ETHNIC DISCRIMINATION AND WOMEN'S WAGES IN MILWAUKEE LAUNDRIES, 1911-12

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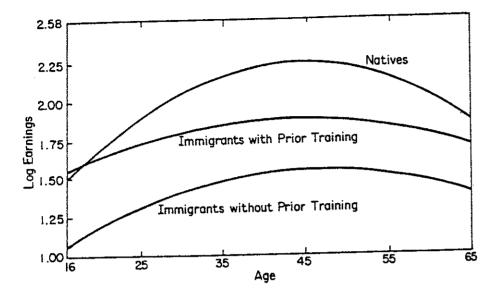
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INTRODUCTION

As the United States copes with the strains and stresses of the massive immigration wave of the last decade, it is appropriate to turn to the historical record of previous immigrant cohorts to reexamine the process of economic and social assimilation. One particular aspect of the immigrant labor market experience that is a matter of continuing historical interest is the extent to which ethnic discrimination adversely affected immigrant workers in turn of the century labor markets. There is some evidence that suggests employers did discriminate against the foreign-born in the early years of this century by denying them access to jobs with high lifetime earnings potential. As a result, some observers conclude that the assimilation process facing immigrants in the massive migrations prior to World War I was qualitatively different from that facing modern day immigrants.

This paper adds to the literature on the wage effects of ethnic discrimination by an econometric examination of the determinants of women's wages in the power laundry industry in Milwaukee in 1911-12. By narrowly focusing on one industry with 31 establishments in one large city, we hope to control for regional, industry and city-size effects on wages. At the same time, the data set does permit an investigation of the ethnic discrimination question. Korman [1967] describes a clear social and economic hierarchy among immigrants in turn of the century Milwaukee, with Germans ranking well above the mostly Polish new immigrants and about on par with the native-born. Significant numbers of native, German immigrant and Polish immigrant women worked in Milwaukee laundries in 1911. Our analysis of the wages of 478 women indicates that ethnic identity was not an important wage determinant in this sample of workers.

FIGURE 1 Age-Earnings Profiles, Male Wage Earners in Iowa, 1894-95



SELF-SELECTION, ASSIMILATION AND EARNINGS PROFILES

An important empirical generalization about the immigrant assimilation process has emerged from the study of the labor market experience of migrants to this country since World War II. Immigrants generally suffer an earnings disadvantage in comparison with similarly skilled native workers when they enter the U.S. labor market. This disadvantage, however, erodes with time until immigrant earnings surpass those of similar native workers [Chiswick, 1978]. For example, from a sample of nearly 20,000 male workers drawn from the 1970 Census, Stewart and Hyclak [1984] estimate the convergence period to be, on average, 12-13 years, with considerable variation across immigrants grouped by country or region of origin. This earnings convergence is traced to the self-selection of immigrants by ability and the lengthy process of assimilation to the U.S. labor market.

Eichengreen and Gemery [1986], however, question whether earnings convergence characterized the experience of immigrant workers at the turn of the century. This result is evident in the age-earnings profiles drawn from their study of 4,000 Iowa wage earners in 1894 and presented in Figure 1. Rather than converging, the

native-immigrant wage differential among these workers widened with age for both skilled and unskilled immigrants. Evidence of a greater earnings payoff to years of labor market experience for native workers than immigrants was also found in Hannon's [1982a] study of Michigan copper miners in 1888 and Tannen's [1982] examination of female manufacturing workers in 1909. Eichengreen and Gemery speculate that convergence due to immigrant self-selection may not have been as important at the turn of the century because of the sheer size of the immigrant cohorts at that time.

An alternative explanation for the age-earnings profiles estimated by Eichengreen and Gemery is that immigrant workers faced labor market discrimination that interfered with assimilation. There certainly was a virulently prejudicial attitude against immigrants in the early years of this century and some econometric evidence suggests that discrimination may have adversely affected the earnings of male [McGouldrick and Tannen, 1977] and female [Aldrich and Albelda, 1980] immigrants in the early 1900s. Studies by Hannon [1982b], LaCroix and Fishback [1989] and Craig and Fearn [1993] all suggest that employers discriminated largely by channeling immigrant workers into lower paying jobs with limited earnings potential, rather than by paying different wage rates for similar jobs. This occupational crowding version of the ethnic discrimination hypothesis is consistent with age-earnings profiles like that in Figure 1 if immigrant workers were unable to gain equal access to the jobs that provided greater opportunities for skill enhancement.

There is some question whether Eichengreen and Gemery's conclusion with regard to Iowa workers in 1894 can be applied generally to all immigrant workers at the turn of this century. For one thing Eichengreen and Gemery, as well as Hannon and Tannen ignore differences among immigrants. In particular, they fail to consider differences in the labor market experience of "old" immigrants, who came to the U.S. in large numbers from Britain, Germany, the Low Countries and Scandinavia in the two decades after the Civil War, and "new" immigrants from southern and central Europe who arrived in larger numbers at the end of the nineteenth and beginning of the twentieth century. McGouldrick and Tannen [1977] argue that the old immigrants were in fact indistinguishable from native workers in terms of wage levels and occupational status. However, they did find evidence of discrimination against new immigrants. Blau [1980] finds that earnings convergence was indeed evident in wage profiles in 1909, with convergence occurring after 11 years for old immigrant males but only after 16 years for new immigrant men. Interestingly, she also found that convergence occurred three to four years earlier for female than for male immigrant workers. Chiswick's [1992] analysis of Jewish wages in 1909 indicates the presence of substantially different labor market experiences even for different ethnic groups within the new immigrant cohort.

Hannon's [1982b] study of the wages of Michigan agricultural implement and iron workers in 1890 raises an additional issue. She found that immigrant workers in small Michigan cities would achieve earnings parity with similarly skilled native workers after 12 years of experience in the U.S. Immigrants working in the larger cities of Detroit and Grand Rapids, however, would have experienced a widening in

the predicted earnings gap with native workers in that same time span. She speculates that the larger firms in the larger cities may have employed a more decentralized management structure that gave greater scope to foreman prejudice against the foreign-born. Whether or not that was the case, Hannon's results suggest that ethnic discrimination might have been more prevalent in large city labor markets.

We extend the analysis of the immigrant assimilation process in large city labor markets by an examination of the determinants of wage rates paid to native-born and immigrant women working in power laundries in Milwaukee in 1911-1912. We limit our sample of immigrant women to those from Germany and Poland. These were the dominant ethnic groups in Milwaukee's foreign-born population at the time and, by limiting the sample, we are able to examine two homogenous groups that were representative of the old and new migration cohorts. Like the recent studies of LaCroix and Fishback [1989] and Craig and Fearn [1993] we also restrict our analysis to a sample of workers in one industry. This allows us to examine more precisely the hypothesis that immigrant workers were limited in their access to desirable jobs by employer discrimination.

WORKING WOMEN IN POWER LAUNDRIES

The laundry industry in American cities was radically transformed in the first few decades of the 20th century by the application of machinery and factory organization principles to this business [Bradshaw, 1926]. The result was the rapid growth of power laundries into a large industry that was a nationally important employer of female labor. The 13th Census showed there to be 5,188 power laundries in operation in 1909, employing almost 120,000 workers. The Massachusetts Minimum Wage Commission [1914] estimated that between 1909 and 1913 the number of power laundries in that state grew by 35 percent and the number employing over 100 wage earners increased by 56 percent. Nationally, the employment of wage earners in power laundries grew by about 25 percent between 1909 and 1919 [Best and Erickson, 1930]. The main source of this rapid growth was the greater efficiency of power laundries in comparison with traditional neighborhood hand laundries. This efficiency differential was evidenced by the fact that in many large cities neighborhood hand laundries subcontracted most of their work to power laundries [U.S. Senate, 1911].

Power laundries were significant employers of females and immigrant females in particular. Fully 70 percent of the wage earners in this industry in 1909 were women, according to the Census. The U.S. Senate [1911] report on women working in power laundries in Chicago, New York, Brooklyn and Philadelphia in 1908-1909 found 80 percent of the workers were women and, in Chicago, half of the female workforce was foreign born.

The main occupations in the industry followed the flow of articles through the production process. These were (1) marking and sorting; (2) machine washing of common articles and hand washing of fine linens and silk; (3) starching by machine or by hand; (4) drying, and (5) ironing by flat-work ironers, steam-heated presses and hand irons [Best and Erickson, 1930]. The Massachusetts Minimum Wage Commission [1914] found the least skilled and lowest paid laundry jobs to be those associated with preparing articles for machine ironing and folding ironed clothing. The highest paid and most skilled jobs were bosom press operators, hand ironers, inspectors and markers and sorters. The most strenuous jobs were those involving the operation of machines, such as cuff and neckband presses and body ironers, which were controlled by foot treadles [U.S. Bureau of Labor Statistics, 1913].

Best and Erickson [1930] identified a number of factors that attracted women to jobs in these laundries. One of the most important was the steady nature of employment and wages compared to manufacturing jobs. In addition, work in the home provided most women with the basic training for entry level jobs in power laundries and most of the skilled jobs were accessible to women after fairly short training periods. It was relatively easy for women to return to laundry work after a period out of the labor force without suffering a decrease in relevant skills. As a result, laundry workers were generally older and more likely to be married than women working in manufacturing industries. Another important difference between laundry workers and women employed in manufacturing was the prevalence of time methods of pay. Goldin [1980] reports that piecework pay systems predominated in women's jobs in manufacturing. The wide variation in individual earnings over time and across workers under piecework systems increases the difficulty of accurately identifying important wage determinants.

THE MILWAUKEE SURVEY

The data base for the present study is derived from a survey of women employed in all 31 Milwaukee power laundries during the period from September 1, 1911 to March 1, 1912 [U.S. Bureau of Labor Statistics, 1913]. While the purpose of this survey was to investigate working conditions in the industry as a basis for proposing protective legislation, information was also collected on the age; ethnicity, marital status, experience, and hours and earnings for a sample of 549 women. The data set thus permits the specification of earnings functions that take into account skills and the ethnic identity of each worker.

The six-month survey period does not significantly limit the generality of conclusions derived from the data because the industry was not seasonal in character. The only exception, which was not applicable to the set of laundries surveyed, occurred when laundries specialized in serving populations involved in seasonal work. During the survey period there were no adverse weather conditions that would have exaggerated the demands for the services of power laundries. Thus the levels of employment observed over the six months of the survey period should be fairly typical of annual employment patterns.

Two deficiencies in the data should be mentioned. First, there are no data on schooling or literacy, both of which should be related to earnings. This omission may not cause serious problems in this sample, which deals with an industry in which skill requirements were generally low and where most skills were transferable from work in the home to market work. Also, Aldrich and Albelda [1980] indicate that experience was far more important than schooling as a determinant of female earnings. Second, there is no information about years of residence in the United States, which was shown to be an important determinant of immigrant earnings by Chiswick [1978]. However, years of residence has been found to be highly correlated with age among turn of the century immigrants.

One advantage of this data set is that both the weekly rate of pay and weekly earnings are reported. Since the weekly rate of pay was the wage agreed to in the employment decision, and is not subject to unanticipated fluctuations in hours worked, it is the appropriate variable to use in the analysis of wage discrimination. With data on the number of hours in a normal work week also available, we can calculate the hourly wage rate for each worker, which is the focus of our statistical analysis in the next section.

Complete data on 549 women, 64 percent of the female work force of Milwaukee laundries during the sample period, were printed in the report. We eliminated 17 women who were on piece work and restricted our sample to native-born women and immigrants from Poland and Germany. This resulted in a final sample of 478 women for our analysis. Descriptive statistics for the workers in our sample are reported by ethnic groups in Table 1.

The laundry industry in Milwaukee was not a particularly low paying industry for women. In a survey taken about the same time as the Milwaukee survey, the Bureau of Labor Statistics [U.S. Bureau of Labor Statistics, 1913] reported that the average weekly wages of women in District of Columbia department and retail stores was \$6.55, while women in D.C. manufacturing firms averaged \$7.13 a week. These figures are only slightly higher than the average earnings reported in Table 1. In comparison, the weekly wages of male workers were much higher. Higgs [1971] reports data from the Immigration Commission report showing that the average weekly earnings of white native-born male workers in 1909 were \$14.37, while Polish men earned \$11.06 and German males averaged \$13.63.

Native-born women in our sample earned about 3 percent more than German immigrants, on average, and 7 percent more than Polish immigrants in hourly rates of pay. Immigrant workers had less laundry experience and were more likely to work as machine operators than were native-born laundry workers. On the other hand, natives experienced more time out of work during the six month sample period than did either group of immigrants.

TABLE 1
Mean Characteristics of Women Laundry Workers by
Ethnic Group

	Native- Born	German Immigrants	Polish Immigrants
Weekly Pay Rate	\$6.78	\$6.67	\$6.30
Usual Hours per Week	51.21	51.15	50.92
Hourly Pay Rate	13.30¢	13.08¢	12.45¢
Log (Hourly Pay Rate)	2.56	2.53	2.49
Age	24.45	24.51	21.16
Years of Laundry Experience	4.70	4.30	3.70
% Weeks Unemployed	5.98	4.69	3.60
% Hand Workers	60.98	46.78	34.52
% Machine Operators	36.58	50.74	63.96
% Department Supervisors	2.44	2.51	1.52
Number in Sample	82	199	197

Source: U.S. Department of Labor, Bureau of Labor Statistics, Employment of Women in Power Laundries in Milwaukee, Washington, 1913, 82-92.

REGRESSION ANALYSIS

Table 2 presents the estimates of regression models of the determinants of hourly wage rates for the 478 women in our sample. The dependent variable in these regressions is the logarithm of the hourly wage rate. The independent variables include the worker's age and age squared to measure the effects of general experience and maturation on wage rates. Also included on the right-hand side of the equations are the years and years squared of laundry experience. This measures the effect of specific industry experience on wage rates. The use of both age and experience profiles follows the approach adopted by Eichengreen [1984] and Carter and Savoca [1991]. The percent of the 26 week sample period that each woman spent out of work is also included to measure differences in individual productivity or labor force attachment. The final independent variables employed in these regressions are dummies designating ethnic identity and general occupation.

Regression A in Table 2 presents the basic coefficient estimates, excluding the occupational dummy variables. Both the age and experience profiles are statistically significant, indicating, as expected, that the hourly wage rises at a decreasing rate with both general and specific experience. The indication is that hourly wage rates would peak at 36 years of age and at 17 years of experience. A woman with 17 years of laundry experience who was 36 years old could expect to earn an hourly wage rate almost 50 percent greater than a 20 year old woman with one year of experience.

TABLE 2
Regression Analysis of Women's Wages in
Milwaukee Laundries, 1911-12

	(A)	(B)	(C)
	1,5542	1.6128	1.6290
Constant	(0.0928)	(0.0958)	(0.0960)
Age	0.0538	0.0485	0.0477
	(0.0075)	(0.0074)	(0.0075)
Age^2	-0.0007	-0.0006	-0.0006
	(0.0001)	(0.0001)	(0.0001)
Experience	0.0454	0.0429	0.0437
	(0.0061)	(0.0059)	(0.0060)
Experience ²	-0.0012	-0.0012	-0.0012
	(0.0004)	(0.0003)	(0.0004)
% Weeks Unemployed	-0.0012	-0.0012	-0.0013
	(.0006)	(0.0006)	(0.0006)
Native	-0.0016	-0.0102	
	(0.0246)	(0.0240)	
Polish	0.0096	0.0139	
	(0.0170)	(0.0166)	
Hand Worker		0.0776	0.0754
		(0.0184)	(0.0182)
Supervisor		0.2809	0.3116
		(0.0430)	(0.0465)
Native - Supervisor			1559
			(0.0465)
Adjusted R ²	0.5567	0.5888	0.5898

Heteroscedasticity - consistent standard errors are in parentheses.

There was a payoff to steady employment. The higher the percentage of weeks out of work, the lower the hourly wage rate, with the results indicating that a women who missed 5 percent of the weeks would earn about 5.5 percent less per hour, other things equal. This result probably reflects unmeasured worker characteristics that gave marginally productive workers lower wages and a higher chance of unemployment.

The ethnic identity dummy variables suggest that there was no significant difference between the wage rates earned by natives and German immigrants or between Polish and German immigrants, once the wage effects of age, experience and unemployment are accounted for. Thus there is no evidence of direct wage discrimination against immigrants. This result holds when we include the dummy variables for main laundry occupation in regression B.

The occupational dummy variables are statistically significant and add slightly to the explanatory power of the regression without significantly affecting the other coefficient estimates. These dummy variables indicate that those women working in hand occupations, such as marking and sorting, washing, starching and ironing, earned almost eight percent more per hour than did machine operators. The machine operators ran power- and foot-driven starchers, ironers, presses and menders. The wage advantage for department supervisors over machine operators was about 28 percent, holding the other wage determinants constant.

In addition to the ethnic dummy variables, we also tested for ethnic differences in the coefficients on the other independent variables. Of particular interest is the evidence on differences in the wage-age and wage-experience profiles. These tests involved including the interaction of the native and Polish dummy variables with the other independent variables as added explanatory variables in the regression and testing the null hypothesis that the coefficients on the extra ethnic interaction variables are equal to zero.

Tests of variables measuring native-German differences in the returns to age yielded a chi-square statistic of 2.47, which is significant at the 0.29 level. A similar test of Polish-German differences yielded a chi-square statistic equal to 1.61, which is significant at the 0.45 level. The chi-square statistic for native-German differences in the wage effect of experience was 0.48, while that for Polish-German experience differences equaled 1.70. Thus we cannot reject the null hypothesis that the coefficients on these extra variables measuring group differences in age and experience profiles equal zero. Rather than convergence or divergence between the wages of immigrants and native workers, the evidence for women working in Milwaukee power laundries in 1911-12 is of coincidence of the wage-age and wage-experience profiles.

The only extra variable for which chi-square tests could reject the null hypothesis of a zero coefficient was for a variable measuring the interaction of native status and a supervisory position. The final regression, including this variable and dropping out the statistically insignificant ethnic dummy variables, is reported in column C of Table 2. The added variable suggests that the wage advantage to native-born supervisors was about half the wage premium earned by immigrant supervisors. This would not be surprising if native-born women were disproportionately engaged in the highest paying jobs in the machine operator category, which serves as the reference group for our occupational dummies.

TABLE 3
Multinomial Logit Analysis of Women's Occupations in
Milwaukee Laundries, 1911-12

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	Hand Worker	Supervisor	
Constant	-2.3052 (0.3566)	-7.2622 (1.2669)	
Age	0.1109 (0.0138)	0.0903 (0.0547)	
Experience	0.0593 (0.0269)	0.3140 (0.0759)	
Polish	-0.8800 (0.2704)	-0.4398 (0.6842)	
German	-0.6024 (0.2669)	-0.0837 (0.6802)	

Standard errors are in parentheses.

The importance of the occupational dummies as a wage determinant suggests a potential role for ethnic discrimination in the form of occupational crowding in this industry. If Polish women were distributed among the occupational groups in the same proportions as native-born women, their earnings would have been about 2.3 percent higher, holding constant the other wage determinants. Recall from Table 1 that the average earnings difference between native and Polish women was about 7 percent. This suggests that differences in age and experience "explain" the largest share, approximately 4.7 of the 7 percentage points, of this wage gap.

Table 3 presents an analysis of the role of ethnic identity in occupational attainment. This table presents a multinomial logit analysis of the effects of age, experience and ethnic group on the likelihood that a woman would have been employed as a hand worker or department supervisor. The results show that older and more experienced workers were more likely to hold these positions than the reference machine operator occupation. The marginal effect of laundry experience is most pronounced in identifying those who filled supervisory posts.

Controlling for age and experience, Polish and German women were significantly less likely to work in hand occupations and more likely to have been machine operators than native-born women. The results also show that immigrants were less likely to work as supervisors, although these effects are not statistically significant. These results would be consistent with the notion that employers discriminated against immigrant women by denying them access to better paying positions. But without data on variables such as education, literacy and knowledge of English, these

results might simply be due to personal characteristics that are correlated with the ethnic dummy variables.

SUMMARY AND CONCLUSIONS

This paper examines the determinants of individual earnings for women laundry workers in Milwaukee from September 1, 1911 to March 1, 1912, comparing native-born women with immigrant German and Polish women. The variation in wage rates across the women in the sample appears to have been closely related to variations in age, laundry experience, and type of laundry job held. The model including these variables yields a close fit to the data and the regression results generally support the hypothesized direction of influence of each of the independent variables on wages.

It has been argued that discrimination against immigrants adversely affected their wages and that the effect of discrimination was strongest for the new immigrants. Some empirical support for this argument has been found in previous studies. However, there is no evidence from this analysis of women's wages in Milwaukee laundries in 1911-12 that ethnic discrimination was a significant factor in this particular labor market. The most that can be said on this score is that occupational differences caused the wages of new immigrants to fall slightly below those of old immigrants and native workers, controlling for the other wage determinants.

Clearly greater attention to the characteristics of labor markets in which different immigrant wage effects are found is called for. Perhaps the degree of competition and rapid rate of growth in the industry explain why no immigrant effect was found in this study. Cymrot [1985] and Craig and Fearn [1993] have examined the effects of product market competition on labor market discrimination and their results point to the need for further study of this issue. The focus on one industry precludes an examination of the possibility of discriminatory barriers to inter-industry mobility, such as those identified by Carter and Savoca [1991].

The finding here and elsewhere that discrimination had a minor effect on the wages of immigrants at the turn of the twentieth century is of considerable significance because some analysts have argued that discrimination against African-Americans is similar to past discrimination against Polish-Americans and other immigrant groups. But the literature on ethnic discrimination reveals none of the large and persistent unexplained wage differentials characteristic of the literature on race [Smith and Welch, 1989] or sex [Gunderson, 1989] discrimination.

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