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HOURS OF WORK AND THE FAIR LABOR  
STANDARDS ACT: A STUDY OF RETAIL  
AND WHOLESALE TRADE, 1938 - 1950

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A Study of Retail and Wholesale Trade, 1938 - 1950  
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### ABSTRACT

I examine the impact of the overtime provisions of the Fair Labor Standards on weekly hours worked between 1938 and 1950 by comparing workers in wholesale trade, a sector which was covered by the Act, with those in retail trade, a sector which was not. I find that the Act reduced hours worked, with a 5 percent reduction in the length of the standard work week reducing by at least 18 percent the proportion of men and women working more than 40 hours per week. I find that employers responded to the overtime provisions of the Act by adjusting straight-time wages, but that this adjustment did not completely offset the overtime provisions. Employers in the south were less able to adjust straight-time wages because the minimum wage provisions of the Act raised wages much more in the south than in the north. The fall in southern hours was therefore greater. Reductions in hours did not translate into increased employment. Although the overtime provisions of the Act may have increased employment in wholesale trade, the minimum wage provisions of the Act probably reduced it.

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The wages, standard hours, and overtime premia of workers in the United States are regulated by the Fair Labor Standards Act of 1938 and by subsequent amendments to the Act. One of the aims of the Act in imposing a federal minimum wage and an overtime premium of one and a half times the straight-time wage for all hours above 40 was to eliminate "labor conditions detrimental to the maintenance of the minimum standard of living necessary for health, efficiency, and the general well-being of workers."<sup>1</sup> Another goal was to increase employment by spreading the amount of available work.<sup>2</sup> This goal still motivates most proposals to reduce standard hours or raise the overtime premium both in the United States and in Europe.

Economic theory suggests that under certain conditions reductions in the standard work week may increase employment. If hours are above the new standard but below the old reductions in the standard work week increase the marginal cost of additional hours relative to that of hiring an additional worker thus leading to a fall in hours worked and an increase in employment. However, if firms can adjust straight-time wages then statutory reductions in the length of the work week may have no impact on hours worked. If hours are above both the new and old standard the marginal cost of additional hours falls relative to that of hiring an additional worker thus leading to an increase in hours and a decrease in employment. Nonetheless, a necessary, but not sufficient, condition for employment to increase is that hours must fall.

Empirical evidence on the impact of reductions in the standard work week on hours worked is mixed. Using establishment level data for the United States Ehrenberg and Schumann (1982) find that the use of overtime is positively related to the ratio of quasi-fixed labor costs

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<sup>1</sup>"Finding and Declaration of Policy," Fair Labor Standards Act of 1938, Public Act No. 718, 75th Congress, enacted June 25, 1938.

<sup>2</sup>In 1937 Roosevelt decried the increase in average hours per week between 1934 and 1936 because it "tends toward stepping up production without an equivalent stepping up of employment" (cited in Hunnicutt 1988: 242). However, in its final form, the Fair Labor Standards Act fell far short of the 30-hour week advocated by proponents of work-sharing.

to the overtime wage. Trejo (1991, 1997) concludes from individual level data that expansions in overtime pay coverage from amendments to the Fair Labor Standards Act and from Supreme Court decisions had little effect on the weekly hours of the majority of workers because straight-time wages adjusted but did affect the weekly hours of minimum wage workers. In contrast, Hamermesh and Trejo (1997) find that when California's overtime penalty for all hours per day beyond 8 covering women was extended to men, the amount of daily overtime by California men fell substantially compared to that of men in other states and to women in California. Using data on British metal working firms Hart and Wilson (1988) found that a one hour decrease in the standard work week reduced work hours by 0.77 hours. Hunt (forthcoming) finds that the move to a 35 hour work week in Germany led to sharp declines in actual hours worked, with a one hour fall in standard hours leading to a 0.85 to 1 hour fall in actual hours worked.

There are several difficulties in assessing the impact of the Fair Labor Standards Act on hours worked. Virtually all firms in establishment level data are covered by the Fair Labor Standards Act, thus providing very little variation. Variation in individual level data is greater because coverage was only slowly extended to workers in agriculture, retail trade, domestic service, and government. But, economic shocks may have a differential impact on service and government workers than they do on manufacturing workers. Most work examines the impact of amendments and court decisions from the 1970s on hours of work and by then the covered sector may have been large enough to affect wages and hours of work in the non-covered sector.

This paper evaluates the impact of the Fair Labor Standards Act on weekly hours between 1938 and 1950 by comparing trends in weekly hours between workers in wholesale and retail trade. Workers in wholesale trade were covered by the Act in 1938 whereas retail workers, because of the successful lobbying efforts of the American Retail Federation, did not begin to be covered until 1961. I restrict myself to these two sectors because weekly hours of work were high in both of these sectors at a time when average hours in manufacturing were below the statutory

work week and because many of the occupations in these two sectors were similar. I limit my analysis to the 1938 to 1950 period because during these years consumer demand for long hours of operation in retail and wholesale trade remained unchanged whereas after 1950 increased demand for long shopping hours led retailers to increase hours of business by adopting more shifts and decreasing hours per employee, a trend that was accentuated by employers' increased use of married women as employees.

The Fair Labor Standards Act was one of the most far-reaching and long-lasting pieces of New Deal legislation. Wright (1986: 199-225) argued that it was part of a systematic federal assault on the low-wage economy of south, an assault which affected the long-term development of the southern economy by blocking the low-wage expansion path for southern industry. Because average hours of work were low when the Act was passed economic historians have focused on the wage rather than the hours effects of the Act. But, the emphasis on average hours ignores substantial heterogeneity in hours by region. For example, in May of 1938 southern independent wholesale grocers scheduled work weeks of 51 hours for their office employees and 54 hours for their warehouse and delivery employees, whereas wholesale grocers in other parts of the country scheduled work weeks of 46 hours for office employees and 48 for warehouse and delivery employees (United States Bureau of Foreign and Domestic Commerce 1941). Furthermore, the overtime provisions of the Act now affect potentially many more workers than the minimum wage provisions. In the late 1980s only 5 percent of all workers were paid the minimum wage or less (Haugen and Mellor 1990), whereas 27 percent of all wage and salary workers worked more than 40 hours per week and 12 percent received overtime (Carr 1986).

The Fair Labor Standards Act marked the culmination of efforts to regulate the hours of labor that date to the mid nineteenth century. Prior to the Act, the extant regulation, most of it by the states, regulated the maximum hours of work of women and of men in dangerous occupations. After the Act, new hours regulation mainly took the form of amendments to the Act that extended

coverage to previously exempt employees. As previously noted, Trejo (1991, 1997) examined the impact of amendments to the Act. Goldin (1988) studied early hours regulation and found that although it reduced scheduled hours in 1920, the impact was minimal. But, because the impact of the Fair Labor Standards Act on hours worked during its early year has not been investigated, we cannot be certain how the American experience with hours regulation has changed.

The paper begins with a discussion of the economics of reductions in the standard work week. It then uses this theory to predict the likely impact of the Fair Labor Standards Act on hours worked. The next two sections of the paper describe the identification strategy and present estimates of the effect of the Fair Labor Standards Act on hours worked and on the fraction of workers working over 40 hours, paying particular attention to north-south differentials. The next section examines whether firms partially offset the overtime provisions of the Act by adjusting straight-time wages. Before concluding the paper gives some suggestive evidence on the impact of the Fair Labor Standards on employment.

## 1 Theory

The impact of reductions in the standard work week on hours worked and on employment is theoretically ambiguous.<sup>3</sup> Consider the case in which a firm takes the statutory work week, the straight-time hourly wage, and the rental rate of capital as given and chooses hours, employment, and capital when faced with a fixed cost of employment and an overtime premium. If a firm has already chosen hours below the new statutory work week the new standard will have no immediate effect on hours worked and hence on employment. If firm's original hours were below the old standard but above the new then the marginal cost of additional hours relative to the cost of

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<sup>3</sup>See Hamermesh (1993: 48-57) and Hart (1987: 91-130) for a review of the theory.

hiring an additional worker would rise thus decreasing hours and increasing employment. If the firm's original hours were above the old standard then the marginal cost of additional overtime would remain unchanged but the marginal cost of an additional worker would rise because more of the worker's wages would need to be paid at overtime thus increasing hours and decreasing employment. Both the firm with hours below the new standard but above the old and the firm with hours above the old standard would tend to substitute away from labor and towards capital thus reducing hours of work and employment. At the same time the fixed costs of a particular worker-hours combination would increase leading to a negative scale effect which would reduce both hours of work and employment. Negative scale effects on employment generated by standard hours reductions are likely to be especially large because they produce a large increase in the cost of inframarginal services. These changes, in conjunction with those in the relative marginal cost of workers and hours, imply that for the firm with hours below the old standard but above the new hours unambiguously fall but that the net effect on employment is indeterminate and that for the firm with hours above the old standard employment unambiguously falls but that the net effect on hours is ambiguous. These results hold in a model with endogenous overtime as well.

Theory therefore tells us that hours must necessarily decline for employment to increase, but hours could decline because of scale effects and substitution from workers to capital. It also tells us that the larger the substitution from hours to workers the more likely it is that hours fall and employment rises. The magnitude of this substitution effect in turn depends on whether workers and hours per week are close substitutes in production. In addition, the less able firms are to substitute capital for labor and the smaller are the scale effects, the less likely are hours to fall and employment to decrease.

The simple demand-side model provides one explanation for why an increasing proportion of the population is working the standard work week. Overtime pay structures create a kink in the firm's cost function at the statutory work week and this kink might induce firms to choose

the corner solution in which they avoid paying the overtime premium by limiting weekly hours of work, thus leading to a spike in the hours distribution at the statutory work week.

The theory has thus far assumed that all firms and workers are identical. But, in a more general model some firms will be in an overtime regime whereas others will not. The total effect will therefore depend upon the relative numbers of each type of firm. It will also depend upon whether some firms shift out of the overtime regime because of changes in their cost parameters. For firms working overtime a reduction in the standard generates substitution toward increased hours and away from from workers, thus lowering fixed employment costs. A decline in fixed employment costs will cause some firms to shift out of the overtime regime, thus reducing hours (and increasing employment). This shift may outweigh any positive impact on hours among firms that remain in the overtime regime.

The simple model also ignored workers' supply behavior. If workers demand a higher wage rate for additional weekly hours then it is unlikely the wage rate will remain fixed when the firms' cost parameters change. Suppose that the firm must offer a wage-hours package that maintains a worker's utility at

$$U(w\bar{H} + w[1 + b][H - \bar{H}], \bar{T} - H) = \bar{U}$$

where  $\bar{H}$  is the statutory work week,  $w$  is the straight-time hourly wage,  $b$  is the overtime premium,  $H$  is hours worked,  $\bar{T}$  is the total weekly hours available, and  $\bar{U}$  is the level of utility available in other firms. A reduction in  $\bar{H}$  increases the first argument of the utility function thus raising utility. If the firm's hours were already above the old standard then the second term of the utility function will fall if the substitution towards hours and away from workers dominates the scale effect and the substitution from labor to capital and rise if the scale effect and the substitution from labor to capital dominate the substitution from labor to capital. If the firm's hours are above



the new standard but below the old then the second term of the utility function unambiguously falls. Reductions in the standard work day therefore lead to increases in utility for all workers in firms with hours above the new standard and but below the old and may lead to increases in utility for workers in firms with hours above both the new and old standards. Such firms can therefore reduce straight-time wages and still attract workers. Reductions in straight-time wages in turn would cause a substitution from workers to hours because of the fixed cost of hiring a worker and this will offset some of the decrease in hours predicted by the simple demand-side model.

Changes in the minimum wage further complicate the analysis. If the minimum wage is binding then firms will not be able to reduce straight-time wages, thereby increasing the likelihood that hours will fall. Furthermore, an increase in the minimum wage will decrease the ratio of fixed to variable costs, leading firms to substitute from hours to workers, thereby reducing hours. Increases in employment resulting from this substitution from hours to workers will be offset by substitution from labor to capital and falling demand for the firms' output, both of which will magnify decreases in hours.

## **2 The Fair Labor Standard Act: Expected Results**

One of the most prominent political responses to the onset of the Great Depression was the movement for shorter hours.<sup>4</sup> By the end of 1932 50 percent of American manufacturing industries had voluntarily shortened hours to save jobs. The 1932 platforms of both major political parties included shorter hours planks and labor strongly supported national 30 hour legislation as a necessary depression measure. However, the Black and Connery bills which would have implemented 30 hour legislation raised an outcry from the business community,

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<sup>4</sup>See Hunnicutt (1988) for a review.

leading the administration to introduce the National Industrial Recovery Act instead. The stated aim of this legislation was not work sharing, rather it was the creation of employment. Once the National Industrial Recovery Act was declared unconstitutional pressure for national hours and wage legislation resurfaced. The administration responded with a bill which set the statutory work week at 40 hours and which later came to be known as the Fair Labor Standards Act. Although Roosevelt's stated aim was to eliminate "starvation wages and intolerable hours" (cited in Hunnicutt 1988: 246), proponents of work sharing hoped that "a quick limitation of hours and the establishment of minimum wages ... will bring us closer to a 30 hour week than a 40 hour week" (cited in Hunnicutt 1988: 244). However, Black's abandonment of work sharing and Connery's death meant the loss of the most influential congressional supporters of work sharing. A statistical analysis of voting on the bill shows that the Act was passed with the support of legislators strongly influenced by high wage industry, labor unions, the Democratic party, and left-wing ideology and over the opposition of legislators strongly influenced by agriculture, low wage industries (many of which were concentrated in the south), retail and wholesale trade, the Republican party, and right-wing ideology (Seltzer 1995).

The Fair Labor Standards Act (FLSA) of 1938 covered employees engaged in interstate commerce or engaged in the production of goods destined for interstate commerce.<sup>5</sup> The Act mandated that time and half be paid for overtime after 44 hours beginning October 24, 1938, after 42 hours beginning October 24, 1939, and after 40 hours beginning October 24, 1940. It also instituted a minimum wage of 25 cents per hour beginning October 24, 1938, a wage of 30 cents per hour beginning October 24, 1939, and one of 40 cents per hour beginning July 1, 1944. The minimum wage increased to 75 cents per hour with the 1949 amendments to the Act (effective

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<sup>5</sup>For details about the Act and subsequent amendments, see Quester (1981), various issues of *Monthly Labor Review*, and Weiss (1944). Although the Act allowed exemptions to overtime regulation if a company guaranteed a suitable annual wage or fixed number of annual hours of employment, in 1947 only 63 companies had applied for exemptions (Seastone 1955).

January of 1950), a real increase of 47 percent over its 1939 level.<sup>6</sup>

Certain occupations (executives, administrators, professionals, and outside salespersons) were specifically exempted from the provisions of the Act as were employees of specific industries. Among the exempted employees were those of retail establishments whose greater part of sales were intrastate. Exemptions from the overtime provisions of the Act were justified by the American Retail Federation on the grounds that hours of retail establishments were determined by public demand and therefore not directly under employer control. Exemptions from the minimum wage requirements were justified on the grounds that minimum wages would place an unfair burden on retail establishments, because, unlike production firms, retail sales firms did not have the option of substituting capital for labor to offset the higher labor costs resulting from the minimum wage (Fritsch 1981: 13). In 1943 67 percent of all employees in wholesale trade were covered by the Act whereas only 2 percent of retail trade employees were covered. The retail trade exemptions were expanded in the 1949 exemptions to the Act via language changes and by specifically exempting employees manufacturing goods on site for sale at retail (e.g. bakeries). Coverage was slowly extended to retail trade workers with the 1961, 1964, and 1974 amendments which covered retail workers in establishments which met an annual volume sales test. I will identify the impact of the FLSA on hours worked by using retail trade as a control group for wholesale trade.

The theory discussed in the previous section illuminates the likely impact of the FLSA on hours worked. Because I am examining the trade sector the substitution of labor for capital is likely to be small. In the wholesale grocery trade only 15 percent of all houses that reduced hours reported adjusting to the overtime provisions of the FLSA by adding mechanical equipment (United States

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<sup>6</sup>The average hourly manufacturing wage in the United States in 1937 was 62 cents per hour (Series D 802-810 in United States Bureau of the Census 1975: 169). In 1997 dollars these wage minima are \$2.85, \$3.46, \$3.65, and \$5.06, respectively.

Bureau of Foreign and Domestic Commerce 1941). Most analyses (e.g. Hamermesh 1993: 50) assume that the firm's optimal hours are independent of scale because there is no evidence in recent data that employees' hours differ by firm size. But, at least in the wholesale grocery trade in 1938, 71 to 82 percent of small houses (as measured by the dollar volume of sales) scheduled work weeks of 45 hours or more whereas only 38 to 56 percent of large houses did so (United States Bureau of Foreign and Domestic Commerce 1941), suggesting that scale effects might have actually increased hours. Even so, the total magnitude of scale effects may still have been small. Average sales per independent wholesale grocery house were the same in the first half of 1938 as in the first half of 1939 (United States Bureau of Foreign and Domestic Commerce 1941). Recall that if these two effects are virtually zero in the simple demand side analysis then for firms with hours above the new standard but below the old hours of work fall and employment rises and for firms with hours above both the new and old standard hours of work increase and employment falls.

The demand-side analysis also suggests that hours worked should have fallen more sharply when the FLSA was first imposed than when the subsequent mandated reductions in the standard work week took effect. The institution of a 44 hour per week standard in October of 1938 should have led to an unambiguous decline in hours worked, and, because a large number of firms were probably affected, a large one as well. Among independent wholesale grocers 62 to 78 percent scheduled regular work weeks of over 44 hours prior to the institution of a standard work week (United States Bureau of Foreign and Domestic Commerce 1941). The theory suggests that reductions of the statutory work week from 44 hours to 42 in October of 1939 and from 42 hours to 40 in October of 1940 should lead to a decline in the work week among firms with work weeks of 43 to 44 hours in 1939 and 41 to 42 hours in 1940 and an increase in the work week among firms with work weeks of over 44 hours in 1939 and over 42 hours in 1940. Although no aggregate numbers exist showing the hours distribution of wholetrade firms, Table 1 suggests

Table 1: Percentage of Independent Wholesale Grocery Houses According to the Number of Hours in the Scheduled Work Week of Regular Full-Time Employees in the Office, Warehouse, and Delivery, May 1938, May 1939, May 1940

Hours	Office			Warehouse			Delivery		
	May 1938	May 1939	May 1940	May 1938	May 1939	May 1940	May 1938	May 1939	May 1940
< 40	0.2	0.2	1.4	0.2	0.2	1.2	0.6	0.6	0.8
40-42	5.7	15.1	34.1	3.7	9.6	30.8	2.1	9.5	23.7
43-44	32.5	38.4	24.1	18.1	27.0	12.1	14.2	22.2	10.8
45-50	32.5	26.4	24.1	31.6	31.4	31.8	33.4	29.4	34.5
51-56	20.2	14.9	12.7	31.2	24.5	19.3	31.3	27.9	22.4
57+	9.0	5.1	3.7	15.2	7.3	4.8	8.4	10.4	7.8

Source: United States Bureau of Foreign and Domestic Commerce (1941).

that, at least in the wholesale grocery trade, high hours firms were in the majority. Forty-six to 68 percent of independent wholesale grocery firms had work weeks of over 44 hours just before the standard work week was reduced to 42 hours whereas only 22 to 38 percent were working 43 to 44 hours (United States Bureau of Foreign and Domestic Commerce 1941). Furthermore Table 1 also suggests that relatively few firms working overtime in May of 1939 shifted out of an overtime regime in response to the reduction of the statutory work week from 44 to 42 hours in October of 1939.<sup>7</sup> In contrast, a substantial number of firms working 43 to 44 hours shifted to 40 to 42 hour schedules.

The substitution from hours to workers induced by increases in the minimum wage suggests that hours worked probably fell more sharply when the FLSA was first imposed than when later reductions in the statutory work week took effect because the largest increase in the minimum wage was its actual institution in 1938. In 1939 it rose 20 percent and remained unchanged in 1940. However, because the minimum wage was more binding in 1939 than in

<sup>7</sup>Of course, not all firms with work weeks above the statutory work week were necessarily paying overtime.

1938, fewer firms could adjust straight-time wages, thus increasing declines in hours worked in 1939 relative to 1938.

The theory predicts that the impact of the Fair Labor Standards Act will differ in the north and in the south both because hours of work, even in the presence of a statutory work week, were longer in the south and because the minimum wage was more binding in the south.<sup>8</sup> In 1940, when the standard work week was 42 hours, 49 percent of southerners in wholesale trade were working more than 42 hours per week and 8 percent worked 41 to 42 hours whereas the figures for northerners were 46 and 8 percent, respectively.<sup>9</sup> The longer hours of southerners suggest that reductions in the statutory work week from 44 to 42 hours and from 42 to 40 hours may even have increased hours worked in the south relative to the north. However, a more binding minimum wage in the south implies that for firms with work weeks below the old standard but above the new hours would be more likely to fall because firms could not adjust the straight-time wage. Furthermore, hours would be more likely to fall because of substitution from hours to workers induced by the minimum wage.

### **3 The Fair Labor Standards Act: Identification**

Recall that I identify the impact of the FLSA on hours worked by using retail trade as the placebo group for wholesale trade. I use two types of data. The first type of data are monthly time series from 1935 to 1941. These data enable me to examine the effect of the FLSA when it was first imposed, as well as the effect of subsequent reductions in the statutory work week mandated by

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<sup>8</sup>Of the 690,000 workers earning less than 30 cents per hour in the spring of 1939, 54 percent were southern. Between 1938 and 1940 the average percentage increase in the southern seamless hosiery industry was three times larger in the south than in the north. The October 1939 minimum wage increase affected 44 percent of textile workers in the south but only 6 percent in the north. In lumber and timber half of southern workers in 1939-1940 had hourly wages at or near the legal minimum (Wright 1986: 219-220).

<sup>9</sup>Estimated from the 1940 census. Of course, it is possible that fewer southern firms were covered by the Act.

the FLSA. However, a drawback of these data are that I cannot control for any firm or individual characteristics and that I only observe average hours per week.

The second type of data that I use are individual level data from the 1940 and 1950 censuses.<sup>10</sup> Because the final statutory decrease in the length of the standard work week was in October of 1940 and the reference week for the hours question in the 1940 census was March 24-30 I can use the 1940 and 1950 censuses to examine the impact of a 2 hour reduction in the statutory work week on hours worked. Because the 1949 amendments raised the minimum wage, my estimate will capture the effects of both the increase in the minimum wage and of the reduction in the statutory work week. However, examining part-time workers will allow me to determine the likely magnitude of increases in the minimum wage on hours because the hours of these workers will be affected by the minimum wage but not the overtime provisions of the Act.

My strategy is therefore to calculate the double difference

$$\Delta^2 = [F_{W,1950} - F_{R,1950}] - [F_{W,1940} - F_{R,1940}]$$

where  $F$  is either total hours worked or the fraction working a specific number of hours,  $W$  denotes wholesale trade,  $R$  denotes retail trade, and 1940 and 1950 denote the census years. Because the characteristics of the average worker in wholesale trade differed from those of the average worker in retail trade (see Table 2) I control for observable characteristics by adjusting for age, education, nonwhite, metropolitan residence, region of residence, and occupation group. That is, I pool both sectors over both years and estimate ordinary least squares regressions of the form

$$\mathbf{f} = \beta_0 + \beta_1 \mathbf{X} + \beta_2 \mathbf{D} \quad (1)$$

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<sup>10</sup>I use the integrated public use samples of Ruggles and Sobek (1995).

where an element of the vector  $f$  is either total hours worked or is equal to one if the individual worked a certain number of hours and is 0 otherwise, the matrix  $X$  consists of age and its square and dummies for educational attainment, metropolitan residence, region of residence, occupation group, wholesale trade, and if the year was 1950.<sup>11</sup>  $D$  is the interaction between wholesale trade and the year dummy and its coefficient,  $\beta_2$ , is the adjusted double difference. To control for time trends in observable characteristics I also run specifications in which I allow the covariates to vary with time.

I estimate double differences for total hours worked among all workers and overtime-time workers ( $> 42$  hours per week). I also estimate double differences for the fraction of workers working exactly 40 hours, for those working above 40 hours, for those working 40 to 42 hours, and for those working over 42 hours. I generally restrict the sample to non-managers and non-professionals working between 35 and 50 hours per week to exclude part-time workers, obvious outliers, and individuals who were not covered by the FLSA. I also present estimates for all non-managers and non-professionals, regardless of hours worked, both for comparison and to examine the impact of the FLSA on the hours of part-time workers ( $< 35$  hours per week). The theory predicts that the hours of part-time workers should be unaffected (except by the minimum wage provisions) whereas those of over-time workers should increase. The net effect on hours worked is ambiguous because hours will fall for those working 40 to 42 hours. The fraction working 40 to 42 hours should fall. The fraction working over 42 hours may fall (even though their hours may increase) because changes in firms' cost parameters may induce them to shift out of an overtime regime. The proportion working exactly 40 hours may increase if firms choose a corner solution to avoid paying overtime.

A necessary condition for retail trade to be a valid control group for wholesale trade

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<sup>11</sup>The coefficients of the linear probability models were similar to the derivatives of probit models.



Table 2: Characteristics of Retail and Wholesale Trade Employees in 1940 and 1950

	Retail		Wholesale	
	1940	1950	1940	1950
Percent				
Female	35.3	41.6	17.3	21.6
Never completed elementary school	14.3	15.9	13.8	14.4
Completed elementary school	21.7	17.2	21.7	14.5
Completed elementary school and some high school	22.6	23.1	19.1	19.3
Completed high school	31.0	30.6	29.0	32.8
Completed high school and some college	7.2	9.6	10.4	12.2
Completed college	2.7	2.8	5.0	5.1
Any post college	0.6	0.8	0.9	1.6
Professional	1.6	1.7	1.0	2.7
Managerial	8.5	10.0	11.6	11.7
Clerical	11.0	11.3	24.6	23.4
Sales	34.7	32.8	26.2	22.2
Service	19.4	21.1	1.1	1.6
Crafts	6.0	7.1	4.8	6.7
Operative	15.4	12.7	21.9	23.4
Laborer	3.2	2.9	8.4	8.0
Age	33.3	34.5	35.7	35.8
Yearly Wage and Salary Income (1940 \$)	835.1	1084.1	1300.3	1598.5

Note. Estimated from the 1940 and 1950 censuses, men and women aged 18 to 64.

between 1938 and 1950 is that the jobs in these two sectors be fairly similar. To ensure a more comparable distribution of jobs across the two sectors I exclude employees in eating and drinking establishments from the sample. Among men the most common clerical occupations were book-keeper and shipping and receiving clerk and the most common service occupations were guard, watchman, and janitor, regardless of sector. Among women the most common clerical occupations in retail were book-keeper, cashier, and stenographer and in wholesale book-keeper, office machine operator, and stenographer. Women in retail service occupations tended to be attendants, counter and fountain workers, and waitresses and those in wholesale attendants and waitresses. For men there is similarity in the types of jobs in crafts and operative occupations as well, in which many men were mechanics or truck drivers, but there somewhat more dissimilarity in women's operative occupations.<sup>12</sup>

Another necessary condition for retail trade to be a valid control for wholesale trade is that there were no exogenous changes affecting hours. Although some states passed laws regulating the standard hours of women, relatively few did, and those that did imposed a 48 hours standard thus affecting a relatively small proportion of employees. During the war and the post-war years employers were increasing retail store hours by shortening their employees' work week and adopting multiple shifts, but the more dramatic declines in the length of the work week did not occur until after 1950 when the diffusion of car ownership and suburbanization increased consumer demand for longer shopping hours (Oi 1988). Retail trade firms faced with a declining supply of young, unmarried female workers sought to accommodate the work schedule demands of married women (Goldin 1990: 181). These declines in the length of the work week in retail trade suggest that negative estimates of the impact of the FLSA on hours worked between 1940

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<sup>12</sup>Women in crafts were generally unspecified forewomen. Female retail operatives were generally dressmakers, but in wholesale were more likely to be fruit, nut, and vegetable graders and packers. I do not have enough detailed information to compare the jobs of sales workers and laborers.

and 1950 will be underestimates whereas positive estimates may be overestimates.

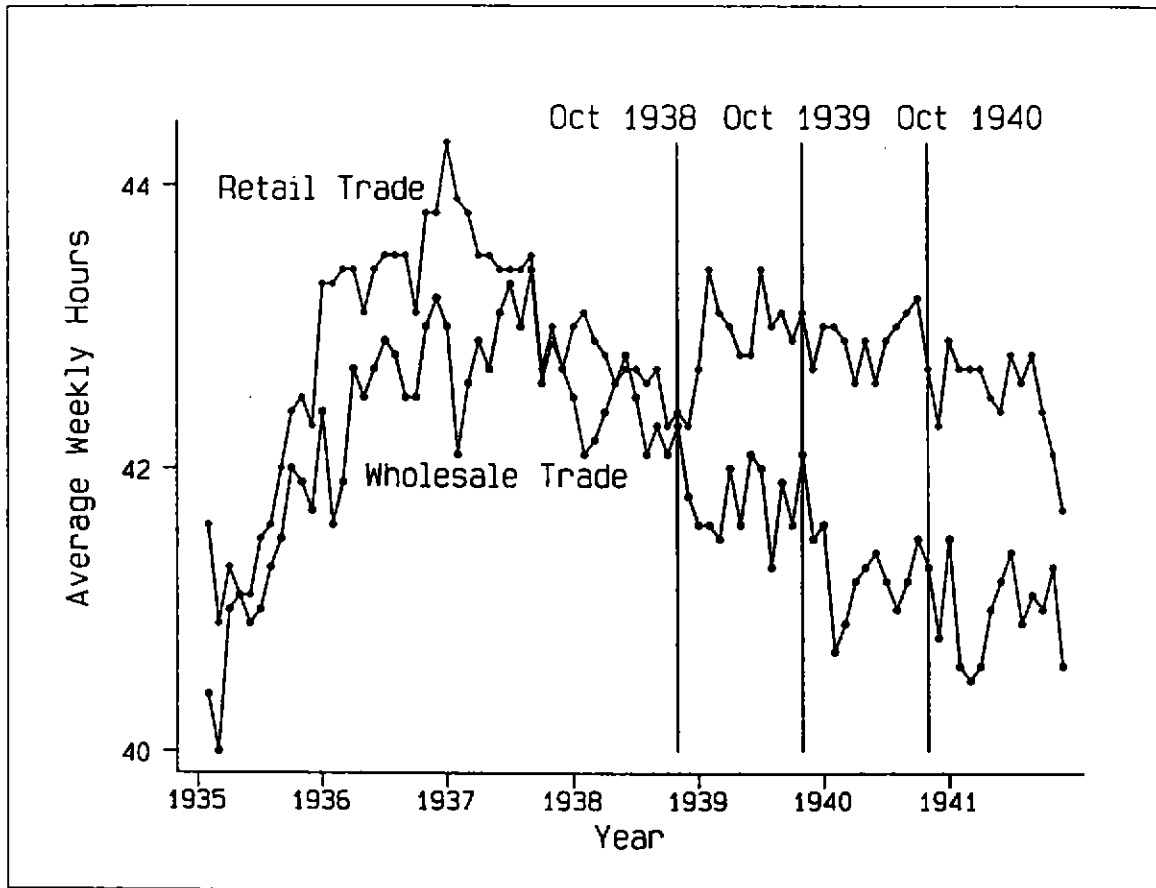
One condition that is not met for retail trade to serve as a treatment group for wholesale trade is that industry not change in response to the Act. If wholesalers could withdraw from interstate commerce (as did the southern lumber firms studied by Seltzer (1997)), then I will underestimate the impact of the FLSA. Another condition that is not met is that there be no migration between sectors. The net effect of FLSA may have been to reduce employment in the wholesale sector if the minimum wage provisions of the Act outweighed any employment increases due to the overtime provisions. If this reduction in employment led to migration to the retail sector then this would tend to reduce wages in the retail sector and increase hours and lead me to overestimate the impact of the FLSA on hours worked.

Additional factors will lead me to underestimate the impact of the FLSA on hours worked. Firstly, not all workers in wholesale trade were covered, only those engaged in interstate commerce. Secondly, because the possibilities of substituting labor for capital are likely to be small in the trade sector, I will be underestimating the impact of the FLSA on other sectors of the economy. Finally, because a demand side analysis suggests that hours worked fall unambiguously only for firms whose hours are above the new standard but below the old estimates of the impact of the FLSA derived from the census data will underestimate the total impact of the FLSA even when they precisely estimate the impact of the final 2 hour reduction in the length of the standard work week.

#### **4 Hours and the Fair Labor Standards Act**

Figure 1 presents average weekly hours by month in wholesale and retail trade from January 1935 to November of 1941. Hours worked in both wholesale and retail trade rose during the 1935-1937 recovery, with a somewhat greater increase in retail trade, and then fell during the

Figure 1: Average Weekly Hours in Retail and Wholesale Trade, January 1935–November 1941



*Note.* The data are based upon the reports of different establishments in each month. Source: Olenin and Corcoran (1942).

1937-1938 recession. The economy began to recover at the end of 1938 but whereas hours rose in retail, they fell sharply in wholesale trade after October of 1938, once the standard work week of 44 hours was in place. Hours worked were seasonal, with increases in hours in retail trade in December. Average weekly hours in retail trade were only 0.2 hours higher than in wholesale trade in September of 1938 but by September of the next year were 1.3 hours higher, suggesting that the imposition of mandatory overtime (combined with the minimum wage) reduced hours worked by 1.1 hours. Between November of 1938 and September of 1939 the average monthly difference in weekly hours was 1.2 but rose to 1.7 hours between November of 1939 and September of 1938, implying that the reduction of the statutory work week from 44 hours to 42 reduced hours worked by 0.5 hours. The average monthly difference in weekly hours remained at 1.7 hours between November of 1940 and September of 1941, suggesting that the decline in the standard work week from 42 hours to 40 had little impact on average hours worked.

The trends observed in Figure 1 are found in time series analysis as well. When I regressed the difference in weekly hours in the two sectors on the lagged difference, seasonal dummies, and dummies for each successive decrease in the statutory work week, I found that the initial imposition of the FLSA increased the hours difference in the two sectors by 0.5 hours (and that this increase was statistically significant), that the reduction from 44 to 42 hours increased the hours difference by an additional 0.2 hours (but that that this increase was not statistically significant), and that the reduction from 42 to 40 hours increased the hours difference only by an additional .02 hours (both a qualitatively small and statistically insignificant amount).<sup>13</sup>

Although the data in Figure 1 show no further declines in hours worked when the work week was reduced from 42 to 40 hours, these aggregate numbers may disguise hours declines. I cannot rule out that the proportion working more than 40 hours decreased, that the

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<sup>13</sup>I reject the hypothesis that the FLSA changed the covariance of wholesale and retail trade but that may be because the time series is short.

proportion working 40 to 42 hours decreased while that working over 42 hours increased, or that the proportion working over 42 hours decreased but that their hours of work increased. I therefore turn to census data.

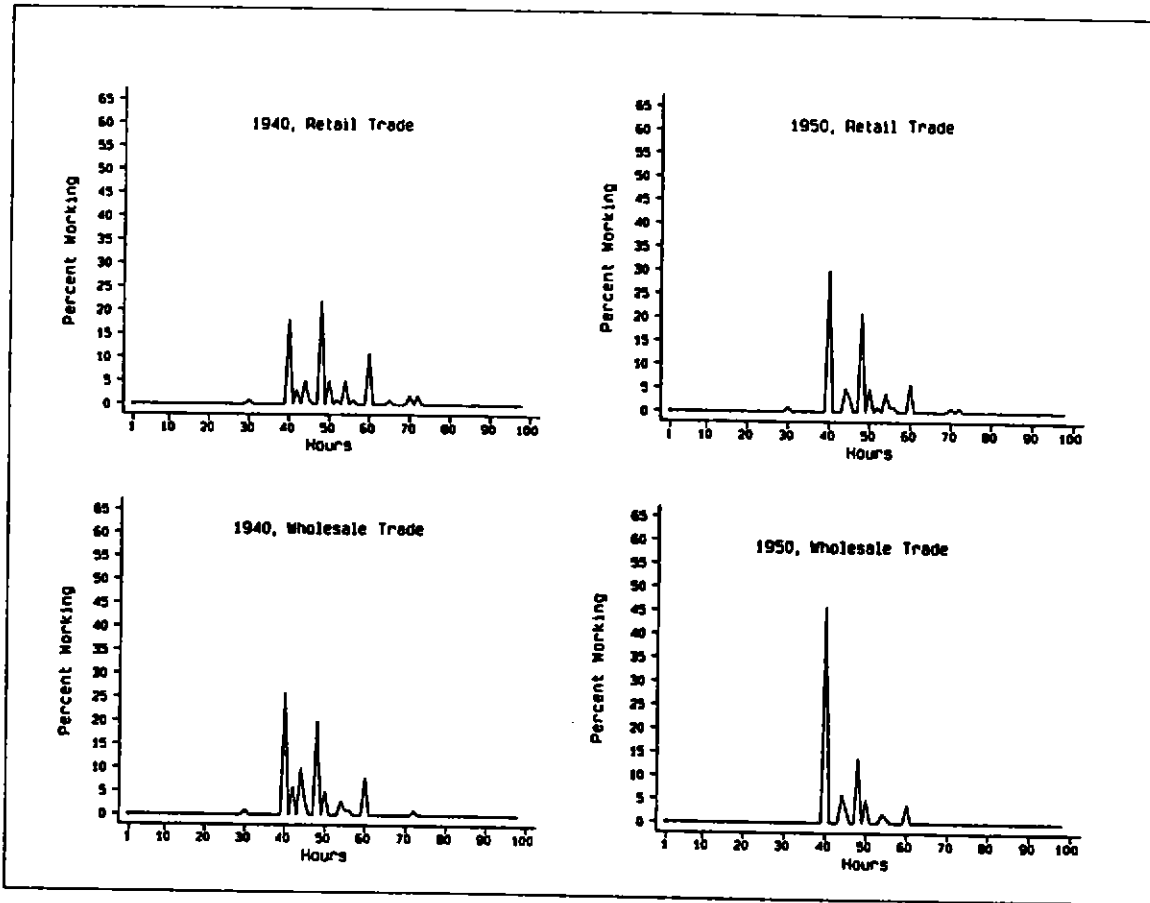
Figures 2 and 3 illustrate trends in the distribution of hours worked in wholesale and retail trade from 1940 to 1950.<sup>14</sup> Between 1940 and 1950 when the standard work week fell by 2 hours the fraction of men and women working 41 to 49 hours in wholesale trade declined substantially, but changed very little in retail. The small spike at 42 hours in 1940 was larger in wholesale relative to retail trade, and by 1950 had completely disappeared in wholesale trade. Although the proportion of employees working exactly 40 hours per week increased in both sectors, the increase was larger in the wholesale sector. The implied double difference estimate of the impact of the FLSA on the proportion working exactly 40 hours was 0.091 for men and 0.101 for women and the estimated effect on the proportion working more than 40 hours was -0.087 for men and -0.106 for women. Although retail trade became a covered sector after 1960, Tables 6 and 7 in the Appendix show that after 1950 changes in the retail trade sector were more important determinants of the hours distribution than the FLSA and its amendments.

Double difference estimates, adjusted for individual characteristics, of the impact of the FLSA on non-professionals and non-managers are given in Table 3. Table 4 presents estimates adjusted for time-varying covariates. These show that for all men and women total hours worked in wholesale trade rose relative to those worked in retail. This increase was largely due to an increase in the proportion working over 48 hours per day. Relative hours fell for men and women working between 35 and 50 hours per week, with a 2 hour decline in the standard work week leading to a decline of 0.4 hours among men in wholesale trade and one of 0.2 hours among women. Among men working part-time relative hours of wholesale workers increased slightly

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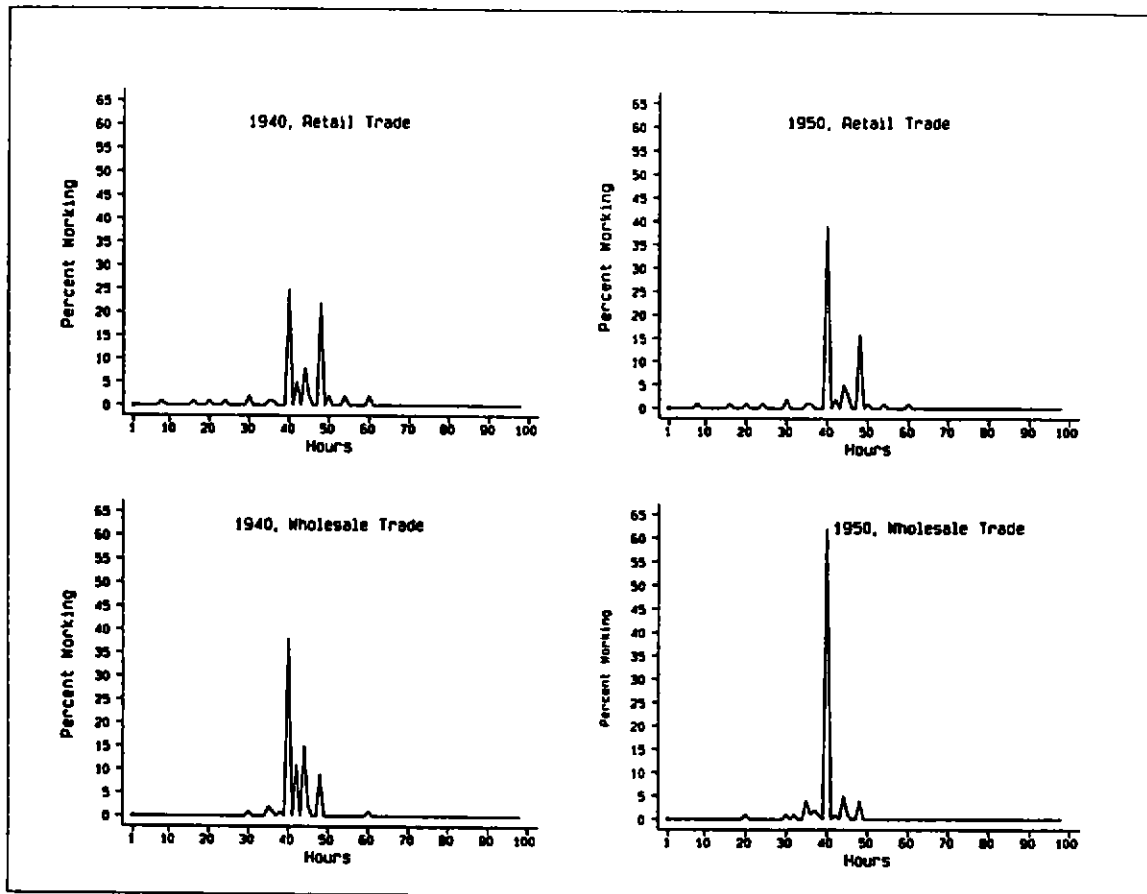
<sup>14</sup>See the Appendix for the actual distribution of hours worked.

Figure 2: Average Weekly Hours in Retail and Wholesale Trade, 1940 and 1950, Men



*Note.* Estimated from the 1940 and 1950 censuses for wage and salary workers age 18 to 64 who were neither managers nor professionals. Restaurant workers are excluded.

Figure 3: Average Weekly Hours in Retail and Wholesale Trade, 1940 and 1950, Women



*Note.* Estimated from the 1940 and 1950 censuses for wage and salary workers age 18 to 64 who were neither managers nor professionals. Restaurant workers are excluded.



(but not significantly), suggesting that substitution from hours to workers induced by the minimum wage is likely to be small. Among women working part-time relative hours fell but again the standard error was large. As predicted by the theory the hours of both men and women working more than 42 hours per week increase. But, this increase, as well as that observed among men and women working all hours, may not have arisen from the FLSA. Recall that positive estimates will overestimate the impact of the FLSA. In fact, when the series in Figure 1 are extended to 1950, average hours in wholesale and retail trade converge in 1942 and by 1950 hours in wholesale trade are higher, suggesting that a shortening of the typical work shift in retail trade was the primary factor driving these results.

The increase in average hours in wholesale relative to retail trade among individuals working all hours does not imply that the proportion working over 40 hours rose. In fact, for these individuals the 5 percent decline in the standard work week led to a 13 percent decline (-0.08) in the fraction of men working more than 40 hours per week and a 17 percent decline (-0.10) in the fraction of women working more than 40 hours. The fraction working exactly 40 hours rose much more among wholesale relative to retail workers. Among women the relative decline in the proportion working 40 to 42 hours was greater than that among women working over 42 hours. Similar patterns are observed among those working 35 to 50 hours a week. Because I cannot observe straight-time wages I cannot tell if the decline in hours worked was greater among workers earning the minimum wage. However, when I estimate hourly wages from the previous year's wage and salary income divided by the product of weeks worked last year and hours worked during the reference week I find that hours fell by more (although not by a statistically significant amount) among workers whose estimated hourly wage was equal to or less than the minimum wage. For men earning the minimum wage or less the 2 hour decline in the standard work week led to a decline of -.7 hours whereas for those earning above the minimum

Table 3: Impact of FLSA on Average Hours, Average Hours Conditional on Working Hours, and on Fraction Working Exactly 40 Hours, Over 40 Hours, 40 to 42 Hours, and Over 42 Hours: Double Difference Estimates

	Hours (H)			Hours Group			
	H	H H<35	H H>42	40	40+	40-42	42+
<b>All hours</b>							
Men	0.617 (0.535)	0.231 (0.822)	2.049 (0.279)	0.090 (0.009)	-0.080 (0.015)	-0.031 (0.005)	-0.049 (0.017)
Women	0.180 (0.610)	-1.856 (1.747)	0.760 (0.455)	0.088 (0.032)	-0.095 (0.024)	-0.081 (0.010)	-0.013 (0.021)
<b>35-50 hours</b>							
<b>All regions</b>							
Men	-0.413 (0.126)		0.390 (0.281)	0.105 (0.011)	-0.111 (0.013)	-0.032 (0.006)	-0.078 (0.016)
Women	-0.157 (0.183)		0.391 (0.281)	0.071 (0.034)	-0.111 (0.028)	-0.086 (0.011)	-0.023 (0.023)
<b>North</b>							
Men	-0.236 (0.159)		0.529 (0.114)	0.090 (0.014)	-0.094 (0.017)	-0.031 (0.007)	-0.063 (0.020)
Women	0.208 (0.181)		0.569 (0.389)	0.024 (0.024)	-0.055 (0.020)	-0.082 (0.012)	0.027 (0.018)
<b>South</b>							
Men	-0.997 (0.240)		-0.002 (0.192)	0.156 (0.023)	-0.162 (0.022)	-0.039 (0.017)	-0.124 (0.031)
Women	-1.316 (0.250)		0.158 (0.254)	0.242 (0.054)	-0.303 (0.045)	-0.107 (0.022)	-0.195 (0.035)

*Note.* Numbers indicate increase or decline in wholesale relative to retail trade of fraction of individuals working given number of hours. Estimated from ordinary least squares regressions on the 1940 and 1950 censuses for wage and salary workers aged 18 to 64. Professionals, managers, and workers in eating and drinking establishments were excluded. Robust standard errors in parentheses.

Table 4: Impact of FLSA on Average Hours, Average Hours Conditional on Working Hours, and on Fraction Working Exactly 40 Hours, Over 40 Hours, 40 to 42 Hours, and Over 42 Hours: Double Difference Estimates, Time-Varying Covariates

	Hours (H)			Hours Group			
	H	HIH<35	HIH>42	40	40+	40-42	42+
<b>All hours</b>							
Men	0.663 (0.535)	0.767 (0.924)	1.867 (0.303)	0.089 (0.010)	-0.081 (0.014)	-0.028 (0.005)	-0.053 (0.016)
Women	0.096 (0.628)	-0.947 (1.356)	0.394 (0.480)	0.060 (0.030)	-0.059 (0.026)	-0.066 (0.008)	0.008 (0.023)
<b>35-50 hours</b>							
<b>All regions</b>							
Men	-0.399 (0.124)		0.359 (0.104)	0.105 (0.012)	-0.108 (0.013)	-0.029 (0.006)	-0.080 (0.015)
Women	0.064 (0.172)		0.264 (0.285)	0.054 (0.031)	-0.070 (0.027)	-0.072 (0.010)	0.002 (0.023)
<b>North</b>							
Men	-0.204 (0.155)		0.486 (0.107)	0.080 (0.015)	-0.082 (0.017)	-0.026 (0.006)	-0.056 (0.019)
Women	0.282 (0.183)		0.303 (0.415)	0.013 (0.024)	-0.021 (0.021)	-0.067 (0.018)	0.045 (0.028)
<b>South</b>							
Men	-1.025 (0.226)		-0.014 (0.194)	0.160 (0.021)	-0.168 (0.020)	-0.039 (0.018)	-0.129 (0.028)
Women	-0.681 (0.370)		0.309 (0.282)	0.188 (0.073)	-0.223 (0.064)	-0.097 (0.026)	-0.126 (0.053)

*Note.* Numbers indicate increase or decline in wholesale relative to retail trade of fraction of individuals working given number of hours. Estimated from ordinary least squares regressions on the 1940 and 1950 censuses for wage and salary workers aged 18 to 64. Professionals, managers, and workers in eating and drinking establishments were excluded. Robust standard errors in parentheses.

wage it led to a decline of -0.3 hours.<sup>15</sup>

The relative decline in hours worked and in the proportion working exactly 40 hours, the proportion working over 40 hours, the proportion working 40 to 42 hours, and the proportion working over 42 hours was much greater in the south.<sup>16</sup> There, the 2 hour or 5 percent decline in the standard work week led to a 1 hour decline in total hours worked and a 23 percent decline in the proportion of men working over 40 hours per week and a 42 percent decline in the proportion of women working over 40 hours per week. Differences in hours declines between north and south were statistically significant. Because hours of part-time workers were unaffected by the FLSA, it seems unlikely that these differences could have arisen from greater substitution from hours to workers because the minimum wage led to a greater wage increase in the south than in the north. In the next section I therefore examine whether these differences could be attributed to minimum wage provisions being more binding in the south thereby reducing adjustment of straight-time wages.

## **5 Compensation and the Fair Labor Standards Act**

The previous section showed that although a 2 hour decline in the length of the standard work week did have an impact on total hours worked that was larger than that seen in United States data from the 1970s (e.g. Trejo 1991, 1997), the overall decline was less than that observed in modern European data (e.g. Hunt forthcoming, Hart and Wilson 1988). This section examines whether the decline in total work hours was affected by firms ability to adjust straight-time wages

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<sup>15</sup>I also examined whether the decline in hours was sharper among workers in metropolitan areas but although the fall in hours was steeper the difference was small and statistically insignificant.

<sup>16</sup>The southern states are defined as Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, Virginia, Kentucky, Maryland, Oklahoma, Tennessee, West Virginia, and the district of Columbia.

and, more particularly, whether the hours decline in the south was larger because southern wages were at or near the minimum wage and therefore employers could not adjust straight-time wages.

If the straight-time wages of individuals can adjust then the yearly earnings of individuals working the same weekly hours and weeks per year at jobs that differ only in terms of FLSA coverage should be the same. That is,

$$\begin{aligned} wHW &= w^cHW && \text{if } H \leq \bar{H} \\ wHW &= w^c[\bar{H} + b(H - \bar{H})] && \text{if } H > \bar{H} \end{aligned}$$

where  $w$  and  $w^c$  are hourly wages in the covered and noncovered sectors, respectively,  $H$  is hours worked per week,  $\bar{H}$  is the standard work day (42 hours in 1940 and 40 in 1950),  $W$  is weeks worked per year, and  $b$  is the overtime premium (1.5 in both 1940 and 1950). For an individual in the covered sector, income,  $I$  can be rewritten as

$$I = w^c H [1 + (b - 1)(H - \bar{H})/H] W. \quad (2)$$

Taking logarithms and using the approximation  $\log(1 + (b - 1)(H - \bar{H})/H) \approx (b - 1)(H - \bar{H})/H$ , this expression becomes

$$\log(I) \approx \log(w^c) + \log(H) + \log(W) + (b - 1)(H - \bar{H})/H. \quad (3)$$

Equation 2 can then be estimated by a regression of the form

$$\log(I) = X\beta + \delta[(H - \bar{H})/H] \times \text{WHOLE} \times \text{OVERTIME}, \quad (4)$$

where  $X$  is a matrix whose columns consists of a vector of ones, vectors of demographic characteristics (age and age squared and dummies for nonwhite and female), vectors of dummies indicating

educational attainment, occupation group, region of residence, urban residence, whether the individual was in wholesale trade, and whether the year was 1950, vectors of weekly hours worked and its square and of weeks worked per year and its square (under the assumption that the hourly wage depends upon hours worked), and vectors of the logarithm of weekly hours and the logarithm of weeks worked per year.<sup>17</sup> WHOLE is a dummy variable equal to one if the individual was in wholesale trade and OVERTIME is a dummy variable equal to one if the individual worked more than 42 hours in 1940 and more than 40 hours in 1950. If straight-time wages adjust perfectly in response to overtime legislation then the coefficient  $\delta$  is equal to zero whereas if they cannot then the coefficient is equal to one half.

Estimates of  $\delta$  suggest that while straight-time wages did not adjust perfectly, there was some adjustment (see Table 5). This adjustment ( $\hat{\delta} = .31$ ) was less than that observed by Trejo (1991) who found that for weekly earnings in the late 1970s  $\hat{\delta}$  was at most 0.14. This adjustment was also greater in the north than in the south, particularly in 1940. Pooling both 1940 and 1950, I can reject both the hypothesis that  $\hat{\delta} = 0$  and the hypothesis that  $\hat{\delta} = .5$  for the north and the hypothesis that  $\hat{\delta} = 0$  for the south, but I cannot reject the hypothesis that  $\hat{\delta} = .5$  for the south. I can reject the hypothesis that the coefficients on  $\delta$  are equal in the north and in the south. Running separate regressions for 1940 and 1950, I cannot reject the hypothesis that  $\hat{\delta} = .5$  for the south in 1940, but I can reject this hypothesis for the north. I cannot reject the hypothesis that  $\hat{\delta} = .5$  both in the north and in south in 1950.

This section has largely focused on the adjustment of straight-time wages in response to the overtime provisions of the FLSA, but employers can also adjust their total wage bill by reducing such benefits as paid vacations and paid sick leave. Although I have no evidence from retail trade, among independent grocery wholesalers the percentage who were not granting paid

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<sup>17</sup>The regression specified in equation 4 estimates a wage-hours locus, not a labor demand or supply equation.

Table 5: Estimates of  $\delta$

		Reject hypothesis $H_0$	
		$H_0 = 0$	$H_0 = .5$
		$H_1 \neq 0$	$H_1 \neq .5$
<b>Pooled Data</b>			
All regions	0.309 (0.083)	yes	yes
North	0.268 (0.102)	yes	yes
South	0.692 (0.149)	yes	no
<b>1940</b>			
All regions	0.281 (0.120)	yes	yes
North	0.169 (0.115)	no	yes
South	0.587 (0.334)	yes	no
<b>1950</b>			
All regions	0.325 (0.114)	yes	yes
North	0.381 (0.146)	yes	no
South	0.150 (0.252)	no	no

*Note.* Robust standard errors in parentheses. Estimated from ordinary least squares regressions (see text). The sample was restricted to non-managers and non-professionals wage and salary workers age 18 to 64 working 35 to 50 hours per week.

sick leave increased from 13 to 24 percent between May of 1938 and May of 1940 and the percentage not granting paid vacation from 12 to 17 percent (United States Bureau of Foreign and Domestic Commerce 1941). Employees therefore probably bore some of the costs of the overtime provisions of the FLSA.

## 6 Employment and the Fair Labor Standards Act

That hours worked declined in response to the overtime provisions of the FLSA meets one of the necessary, but not sufficient, conditions for employment to have increased. Theory suggests that between 1940 and 1950 employment could have increased among firms whose standard hours were 40 to 42 or among firms shifting from an overtime regime. But, even if the overtime provisions of the FLSA increased employment, the minimum wage provisions of the FLSA probably decreased it.<sup>18</sup> The net effect of the overtime and minimum wage provisions on employment is hard to determine. Use of a double difference between 1940 and 1950 shows that employment in the retail sector increased relative to that in the wholesale sector but it is unclear if this arose from the minimum wage provisions of the FLSA or from exogenous changes in retail trade. I can therefore only present suggestive evidence.

Figure 4 shows that employment in both sectors was rising after 1938, but that employment in wholesale relative to retail trade barely changed after October of 1938. Employment in retail was highly seasonal with large increases in December. Employment in retail trade began to increase relative to wholesale trade in the mid-1940s and after April of 1941 remained above

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<sup>18</sup>Wright (1986: 224-225) argues that the minimum wage provisions of the FLSA of 1938 and of the National Industrial Recovery Act codes of 1933 to 1935 led to widespread unemployment among black workers. Seltzer (1997) finds that the FLSA accelerated the trend towards mechanization in the southern seamless hosiery industry and that employment decreased in the south whereas it increased in the north, in contrast to the prior trend of rising employment in the south relative to the north. He also finds that employment decreased in the southern lumber industry.



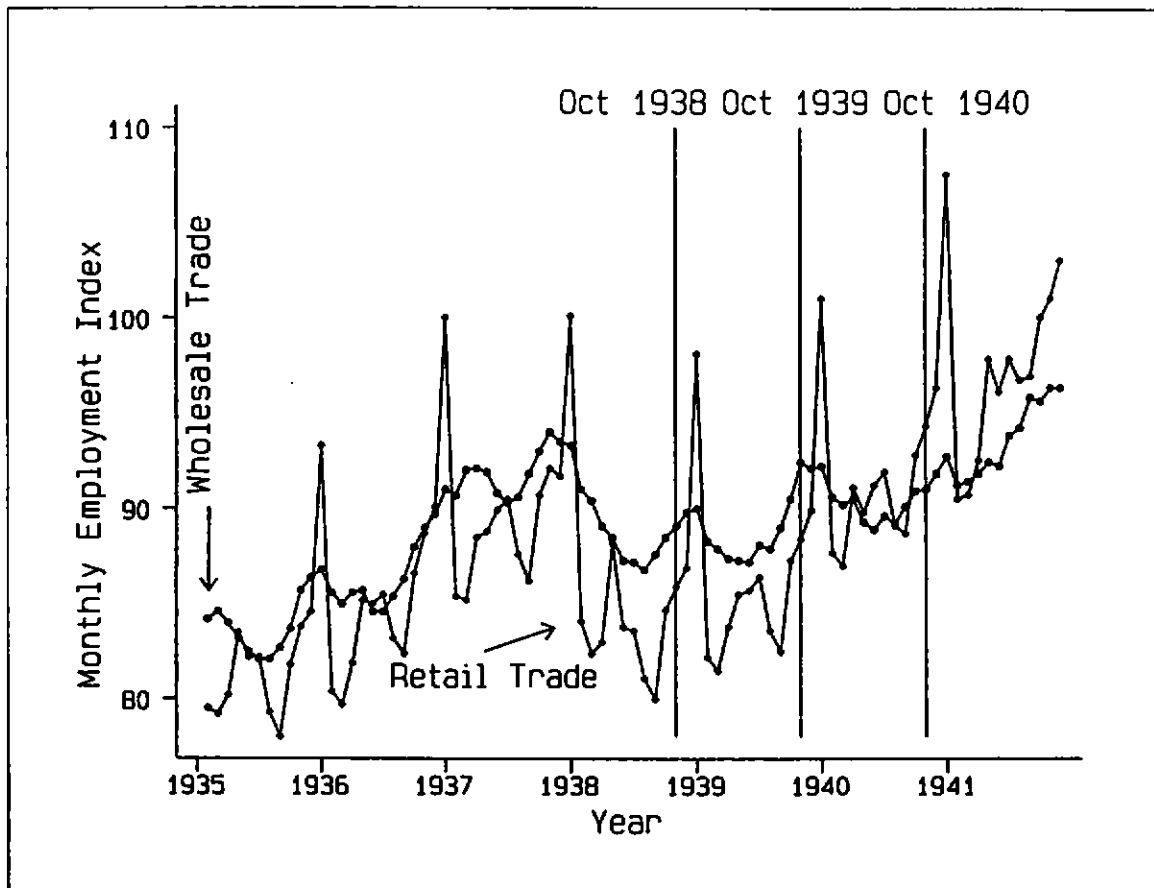
that in wholesale trade, but this change appears to be unrelated to the FLSA. When I regressed the difference in employment in the retail and wholesale sectors on the past difference, seasonal dummies, and dummies for the FLSA, I found that the impact of the institution of the FLSA was qualitatively zero and I reject the hypothesis that there was a structural break in the series in October of 1938.

The Bureau of Foreign and Domestic Commerce's (1941) study of independent wholesale grocers also suggests that any effect of the FLSA on employment was small. Among the 73 percent of grocers who reduced their employees' hours, 41 percent reported adding more help, but the increase in the number of employees was modest. Among office workers the average number of full-time employees per house decreased slightly between May of 1938 and May of 1940 and increased from 9.2 to 9.8 among warehouse workers and 4.2 to 4.5 for delivery workers. The more common ways of adjusting to the overtime provisions of the FLSA were to stagger hours (done by 57 percent of houses) and to restrict hours of operation (done by 54 percent of houses).

## **7 Conclusion**

This paper has shown that when the Fair Labor Standards Act was first introduced it had a substantial impact on total weekly hours worked in wholesale trade. In September of 1938 average weekly hours in wholesale trade were only 0.2 hours lower than in retail trade but by the following September were 1.3 hours lower. The 2 hour decline in the length of the standard work week in October of 1940 reduced total weekly hours by at least 0.4 hours for men in wholesale trade and 0.2 hours for women. This 5 percent decline in the standard work week also led to a decline of at least 18 percent in the proportion of men and women working more than 40 hours per week. Declines in total weekly hours and in the proportion working a 40 hour work week were larger in the south than in the north, with weekly hours worked of southerners falling by one hour

Figure 4: Monthly Employment Index in Retail and Wholesale Trade, January 1935–November 1941



*Note.* The data are based upon the reports of different establishments in each month. Source: Various issues of *Monthly Labor Review*.

and the proportion of southern men working over 40 hours a week falling by 23 percent and of southern women by 43 percent. The decline in hours of work of southerners was greater because the minimum wage provisions of the FLSA had a much bigger impact on southern wages than on northern wages thus preventing southern firms from adjusting straight-time wages in response to overtime provisions. Adjustment of straight-time wages in the north, however, was not complete.

Overall the Fair Labor Standards Act appears to have had very little effect on employment. Although the overtime provisions of the Act may have increased employment in wholesale trade, hours reductions (and hence employment effects) were much greater when the minimum wage provisions of the Act were binding and these provisions probably decreased employment. The findings suggest that the American experience with the overtime provisions of the Fair Labor Standards Act has not changed greatly. Although the Act had a greater impact on weekly hours worked in its early years than in the 1970s, this was probably because firms in the 1930s and 1940s were less able to adjust straight-time wages. Statutory reductions in the length of the standard work day may therefore have had a greater effect on hours worked in Europe because higher unionization rates and national wage agreements may have impeded the adjustment of straight-time wages. But, if these are the preconditions for hours reductions, it seems unlikely that overtime provisions could lead to greater employment.

## **Appendix**

Tables 6 and 7 illustrate changes in the hours distribution in retail trade, wholesale trade, and in all industries from 1940 to 1990 among non-professionals and non-managers. Between 1940 and 1950 the fraction working 41 to 49 hours in wholesale trade fell substantially but changed very little in retail. This fraction declined in all industries, but the decline was not as large as that in wholesale. Although there were no further amendments to the FLSA until 1961, the fraction of

employees working 41 to 48 hours in retail declined whereas that in wholesale and in all industries remained the same. During the 1960s when both the 1961 and 1966 amendments covering retail trade were passed, the proportion of workers laboring 41 to 48 hours declined in both retail and wholesale trade and in all industries. Although the decline was much sharper in retail than in wholesale trade, the decline in retail trade was similar to that observed in the 1950s. Coverage of retail workers increased during the 1970s both because of the 1974 amendments and because inflation lowered the exemption sales test, but the distribution of hours worked barely changed for women and for men changes in retail and wholesale trade were similar. During the 1980s the proportion of men working 41 to 48 hours fell somewhat more in retail than in wholesale trade but for women increased in both sectors.

Table 6: Distribution (Percent) of Hours Worked in Retail and Wholesale Trade, Men 1940–1990

Hours	1940	1950	1960	1970	1980	1990
<b>Retail</b>						
1-14	1.5	1.9	4.3	5.2	4.2	4.2
15-29	3.5	3.8	6.1	9.7	12.4	14.2
30-34	2.1	1.9	2.2	5.0	4.7	5.7
35-39	2.0	1.6	2.4	3.6	3.7	4.5
40	19.0	30.1	29.4	35.3	42.3	39.1
41-48	33.8	32.4	27.5	21.4	16.0	13.5
49-59	15.8	15.5	16.8	12.0	11.0	11.4
60+	22.3	12.8	11.2	7.7	5.7	7.5
<b>Wholesale</b>						
1-14	1.1	0.8	2.2	2.1	1.7	1.7
15-29	2.4	2.4	2.6	3.5	4.2	4.4
30-34	2.0	1.9	1.7	3.9	2.4	2.5
35-39	2.1	1.9	4.0	3.7	2.8	2.5
40	26.2	46.4	40.4	43.0	50.2	46.9
41-48	41.0	26.2	28.1	24.2	17.4	16.3
49-59	12.4	11.9	13.3	12.4	14.0	15.8
60+	12.9	8.3	7.7	7.2	7.3	10.0
<b>All Industries</b>						
1-14	1.6	1.2	2.3	2.5	2.5	2.7
15-29	6.0	3.7	3.4	4.3	5.9	6.7
30-34	4.6	2.9	2.9	5.1	3.4	3.6
35-39	4.7	2.8	4.2	4.7	3.7	3.6
40	36.5	54.2	51.7	50.9	54.4	49.7
41-48	29.7	21.2	20.4	18.1	14.2	13.9
49-59	8.0	8.2	9.2	9.0	10.0	11.8
60+	8.9	5.7	5.8	5.5	5.9	7.9

*Note.* Calculated from the 1940–1990 censuses for wage and salary workers age 18 to 64 who were neither professionals nor managers. Restaurant workers are excluded from retail trade. The all industry category excludes agricultural workers.

Table 7: Distribution (Percent) of Hours Worked in Retail and Wholesale Trade, Women 1940-1990

Hours	1940	1950	1960	1970	1980	1990
<b>Retail</b>						
1-14	4.1	5.0	10.0	9.9	8.8	7.9
15-29	6.8	8.5	15.7	19.5	27.8	27.7
30-34	3.8	4.4	6.4	10.1	10.4	11.7
35-39	4.7	5.0	9.0	12.1	11.2	10.4
40	25.5	39.6	38.8	38.9	33.3	31.1
41-48	41.5	29.4	14.9	6.7	5.6	6.4
49-59	7.8	4.9	3.0	1.6	1.9	3.0
60+	5.8	3.1	2.2	1.3	1.0	1.9
<b>Wholesale</b>						
1-14	1.9	2.8	6.3	4.9	3.7	3.6
15-29	4.6	4.9	9.6	10.2	11.1	10.7
30-34	2.9	3.5	4.4	7.0	5.1	5.0
35-39	7.3	9.5	15.7	12.8	10.4	7.2
40	37.9	62.1	50.9	52.9	55.5	52.9
41-48	40.8	14.2	10.5	9.5	9.4	12.2
49-59	2.7	1.9	1.6	1.7	3.7	5.7
60+	2.0	1.1	1.0	1.0	1.3	2.6
<b>All Industries</b>						
1-14	2.4	2.8	5.9	6.3	6.0	5.7
15-29	7.6	6.5	9.6	11.8	15.0	15.6
30-34	5.8	4.6	5.8	8.6	7.1	7.4
35-39	8.5	8.1	13.2	12.9	11.9	10.1
40	37.7	56.9	51.0	50.8	49.4	46.1
41-48	29.9	16.7	11.1	7.1	6.7	8.4
49-59	4.2	2.7	2.0	1.6	2.5	4.2
60+	3.8	1.7	1.4	1.0	1.3	2.5

*Note.* Calculated from the 1940-1990 censuses for wage and salary workers age 18 to 64 who were neither professionals nor managers. Restaurant workers are excluded from retail trade. The all industry category excludes agricultural workers.

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