

Taking work home

Labour dynamics of women industrial homeworkers
in Sweden during the second industrial revolution

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ABSTRACT

Taking work home: Labour dynamics of women industrial homeworkers in Sweden during the second industrial revolution

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The papers in this dissertation explore women's labour market decisions in the context of an industrializing economy by focusing on female industrial homeworkers in Sweden during the second industrial revolution. Three different datasets were compiled for these studies: one cross-sectional, individual-level dataset based on survey data from interviews conducted with a large number of individual industrial homeworkers in 1911; one longitudinal, individual-level panel dataset based on poll tax records; and one dataset comprising qualitative data based on contemporary texts. Both quantitative and qualitative methods were used to analyse the data. The dissertation consists of an introduction, four research papers and a description of the compilation of the first two datasets.

Paper 1 investigates how the birth of a first child affected the timing of the transition into industrial homework for the individuals. The main result was that having a first child significantly increased an individual's propensity to start industrial homework, both in the urban and rural contexts.

Paper 2 identifies life-course patterns of paid work for industrial homeworkers and explores how marital status affected the trajectories in and out of industrial homework. The results showed that for most women, industrial homework was part of a continuous occupational trajectory and few experienced any occupational mobility during the transition to or from industrial homework.

The focus of paper 3 is seasonal variations in hours worked and how seasonal variation can be explained. The main finding was instead a general lack of seasonal variation in hours worked, in both the urban and rural samples. Most women worked surprisingly consistent hours year-round, despite often being described as highly flexible and seasonal workers. There was however some seasonal variation found in hours worked and this was mainly related to differences in products made.

Paper 4 explores the theory of "housewifization" and whether industrial homeworkers were marginalized and unprotected in the labour market because they were considered to be housewives working for pin money. Industrial homeworkers were not found to be described as housewives or working for pin money in the public debate in early 20th century Sweden. Nor were they housewives – most of them contributed significantly to the household income and the majority of industrial homeworkers were heads of their own households.

This dissertation provides new individual-level evidence of the labour market decisions made by an important but little studied segment of the labour market: industrial homeworkers. By combining quantitative and qualitative methods with data from unconventional sources, it tells us about the conditions of homeworkers as individuals, as parts of families and households, and as a group in the labour market.

KEYWORDS: Industrial homework, industrialization, gender, social history, child care, occupational mobility, life-course labour supply, hours of work, housewifization

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Introduction

1. Background, aim and research questions

I have chosen to study the history of women's work because I want to know why women as a group, throughout history and in all the places so far studied, have had less access to resources than men. Gendered divisions of labour have given women less freedom of choice in the productive activities available to them. By studying divisions of labour in the past, it is possible to discover if and when these divisions can change and thus get insights into how they can change again.

Previously, the work of men has been studied in much greater detail than that of women. However, in recent decades an increasing number of scholars have focused on the work of women (Tilly, Tilly & Scott, 1987; Alter, 1988; Goldin, 1990; Ogilvie, 2003; Burnette, 2008). These studies have contributed greatly to our understanding of gendered divisions of labour in different times and places, and there is no longer any doubt *whether* women worked. But the work of women is often not encompassed by conventional sources like official statistics or company records (Nyberg, 1987; Vikström, 2010; Humphries & Sarasúa, 2012). There is thus still much to be discovered when it comes to the factors influencing the work of women in historical contexts; questions about *when, where, why* and *how* often still remain unanswered.

One of the largest changes in methods of production in history has been the process of industrialization. This process rapidly changed not only the methods of production but also the social dynamics of society. For this reason, women's work in industrializing economies has been of special interest as the rapid transformation of society offered a setting in which new types of labour meant a possibility to negotiate new divisions of labour (Pinchbeck, 1969; Hagemann, 1994; Hareven, 1993). At the centre of these transformations was an emerging separation of home and workplace and the dynamic between paid and unpaid work.

The aim of this thesis is to explore women's labour market decisions in the context of an industrializing economy by focusing on female industrial homeworkers in Sweden during the second industrial revolution. Industrial homework was paid industrial production performed within the home of the worker. This group of workers were situated right at the intersection of paid

and unpaid work, between home and workplace, and between formal and informal employment. Industrial homeworkers also provide a good example of how the paid work of women remained hidden from conventional sources, since they were often not included in industrial statistics or company records. Although overlooked by official records, industrial homeworkers represented a large group in the labour market. If industrial homeworkers had been included as a category of their own in the industrial statistics in Sweden in 1910, they would have made up the second largest category for women in manufacturing.¹ Industrial homework was a common form of employment for women all over Europe in the late 19th and early 20th century, however they have received remarkably little scholarly attention. This thesis therefore focuses on this group of workers and in particular tries to answer questions regarding *who* worked in industrial homework, *why* they worked in industrial homework and *what* the terms of their labour were. Three specific research questions are answered by the papers in the dissertation:

- (1) What factors influenced women's decision to enter industrial homework?
- (2) What factors influenced how much time women allocated to industrial homework?
- (3) How did ideological constructions of gender and work affect homeworkers' ability to negotiate the terms of their labour?

2. Theory

2.1 Theoretical points of departure: feminist economics and social history

The field of feminist economics, while assuming that economics and economic theory can explain a lot about the world, also assumes that even more can be explained if one includes a feminist perspective.² A feminist perspective implies

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- 1 According to the survey on Industrial homeworkers, slightly over 20,000 women worked in industrial homework in 1912. The industrial statistics estimate the number of women textile workers (not including homeworkers) to be about 28,000 in 1910. The total number of women employed in the manufacturing industry in 1910 was 58,743 (Karlsson, 1996). I could not find gender-segregated industrial statistics for 1912.
 - 2 Much recent feminist economic research can be found in or around the journal "Feminist Economics" published by the International Association for Feminist Economics (IAFFE). For more general overviews see for example (Barker & Kuiper, 2003; Bettio & Verashchagina, 2008; Ferber & Nelson, 2003; Staveren, 2007), on gender and the labour market for example (Jacobsen, 2007) and on development (Balakrishnan, 2001; Beneria, Berik & Floro, 2003) and care work (Folbre, 1994).

that the way we view the economy and economic behaviour is gendered and reflects societal power relations. Feminist economist perspectives often imply a critical stance on the perceived objectivity of the economist and tend to emphasize that results may be skewed by the fact that economists and economic theorists have almost always been male and that they are influenced by their experiences and perceptions of society, and hence leave out the production and much of the work performed by women (Ferber & Nelson, 2003; Nyberg, 2001). Feminist economists have also directed critique towards the concept of the “rational economic man” and assumptions of self-interest; that a rational economic actor is completely selfish in the market but completely altruistic within a family, a common assumption in mainstream economics (England, 2003). Feminist economics rather tend to emphasize the conflicting interests of individuals or subgroups of individuals within a household. A feminist economic perspective also tends to affect what we study, in general leading to a focus on how “real-world” issues affect various subgroups of the population such as women and children, rather than adopting a narrow theoretical focus on choice under stylized conditions of scarcity (Ferber & Nelson, 2003, p. 8).

Work is often at the centre of feminist economic studies, and the questions studied are often (but not exclusively) related to labour market issues such as occupational segregation and wage differentials; family organization such as labour divisions and allocation of resources in the household; gender in economic development as well as the nature of work itself and what types of work are included in national accounts. Feminist economics also tend to contest dichotomies such as productive/reproductive, formal/informal or home/workplace, and see them as closely related to gendered divisions of labour in society. Scholars within and close to this field inspire the questions I study in the dissertation. However, as an economic historian, the assumption is also that a longitudinal perspective will increase our understanding of the world.

The concept of strategies has been important in shaping the way I think about industrial homeworkers and the choices they made. In social history, the strategy concept is often used to approach the decisions made by individuals and has often been used to analyse and interpret how individuals and families have acted to deal with economic and social change. The strategy concept has been used to identify patterns and behavioural regularities, and to some extent also explain them (Baud, 1997; Tilly, 1987). A basic definition of a strategy is to see it as “a plan of procedure by a decision-making unit” although the term has a range of meanings and connotations (Fredrik Barth cited in Kok 2002, p. 466). In social history the term “family strategies” is often used to emphasize

that historically the family could be considered a decision-making unit. In a slightly more elaborate definition of a strategy, Tamara Hareven described a family strategy as “a set of interrelated family decisions and plans governing the family or household membership, migration, demographic behaviour, labour force participation and consumption patterns” (Tamara K. Haraven, 1990, p. 216).³

The strategy concept became increasingly popular from the late 1970s, although it has deep theoretical roots in the late 19th century agricultural economist AV Chayanov and his theory of the peasant economy, propagated by social anthropologists and Pierre Bourdieu’s work on matrimonial strategies (Bourdieu, 1976). The introduction of the strategy concept should be seen in the context of opposing previous historiography that had an exclusive emphasis on structural factors and portrayed historical actors, especially poor individuals and families, as having little or no agency over how they lived their lives (Baud & Engelen, 1997). Within the strategy framework, historical subjects are instead seen as active agents who operated and interacted with processes of economic and social change without denying the existence of structures (Tilly, 1979, p. 138). In many ways the strategy concept has been used as a way to find a middle ground between individual choices and overarching structures.

The use of strategies as an analytical concept has not gone uncontested. The lack of a clear definition is one topic of criticism. Viazzo and Lynch (2002) claim that despite years of trying, the term remains “ambiguous and ill-defined” (Viazzo & Lynch, 2002, p. 425). According to these authors, at least in the case of social anthropology, the term is still surrounded by an “alarming degree of looseness and confusion” (Viazzo & Lynch, 2002, p. 425). Unclear definitions of the household, family and the strategy concepts also make for weak foundations in cross-cultural comparisons, according to Baud and Engelen (Baud & Engelen, 1997). Another common critique is that it is not possible to tell if individuals’ decisions were conscious simply by studying the outcomes of these decisions, as “there is a strategy in every empirical finding” (Engelen, 2002, p. 462). The question of intent is hence an inherent point of discussion when using the term strategy.

I have used the strategy concept as a way to connect with a research tradition that is primarily interested in the questions I aim to work with: How individuals adjust to and are affected by changing social and economic structures, how

3 A longer theoretical discussion of the definitions of the household and family strategies perspective is available for example in (Emigh, 2001)

families regulate the internal allocation of labour, and the role individuals play in devising these family strategies. But I also use it as a tool, to consider historical actors as rational, strategic decision makers, without denying the limits set by the structures within which they make these decisions. Throughout this dissertation, the dynamics between individuals and households form an interesting dimension as well as a problem, given the difficulty of determining whether strategies were advanced by the individual, or if they were the result of collective decisions in the household, or dictated by the specific historical and economic context. These are difficult dilemmas that researchers must constantly deal with. However, to me this also adds to the relevance and interest of studying the interactions between social and economic change, individuals and families, over historical time.

Structural constraints certainly affected the choices that the homeworkers studied were able to make. These women worked in manufacturing, one of the most occupationally segregated branches of the labour market. Labour market segmentation very likely restricted the choices they were able to make and their low wages may be explained, at least in part, by them being crowded into a small segment of the labour market (Bergmann, 1974). In addition, women workers were most likely statistically discriminated against by employers and institutionally restricted by both a breadwinner ideal and official legislation (Horrell & Humphries, 1997; Wikander, Kessler-Harris & Lewis, 1995). Nevertheless, explanations that focus on structural aspects, however important for explaining differences in outcomes for groups of workers and long-term trends, may not be very helpful in explaining variation in outcomes within a cross-sectional group of individuals such as that primarily studied in the thesis. This is especially true when individuals by and large are similar in terms of age, gender, religious, social and ethnical backgrounds.

As I study individual women and the choices they make in a labour market full of structural constraints, I needed a concept that recognises that workers can make decisions about their own lives, without assuming that they are completely rational actors without any structural restrictions or context. Following Naila Kabeer, I attempted to take an analytical approach that is:

“acknowledging structure without denying agency, in order to see their interaction in shaping how women’s labour market decisions were actually made” (Kabeer, 2002, p. 326).

There are several other concepts that could bring a similar framework to the thesis. Terms like “capabilities”, “agency”, or “livelihoods” would all potentially bring conceptual context and ways to frame the labour dynamics of the industrial homeworkers. Nevertheless they all have strengths and weaknesses of their own. I believe that using the strategies concept, or more specifically the labour strategies concept, in my dissertation has several clear advantages: it is a more established concept in the social history tradition and connects this dissertation to a field of study that has dealt with similar questions and concepts while still allowing an approach that views industrial homeworkers as agents of change.

I have been interested in the labour market decisions that industrial homeworkers were able to make during the second industrial revolution, and how individual or household level determinants affected these decisions. The individual and the household are hence the primary units of interest in the dissertation. By focusing on the labour market decisions and strategies of these individuals, I assume that they have had some kind of choice and that there is an option that is not chosen, which represents an opportunity cost to the decision made. From a theoretical perspective, I am thus positioning myself fairly closely to applied mainstream microeconomic theory. However, I also acknowledge that these choices were restricted by structural constraints such as cultural norms, opposing group interests and institutional inequalities. Even though these structures were not the focus of this dissertation, I hope that by studying the labour strategies and choices that were possible within these structures, we can get a better understanding of when these structures were more or less rigid.

2.2 Theoretical framework

As this is a compilation thesis, the applied theoretical framework differs from paper to paper, as will be discussed in greater detail within each chapter. There are however some general theoretical considerations that have informed the questions asked throughout this thesis. Economists study individuals’ decisions whether to be in paid work at all, and how much they work, by using labour supply models. The aim of the dissertation is not to construct fully parameterized labour supply models for industrial homeworkers, but the questions and relationships I try to answer using historical data in Papers I, II and III have been informed by relationships described by these models and by modern economic approaches to studying home-based work.

2.2.1 Determinants of individuals' decisions to take on industrial homework

Labour supply models can be used to understand whether and how much time individuals spend performing paid work. These models rests on the assumption that individuals must balance a trade-off between consumption and leisure under a budget constraint set by the time available to perform work, market wages, and non-wage incomes. Consumption represents all the goods and services that an individual uses while leisure represents the time spent not performing paid work, including housework and actual leisure. Because every hour of leisure represents an hour without pay, the price an individual must pay for one extra hour of leisure will be equal to the wage rate.

Under these premises, the relationship between market wages and the numbers of hours worked will depend on the relative strength of two factors: the substitution effect and the income effect. Provided that leisure is a normal good (something that people wants more of if they have more money), the substitution effect dominates when wages are low, causing individuals to work more as wages increase due to the increased cost of leisure. When wages are higher, however, the income effect will tend to dominate, causing individuals to buy more leisure and work less as wages increase (Jacobsen, 2007, p. 131). This basic model captures some important aspects of labour supply dynamics, but fails to take into consideration many important aspects of individuals' labour supply.

Household production, for example, often forms a substitute for wage work that needs to be distinguished from other kinds of activities that are included in an individual's leisure time in the basic model. In more elaborate labour supply models that account for the value of household production, individuals are instead faced with a choice between market work, household production and leisure. The allocation of time between market work and household production will then depend on an individuals' relative productivity performing each of these activities.

Individuals also often form part of a family. Labour supply models have been constructed where the family has replaced the individual as the economic unit of interest. When faced with empirical data, however, these collective models often fail to predict important aspects of individuals' labour market decisions. One reason for this is that they do not take into consideration that individuals within a family do not always have equal access to non-wage incomes. Other models have solved this problem by defining separate labour supply functions for each family member, but allowing parts of individuals' wages and non-wage incomes to be distributed among family members via "sharing rules" (Cahuc &

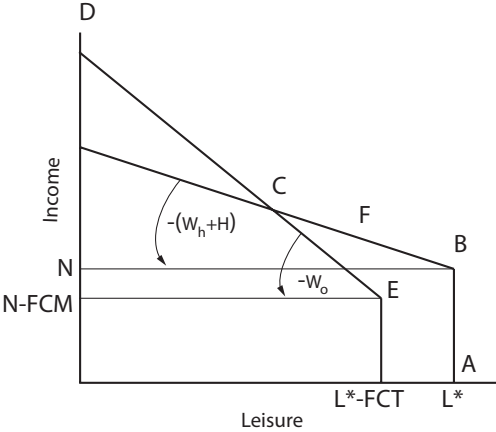
Zylberberg, 2004, p. 5-12). These kind of interfamilial, decision-based models have proven to be highly relevant for understanding the labour supply of diverse groups on the labour market. That the choices of family members are inherently interdependent is thus true for many groups of workers. It is perhaps especially true for women in the early 20th century.

To understand the labour supply of industrial homeworkers, additional choices can be introduced into these labour supply models. In particular the choice between performing paid on-site work or paid home-based work. One present-day study provides such a model, which can help us understand how individuals decide between engaging in home-based or on-site paid work.

2.2.2 Modelling the decision to enter industrial homework

According to the model of Edwards and Field-Hendrey (2002), the choice between work sites will depend on the fixed costs of working, the determinants of wage and household productivity, and the potential for joint home production. Although this model was developed with a late 20th century economy in mind, several of the general relationships between unearned (non-wage income), value of home production and wages are informative with regards to turn-of-the-century homeworkers. This section of the text describes the variables of the model, some empirical examples that show why there is reason to believe that they can also be relevant in a historical context and how the relationship is studied in the thesis. First we see the general model in figure 1.

FIGURE 1 The Edwards and Fields-Hendrey model of labour supply by work site



Source: Figure 1 “Diagrammatic model of labour supply by work site” in Edwards and Field-Hendrey, page 175.

In the model, N is unearned income, and L^* is the total amount of time available. FCM is monetary fixed costs and FCT is fixed costs in time for on-site work (such as commuting). W_b and W_o are the respective wage offers for home based and on-site work; H is the monetary value of household production per hour of home-based work. The model assumes that fixed costs for home-based work are zero and that $W_b < W_o$. Women can choose to be at point B and be completely out of the labour force; to be in segment BC and be a home based-worker, or to be in segment CD and be an on-site worker. The budget constraint is ABFCD (Edwards & Field-Hendrey, 2002, p. 176). The relationships are summarized below in table 1.

TABLE 1

Increase in	Predicted change in probability of being in specific work site			
	In figure 1	Home-based work	On-site work	Out of labour force
Value of home production	H	+	-	-
Wage as home-based worker	W_b	+	-	-
Wage as on-site worker	W_o	-	+	-
Fixed costs in money or time when working on site	FCM/FCT	+	-	+

Table from Edwards & Field-Hendrey (2002, p. 177)

2.2.3 The value of home production

The value of home production effects the choice between work-site because of the possibility of joint production in home-based work. Because home-based workers are assumed to be able to divide their time more effectively between care work and producing goods for money, we might expect that an increase in the value of home production like for example the birth of a child to increase the value of home-based production relative to on-site work. This may be especially important in a historic working-class context. Industrial homework has often been seen as a strategy that allows individuals to resolve this conflict between the simultaneous increase in the demands for home-based care work. In a recent study, Paul Atkinson confirms this view of home-based work as an option for the “hard-pressed young mother” (Atkinson, 2012, p. 153). Based on these considerations, we may expect a strong positive correlation between the timing of a first child and labour market transitions to industrial homework. This relationship is explored in Paper II.

The value of joint production can also be expected to increase when women get married (Edwards & Field-Hendrey, 2002, pp. 174–178). Marriage can thus be expected to have an effect on labour market transitions even in the absence of children. Previous studies on industrial homework have strongly emphasized that the transition to industrial homework is highly contingent on marriage. As an example, Tilly and Scott quote from Charles Booth's *Life and Labour of the People in London*, on women in the London garment industry: "Before marriage they go to the shops, and after marriage, if obliged to earn money, they take the work home" (Tilly et al., 1987, p. 126). This relationship and its consequences for the career of homeworkers are explored in Paper I.

2.2.4 Wages in home-based work and on-site work

Edwards and Field-Hendrey's model further predicts that the wages an individual can potentially earn in an on-site workplace relative to what can be earned at home will be important for whether individuals choose to take on industrial homework. Women with higher potential earnings in home-based work should thus be more likely to be in home-based work while those with higher potential earnings (including deductions of fixed costs and the value of household production) in a formal workplace would be more inclined to stay out. As my data does not allow for this, the relationship between potential wages in on site-work and wages in home-based work is not specifically explored in any of the papers. The direction of it is however used to provide explanations for the results, in several of the papers, especially Paper III.

3. Delimitations: choosing time and place

The setting of this dissertation is Sweden during the second industrial revolution. In Sweden, the second industrial revolution roughly corresponds to the time between 1890 and 1914. I chose to study this period, as it was an era of major societal transformations. During the last decades of the 19th century and first years of the 20th century, Sweden was catching up with many of its European neighbours, experiencing rapid industrial growth along with an urbanization process led by young women (Schön, 2000, p. 222). This period has been described as a "gender crisis" during which the new gendered norms of the urban and industrialized society had not yet become permanent (Hedenborg & Wikander, 2003, p. 148). The labour market was also transforming rapidly. Most of the homeworkers I study entered the labour market as teenagers around

the turn of the 20th century. Half a century later, in the 1950s when they were in their sixties, the labour market for women had changed dramatically. I refer to this period as the second industrial revolution to emphasize that the structural changes occurring in Sweden during this time closely resembled those changes that occurred in many European countries during the latter part of the 19th century and the beginning of the 20th century. Other terms could potentially have been used to refer to this period such as the “industrial capitalist era” or the “family wage economy”. However, these terms are laden with assumptions about the institutional context. To facilitate comparisons, I have chosen to use the term “second industrial revolution” because it highlights that these individuals acted within a structural setting resembling that of other countries undergoing a similar process of industrialization, although this did not always occur at the same time or within the same institutional context.

The decision to study Sweden during this period was strongly motivated by the availability of sources. Sweden was not the only country that made surveys of industrial homeworkers, but Sweden at this time conducted one of the largest national surveys of industrial homeworkers ever made. Sweden was not chosen as an extraordinary case. Rather the situation for homeworkers in Sweden is expected to resemble that in many other western European countries around this time. In terms of the types of products made and the organization of labour, industrial homeworkers in Sweden were similar to those in many other European countries.

However, Sweden differed from the larger urban metropolitan areas of Europe in one important respect: the labour force of industrial homeworkers in Sweden was not ethnically diverse. Although some Swedish workers were migrants, they rarely came from other countries but more often came from neighbouring rural areas. Potentially, this may cause the experiences of Swedish industrial homeworkers to differ from those of industrial homeworkers in other countries, as ethnicity is often brought up as an important aspect of labour market dynamics. The individuals I study were actually economically active over a period of time covering nearly a hundred years; the oldest were born in the 1840s and the last observations I have on their economic activities are from 1944. However the majority of their labour market decisions studied here were made around the turn of the 19th century and thus this is the period discussed here and the setting for previous research.

4. Previous research

Women industrial homeworkers during the second industrial revolution have been studied both by contemporary observers and by modern scholars. The contemporary texts were often produced within the context of introducing protective legislation for women workers and public debates on social reform. Many countries performed surveys of various sizes on the situation of industrial homeworkers during this time, often in response to a strong public discourse on their social situation. Many were based on census figures, but there were also smaller surveys that focused on a particular branch, region or social segment (Women's Industrial Council, 1908; Mény, 1910; Direction du travail, France, 1909).

Many of the surveys, texts and exhibitions about industrial homeworkers produced during this time often had an explicit political motivation, and were often conducted with specific objectives in mind. For example the desire to introduce a minimum wage or to ban industrial homework (Fiedler, 1908; Meyerson, 1907; Hewes, 1915). In some cases they aimed to investigate how women workers depressed the wages of male workers, and specifically for industrial homeworkers, how they depressed the wages of male factory workers (Coons 1993, 65). Although these contemporary materials form an important source of information on industrial homeworkers, to some extent they form a problematic source as many of them were explicitly created to highlight the adverse nature of industrial homework. They may thus be expected to present a rather biased view of industrial homeworkers. They also often only display aggregated numbers, whose presentation can easily have been affected by the motivations of the individuals performing the surveys. Without access to the raw data, and without information on how representative their samples are of the wider population of homeworkers, the results from these surveys cannot be seen as a fully reliable source of information about the situation of industrial homeworkers. The Swedish survey of industrial homeworkers that forms the basis for this thesis is an exception, as it represents a near-exhaustive national survey and makes it possible to re-examine the original, raw data collected on individual homeworkers.

There has been limited scholarly research on industrial homework and gender during the second industrial revolution. Most of the studies dealing with women homeworkers during this period have focused on them in relation to legislation and perceptions of women's labour (Boris, 1994; Boxer, 1986; Coons, 1993; Rose, 1987). One study by Boxer (1982) is particularly important, however, as

it provides an overview of the process of organization of Parisian flower makers between 1896 and 1911. Another relevant study is an unpublished working paper by Jessica Beans (2011), in which she has studied the labour supply of female homeworkers in London between 1897 and 1907. In more general texts on gender and labour covering this time period, industrial homeworkers are often presented in the context of making paid labour fit in with women's primary role as a caregiver, a wife and a mother in a family wage economy (Simonton, 1998; Tilly et al., 1987).

Gender and work has been an active academic field in Sweden since the 1970s, with a large number of studies dealing with continuity and change in gender and labour during the second industrial revolution. A number of studies have used a specific company as a point of departure for studying long-term changes (Wikander, 1988; Norlander, 2000; Hesselgren, 1992). Others have focused on specific occupational groups such as bank tellers, primary school teachers or the masculinization of the dairy industry (Florin, 1987; Sommestad, 1992; Holmberg, 2013). There have also been studies that have dealt with women in specific industries, such as the tobacco industry (Stanfors & Karlsson, 2011, Burnette & Stanfors, 2012).

No modern scholarly works have dealt with women industrial homeworkers in Sweden during the second industrial revolution. In a relatively recent study, Malin Jonsson focused on women weavers in Dalarna 1938–1955 and their contribution to household incomes (Jonsson, 2006). However, this spans a later time period than that studied here and the women worked in a much more craft-based context. When industrial homework in Sweden during the early 20th century has been examined in general texts on gender and labour, or texts which focus on gender and labour from a different perspective, it has almost exclusively been described as work done as a consequence of a strong breadwinner ideal, and a bourgeois public-private family norm (Carlsson Wetterberg, 1986, p. 44; Karlsson, 1995, p. 27; Frangeur, 1998, p. 49; Hedenborg & Wikander, 2003, p. 98). There are, however, contemporary texts dealing with Swedish homeworkers. One of the most important is a text written by Gerda Meyerson in 1907 based on a number of interviews conducted with industrial homeworkers as background material for an exhibition on the situation of industrial homeworkers arranged by the National Association of Social Welfare (*Centralförbundet för Socialt Arbete*), an interest group working with questions of social reform (Meyerson, 1907).

Since the mid-1800s there has been a tradition of talking about industrial homeworkers as invisible, describing them as invisible threads, invisible hands

or invisible no more (Boris & Prügl, 1996; Chen, Sebstad & O'Connell, 1999; Johansson, 2002; Singh & Kelles-Viitanen, 1987). However, describing home-based workers as invisible implies that it is not possible to find, organize or include them in labour market regulations or studies. Describing women who worked for money in their own homes or in the homes of others as invisible thus appears instead to have become a performative action. Although these workers do appear to have been structurally excluded from industrial statistics, they were not essentially invisible but can, as evidenced by this thesis, be studied quantitatively if researchers adopt the methods necessary to find them.

5. Data

This section presents the empirical data on which the dissertation is based. Three different datasets were compiled for this thesis: one cross-sectional, individual-level dataset based on survey data from interviews; one longitudinal, individual-level panel dataset based on poll-tax records; and one dataset with qualitative data based on contemporary texts. These will be presented in detail in the following sections. The collection, quality and linking of these two datasets is further described in the data description section in the appendix of the dissertation.

5.1 *Survey data*

The cross-sectional dataset was compiled based on survey data from individual interviews collected by the National Board of Health and Welfare (Socialstyrelsen) in 1912. The whole survey comprised over 5000 face-to-face interviews with individual homeworkers (men and women) and was intended to form a representative sample of the whole population of about 28,000 industrial homeworkers in Sweden in 1912. The results of the survey were presented in two volumes published in 1917. The data was extracted from the original score cards on which the interviews were recorded. The interviews hold information on individual, household and occupational features of individual homeworkers. They also hold retrospective information on previous labour market experience and vocational training. From the interviews, two subsamples were drawn based on gender and geographic location: one urban sample with women industrial homeworkers in Gothenburg (N = 276) and one rural sample with women homeworkers from rural areas of Älvsborg county (N = 312).

The survey material offers a unique opportunity to gain information about individual industrial homeworkers. The ultimate way of getting to know the labour market strategies of women industrial homeworkers would probably have been to ask them; performing a large survey asking hundreds of homeworkers what they thought about their work, how they planned their lives and labour market participation. For historical actors this is not an alternative. But sometimes you get lucky and find that someone else has done the work for you, 100 years ago. A large number of social surveys were performed during the early 20th century. Some of these, like the Swedish survey, provide great material for quantitative studies, but these have only rarely been used for this purpose. These surveys form a valuable but underemployed resource, especially when it is possible to access the raw material as here. In historical studies, pre-collected survey data offers a rare opportunity to get survey-type data from the period and population of interest. As the respondents in general are no longer alive, the option of performing your own survey simply does not exist.

Using material from an existing historical survey nevertheless has some drawbacks compared to being able to plan and perform the interviews yourself. For example, the research questions one can pursue are often limited because the original material was collected with other questions in mind. The material also often lacks detailed descriptions of collection methods and sampling strategies. Verifiability and replicability are additional issues, as studies based on such data are not replicable except in the sense of re-analysing the same material (or validating using subsets of the data). Being able to work with the original material helps in many respects, as it often contains clues as to how the material was collected. Compared to the situation where researchers are forced to rely on summary data and data compiled by other individuals, working with the original material is a major improvement. However, one must always keep in mind the challenges and limitations inherent in “not having been there” to collect the data yourself.

There are however very few alternatives to these types of data when attempting to study the labour market decisions of industrial homeworkers during this period. Even if homeworkers had been included in factory records, industrial statistics or company records, these generally do not provide similarly detailed information about previous labour market experience, household context or hours worked. Several other surveys of European homeworkers could potentially be used for this purpose, but the Swedish survey represents one of the largest, most exhaustive and carefully planned in terms of achieving a representative sample. This interview material is thus the best or one of the best available

sources to study the labour market decisions of industrial homeworkers during this time period.

Archival work for this dataset was done in stages from October 2009 to June 2011.⁴ All the interviews are recorded in the archive of the National Board of Health and Welfare (*Socialstyrelsen*), housed at the National Archive depot in Arninge. They are located in large boxes, roughly sorted by geographic region. In order to locate interviews from Gothenburg and Sjuhärad I went through all 5000+ interviews and photographed the ones with addresses in these areas. The information on the interview score cards was extracted into Microsoft Excel. Further transformations of the dataset, for example into the person-period format used in Paper I, were carried out in the statistical environment R.

5.2 Poll tax data

The longitudinal dataset tracked the same individuals as the urban sample described above at four-year intervals between 1912 and 1944. It was compiled based on poll tax records for all parishes in Gothenburg. The poll tax records are census material, targeting the whole population and forming a register of all inhabitants. The information in the poll tax records formed the basis for taxation, social control, rights related to citizenship, and population statistics aggregated at parish level. The information on taxes and the occupational information in the poll tax records are based on self-reported information, sent in by the head of the household to the Poll Tax Office (*Mantalskontoret*).

In order to find individuals in the poll tax records, I first linked them to the central address register, which the Gothenburg city kept for all its inhabitants between 1917 and 1967. The register recorded changes in individuals' residential addresses from year to year, which greatly facilitated locating the individuals in the poll tax records in different years. To avoid missing true linkages and getting false linkages, I cross-referenced the personal information in the interviews with other sources before attempting to link them to the central address register. I first used personal information in the poll tax records for 1912 to

4 During my first visit in October 2009, I made an inventory of the holdings in the archive. During the second visit in March 2010, I took photos of a sample of employers, middlemen and workers. For the third trip, in June 2011, the scope of the dissertation had been narrowed down to interviews with industrial homeworkers from Gothenburg and Sjuhärad; these were photographed during this visit. I would like to thank Viktor Nilsson-Örtman who assisted me in taking photos of the interviews during the last days of the archival work: thank you for your help and for saving me from spending more time on the inadequate communications with the National Archive depot in Arninge.

access their middle names and full names if they used an abbreviated version in the interview.⁵ To access birth date and maiden names or married names I used the “Swedish death index 1901–2009”, a publication from the Swedish genealogical society, containing the names of all individuals who died in each year from 1947 onwards and about 70 per cent of individuals who died between 1901 and 1946.

A total of 137 individuals, 49 per cent of those in the urban sample, were successfully linked between the interviews and the central register. The main causes of attrition in the stage between the interviews and the central register were missing or scarce information in the interviews, incomplete addresses, incomplete names, or in some cases illegible handwriting. The second stage was to try to find the 137 individuals in the poll tax records at four-year intervals between 1912 and 1944. I attempted to find every individual at each point in time unless I knew that they had died, moved out of Gothenburg or, as in a few cases, were institutionalized, which rendered them impossible to find. The average number of individuals found per year was 82, about 60 per cent, corresponding to an average attrition rate of 40 percent in the second stage.

I found the poll tax records to be an imperfect but useful way to study the occupational trajectories of industrial homeworkers. Poll tax records have been used in previous studies on longitudinal occupational patterns for both men and women, and the central address register provided a way to follow the 276 individuals over 32 years in a realistic amount of time. However, there are some large and gender-specific problems with using the poll tax records as a source of information on women’s paid work. Married women seldom registered an occupational title and women working irregular hours were probably less likely to have stated an occupation in the poll tax records. Several previous studies have discussed the effectiveness of using sources such as poll tax records or census material to study women’s work due to the underreporting of women’s work in general, and that of married women in particular. However, no previous studies have actually assessed the extent to which industrial homeworkers were underreported in these sources. Thanks to the fact that the studied individuals were known to be engaged in industrial homework in 1912, Paper II represents a rare opportunity to directly quantify this underreporting.

Another problem was the large attrition. In addition to standard sources of panel attrition such as individuals moving out of the area or dying, considerable

5 I was able to find them in the poll tax 1912 because I had their addresses in 1912 from the interviews.

attrition arose because the names and addresses on the interviews were often imprecise to start with. The double linking approach I employed, using the central address register as an aid to link individuals to the poll tax records, reduced this attrition somewhat, but attrition due to this reason was still substantial. Some attrition may also have been due to women changing their names when they marry. This was mitigated to some extent by using the “Swedish death index” to get both their maiden names and married names, and by searching for individuals under both names in the address register. The large attrition in combination with the extremely time-consuming process of the archival work and linking the data made this a very challenging study from a time-per-data point perspective.

Again, there are few alternative sources available that can be used to reconstruct occupational trajectories of women homeworkers. Possible alternative sources mainly include company records. But these often contain other types of gender biases in that women were more often employed by smaller employers and company records of small employers survive less often than those of large employers. Women working in their homes were also unlikely to be encompassed by company records, as they were not physically in the workplace and often worked irregularly over the year. Studying the occupational mobility of a group of women based on company records would thus also be fraught with difficulties. At present, poll tax records appear to be the best possible source for finding patterns in the occupational trajectories of industrial homeworkers.

The archival work for this data was done during September 2011 to early January 2012 in the regional archive in Gothenburg.

5.3 *Qualitative data*

The qualitative dataset consisted of a compilation of official records, political pamphlets and newspaper articles from 1906 to 1910. These texts were selected on the basis of being part of the public debate preceding the industrial homework survey used. The texts found were:

- “*The conditions of Swedish industrial homework*” (“Svenska hemarbetsförhållanden”) from 1907 by Gerda Meyerson. This book deals with the “homework question” and aims to give an insight into the work and living conditions of industrial homeworkers. It was written at the request of the National Association of Social Work (Centralförbundet för Socialt Arbete, SCA), a social liberal group formed on the model of the Fabian society and the German Verein für Socialpolitik.

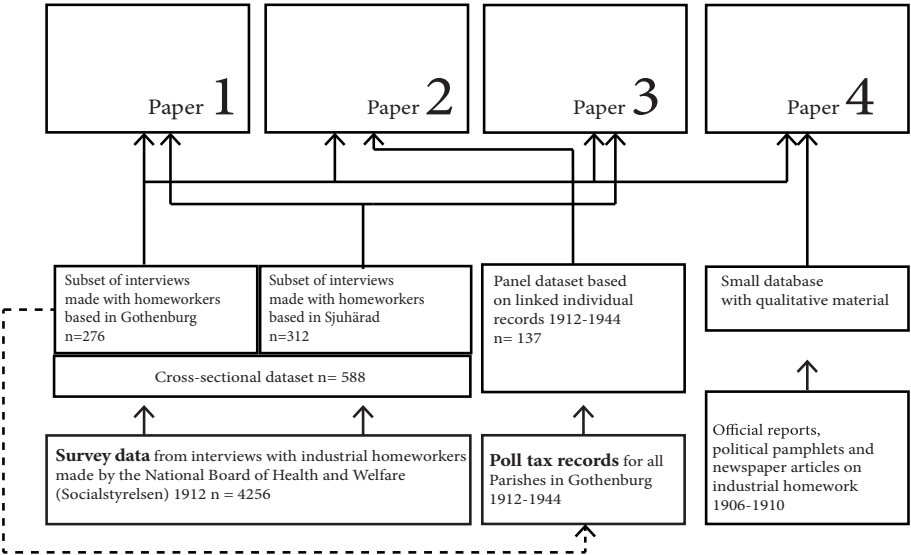
- “*Notes on the question of regulating homework and home industries*” (“Anteckningar till frågan om hemarbetets eller hemindustriens reglering genom lag”) written by Moritz Marcus at the request of the Government Committee on Occupational Hazards (yrkesfarekommittén).
- Proposed legislation on the regulation of labour in industrial homework from 1909 (Förslag till lag angående hemindustriellt arbete i Betänkande afgifvet den 9 december 1909 af den af Kungl. Maj:t den 20 januari 1905 tillsatta Kommittén för revision af lagarna angående skydd mot yrkesfara och angående minderårigas och kvinnors användande till arbete i industriellt yrke m.m.).
- “Reasons for the bill for the regulation of labour in industrial homework from 1909” (*Motivering af förslaget till lag angående hemindustriellt arbete*).
- Newspaper articles.

For the qualitative material I have focused on the discourse on industrial homeworkers in the debate preceding the National Board of Health and Welfare survey. This debate arose in connection with an exhibition on industrial homework arranged in Stockholm in 1907 and resulting in several types of texts including official political sources, political pamphlets and newspaper articles. These texts often overlap when it comes to the people involved in writing them. Moritz Marcus, who wrote one of the pamphlets on the need for regulation, later became involved in official proposals for regulating industrial homework. Gerda Meyerson was deeply engaged in the homeworkers’ cause, wrote several of the studied texts, and was one of the organisers of the industrial homework exhibition in 1907. These individuals kept returning to these subjects over long periods of time and seem to have formed a close group of social debaters that were engaged in the “homework question”.

The newspaper articles I study were all published in Swedish newspapers around the time of the exhibition on industrial homework in Stockholm in October 1907. These newspaper articles were collected by the National Association of Social Work (Centralförbundet för Socialt Arbete, CSA) that organized the exhibition. The articles were found in the CSA archive in the National Archive in Stockholm and were labelled “newspaper clippings on the industrial homework exhibition”. It is important to note that I was not personally involved in the selection of these articles. However, the organisers of the exhibition appear to have scanned all major Swedish newspapers for entries relating to industrial homework or to the exhibition itself, without apparent

selection biases (positive as well as strongly negative views are represented). In total, 29 newspaper articles were collected from April 1906 to October 1907. Alternatively, I could have scanned all relevant newspapers myself instead of relying on the compilation made by the CSA. However, it is my impression that this would not have resulted in a significantly different collection of newspaper articles. I thus believe that the combined collection of books, texts and newspaper articles forms an illustrative sample of the public discourse on the subject at the time, without strong selective biases. Figure 2 displays a brief overview of the data used in the separate papers.

FIGURE 2 Sources and data for the individual papers



6. Methods of data analysis

I use five primary methods for analysing the information that I have compiled: event history analysis, principal component analysis, multiple regression, comparative descriptive and qualitative content analysis. Next I present the main features of these methods and how and why these types of analyses were chosen. I use both qualitative and quantitative approaches in the dissertation, although not explicitly a mixed methods approach, the studies in the dissertation are good examples of how often quantitative and qualitative approaches overlap

rather than having a dichotomous relationship. The quantitative analyses are often based on qualitative information contained in the interviews. For example individuals were asked in the interviews about the types of products they made and their previous work experience. Such information has been converted into quantitative variables and analysed using quantitative methods. Table 2 provides an overview of the method of analysis and data used in the papers.

TABLE 2

Paper	Research question	Operational question	Method of analysis
1	What factors influenced women's decision to enter industrial homework?	<ul style="list-style-type: none"> • What was the relationship between the timing of transition into industrial homework and the birth of a first child? • Was this relationship different in urban and rural contexts? • Was this relationship different depending on the individual's previous labour market experience? • Was this relationship different depending on the individual's social background? 	Event history analysis
2	What factors influenced women's decision to enter industrial homework?	<ul style="list-style-type: none"> • Was industrial homework part of a continuous occupational trajectory? • What was the association between marital status and the occupational trajectories of industrial homeworkers? • To what extent is it possible to use register-type sources to study the occupational trajectories of industrial homeworkers? 	Comparative descriptive analysis
3	What factors influence how much time women allocated to industrial homework?	<ul style="list-style-type: none"> • What patterns of seasonal variation could be found in hours worked by industrial homeworkers? • Were there urban-rural differences in patterns of seasonal variation in hours worked? • Were seasonal patterns in hours worked related to seasonality in the work of the household head? • Were seasonal patterns in hours worked related to seasonality in demand for products made? 	Principal Component Analysis (PCA) Multiple regression analysis
4	How did ideological constructions of gender and work affect ability to negotiate the terms of industrial homework?	<ul style="list-style-type: none"> • Were the industrial homeworkers ideologically constructed as housewives? • Was this an accurate picture, i.e. were they workers with supplementary incomes that were not important for the subsistence of the family? 	Content analysis Comparative descriptive analysis

6.1 *Event history analysis*

I used event history analysis to explore the relationship between having a first child and starting in industrial homework (Paper I). Event history analysis is a fairly standard method in historical demography and is used to explore the timing of transitions (Suares & Bras, 2010). I used a discrete-time event history model, which requires the data to be transformed into a person-time format, after which it can be analysed using a standard logistic regression model.

Alternatively, Cox proportional hazard models can be used to study the timing of events occurring over the course of an individual's life. However, these could not be used here as I was also interested in the effects of time-varying covariates (Guo, 2009, p. 2). Another way to explore the relationship between the timing of having a first child and starting industrial homework is to rely on qualitative descriptions of this transition. However, few of the interviews contain any records of individual homeworkers talking about their own experiences in industrial homework. In addition, contemporary sources usually consist of other people describing the experiences of industrial homeworkers. Event history analysis thus provides a way to complement previous narratives by quantitatively testing the relationship between having a child and making labour force transitions, which has not been done previously.

6.2 *Principal Component Analysis*

To identify seasonal patterns in hours worked by industrial homeworkers, I employed Principal Component Analysis (PCA) (Paper III). PCA is a form of factor analysis which describes and identifies the major underlying patterns of variation in the data (Field, Miles & Field, 2012). In my case, the data was hours worked per day in industrial homework during each month in 1911. PCA is a common technique in several other academic disciplines, but has not been commonly used in economic history, except for a few recent studies (Henning, Enflo & Andersson, 2011). One of the strengths of this type of analysis is that it identifies patterns without making any *a priori* assumptions about how these patterns look, and provides a way to identify several different types of patterns within the same data and the amount of variation explained by each pattern.

An alternative way to reveal seasonal patterns is to explore seasonal changes in hours worked for different groups of workers graphically. But this requires one to make assumptions about the groups that may display different seasonal patterns and cannot be used to quantify the amount of variation explained by the different patterns.

6.3 Regression analysis

I used standard Ordinary Least Square models to determine the relationship between specific seasonal patterns in hours worked and the occupation of the household head and the types of products made (Paper III). The response variable in these models consisted of individuals' factor scores derived from the PCA analyses. These scores describe how well the hours worked by an individual were described by a specific seasonal pattern. These scores were found to have a normal distribution, and could therefore be analysed using the standard OLS model.

Logistic regression analysis was used where the response variable was a binary outcome, more specifically whether individuals stated that their work was "irregular" or specified the number of hours worked in each month (Paper III). This type of regression analysis very much remains the core of the social science quantitative analysis toolbox, as it can be used whenever one is interested in the relationship between two or more variables.

6.4 Comparative descriptive analysis

In several of the papers, I use descriptive statistics to identify and compare different subgroups or samples. Most often, the summary statistics are displayed in contingency tables and plots. This method is especially used in Paper II, where I am primarily interested in mapping occupational trajectories and comparing patterns for different groups of workers. One alternative to this descriptive and comparative approach would have been to try to model determinants of the different trajectories. However, as the sample sizes were quite limited the added utility of using quantitative models was not apparent. As there are no previous studies on the occupational trajectories of industrial homeworkers, the methods used in paper II were aimed at describing the trajectories as thoroughly as possible to illustrate the complexities and dynamics present in the material.

Descriptive statistics were also used to investigate whether the industrial homeworkers really could be described as "housewives", in the sense that they were married workers with incomes that were not critical for the sustenance of the household income (Paper IV). In this paper, details of their marital status and average incomes are provided along with an in-depth description of the socio-economic household situation of individual workers from different subgroups.

6.5 *Qualitative content analysis*

Content analysis was used to explore the ideological constructions of industrial homeworkers (Paper IV). Content analysis is a set of procedures used to analyse text by identifying items or conceptual categories in the text (Julien, 2008). I set up a coding scheme for the analysed texts that included the following questions:

- (1) Are the homeworkers described as married women in the text?
- (2) Are their incomes described as secondary or complementary in the text?
- (3) Are the homeworkers described using the term “worker” (arbetare/arbeterska) throughout the text?

The aim of the study was to test Maria Mies’ theory on housewifization. The questions were formulated and the analysis was chosen with this theoretical framework in mind. Since all texts had negative answers to all of the questions above, I made no further attempts to code or categorize the texts according to how the industrial homeworkers were described in the texts. It can be argued that the questions were too blunt to uncover certain dimensions in the discourses on industrial homeworkers that were present in the text but not captured by those questions. A more data-driven analysis might have discovered more complexities in the material.

7. Presentation of the four papers

Paper 1

Paper one deals with the relationship between women’s paid labour and unpaid care work, a central issue in understanding gender inequality in labour market outcomes. For women in a western context, it has been well documented that the relationship between having children and making labour force transitions changed over the course of the 20th century. In the mid-20th century, having a child often meant leaving the labour force completely for several years, or for good, while in the late 20th century, having a child more often meant transitioning to part-time or more flexible work arrangements (Goldin, 1990, 2014; M. A. Stanfors, 2006). However, comparatively little is known about how having children affected women’s labour force decisions during the late 19th and early 20th centuries. In Paper I, my aim was to improve our understanding of women’s labour market transitions during this period by investigating how the timing of having a first child affected the timing of transitions into industrial homework among women in early 20th century Sweden.

To investigate the relationship between having children and transitioning to industrial homework I used the full cross-sectional dataset containing retrospective information on individual industrial homeworkers from urban (Gothenburg) and rural (Sjuhärad) areas. The data was analysed using discrete-time event history models.

The main results from this study were that, controlling for social background and previous labour market experience, having a first child was a significant determinant of transitioning to industrial homework in both urban and rural areas. The effect was however stronger in rural areas. There was no effect of having a second or third child in any area. Having a child was however not the only determinant of the timing of transition to industrial homework, and it is important to note that the majority of homeworkers did not have children before they started industrial homework.

These results show that in the early 20th and late 19th centuries, having a first child was often also associated with a transition to more flexible work arrangements. And although the birth of a first child often resulted in women leaving formal employment, this did not always mean that they stopped working for money.

Paper 2

This paper focuses on patterns of paid work during the life course of working-class women in the early 20th century. Life-course patterns of paid work are central to theories of gendered labour market inequalities. The shorter time that women spend in the labour market over the course of their lives compared to men is often represented one of the main cause of gendered labour market inequalities. However, the longitudinal patterns in the career paths – or the series of jobs – taken by women during this time period have received relatively little attention. This paper contributes to our understanding of the life-course patterns of women's paid work in the early 20th century labour market by studying the work-life histories of a cohort of women employed in industrial homework in Sweden in 1912.

In this study, I reconstruct the work-life histories of these women by linking information from a subset of from the interview material to poll tax records and thus constructing a panel dataset. Together, these data provide information about the work-life trajectories of these women prior to, and after, transitioning to industrial homework.

The results from this study revealed that for the majority of women homeworkers in early 20th century Sweden, industrial homework formed part of

a continuous occupational trajectory. Most women industrial homeworkers experienced no occupational mobility transitioning into, or out of, industrial homework. Married and unmarried women differed considerably in their experiences during their transitions to industrial homework and over their subsequent career trajectories. For married women, the transition to home-based work more often appeared to have been a step down in their careers, transitioning to making simpler products and working as own-account workers alone in their own homes. For unmarried women, the transition to home-based work instead appeared more often to have been a step up to a managerial position, more often employing other women and in some cases running their own small shop outside of their home.

Paper 3

If, when and how much time one spends doing paid work is a central question in the life of most individuals, today as well as in the early 20th century. From an empirical perspective, the labour supply of an individual can be seen as a two-step process. The first step consists of assessing what determines an individual's probability of working for money at all, while the second step consists of assessing what determines the number of hours worked by those individuals that make up the labour force.

In this paper, I focus on the second step by exploring seasonal variation in hours worked by women industrial homeworkers in Sweden in 1911. For this I rely on information in the full cross-sectional dataset, analysing the data on hours worked per day during each month of the year.

Major seasonal patterns in hours worked by women in an urban and a rural setting were identified by applying Principal Component Analysis (PCA) to these data. Further, I ran ordinary least square regression (OLS) analyses on individuals' PCA scores to test for the relative importance of supply- and demand-based factors (represented here by the occupation of the household head and the type of products made by the homemaker, respectively) on the patterns of seasonal variation in hours worked.

The results showed that in both the urban and rural setting, most of the variation in hours worked was explained by a non-seasonal pattern: most individuals either worked long hours during every month of the year or worked short hours during every month. The major seasonal pattern in both the urban and the rural sample was a U-shaped pattern, corresponding to a negative correlation between hours worked in summer and hours worked in winter. The effect of

supply-side and demand-side factors on hours worked differed between urban and rural areas. In urban areas, non-seasonal variation in hours worked was strongly affected by both the occupation of the household head and the type of products made. In rural areas, the occupation of the household head had no effect on non-seasonal variation in hours worked. In both samples, the type of products made was related to the seasonal variation in hours worked.

Paper 4

In the fourth paper, I explore the question of how normative perceptions of work and gender can affect the terms of women's labour force participation. Specifically, I examine the theoretical claim of Maria Mies that industrial homeworkers have been exploited more than other workers because they have been ideologically constructed as primarily being housewives and not workers. In other words, homeworkers are constructed as married women who depend on a primary breadwinner and do not contribute to the sustenance of the family through their wages. This paper uses the third dataset, the qualitative material consisting of legal documents, newspaper articles and social pamphlets from 1906 to 1910, to investigate if Swedish homeworkers were described as housewives in contemporary texts. It also uses the first dataset, the cross-sectional interview material, to explore the extent to which these women were, in fact, housewives. The results showed that Swedish homeworkers were not described as housewives in the contemporary debate, nor could they be considered to be housewives based on the interview material. Rather, they formed a diverse labour force among which the majority were unmarried. Many homeworkers were married, but even then, their incomes often formed a significant part of the household income. At the time, there was an intense public debate on industrial homeworkers. But instead of describing homeworkers as housewives, they were largely described in terms of being the "poorest of poor" workers and the exploited victims of the emerging garment industry.

8. Discussion

This dissertation provides important new insights and much-needed empirical data on the labour dynamics of women industrial homeworkers in Sweden during the second industrial revolution; a large and important, but little studied, group of workers. I set out to answer three questions about these workers: 1) What influenced their decisions to enter industrial homework? 2) What influ-

enced how much time they allocated to homework? 3) How were they affected by ideological constructions of gender and work? Answering these questions required me to collect information from several different types of sources including poll tax records, historical survey data and qualitative material. I used both quantitative and qualitative methods to analyse this material. Together, the four papers that make up this thesis present a diversified picture of industrial homeworkers, both as individuals making labour market decisions, as parts of families and as a group in the labour market. Importantly, they demonstrate that it is possible to study the work of these women, often described as invisible, if we just adopt the necessary methods.

(1) What factors influenced women's decision to enter industrial homework?

The results of this thesis both challenge and confirm commonly held views about industrial homeworkers. Previous studies have often presented industrial homeworkers as being mothers with young children who needed to bridge increased demands for household production and consumption. One might thus expect that the transition to industrial homework would mainly occur when women marry or have children, and that married women would be overrepresented among industrial homeworkers.

The timing of having a first child was found to have a significant effect on the decision to start industrial homework. This relationship was observed in both the urban sample from Gothenburg and the rural sample from Sjuhärad. To my knowledge, this correlation between having children and starting industrial homework represents the first quantitative data in support of the common view, based on anecdotal evidence, that women industrial homeworkers in the early 20th century were often married young mothers who took on home-based work when they had children. However, this group of women only represented a minority of all homeworkers: 38 per cent of the studied women workers were married and 36 per cent had children. Clearly other factors were also of importance in the decision to start industrial homework.

The types of products made were related to marital status. Many married women took on lower-paid work making simpler products that earned them less money, while unmarried women tended to make products requiring more skill. These findings match predictions from Edwards and Field-Hendrey's (2002) labour supply model. For married women as secondary earners, the utility of working at home was thus likely higher than the cost of earning lower wages. Unmarried women, on the other hand, had fewer incentives to choose

home-based work for lower wages over better-paid on-site work.

In the third paper, I mapped the occupational trajectories of these women to see how industrial homework formed a part of longitudinal labour patterns. Industrial homework often formed part of a continuous trajectory; many women who started industrial homework had previous experience in similar occupations. Previous occupation and skills appeared to influence the decision to start industrial homework and the terms under which this took place. This picture contrasts with the view of industrial homework as a short-term labour strategy. Industrial homework was not an occupation chosen at random merely to buffer a short-term increase in demand for consumption and home production. In many cases it formed a part of a long-term labour strategy, where skills and previous experiences could be used continuously during different life-cycle phases and employment relationships.

- (2) What factors influenced how much time women allocated to industrial homework?

The question of how much time women allocated to industrial homework was dealt with from the perspective of seasonal patterns in hours worked. Previous studies have indicated that industrial homeworkers were a highly flexible labour force. Both supply and demand reasons have been cited as the source for this flexibility, arising either because they were secondary earners in their households or because homeworkers formed a secondary workforce in the labour market (the reserve army hypothesis).

I identified several seasonal patterns in the way that individuals allocated their time to industrial homework. These seasonal patterns were most strongly related to the types of products made. This may suggest that seasonal variation in hours worked by industrial homeworkers was driven, at least in part, by seasonal variation in the demand for the products made. However, a closer examination revealed that the two groups of women that showed the strongest seasonal variation in hours worked, the embroiderers and weavers, also stood out as they often had alternative incomes during parts of the year. Thus many of the embroiderers worked as schoolteachers from September to May and many weavers worked on the harvest during late summer and early fall.

The strongest pattern, however, was non-seasonal: most individuals either worked equally long or equally short hours during each month of the year. From an empirical perspective this finding is encouraging, as it means that information one is able to gain about hours worked by an industrial homeworker

during one month of the year will in most cases represent a fairly good estimate of the hours worked at other times.

The occupation of the household head was not a strong determinant of seasonal fluctuations in hours worked. However, in the urban area, women from better-off households worked less overall than women from families headed by manual workers. This supports the prediction of a negative relationship between the income of a male breadwinner and the secondary worker. However, the same relationship was not found in the rural areas.

- (3) How did ideological constructions of gender and work affect homeworkers' ability to negotiate the terms of their labour?

There was a strong discourse around women industrial homeworkers in the public debate in the early 20th century. However, in the texts studied, industrial homeworkers were not described as housewives, as the housewifization theory would suggest. Instead, their role as precarious workers was played up and often used as motivation for regulating or banning their work completely. The industrial homeworkers were at the centre of the debate, however they were seldom subjects. The suggested reasons for their precarity was also placed elsewhere, on the desire for cheap ready-made clothing by female costumers or the middleman who fooled both employers and homeworkers. More than being described as housewives, industrial homeworkers appear to be victimized in the debate. They were not described as, or it seems, perceived to be to be agents in their own right. To some extent this appears to have limited their possibilities to negotiate the terms of their labour. In this discourse, they were a group that needed to be saved instead of organized and included in standard labour market legislation.

9. Conclusion

This dissertation has provided new individual-level evidence on the labour market decisions made by women during the second industrial revolution in Sweden. By combining quantitative methods with data from unconventional sources, it tells us about the conditions of homeworkers as individuals, as parts of families and households, and as a group in the labour market. These industrial homeworkers formed a segment that operated right at the intersection between many of novel features of the labour market that emerged during the late 19th

and early 20th century: paid and unpaid work, home and workplace, formal and informal work. I show that the work of these women was characterized by both continuity and change; their labour patterns were often stable in terms of their occupation, the type of work and, in many cases, for whom they worked. But they were also flexible in terms of workplace, employment relationship and often the hours worked. This flexibility often made it possible for them to use the skills they acquired for a longer time during different parts of their life courses. But this flexibility also came at a price, as these workers often earned low wages, were left outside of labour market regulations and were rarely organized.

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National archive (Riksarkivet), Stockholm

Archive: Socialstyrelsen 4:e byrån, byrån för pris- och socialvårdsstatistik 1913-1961; H2BD Svensk hemindustri; volym 7-39; Ref. code: SE/RA/420267/420267.05/H 2

Archive: Centralförbundet för socialt arbete arkiv; Klipp rörande sociala ämnen; Volym 5, bunt 5, Hemarbetsutställningen 1907; Ref. code: SE/RA/730026/L III a

Regional archive, (Landsarkivet), Göteborg

Archive: Göteborgs Mantalskontors arkiv; mantalslängder 1912, 1916,1920,1924,1928,1932,1936,1940,1944;

Ref. code: SE/GLA/12296/F I aa/300

Archive: Göteborgs Mantalskontors arkiv 1713-1949;

Göteborgs stads centralregister: kvinnor, avlidna och utflyttade,

Göteborgs stads centralregister: Kvinnor, aktuella 1967;

Ref.code: SE/GLA/12296/ CIVba, SE/GLA/12296/ CIVbb

APPENDIX

Description of the data used in the dissertation

1. Introduction

The aim of this paper is to describe the collection, content, and quality of the three data sets compiled for and used in the dissertation. The first two data sets hold cross-sectional individual-level data on 276 urban and respectively 312 rural industrial homeworkers. The data were collected during face-to-face interviews performed for a survey on industrial homework by the Board of Health and Welfare (*Socialstyrelsen*) in 1912; in total, over 4000 interviews were conducted with female industrial homeworkers, and the interviews used for the data sets are subsamples taken from these interviews. The third data set holds panel data and follows 137 of the urban-based women in poll tax records, from the interview occasion in 1912 through their working life until 1944. The cross-sectional data sets holds detailed information on the household situation, occupational features, and occupational history of the individual homeworkers; the panel data set provides information on the occupation, income, and household members for individuals over a period of over 30 years.

The paper is structured as follows. First, the collection, content, and quality of the master sample of the cross-sectional datasets are described. Second, I give an account of the motivation behind the subsetting of the sample, the data extraction, and the representativeness of the subsamples used for the two cross-sectional data sets. In the third part of the paper, I discuss the sources, linking, collection, and attrition of the panel sample. Table 1 provides the first overview of the master sample and the different subsamples used in the dissertation.

TABLE I Overview of the samples

	Target population	Sampling frame	Sample collected	Final analytic sample	Study design	Data sources
National master sample	All women ind. homeworkers in Sweden in 1911, n=22214	11956	4257		Cross-sectional survey	Face-to-face interviews performed by the National Board of Health and Welfare 1912
Gothenburg subsample	All women ind. homeworkers in Gothenburg in 1911, n=2706	NA*	336	276	Cross-sectional survey	As above
Sjuhärad subsample	All women ind. homeworkers in rural Älvsborg in 1911, n=3985	NA*	884	312	Cross-sectional survey	As above
Panel sample		276	137	129	Panel, register	Poll tax records

* No available information exists on the total number of homeworkers in the sampling frame in these specific areas.

To some extent, this paper focuses on and elaborates on the problems and limitations of the data; nevertheless, the material at large provides an exceptional source. It not only provides one of the very few sources on patterns of paid work outside the formal workplace in the early twentieth century, but also allows us to study the individual labour strategies of both married and unmarried women with a level of detail that is available in few other sources.

2. Sources for the two cross-sectional data sets

The two cross-sectional data sets consist of detailed data on 588 individual homeworkers. The data sets are based on interviews and contain information on the individual, household, and occupational features of the homeworkers. This part of the paper describes first how the large master sample was created and the content and quality of the interview material and then explains how and why the master sample holding all the interviews was restricted into two subsamples and the representativeness of these subsets.

In 1912, the Swedish Board of Health and Welfare (*Socialstyrelsen*) carried out a survey on the economic and social circumstances of industrial homeworkers in Sweden. The aim of the survey was twofold: first, to appreciate the scope and size of industrial homework in Sweden by identifying all the companies that employed industrial homeworkers in Sweden and asking them to provide information on their business, including the names and addresses of all the industrial homeworkers they employed; and second, to investigate the social and economic situation of the homeworkers by using a sample consisting of about 20 per cent of the industrial homeworkers identified (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 37).

When the survey was undertaken in 1912, industrial homework had been a largely debated social issue, in Sweden and in other European countries, since the late nineteenth century. A couple of years earlier, in 1907, the *Centralförbundet för Socialt Arbeta* (CSA), a social liberal group formed after the British Fabian society and the German *Verein für Socialpolitik*, had performed a small survey and arranged an exhibition on industrial homework in Stockholm (Meyerson, 1907). Following the exhibition, a draft for the regulation of industrial homework by law was included in a proposal for revisions of the occupational hazard legislation in 1909. However, this draft was never included in a passing bill; the committee that had written the proposal concluded that the best possible option for regulating industrial homework would be through minimum wage

regulation, which had been implemented in other countries. However, the committee did not believe themselves to have enough information on industrial homework or homeworkers to put forward minimum wage legislation as this had never been attempted before in Sweden (Marcus, 1909, p. 168).

According to the Swedish surveyors, a large, specific survey of industrial homeworkers was needed as national censuses or occupational censuses would not be able to grasp certain dimensions of industrial homework, like the seasonality often associated with it, or to identify industrial homework if it was performed alongside farm work or by married women. They also fretted that people would be unwilling to state that they performed industrial homework in censuses as they would be afraid of being taxed (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 36).

The first obstacle for the surveyors was the issue of finding a definition of industrial homeworkers. They were well aware of the problems involved in defining industrial homework. In the published volume, there is a lengthy discussion on the various definitions used in legislation and official statistics in different European countries (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, pp. 1–29). In the present survey, they define industrial homework as:

a venture whereby a person on behalf of an employer, for this employer's business purpose, is paid for the production or processing of goods in their own dwelling or at another place, which is not provided by the employer. [In Swedish: den rörelse, där personer på uppdrag av arbetsgivare för dennes yrkesmässigt bedrivna näring mot lön sysselsätts med tillverkning eller förarbetning av varor i sina egna bostäder eller i andra arbetslokaler, som icke tillhandahållas av arbetsgivaren]. (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, pp. 25–26)

A methodology section was published with the main results of the survey; however, it is not entirely clear from it how the surveyors identified the companies that used home-based workers. In the method description, they state that they faced difficulties in finding information on industrial homework and had to use different sources (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 36). From the archive material and the notes in the text, it appears that they sent forms to anyone they could think of who might have knowledge of industrial homework: local municipalities, unemployment offices, unions, employer associations, social services, agrarian societies (*hushållningssällskap*), or chambers of commerce (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 39). In total, 14,038 companies were identified and sent forms

containing questions about whether they employed industrial homeworkers; 13,009 reached their recipients and after 16,266 reminders 11,351 companies answered, giving them a response rate of 87.3 per cent. In total, 3,252 companies answered that they did employ industrial homeworkers; in turn, these were sent forms with questions about the quantity and value of their production as well as the wages and names of the employees they had at any time during 1911 (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 40). After several reminders, simplifications of the form and pressure from the Board of Health and Welfare, the survey administrators claim to have acquired more or less detailed data from all the companies. They also note that more than 39,000 different letters were sent to companies, including the forms (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 41). The target population in the second part of the survey consisted of industrial homeworkers in Sweden in 1911; in total, the survey administration identified 28,953 homeworkers in Sweden. They had names and addresses for 11,956 of them; that list of names made up the sample frame for a survey sample of about 5,100 industrial homeworkers who were to be interviewed in the special investigation into industrial homeworkers' social and economic circumstances. How the sample was drawn from the list of names is not particularly clear; in the results, the authors only state that it was of the utmost importance that the sample was representative in terms of occupational trades and geographic diversity (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 42). It is most likely that they drew some kind of stratified sample from the sample frame.

To pursue the second aim of the survey, to explore the social and economic situation of the homeworkers, 120 representatives from the Board of Health and Welfare, 32 men and 88 women, were dispatched to perform face-to-face interviews with industrial homeworkers in their home. The interviews were conducted in a semi-structured manner, using a standardized questionnaire (appendix X) with around 40 short open-ended questions about their current household situation and work features (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, pp. 37, 42). The questionnaire also contained retrospective questions about their occupational history, training, and years engaged in industrial homework.

The interviews obtained both qualitative and quantitative information. All the questions were open-ended; however, none of them allowed space for longer answers: the majority were answered in one word. Even though the interviews were standardized, the availability and quality of the information

varies between questions and informants. There is also a problem with typos and unclear handwriting. The section below displays the questions asked in the interviews and information on how they were answered.

Information sought in the interviews

Name, place of residence, occupation of father, year of birth, and marital status

Most women could be identified by their name and address; however, there was some variation in how this information was stated. First and last names were most often given, but sometimes only nicknames or “Mrs XXX”. The information on the respondents’ place of birth also varied. Most often, it was stated on the parish level, but at times on the farm, city, or county level and in a few cases on the country level. Seemingly, the further a place was from where the respondents now lived, the more imprecise the statement was. For example, if they lived in the parish where they were born, the name of the farm they were born on was most often stated, but if they were born abroad, the only information provided was, for example, “America”. As the level of detail varies, the usefulness, for example in linking the interviewees to their household of origin, is poor. However, there are entries for nearly all the individuals and it is possible to determine whether they, for example, migrated to a larger city.

There are fields for both father’s and husband’s occupation and alternatively for mother’s and wife’s occupation. There seems to be a correlation between respondents’ age and their having an entry on their father’s occupation, whereby older women were not asked about, or did not state, their father’s occupation. The year of birth is available for almost all of the women; however, in very few cases is there information on the date of birth. Marital status is given as married, unmarried, widowed, and occasionally married with deserted (övergiven) within parentheses.

Members of the household

This section provides information about all the family members in the household, their relation to the homemaker, and their age. Boarders are included and labelled as non-relatives (*främmande*), although they are not very common in the material. More common are non-nuclear but related individuals living in the household.

Years worked in industrial homework

This category is split into the number of years worked in industrial homework, the number of years spent in the current occupational speciality, and the number of years it took before a proficient skill level was reached. Most often, the years worked are stated; however, the response rate for the other questions was lower.

Previous occupations and vocational training

Here the respondents answered two questions on whether they had any previous occupations and whether they had had any vocational training; it is not always specified whether this is occupational training specifically for industrial homework. The missing data here are problematic because I do not know whether blanks are due to the respondents having had no previous occupation or training, whether they represent a non-response, or whether the answers are just missing due to the interviewers having forgotten to ask the question. In the rural sample, several answered “at home” or “daughter at home” (*Hemdötter*) to the previous occupation question. My interpretation is that being at home, working on the farm, these women would often have been engaged in the same labour as those who had been employed as a servant at someone else’s home; however, as they did not actually participate in paid work on the labour market, they are not coded as such.

Goods produced

Here the respondents stated what kinds of products they made, along with the names and addresses of the employers whom they worked for regularly and irregularly. They also answered a question concerning whether any of these were middlemen. The coding frames for this question are available in appendix 2.

Hours worked

In this question, the respondents were asked first about which months they worked in 1911 and second about their working time per day, excluding breaks for January to March, April to May, June to August and September to December. However, many stated hours worked per individual months and not every third. The homeworkers were also asked to state the time required to make product X and whether they worked on Sundays or holidays (*helgdagar*). One out of over 600 interviews that I entered into Excel reported working on Sundays and holidays. Even if individuals worked for over 13 hours per day for the rest of the week and seemed to be in great need of the money, no one admitted to working on Sundays or holidays.

Wages

The wages of the homeworkers were stated per piece, week, and year (1911). They were also asked to state whether they had received any other income (besides from industrial homework) in 1911. In the second part of this question, they were asked to state the yearly income of all the other family members, specified as husband, father, mother, children, or siblings, and other incomes. The yearly wages are suspiciously often in even hundreds. It is most likely that they were rounding the figures as they were not entirely sure. For some, the wages were easily estimated by hour because they clearly stated their piece rate as well as the amount of time required to make the item. However, for many, this information varies: either the piece rate or the time estimation is missing. In the countryside, many have unpaid helpers, which makes it very hard to estimate the wages paid per hour to the homemaker. This is also a problem when they employ helpers because often their wages are stated (and probably paid) by weekly payment.

In the urban area, the respondents seemed to state their husband's income when there was one; however, in the rural areas, few husbands declared a monetary income. I tried to find a proxy variable that could be an indicator of how much they would be able to earn from the farm, first by using the forms of ownership, which could be identified to some extent by the husband's occupation. There was some variation that could be estimated from the occupations; however, most of them were either crofters (*torpare*) or peasant farmers (*hagen gård* (often *beg* in the material)/*hemmansägare*/*jordbrukare*/*lantbrukare*), so it would be an extremely crude rate as a proxy for income. In some cases, there are notes about the size of the farm in tax units (*mantal*) and in some about the cattle it possessed. Potentially, these could be translated into cattle units;¹ however, the information does not seem to be complete and systematically collected.

Means of production and the cost of raw material

This question asked the informants to state which kinds of machines or tools they used, who owned these, the purchase price, how long the informant estimated that they could be used as well as the cost of maintenance. The answer here is most frequently sewing machine, knitting machine, or loom. Further,

1 $U=1C+1.5H+0.25P$; U=cattle units, C=cows, H=horses, P=pigs.

Cattle units based on Myrdal and Morell (2001, p. 242).

they were asked about the kind of raw material that they paid for themselves and how much they paid for it, for example silk, yarn, or buttons. The last question concerns the working material, like needles or thread, which they paid for themselves.

Co-workers

The information collected on co-workers is related to kinship, age, type of work performed, working time, and wages. The quality of the information here varies greatly. Especially in the countryside, there is only fragmental information on pay to co-workers; it appears as no family members were formally paid. Often, in the urban areas as well, if they were family, they stated that they split the revenue equally. For paid helpers in the urban areas, pay is stated weekly and time worked is stated per day.

Collecting and dropping off work

Quantitative information was collected on the number of times the respondents dropped off and/or collected work from their employers, how long this took, and how much it cost. Furthermore, information is available on how often and in what form they were paid, the most common answer being “in cash at drop off”.

Rent for shop

Quantitative information was obtained about the rent for their shop, if they had one, and with how many other homeworkers this was shared.

Housing if a lodger

The rent and name of the person whom the respondent rented from was requested. This information was seldom supplied, most likely because few of the respondents were actually lodgers; however, in some cases, it says “with father”.

Housing and work environment

In this question, information was sought about the number of rooms in the house or apartment, whether the respondents had their own kitchen, and the rent per year. They were also asked how many people lived in the apartment, divided into under 15 and over 15 years old. They also answered how many people, under and over 15 years old, slept in the room in which the informants worked and whether it was used as a kitchen. Further, information was given

about how many homeworkers worked in this room, how many square metres of floor space there was, and the ceiling height. There were also open-ended questions about luminosity (on an ordinal scale, ex. dark, good, dusky), the number of windows, heating (ex. tile stove, kitchen stove), and the kind of lighting they used (ex. kerosene or electrical).

Health of the homeworkers

The informants were supposed to answer themselves but often there are comments from the interviewer, saying, “she says she is fine but she looks pale”. The health of the other members of the household and whether they belong to a sick, funeral, support, or temperance society or a union are also stated here.

Notes

The notes section is often used; here it as if the interviewer took the opportunity to vent about the status of the household, whether it was dirty, whether any of the children were sick, or other impressions. In the countryside, information is occasionally given about cattle or the taxable size of the farm.

Quality of the material

There are a number of common sources of errors in survey research. The quality of the material can most often be related to non-sampling errors, like sampling-frame deficits, non-responses, or respondents giving inaccurate or incomplete answers; another source of errors could be that the questionnaires or collection procedures are not proficient (Schofield, 2006). In the following sections, these potential sources of errors will be discussed in relation to the material.

To start with, the way in which the target population is defined is of course an integral part of who is included in the final sample and an important source of selection errors. The target population for the industrial homework survey was all the industrial homeworkers in Sweden. Defining what industrial homework consisted of and who was to be defined as a homemaker had already been a dilemma in the proposition for the law in 1909. Recognizing that many different categories of paid production existed in homes, in the present survey, one primary problem had been and still was how to deal with remunerated handicrafts (hemslöjd) (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 23). The conclusion was that what separated remunerated handicrafts

from industrial homework was the relationship to the employer. The formulation “on behalf of an employer”/“på uppdrag av arbetsgivaren” served largely to separate industrial homework from handicrafts or artisanal work. If you sold your work directly to a customer, you would then be defined as an own account worker (för egen räkning) and not as an industrial homeworker.

The formulation “for business purposes”/“yrkesmässigt bedrivna näringar” was defined to leave out workers who were employed by organizations of which the primary activities were not for business, like charity organizations or prisons. Probably, these would not be a negligible part of the industrial homeworkers if they had been included in the sample. Charity organizations to which women would apply for help, for example by obtaining yarn and knitting gloves that the charity organization sold, seem to have been fairly common.²

The survey administration also notes that almost all of the companies that did not answer their calls were small shops that may have employed only a few workers (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 40). If these small shops were numerous and employed a few homeworkers each, which is likely to be the case, they could have been a large part of all the industrial homeworkers. The potential consequence is that there could be a bias deriving from this if women with small employers had different experiences from those working for larger employers. However, if we knew whether the size of the employer was correlated with the experiences of the workers who are included in the sample, we would not know how it would have affected the results if including the small employers who were not in the master sample.

As in most survey research, there are a number of potential biases connected to non-response as well. Unit non-response biases are biases resulting from failure to collect data successfully from the elements (in this case individuals) that were chosen for inclusion in the study (Daniel, 2012). In the final report, the authors declare that the group they decided to attempt to interview amounted to “around 5100” (*Svensk hemindustri. D. 1, Utredningens huvudresultat*, 1917, p. 42). There are 5064 completed interviews, which seems like an extremely high response rate. As I do not know the actual non-response rate, it is hard to estimate the extent of non-response bias in the material; however, there are some clues indicating potential non-response biases. In the main results, a good amount of space is devoted to discussing the problems connected to the

2 I have not been able to find any statistics on the number of women who were engaged in this type of production or the turnover that the charities received from it. However, looking into the archive of one of these charities, they seem to have employed several hundreds of women over the years. Seemingly it was not alone in this type of work-for-welfare programme.

inability to contact the respondents as several employers had failed to provide the right full name and up-to-date correct addresses of the homeworkers as well as the problems connected to individuals not being in their houses or refusing to respond (*Svensk hemindustri. D. 1, Utredningens huvudresultat 1917, 44–45*).

There is reason to suspect that these data are not missing at random, since in the main results they also state that missing data caused by faulty addresses were more common in urban environments. Assuming that poorer people in the cities moved more, this could lead to a bias in that more stable workers from wealthier homes were over-represented.

In general, face-to-face interviews tend to have higher response rates than other collection methods. Nevertheless, there are quite often item (single questions) non-responses in the interviews. As we can see in table 2, the wage variables and cost of equipment are especially low.

TABLE 2 Item response rate for the variables used in the dissertation

Questions	Sjuhärad subsample	Gothenburg subsample	Panel sample
<i>Individual and household variables</i>			
Year born (continous, interval)	0.99	0.98	1.00
Place of birth (nominal)	0.99	0.99	1.00
Marital status (nominal)	1.00	1.00	1.00
Children present in household (nominal)	1.00	1.00	1.00
<i>Work variables</i>			
Type of products made (nominal)	1.00	0.95	0.96
Hours worked (interval)	0.96	0.83	0.79
Months worked (nominal)	0.96	0.84	0.85
Cost of equipment (interval)	0.87	0.42	0.86
<i>Wage variables</i>			
Information to construct hour wage (composite variable)	0.96	0.67	0.68
Average wage/week 1911 (interval)	0.82	0.82	0.79
Wage 1911 (interval)	0.47	0.58	0.54
Number of helpers (interval)	1.00	1.00	1.00
<i>Retrospective variables</i>			
Occupational training (binary/nominal)	1.00	0.99	0.99
Father's occupation (nominal)	0.88	0.58	0.58
Years worked in industrial homework (interval)	0.98	0.78	0.71
Total sample N	312	276	136

The item non-responses in this case are most likely not random: women who would not state their income were probably more likely to have irregular incomes. In the case of hours worked, respondents regularly stated that they were not able to respond as they worked too irregularly to state their hours worked. Hence, there is a selection bias regarding respondents who did not state their hours worked; to deal with this issue, I conducted a further analysis and discussed in length the effect of this non-response bias in the paper when I used the material on hours worked.

There are a few notes about refusal to respond in the notes in the last part of the interview. Sometimes women expressed explicitly that they were not willing to state their own wage and in a few cases their husband's wage; however, this was not a frequent occurrence and it does not seem to be a large problem. None of the respondents admitted to working on Sundays and holidays (*helgdagar*). This could be more of a social desirability bias than an actual reflection of no one ever working on Sundays.

As the data were collected in face-to-face interviews with a number of different interviewers, there is a risk of researcher effects in that whoever was conducting the interview could have affected the answers. The men and women who performed the interviews were noted in the main results to be "qualified", and judging from their titles, they came from a middle-class or upper-middle-class background. In Gothenburg, a team of two male and thirteen female interviewers was led by *Doktorinnan* (wife of a doctor) T. Matell. They were also sent out from a governmental organ, which would put them in a position of power in relative to the homeworkers, who most often came from working-class backgrounds. There was most likely also a power dimension to the interaction between the interviewer and the respondent as the questions asked were of a somewhat personal nature: what everyone in the family earned, how they lived, how many children slept in the room where they worked, their medical history, and so on. Rather often, there are also notes commenting on the home being dirty, about husbands drinking or having taken off, or that the woman working did not have time to take care of her children. In the archive of the survey, there are several letters from the interviewers expressing great personal concern for the homeworkers. Potentially this could have caused the homeworkers to understate the hours they worked, as they felt their "right" place would be to allocate more of their time to the household.

Another particular problem with variation between interviewers is not in terms of how the respondent interacted with the interviewer but in terms of how thorough the interviewer was in taking down the answers. This matters

not only for the results but also for the names, which affected the possibility to link the individuals to other sources. Some just wrote down Ms Andersson or Maja Andersson, while some would take down their full names, like “Maria Charlotta Andersson”. Furthermore, regarding the place where they were born, the interviewers were instructed to note down the parish and county but some would just write down a city or an area; without their full names and parishes, it was extremely hard, and often impossible, to link the interviews to other sources. This was also the case when it came to the respondents’ address, and without a full address, I was not able to find them in the poll tax records.

One last potential bias could have been caused by the issue that the homeworkers seemed to be “heaping” to some extent in several questions. In the retrospective questions, respondents who had worked longer seem to have overestimated how long they worked or made approximations like “I’ve worked so long, 40 years or so” or “I’ve worked since I was a kid, it must be over 50 years now”. In addition, when they stated how much they earned per year, they seem to have ended up with suspiciously even numbers. The effects of these potential biases are estimated and discussed in the individual papers and even though, as with all materials, there are some problems and biases, these interviews offer what, to my knowledge, is the only Swedish material in which a large and representative sample of industrial homeworkers can be identified.

The interviews also provide one of the few materials in which we can access the work of both married and unmarried women in the manufacturing industry at this time. The level of detail in the interviews also allows the study of how this kind of semi-formal work was affected by household factors. Sweden was not the only country to survey its industrial homeworkers – it was actually one of the last countries in Europe – but the advantage was that it could benefit from the experiences of other countries. Another advantage of the Swedish material is that many of the other studies were performed with the more or less outspoken aim of banning industrial homework or explicitly surveying the poor. Compared for example with the classic Clara Collet pieces in Charles Booth’s *Life and Labour of the People of London*, the Swedish survey seems to have been dealing with fewer selection problems. Collet investigated home-based workers within a framework of studying poverty. It is hard to draw general conclusions about the economic position of homeworkers from Collet’s studies as they were chosen because they were poor. When she describes the homeworkers it is in a context in which homework was considered a large social problem. This also seems to be the case among several other surveys performed on the industrial homeworkers’ situation at the time (Hainisch, 1906; Lorenz, 1909; Vos, 1901).

The Swedish survey thus forms a uniquely detailed and representative source for studying industrial homework in Sweden but is also an important source from an international perspective.

Creating subsamples from the interviews

This dissertation study labour strategies of women industrial homeworkers in the early twentieth-century labour market, the aim is not to offer a statistically representative picture of all industrial homeworkers in Sweden. Therefore, two smaller samples were drawn from the interviews conducted by Socialstyrelsen. One urban and one rural sample were drawn; the selection criteria for the first sample were that they were women and had an address in Gothenburg; the selection criteria for the second sample were that they were women and had an address in rural Älvsborg (a group that consisted only of workers from the Sjuhärad area in the survey).

The reason for choosing Gothenburg for the first subsample was that I was interested in female industrial homeworkers in a larger urban setting. The requirement for urban settings with enough interviews (I set the limit to >300) restricted my choices to Stockholm, Gothenburg and Malmö. In Stockholm, 785 interviews were conducted, in Malmö 371 and in Gothenburg 366. Being interested in the connections between home-based work and gender, I was especially interested in sectors that were dominated by women and coded as “women’s work”. In Gothenburg, 75 per cent of the homeworkers were found to be employed in women’s clothing, linen-making, knitting, and sewing by hand. These were branches that were almost completely dominated by women. In both Malmö and Stockholm, a larger proportion of the workers were found in men’s clothing, which was slightly more mixed in terms of gender. Gothenburg was also chosen because it enabled the use of the Gothenburg central address register to link the interviews effectively to other poll tax records and create a longitudinal panel. For these reasons, the choice fell on Gothenburg. In the archive, I was able to locate 290 interviews of the 366 interviews undertaken with workers in Gothenburg; 276 out of the 336 interviews were conducted with women.

The second subsample was chosen on the basis of being the main area for industrial homework in rural Sweden. The Sjuhärad area was the main area for proto-industrial production in Sweden during the eighteen and nineteenth centuries (Magnusson, 1996, p. 329). Still in 1911, the area held about half of all the industrial homeworkers in the rural areas of Sweden, almost 7000

industrial homeworkers. A total of 1232 interviews were performed in the whole of Älvsborg, including the more urbanized areas (like Borås and Alingsås), and I was able to locate 1008 of them. I restricted the sample by choosing every third unit (individual) of the 1008. The sample was further restricted to include only women and only women in the countryside (hence excluding women with addresses in Borås or Alingsås, which were the only urban areas represented in the sample); the final analytical sample comprised 321 industrial homeworkers.

All the scorecards from the interviews were located in the archive of the Board of Health and Welfare (*Socialstyrelsen*) held by the national archive in Arninge in Stockholm. The interviews were in relatively unsorted boxes, although to some extent they were sorted according to region. I read through all the interviews and took photos of all the interviews in which the informant had an address in Gothenburg (most often they also had GBG typed in red in the right corner) or Älvsborg (ÄBG in red in the right corner).

Transforming the data into variables was fairly time consuming, as the questions were open-ended; even if brief, the data frequently needed to be recoded. Especially the type of products that the workers made needed structured code frames. The interviews were not numbered in any way in the survey; they were identified only by name and address. Upon data entry, I assigned an ID number to all the individuals. In some open-ended questions, there was a quite large variation in the answers and they needed to be coded into more distilled versions to be manageable.

Representativeness of the cross-sectional samples

The target populations for these subsamples are the total population of industrial homeworkers in Gothenburg and rural Älvsborg in 1911. In terms of representativeness, these samples suffer from the same problems and potential errors as the master sample, which was previously discussed. As this is also in principle the only source of this kind of information on industrial homeworkers, it is impossible to find other statistics that allow a comparison of the features of the sample with the target population. In the case of the Gothenburg subsample, I found in the archive and use 276 out of the 336 interviews conducted in Gothenburg. Out of the interviews performed in Sjuhärad, I use a systematic sample from the interviews collected (every third unit, $n=312$). In the Gothenburg case, there is no information on the specific features of Gothenburg industrial homeworkers. However, table 3 displays a broad overview of the age, marital status, and sector for the different samples.

TABLE 3 Sector, marital status, and age structure compared, in percent

Sector	Textiles	Garments	Other	NA
National master sample	0.40	0.50	0.10	0.00
Sjuhäräd subsample	0.71	0.29	0.00	0.01
Gothenburg subsample	0.22	0.75	0.01	0.02
Panel sample 1912	0.26	0.70	0.03	0.01

Marital status	Married	Unmarried	Widowed
National master sample	0.46	0.41	0.12
Sjuhäräd subsample	0.39	0.56	0.05
Gothenburg subsample	0.38	0.56	0.06
Panel sample 1912	0.43	0.52	0.05

Age structure	<20	20–29	30–39	40–49	50–59	NAs	>60
National sample	0.05	0.20	0.31	0.23	0.12	0.01	0.08
Sjuhäräd sample	0.07	0.31	0.24	0.16	0.12	0.01	0.09
Gothenburg sample	0.02	0.27	0.36	0.19	0.09	0.02	0.05
Panel sample 1912	0.01	0.28	0.35	0.21	0.11	0.00	0.04

As the Sjuhäräd area was of special interest in the survey, the results from the interviews in Älvsborg were accounted for in more detail than any other geographic area. In table 4, we can see that the subsample largely shares the same characteristics with the larger sample of interviews performed.

TABLE 4 Comparison between the total interviews conducted and the Sjuhärad subsample used

	Total Sjuhärad interviews on countryside	Sjuhärad subsample
<i>Products made</i>		
Textiles	0.73	0.71
Garments	0.27	0.29
Other	0	0
NA	0	0.01
<i>Marital status</i>		
Married	0.37	0.39
Unmarried	0.57	0.56
Widowed	0.6	0.05
<i>Age</i>		
<20	0.10	0.07
20–29	0.30	0.31
30–39	0.22	0.24
40–49	0.17	0.16
50–59	0.11	0.12
>60	0.09	0.09
NA	0.00	0.01

Source for total interviews' information: Svensk hemindustri: monografier, hemindustrien i Södra Älvsborg.

One alternative to creating two cluster subsamples like this would have been to use all of the 5064 interviews or to draw a large random sample from them and potentially to use both male and female homeworkers. As we could see in table 3, the two subsamples chosen, as well as the national sample, are dominated by textile and garment makers. The industrial homeworkers in Gothenburg and Sjuhärad also had a slightly different age and marital status composition, which also related to the structure of the products made. The results would have changed in the papers if a different or the whole national sample had been used. It has become apparent during the dissertation process that, more than anything, the industrial homeworkers were a very diverse group on the labour market. Regional clusters of the type of products that they made were common, and the types of products mattered for the composition of the labour force; thus, any geographical-based sample would be biased, as the types of industrial homeworkers were not spread equally across the country. The ben-

efits of using the whole sample obviously would have been the larger number of observations, which would have made a better base for econometric testing and inferential statistics, especially in the two papers dealing with the timing of entry and the hours worked, which would have made sense. It would also have erased some of the potential skewedness based on geographical biases. However, as stated before, the aim of the dissertation was to explore the labour strategies of individual homeworkers, so the geographical bias would mainly be a problem if one claimed to give a representative picture of all industrial homeworkers in Sweden in 1911.

3. Sources for the panel sample

The Gothenburg industrial homeworkers' panel is a longitudinal data set with 731 observations on 137 unique individuals used in the dissertation with the intention to explore the mobility dimension of the homeworkers' labour market participation. The panel is based on register data from poll tax records and holds information on a number of different demographic and labour-market-related variables. This part of the paper describes the setting, construction, and collecting of the data set, presents some basic sample characteristics, and further discusses the issue of panel attrition and the quality of the material.

The industrial homemaker panel is based on information from poll tax records (*mantalslängder*). The poll tax records are census material, targeting the whole population and forming a register of all the inhabitants on the parish level. The information in the poll tax records forms the base for taxation, social control, rights related to citizenship, and population statistics. The information on taxes and the occupational information in poll tax records are based on self-reported information, sent in by the head of the household to the Poll Tax Office (*Mantalskontoret*) (Norrman, 1933, p. 38). In addition, employers provided information on their employees (Norrman, 1933, p. 43). The information in the poll tax records includes, for all the members of the household, the age and relationship to the household head and the place of birth; if applicable, there is also information on the type of occupation held, number of employees, type of business activity, ownership of fixed capital, as well as income from property, capital, employment, or business. Further, there is a field labelled "notes", which most often was used for information on the employer and/or whether they received poor relief or unemployment insurance. It is, however, unclear how systematic these notes were, and there is also information on

individuals being unemployed, working irregularly, working abroad, or being a foreign citizen. For married women who did not live with their husbands, there is quite often an explanation in the notes stating “husband in America” or “husband works in XXX”.

I choose to follow the cohort of women based in the urban centre of Gothenburg (the Gothenburg subset sample) rather than using a random sub-sample drawn from the whole industrial homework sample described above for several reasons. Most important was feasibility: to follow all the women in the official records in different parishes to different cities would take too much time, and the risk of heavy panel attrition would be high. Gothenburg city kept a manual central register of all its inhabitants between 1917 and 1967 (Gustafsson & Jansson, 2010, p. 243). The register includes records of the residential address of individuals, which greatly facilitated the ability to find individuals over time in the poll tax records. Another reason for choosing one city was that it increased the comparability over the years studied. Further, choosing to follow the urban Gothenburg cohort made it possible to compare it with other groups of women, as I would be able to match it to the Gothenburg population panel, a representative panel of the Gothenburg population collected to study various forms of labour mobility. The Gothenburg poll tax records have been used in several studies of occupational mobility within other projects as well, within the previously mentioned Gothenburg Population Panel and also in studies on income mobility (Gustafsson & Johansson, 2003). They have also been used to study the economic life of women during the interwar period (Lane, 2004).

Quality of the material

Previous research on the reliability of the taxation information has shown that there is in general substantial coherence in the taxation data (Olsson, 1972, p. 73). I found poll tax records to be the best way possible to study the occupational trajectories of industrial homeworkers; there are, however, some large and gender-specific problems with the poll tax records as a source of information on women’s paid work. Most importantly, married women very seldom registered an occupational title, partly because they were homemakers but also because of a large degree of underreporting. There are several studies dealing with the underreporting of women’s and especially married women’s work in official sources like poll tax records or census material (Nyberg, 1994; Vikström, 2010). Previous studies have indicated that the lack of information in poll tax records on women’s work possibly reflects the underreporting of

women workers and not always a lack of women actually working for money (Göransson, 1988, p. 44). Unfortunately, this also turned out to be the case for the female industrial homeworkers. When comparing the occupational information in the interviews in 1912 and the occupational information from the poll tax records for 1912, it was possible to see that even though we know for a fact that all of the women in the database did work for money in 1912, few women, and virtually no married women, stated an occupation. This made the poll tax records a limited source for studying the industrial married homeworkers' occupational mobility; unfortunately, there are very few, if any, other sources that would allow that. Alternative methods would have been to use company records; however, when it comes to company records in general, there is a gender-related bias in that women were more often employed by smaller employers and the company records of small employers survive less often than those of large employers. Furthermore, women working in their home were less likely to be encompassed by the company records, as they were not physically in the workplace and also at times worked irregularly over the year.

The process of linking the Gothenburg sample interviews to the poll tax records

The sample frame for the panel data consists of the 290 interviews with industrial homeworkers performed in Gothenburg in 1912. Individuals were linked by their name and address and by using the central register. However, before looking for the individuals in the central register, a number of measurements were taken to stabilize the material, increasing the probability of finding them and avoiding making false linkages or missing true linkages.

Initially, I started by looking for the individuals in the poll tax record for 1912, primarily to access their full names. The addresses in the poll tax records, however, are based on property numbers (*fastighetsbeteckning*) and in the interviews there are only street addresses; therefore, there was a need for a translation key, more specifically "Göteborgs fastigheter och industrikalender". As the addresses in the interviews are sometimes imprecise and the translation key is not always fully comprehensive, it was not possible to find all the individuals. In 37 cases, there was not enough information in the interview to find a district (*Rote*) and a property number to look for them. As I only had the year of birth and not the date from the interviews, and since this was not stated in the poll tax records in 1912, I also tried to locate the respondents in the fifth version of the *Swedish Death Index 1901–2009*, a publication from the Swedish

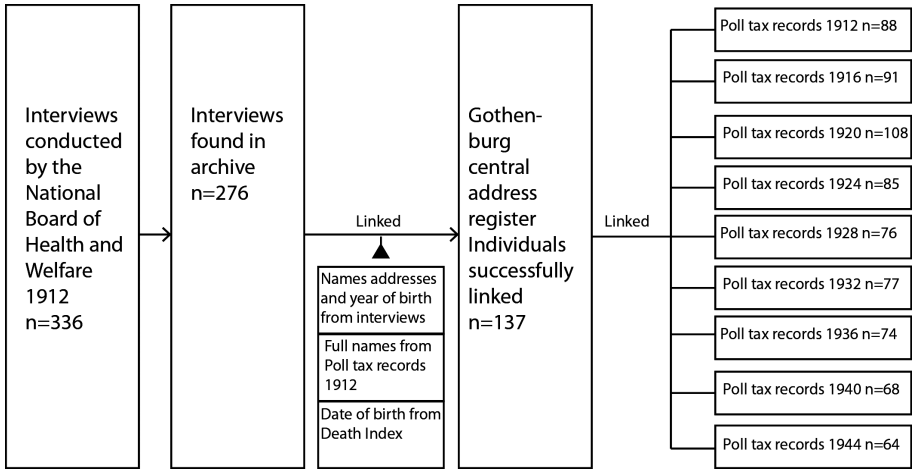
Genealogical Society containing the names of all the individuals who died from 1947 and about 70 per cent of the individuals who died in 1901–1946. In the death index, I found 135 out of 290 individuals and could access their date of birth. I triangulated the information from the interviews, the poll tax records of 1912, and the death index to maximize my chances of finding the individuals in the central register.

With the combined information on their date of birth, all their given names, and/or their last and maiden names, I started looking for the individuals of the Gothenburg subsample in the central register. The register was regularly maintained from 1920 but in several cases it holds retrospective moves before 1920. The register is structured primarily alphabetically but also somewhat phonetically, so for example the surnames “Dalström” and “Dahlström” are next to each other. However, as the spelling and the names the registrars thought were phonetically the same were not always clear, I always looked both where they should be alphabetically and where I thought they could be, either because they were phonetically similar or because I thought that the name might have been spelled incorrectly, either in my sources or in the address register.

The register provided information on individuals’ full names, (sometimes) occupation, date of birth, year of birth, and date and year of death, provided they died before the register was digitalized. Most importantly, it also provided information on moves within Gothenburg, which parish, district (*Rote*), block, and number they moved to, and the year and date when they moved. In total, I was able to locate 137 individuals in the address register and hence had 137 individuals whom I had a chance of finding in the poll tax records. As shown in figure 1, I was able to link 137 or 49 per cent of the individuals whom I looked for in the central register. Eleven of them were not attempted at all due to having too poor information in the data (no names or no year of birth).

There are a number of reasons why so many individuals were impossible to link; as mentioned before, even though attempts were made to stabilize the material with alternative sources like the *Swedish Death Index* and the poll tax record of 1912, the quality of the information in the interviews regarding names, year of birth, and place of origin varied. Without having individuals’ full names, year of birth, and birth parish, I could not be sure of having the right person, especially since many had common names and without full names (all first names) it was impossible to know whether I had the right Alma Andersson born in 1891 in the parish of Karl Johan, and thus include that individual.

FIGURE I Overview of the outcome of the linking



From this analysis and the descriptive statistics in table 3, however, it seems as if no heavy bias was caused by this attrition. To look for systematic patterns in the outcome of the linking, a logistic regression analysis was performed. The dependent variable here was success vs. failure when it comes to being found in the central register and hence being included in the panel sample. Table 5 displays the results of the analysis: only one variable had a relationship with the dependent variable that was strong enough to be statistically significant (<0.05). Women who earned more than 1000 SEK in 1911 had about one-third of the odds of being found in the central register compared with those who earned between 401 and 601 SEK in 1911. This could be explained by women earning that much being more likely to run their own small workshop and because of this not having their private address on the interview card, which in turn made it harder to find additional information in the 1912 poll tax and therefore harder to find them in the address register. None of the other variables was statistically significant.

TABLE 5 Logistic regression results for odds ratios of being included in the panel sample

Variable	Share of sample (%)	Log-odds (b)	Odds ratio
Intercept		0.05	1.05
<i>Marital status</i>			
Unmarried	56	Ref	1
Married	38	0.32	1.38
Widow	7	-0.30	0.74
<i>Age 1912</i>			
<20	0.02	-0.22	0.80
20–29	0.27	0.20	1.22
30–39	0.36	Ref	1
40–49	0.19	0.28	1.33
50–59	0.09	0.49	1.63
>60	0.05	-0.21	0.81
NAs	0.02		
<i>Income 1911</i>			
200 SEK or below	0.15	-0.27	0.77
201–400	0.11	-0.74	0.48
401–600	0.09	Ref	1
601–800	0.06	-0.57	0.56
801–1000	0.02	-0.50	0.61
Above 1000	0.15	-1.17*	0.31
No information	0.42	-0.38	0.69
<i>Migration history</i>			
Born in Gothenburg	0.42	Ref	1
Moved to Gothenburg	0.58	0.38	1.46
N=269			
Likelihood ratio test:	Chi square on 14 df=14.8	P=0.39	
N=269			
Pseudo R-square (Hosmer and Lemeshow)	0.04		
*p<0.05 **p<0.001 ***p<0.000			

Nevertheless, as the sample size is quite small, we might have inflated standard errors and hence obtain statistically insignificant coefficients; however, the likelihood ratio test for overall model evaluation also shows that none of the parameters actually helps in explaining the variation in the material. If we just look at the size effect of the parameters, we see that unmarried women had lower odds of being found than married women, possibly because they

were more likely to move or marry between 1912 and 1920. If they married and changed their last name, they would be harder to find if I had not been able to identify both their names from the *Swedish Death Index*. Comparably, women aged between 50 and 59 had 63 per cent higher odds of being found than women aged between 30 and 39, possibly because they were more stable, did not marry and did not move out.

In the second stage of the compilation of the panel data, all the women found in the central register were linked to the poll tax records from 1912, every fourth year until 1944. Most panel surveys in one way or another are plagued by attrition (Hsiao, 2003, p. 234). This panel is no exception. On average, the attrition rate (calculated as the number of unit non-responses in every year divided by the full sample, N=137) for the panel was 40 per cent. Table 6 shows that the attrition rate varied over the years.

TABLE 6 Lost and found in the poll tax records

Year	Found	Moved out of Gothenburg, deceased, or institutionalized B	Not found C	Attrition ((B+C)/full sample)
1912	88	0	49	0.36
1916	91	0	45	0.33
1920	108	2	26	0.20
1924	85	8	43	0.37
1928	76	16	44	0.44
1932	77	21	38	0.43
1936	74	31	29	0.44
1940	68	36	32	0.50
1944	64	43	29	0.53
Total	731			

The least attrition is found in 1920, the year when the central register was established. In this type of historical register data, we do not have a large problem with people not being willing or able to answer subsequent waves of surveys; in many cases, the data do exist, but the problem is finding them. This panel has the usual attrition problems – outmigration, mortality, moving house – but here, the problems are also connected to the linking process and the proficiency of the central register. In historical panels, as in others, we need to

know whether the attrition causes systematic errors in the material. The extent of the errors and their consequences are of course dependent on the questions that the researcher wants to answer with the panel. As a general start, though, we can say that in the panel sample age is definitely a factor as we have some individuals who are already older in 1912; they, of course, have a higher risk of dropping out of the panel as they have a higher risk of dying during the 32 years of the panel. In the central register, women who were institutionalized, most often living in some kind of home for the elderly, did not have an address in the central register, and it said “in care” (“*vården*” or “*sjukhem*”), so they were not encompassed either. People who moved out of Gothenburg also moved out of the panel. It is most likely that the attrition is thus not random but related to age, so these rates might represent serious problems with the representativeness of the panel. The problems caused by attrition bias need to be attended to in relation to the questions asked by the material; in the dissertation, these problems are discussed in the paper second paper.

The archival work for the panel data was performed at the regional archive in Gothenburg from September 2011 to January 2012. The first stage of data extraction was undertaken by filling in printed paper templates, which I took with me to the archive. For comparability, I used a template that had been used in the construction of the Gothenburg Population Panel. All the volumes of the poll tax records were located in the regional archives subdivision in Gothenburg. To locate individuals in the poll tax records, I made an address list for each year, based on the information from the interviews, the central register, and another translation key, a register titled “*Fastighetsregister Göteborg 1923 äldre och nyare*”, which was used to see which addresses or property numbers belonged to which parish and district. Provided that there was no additional information in the central register about the homemaker having moved before that year, I looked for her in the poll tax record at the same address she stated in the interview. For those individuals I had not found in 1912 (before I looked for them in the central register) but had additional information from the central register about where they might have lived in 1912, I went back to try to find them again.

For all the years, to find each individual in the poll tax records, I followed this scheme, which, due to the structure of the data, I found to be most effective: locate the poll tax record for the right parish, go to the right district (*Rote*) and/or part of the city, find the right block, look for people with the same surname, look for someone with the same birth year, look for the person with the same first name, and check that the rest of the information is consistent with what he or she stated in the interview. If I had not found the individual by then, I

checked the address again and looked back in the translation key to see if there was a street with a similar name in any other part of the town. Before 1919, the taxation part of the poll tax records was in a separate volume, which was structured in the same way as the poll tax records.³ To find this information, I used the same scheme as described above. Due to the archives' limited opening hours, it was crucial to prepare as much as possible before arriving, so for every poll tax year I pre-typed the individuals' ID, name, year of birth, and address and sorted them geographically as closely as possible according to parish, estate number, block, and building. After transferring the information from the poll tax records in the archive to my templates, I photographed the poll tax pages. Eventually, I ended up not using all the data from the poll tax records; however, the raw data from the templates are digitalized.

Representativeness of the panel sample

When it comes to married women, the poll tax records turned out to be yet another insufficient source for studying occupational mobility. However, for unmarried women, they provide a coherent register data source regarding their occupational status and increasingly after the First World War on their income as well. Concerning the question of whether these women were representative of all industrial homeworkers and their occupational trajectories, a number of issues need to be taken into consideration. As mentioned previously, there is a problem with self-selection bias. The women whom we find are most likely more "stable" workers than others; the sample is restricted to people who did not move out of Gothenburg, and as spatial mobility is connected to occupational mobility, a bias might exist here.

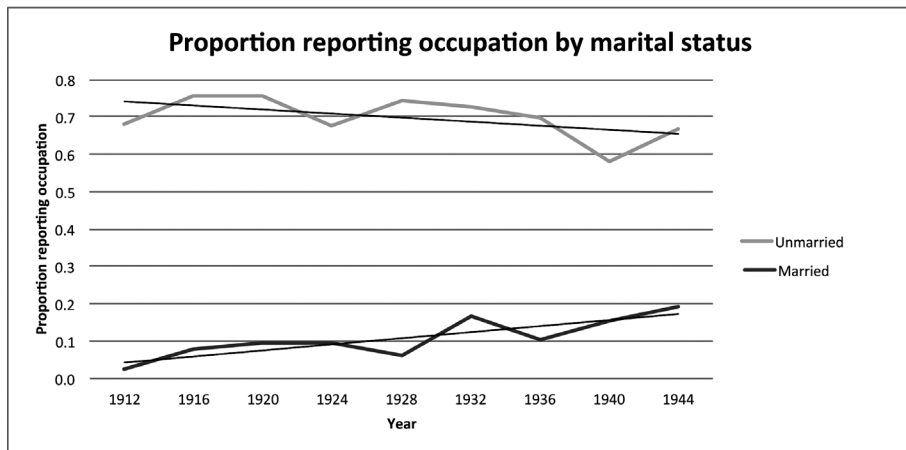
Referring to table 7, we can see that, for the group as a whole, there are relatively few women who state their occupation, income, or employer; however, if we look at the proportion of women who registered an occupation over time in figure 2, we see that there are significant differences when it comes to married and unmarried women. For never-married women, as a way of describing their trajectories, the material deals with many of the usual attrition problems that these kinds of material face.

3 It should be noted that these volumes are physically very large and heavy.

TABLE 7 Panel descriptives per year

Year	Number of observations	Median age	Percent married	Stated occupation	Stated income	Income if stated occupation	Stated employer	Statad employer income provided
1912	88	33	0.45	0.33	0.06	0.06	0.04	0.17
1916	91	40	0.42	0.45	0.07	0.12	0.15	0.83
1920	108	43	0.39	0.47	0.39	0.75	0.2	0.45
1924	85	46	0.49	0.35	0.31	0.57	0.21	0.54
1928	76	51	0.43	0.41	0.32	0.61	0.21	0.58
1932	77	55	0.39	0.47	0.39	0.64	0.22	0.43
1936	74	57	0.39	0.39	0.26	0.5	0.24	0.7
1940	68	61	0.38	0.37	0.31	0.52	0.18	0.48
1944	64	65.5	0.33	0.41	0.39	0.5	0.19	0.44
Total	731	51	0.41	0.41	0.27	0.48	0.18	0.51

FIGURE 2 Proportion of women who registered an occupation by marital status



Nevertheless, longitudinal occupational information on a large and important part of the industrial homeworkers is still lacking: married women. The problem is not so much that we cannot find the married women in the poll tax records, but that we cannot know whether their absent occupational title is because they did not work for money or because they did not register that they worked for money. This is a problem as the few studies that exist on married women on the labour market in Sweden before 1950 indicate that married women had the highest mobility of all groups on the labour market, especially at the ages of 40 to 70 (Meidner, 1954, p. 206). Fortunately, the retrospective questions in the interviews used for the cross-sectional material can offer some insights into the mobility patterns of industrial homework; however, where the married women actually went from there remains to be discovered.

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Ref. code: SE/GLA/12296/F I aa/300

Archive: Göteborgs Mantalskontors arkiv 1713-1949;
Göteborgs stads centralregister: Kvinnor, avlidna och utflyttade,
Göteborgs stads centralregister: Kvinnor, aktuella 1967;
Ref.code: SE/GLA/12296/ CIVba, SE/GLA/12296/ CIVbb

Svensk sammanfattning

Den här avhandlingen handlar om kvinnor som arbetade i hemindustrin i Sverige under 1910-talet. Den handlar om hur, när och varför de arbetade i just hemindustriellt arbete. *Hemindustri* innebär att de arbetade med att producera varor i sitt eget hem för ett eller flera företag. Oftast producerade de kläder eller textilier, ibland även andra konsumtionsvaror som leksaker eller paraplyer. Vid den här tiden var de flesta industriarbetare män men inom hemindustrin utgjorde kvinnor en majoritet. Socialstyrelsen gjorde 1912 en utredning om hemindustriarbete och fann att det fanns minst 27 000 hemindustriarbetare i Sverige år 1911. Ungefär 19 000 av dem var kvinnor. Hemindustriarbeterskorna utgjorde totalt cirka en tredjedel av alla kvinnliga industriarbetare år 1910-1911 men var inte inkluderade i officiell industristatistik före 1913. Trots att hemindustriarbeterskorna utgjorde en stor grupp på arbetsmarknaden har de inte uppmärksammats särskilt mycket i historisk arbetsmarknadsforskning, varken i eller utanför Sverige. En del av förklaringen till detta kan ligga i att de är svåra att hitta i historiska källmaterial som traditionellt använts för historiska arbetsmarknadsstudier; de har oftast inte varit inkluderade i industristatistik, företagsarkiv eller varit möjliga att identifiera i folkräkningar eller mantalslängder. För att hitta information om den här gruppen måste man därför använda andra typer av källor.

För att studera hemindustriarbeterskornas arbete har jag framförallt använt mig av information från intervjuer med hemindustriarbetare gjorda 1912. I samband med socialstyrelsens utredning gjordes nästan 5000 intervjuer. Arbetarna besöktes av utsända från socialstyrelsen och fick frågor om både sitt arbete och sin levnadssituation. Jag har i avhandlingen använt information från ett urval av intervjuerna, nämligen de som gjordes med kvinnor i Göteborg och Sjuhärad. Valet föll på Göteborg då jag ville studera en urban miljö, där det gjordes minst 300 intervjuer (för att kunna göra statistiska analyser). Stockholm och Malmö hade också varit alternativ, men i Göteborg fanns en möjlighet att länka intervjuerna till mantalslängder via ett adressregister och på så sätt skapa ett material som spände över längre tid. I Sjuhäradsområdet, då kallat södra Älvsborg, fanns en majoritet av de hemindustriarbetare som arbetade på landsbygden i Sverige. Ingen annanstans gjordes tillnärmelsevis lika många intervjuer som där.

Förutom intervjuer och mantalslängder samlade jag också in ett kvalitativt källmaterial för att få en bild av hur samtiden såg på hemindustriarbeterskorna. För att analysera materialet har jag använt mig av både kvantitativa och kvalitativa analysmetoder. Avhandlingen är en sammanläggningsavhandling. Den består av en introduktion, fyra olika uppsatser och en längre databeskrivning, där jag beskriver i detalj vilken typ av information jag grundar mina resultat på och hur jag har samlat in den.

Första uppsatsen behandlar frågan om är när i livet kvinnorna började arbeta i hemindustrin. Mer specifikt är jag intresserad av om de började i hemindustrin i samband med att de fick sitt första barn. De få tidigare studier som finns brukar ofta lyfta fram att hemindustriarbete framförallt var ett arbete som många valde för att det möjliggjorde att kunna ha ett betalt arbete och samtidigt utföra obetalt omsorgsarbete, som att ta hand om sina barn. För att ta reda på om det finns ett samband mellan att få sitt första barn och att börja arbeta i hemindustrin använder jag information från intervjuerna och en statistisk metod som kallas överlevnadsanalys. Resultaten visar att för personer med samma sociala bakgrund, tidigare arbetslivserfarenhet och ålder, som bodde i Sjuhärad och fick sitt första barn så fördubblades oddsen att börja i hemindustrin inom nästa tvåårsperiod. Att oddsen fördubblades är ungefär som att säga att sannolikheten eller risken att börja i hemindustrin fördubblades (men rent formellt visar resultaten att just oddsen fördubblades). Om personen bodde i Göteborg ökade oddsen att börja i hemindustrin nästa tvåårsperiod med lite drygt 50 procent, allt annat lika. Resultaten visar alltså att det finns ett samband mellan att få sitt första barn och att börja i hemindustrin och bekräftar därmed tidigare kvalitativa studier som hävdade att det varit så men inte kunnat säkerställa sambandet statistiskt. Resultaten visar dock också att över hälften av hemindustriarbeterskorna inte hade barn och att det verkar finnas många andra orsaker till att börja i hemindustrin, förutom att behöva stanna hemma med ett barn.

I den andra uppsatsen försöker jag få ytterligare svar på varför kvinnorna började inom hemindustrin, genom att kartlägga hemindustriarbeterskornas yrkesbanor genom livet. Vad de hade gjort innan de började i hemindustrin och vad hände efter att de hade slutat? Jag var också intresserad av om kvinnor som var gifta när intervjuerna gjordes hade annorlunda banor in i och sedan ut ur hemindustrin jämfört med dem som var ogifta. För att kartlägga deras yrkesbanor användes information i intervjuerna om vad de hade gjort före 1912, vad de hade jobbat med före hemindustrin och om de hade någon yrkesutbildning.

För att följa deras yrkesbanor efter 1912 använde jag mig av yrkesuppgifter för varje individ i mantalslängder från åren 1912 till 1944.

Resultaten visar att för de flesta var hemindustriarbetet ett arbete som var väldigt likt det som de utfört tidigare, oftast i en fabrik eller syateljé. Alternativt så var det den enda typ av betalt arbete de haft. Förvånansvärt många hade också någon form av yrkesutbildning, nästan alltid som sömmerska. Få hade en yrkesbakgrund där arbetsuppgifterna var helt olik de som kvinnorna utförde i hemindustrin. Det var vanligare bland de kvinnor som var ogifta 1912 att steget in i hemindustrin innebar att de startade en egen syverkstad, ibland med några anställda sömmerskor. De ogifta gjorde också oftare dyrare varor, till exempel kappor, jämfört med de som var gifta. Bland de gifta kvinnorna verkar steget till hemindustrin nästan alltid vara förknippat med att börja arbeta ensam och göra enklare produkter. De gifta och ogifta kvinnorna fortsatte också i olika banor efter 1912. De ogifta kvinnorna fortsatte oftast i samma typ av yrke även efter 1912. Få gifta kvinnor registrerade något yrke alls i mantalslängden, vare sig 1912 (där uppgifterna gäller för 1911) eller därefter. För år 1911 finns yrkesuppgifter både från intervjuer och mantalslängder. Det året vet vi att alla kvinnor som finns med i urvalet utförde betalt arbete i hemindustrin. Bara en av de gifta kvinnorna registrerar dock ett yrke i mantalslängden. Underrapporteringen av de gifta kvinnornas yrke gör att det är svårt att veta om det verkligen var så att de befann sig helt utanför arbetsmarknaden under resten av livet, eller om det bara ser ut så för att de inte rapporterade sitt yrke i mantalslängderna.

De här resultaten har flera viktiga implikationer för synen på kvinnors betalda arbete i allmänhet under den här tiden och för kvinnors hemindustriarbete i synnerhet. Istället för att tolka hemindustriarbetet som en kortsiktig lösning av ett ökat omsorgsbehov samtidigt som man behövde fortsätta tjäna pengar, vilket är en vanlig bild av hemindustriarbeterna, så framstår det utifrån de här resultaten snarare som att hemindustriarbetet var en långsiktig strategi. En strategi för att kunna ha ett arbete där erfarenhet och yrkeskunnande kunde användas under en längre period i livet, i många olika situationer. Många av sömmerskorna kunde till exempel sy på fabrik som yngre, sedan arbeta för samma fabrik i sitt eget hem senare i livet och/eller sy obetalt till sin egen familj.

Den tredje uppsatsen behandlar frågan om hur många timmar kvinnorna arbetade i hemindustrin och om antalet timmar varierade över året, samt om detta såg annorlunda ut beroende på om man bodde och arbetade i staden eller på landet. Tidigare studier har sett hemindustriarbete som ett mycket flexibelt arbetsmarknadssegment. Två huvudsakliga förklaringar har givits till detta.

Den ena är att flexibiliteten i hemindustriarbeterskorna arbetstid kan förklaras av att de inte var den primära försörjaren i en familj, utan framförallt arbetade för att täcka upp när den primära, manliga försörjaren i hushållet inte arbetade, till exempel under lågsäsong eller när denne var sjuk. Den andra förklaringen är att hemindustriarbetarna utgjorde en typ av sekundär arbetskraft, som framförallt arbetade vid efterfrågetoppar som följde svängningar efter mode eller säsong.

I den här uppsatsen vill jag först ta reda på om det finns säsongsvariationer i antal timmar som hemindustriarbeterskorna arbetade och hur de i så fall ser ut och om dessa var relaterade till variationer i inkomst hos en primär familjeförsörjare och/eller säsongsvariationer i efterfrågan på vissa produkter. Jag är också intresserad av om hemindustriarbeterskorna på landet hade annorlunda säsongsvariationer i sina arbetade timmar än arbeterskorna i staden. För att få svar på frågorna använder jag uppgifter från intervjuerna, där kvinnorna svarat på frågor om hur många timmar de arbetat i medeltal per dag varje månad under 1911. Jag använder principalkomponentanalys för att analysera materialet. Det är en slags faktoranalys där man får ut faktorer eller mönster som beskriver variation, i detta fall variation i antal timmar arbetade varje månad 1911. För att se vad som kan förklara de olika säsongsmönstren gjorde jag sambandsanalyser.

Resultaten visar att det finns vissa säsongsvariationer i antal timmar arbetade över året, men de är inte så stora. De allra flesta arbetade förvånansvärt jämnt antal timmar över året. Något som är överraskande är att det finns större säsongsvariation i timmar arbetade bland hemindustriarbeterskorna i staden än hos de på landet, trots att tidigare studier ofta antagit att det är tvärt om. På landet fanns ett tydligt säsongsvariationsmönster, de som arbetade säsongsbundet arbetade fler timmar under våren, vintern och hösten men färre under sommaren. I staden finns två olika mönster av säsongsvariationer i arbetade timmar. Ett mönster följdes av kvinnor som arbetade fler timmar på sommaren än övriga året, och ett mönster följdes av en grupp av kvinnor som arbetade fler timmar på våren, försommaren och kring jul men färre under höst och vinter.

Sambandsanalyserna visar att säsongsvariationer i hur många timmar hemindustriarbeterskorna arbetade inte var starkt kopplade till en manlig familjeförsörjares arbete. Oavsett om kvinnorna bodde med eller utan en manlig försörjare så hade de ungefär samma säsongsvariationsmönster, både på landet och i staden. För kvinnor som bodde i staden påverkades däremot antalet arbetade timmar i medeltal av att ha en manlig försörjare. De som hade en manlig försörjare i sitt hushåll arbetade i genomsnitt färre timmar hela året än de kvinnor som inte hade det.

Säsongsmönstren var däremot relaterade till vilka produkter hemindustriarbeterskorna tillverkade. På landet jobbade väverskor mer säsongsbundet jämfört med stickerskor och sömmerskor. I staden jobbade brodöser och skjortsömmerskor mer säsongsbundet jämfört med kappsömmerskor. Detta kan bero på att det fanns mer säsongsbunden efterfrågan på dessa varor, vilket vi kan anta från teori och tidigare studier. Dock så verkade det som att de som hade mest säsongsvariation var de som hade andra jobb under delar av året. Det fanns alltså ett ytterligare ett samband mellan att de som gjorde vissa produkter också oftare hade alternativ försörjning under delar av året, och att variationen potentiellt kunde relateras till alternativ efterfrågan på deras arbetskraft och inte av svängningar i efterfrågan på produkterna. Till exempel var arbeterskorna med störst säsongsvariation ofta lärarinnor som broderade mer på sommaren men mindre under terminerna och väverskorna verkade hjälpa till i skörden och arbetade därför mindre under dessa perioder.

I den fjärde och sista uppsatsen utgår jag från en teori om hemindustriarbeterskornas situation som kallas ”the househewifization theory”. Teorin går ut på att hemindustriarbeterskornas dåliga löner och arbetsförhållanden kan förklaras av att de i allmänhetens och lagstiftarnas ögon inte sågs som ”riktiga” arbetare, utan som hemmafruar som jobbar för extra pengar utan betydelse för hushållet. Teorin utgår alltså från två hypoteser: Ett, att hemindustriarbeterskorna sågs som hemmafruar av sin samtid och två, att de i själva verket inte var hemmafruar. Maria Mies som har formulerat den här teorin har forskat om hemindustriarbetare i Indien i slutet av 1900-talet. Hon hävdar dock att sambandet mellan dåliga löner och förhållanden och ideologiska konstruktioner av hemindustriarbeterskorna som hemmafruar återfinns i alla industrialiserade länder. I den här uppsatsen har jag tagit reda på om det var så i Sverige i början av 1900-talet. För att undersöka den första hypotesen, om de sågs som hemmafruar, samlade jag in texter skrivna i samband med den debatt om hemindustriarbetarnas situation som föregick Socialstyrelsens utredning. Texterna består av tidningsartiklar, lagförslag och debattböcker. För att undersöka den andra hypotesen, om de verkligen var hemmafruar (i uppsatsen är en hemmafru definierad som en gift kvinna utan betydande inkomster) använde jag intervjuerna med kvinnor från Göteborg (från Socialstyrelsens utredning) för att få reda på deras civilstånd och hushållets inkomster. Resultaten visar att även om det fanns en stor debatt om hemindustriarbetarnas situation, så beskrev kvinnorna inte som hemmafruar, de beskrevs ofta explicit som arbetare och det var uttalat att deras inkomster var av stor betydelse för hushållet. Resultaten visar också att en majoritet av kvinnorna var ogifta och för de flesta var deras inkomst

hushållets enda, eller primära inkomst. Det fanns dock många gifta kvinnor som jobbade i hemindustrin, men även för dem utgjorde deras inkomster ofta en betydande del av hushållsinkomsterna. De här hemindustriarbeterskorna var alltså inte primärt hemmafruar, men de beskrevs heller inte som att de var det i den offentliga debatten vid samma tid. I det här fallet kan man därför inte anta att det var just beskrivningar av hemindustriarbeterskorna som hemmafruar som var orsaken till deras utsatta situation på arbetsmarknaden.

Genom att studera kontinuitet och förändring på arbetsmarknaden ur ett långsiktigt perspektiv kan vi få större förståelse för varför relationer och institutioner på arbetsmarknaden ser ut som de gör idag. I avhandlingen har jag studerat kvinnors val och möjligheter på arbetsmarknaden under det tidiga 1900-talet genom att fokusera på hemindustriarbeterskor. Under de här åren utvecklades den moderna svenska arbetsmarknad som hundra år senare skulle bli en av världens mest jämställda. Avhandlingen behandlar dynamik mellan betalt och obetalt arbete, strategier för flexibla arbetsliv och arbetstimmar, samt hur ideologiska föreställningar om kön och arbete påverkade kvinnors arbetsmarknadsdeltagande. De är frågor som, trots den utveckling som skett, fortfarande är aktuella idag.

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The papers in this dissertation explore women's labour market decisions in the context of an industrializing economy by focusing on women industrial homeworkers in Sweden during the second industrial revolution. Through the creative use of quantitative and qualitative methods, combined with rich individual-level data from unconventional sources, the results from the dissertation provide novel insights into the choices of industrial homeworkers, as individuals, as members of families and households, and as a group in the labour market.

By studying long-term continuity and change in the labour market, we can gain a better understanding of why relationships and institutions in the labour market look the way they do today. The modern Swedish labour market that emerged during the period studied would become one of highest ranked in the world in terms of gender equality. The papers in this dissertation deal with the dynamics between paid and unpaid work, strategies for flexible employment and hours worked, and the ways in which ideological notions of gender and work affected the terms of women's labour market participation. These are questions that, despite the progress made, are still highly relevant today.

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