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Minimum Wage [binder] [3]

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**Statement of William M. Rodgers III
Assistant Professor of Economics
Department of Economics
The College of William and Mary
Before the Joint Economic Committee
February 22, 1995**

Mr. Chairman and Distinguished Members of the Joint Economic Committee:

Thank you for the opportunity to appear before you and discuss the issue of raising the federal minimum wage. The minimum wage is a topic of active academic debate. The major argument against an increase is the belief that the a minimum wage increase generates huge job losses. The basis for this view comes from outdated research. Academic researchers have never predicted huge job losses for the adult population. The only job losses that are predicted are for teenagers. Yet, even for teenagers, reviewers of this literature conclude that a 10 percent increase in the minimum wage leads to a zero to 3 percentage point increase in the teenage unemployment rate, and Brown, Gilroy, and Kohen's review of the literature favors the bottom end of this range.

These estimates yield an increase in the income of low-wage workers. For example, suppose that each 10 percent increase in the minimum wage produced job losses of 1 percent for minimum wage workers. Using this estimate, a simple back of the envelope calculation shows that with a 90 cent increase in the minimum wage 98 percent of the 11 million workers between 4.25 and 5.15 get a raise, and only 2 percent had to look for new jobs. Given the high turnover rates in these jobs, spells of unemployment should be quite short. Furthermore, the net gain for the economy will be even greater if effort is tied to wages, because

productivity will improve.

The majority of recent research on the effects of minimum wage increases shows that the estimated job losses are small or negligible. These studies appear in prestigious journals where results are scrutinized by economists prior to publication: three such publications are The American Economic Review, Journal of Human Resources, and Industrial Labor and Relations Review.

As a result, many distinguished economists are changing their views. In a recent New York Times article, Nobel Laureate Robert Solow stated that, "The main thing about this research is that the evidence of job loss is weak."

Elsewhere, distinguished labor economist, Richard Freeman stated, "Most studies, however, reject the notion that the late 1980's/early 1990's increases had adverse employment effects, and the studies that find adverse effects prior to those increases obtain small [employment effects]..."

Let me now talk briefly about who would benefit from the minimum wage increases. The debate has focused on teenagers. Again, this is based on outdated literature. If one looks at the current data for workers who say that they are paid an hourly wage, you find that (1) most minimum wage workers are adults over 20 years of age; among full-time workers who earn the minimum, over 80 percent are adults; and (2) more than one in five minimum wage workers lives in a family below the official poverty line.

Some have also argued that an increase in the minimum wage would have a differential impact on the employment of black teenagers. However, my recent analysis of the 1980 and 1981 minimum wage increases (which will be submitted

for the record) that uses data from the National Longitudinal Survey of Youth strongly suggests that teenage employment was not adversely effected by the increases, and black unemployment was not adversely effected. The employment rate of teenagers who were affected by the minimum wage is the same as the employment rate of teenagers who were employed in industries that were exempt from the minimum wage increase, and the unemployment of black teenagers did not increase. After the 1980 increase, it actually went down.

Finally, let me talk about wage differences across racial groups. During the 1980's, the relative earnings of new entrant black workers fell. The relative earnings of blacks in the most recent cohort that entered the labor market also fell. Some of my earlier work finds that the decline in the real value of the minimum wage plays a key role in explaining this erosion in earnings among less-skilled high school dropouts and high school graduates. These results are consistent with the findings of Professors John Bound and Richard Freeman. The puzzle is that the 1980's was a period in which racial differences in educational attainment and other ability measures continued to narrow.

In summary, I think that current research on the minimum wage provides an excellent foundation on which to base a modest increase in the minimum wage. Finally, I find it ironic that one of the opposition's major arguments against increasing the minimum wage is that it would have a differential impact on the employment of teenage black males. To the people who have this concern, I applaud you for your caring in this complex issue; however, you are focusing on the wrong set of statistics.

During my adult life, the labor force participation for African American teenagers has remained under 40 percent. Allowing the real value of the minimum wage to fall, while transportation and clothing prices increase, will not help encourage labor force participation by these teenagers. Further, the decline will lead to greater wage erosion among black high school graduates and dropouts.

So, while there are many policies that need to be pursued to lower black unemployment rates and raise their relative wages, making African American teenagers even cheaper to employ is not likely to help.

cant differences in state cost of living and wage levels,⁵ governors and state legislators committed to the notion of a minimum wage are in a better position than Congress to determine what is appropriate for their areas. State legislators better understand the living and working conditions of workers in their state and how business conditions and jobs would be affected by a certain minimum wage level.

- ✓ **Enact significant regulatory reform to reduce the cost of labor.** The explosion of new regulations since 1988 has raised the cost of labor and capital, created barriers to the formation of new companies and jobs, and placed a greater burden on Americans trying to compete in the global economy. There are at least three million fewer jobs in the American economy today because of the growth of regulation over the last 20 years.⁶ The regulatory bureaucracy needs to be rolled back and job-killing labor regulations eliminated.
- ✓ **Promote school choice legislation and other real education reforms to improve skills.** Despite record spending of taxpayers' dollars, America's public schools continue to turn out far too many high school graduates who lack not only basic skills, but also the communication skills and work attitudes that employers are demanding. One of the best ways to ensure a more productive and better-paid workforce in the long run would be to enact school choice legislation to provide the incentive for schools to improve.
- ✓ **Cut the capital gains tax.** Cutting the capital gains tax would reduce investment disincentives, increase wages by raising productivity, and increase small business formation and associated job opportunities.
- ✓ **Limit benefits to decrease the incentive to remain on welfare.** The combined state and federal efforts to reduce welfare dependency are an important component of the minimum wage debate. Welfare was never supposed to be more attractive than an entry-level job; nor was it to be a permanent alternative to employment.⁷

PROPOSALS FROM THE ADMINISTRATION AND CONGRESS

A number of bills to raise the minimum wage have been introduced in both houses of Congress this year. They range from the "modest" 90 cents per hour increase over two years proposed by the President to a one-time increase of \$2.25 (to \$6.50) proposed by Representative Martin Sabo (D-MN). The Joint Economic Committee held a hearing on the President's proposal in February. Further hearings on raising the minimum wage are likely, as are hearings on alternatives for promoting job creation and increasing wages.

5 Randall W. Eberts and Mark E. Schweitzer, "Regional Wage Convergence and Divergence: Adjusting Wages for Cost-of-Living Differences," *Economic Review* (FRB-Cleveland), Vol. 30, No. 2 (July 1994), pp. 26-37.

6 William G. Laffer III, "How Regulation Is Destroying American Jobs," Heritage Foundation *Backgrounder* No. 926, February 1993.

7 Robert Rector, "Combating Family Disintegration, Crime, and Dependence: Welfare Reform and Beyond," Heritage Foundation *Backgrounder* No. 983, updated March 17, 1995.

The President's Bill. The Administration's proposal was introduced in both the House and Senate on February 14, 1995. The White House legislation, the Working Wage Increase Act of 1995, was introduced in the Senate (S. 413) by Senator Thomas Daschle (D-SD) and in the House (H.R. 940) by Representative Richard Gephardt (D-MO). This legislation would raise the minimum wage to \$4.70 on July 3, 1995, and to \$5.15 on July 3, 1996.

The Kennedy Bill. Another bill to raise the federal minimum wage and amend the Fair Labor Standards Act of 1938 (FLSA) has been introduced in the Senate by Senator Edward Kennedy (D-MA). The American Family Fair Minimum Wage Act of 1995 (S. 203) would increase the minimum wage from \$4.25 to \$5.75 in 50 cent increments over three years, beginning September 1, 1995. S. 203 also would establish another Commission on the Minimum Wage.⁸ The Commission would conduct a study and make recommendations to Congress on how to restore the minimum wage to the level relative to the average hourly wage that existed during the period 1950 to 1980. The legislation also requires the Commission to suggest the means by which to maintain such a level with minimum disruption to the general economy through regular and periodic adjustments (indexing).

In the House, a number of bills have been introduced.

The Sanders Bill. The Livable Wage Act of 1995 (H.R. 363), introduced by Representative Bernard Sanders (I-VT), would increase the minimum wage to \$5.50 in one step on December 30, 1995, and index it to the Consumer Price Index.

The Sabo Bills. The Minimum Wage Amendments of 1995 (H.R. 619), introduced by Representative Sabo, would increase the minimum wage to \$6.50 in one step, effective 90 days after enactment. The Income Equity Act of 1995 (H.R. 620), also introduced by Representative Sabo, provides for the same increase but also would amend Section 162 of the Internal Revenue Code of 1986 to limit the deduction for payments of "excessive" compensation. Excessive compensation is defined in H.R. 620 as 25 times what the lowest paid employee earns.⁹

The Wynn Bill. The Fair Labor Standards Amendments of 1995 (H.R. 764), introduced by Representative Albert Wynn (D-MD), would increase the minimum wage to \$5.25 in 25 cent increments over four years, beginning six months after enactment.

The Gutierrez Bill. The No Maximum Wage for Congress Without a New Minimum Wage for America Act of 1995 (H.R. 876), introduced by Representative Luis Gutierrez (D-IL), would reduce the pay rate for Members of Congress by 2.6 percent per year until the minimum wage is raised to \$5.15.

⁸ The 1977 amendments to the Fair Labor Standards Act of 1938 established the first Minimum Wage Commission. The Commission completed its three-year study of the minimum wage in 1981, concluding that increases in the minimum wage have a negative effect on employment.

⁹ The calculation also would include part-year employees (computed on an annualized basis).

WHY PROPONENTS WANT TO INCREASE THE MINIMUM WAGE.

Congress enacted the Fair Labor Standards Act of 1938 (FLSA), which established the minimum wage, in part to prevent a repetition of the deflationary wage spiral that occurred in the 1930s as workers bid down wages in an effort to find gainful employment.¹⁰ The trauma of the Great Depression strengthened the view that government had a responsibility to develop policies and programs to stabilize the economy by maintaining income flows. The minimum wage was to serve as one part of the New Deal safety net. However, since 1940, unemployment insurance, monetary policy, and state minimum wage laws have undercut the justification for a federal minimum wage.

Today's proponents of a higher minimum wage generally center their arguments on the need to set "a decent living wage" and address income inequality.¹¹ For example, the Administration argues for an increase in the minimum wage to:

- ✓ **Maintain** the historic value of work;
- ✓ **Help** adult workers, most of whom rely on their jobs to support their families;
- ✓ **Ensure** that there is a strong incentive to choose work over welfare; and
- ✓ **Help** fight poverty by combining a higher minimum wage with the Earned Income Tax Credit.

The Administration maintains that increasing the minimum wage by a moderate amount will not cost jobs. It also points out that the last minimum wage increase passed with strong bipartisan support.¹²

Other proponents point out that some 80 percent of Americans agree that a higher minimum wage increase is warranted.¹³ They also observe that the real value of the minimum wage is 27 percent lower than it was in 1979, while corporate profits have risen by 155 percent and executive pay by 514 percent.¹⁴ Some proponents further claim that the free market does not work for women and ethnic minorities as it does for men and that government has a role in establishing a floor for wages.¹⁵

10 One of Congress's stated intentions in enacting the FLSA and minimum wage was to eliminate the spreading and perpetuation of detrimental labor conditions among the workers of several states.

11 Another reason why Congress enacted the FLSA and minimum wage was to correct, and as rapidly as practical 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.

12 See U.S. Department of Labor, Minimum Wage Press Release Package, February 1995.

13 From statement of Representative Major Owens (D-NY) before the Joint Economic Committee, February 22, 1995.

14 From statement of Senator Edward Kennedy (D-MA) before the Joint Economic Committee, February 22, 1995.

15 From statement of Audrey Haynes, Executive Director, Business and Professional Women/USA, before the Joint Economic Committee, February 22, 1995.

RECENT STUDIES ON THE MINIMUM WAGE

Raising the minimum wage, like mandating universal health insurance coverage, does not come without cost. The question is: Where are the costs incurred, and do they outweigh the benefits?

Recent academic economic research on the employment effects of raising the minimum wage has produced seemingly confusing results. Proponents of a higher minimum wage point to a few recent studies that suggest moderate increases may not have an overall negative employment effect and might very well increase total employment.¹⁶ Meanwhile, opponents cite the preponderance of previous academic studies that conclude there is a negative employment effect and observe that other recent studies continue to find that raising the minimum wage results in lost jobs.¹⁷ The best conclusion that a layman or policymaker can draw is that although further research is needed, the evidence continues to support the conventional view that increasing the minimum wage means employment losses for low-skilled workers. More recently, one of the key studies used by the Clinton Administration to bolster its claim that a higher minimum wage does not cause job losses has been found to contain serious flaws.¹⁸

Even though a few recent studies disagree on the employment effects of increasing the minimum wage, most economists do agree on several key points.

- ✓ Raising the minimum wage will reduce entry-level job opportunities, particularly for low-skilled Americans. Some of the entry-level jobs that would be created in a growing economy will not be created.
- ✓ There may be a labor supply effect that results in a measured increase in total employment, but labor demand certainly will be altered. Americans may apply for minimum wage jobs in greater numbers, but employers will hire only the most skilled among them.
- ✓ Raising the minimum wage may reduce poverty slightly for workers who keep their jobs,¹⁹ but it will do nothing for the vast majority of poor who do not work.

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- 16 David Card and Alan Krueger, *Myth and Measurement: The New Economics of the Minimum Wage*, Princeton University Press, forthcoming; Allison Wellington, "Effects of the Minimum Wage on the Employment Status of Youths: An Update," *Journal of Human Resources*, Winter 1991; Richard Freeman, "Minimum Wages—Again!," paper presented at the Conference on Economic Analysis of Base Salaries and Effects of Minimum Wages, September 1993; and others.
- 17 Card and Krueger, *Myth and Measurement: The New Economics of the Minimum Wage*, Chapter 6, Evaluation of Time-Series Evidence; David Neumark and William Wascher, "Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws," *Industrial and Labor Relations Review*, Vol. XLVI, No. 1 (October 1992); Finis Welch, Donald Deere, and Kevin Murphy, "Employment and the 1990/91 Minimum Wage Hike," Annual Proceeding of the American Economic Review, forthcoming; Janet Currie and Bruce Fallick, "A Note on the New Minimum Wage Research," NBER Working Paper No. 4348, April 1993; and others.
- 18 The telephone survey data used in the study cited most often by the Administration have been shown to contain catastrophic flaws. Redoing the analysis using accurate payroll records completely reverses the results of the Administration-cited study and finds a negative effect on employment when the minimum wage is raised. See David Neumark and William Wascher, "The Effects of New Jersey's Minimum Wage Increase on Fast Food Employment," unpublished study presented to the Joint Economic Committee, March 1995.

The Overlap Between Poverty And Minimum Wage Workers

Minimum Wage
Workers: 2.7 Million

- 50% 21 yrs. or less
- 73% Single
- 45% Children

Total Population of Poor
16 Years and Older: 23.5 Million

526,000 Minimum Wage
Workers Living in Poverty

- 43% Family Householders

Source: Heritage Foundation calculations from the Census Bureau's March 1993 Annual Demographic File.

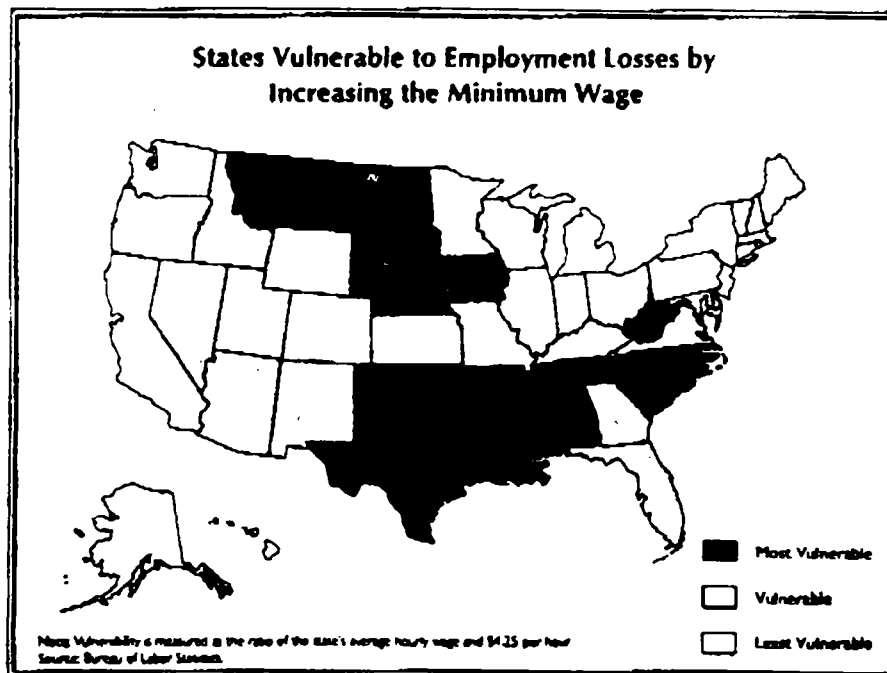
Almost 40 percent of the sole breadwinners earning the minimum wage are voluntary part-time workers, while only 18.8 percent of all minimum wage workers are family heads or spouses working full-time.³²

ALTERNATIVES TO RAISING THE MINIMUM WAGE

Contrary to assertions by practitioners of class warfare, employers do not—indeed cannot—unfairly keep down the wages of their lower-skilled and entry-level employees. Employers, as well as employees, operate within a competitive labor market in which wage rates broadly reflect the productivity of workers—less the costs of government-imposed mandates and taxes associated with employing a worker. Raising prices and destroying entry-level job opportunities is not the sensible way to increase real wages. Instead of raising the minimum wage, Congress and the Administration should focus on policies that will increase wages and job opportunities for Americans by improving labor productivity and reducing the cost of employing workers. Specifically:

32 Heritage Foundation tabulations from the March 1994 Current Population Survey.

33 Heritage Foundation tabulations.



- ✓ To the extent that government continues to set minimum wages, responsibility for setting minimum wage levels and enforcing the other provisions of the Fair Labor Standards Act (FLSA) should be turned over to the states.

Minimum wage laws presume that politicians are morally justified in destroying some people's jobs in order to inflate other people's wages. The current minimum wage effectively prohibits people from working unless their labor is worth at least \$4.25 an hour. On this basis alone, the minimum wage should be abolished. However, if there is a minimum wage, it should at least reflect the real labor cost and market differences in different regions of the country.

There are significant differences in the cost of living and general wage levels between states and even within states. To date, nine states and the District of Columbia have recognized this fact and have enacted minimum wages that are higher than the federal minimum, while ten states have a lower minimum wage for small employers and employees not covered by the FLSA. Significantly, the federal government officially recognizes regional differences in costs and general wage rates when paying its own employees.³⁴

Recent studies have found significant variations in regional wage distributions and cost of living levels and trends.³⁵ Raising the federal minimum wage thus would have different negative impacts on individual state employment opportunities and price levels. In areas where the labor market is tight and implicit regional "wage floors"³⁶ effectively have raised the minimum wage already, there would be little or

³⁴ Federal locality pay differentials have been in place since 1993.

³⁵ Eberts and Schweitzer, "Regional Wage Convergence and Divergence: Adjusting Wages for Cost-of-Living Differences."

³⁶ Wage levels below which employers find it very difficult to attract qualified entry-level workers.

no effect. However, in other areas of the country, there would be significant negative effects.

Almost 44 percent of minimum wage workers live in the South, while only 10.4 percent live in the Northeast. Over 40 percent of the workers who would be affected directly by the Administration's proposal live in the South.

Abolishing the federal minimum wage would allow governors and state legislators to determine the minimums for their own states if they believe such action to be helpful.³⁷ This would allow proponents to set minimum wages according to local labor market conditions and living costs while taking into account how business and employment conditions would be affected. Having a national minimum wage makes as much sense as requiring the federal government to pay the same wage for entry-level jobs New York City and Fargo, North Dakota.

✓ **Enact significant regulatory reform.**

The explosion of new regulations since 1988 has raised the cost of labor and capital, created barriers to the formation of new companies and jobs, and raised the cost of employing Americans. This higher cost of employment in turn means that, in a competitive economy, the return to labor in the form of wages is reduced. Some government regulation is desirable and necessary, but the plethora of new regulations has placed a significant burden on businesses' ability to create jobs for unskilled workers. This burden needs to be rolled back, not only to allow wages to rise, but also to decrease the cost of hiring workers.

Although fixing the precise cost of federal regulations is difficult, estimates indicate the cost of complying was at least \$500 billion in 1993.³⁸

There are at least three million fewer jobs in the American economy today because of the growth of regulation over the last 20 years.³⁹

A 1990 study estimated that environmental regulations alone had caused a national employment level that was 1.2 percent less in 1990 than it otherwise would have been.⁴⁰

✓ **Promote education reforms that will raise the skills and productivity of entry-level workers.**

Employers cannot pay wages that exceed the revenue generated by a worker—at least not if they intend to stay in business. Thus, one way to raise wages without job losses and other costs is to raise the skills and productivity of workers, especially entry-level workers, through radical reform of the nation's schools.

37 Sixteen states and the District of Columbia have minimum wages that are linked to the level in the federal Fair Labor Standards Act. If the federal minimum wage was abolished, they would have to set their own minimum wage levels.

38 *Sec Issues '94, The Candidate's Briefing Book* (Washington, D.C.: The Heritage Foundation, 1994), Chapter 4, Regulation.

39 Laffer, "How Regulation Is Destroying American Jobs."

40 Michael Hazilla and Raymond J. Kopp, "Social Cost of Environmental Quality Regulations: A General Equilibrium Analysis," *Journal of Political Economy*, Vol. 98, No. 4 (1990), p. 867.

Despite record spending of taxpayers' dollars, America's public schools continue to turn out far too many high school graduates who lack not only basic skills, but also the communication skills and work attitudes that employers need. This depresses the wages these workers can earn. It is not unreasonable for employers to expect that after 12 years of schooling individuals should have a reasonable competence in basic core skills (verbal communication, reading, writing, arithmetic, and basic sciences). Public schools routinely fail to prepare people for work, and then government minimum wage laws prohibit them from working.

A strong core curriculum should be taught in all high schools, and real testing should be instituted to indicate to parents whether or not their children's schools are achieving acceptable standards. School choice legislation is needed to give schools the financial incentive to respond to demands by parents that they meet these standards.

✓ **Reduce the Capital Gains Tax.**

The United States taxes corporate income twice: first at the corporate level, then at the personal level. Recognizing this, many other industrial nations have eliminated or reduced the taxation of these gains. The capital gains tax affects wages because it reduces capital spending, technological innovation, and new ventures. This hurts labor productivity and wages in the long run.

Although reducing capital gains taxes is portrayed by the practitioners of class warfare as benefiting only the rich, the benefits flow to all workers. Well over half of all taxpayers with capital gains in 1992 had adjusted gross incomes of less than \$50,000. Over 73 percent had incomes of less than \$75,000.⁴¹

Often overlooked benefits include:

- ☛ On average, wage earners receive \$12 after taxes for every \$1 of after-tax income received by investors. More than 90 percent of the benefits of new investment would flow to wage earners, not to owners of capital.
- ☛ Past reductions in the capital gains tax rate (1978 and 1981) stimulated the start-up of new businesses and the expansion of job opportunities.
- ☛ A lower capital gains tax would raise the expected rate of return on investment in the U.S. and provide an incentive for both American and foreign firms to put their capital to work here with American workers.

✓ **Enact Significant Welfare Reform.**

An important component of the minimum wage debate is the issue of reducing welfare dependency. Proponents of a higher minimum wage often argue that a higher minimum wage is needed to make work more attractive by improving the monetary incentive to choose work over welfare. They go on to argue that, to permit people to

41 John C. Goodman, National Center for Policy Analysis, "Capital Gains Tax Reform and Investment in Small Business," testimony before the Committee on Small Business, U.S. House of Representatives, January 26, 1995.

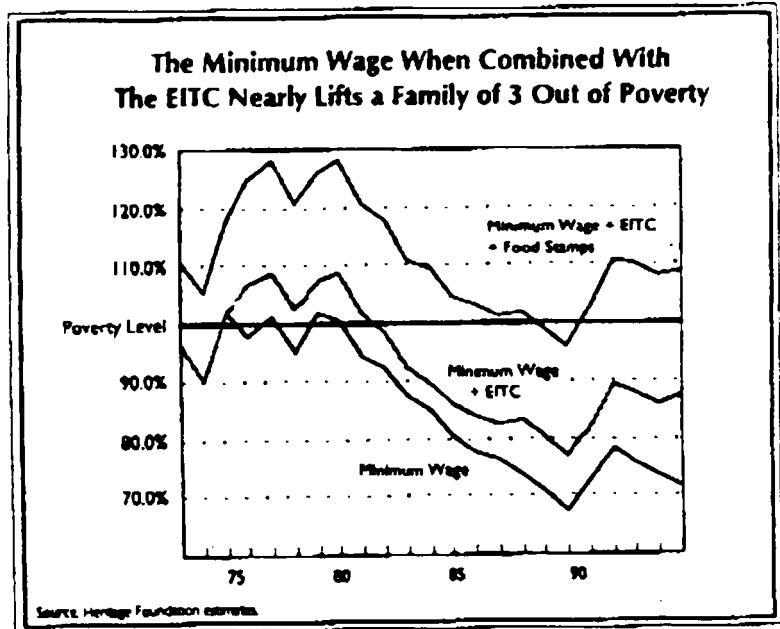
choose work over welfare, employers should be required to pay a "living wage" for even their lowest-skilled entry-level job opportunities.

The problem with this line of reasoning is that it ignores basic economics—wages for entry-level jobs reflect the skills and productivity of entry-level workers. Although raising the minimum wage may narrow the incentive gap for the welfare beneficiary in choosing work over welfare, it also reduces the willingness of employers to offer low-skill positions.

Rather than the phony "solution" of raising the minimum wage, a better approach would be to decrease the incentive to remain on welfare by limiting the level and duration of benefits. Welfare benefits are much higher than Americans generally assume. In 1992, welfare benefits and services amounted to \$11,470 for every "poor" household.⁴² While not every poor household received that level of non-cash aid, welfare bribes many individuals to stay out of the labor force.

Compared with these generous benefits, the income from full-time work at the minimum wage looks unattractive. Nevertheless, the current minimum wage

when combined with the 1992 expansion of the EITC nearly lifts a family of three out of poverty. If the value of food stamps is included, the income of a family of three rises above the poverty level. Moreover, it is incorrect to portray entry-level minimum wage jobs as lifetime "dead-end jobs." They should be recognized as opportunities for most people to establish a track record of work and a springboard to better paying jobs. More than 60 percent of all workers can point to a minimum wage job as their first job experience.⁴³ Some 40 percent of workers starting a minimum wage job will receive their first raise within 4 months, and 63 percent will be earning 20 percent more than the minimum wage within 12 months.⁴⁴



⁴² Robert Rector, "How The Poor Really Live: Lessons For Welfare Reform," Heritage Foundation *Background* No. 875, January 31, 1992.

⁴³ Card and Krueger, *Myth and Measurement: The New Economics of the Minimum Wage*.

⁴⁴ Ralph E. Smith and Bruce Vavrich, "The Wage Mobility of Minimum Wage Workers," *Industrial Relations and Labor Review*, Vol. XLVI, No. 1 (October 1992), pp. 82-88.

The wise reform is to encourage welfare recipients to accept these minimum wage jobs by limiting the availability of more generous welfare payments. Raising the minimum wage, on the other hand, would be counterproductive (although, as noted earlier, reducing other costs of living could allow entry-level wages to rise without detrimental effects). A recent study has found that when other characteristics of welfare mothers are held constant, the level of the minimum wage and increases in the minimum wage may reduce the rate of exit from the AFDC program.⁴⁵

CONCLUSION

Raising the minimum wage appeals to the American sense of decency and compassion. But it would be a mistake. Raising the minimum wage would impose significant costs, primarily on those unskilled Americans a minimum wage hike is suppose to help. It also would raise prices for both the poor and non-poor. It would destroy entry-level job opportunities that otherwise would have been created; and although it could raise some workers' family incomes above poverty, it would do so at the cost of denying jobs to many more.

To raise the standard of living of minimum wage workers without imposing these costs, Congress should focus on policies that raise worker productivity while reducing government-imposed labor costs on employers.

Mark Wilson

Rebecca Lukens Fellow in Labor Policy

45 Peter D. Brandon, *Jobs Taken by Mothers Moving from Welfare to Work and the Effects of Minimum Wages on This Transition*. Employment Policies Institute, January 1995. The study also suggests that the birth of additional children during AFDC participation also influences AFDC exit rates.

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CONGRESS OF THE UNITED STATES

ECONOMIC UPDATE

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Monday, March 20, 1995

NOUVEAU REICH ECONOMIC THEORIES

specious, adj., plausible, apparently sound or convincing, but in reality sophistical or fallacious.

Oxford English Dictionary

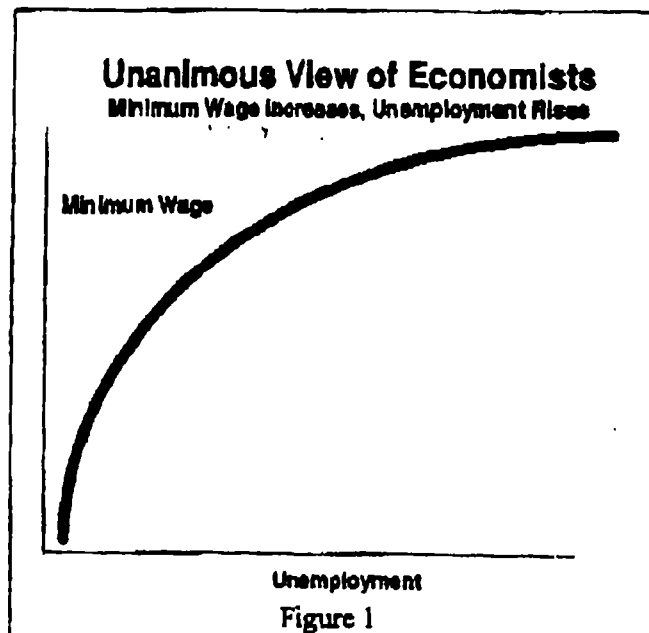
*"But no sophism is too gross to delude minds distempered by party spirit."
Lord Macaulay, 1849*

The view of economists concerning the minimum wage is virtually unanimous: The laws of supply and demand hold for the labor market just as for other markets.

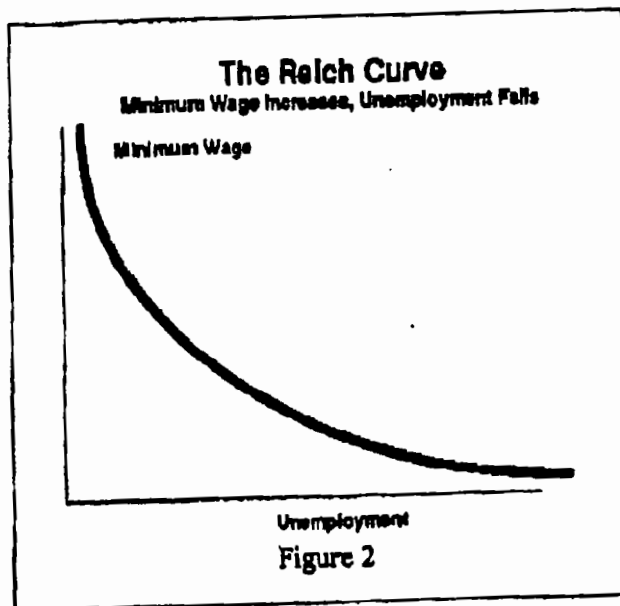
If government artificially raises the minimum wage (the price of labor), employers will demand fewer low-skilled employees. At the same time, the supply of labor (job seekers) increases in response to a higher minimum wage. The net result is more workers seeking fewer jobs. Unemployment rises. This conventional result is depicted graphically in Figure 1.

Economists also agree that a higher minimum wage most adversely affects the very workers it is designed to help — low-income workers with the fewest skills. Raising the minimum wage destroys jobs among the young and the poor in particular.

Secretary of Labor Robert Reich has presented some rather unorthodox economic ideas to support an increase in the minimum wage. His initial, unqualified remarks were that "raising the minimum wage increases job growth." In other words, minimum wage increases create more jobs — as the minimum wage rises, unemployment falls. This eccentric theory is



depicted in Figure 2. Even the most untutored in the laws of economics must realize the absurdity of this theory.

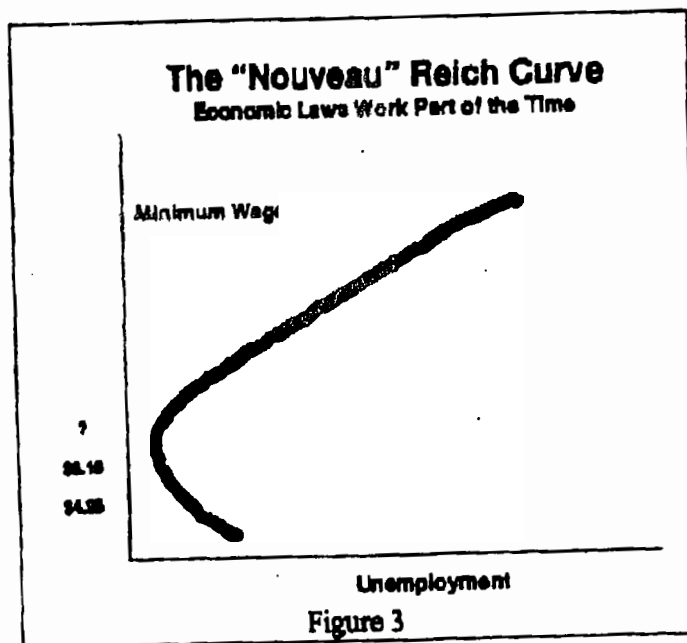


Recently, Secretary Reich has downgraded his specious claim from the status of a general law of economics to that of a special case which holds some of the time in certain special circumstances. Reich's reformulated special law of demand — the Nouveau Reich Law of Demand (NRLD) — can be stated as follows: "Small increases in prices raise demand for a commodity while large increases in prices lower demand." Applied to the case of the minimum wage, the NRLD would predict that small increases in the minimum wage lower unemployment while large increases in the minimum wage raise

unemployment. See Figure 3.

As a corollary to his new law, Mr. Reich contends that somewhere between "small" and "large" increases there exist a range of so-called "moderate" minimum wage increases that will have no effect on the demand for low-wage labor. He characterizes a 90-cent increase as "moderate" and thereby asserts that the President's proposal to increase the minimum wage to \$5.25 would have no effect on employment.

There are three fundamental problems with the NRLD and its corollary: 1) They have no foundation in microeconomic theory; 2) they are contradicted by the overwhelming weight of the empirical evidence; and 3) they do not comport with common sense.



The Labor Secretary has been unable to articulate with any rigor the distinctive real-world conditions under which these new, special laws are supposedly valid. For example, it is difficult even to conceive how at the level of the firm an employer would decide to employ more workers because they have suddenly become more expensive. Moreover, Secretary Reich has not presented credible empirical evidence that the 21 percent increase in the minimum wage proposed by the President, a so-called "moderate" increase, would have no effect on unemployment.

When the Labor Secretary's logic is dissected, his fallacious reasoning is revealed. First, he concedes that if the minimum wage were raised to ten dollars an hour, the conventional law of demand would apply, and employment would suffer. Second, however, he asserts that a one-cent increase would have no discernible effects on employment. The "proof" of this assertion rests on the trivial fact that if small enough changes are made in an economic variable, its consequences may go undetected by available measuring techniques.

In other words, Secretary Reich would have us believe that if the disemployment effects due to "small" changes in the minimum wage cannot be measured, they do not exist for so-called "moderate" increases, which in this case he defines to be 90-times-small. Unfortunately for policy makers, Secretary Reich has not found a painless way to raise standards of living for American workers. He mistakes measurement error for theoretical truth. His conclusion follows from the imprecision of the measuring device rather than the veracity of his theory.

His theory is based on nothing more than the prosaic observation that for small enough changes in prices, economists' measuring instruments cannot readily detect changes in demand. It does not follow, however, that such changes in demand do not actually occur.

Economics is not a natural science, and the statistical techniques employed by economists are far from precision instruments. The economist cannot perform "natural" experiments like the chemist. He observes behavior through a fog. Though it is impossible to observe behavioral changes due to infinitesimally small changes in causal factors, this measurement problem does not imply that the law is invalid. Rather, it implies that our measurement tools are inadequate. The weight of the evidence is clear. The law of demand applies to labor markets just as it does to all other markets.

Clearly, economists will be able to observe the impact of a 21 percent increase in the current minimum wage. It will create unemployment for low-skilled workers, the poor, and the young. In 1981, the Congressionally-mandated Minimum Wage Study Commission (MWSC) concluded that a ten percent increase in the minimum wage

Page 4

JEC Economic Update "Nouveau Reich Economic Theories"

Monday, March 20, 1995

reduces teenage employment by one to three percent. The President proposes raising the minimum wage by a little more than 21 percent. Based upon the findings of the Commission, the Clinton minimum wage increase can be expected to destroy between 130,000 and 400,000 jobs.

Furthermore, the findings of the MWSC demonstrate that Dr. Reich's apparently convincing example of a one-cent increase in the minimum wage is itself empirically unfounded. Even a one-cent increase could be expected to produce some minimal job loss. Based on the MWSC methodology, at least 26,000 jobs would be destroyed by such an increase, even though such a relatively small effect may well go undetected by economists' conventional measuring techniques.

The old fashioned truth is that compassionate politicians and well-meaning government programs like the minimum wage cannot repeal the laws of supply and demand any more than they can repeal the law of gravity. In fact, House Majority Leader and Chief Economist Dick Armey says without hesitation that it is the Minimum Wage Law that ought to be repealed!

Reed Garfield
Senior Economist

LETTERS TO THE EDITOR

Raise the Minimum Wage, Lose Jobs

House Majority Leader Richard Armey likes to say, "Conservatives say, 'I'll believe it when I see it,' while liberals say, 'I'll see it when I believe it.'" The Post's coverage of the minimum wage issue makes his point.

On Jan. 11, The Post's Business section carried a "news story" by Steven Pearlstein that gave highly complimentary treatment to research on the

minimum wage done by two Princeton economists, David Card and Alan Krueger. Mr. Krueger is now Labor Secretary Robert Reich's chief economist at the Department of Labor, and the Clinton administration has rested its case for a 21 percent increase in the minimum wage on Mr. Card's and Mr. Krueger's research. Mr. Pearlstein lauded their study of New Jersey fast-

food employment "compelling." However, we now know that their research was based upon faulty data.

Mr. Pearlstein wrote that Mr. Card and Mr. Krueger "did something unusual in their profession—they talked to businesses." However, they talked to the wrong people and asked the wrong questions. Because their paper was published in the American Economic Review, the data are available to other researchers.

Economists from the Employment Policies Institute (EPI) went back to the restaurants Mr. Card and Mr. Krueger surveyed by phone and asked a better question. EPI asked for payroll data. Mr. Card and Mr. Krueger agree that payroll data will provide the correct information.

Having collected the correct data, the EPI contacted David Neumark of Michigan State University, whom Mr. Pearlstein cites in the article. Mr. Neumark and his coauthor, William Wascher of the Federal Reserve, analyzed the data using the same methodology as Mr. Card and Mr. Krueger. They found that using the correct data, we cannot argue that higher minimum wages will raise employment. Further, they reconfirmed what the Commission on Minimum Wages found in 1981. Raising the minimum wage 10 percent lowers low-skilled employment about 2 percent.

We held a press conference on March 29 to present these findings. On April 5, the Joint Economic Committee held a hearing to consider EPI's and Mr. Neumark's findings and to hear from other economists on the difficulties with Mr. Card's and Mr. Krueger's study. Therefore, on the day after the hearing, I was puzzled that The Post's "Findings" column did not carry an account of the revelations about the Card and Krueger studies nor did The Post carry a news story reporting on the previous day's hearing.

With regard to the minimum wage, we have come full circle to what economists have always known: A higher minimum wage destroys jobs. This country, faced with ever increasing competition, can ill-afford to limit job opportunities.

JIM SAXTON
U.S. Representative (R-NJ)
Washington

WASHINGTON POST

APR 17 1995

APR 06 1995

DONALD LAMBRO

A recent analysis of the methodology and statistics used by two Princeton economists to defend President Clinton's proposed minimum-wage increase shows their study was based on badly flawed data.

The study on the effects of New Jersey's minimum-wage increase in 1992 has been heavily promoted by Labor Secretary Robert Reich, Democratic leaders and major newspapers across the country.

Now along comes an independent statistical analysis of their study by the Employment Policies Institution Foundation, which shows that the professors asked overly broad questions, took down incomplete and erroneous data and reached wrong conclusions.

There is a mountain of evidence, based on many decades of government and private studies, which shows that raising the minimum wage results in serious job losses among entry-level employment as businesses find ways to cut their payrolls to reduce their overhead costs.

But liberals like Mr. Reich, who is not an economist, and Massachusetts Sen. Edward Kennedy have

Dubious numbers in the wage debate

ignored these studies and steadfastly promoted a higher minimum wage, despite rising teen-age joblessness in America's inner cities. Let's face it, neither of them spend a lot of time in places like the South Bronx or in East Boston where they would see poor, uneducated and untrained minorities without work, in part because they have been priced out of the job market by the government's minimum wage.

So along came Princeton economists David Card and Alan Krueger who, among other states, studied the effects of New Jersey's 1992 minimum-wage increases on the state's fast-food business. Incredibly, their study concluded that minimum-wage jobs rose as a result.

An unquestioning Mr. Reich leaped to embrace their findings,

calling it a "very exhaustive, detailed study" that showed no job losses occur from raising the minimum wage. House Minority Leader Richard Gephardt declared that the study showed "that a minimum-wage increase creates jobs."

But last week's startling EPI review of their report concluded that "there is one catastrophic flaw in the New Jersey study — it is based on ludicrously flawed data."

Among EPI's stunning findings:

- The employment numbers in the New Jersey data set used for the study are wrong. EPI gathered the actual payroll data from many of the fast-food outlets surveyed by Messrs. Card and Krueger, says EPI's Executive Director Richard Berman. "Surprisingly, there are few instances where the payroll data match the numbers reported

more

Lambro²

by Card and Krueger."

- "In one-third of the observations for which payroll data could be compared, the Card-Krueger data set fails to correctly report even the direction of employment change — establishments that actually experienced job gains were reported as having job losses and vice versa!"

- The chief reason for these errors: Messrs. Card and Krueger's study "asked only one question about minimum-wage employment in their surveys of fast-food restaurants, and that question could not have produced reliable data," says Mr. Berman's report.

- That question was so broadly worded that "responses were necessarily built on managers' or assistant managers' personal interpretations — in effect, a rubber ruler was used to measure employment."

- Moreover, Mr. Card and Mr. Krueger only asked for the number of workers in each business establishment, not how many hours each worked, a much more accurate economic measurement.

The EPI review found that when the actual instead of the erroneous

payroll statistics are used, "one finds job losses in New Jersey resulting from the minimum-wage hike, rather than the job gains reported" in the Card and Krueger study.

It is true that because of seasonal factors overall employment did climb in New Jersey as well as in neighboring Pennsylvania, where there was no minimum-wage increase. But EPI's analysis points out that "employment grew 5 percent less in New Jersey than in Pennsylvania."

Thus, by using Mr. Card and Mr. Krueger's own rationale that the only difference separating the two states' situations was the minimum wage, "one must conclude the higher entry-level wage had a negative impact on employment in New Jersey," says the EPI critique.

But the Card-Krueger study is only the latest of many efforts to promote raising the minimum wage with some very questionable statistics.

For example: Despite Labor Secretary Reich's wildly exaggerated

claims that one-third of minimum-wage workers are their families' sole support, most minimum-wagers are not poor. According to 1992 U.S. Census data, only 198,500 of the more than 4.7 million minimum-wage workers were adult householders.

More important, every study shows that raising employer costs leads to job losses. "Teen-age unemployment rose sharply when the minimum wage was increased in 1990 and 1991," says a recent study by the National Center for Policy Analysis.

Meantime, EPI's explosive report, which is must reading for every member of Congress, raises serious questions about Mr. Reich's credibility and the people in his department who are directing its economic numbers.

Notably, Princeton's Alan Krueger is now the Labor Department's chief economist.

Donald Lambro, chief political correspondent of The Washington Times, is a nationally syndicated columnist.

5

The Crippling Flaws in the New Jersey Fast Food Study

In September 1994, two Princeton economists published a study examining the fast food industry in New Jersey after the state raised its minimum wage in 1992. They concluded there was no significant job loss. In fact, according to their analysis, "employment increased in New Jersey relative to Pennsylvania" following the mandated wage hike.¹ These findings have rocked the economics profession to its core. Advocates of a higher minimum wage have latched onto this "new evidence" as a stunning refutation of conventional wisdom. The media has reported this unconventional "man-bites-dog" story as fact.

But there is one catastrophic flaw in the New Jersey study — *it is based on ludicrously flawed data*. Quite simply, the employment numbers in the data set used for the study are *wrong*. As a result, policymakers, economists, and employers have been thoroughly misled in the national minimum wage debate. Unfortunately, nobody bothered to examine the data — until now.

Why Is This Important?

The New Jersey research has been cited repeatedly by Clinton Administration officials who are pushing for an increase in the federal minimum wage. Secretary of Labor Robert Reich has described this as a "very exhaustive detailed study" which proves job loss is not a concern in this debate. Senior Clinton economic advisor Laura D'Andrea Tyson says this study is one which uses "the most sophisticated techniques available to economists" to find that a minimum wage increase will have "no noticeable, discernable significant effect" on employment.² Congressional leaders have joined the bandwagon: Minority Leader Richard Gephardt (D-MO) says "[R]ecent research — including a ... study by noted economists David Card and Alan Krueger — shows that a minimum wage increase creates jobs."³ And former New Jersey Governor Jim Florio has announced Card and Krueger "concluded that no job loss occurred as a result" of the minimum wage hike in New Jersey.⁴

One of the study's authors, Alan Krueger, is now chief economist at the U.S. Department of Labor, wielding significant influence over national wage policy. He recently testified before Congress that his study showed "employment fared better in New Jersey than it did in Pennsylvania" after the minimum wage rose in New Jersey. As evidence of the study's impact on the economics profession, the report's other author, David Card, was recently nominated for the John Bates Clark Award (the second-highest award in economics), partly because of his work on the New Jersey study. The two authors have used their study as the cornerstone for a new book on the minimum wage.⁵ And the study was published in a leading journal of the economics profession — *The American Economic Review*.

Glowing articles have been written about the fast-food research in numerous publications. *The Washington Post* reports that this is "the most compelling study" among recent work on the minimum wage. *The New York Times* says the New Jersey study has "blown gaping holes in the consensus" on minimum wages. Reports on this study have surfaced in Los Angeles, Chicago, Boston, Detroit, San Diego, Minneapolis, and other major cities.

Without a doubt, the New Jersey study has had a dramatic effect on the national debate over raising the minimum wage. But the information below proves conclusively that the employment analysis in the New Jersey study is nothing more than an academic exercise in statistical evalu-

ation of a badly flawed data set which bears little relation to reality. Clinton officials, Congressional leaders, the media, and many economists have come to accept this “new view” of the minimum wage. But the *study is wrong*, and the record must now stand corrected.

What's Wrong with the Data?

To collect data for the New Jersey study, the report's authors conducted a series of telephone interviews with managers and assistant managers of fast food restaurants in New Jersey (which raised its minimum wage in 1992) and adjacent eastern Pennsylvania (where the minimum wage was unchanged). Card and Krueger surveyed establishments from four fast-food restaurant chains — Burger King, Wendy's, Kentucky Fried Chicken, and Roy Rogers. The resulting data set is available from the authors.

Card and Krueger report the number of employees in each restaurant for two “waves” of surveys — one in early 1992 (before the minimum wage hike took effect in New Jersey), the other in November 1992, several months after the minimum wage rose. Serious flaws in the data are obvious at first glance. Even a cursory review of the data reveals numerous major anomalies which defy reasonable explanation.

For instance, Card and Krueger report that a Burger King outlet in New Jersey had about six full-time workers in February, but by November, it had added 23 more full-time workers — a radical shift in the operations of this restaurant. According to Card and Krueger, a Burger King in Pennsylvania went from 50 full-time workers in February to 15 in November, and from 35 part-time employees in February to just 18 in November — a truly radical shift. A Wendy's in Pennsylvania had 30 full-time people on staff in February, but by November all full-timers had apparently been terminated — *zero* were reported in the Card-Krueger data. Another Wendy's — this one in New Jersey — had zero full-timers in February, but by November had hired 35 full-time workers without any change in the number of part-timers on staff. (See table below.)

Anomalies in Card-Krueger Data

<i>Restaurant / Zip Code “Block”</i>	<i>Number of Employees</i>	
	FEBRUARY '92 Full/Part Time	NOVEMBER '92 Full/Part Time
WENDY'S in 072XX	0 / 30	35 / 30
BURGER KING in 080XX	6.5 / 20	30 / 25
KENTUCKY FRIED CHICKEN in 082XX	0 / 11	22 / 4
WENDY'S in 185XX	30 / 10	0 / 30
ROY ROGERS in 189XX	27 / 12	0 / 30
BURGER KING in 190XX	50 / 35	15 / 18
KENTUCKY FRIED CHICKEN in 075XX	0 / 7	14 / 0
KENTUCKY FRIED CHICKEN in 070XX	0 / 22	25 / 15

It is difficult to imagine any rational explanation for such incredible shifts, even after accounting for seasonal sales differences. Yet these anomalies are found throughout the data. These extreme shifts alone raise serious doubts about the New Jersey study. From the start, it was clear that the measurements upon which this study is based were erratic at best. But there is more.

The publicly-available Card-Krueger data set was “sanitized” insofar as it provides only the first three digits of the zip code for the establishments surveyed in the study. (Economists often sanitize data to protect confidentiality.) Thus, any analysis of the data set must be based on the regions defined by these zip code “blocks” — the regions in which all zip codes begin with the same three digits. *Using actual payroll records* from fast-food establishments surveyed for the New Jersey study, the Employment Policies Institute recreated portions of the Card-Krueger data set. To ensure that each Card-Krueger unit being compared to payroll records was accurately matched, EPI researchers collected data on every similar unit in the appropriate zip code block.⁶ (While it is impossible to “match” employment records on a unit-by-unit basis due to the sanitization of the Card-Krueger data set, it is easy to compare restaurants’ employment on a “group-by-group” basis.)

The results are astounding. The Card-Krueger data set consistently reports employment losses where none actually took place and employment gains far in excess of their true values.

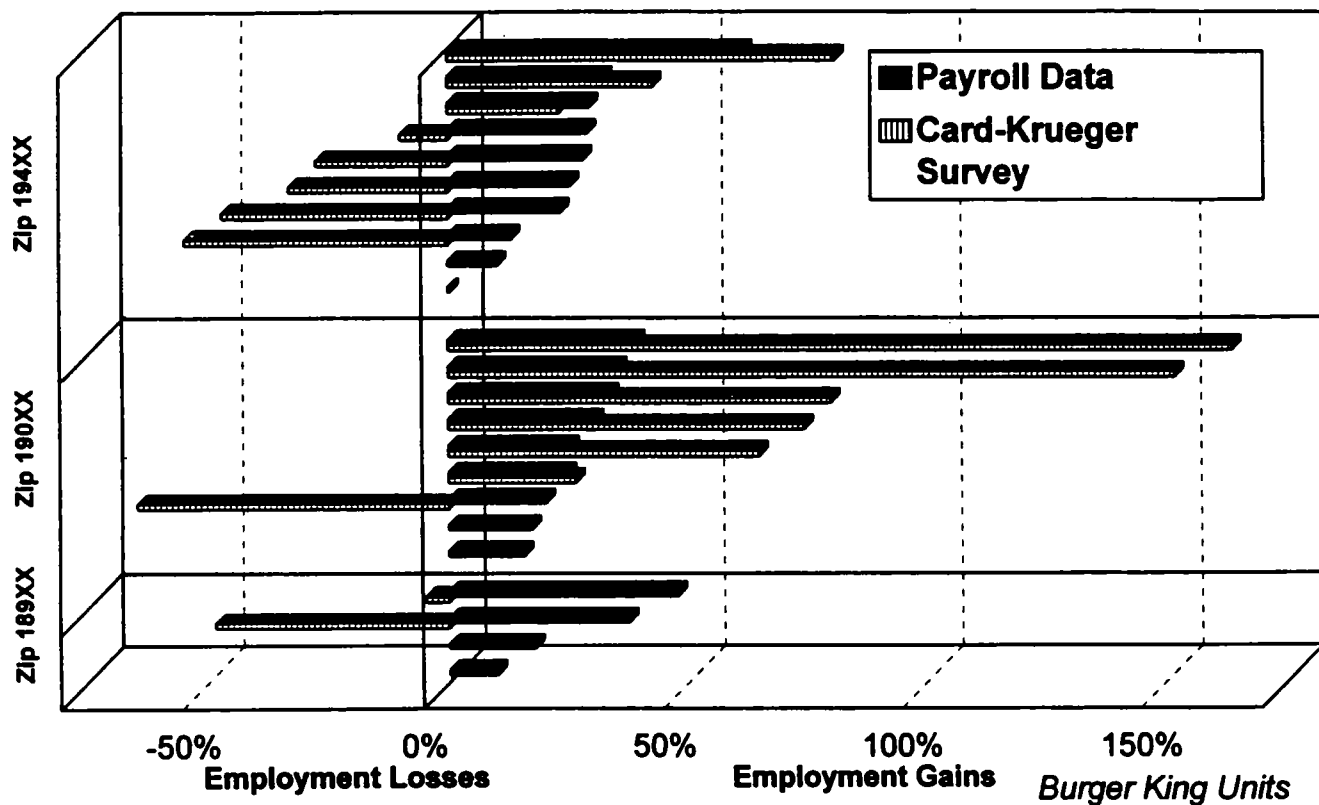
After identifying franchised restaurants within the zip code “blocks” found in the Card-Krueger data, EPI researchers requested payroll records for the two time periods studied in the New Jersey report — February and November 1992. Surprisingly, in one region of New Jersey, this comparison revealed no clear matches between the Card-Krueger numbers for franchised Burger King establishments and the actual payroll records for those restaurants. A similar random comparison of Wendy’s units in New Jersey yielded the same result.

For a number of reasons, the bulk of the EPI analysis then focused on west-central New Jersey and east/central Pennsylvania. The economy in these areas is clearly linked by geography, separated only by the Delaware River. Card and Krueger argue that the only distinguishing factor between New Jersey and Pennsylvania employment in 1992 was the minimum wage. This should be particularly true in the Central Jersey/East-Central Pennsylvania area, where comparisons can literally be made “right across the river.” In addition, this region includes the area in and around Princeton, N.J., where Card and Krueger worked when they conducted the New Jersey study. The EPI analysis concentrated on Burger King units — which make up 40% of the Card-Krueger data set — and Wendy’s units.

The results are astounding. The Card-Krueger data set consistently reports employment losses where none actually took place and employment gains far in excess of their true values. Although the EPI analysis covered 25% of the franchised units in the Card-Krueger data set, there are very few instances in which the Card-Krueger numbers even closely resemble the actual payroll records. In fact, with one-third of the observations, the Card-Krueger data set fails to identify the correct direction of employment change — whether it was a job loss or a job gain! Not only are the Card-Krueger numbers wrong, they are often **catastrophically** wrong.

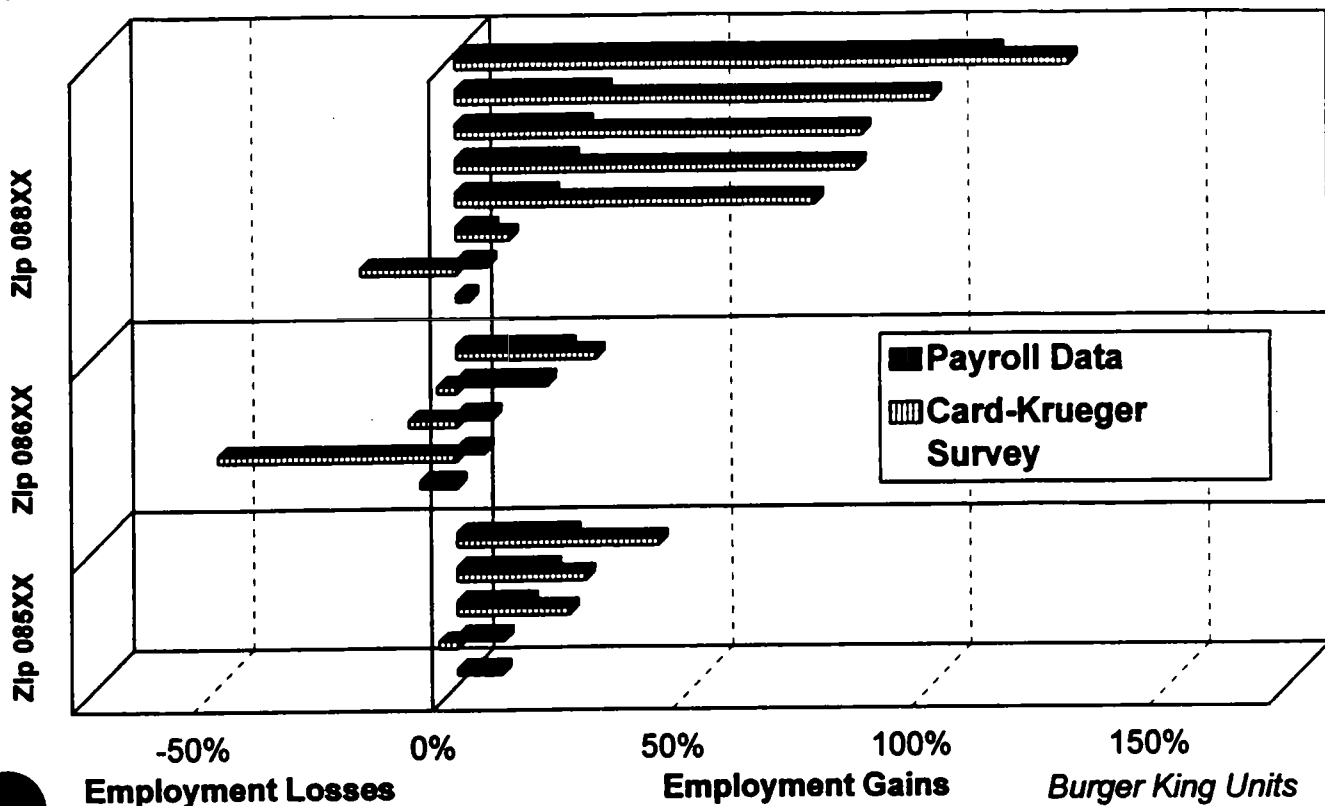
As Graphs 1 and 2 show, the employment changes in the Card-Krueger data set are spread over a wide range, while the payroll data — reflecting the accurate employment numbers for the period studied — is generally confined to a fairly narrow range. In the region of Pennsylvania defined by zip code 190XX, Card and Krueger reported significant gains in employment for several units, and a serious decline in jobs at another unit. In contrast, payroll records show modest increases in employment throughout the region, generally due to standard seasonal sales variations. Likewise, in the part of New Jersey defined by zip code 088XX, Card and Krueger reported a number of significant increases in employment, none of which are close to the generally modest seasonal increases found in payroll records.

1. Card-Krueger vs. Payroll Data: Penn.



(See Graph 2 on next page.)

2. Card-Krueger vs. Payroll Data: N.J.



In short, the Card-Krueger data set does not square with reality. Fully 15% of the entire Card-Krueger data set (which included company-owned and franchised units) was examined during this process — a sufficiently-large sample to discredit the entire set of employment numbers used for the New Jersey study.

These conclusions have dramatic implications for the current debate over minimum wages. The nation's leading proponent of a higher minimum wage — Labor Secretary Robert Reich — can no longer rely on this study when addressing questions about job loss. In fact, he must now go back and correct the record for the numerous times he has referenced this study as “evidence” to support his position. The Labor Department's chief economist (one of the authors of the New Jersey study) has testified before Congress that he believes this study is the best work available on the job loss issue; he must now correct the record. Minority Leader Richard Gephardt has argued forcefully that, based on this work, there is no evidence of job loss after a minimum wage hike. Based on the facts presented here, Mr. Gephardt and his allies must now correct the record.

Even President Clinton — who says “the weight of the evidence” suggests there is no job loss — must change his position.⁷ The facts show that the New Jersey study — relied on so heavily by the President's economic advisors — doesn't carry any “weight” when it comes to measuring employment effects.

Finally, the media — which has been seriously misled by this study — must correct the record.

How Could This Happen?

The New Jersey study was doomed from the start. When the authors released the data, they also released the survey questions used in the original data collection. Because most of the reports on the New Jersey study focus on its treatment of job loss, some observers are surprised to learn that only *one* of the 24 questions in the survey is even related to minimum wage employment. (The others deal primarily with employee benefits and price levels for certain products.) Even more shocking — especially for a study originating in a respected institution such as Princeton University — is that *it was impossible for this single question to generate reliable data!*

Although the primary goal of the study was to measure the employment impact of a higher minimum wage, Card and Krueger only asked the following question about entry-level employment: *How many part-time and full-time employees are employed in your restaurant, excluding managers and assistant managers?* On the surface, this may seem to be a solid question, but when placed in perspective, this question represents an exceptionally unsophisticated attempt at measuring employment changes. Consider the following:

- The survey never asked **how many hours were being worked** in the restaurant, only how many *employees* were working. Yet hours worked is the most important measure of overall employment in a restaurant. In fact, it is the only accurate measure! *Yet, the authors of the New Jersey study completely ignored hours worked.* The authors did convert their data into Full Time Equivalents (FTEs), but because they never measured hours, this was a crude “conversion” at best.
- Because of high turnover in the fast-food industry, it is unlikely the surveyors spoke with the same manager in November that they had interviewed in February. Why is this important? Because the question asked was so broad that respondents to the survey were forced to incorporate their own interpretations in the answers.

For example, the survey asked how many part-time and full-time employees the restaurant employed. But the survey fails to define two key parameters:

- ☐ What is the **time frame** for the question? Does it mean the number of employees working on the **current shift**? The number working **today**? Working **this week**? The total number **on the payroll** — including those who are on vacation or who work only during school holidays? Without this crucial information, the manager in one Burger King might give the number of employees currently on the clock, while the manager in the Wendy's down the street might give the number she thinks she remembers scheduling for the entire week. In effect, a rubber ruler was used to measure employment, with each respondent allowed to interpret the inquiry differently.
- ☐ How is part-time defined? Is it **anything under 40 hours** per week, as defined in the Fair Labor Standards Act? Anything **under 35 hours** — as the Bureau of Labor Statistics defines it? Is full-time defined as **37.5 hours**, as in some labor contracts?

Or is full-time defined as **30 hours per week**, as in the 1993-94 Clinton health care reform proposal? Without a definition of full- and part-time, managers responding to the survey were allowed to use their own interpretation.

Given the authors' propensity to rely on managers' interpretations of the question, they would have had to survey the same individual during both waves of their survey if they were to salvage anything resembling reliable data from the exercise. Unfortunately, there is no indication in the survey instrument that Card and Krueger made *any* attempt to interview the same source. And the nature of the business dictates that different managers must have responded (differently) in many cases. Obtaining proper data through this question was impossible — *any consistent data could only be the result of random coincidence!*

- The survey was conducted via telephone conversations with managers and assistant managers. Anyone familiar with operations in a fast-food restaurant knows that these managers were almost surely not sitting in a quiet back office with payroll records spread out in front of them. More likely, they were in the front of the restaurant, watching employees, handling problems, and trying to answer the surveyor's questions *all at the same time*. In some cases, it is conceivable that these managers were interrupted from cooking burgers or frying chicken in order to handle the phone call from a surveyor for this study!

Without a photographic memory for the intricate details of payroll records, these managers couldn't possibly come up with accurate numbers off the top of their heads in such an environment. And in the case of assistant managers — who are almost always focused on front-line operations rather than scheduling, hiring, etc. — the surveyors were speaking with individuals who spend little (if any) time examining payroll records and “counting employees.” Apparently, the authors of the New Jersey study never even bothered to qualify the survey respondents to determine if they were giving their answers based on memory or on payroll records.

Clearly, the single inquiry Card and Krueger used to develop information on minimum wage employment was inadequate. In order to gain the proper information for this kind of analysis, the authors should have asked detailed questions about hours worked — how many hours worked by full-time workers, total hours worked in part-time positions, total hours worked by managers on non-management (e.g., front line) duties. And the questions should have included clear definitions of full- and part-time work.

With the comedy of errors outlined above, it is no wonder that the data used in the New Jersey study contain inexplicable fluctuations and bear little resemblance to the reality spelled out in actual payroll records. These serious mistakes and omissions have resulted in a catastrophically-flawed study doomed to become a textbook example of how *not* to collect data. More importantly, mistakes made when the study was designed more than three years ago will now force leading policymakers and economists to retract or revise positions that had been based on the “merits” of the New Jersey study.

...[I]t is no wonder that the data used in the New Jersey study contain inexplicable fluctuations and bear little resemblance to the reality spelled out in actual payroll records.

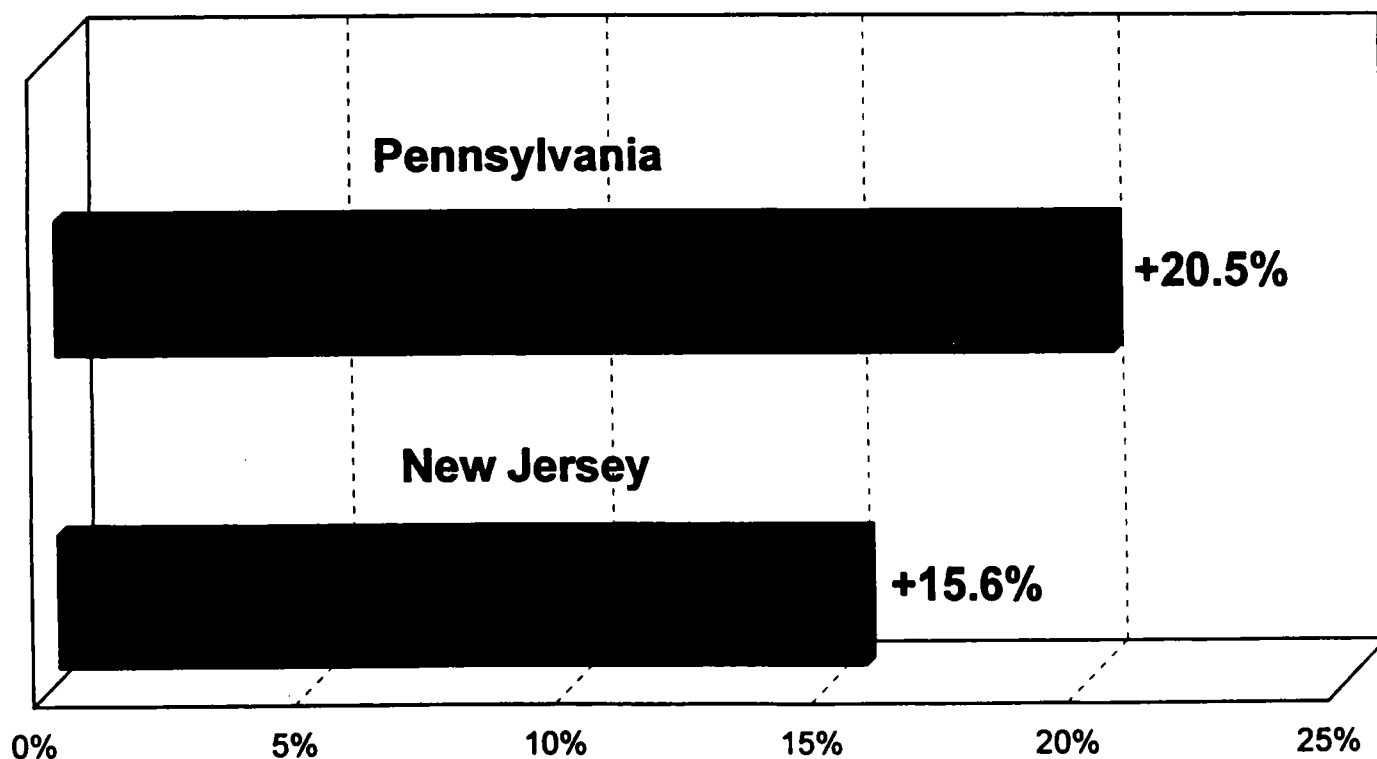
What Does the Correct Data Say?

When the Card-Krueger methodology of comparing New Jersey and Pennsylvania employment patterns is carried out using the correct payroll data, one finds significant job loss in New Jersey's fast food sector after the minimum wage hike. This result would be expected, given decades of research proving that higher mandated wages lead to fewer entry-level positions.

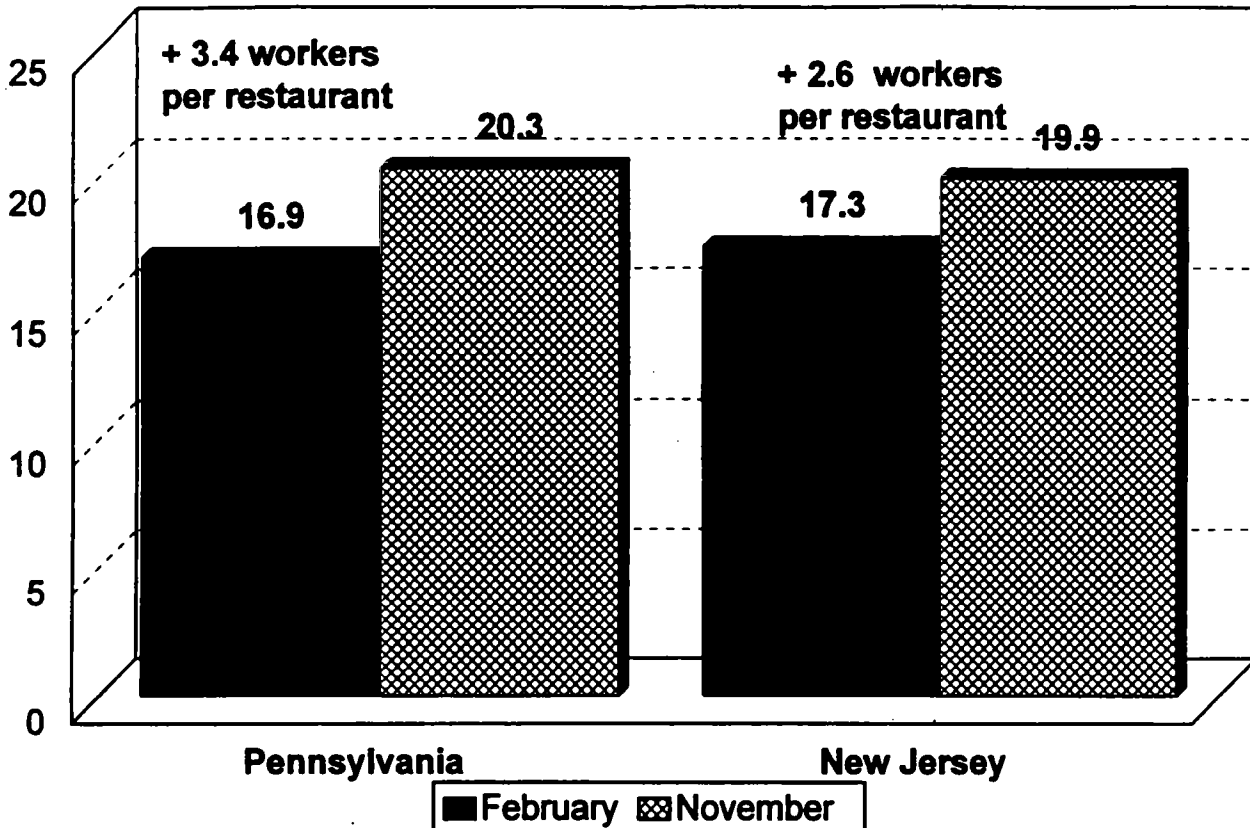
It is well-known that fast food restaurants in this region staff up for the holiday season towards the end of the year. These establishments experience a significant increase in sales as compared to February, when the first inquiry "baseline" was developed for the New Jersey study. The question — and the premise of the entire Card-Krueger analysis — is, did employment increase less in New Jersey than it would have if the minimum wage had not changed? The unequivocal answer: yes.

From February (a seasonal low point for employment) to November (a seasonal high point), the payroll data shows that employment grew *5% more* in Pennsylvania, where the minimum wage did not change, than in New Jersey. Card and Krueger argue forcefully that the only difference between the New Jersey and Pennsylvania economies was the higher minimum wage in New Jersey. Based on their own arguments, one must conclude that the higher minimum wage caused this 5% gap between the two states.

3. Seasonal Employment Changes from Payroll Data



4. Staffing up for the Holidays



As Graph 4 shows, staffing up for the holidays resulted in 3.4 additional employees per store in Pennsylvania but only 2.6 new workers per store in New Jersey — where the minimum wage had increased.

Senior policymakers in the U.S. Department of Labor — including Labor Secretary Reich and his chief economist, Alan Krueger — have previously concluded that the New Jersey study is the best work on the minimum wage in large part because it compares employment in New Jersey to a “control” state where the entry-level wage did not change. In fact, Card and Krueger make a strong case for this methodology in their new book. But Card and Krueger, using erroneous data, concluded that there was no job loss in New Jersey and that jobs declined in Pennsylvania (where the minimum wage stayed the same). Using the correct data and the Card-Krueger methodology, it is clear that employment declined in New Jersey *compared to Pennsylvania*.

Can These Findings Be Verified Independently?

The analysis outlined in this document has already been verified by independent economists. Michigan State University economist David Neumark and William Wascher, Senior Economist at the Board of Governors of the Federal Reserve System, have used data from payroll records to re-evaluate the Card-Krueger study.

The Neumark-Wascher findings⁸ are compelling:

First, the data collected by CK [Card and Krueger] indicate employment variation with standard deviations four to eight times larger than is observed in the payroll data, variation that, to us, seems implausibly large. Second, whereas CK's data imply that the New Jersey minimum wage increase led to an employment increase in New Jersey relative to the Pennsylvania control group, the payroll data imply that the minimum wage increase led to a 4.8 percent decline in New Jersey relative to the Pennsylvania control group...

... the payroll data raise doubts regarding the quality of CK's data, and suggest, contrary to CK's conclusion, that New Jersey's minimum wage increase had a negative effect on employment.

In addition to their analysis of the payroll data itself, Neumark and Wascher confirmed the zip code "blocks" used in the analysis above are representative of the Card-Krueger data set, so the conclusions can reasonably be applied to the entire Card-Krueger data set. And they found that using actual payroll data from only two of the four restaurant chains studied by Card and Krueger has little, if any, statistical impact on the conclusions.

Setting the Record Straight

The Card-Krueger New Jersey study has clearly — and unfortunately — worked its way into mainstream economic thought. However, as this document proves conclusively, the New Jersey study can no longer be cited in the debate over minimum wage increases and job loss. The statistical analysis in the New Jersey study is advanced and sophisticated, but the end result is clear: garbage in, garbage out. In the end, the employment-related analysis in the New Jersey study is little more than an academic exercise that carries no real-life implications. Clearly, the New Jersey report provides no "evidence" that would warrant throwing out decades of research measuring job loss after a mandated wage hike.

The record must be corrected. The minimum wage affects millions of entry-level employment opportunities and employees nationwide. It impacts labor costs across the country. Fortunately, the critical errors in this study have now been identified. If not for these stunning revelations, national policy on the minimum wage might have been set on the basis of worthless conclusions drawn from the catastrophically-flawed New Jersey report.

For more information on the New Jersey report or the minimum wage issue in general, please contact Carlos Bonilla or Thomas K. Dilworth of the Employment Policies Institute at 202-347-5178.

Notes

1. Card, David and Krueger, Alan. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania." *The American Economic Review*, September 1994, p. 776.
2. Quotes in this paragraph from Labor Secretary Robert Reich and senior Clinton advisor Laura D'Andrea Tyson are drawn from a February 3, 1995 White House press conference.
3. "Seeking Fairness," by Richard Gephardt, *Washington Times*, February 12, 1995.
4. "Is It Necessary to Raise the Minimum Wage?" by Jim Florio, *Los Angeles Daily News*, January 29, 1995. This article also appeared in the *Baltimore Evening Sun* on January 26, 1995, and the *York Daily Record* on January 25, 1995.
5. Card, David and Krueger, Alan. *Myth & Measurement*. Princeton University Press: Princeton, NJ 1995
6. In many cases, the authors of the New Jersey study failed to survey every restaurant in a given region. However, by obtaining payroll records for all franchised establishments and thereby "closing" zip code blocks, the Employment Policies Institute's analysis guarantees coverage of all units from those zip codes used in the New Jersey study.
7. In his January 24, 1995, State of the Union Address, President Clinton said, "...I've studied the arguments and the evidence for and against a minimum wage increase. I believe the weight of the evidence is that a modest increase does not cost jobs..."
8. Neumark's and Wascher's findings are summarized in a March 1995 paper entitled "The Effect of New Jersey's Minimum Wage Increase on Fast-Food Employment: A Re-Evaluation Using Payroll Records." The paper is available from the authors. Copies are also available through the Employment Policies Institute.

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Wednesday, February 15, 1995

50 YEARS OF RESEARCH ON THE MINIMUM WAGE

Introduction

For many years it has been a matter of conventional wisdom among economists that the minimum wage causes fewer jobs to exist than would be the case without it. This is simply a matter of price theory, taught in every economics textbook, requiring no elaborate analysis to justify. Were this not the case, there would be no logical reason why the minimum wage could not be set at \$10 or \$400 per hour.

Historically, defenders of the minimum wage have not disputed the disemployment effects of the minimum wage. Rather, they argued that there was a redistributive effect that left the working poor better off. In other words, the higher incomes of those with jobs offset the lower incomes of those without jobs, as a result of the minimum wage.¹

Now, the Clinton Administration is advancing the novel economic theory that modest increases in the minimum wage will have no impact whatsoever on employment. Some Administration officials have even hinted that raising the minimum wage can raise employment.

This proposition is based entirely on the work of three economists: David Card and Alan Krueger of Princeton, and Lawrence Katz of Harvard. Their studies of increases in the minimum wage in California, Texas and New Jersey apparently found no loss of jobs among fast food restaurants that were surveyed before and after the increase.²

It is not yet clear how or why Card, Katz and Krueger got the results that they did. It is clear, however, that their findings are directly contrary to virtually every empirical study ever done on the minimum wage. These studies were exhaustively surveyed by the Minimum Wage Study Commission, which concluded that a 10% increase in the minimum wage reduced teenage employment by 1% to 3%.

The following survey of the academic research on the minimum wage is designed to give nonspecialists a sense of just how isolated the Card, Krueger and Katz studies are. It will also indicate that the minimum wage has wide-ranging negative effects that go beyond unemployment. For example, higher minimum wages encourage employers to cut back on training, thus depriving low wage workers of an important means of long-term advancement, in return for a small increase in current income. For many workers this is a very bad trade-off, but one for which the law provides no alternative.

¹ See, for example, Levitan and Belous (1979).

² See Card (1992b), Card and Krueger (1994), and Katz and Krueger (1992).

Summary of Research on the Minimum Wage

- **The minimum wage reduces employment.**

Currie, Janet, and Fallick, Bruce. 1993. A Note on the New Minimum Wage Research. National Bureau of Economic Research Working Paper No. 4348 (April).

Gallasch, H.F., Jr. 1975. Minimum Wages and the Farm Labor Market. Southern Economic Journal, vol. 41 (January): 480-491.

Gardner, Bruce. 1981. What Have Minimum Wages Done in Agriculture? In Rottenberg (1981a): 210-232.

Peterson, John M. 1957. Employment Effects of Minimum Wages, 1938-50. Journal of Political Economy, vol. 65 (October): 412-430.

Peterson, John M., and Stewart, Charles T., Jr. 1969. Employment Effects of Minimum Wage Rates. Washington: American Enterprise Institute.

- **The minimum wage reduces employment more among teenagers than adults.**

Adie, Douglas K. 1973. Teen-Age Unemployment and Real Federal Minimum Wages. Journal of Political Economy, vol. 81 (March/April): 435-441.

Brown, Charles; Gilroy, Curtis; and Kohen, Andrew. 1981a. Effects of the Minimum Wage on Youth Employment and Unemployment. In Minimum Wage Study Commission (1981), vol. 5, pp. 1-26.

Brown, Charles; Gilroy, Curtis; and Kohen, Andrew. 1981b. Time-Series Evidence of the Effect of the Minimum Wage on Teenage Employment and Unemployment. In Minimum Wage Study Commission (1981), vol. 5, pp. 103-127.

Fleisher, Belton M. 1981. Minimum Wage Regulation in Retail Trade. Washington: American Enterprise Institute.

Hammermesh, Daniel S. 1982. Minimum Wages and the Demand for Labor. Economic Inquiry, vol. 20 (July): 365-380.

Meyer, Robert H., and Wise, David A. 1981. Discontinuous Distributions and Missing Persons: The Minimum Wage and Unemployed Youth. In Minimum Wage Study Commission (1981), vol. 5, pp. 175-201.

Meyer, Robert H., and Wise, David A. 1983a. The Effects of the Minimum Wage on the Employment and Earnings of Youth. Journal of Labor Economics, vol. 1 (January): 66-100.

Minimum Wage Study Commission. 1981. Report, 7 vols. Washington: U.S. Government Printing Office.

Neumark, David, and Wascher, William. 1992. Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws. Industrial and Labor Relations Review, vol. 46 (October): 55-81.

Ragan, James F., Jr. 1977. Minimum Wages and the Youth Labor Market. Review of Economics and Statistics, vol. 59 (May): 129-136.

Vandenbrink, Donna C. 1987. The Minimum Wage: No Minor Matter for Teens. Economic Perspectives, Federal Reserve Bank of Chicago, vol. 11 (March/April): 19-28.

Welch, Finis. 1974. Minimum Wage Legislation in the United States. Economic Inquiry, vol. 12 (September): 285-318.

Welch, Finis. 1978. Minimum Wages: Issues and Evidence. Washington: American Enterprise Institute.

Welch, Finis, and Cunningham, James. 1978. Effects of Minimum Wages on the Level and Age Composition of Youth Employment. Review of Economics and Statistics, vol. 60 (February): 140-145.

- **The minimum wage reduces employment most among black teenage males.**

Al-Salam, Nabeel; Quester, Aline; and Welch, Finis. 1981. Some Determinants of the Level and Racial Composition of Teenage Employment. In Rottenberg (1981a): 124-154.

Iden, George. 1980. The Labor Force Experience of Black Youth: A Review. Monthly Labor Review, vol. 103 (August): 10-16.

Mincer, Jacob. 1976. Unemployment Effects of Minimum Wages. Journal of Political Economy, vol. 84 (August): S87-S104.

Moore, Thomas G. 1971. The Effect of Minimum Wages on Teenage Unemployment Rates. Journal of Political Economy, vol. 79 (July/August): 897-902.

Ragan, James F., Jr. 1977. Minimum Wages and the Youth Labor Market. Review of Economics and Statistics, vol. 59 (May): 129-136.

Williams, Walter. 1977a. Government Sanctioned Restraints that Reduce Economic Opportunities for Minorities. Policy Review (Fall): 7-30.

Williams, Walter. 1977b. Youth and Minority Unemployment. Study prepared for the Joint Economic Committee, U.S. Congress. Joint Committee Print, 95th Congress, 1st session. Washington: U.S. Government Printing Office.

- **The minimum wage helped South African whites at the expense of blacks.**

Bauer, P.T. 1959. Regulated Wages in Under-developed Countries. In The Public Stake in Union Power, ed. Philip D. Bradley. Charlottesville, VA: University of Virginia Press, 324-349.

- **The minimum wage hurts blacks generally.**

Behrman, Jere R.; Sickles, Robin C.; and Taubman, Paul. 1983. The Impact of Minimum Wages on the Distributions of Earnings for Major Race-Sex Groups: A Dynamic Analysis. American Economic Review, vol. 73 (September): 766-778.

Linneman, Peter. 1982. The Economic Impacts of Minimum Wage Laws: A New Look at an Old Question. Journal of Political Economy, vol. 90 (June): 443-469.

- **The minimum wage hurts the unskilled.**

Krumm, Ronald J. 1981. The Impact of the Minimum Wage on Regional Labor Markets. Washington: American Enterprise Institute.

- **The minimum wage hurts low wage workers.**

Brozen, Yale. 1962. Minimum Wage Rates and Household Workers. Journal of Law and Economics, vol. 5 (October): 103-109.

Cox, James C., and Oaxaca, Ronald L. 1982. The Political Economy of Minimum Wage Legislation. Economic Inquiry, vol. 20 (October): 533-555.

Gordon, Kenneth. 1981. The Impact of Minimum Wages on Private Household Workers. In Rottenberg (1981a): 191-209.

- **The minimum wage hurts low wage workers particularly during cyclical downturns.**

Kosters, Marvin, and Welch, Finis. 1972. The Effects of Minimum Wages on the Distribution of Changes in Aggregate Employment. American Economic Review, vol. 62 (June): 323-332.

Welch, Finis. 1974. Minimum Wage Legislation in the United States. Economic Inquiry, vol. 12 (September): 285-318.

- **The minimum wage increases job turnover.**

Hall, Robert E. 1982. The Minimum Wage and Job Turnover in Markets for Young Workers. In The Youth Labor Market Problem: Its Nature, Causes, and Consequences, ed. Richard B. Freeman and David A. Wise, pp. 475-497. Chicago: University of Chicago Press.

- **The minimum wage reduces average earnings of young workers.**

Meyer, Robert H., and Wise, David A. 1983b. Discontinuous Distributions and Missing Persons: The Minimum Wage and Unemployed Youth. Econometrica, vol. 51 (November): 1677-1698.

- **The minimum wage drives workers into uncovered jobs, thus lowering wages in those sectors.**

Brozen, Yale. 1962. Minimum Wage Rates and Household Workers. Journal of Law and Economics, vol. 5 (October): 103-109.

Tauchen, George E. 1981. Some Evidence on Cross-Sector Effects of the Minimum Wage. Journal of Political Economy, vol. 89 (June): 529-547.

Welch, Finis. 1974. Minimum Wage Legislation in the United States. Economic Inquiry, vol. 12 (September): 285-318.

- **The minimum wage reduces employment in low-wage industries, such as retailing.**

Cotterman, Robert F. 1981. The Effects of Federal Minimum Wages on the Industrial Distribution of Teenage Employment. In Rottenberg (1981a): 42-60.

Douty, H.M. 1960. Some Effects of the \$1.00 Minimum Wage in the United States. Economica, vol. 27 (May): 137-147.

Fleisher, Belton M. 1981. Minimum Wage Regulation in Retail Trade. Washington: American Enterprise Institute.

Hammermesh, Daniel S. 1981. Employment Demand, the Minimum Wage and Labor Costs. In Minimum Wage Study Commission (1981), vol. 5, pp. 27-84.

Peterson, John M. 1981. Minimum Wages: Measures and Industry Effects. Washington: American Enterprise Institute.

- **The minimum wage hurts small businesses generally.**

Kaun, David E. 1965. Minimum Wages, Factor Substitution and the Marginal Producer. Quarterly Journal of Economics, vol. 79 (August): 478-486.

- **The minimum wage causes employers to cut back on training.**

Hashimoto, Masanori. 1981. Minimum Wages and On-the-Job Training. Washington: American Enterprise Institute.

Hashimoto, Masanori. 1982. Minimum Wage Effects on Training on the Job. American Economic Review, vol. 72 (December): 1070-1087.

Datcher, Linda P., and Loury, Glenn C. 1981. The Effect of Minimum Wage Legislation on the Distribution of Family Earnings Among Blacks and Whites. In Minimum Wage Study Commission (1981), vol. 7, pp. 125-146.

Johnson, William R., and Browning, Edgar K. 1981. Minimum Wages and the Distribution of Income. In Minimum Wage Study Commission (1981), vol. 7, pp. 31-58.

Kohen, Andrew I., and Gilroy, Curtis L. 1981. The Minimum Wage, Income Distribution, and Poverty. In Minimum Wage Study Commission (1981), vol. 7, pp. 1-30.

- **The minimum wage helps unions.**

Linneman, Peter. 1982. The Economic Impacts of Minimum Wage Laws: A New Look at an Old Question. Journal of Political Economy, vol. 90 (June): 443-469.

Cox, James C., and Oaxaca, Ronald L. 1982. The Political Economy of Minimum Wage Legislation. Economic Inquiry, vol. 20 (October): 533-555.

- **The minimum wage lowers the capital stock.**

McCulloch, J. Huston. 1981. Macroeconomic Implications of the Minimum Wage. In Rottenberg (1981a): 317-326.

- **The minimum wage increases inflationary pressure.**

Adams, F. Gerard. 1987. Increasing the Minimum Wage: The Macroeconomic Impacts. Briefing Paper, Economic Policy Institute (July).

Brozen, Yale. 1966. Wage Rates, Minimum Wage Laws, and Unemployment. New Individualist Review, vol. 4 (Spring): 24-33.

Gramlich, Edward M. 1976. Impact of Minimum Wages on Other Wages, Employment, and Family Incomes. Brookings Papers on Economic Activity (No. 2): 409-461.

Grossman, Jean B. 1983. The Impact of the Minimum Wage on Other Wages. Journal of Human Resources, vol. 18 (Summer): 359-378.

- **The minimum wage increases teenage crime rates.**

Hashimoto, Masanori. 1987. The Minimum Wage Law and Youth Crimes: Time-Series Evidence. Journal of Law and Economics, vol. 30 (October): 443-464.

Phillips, Llad. 1981. Some Aspects of the Social Pathological Behavior Effects of Unemployment among Young People. In Rottenberg (1981a): 174-190.

- **The minimum wage encourages employers to hire illegal aliens.**

Beranek, William. 1982. The Illegal Alien Work Force, Demand for Unskilled Labor, and the Minimum Wage. Journal of Labor Research, vol. 3 (Winter): 89-99.

- **Few workers are permanently stuck at the minimum wage.**

Brozen, Yale. 1969. The Effect of Statutory Minimum Wage Increases on Teenage Employment. Journal of Law and Economics, vol. 12 (April): 109-122.

Smith, Ralph E., and Vavrichek, Bruce. 1992. The Mobility of Minimum Wage Workers. Industrial and Labor Relations Review, vol. 46 (October): 82-88.

- **The minimum wage has had a massive impact on unemployment in Puerto Rico.**

Freeman, Alida Castillo, and Freeman, Richard B. 1991. Minimum Wages in Puerto Rico: Textbook Case of a Wage Floor? National Bureau of Economic Research Working Paper No. 3759 (June).

Rottenberg, Simon. 1981b. Minimum Wages in Puerto Rico. In Rottenberg (1981a): 327-339.

- **The minimum wage has reduced employment in foreign countries.**

Forrest, David. 1982. Minimum Wages and Youth Unemployment: Will Britain Learn from Canada? Journal of Economic Affairs, vol. 2 (July): 247-250.

Corbo, Vittorio. 1981. The Impact of Minimum Wages on Industrial Employment in Chile. In Rottenberg (1981a): 340-356.

Gregory, Peter. 1981. Legal Minimum Wages as an Instrument of Social Policy in Less Developed Countries, with Special Reference to Costa Rica. In Rottenberg (1981a): 377-402.

Rosa, Jean-Jacques. 1981. The Effect of Minimum Wage Regulation in France. In Rottenberg (1981a): 357-376.

- **Characteristics of minimum wage workers.**

Employment Policies Institute. 1994. The Low-Wage Workforce. Washington: Employment Policies Institute.

Haugen, Steven E., and Mellor, Earl F. 1990. Estimating the Number of Minimum Wage Workers. Monthly Labor Review, vol. 113 (January): 70-74.

Kniesner, Thomas J. 1981. The Low-Wage Workers: Who Are They? In Rottenberg (1981a): 459-481.

Mellor, Earl F. 1987. Workers at the Minimum Wage or Less: Who They Are and the Jobs They Hold. Monthly Labor Review, vol. 110 (July): 34-38.

Mellor, Earl F., and Haugen, Steven E. 1986. Hourly Paid Workers: Who They Are and What They Earn. Monthly Labor Review, vol. 109 (February): 20-26.

Smith, Ralph E., and Vavrichuk, Bruce. 1987. The Minimum Wage: Its Relation to Incomes and Poverty. Monthly Labor Review, vol. 110 (June): 24-30.

Van Giezen, Robert W. 1994. Occupational Wages in the Fast-Food Industry. Monthly Labor Review, vol. 117 (August): 24-30.

ORIGINAL SURVEY INSTRUMENT

THE CARD-KRUEGER NEW JERSEY FAST FOOD STUDY

As supplied by David Card and Alan Krueger

Fast Food Restaurant Survey
January-March 1992

Restaurant Information

Chain: Burger King ____ KFC ____ Roy Rogers ____ Wendy's ____

Location: _____ NJ ____ PA ____

Phone Number: _____ Note if changed: _____

Date: _____

Callbacks # 1 _____

2 _____

3 _____

Hello, may I please speak to the manager or assistant manager?

I'm conducting a survey for economists at Princeton University on the effects of the Minimum Wage in the restaurant industry. The survey will only take a few minutes and your answers will be kept strictly confidential. Would you mind answering a few questions about your restaurant?

Refused _____

Asked to call back? When: _____

Otherwise continue to question 1.

1. How many full-time and part-time workers are employed in your restaurant, excluding managers and assistant managers?

Number full-time: _____

Number part-time: _____

2. And how many managers and assistant managers? _____

3. What percent of your workers are teenagers? _____ percent.
4. What is the average starting wage rate for a nonmanagement employee at your restaurant today?
 _____ (\$ per hour) _____ the minimum wage
5. Is it the same starting rate for full-time and part-time workers?
 Yes: _____
 Otherwise: full-time employees: _____ (\$ per hour)
 part-time employees: _____ (\$ per hour)
- 6a. Do new employees at your restaurant usually receive a raise after some time on the job?
 No: _____ Go to question 7.
 Yes: _____ Then ask
- b. About how many weeks do they typically have to work until that raise?
 _____ weeks
- c. And how much is the usual raise? _____ (\$ per hour)
7. Do you have any special programs to recruit new workers, such as free bus fare or a bonus to an employee who recruits a new worker?
 No programs _____
 Bus fare or other transportation assistance _____
 Bonus for employee who recruits a new worker _____
 Other _____
- 8a. Are there any employees in your restaurant who receive a training wage of less than \$4.25 per hour?
 No: _____ Go to question 9.
 Yes: _____ Then ask
- What percent of employees earn less than \$4.25 per hour: _____

9. About what percent of your full-time and part-time employees are currently earning between \$4.25 and \$5.00 per hour? Not the managers and assistant managers: just the non-management employees.

_____ percent.

10. Do you provide employees with a free or reduced price meal?

No: _____

Yes, free meals _____

Yes, reduced-price meals _____

11. About what percent of your employees have been working at the restaurant for over 6 months?

_____ Percent

12. About what percent have been working at the restaurant for over a year?

_____ Percent

13. What are your hours for a typical weekday (Monday to Thursday)?

Open from _____ to _____

14. And what are your hours on Saturday?

Open from _____ to _____

- 

Interviewer check

____ restaurant in Pennsylvania. Go to END

____ restaurant in New Jersey. Go to 22.

NEW JERSEY ONLY

22. The New Jersey minimum wage is scheduled to rise to \$5.05 per hour on April 1. Have you heard about this increase?

No _____

Yes _____

23. Will you have to raise the wages of some of your employees to comply with the new law?

No _____

Yes _____

24. Would you say this rise in the minimum wage will have a big effect on your costs of business, a small effect, or something in between?

Big effect _____

Small effect _____

In Between _____

END OF INTERVIEW:

Thanks for your assistance.

Fast Food Restaurant Survey
October 1992

Restaurant Information

Chain: Burger King ____ KFC ____ Roy Rogers ____ Wendy's ____

Location: _____ NJ ____ PA ____

Phone Number: _____

Date: _____

First Call: ____ Disconnect ____ No Answer ____ Busy

Callbacks # 1 _____

2 _____

3 _____

Check store type: ____ Same as OR: _____
as above

Hello. May I please speak to the manager or assistant manager?

I'm conducting a survey for economists at Princeton University on the minimum wage in the restaurant industry. We spoke to you early last year and we'd like to follow up on any changes since then. The survey will only take a few minutes and your answers will be kept strictly confidential. Would you mind answering a few questions about your restaurant?

Refused _____

Asked to call back? When: _____

1. How many full-time and part-time workers are employed in your restaurant, excluding managers and assistant managers?

Number full-time: _____

Number part-time: _____

2. And how many managers and assistant managers? _____

- 3a. Do you have any teenage employees (that is, less than 20 years old)?

No: ____ Go to question 4. Yes: ____ Then ask

b. About how many full-time teenagers: _____

c. About how many part-time teenagers: _____

4. What is the average starting wage rate for a nonmanagement employee at your restaurant today?

_____ (\$ per hour) _____ minimum wage

if response is "minimum" VERIFY

\$5.05 in NJ _____

\$4.25 in PA _____

5. Is it the same starting rate for full-time and part-time workers?

Yes: _____

Otherwise: full-time employees: _____ (\$ per hour)

part-time employees: _____ (\$ per hour)

- 6a. Do new employees at your restaurant usually receive a raise after some time on the job?

No: _____ Go to question 7.

Yes: _____ Then ask

- b. About how many weeks do they typically have to work until that raise?

_____ weeks

- c. And how much is the usual raise? _____ (\$ per hour)

7. Do you have any special programs to recruit new workers, such as free bus fare or a bonus to an employee who recruits a new worker?

No programs _____

Bus fare or transportation assistance _____

Bonus for employee who recruits a new worker _____

Other (explain) _____

8. Do you provide employees with a free or reduced price meal?

No: _____ Yes, free meals _____ Yes, reduced-price meals _____

9. About what percent of your employees have been working at the restaurant for over 6 months?

_____ Percent

10. About what percent have been working at the restaurant for over a year?

_____ Percent

11. What are your hours for a typical weekday (Monday to Thursday)?

Open from _____ to _____

12. And what are your hours on Saturday?

Open from _____ to _____

Now I have a few questions on prices in your store.

13. What is the price of a medium soda: _____ with tax _____ without tax _____

14. What is the price of a small order of fries: _____ with tax _____ without tax _____

- 15a. Ask for Burger King, Roy Rogers, or Wendy's Only

What is the price of a regular hamburger: _____ with tax _____ without tax _____

- 15b. Ask for KFC Only

What is the price of 2 pieces of chicken: _____ with tax _____ without tax _____

Or equivalent entree (specify): _____

16. How many cash registers are in your store? _____ (number)

17. How many (of these cash registers) do you usually have open at 11:00 am?

All of them _____ OR number open _____

END OF INTERVIEW: Thanks.

Code Book for New Jersey-Pennsylvania Data Set

Note: there are 410 observations in the data set

Name:	<u>Column Location</u>		Format	Explanation
	Start	End		
SHEET	1	3	3.0	sheet number (unique store id)
CHAIN	5	5	1.0	chain 1=bk; 2=kfc; 3=roys; 4=wendys
CO_OWNED	7	7	1.0	1 if company owned
STATE	9	9	1.0	1 if NJ; 0 if Pa
ZIP13	17	19	3.0	first 3 digits of zip
SHORE	21	21	1.0	1 if on NJ shore
<u>First Interview</u>				
NCALLS	23	24	2.0	number of call-backs*
EMPFT	26	30	5.2	# full-time employees
EMPPT	32	36	5.2	# part-time employees
NMGRS	38	42	5.2	# managers/ass't managers
WAGE_ST	44	48	5.2	starting wage (\$/hr)
INCTIME	50	54	5.1	months to usual first raise
FIRSTINC	56	60	5.2	usual amount of first raise (\$/hr)
BONUS	62	62	1.0	1 if cash bounty for new workers
PCTAFF	64	68	5.1	% employees affected by new minimum
MEALS	70	70	1.0	free/reduced price code (See below)
OPEN	72	76	5.2	hour of opening
HRSOPEN	78	82	5.2	number hrs open per day
PSODA	84	88	5.2	price of medium soda, including tax
PFRY	90	94	5.2	price of small fries, including tax
PENTREE	96	100	5.2	price of entree, including tax
NREGS2	102	103	2.0	number of cash registers in store
NREGS11	105	106	2.0	number of registers open at 11:00 am
<u>Second Interview</u>				
TYPE2	108	108	1.0	type 2nd interview 1=phone; 2=personal
STATUS2	110	110	1.0	status of second interview: see below
DATE2	112	117	6.0	date of second interview MMDDYY format
NCALLS2	119	120	2.0	number of call-backs*
EMPFT2	122	126	5.2	# full-time employees
EMPPT2	128	132	5.2	# part-time employees
NMGRS2	134	138	5.2	# managers/ass't managers
WAGE_ST2	140	144	5.2	starting wage (\$/hr)
INCTIME2	146	150	5.1	months to usual first raise
FIRSTIN2	152	156	5.2	usual amount of first raise (\$/hr)
SPECIAL2	158	158	1.0	1 if special program for new workers
MEALS2	160	160	1.0	free/reduced price code (See below)
OPEN2R	162	166	5.2	hour of opening
HRSOPEN2	168	172	5.2	number hrs open per day
PSODA2	174	178	5.2	price of medium soda, including tax
PFRY2	180	184	5.2	price of small fries, including tax
PENTREE2	186	190	5.2	price of entree, including tax
NREGS2	192	193	2.0	number of cash registers in store
NREGS112	195	196	2.0	number of registers open at 11:00 am

Codes:

Free/reduced Meal Variable:

- 0 = none
- 1 = free meals
- 2 = reduced price meals
- 3 = both free and reduced price meals

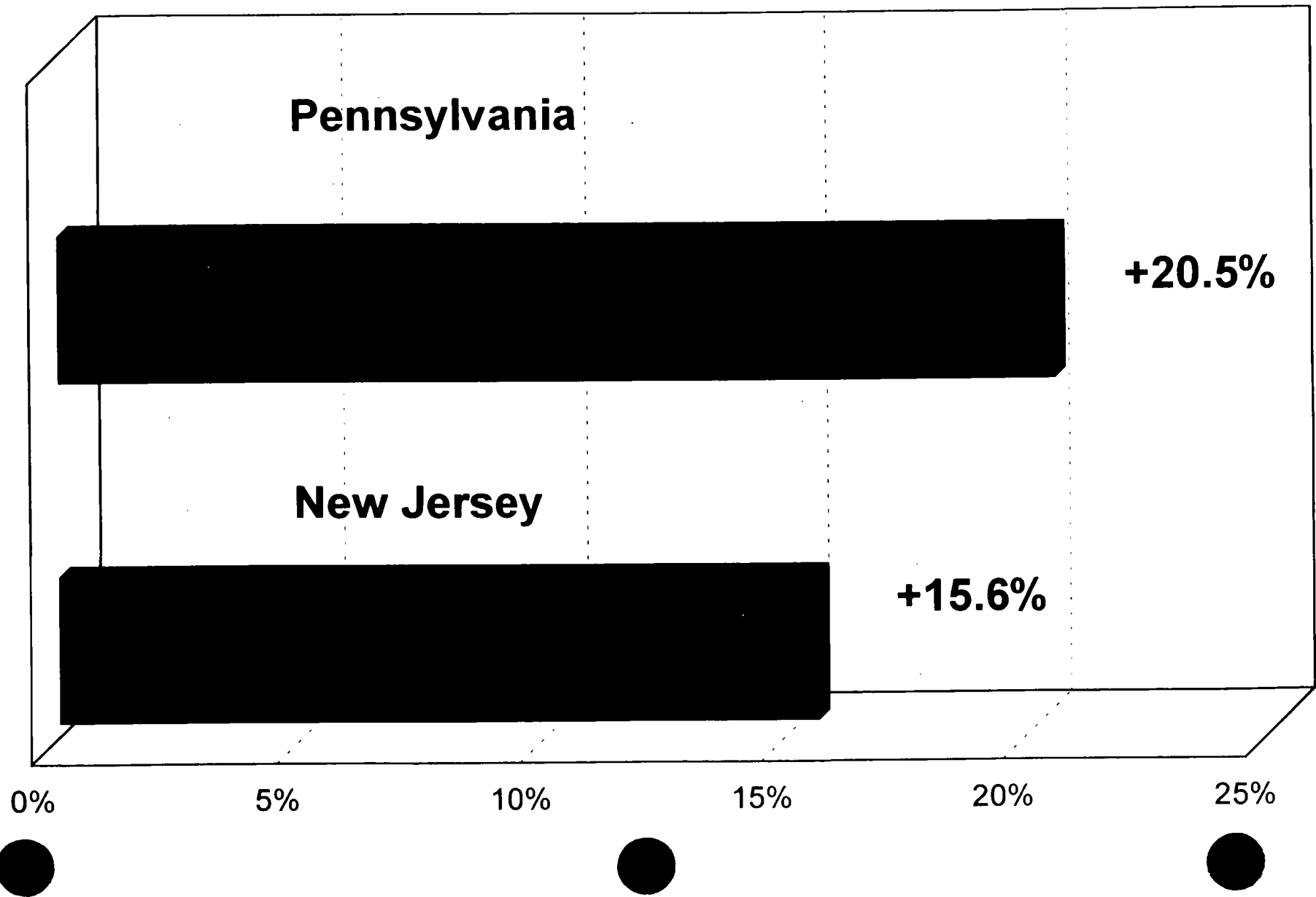
Second Interview Status

- 0 = refused second interview (count = 1)
- 1 = answered 2nd interview (count = 399)
- 2 = closed for renovations (count = 2)
- 3 = closed "permanently" (count = 6)
- 4 = closed for highway construction (count = 1)
- 5 = closed due to Mall fire (count = 1)

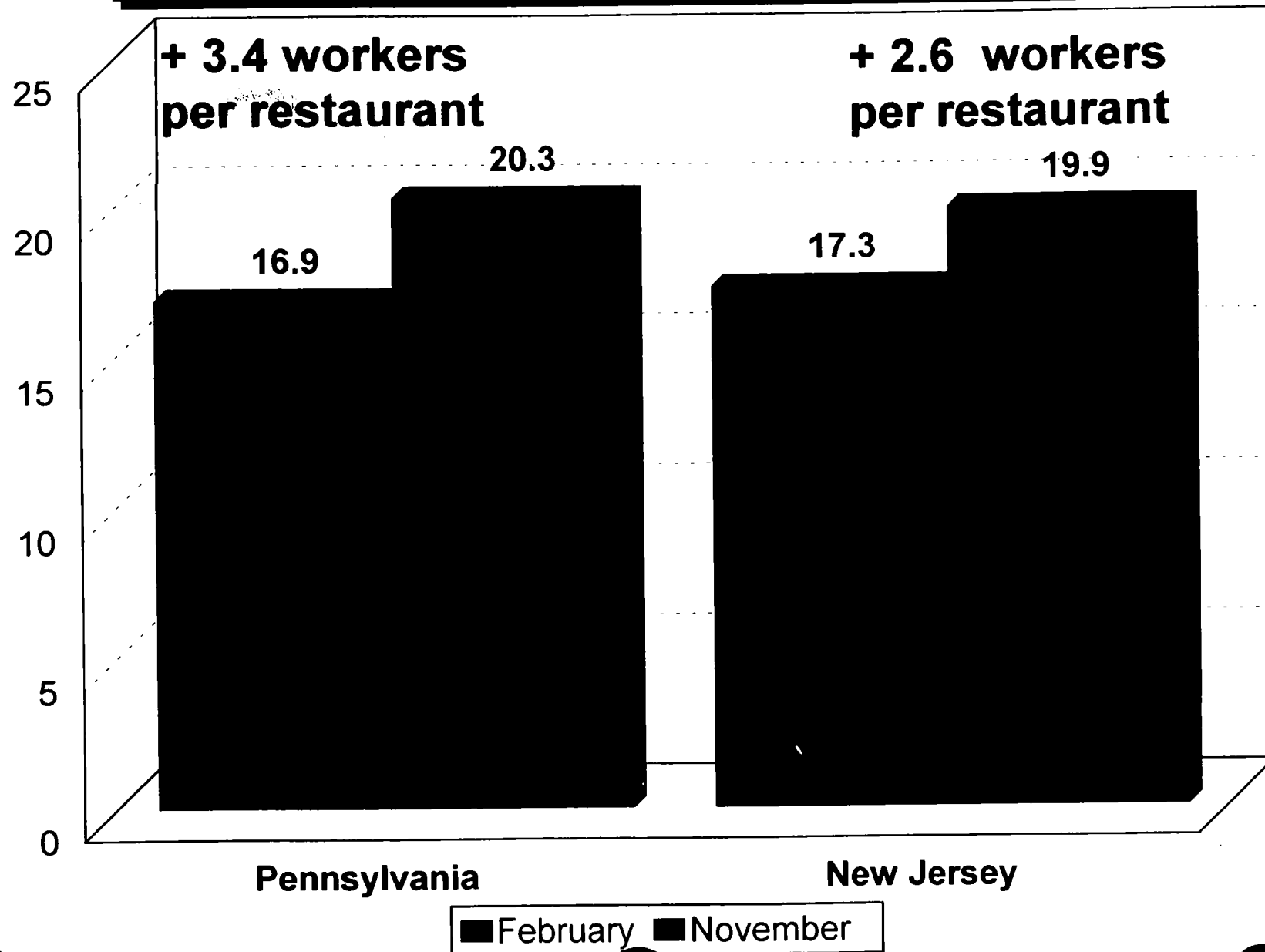
*Note: number of call-backs = 0 if contacted on first call

	Feb. '92 FT/PT	Nov. '92 FT/PT
Wendy's in 072xx	0 / 30	35 / 30
Burger King in 080XX	6.5 / 20	30 / 25
Kentucky Fried Chicken in 082XX	0 / 11	22 / 4
Wendy's in 185XX	30 / 10	0 / 30
Roy Rogers in 189XX	27 / 12	0 / 30
Kentucky Fried Chicken in 075XX	0 / 7	14 / 0
Kentucky Fried Chicken in 070XX	0 / 22	25 / 15

Seasonal Employment Changes from Payroll Data



Staffing up for the Holidays





THE EMPLOYMENT POLICIES INSTITUTE FOUNDATION

The Employment Policies Institute is a non-profit research organization dedicated to expanding employment opportunities at all levels of America's economy. In particular, EPI believes that entry-level positions often provide the best job-training and education programs that many Americans, especially young Americans and those seeking to move from welfare to work, can have. By ensuring that these entry-level opportunities are preserved for those seeking a port of entry into the workforce, America can make substantial improvements in both unemployment and long term productivity.

The Institute dedicates most of its resources to educating the media, Congress, and the public about issues affecting entry-level employment. Past research efforts have focused on (among other topics) mandated health insurance, the minimum wage, and the value of part-time employment. Institute contributors represent a cross-section of manufacturers and retailers across the country.

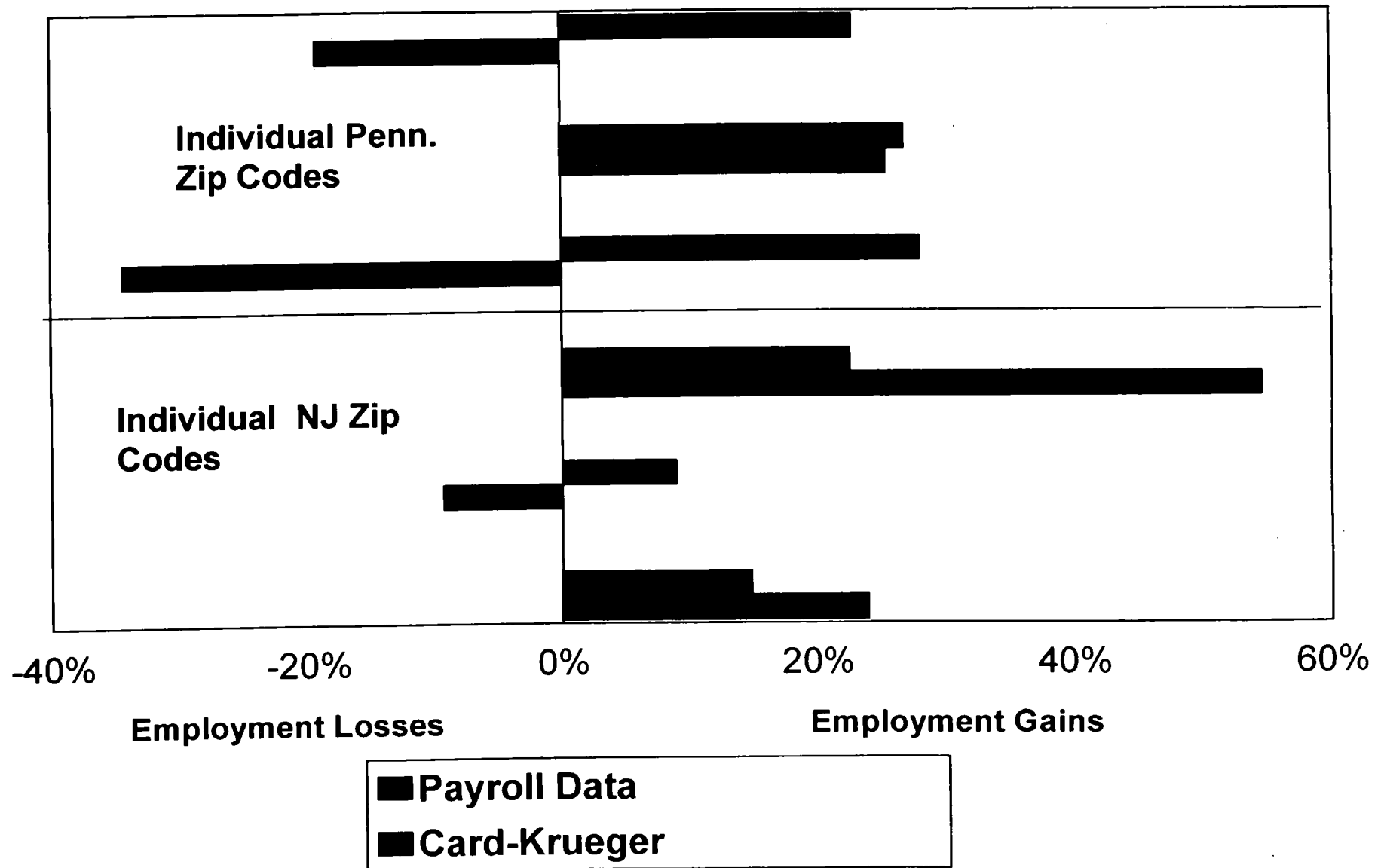
The Institute has an aggressive research program underway. Noted academics from major research universities are engaged in sponsored empirical research focusing on several issues surrounding entry-level employment. Among other topics, this includes: income growth among entry-level employees; the role of Federal wage policy in welfare reform; comparing the anti-poverty effectiveness of the Earned Income Tax Credit to that of higher minimum wages; how better skilled workers crowd out the less skilled when the minimum wage rises; and the long term benefits of early work experience.

A list of recent reports is located on the reverse side

RECENT PUBLICATIONS

- Jobs Taken by Mothers Moving from Welfare to Work: And the Effects of Minimum Wages on this Transition**, by Peter D. Brandon, Institute for Research on Poverty, University of Wisconsin — Madison, February 1995.
- Minimum Wage Laws and the Distribution of Employment**, by Kevin Lang, Boston University, January 1995.
- The Low-Wage Workforce**. Statistical analysis of the low-wage workforce from the 1992 *Current Population Survey*. December 1994.
- Mandates in Employment: A History of Added Burdens on the Unskilled**, by Simon Rottenberg, University of Massachusetts, Amherst, August 1994.
- The Use of Strike Replacement in Union Contract Negotiations: Experience from the U.S. and Canada**, by Peter Cramton, University of Maryland, and Joseph S. Tracy, Columbia University, May 1994.
- The Effects of High School Work Experience on Future Economic Attainment**, by Christopher J. Ruhm, University of North Carolina at Greensboro, May 1994.
- The Early Careers of Non-College-Bound Men**, by Jeff Grogger, University of California, Santa Barbara, May 1994.
- Effects of the Employer Mandate in the Clinton Health Plan**, by June E. O'Neill and Dave M. O'Neill, Baruch College, City University of New York, March 1994.
- The Effect of Recent Increases in the U.S. Minimum Wage on the Distribution of Income**, by John T. Addison and McKinley Blackburn, University of South Carolina at Columbia, March 1994.
- Public Policies for the Working Poor: The Earned Income Tax Credit vs. Minimum Wage Legislation**, by Richard V. Burkhauser, Syracuse University, and Andrew J. Glenn, Vanderbilt University, March 1994.
- The Impact of a Health Insurance Mandate on Labor Costs and Employment**, by June E. O'Neill and Dave M. O'Neill, Baruch College, City University of New York, September 1993.
- Health Insurance Benefits and Income Support for Poor Families: Report on National Survey of Leading Economists**. Conducted by the University of New Hampshire Survey Center, this survey presents overwhelming agreement among economists on the effects of mandated health insurance or a higher minimum wage. June 1993.
- The Minimum Wage and the Employment of Teenagers: Recent Research**, by Bruce Fallick, University of California-Los Angeles, and Janet Currie, Massachusetts Institute of Technology, June 1993.
- The Employment Effect in Retail Trade of a Minimum Wage: Evidence from California**, by Lowell J. Taylor, Carnegie Mellon University, June 1993.
- The Minimum Wage: Good Social Policy?** A landmark guide to understanding the minimum wage, Employment Policies Institute, April 1993.
- Employment Effects of Minimum and Subminimum Wages: Recent Evidence**, by David Neumark, University of Pennsylvania, February 1993.
- Higher Wages, Greater Poverty: Trapping Americans in Poverty**, by Carlos E. Bonilla, Employment Policies Institute. Examination of the interaction between minimum wage hikes, earnings, transfer and tax programs in California, February 1992.
- Survey of Service Employees**, prepared by Frederick/Schneiders Inc. Survey of current and former hospitality industry employees, exploring the development of important job skills, February 1992.

Employment Changes



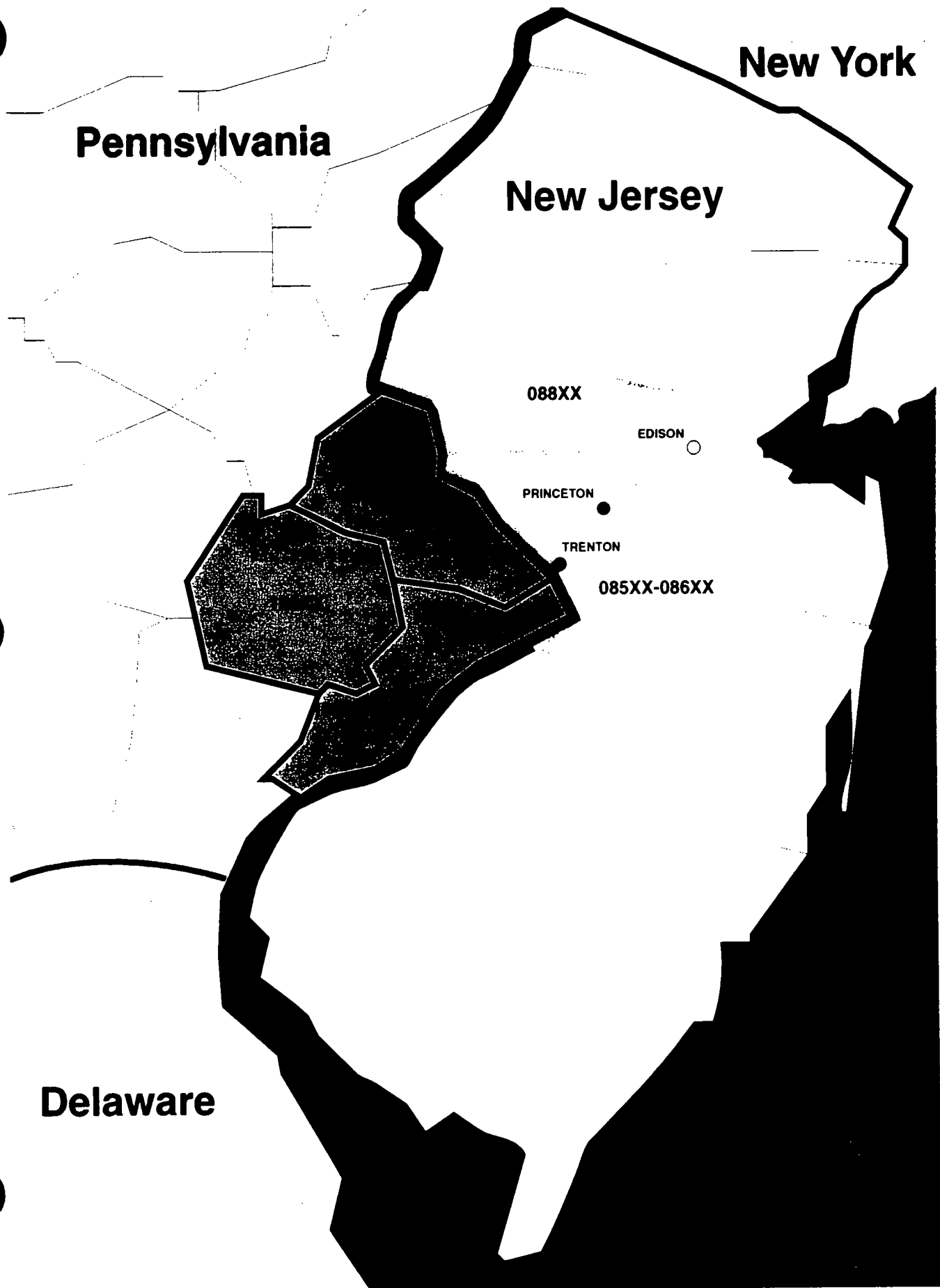
The Card-Krueger Survey.

What it asked.

How many full-time and part-time workers are employed in your restaurant, excluding managers and assistant managers?

What it didn't ask.

- What is full-time employment in your restaurant?
- How many non-management workers meet that definition?
- Total full-time hours worked?
 - This shift?
 - Today?
 - This pay period?
- How many employees work less than full-time hours?
- Total part-time hours worked?
 - This shift?
 - Today?
 - This pay period?
- How many hours do managers and assistant managers spend on non-management duties?



New York

Pennsylvania

New Jersey

088XX

EDISON

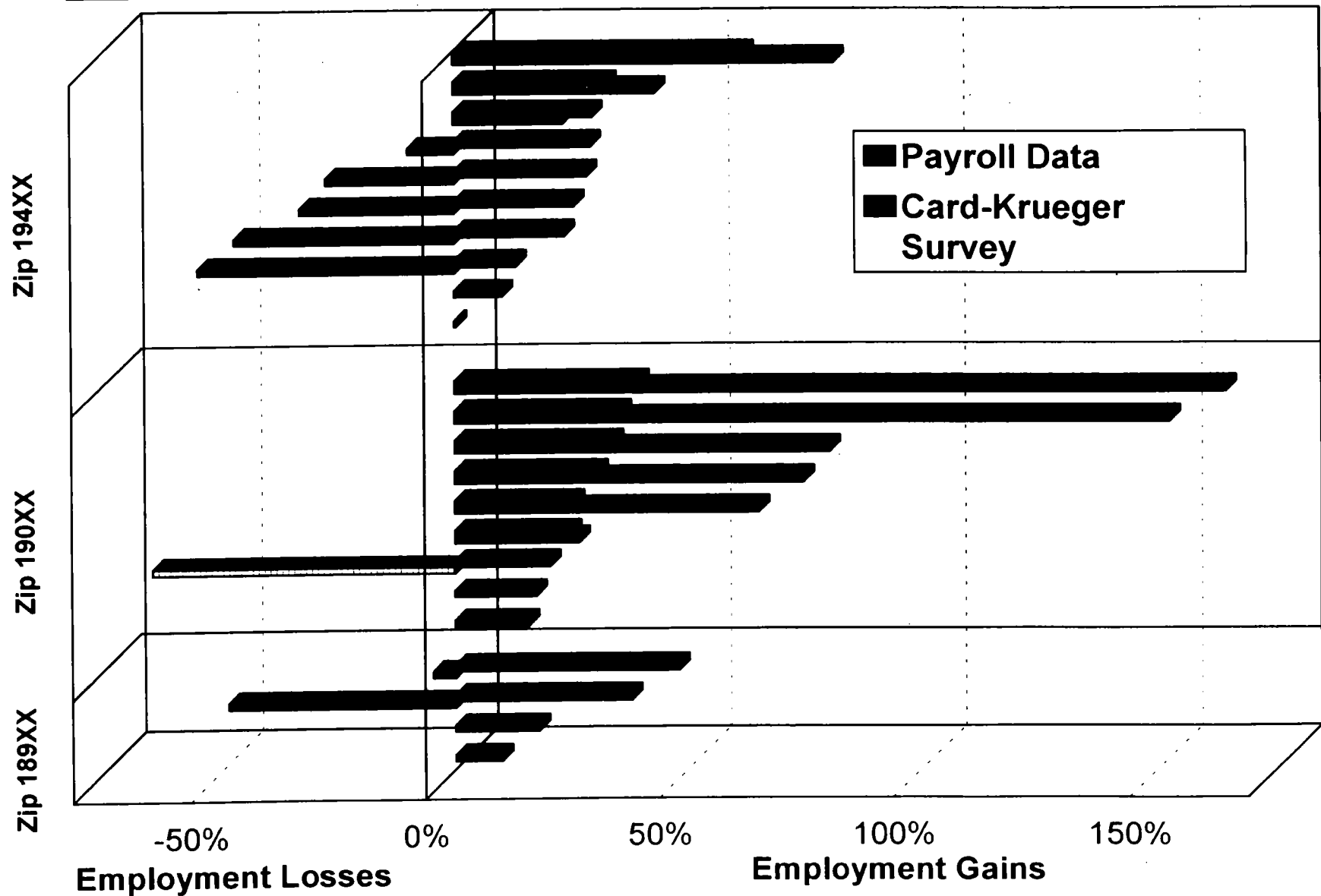
PRINCETON

TRENTON

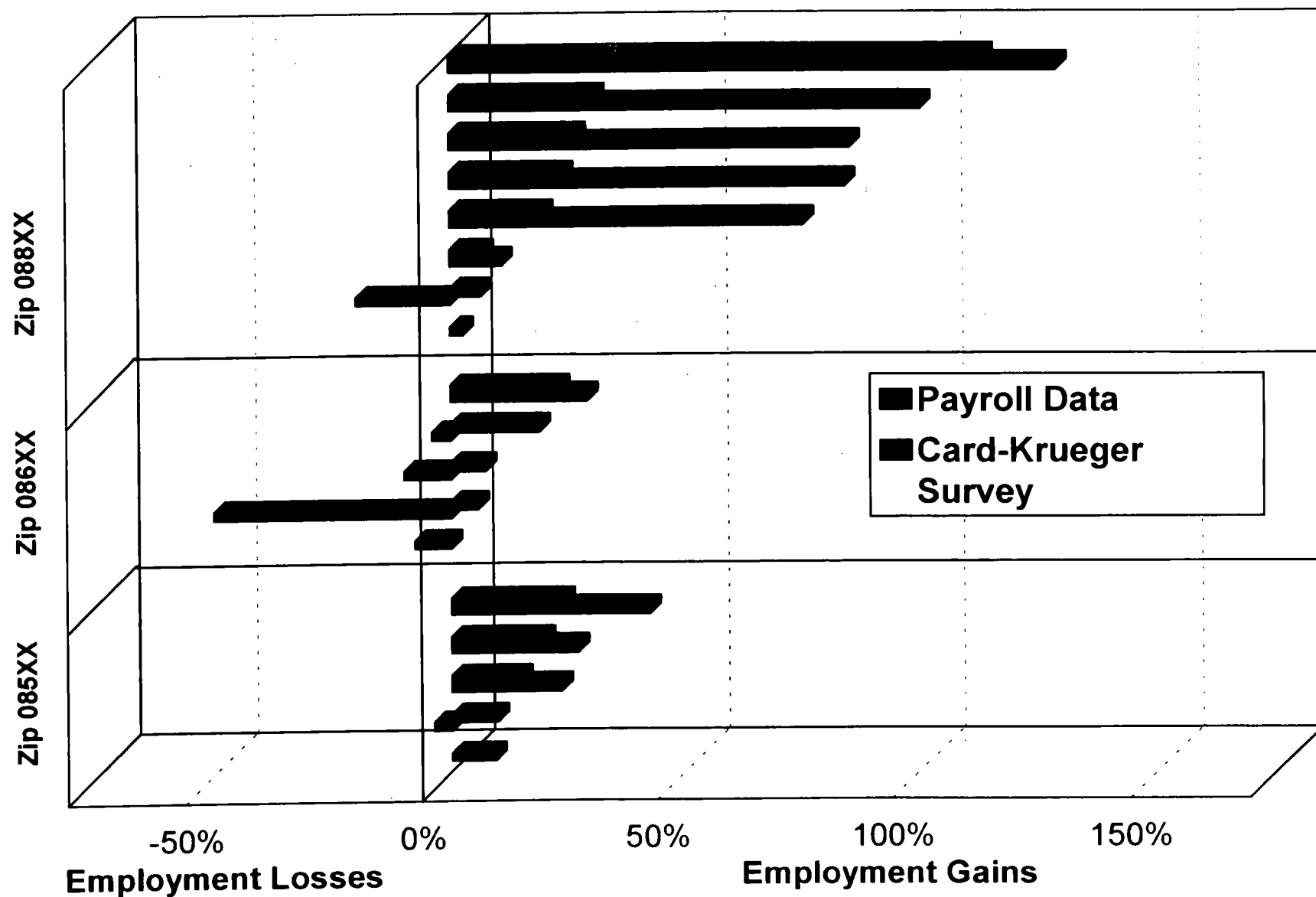
085XX-086XX

Delaware

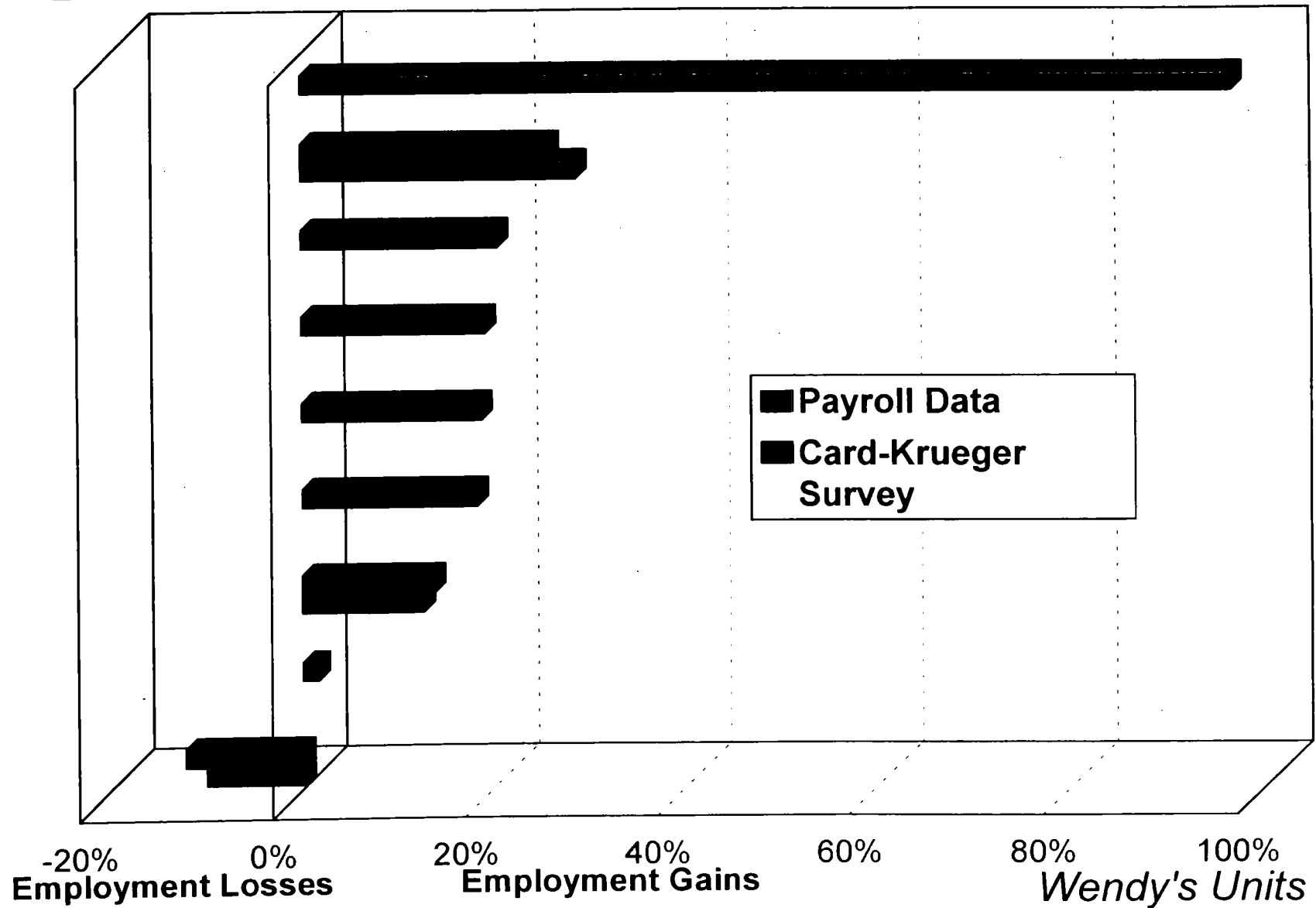
Card-Krueger vs. Payroll Data: Penn.



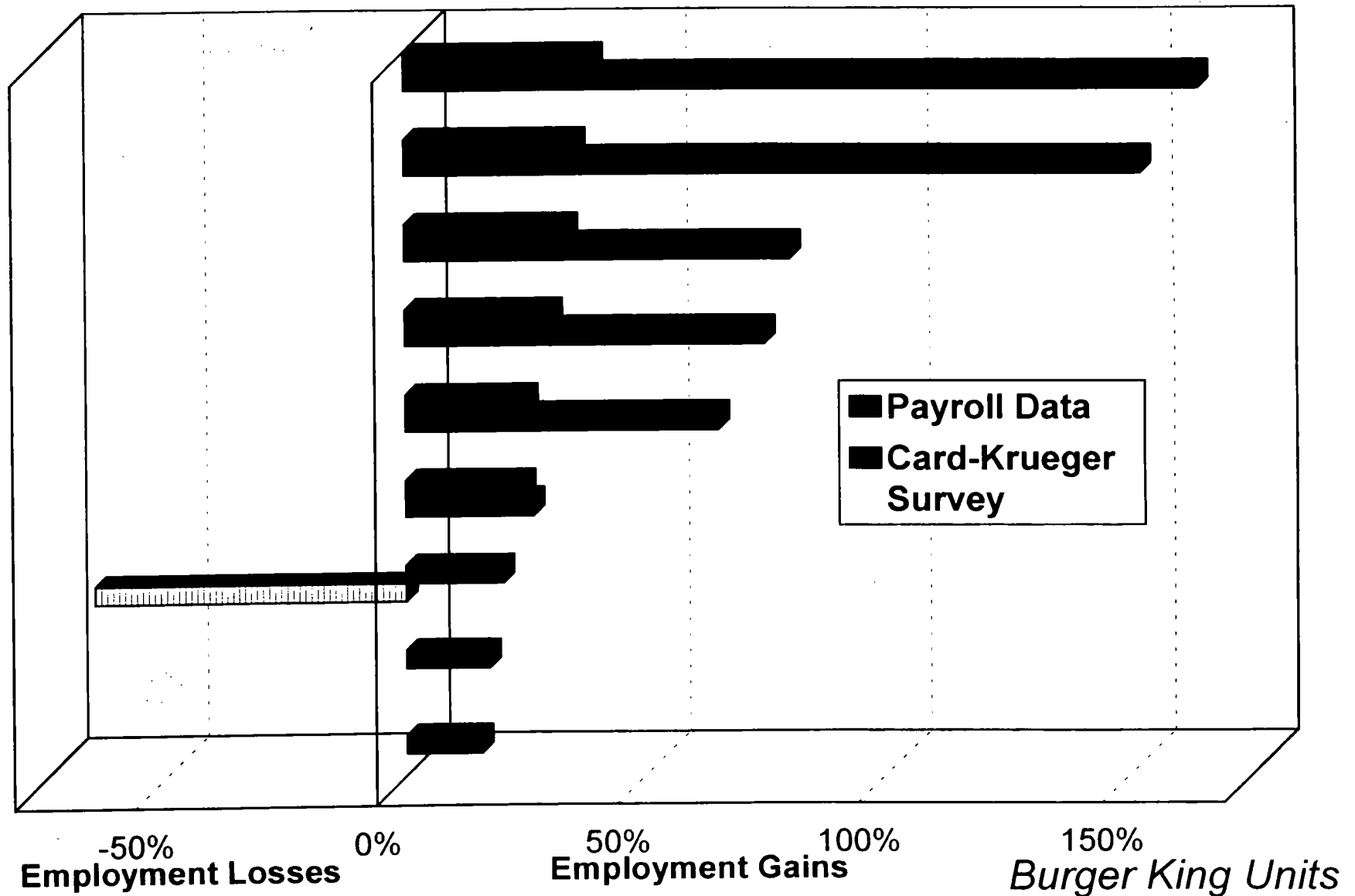
Card-Krueger vs. Payroll Data: N.J.



Card-Krueger vs. Payroll Data (088XX)



Card-Krueger vs. Payroll Data (199XX)



Pennsylvania

New Jersey

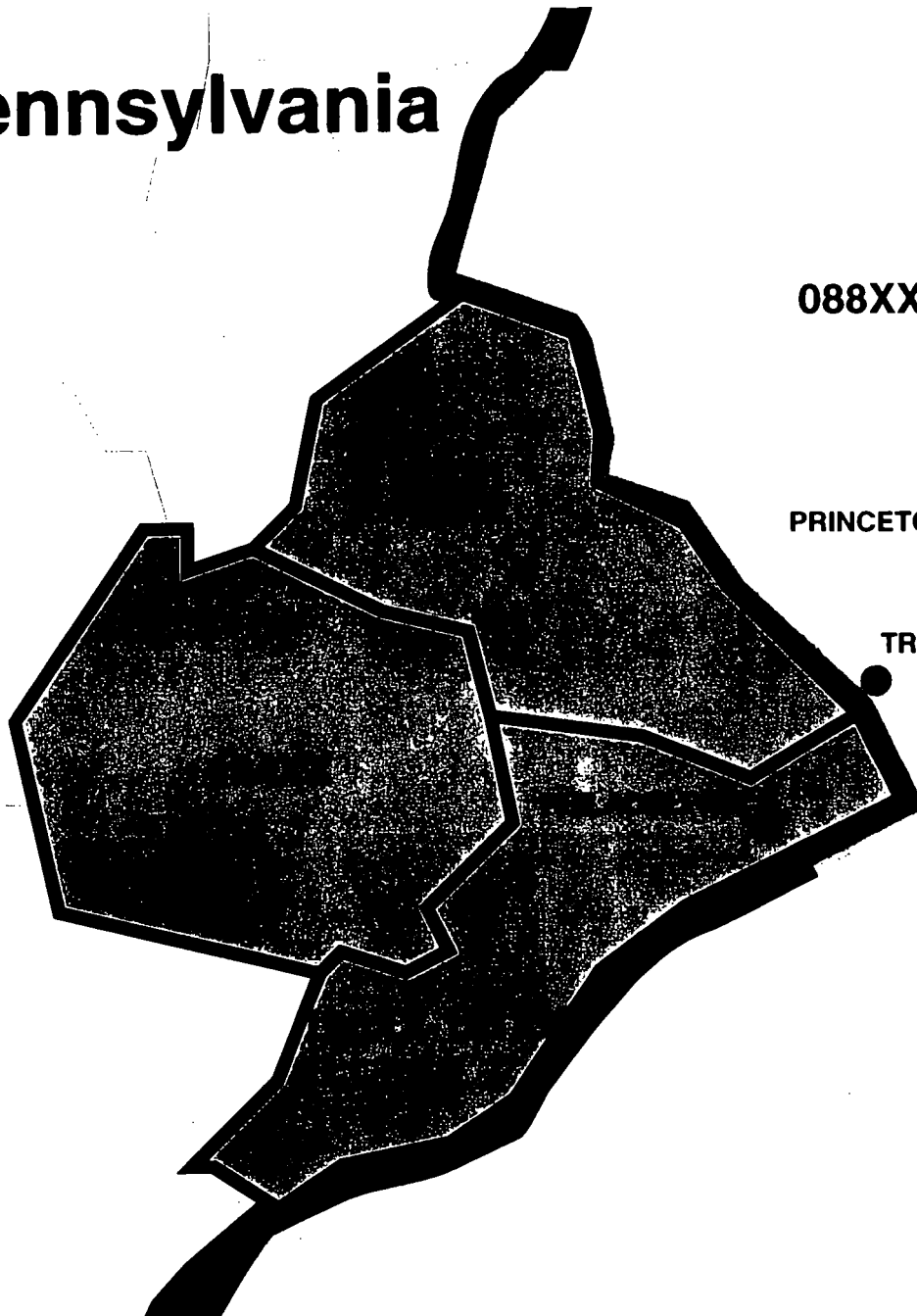
088XX

EDISON

PRINCETON

TRENTON

085XX-086XX



THE CLINTON ADMINISTRATION ON THE NEW JERSEY FAST FOOD STUDY

Dr. Alan Krueger, Labor Department Chief Economist and Princeton University Co-author of the Fast Food study, before the Joint Economic Committee, 2/22/95

"In a number of studies -- I think the best one -- compared New Jersey and Pennsylvania. What we did was to conduct a survey of fast food restaurants in New Jersey, as well as along the border of Pennsylvania. New Jersey raised its minimum wage to \$5.05 an hour on April 1, 1992, giving New Jersey the highest minimum wage in the country. And what we expected to find was when we re-interviewed these restaurants about eight months later, what we expected to find was that employment would decline -- fast food restaurants have extremely high turnover, it's very easy for them to adjust their employment due to attrition. And what we found was rather surprising...what we found was, in fact, employment fared better in New Jersey than it did in Pennsylvania."

Dr. Laura D'Andrea Tyson, Chairman of the Council of Economic Advisers, and Labor Secretary Robert Reich, at a White House press conference, 2/3/95

TYSON: *"...you have to look at the empirical evidence, I'm just telling you what the evidence is. I mean, we have a series of studies here, it's not like we're going on this -- we're taking this course -- without looking at the evidence very carefully. The evidence is overwhelming. What's happened here is that we have a whole new set of research, and so the theory that somehow an increase in the minimum wage might affect employment is now at odds with the empirical evidence -- the empirical evidence doesn't support that."*

REICH: *"If I could just add one thing -- there are a number of studies, one study that I find particularly persuasive, and again the studies have looked at minimum wage increases, the effects of minimum wage increases on employment, but in New Jersey, in 1992, the minimum wage was hiked, in New Jersey, from the federal \$4.25 up to \$5.05, and a very exhaustive, detailed study was taken of businesses that hired minimum wage workers along the border between New Jersey and Eastern Pennsylvania, that did not hike the minimum wage kept it at \$4.25. It actually turned out that those businesses in New Jersey began hiring more than the businesses in Pennsylvania -- it actually increased job growth."*

President Bill Clinton, State of the Union Address, 1/24/95

"Now, I've studied the arguments and the evidence for and against a minimum wage increase. I believe the weight of the evidence is that a modest increase does not cost jobs, and may even lure people back into the job market."

MEDIA COVERAGE OF THE CARD-KRUEGER STUDY

"A study that examined the impact of an increase in the minimum wage in New Jersey in 1992 has caused a great stir in recent months among labor economists. The Princeton University study, conducted by David Card and Alan Krueger, who is now the Labor Department's chief economist, compared hiring practices in 437 fast-food restaurants in southern New Jersey and neighboring eastern Pennsylvania. New Jersey was increasing its statewide minimum wage at the time; Pennsylvania was not. Automation did not follow, nor did layoffs. Rather, the number of jobs in New Jersey restaurants grew as the wage rose."

-- *Los Angeles Times*, 1/26/95

"...[N]ow a clutch of bright young economists is challenging their profession's conventional wisdom. And, it seems, they have the president's ear. This is unsurprising, for one of the heretics, Alan Krueger of Princeton, works in the administration... Within the administration, Mr. Reich's case has been bolstered by the work collected in a forthcoming book by Mr. Krueger and a colleague at Princeton, David Card, which argues that there is little evidence of any job losses from increases in the minimum wage."

-- *The Economist*, 1/21/95

"...[U]ntil recently, there was still nearly unanimous agreement among economists that any [minimum wage] increase would cost jobs. Mr. Card and Mr. Krueger have never been excessively respectful of received wisdom, though. And their own research ... has blown gaping holes in the consensus."

-- *The New York Times*, 2/2/95

"In the most compelling study, Card and Krueger surveyed 437 fast-food restaurants in New Jersey and nearby eastern Pennsylvania in the Spring of 1992 at a time when New Jersey was raising the state's minimum wage. If economic theory was right ... the New Jersey restaurants should see a decline in fast-food employment ... However, it didn't work out quite that way..."

-- *The Washington Post*, 1/11/95

Also reprinted in:

*The Newark Star-Ledger, The Cleveland Plain Dealer,
The Seattle Times, The Arizona Republic*

"In their most influential study, Card and Krueger surveyed more than 400 fast-food restaurants in New Jersey, which raised its minimum to \$5 an hour in 1992, and in adjacent eastern Pennsylvania, which did not. To their surprise, employment actually grew in New Jersey relative to Pennsylvania."

-- *San Francisco Chronicle*, 1/25/95

"...[A] rash of new studies says [the] textbook model just isn't so. One in particular was authored by Alan Krueger, now chief economist at the Labor Department, and Princeton economist David Card. When New Jersey raised its state minimum wage in 1992, Card and Krueger found that the number of low-wage jobs in fast-food restaurants actually went up."

-- *Chicago Tribune*, 1/29/95

"Contrary to expectations (and economic theory), Card and Krueger found that employment in New Jersey rose after the minimum wage was increased."

-- *The Boston Globe*, 1/29/95

"One widely talked-about study, co-authored by Alan Krueger, now the Labor Department's chief economist, and Princeton's David Card, found the number of low-wage jobs in New Jersey's fast-food restaurants actually went up when the state raised its minimum wage. At the same time, jobs actually shrank next door in Pennsylvania where the minimum wage stayed the same.

-- *The Detroit News*, (Tribune Media Services), 2/5/95

"Professor Card's research papers have had a way of jumping from ivory-tower academic journals to front pages and television news programs... Card's best-known works are studies suggesting that raising the minimum wage may not prompt employers to cut back on their hiring of minimum-wage workers, contradicting what most economists have long believed. These results have figured heavily in the current debate on whether to increase the minimum wage."

-- *The New York Times*, 3/21/95

"...[A] new and comprehensive study by two Princeton University economists rebuts the conventional wisdom... Card and Krueger found that employment in New Jersey actually expanded after that state hiked its minimum wage..."

-- *The Detroit News*, 1/30/95

"...[A] new study by two labor economists at Princeton University on the effect of the higher minimum wage on employment in [N.J.]'s fast-food restaurants -- one of the major employers of young workers who earn the minimum wage -- suggests that it has not been a significant deterrent to hiring... Washington is also watching New Jersey's experience with the higher minimum wage as the Clinton Administration tries to decide how hard to lean on employers as a route for delivering benefits to working Americans."

-- *The New York Times*, 3/20/93

"...[A] distinguished group of US economists has examined the effects of recent changes in state and federal minimum wages. Their results have turned conventional wisdom upside down... The most compelling survey was conducted by Krueger, now chief economist at the US Labor Department, in conjunction with Card... The U.S. evidence is overwhelming: increasing minimum wages to a tolerable level in low-wage labour markets does not cost jobs, and can even increase employment."

-- *The Financial Times*, 9/30/94

"Some -- among them new House Majority Leader Richard Armey of Texas -- say raising the minimum wage will reduce jobs, though a recent study by David Card and Alan Krueger, two Princeton economists, undercuts this idea. Card and Krueger found that total jobs often rise as the minimum wage rises..."

-- *Los Angeles Times*, (bylined column) 2/12/95

"One frequently cited study compared employment at fast-food restaurants in New Jersey and neighboring Pennsylvania after New Jersey raised its minimum wage to \$5.05 an hour, while Pennsylvania's remained at \$4.25. It found that low-wage employment in New Jersey actually increased slightly despite the minimum wage hike."

-- *Knight-Ridder*, 1/29/95

"[Minority Whip David] Bonior said that recent studies have concluded that such a raise [in the minimum wage] 'won't cost us jobs.' He cited a 1993 study by economists David Card of Princeton University and Alan Krueger (then also of Princeton) showing that a minimum wage increase resulted in modest job creation in fast food restaurants in Pennsylvania and New Jersey."

-- *The Bureau of National Affairs*, 2/15/95

"Contrary to the claims of the opponents of a minimum-wage boost, the economists -- David Card and Alan B. Krueger -- found that employment in the New Jersey outlets actually went up more than in comparable restaurants on the Pennsylvania side of the border corridor."

-- *The San Diego Union-Tribune*, 3/12/95

"The most recent [study] came out just last month after New Jersey raised its minimum wage and 437 fast-food restaurants were asked what effect this had on their employment. Would you believe that they actually hired more employees? Why would they lay off when they are selling more hamburgers? That's the magic of the minimum wage."

-- *The San Antonio Express-News*, 2/5/95

"New findings by labor economists have weakened the chief argument against an increase, namely that it will cost jobs. Data collected from employers after minimum-wage increases in New Jersey and California suggest that job loss does not necessarily follow and that a higher minimum wage would benefit some industries by reducing job turnover and luring more workers into the workforce."

-- *The [Minneapolis] Star Tribune*, 2/5/95

CARD-KRUEGER FINDINGS

Minimum Wages and Employment: A Case Study of the Fast Food Industry in New Jersey and Pennsylvania

*David Card and Alan Krueger
American Economic Review, September 1994.*

"We believe that a control group of fast food stores in Eastern Pennsylvania forms a natural basis for comparison with the experiences of restaurants in New Jersey." (p.773)

"...seasonal patterns of employment are similar in New Jersey and Eastern Pennsylvania." (p.773)

"Despite the increase in wages, full-time-equivalent employment *increased* in New Jersey relative to Pennsylvania." (p.776)

"...we find no evidence that the rise in New Jersey's minimum wage reduced employment at fast food restaurants in the state." (p.792)

"...we find that the increase in the minimum wage increased employment." (p.792)

A full copy of the New Jersey Fast Food Study can be obtained from the:

American Economic Association
2014 Broadway, Suite 305
Nashville, TN 37203
(615) 322-2595

FOR IMMEDIATE RELEASE

CONTACT: John Doyle
(202) 347-5178

**CRIPPLING FLAWS IN NEW JERSEY MINIMUM WAGE STUDY REVEALED;
ADMINISTRATION'S WAGE INCREASE PLAN BUILT ON 'WORTHLESS' REPORT**

WASHINGTON, DC (March 29, 1995) -- The Clinton administration's proposal to raise the minimum wage is based on a catastrophically-flawed "study" that relies on numbers which have just been proven grossly inaccurate, according to a new report released today by the Employment Policies Institute.

The New Jersey study, which measured the impact of New Jersey's minimum wage increase on fast-food restaurant employment, has been cited repeatedly by senior administration officials, most notably Labor Secretary Robert Reich, as evidence that a minimum wage increase won't cause job loss. The results of the New Jersey report have also been cited as fact by leading news organizations across the country. The study, conducted by two Princeton economists and published last year, was based on telephone interviews with restaurant managers.

"The new evidence released today proves the New Jersey study is dead wrong and based on poorly collected data," said Richard Berman, executive director of the Institute. "In fact, the employment numbers used in the New Jersey study bear no relation to the real payroll records of the very same restaurants examined in the study."

(more)

Speaking at a news conference on Capitol Hill, Berman noted several examples of "wild employment shifts" in the New Jersey survey data, including:

- A Wendy's restaurant which, according to the New Jersey data, had no full-time employees in February 1992 but jumped to 35 full-timers after a minimum wage hike;
- A Roy Rogers restaurant in Eastern Pennsylvania which reported 27 full-time employees in February but *zero* full-time workers in November; and
- A New Jersey Kentucky Fried Chicken restaurant which reported only seven part-time employees in February, but had 14 *full-time* and no part-time employees after the minimum wage increase.

According to the Institute report, when the actual payroll records are analyzed, one finds job losses in New Jersey resulting from the minimum wage hike, rather than the job gains reported in the New Jersey study.

"Secretary Reich -- the nation's leading proponent of a minimum wage hike -- has called this a 'particularly persuasive' study and has cited it on numerous occasions, including in Congressional testimony. But the facts show this study is nothing more than a sophisticated academic exercise in analyzing badly flawed data, with no implications for real life," said Berman.

"It's important to note that when the techniques employed in the New Jersey study are coupled with the actual payroll data they detect the same job loss predicted by research over the last 50 years.

"If not for the Institute's revelations, Clinton Administration policy on the minimum wage might have been based on the worthless conclusions drawn from the New Jersey report."

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The Employment Policies Institute is a non-profit research organization dedicated to studying issues surrounding entry-level employment.

SURVEY DATA

THE CARD-KRUEGER NEW JERSEY FAST FOOD STUDY

*As supplied by David Card and Alan Krueger and
compiled by the Employment Policies Institute Foundation*

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Equivalent Employees Wave 1	Wave 2		
1	Burger King	180	30	15	3.5	35	37.5	21	-44%	
2	KFC	181	6.5	6.5	0	15	9.75	7.5	-23%	
3	KFC	189	3	7	3	7	6.5	6.5	0%	
4	Wendys	181	20	20	0	36	30	18	-40%	
5	Wendys	180	6	26	28	3	19	29.5	55%	
6	Wendys	180	0	31	#N/A	#N/A	15.5	#N/A	#N/A	
7	Burger King	190	50	35	15	18	67.5	24	-64%	
8	Burger King	190	10	17	26	9	18.5	30.5	65%	
9	KFC	190	2	8	3	12	6	9	50%	
10	KFC	189	2	10	2	9	7	6.5	-7%	
11	Roy Rogers	190	2.5	20	1	25	12.5	13.5	8%	
12	Burger King	194	40	30	9	32	55	25	-55%	
13	Burger King	194	8	27	7	39	21.5	26.5	23%	
14	Burger King	194	10.5	30	18	10	25.5	23	-10%	
15	Burger King	194	6	9	5	20	10.5	15	43%	
16	KFC	194	5	17.5	15	4	13.75	17	24%	
17	KFC	194	1	15	4	13	8.5	10.5	24%	
18	Roy Rogers	194	10	6	6	20	13	16	23%	
19	Roy Rogers	194	20	13	5	15	26.5	12.5	-53%	
20	Roy Rogers	194	5	23	2	19	16.5	11.5	-30%	
21	Roy Rogers	194	10	12.5	2	18	16.25	11	-32%	
22	Roy Rogers	189	27	12	0	30	33	15	-55%	
23	Roy Rogers	194	4	28	8	20	18	18	0%	
24	Roy Rogers	194	10	15	10	10	17.5	15	-14%	
25	Wendys	194	0	28	0	31	14	15.5	11%	
26	Roy Rogers	190	3	16	5.5	10	11	10.5	-5%	
27	Roy Rogers	190	7	16	5	19	15	14.5	-3%	
28	Burger King	180	21	9	6	25	25.5	18.5	-27%	
29	Burger King	180	1	32	5	15	17	12.5	-26%	
30	Burger King	180	10	20	7	25	20	19.5	-3%	
31	Burger King	180	0	27	0	42	13.5	21	56%	
32	Burger King	181	17	4	0	22	19	11	-42%	
33	Burger King	181	0	24	11	12	12	17	42%	
34	Burger King	180	25	15	0	45	32.5	22.5	-31%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
35	Burger King	181	6	20	7.5	25	16	20	25%	
36	KFC	180	6	10	4	20	11	14	27%	
37	KFC	180	0	15	6	15	7.5	13.5	80%	
38	Wendys	180	30	10	7	18	35	16	-54%	
39	Wendys	181	8	25	0	28	20.5	14	-32%	
40	Wendys	181	0	15	0	16	7.5	8	7%	
41	Wendys	181	10	20	10	20	20	20	0%	
42	KFC	194	2	12	1	14	8	8	0%	
43	Burger King	186	20	25	0	48	32.5	24	-26%	
44	Burger King	185	20	55	25	10	47.5	30	-37%	
45	Burger King	184	10	30	0	42	25	21	-16%	
46	Burger King	185	15	50	19	29	40	33.5	-16%	
47	Burger King	185	1	37.5	0	32	19.75	16	-19%	
48	KFC	186	0	9	2	9	4.5	6.5	44%	
49	Wendys	184	0	25	0	30	12.5	15	20%	
50	Wendys	185	30	10	0	30	35	15	-57%	
51	Wendys	185	4	19	5	20	13.5	15	11%	
52	Wendys	185	12	20	10	35	22	27.5	25%	
53	Burger King	190	#N/A	#N/A	7	24	#N/A	19	#N/A	
54	Burger King	190	8	18	8	27	17	21.5	26%	
55	Burger King	190	0	25	15	15	12.5	22.5	80%	
56	Burger King	190	2	21	27.5	8	12.5	31.5	152%	
57	KFC	190	1	9	0	18	5.5	9	64%	
58	Roy Rogers	190	5	20	0	20	15	10	-33%	
59	Wendys	190	8	17.5	14	12	16.75	20	19%	
60	Burger King	194	25	20	12	23	35	23.5	-33%	
61	Burger King	194	37.5	2	8	25	38.5	20.5	-47%	
62	Burger King	194	5	27	26	15	18.5	33.5	81%	
63	Burger King	195	25	8	10	16	29	18	-38%	
64	Burger King	189	6	30	5	30	21	20	-5%	
65	Burger King	194	8	28	6	20	22	16	-27%	
66	Burger King	189	32	25	8	30	44.5	23	-48%	
67	KFC	194	1	9	4	12	5.5	10	82%	
68	Roy Rogers	194	4	25	0	0	16.5	0	-100%	3

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
69	Roy Rogers	194	2	16	4	15	10	11.5	15%	
70	Wendys	194	12	15	#N/A	#N/A	19.5	#N/A	#N/A	
71	Wendys	194	20	10	21	5.5	25	23.75	-5%	
72	Burger King	190	14	15	30	15	21.5	37.5	74%	
73	Burger King	190	7.5	14	35	6.5	14.5	38.25	164%	
74	Roy Rogers	190	7	25	2.5	17.5	19.5	11.25	-42%	
75	Roy Rogers	190	4	16	3	13	12	9.5	-21%	
76	Roy Rogers	191	5	20	23	16	15	31	107%	
77	Roy Rogers	190	6	22.5	2	12	17.25	8	-54%	
78	Burger King	186	2.5	20	0	12	12.5	6	-52%	
79	Burger King	182	2	30	3	23	17	14.5	-15%	
80	Burger King	88	0	22	2	40	11	22	100%	
81	Burger King	88	0	20	5	25	10	17.5	75%	
82	Roy Rogers	88	10	20	8	24	20	20	0%	
83	Roy Rogers	70	4.5	25.5	2	33	17.25	18.5	7%	
84	Burger King	79	0	25	26.5	10	12.5	31.5	152%	
85	KFC	77	0	13	1	15	6.5	8.5	31%	
86	Wendys	77	30	20	0	25	40	12.5	-69%	
87	Burger King	70	#N/A	10	16	6	#N/A	19	#N/A	
88	Burger King	70	0	34	23	22	17	34	100%	
89	Wendys	82	20	10	28	10	25	33	32%	
90	Wendys	82	0	14	8	12	7	14	100%	
91	Burger King	72	0	35	0	35	17.5	17.5	0%	
92	Roy Rogers	70	15	15	6	20	22.5	16	-29%	
93	Wendys	72	0	30	35	30	15	50	233%	
94	Burger King	80	5	19	4.5	20	14.5	14.5	0%	
95	Burger King	80	9	10	7	13	14	13.5	-4%	
96	Burger King	76	0	45	30	20	22.5	40	78%	
97	Roy Rogers	85	2	2	5	2	3	6	100%	
98	KFC	86	10	8	4	17	14	12.5	-11%	
99	Burger King	70	30	15	10	20	37.5	20	-47%	
100	KFC	88	4	10	0	7	9	3.5	-61%	
101	KFC	70	6	4	4	3	8	5.5	-31%	
102	KFC	88	4	16	6	15	12	13.5	13%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
103	Roy Rogers	70	12	20	6	11	22	11.5	-48%	
104	Wendys	88	8	12	10	35	14	27.5	96%	
105	Roy Rogers	70	6	50	4	60	31	34	10%	
106	Roy Rogers	74	13	10	10	12	18	16	-11%	
107	Wendys	74	25	13	0	45	31.5	22.5	-29%	
108	Wendys	74	8	14.5	25	8	15.25	29	90%	
109	Wendys	74	12.5	20	#N/A	#N/A	22.5	#N/A	#N/A	
110	Burger King	87	7	20	0	35	17	17.5	3%	
111	Burger King	87	10	6	6	25	13	18.5	42%	
112	KFC	87	0	25	2	20	12.5	12	-4%	
113	Wendys	77	12.5	10	#N/A	#N/A	17.5	#N/A	#N/A	
114	Wendys	70	4	26	5	25	17	17.5	3%	
115	KFC	89	6.5	7.5	3	16	10.25	11	7%	
116	Roy Rogers	88	20	20	7	18	30	16	-47%	
117	Roy Rogers	88	15	25	8	22	27.5	19	-31%	
118	Wendys	88	#N/A	#N/A	11	25	#N/A	23.5	#N/A	
119	Wendys	88	0	30	#N/A	#N/A	15	#N/A	#N/A	4
120	Wendys	88	10	30	4	37	25	22.5	-10%	
121	Burger King	79	5	17	10	8	13.5	14	4%	
122	Burger King	79	8.5	6.5	6	0	11.75	6	-49%	
123	Burger King	78	4.5	30	7.5	30	19.5	22.5	15%	
124	Burger King	78	1	12	0	0	7	0	-100%	3
125	Burger King	70	35	15	12	13.5	42.5	18.75	-56%	
126	KFC	79	10	5	12	8	12.5	16	28%	
127	Roy Rogers	70	8	25	26	12	20.5	32	56%	
128	Roy Rogers	78	12	18	1.5	33	21	18	-14%	
129	Roy Rogers	79	4	30	5	15	19	12.5	-34%	
130	Wendys	70	20	10	10	17	25	18.5	-26%	
131	Burger King	77	12	33	20	6	28.5	23	-19%	
132	Burger King	77	10	20	20	20	20	30	50%	
133	Roy Rogers	77	4	20	5	17.5	14	13.75	-2%	
134	Roy Rogers	77	5	42	7	30	26	22	-15%	
135	Wendys	77	8	19	0	30	17.5	15	-14%	
136	Burger King	78	23	10	5	21	28	15.5	-45%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
137	Burger King	70	0	10	10	4	5	12	140%	
138	Roy Rogers	70	15	35	15	15	32.5	22.5	-31%	
139	Roy Rogers	70	15	25	15	#N/A	27.5	#N/A	#N/A	
140	Roy Rogers	70	25	10	12	10	30	17	-43%	
141	Roy Rogers	70	15	8	8	12	19	14	-26%	
142	Burger King	80	13	12	15	15	19	22.5	18%	
143	Burger King	80	10	18	0	42.5	19	21.25	12%	
144	KFC	81	0	13	0	15	6.5	7.5	15%	
145	KFC	81	4	11	2	14	9.5	9	-5%	
146	KFC	80	0	15	3	7	7.5	6.5	-13%	
147	KFC	81	5	10	5	15	10	12.5	25%	
148	Burger King	70	5	16	4	9	13	8.5	-35%	
149	KFC	72	3	8	6	12	7	12	71%	
150	KFC	70	8	12	2	7	14	5.5	-61%	
151	KFC	82	5	9	4	6	9.5	7	-26%	
152	KFC	82	3	14	4	11	10	9.5	-5%	
153	Roy Rogers	80	20	46	22	39	43	41.5	-3%	
154	Roy Rogers	82	18	45	0	45	40.5	22.5	-44%	
155	Wendys	82	4	16	3	20	12	13	8%	
156	Burger King	80	10	10	0	20	15	10	-33%	
157	Roy Rogers	80	2.5	27	0	20	16	10	-38%	
158	Wendys	80	14	7	9	7	17.5	12.5	-29%	
159	Wendys	80	11.5	10	0	28	16.5	14	-15%	
160	Wendys	70	4.5	20	21	6	14.5	24	66%	
161	Burger King	74	12	23	11	22	23.5	22	-6%	
162	Burger King	70	14	12	18	15	20	25.5	28%	
163	Burger King	74	25	10	0	25	30	12.5	-58%	
164	Burger King	70	10	8	20	15	14	27.5	96%	
165	Burger King	70	10	20	15	15	20	22.5	13%	
166	Roy Rogers	70	13	31	11	23	28.5	22.5	-21%	
167	Wendys	76	12	35	17	22	29.5	28	-5%	
168	Wendys	76	5	10	8	7	10	11.5	15%	
169	Burger King	78	3	60	0	15	33	7.5	-77%	
170	Burger King	86	16	30	20	40	31	40	29%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Equivalent Employees Wave 1	Equivalent Employees Wave 2		
171	Burger King	85	10	6	7.5	10	13	12.5	-4%	
172	KFC	86	6	13	4	7	12.5	7.5	-40%	
173	Roy Rogers	86	10	12	5	30	16	20	25%	
174	Roy Rogers	85	5	30	10	30	20	25	25%	
175	Wendys	86	#N/A	25	15	25	#N/A	27.5	#N/A	
176	Burger King	86	12	40	0	32	32	16	-50%	
177	Burger King	86	15	20	15	15	25	22.5	-10%	
178	Burger King	86	10	30	12	24	25	24	-4%	
179	Burger King	85	6.5	23.5	15	15	18.25	22.5	23%	
180	KFC	85	0	25	2	11	12.5	7.5	-40%	
181	Roy Rogers	86	3	25	5	20	15.5	15	-3%	
182	Roy Rogers	86	6	22	7	17	17	15.5	-9%	
183	Roy Rogers	86	0	20	4	35	10	21.5	115%	
184	Roy Rogers	86	15	25	8	38	27.5	27	-2%	
185	Burger King	80	4	31	6	44	19.5	28	44%	
186	KFC	80	5	12	0	11	11	5.5	-50%	
187	Roy Rogers	80	3	15	3	15	10.5	10.5	0%	
188	Burger King	70	0	25	14	14	12.5	21	68%	
189	Burger King	88	15	15	15	20	22.5	25	11%	
190	KFC	70	0	14	6	2	7	7	0%	
191	KFC	70	0	7	0	13	3.5	6.5	86%	
192	Roy Rogers	70	10	20.5	2	25	20.25	14.5	-28%	
193	Roy Rogers	70	5	15	11	7	12.5	14.5	16%	
194	Wendys	70	25	6.5	13	18	28.25	22	-22%	
195	Burger King	88	15	20	10	20	25	20	-20%	
196	Burger King	70	26	6	15	10	29	20	-31%	
197	Burger King	74	20	15	13	13	27.5	19.5	-29%	
198	Burger King	75	0	20	#N/A	#N/A	10	#N/A	#N/A	2
199	Burger King	74	15	18	26	10	24	31	29%	
200	Burger King	74	5	15	4	17.5	12.5	12.75	2%	
201	Burger King	76	30	10	13	17	35	21.5	-39%	
202	Burger King	75	0	27	0	27	13.5	13.5	0%	
203	Burger King	74	35	20	10	30	45	25	-44%	
204	Burger King	76	0	35	29	14	17.5	36	106%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
205	KFC	75	0	7	14	0	3.5	14	300%	
206	KFC	76	3	15	4	11	10.5	9.5	-10%	
207	Roy Rogers	70	8	32	25	15	24	32.5	35%	
208	Roy Rogers	70	6	25	8	18	18.5	17	-8%	
209	Wendys	74	4.5	20	11	14	14.5	18	24%	
210	Burger King	85	4	30	12	30	19	27	42%	
211	Burger King	87	11	11	9	12	16.5	15	-9%	
212	Burger King	87	0	15	0	30	7.5	15	100%	
213	Burger King	80	3	35	4	37	20.5	22.5	10%	
214	Burger King	87	8	22	0	30	19	15	-21%	
215	Burger King	87	4	18	14	6	13	17	31%	
216	Burger King	77	2.5	30	5	25	17.5	17.5	0%	
217	KFC	87	18	3	0	14	19.5	7	-64%	
218	KFC	77	0	15	0	15	7.5	7.5	0%	
219	KFC	87	0	12	2.5	11	6	8	33%	
220	KFC	87	0	20	3	13	10	9.5	-5%	
221	Roy Rogers	87	60	40	30	50	80	55	-31%	
222	Roy Rogers	87	4.5	15	10	12	12	16	33%	
223	Roy Rogers	80	12	13	0	27	18.5	13.5	-27%	
224	Wendys	87	40	20	11	10	50	16	-68%	
225	Burger King	70	0	40	0	45	20	22.5	13%	
226	Burger King	70	0	35	2	25	17.5	14.5	-17%	
227	Burger King	70	6	11	13.5	10	11.5	18.5	61%	
228	Burger King	70	13.5	15	11	24	21	23	10%	
229	Roy Rogers	70	17	14	20	14.5	24	27.25	14%	
230	Burger King	88	0	35	20	40	17.5	40	129%	
231	Burger King	89	20	25	6	15	32.5	13.5	-58%	
232	Burger King	88	4	22.5	22	12	15.25	28	84%	
233	Burger King	70	10	15	18	20	17.5	28	60%	
234	Burger King	70	12	19	18	13	21.5	24.5	14%	
235	Burger King	88	0	32	0	30	16	15	-6%	
236	Burger King	70	1	38	10	50	20	35	75%	
237	Burger King	88	8	10	21	6	13	24	85%	
238	KFC	88	15	0	0	15	15	7.5	-50%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Equivalent Employees Wave 1	Wave 2		
239	Roy Rogers	88	7	25.5	2	38	19.75	21	6%	
240	Roy Rogers	88	20	20	15	20	30	25	-17%	
241	Roy Rogers	88	6	16	3	20	14	13	-7%	
242	Roy Rogers	88	5.5	25	6	27.5	18	19.75	10%	
243	Roy Rogers	88	14.5	14.5	#N/A	#N/A	21.75	#N/A	#N/A	0
244	Roy Rogers	70	15	25	12	30	27.5	27	-2%	
245	Wendys	88	0	40	5	35	20	22.5	13%	
246	Wendys	88	10	15	10	25	17.5	22.5	29%	
247	Wendys	70	15	35	40	31	32.5	55.5	71%	
248	Burger King	79	8	20	0	32	18	16	-11%	
249	Burger King	78	0	20	8	10	10	13	30%	
250	Burger King	70	0	27.5	12	20	13.75	22	60%	
251	Burger King	78	8	15	2	18	15.5	11	-29%	
252	KFC	78	2	7	3	4	5.5	5	-9%	
253	KFC	78	6	12	10	5	12	12.5	4%	
254	Roy Rogers	78	0	40	3	30	20	18	-10%	
255	Wendys	78	8	32	0	35	24	17.5	-27%	
256	Burger King	77	5	20	0	32	15	16	7%	
257	Burger King	77	2	32	10	12.5	18	16.25	-10%	
258	Burger King	77	0	24	7	23	12	18.5	54%	
259	Burger King	77	6	40	11	30	26	26	0%	
260	Burger King	77	11	20	20	20	21	30	43%	
261	Burger King	77	15	21	20	27.5	25.5	33.75	32%	
262	KFC	77	13	12	1	10	19	6	-68%	
263	KFC	77	2	12	2	10	8	7	-13%	
264	KFC	77	8	3	0	17.5	9.5	8.75	-8%	
265	KFC	80	3	15	0	15	10.5	7.5	-29%	
266	KFC	77	12	4	15	10	14	20	43%	
267	KFC	87	2	9	2	6	6.5	5	-23%	
268	Roy Rogers	77	10	20	12	18	20	21	5%	
269	Roy Rogers	77	4	15	0	19	11.5	9.5	-17%	
270	Wendys	77	20	10	4.5	30	25	19.5	-22%	
271	Wendys	77	1	13	4	9	7.5	8.5	13%	
272	Wendys	77	0	30	8	25	15	20.5	37%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
273	Burger King	78	#N/A	#N/A	10	32	#N/A	26	#N/A	
274	KFC	78	0	12	11	3	6	12.5	108%	
275	Burger King	70	0	60	5	40	30	25	-17%	
276	Burger King	73	0	33	16	22	16.5	27	64%	
277	Burger King	73	30	14	13	11	37	18.5	-50%	
278	Burger King	73	9	12	4	34	15	21	40%	
279	Burger King	73	10	8.5	12	13.5	14.25	18.75	32%	
280	KFC	73	8	10	8.5	6	13	11.5	-12%	
281	Roy Rogers	73	12	32	5	32	28	21	-25%	
282	Roy Rogers	73	4	36	6	37	22	24.5	11%	
283	Wendys	73	0	19	0	14	9.5	7	-26%	
284	Burger King	80	3	28	2	35	17	19.5	15%	
285	Burger King	80	11	17.5	20	15	19.75	27.5	39%	
286	Burger King	80	4.5	20	12	17.5	14.5	20.75	43%	
287	Burger King	80	2	30	0	35	17	17.5	3%	
288	Burger King	80	10	10	20	10	15	25	67%	
289	KFC	80	2	11	2	18	7.5	11	47%	
290	KFC	80	2	13	0	12	8.5	6	-29%	
291	KFC	80	7	4	5	3	9	6.5	-28%	
292	KFC	80	3	9	9	9	7.5	13.5	80%	
293	KFC	80	3	15	3	12	10.5	9	-14%	
294	KFC	80	1	28	1	15	15	8.5	-43%	
295	Roy Rogers	80	2	24	2	15	14	9.5	-32%	
296	Roy Rogers	80	3	18	3	20	12	13	8%	
297	Roy Rogers	80	3	27	12	25	16.5	24.5	48%	
298	Wendys	80	0	22	0	26	11	13	18%	
299	Wendys	80	3	28.5	11	19	17.25	20.5	19%	
300	Burger King	70	3	40	22	11	23	27.5	20%	
301	Burger King	71	0	25	15	17	12.5	23.5	88%	
302	Burger King	70	18	6	18	10	21	23	10%	
303	Burger King	70	19	7	15	7	22.5	18.5	-18%	
304	Burger King	70	5	17	#N/A	28	13.5	#N/A	#N/A	
305	Burger King	70	12	11	9	17	17.5	17.5	0%	
306	KFC	70	0	22	25	15	11	32.5	195%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
307	KFC	71	15	4	0	19	17	9.5	-44%	
308	Roy Rogers	70	7	25	7	22	19.5	18	-8%	
309	Roy Rogers	70	12	30	16	12	27	22	-19%	
310	Wendys	70	0	40	0	40	20	20	0%	
311	Wendys	70	8	16	10	14	16	17	6%	
312	Burger King	82	6	6	10	12	9	16	78%	
313	KFC	82	1	4	2	4	3	4	33%	
314	Roy Rogers	82	7	7	4	8	10.5	8	-24%	
315	Burger King	80	20	10	#N/A	#N/A	25	#N/A	#N/A	2
316	Burger King	80	4	22	20	18	15	29	93%	
317	Burger King	80	10	20	4	26	20	17	-15%	
318	Burger King	80	7	13	0	22.5	13.5	11.25	-17%	
319	Burger King	81	0	10	0	23	5	11.5	130%	
320	Burger King	81	0	20	0	0	10	0	-100%	3
321	Burger King	80	6.5	20	30	25	16.5	42.5	158%	
322	KFC	80	2	10	10	3	7	11.5	64%	
323	KFC	80	2	14	2	11	9	7.5	-17%	
324	KFC	80	4	4	1	8	6	5	-17%	
325	KFC	80	2	15	1	14	9.5	8	-16%	
326	KFC	81	3	4	0	9	5	4.5	-10%	
327	Roy Rogers	80	2	14	0	0	9	0	-100%	3
328	Roy Rogers	80	5	23	6	12	16.5	12	-27%	
329	Roy Rogers	81	3	25	3	15	15.5	10.5	-32%	
330	Roy Rogers	80	1	15	2	15	8.5	9.5	12%	
331	Roy Rogers	80	3	18	2	15	12	9.5	-21%	
332	Roy Rogers	80	0	20	5	9	10	9.5	-5%	
333	Roy Rogers	80	2	12	3	10	8	8	0%	
334	Wendys	81	8	12	0	23	14	11.5	-18%	
335	Wendys	80	4	20	5	16	14	13	-7%	
336	Wendys	80	10	15	15	11	17.5	20.5	17%	
337	Burger King	70	8	9	#N/A	21	12.5	#N/A	#N/A	
338	Burger King	72	9	15	15	30	16.5	30	82%	
339	Roy Rogers	70	10	35	12	35	27.5	29.5	7%	
340	Roy Rogers	72	10	20	10	15	20	17.5	-13%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
341	Roy Rogers	72	0	20	5	22	10	16	60%	
342	Roy Rogers	72	17.5	17.5	25	25	26.25	37.5	43%	
343	Wendys	72	0	28	3	23	14	14.5	4%	
344	Burger King	84	4	6	3	2	7	4	-43%	
345	Burger King	82	11	9	0	30	15.5	15	-3%	
346	Burger King	82	8	12	15	6	14	18	29%	
347	Burger King	82	15	15	12	14	22.5	19	-16%	
348	Burger King	84	0	8	4	0	4	4	0%	
349	KFC	84	5	7	7	6	8.5	10	18%	
350	KFC	82	0	11	22	4	5.5	24	336%	
351	Roy Rogers	84	8	13	12	5	14.5	14.5	0%	
352	Roy Rogers	84	4	15	1	15	11.5	8.5	-26%	
353	Burger King	85	2	16.5	3	20	10.25	13	27%	
354	Burger King	80	28	12	10	20	34	20	-41%	
355	Burger King	80	5	29.5	25	5	19.75	27.5	39%	
356	Burger King	80	18	6	5	9	21	9.5	-55%	
357	Burger King	80	6	30	15	17	21	23.5	12%	
358	KFC	80	2	7	3	7	5.5	6.5	18%	
359	KFC	80	10	6	4	11	13	9.5	-27%	
360	KFC	80	2	10.5	3	12	7.25	9	24%	
361	Roy Rogers	85	3	10.5	0	0	8.25	0	-100%	3
362	Roy Rogers	80	8	9	5	20	12.5	15	20%	
363	Roy Rogers	80	2	27.5	10	20	15.75	20	27%	
364	Roy Rogers	79	0	19	#N/A	#N/A	9.5	#N/A	#N/A	5
365	Roy Rogers	80	7.5	22.5	#N/A	31	18.75	#N/A	#N/A	
366	Wendys	85	2	17	3	17	10.5	11.5	10%	
367	Burger King	83	0	22	0	26	11	13	18%	
368	Burger King	83	3	25	5	32	15.5	21	35%	
369	Burger King	83	6	13	4	23	12.5	15.5	24%	
370	KFC	83	6	13	24	4	12.5	26	108%	
371	KFC	83	0	25	14	7	12.5	17.5	40%	
372	KFC	83	3.5	20	1	30	13.5	16	19%	
373	Roy Rogers	83	2	17	1	19	10.5	10.5	0%	
374	Wendys	83	0	20	0	25	10	12.5	25%	

Obs #	Chain	Zip Code (####XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
375	Burger King	70	0	15	0	0	7.5	0	-100%	3
376	Burger King	74	20	11.5	26	5	25.75	28.5	11%	
377	Burger King	76	4	10	0	17	9	8.5	-6%	
378	Burger King	76	12	6	11	12	15	17	13%	
379	Burger King	76	20	12	28	6	26	31	19%	
380	Burger King	76	10	15	15	14	17.5	22	26%	
381	Burger King	70	6	4	7	2	8	8	0%	
382	Burger King	76	#N/A	#N/A	0	30	#N/A	15	#N/A	
383	Burger King	74	16	14	15	14	23	22	-4%	
384	Burger King	76	0	19	14	10	9.5	19	100%	
385	KFC	76	15	5	12	7	17.5	15.5	-11%	
386	KFC	76	4	10	18	4	9	20	122%	
387	Roy Rogers	74	24	16	8	30	32	23	-28%	
388	Roy Rogers	76	4	28	6	15	18	13.5	-25%	
389	Roy Rogers	76	14	13	25	15	20.5	32.5	59%	
390	Roy Rogers	74	13	8	18	18	17	27	59%	
391	Roy Rogers	76	16	15	8	24	23.5	20	-15%	
392	Roy Rogers	76	8	6	5	27	11	18.5	68%	
393	Roy Rogers	76	11	10	17	5	16	19.5	22%	
394	Roy Rogers	74	6	17	1.5	15	14.5	9	-38%	
395	Burger King	74	0	35	0	35	17.5	17.5	0%	
396	Burger King	78	0	36	4	36	18	22	22%	
397	KFC	88	0	17	0	13	8.5	6.5	-24%	
398	Burger King	71	0	36	0	20	18	10	-44%	
399	Burger King	71	0	36	13	9	18	17.5	-3%	
400	Burger King	70	8	32	0	38	24	19	-21%	
401	Burger King	71	4	28	13	17	18	21.5	19%	
402	Burger King	71	30	15	0	35	37.5	17.5	-53%	
403	KFC	71	3	10	5	5	8	7.5	-6%	
404	KFC	71	20	10	25	7	25	28.5	14%	
405	KFC	71	0	7	5	10	3.5	10	186%	
406	KFC	71	2	10	19	3.5	7	20.75	196%	
407	KFC	71	3.5	6.5	12	3	6.75	13.5	100%	
408	Roy Rogers	71	3	33	5	25	19.5	17.5	-10%	

Obs #	Chain	Zip Code (###XX)	Wave 1		Wave 2		Full Time Equivalent Employees		% Change In FTEs	Notes
			Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Wave 1	Wave 2		
409	Wendys	71	7	8	0	35	11	17.5	59%	
410	Wendys	70	0	33	10	24	16.5	22	33%	
Data are presented in the same sequence as in the Card-Krueger public use tape										
Full Time Equivalent Employees are calculated in the same manner as in the Card-Krueger estimation: 2 part-time workers = 1 full time workers										
Notes										
			0	Refused second interview						
			2	Closed for renovation						
			3	Closed permanently						
			4	Closed for Highway construction						
			5	Closed due to mall fire						
		#N/A	Missing value in the Card Krueger-Data Set							