received and for how long? Specify the number of times you participated in treatment programs.

69. Did you access other community services such as AA or other day treatment centers? If yes, give details about the services, how many times and for how long you received the services.

70. While in the sex trade, had you ever stopped and gone back to using drugs or alcohol? If yes, how many times and for how long? What did it involve in terms of access to community resources? (examples: accessing community agencies or hospitals, day programs, help-lines, crisis centers, shelters)

71. For questions 68-70, estimate how much work time was missed and your lost earnings from sex work or any other job, as a direct result of substance abuse or participating in treatment such as detox, rehab, day programs, emergency services and hospitalization.

Answer questions 72-77 which are related to *the period after your final exit* from the sex trade:

72. After your final exit from the sex trade, have you ever been hospitalized or taken part in a treatment program related to substance abuse or alcoholism? If yes, give details of the program, the services you received and for how long? Specify the number of times you took part in treatment programs. Are you intending to participate in any treatment programs in future? If yes, give details.

73. Did you contact other community services such as AA or other day treatment centers? If yes, give details about the services, how many times and for how long you received the services. Are you intending to access these programs in the future? If yes, give details.

74. After your final exit from the sex trade, have you ever stopped and gone back to using drugs or alcohol? If yes, how many times and for how long? What did it involve in terms of contacting community resources? (examples: accessing community agencies or hospitals, day programs, help-lines, crisis centers, shelters etc.).

75. For questions 72-74, estimate how much work time was missed and your lost earnings from any job, as a direct result of alcohol or substance abuse or taking part in treatment programs, such as detox, rehab, day programs, emergency services and hospitalization.

76. Estimate your *current* personal annual out-of-pocket costs of addictions, such as alcohol and illegal drugs, if this applies to you. Remember: you will not be reported to the authorities for revealing your current drug use. For approximately how long in the future do you expect to incur these personal expenditures (1 more year, 5 years, etc.)?

77. Have you joined any recovery/rehab programs where you were responsible for paying the direct costs yourself? If yes, state how many times and how long you participated? Also estimate your lost earnings due to attending the program.

SECTION 6: HEALTH COSTS

We are interested in getting information about your health care usage and costs related directly or indirectly to work in the sex trade. We have already covered some of your medical history related to addictions if this applies to you, but keep in mind that there may be other indirect health costs for conditions related to alcohol or drug use.

Questions 78-83 are related to health usage *during the period that you were involved* in the sex trade.

78. In your opinion, in what ways did you use the medical system as a direct or indirect result of your involvement in the sex trade? Note: A 'direct' result may include more regular gynecological examinations, pap smears, regular testing for sexually transmitted diseases at a community health center. An 'indirect' result may include more regular visits to free counseling services provided by a community health center because you are depressed about your situation.

79. On the other hand, would you say that you avoided the medical system and had lower usage of it during your involvement in the sex trade? Explain.

80. While involved in the sex trade, what physical and mental health problems and conditions did you experience that were directly or indirectly due to your involvement in the sex trade, and which increased your use of the health care system? List them. Examples: contracting sexually transmitted diseases, HIV/Aids or the hepatitis viruses. The indirect or related health effects that require medical attention may include conditions such as pelvic inflammatory disease. You may also include mental health conditions such as severe depression and subsequent care. Hospitalization for

broken bones after a violent episode was covered in Section 3: Violence, but if you did not discuss it then, you can add it here.

81. For each health problem or condition, estimate the number of visits to a health practitioner, emergency centre, or hospitalization. Give details about the agencies or organizations contacted. Specify the services and treatments received, as well as types of medications prescribed (and costs if you remember them). If hospitalized, approximately how long was the hospital stay? What tests were conducted?

82. Did you access any other community health agencies or other health practitioners, such as physiotherapists, chiropractors, dentists and nurse practitioners? Were any extra medical tests ordered or medications prescribed? Explain. An example is chiropractic care for a neck-spine injury from being battered by a john. The chiropractor may also prescribe special ice packs.

83. Did you incur personal medical expenses paid to any physical or mental health practitioners and treatments or medications, not covered by Manitoba Health? Please specify. If you did not pay the costs of your treatment, who paid for them?
    a. private insurance
    b. friends or relatives
    c. a government income assistance program
    d. other (please specify):

    _____

Questions 84-90 are related to health utilization *after exiting* the sex trade. These questions are related to your lifelong health care system usage that may be due directly or indirectly to your earlier work in the sex trade.

84. In your opinion, what health problems have you experienced after your final exit from the sex trade that have led to increased use of the health care system? Give details of the diagnosis, treatment and costs of medications received. Examples include the long term medical usage from contracting sexually transmitted diseases such as HIV or Hepatitis C or pre-cancerous cervical or uterine growths that require regular monitoring by a doctor.

85. For each health problem or condition in #84, estimate the number of visits to an emergency centre or hospital. Give details about the institutions contacted. Specify the services and treatments received, as well as types of medications prescribed (and costs if you recall). If hospitalized, how long was the hospital stay? What tests were conducted?

86. How often do you visit medical professionals on an annual basis for sex-trade related conditions or check-ups? Specify your number of visits to the following practitioners and specify the services and treatments received, as well as costs of medications prescribed:
    a. family doctor
    b. dentist
    c. nurse practitioner
    d. psychiatrist
    e. chiropractor
    f. physiotherapist
    g. specialists
    h. other (please specify):

    _____

    For approximately how long in the future do you expect to visit medical professionals for sex-trade related conditions or check-ups (1 more year, 5 years, etc.)?

87. Who pays the cost of their services?
    a. out of your own pocket
    b. insurance company
    c. relative or friend
    d. free service through the public health care system (give details about the agency that provides these services)
    e. a government income assistance program
    f. other (please specify):

    _____

88. Do you have mental health issues that are sex-trade related for which you visit health service providers such as counselors, psychologists, etc? If yes, who pays these costs?
    a. out of your own pocket
    b. insurance company
    c. relative or friend
    d. free service through the public health care system (give details about the agency that provides these services)
    e. a government income assistance program
    f. other (please specify):

    _____

    For approximately how long in the future do you expect to visit mental health caregivers for sex-trade related conditions or check-ups (1 more year, 5 years, etc.)?

89. If this applies to you, estimate the current personal annual out-of-pocket costs of any addictive habits that you would prefer not to be doing. Examples may include cigarette smoking or excessive gambling. For approximately how long in the future do you expect to incur these personal expenditures (1 more year, 5 years, etc.)?

90. Estimate your personal costs for prescription drugs and self-help materials (books, tapes); traditional and alternative therapies; nutritional supplements. For approximately how long in the future do you expect to incur these personal expenditures (1 more year, 5 years, etc.)?

SECTION 7: SOCIAL AND COMMUNITY SERVICES

We are interested in obtaining information about your access to social service agencies and other community resources. In order to help you recollect your usage of social services, we have provided a list of agencies in the Winnipeg area at the end of this questionnaire. You should begin this section by checking off the types of community services and government agencies that you have contacted. Indicate whether contact was made during the period in which you were involved in the sex trade or after your final exit or both periods of time. Also think about whether you contacted the agency as a result of your involvement in the sex trade, either directly or indirectly.

If the agency name only is listed below, you should also tell us the name of the program in which you participated at that agency. Estimate the number of times that you used the program and for how long. You may also add to the list at the end of the interview questionnaire any other agencies that you have contacted, which do not appear on the list. We apologize for any overlap between the following questions and the earlier interview questions.

After you have reviewed the list of agencies, answer questions # 91-99.

During the *period that you were involved* in the sex trade:

91. While working in the sex trade, did you ever access any of the following services as a *direct or indirect result of your involvement in the sex trade*? Specify how many times, how often and for what services.

    a. outreach van providing condoms, needle exchange, crisis intervention, safety information such as a street newsletter
    b. drop-in centre providing services such as a shower, counseling, recreation, meals and clothing
    c. crisis or help line
    d. sexual assault crisis centre
    e. counseling at a community agency
    f. outreach counseling services
    g. services related to addictions (e.g. detox)
    h. a safe house or shelter
    i. a group home or transitional housing project
    j. a church program or drop-in centre
    k. an exiting or transition program (an example is TERF)
    l. cultural services

m. other (please specify):

_____

92. During your attempt(s) to exit the sex trade, describe the involvement of community agencies? List the agencies contacted, the type of services, estimate the numbers of visits (for example, 2x per week) and for how long a period of time.

93. After you entered the sex trade and before your final exit, did you ever have contact with Child and Family Services? If yes, state the services provided. *Do not give any specific details.* For example, was the contact related to foster care or group home placement for yourself or your children (legal guardianship status)? You should also specify the total length of time that you or any of your children lived in a group home, foster care or were placed with relatives.

94. If your children were placed in foster care or with relatives do you think this was due to the nature of your work in the sex trade and/or addictions? Just answer *yes or no* to each one. *Do not give any specific details.*

95. Think about the period of time before you became involved in the sex trade and also around the time that you entered the sex trade. Did you ever come across any information about alternatives to sex work? Use the following list as a guide and give details.
    a. a school awareness or presentation program or any materials in your school about the health risks and dangers in the sex trade
    b. a non-judgmental school counseling program that you had easy access to and which dealt with abuse, family conflicts and issues related to running away from home
    c. a poster in a bus shelter or posted in a public area, listing contact information on available community support resources to get off the streets and reasonable alternatives to sex work, including help with job searching or financial help
    d. a resource pamphlet indicating contact information on available community support resources to get off the streets and reasonable alternatives to sex work, including help with job searching or financial help
    e. a help-line or 24 hour distress line directed at street workers and posted in a public place such as a bus shelter
    f. approached by an outreach worker offering information on community support agencies or resources or outreach counseling services
    g. other (please specify):

    _____

We are interested in capturing information about your long term usage and access to social services. During the period *after the final exit* from the sex trade:

96. Did you continue to contact community programs for yourself or on behalf of your children? Would you say that these contacts were related to your previous involvement in the sex trade? If yes, for what services, how many times and how long?

    a. ongoing support groups
    b. cultural support programs
    c. agencies that helped you to obtain subsidized housing
    d. recreation activities
    e. food banks
    f. emergency food/financial relief
    g. support at churches
    h. help/crisis lines
    i. drop in centers
    j. income assistance (welfare aid)
    k. youth counseling programs
    l. parenting or parent/teen conflict classes
    m. Big Brothers/Big Sisters Association
    n. other (please specify):

    _____

    Estimate approximately how long in the future you expect to access any of these services which are directly or indirectly related to your previous sex trade activities (1 more year, 5 years, etc.)?

97. After your final exit from the sex trade, did you ever have contact with Child and Family Services? If yes, describe the services provided. For example, the contact may have been related to getting your children back from foster care arrangements or parenting support. *You do not have to provide any specific details, just the types of services accessed.*
    If your children are currently in care with CFS, estimate approximately how long in the future you expect them to remain in foster care or other guardianship arrangements (1 more year, 5 years, etc.)? (assess legal guardianship)

98. Do any of your children have learning disabilities, fetal alcohol or narcotics syndrome (FAS/FNS), which you consider to be related to involvement in the sex trade (for example, due to addictions that increased as a result of sex trade activities)?

99. Have you ever accessed any special education services or tutoring for your children due to learning disabilities or behavioral problems? Provide some details about agencies contacted and services provided, and for how long.

OTHER LIFELONG COSTS

100. Have you ever incurred any of the following personal expenses as a direct result of your previous involvement in the sex trade? Specify the number of times?
    a. relocation costs (moving to a new city or area)
    b. an unlisted telephone number
    c. a home security system
    d. self-defense classes
    e. other (please specify):

    _____

CHECKLIST OF COMMUNITY SUPPORT AGENCIES

- **Programs at the Aboriginal Centre of Winnipeg**
    - Anishnaabe Oway-Ishi Inc. (training/employment)
    - Aboriginal Health and Wellness Centre
    - Original Women's Network
    - Aboriginal Council of Winnipeg
    - Aboriginal Literacy Foundation
- **Aboriginal Family Support Services**
- **AFM: Addictions Foundation of Manitoba programs**
    - River House
    - Christie House
- **Alcoholics Anonymous**
- **Andrews Street Family Centre**
- **Anokiiwin Training Institute**
- **Big Brothers Big Sisters of Winnipeg**
- **Child and Family Services of Winnipeg**
- **Circle of Life Thunderbird House: support groups**
- **Elizabeth Fry Society**
- **Family Violence Program**
- **Harvest Food Bank**
- **Ikwe-Widdjiitiwin (a shelter)**
- **Indian and Metis Friendship Centre**
- **Klinic Community Health Centre: Winnipeg Sexual Assault Crisis line**
- **Klinic Community Health Centre: Dream Catchers; Teen Talk; Evolve**
- **MacDonald Youth Services programs**
    - Youth Mobilization/Crisis Unit (at Marymound or Project Neecheewam)
- **Ma Mawi Wi Chi Itata Centre**
- **Manitoba Adolescent Treatment Centre**
- **Manitoba Housing Authority**
- **Manitoba Learning Centre**
- **Manitoba Metis Federation**
- **Marymound Group Home**
- **Narcotics Anonymous**
- **Native Addictions Council of Manitoba**
- **Native Women's Transition Centre**
- **New Directions: Families affected by sexual assault**
- **New Directions: TERF Program (Training and Employment Resources for**

Females) -- Youth and Adult Programs

- **New Directions: Try Program**
- **Nine Circles Community Health Centre**
- **North End Women's Resource Centre**
- **Osborne House Crisis Shelter**
- **Operation Go Home**
- **Pritchard House**
- **Project Neecheewam**
- **River House (Addictions Foundation of Manitoba)**
- **Rossbrook House**
- **SAGE House (a program of Mount Carmel Clinic) or the mobile van**
- **Salvation Army programs**
  - Prostitution Diversion Program
  - Women's Services Shelter on Henry Avenue
- **Seven Oaks Youth Center**
- **St. Norbert Foundation (Behavioural Health Foundation)**
- **Street Connections (needle exchange; meals; drop-in environment)**
- **Taking Charge (job search, training)**
- **Teen Touch (24 hour distress line)**
- **Urban Circle Training Centre: Adult Education and Employment Program**
- **Winnipeg Adult Education Centre**
- **Winnipeg Boys and Girls Club**
- **Winnipeg Native Alliance**
- **Winnipeg Transition Centre**
- **Wolseley Family Place**
- **Women's Empowerment Project**

List any other community organizations:

- **Church organizations**
- **Aboriginal service providers**
- **A program at a community health centre**
- **A group housing facility**
- **Pregnancy counseling services**
- **Support groups**
- **A safe house or shelter**
- **Any organization that helped you with independent living arrangements**
- **Any organization that helped you with financial assistance**
- **Any organization that helped you with preparing a resume or finding a job**
- **A help-line**
- **A drug or alcohol rehabilitation centre**
- **A food bank or soup kitchen**
- **A training or education program**
- **A drop-in center**

- **LIST OTHER ORGANIZATIONS:**

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_____

_____

_____

Thank-you very much for your participation!!!!!

UNIVERSITY OF MANITOBA

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APPROVAL CERTIFICATE

21 October 2003

TO: **Linda DeRiviere** (Advisor J. Loxley)
Principal Investigator

FROM: **K. Duncan, Interim Chair**
Joint-Faculty Research Ethics Board (JFREB)

Re: **Protocol #J2003:148**
"An Economic Study of the Cost to Society when a Youth is Sexually Exploited through Prostitution"

Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note that, if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

UNIVERSITY OF MANITOBA

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AMENDMENT APPROVAL

18 March 2004

TO: **Linda DeRiviere**
Principal Investigator

FROM: **Karen Duncan, Interim Chair**
Joint-Faculty Research Ethics Board (JFREB)

Re: **Protocol #J2003:148**
"An Economic Study of the Cost to Society when a Youth is Sexually Exploited through Prostitution"

This will acknowledge your memo of March 11, 2004 requesting amendment to the above-noted protocol.

Approval is given for this amendment. Any other changes to the protocol must be reported to the Human Ethics Secretariat in advance of implementation.