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Minimum Wage:
Who Gets it and What Difference Does it Make?

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EXECUTIVE SUMMARY

This brief summarizes answers to a request from Assemblyman Paul Koretz to the California Research Bureau in the California State Library. The questions we were asked to address include:

- What is the minimum wage in each state?
- What is the tip credit in each state?
- What is the total size of the California workforce?
- What is the proportion of the workforce that receives the minimum wage, or close enough to it, to benefit from this legislation.
- What is the proportion of the workforce that receives the minimum wage, or close enough to it, and depends on that wage to live?
- What is the proportion of those workers that receive the minimum wage, or close enough to it, and depend on that wage to support one or more dependents?
- Have differences in the minimum wage in different states produced competitive disadvantages for producers of goods in the higher-wage states in interstate commerce?
- What are the additional economic impacts?
- What has California's experience over the last five years, and that of other states, taught us about the impact of minimum wage increases on job retention, growth, and inflation?

There were 17.3 million wage and salary workers in California as of March 2001, including approximately 440,000 agricultural workers. Of the 17.3 million wage and salary workers, 2.9 million workers (including 205,000 agricultural workers) earned $7.00 or less per hour. The number of workers earning $7.00 or less per hour is important because a person making this amount on a 40-hour workweek, with two dependents, would still fall within the federal poverty guideline amount of $14,630 annual income.

The available data do not allow us to assess the exact number of workers that depend on the minimum wage to live. However, about 58 percent of those earning $7.00 or less per hour (about 1.6 million workers) work full-time (35 hours or more). One would assume that a large portion of this population depends on their earnings to live and support their dependents.

The total effect of minimum-wage changes on the California economy is very difficult to assess. The evaluation of these effects would require the construction of a comprehensive mathematical model that takes into account a variety of economic links in various industries. Existing research on the minimum wage shows that effects on

inflation and employment are minor. Furthermore, these effects could be largely offset by changes in productivity driven by an employer's search to lower costs. If changes in wages lead to more efficient ways of production, effects could be positive.

Our review of the literature on the economic effects of the minimum wage found that, although there is much research in this area, results are inconclusive. Experts in this field (such as David Card and Alan Krueger) conclude that the minimum wage is just a modest transfer program with relatively small economic effects. According to them, many policy makers tend to exaggerate the adverse effects on employment from raises in the minimum wage, while others exaggerate its positive effects on the standard of living of the poor. Although what researchers term modest may be more significant to the affected individuals.

Most studies have focused on employment effects. Few have analyzed price changes and effects on competitiveness or terms of trade. There is not much research on economic effects of changes in the minimum wage in California.

Effects of the minimum wage on employment and prices seem to be minor. Some research shows that there are employment losses in affected industries when the minimum wage is increased. Other studies show no effects or even positive employment effects. There is also little empirical evidence on the effect of minimum-wage increases on profits, largely due to the difficulty of obtaining accurate data on profits. However, there is some evidence that the minimum wage negatively affected the market value of the affected firms (a good measure of expected profitability).

Some studies support the notion that changes in the minimum wage slightly improve the standard of living of the poor. One of the few studies for California, conducted by O'Brien-Strain and MaCurdy, looked at the effects in changes of the minimum wage on income distribution and the competitiveness of the state. This study concluded that increases in the California minimum wage have a more positive effect on families' earnings when cost increases can be exported to other states by increasing the price of California exports to those states. This would not be the case when a federal minimum-wage increase occurs, since Californians must pay higher prices for goods produced by minimum-wage workers both within and outside the State.

Research on minimum-wage effects on California competitiveness is very scarce. However, since price effects are small, and tend to be spread over all products, relative price changes are expected to be insignificant, which probably means that the state business climate is not adversely affected.

There are also a variety of effects that could offset any adverse effect from changes in the minimum wage. For example, higher costs could be absorbed by increases in the productivity of low-wage workers or by productivity increases generated by attracting more competent workers who previously were not in the labor force. Another offsetting consequence is increases in demand generated by higher spending by low-income workers.

Finally we include a discussion on the effect of living wages on affected sectors. Living-wage ordinances are somewhat different than minimum wage proposals, in that 1) these living wage ordinances affect contracts and are set voluntarily as part of a contractual negotiation with a government agency, and 2) an agency's decisions to contract services are sometimes independent from the price of the bids received. Few economists have studied the effects of living-wage ordinances. We looked at two studies conducted by Robert Pollin, Douglas Williams, and Richard Sander that reached different conclusions. The Pollin study concluded that higher-wage costs are absorbed by lower profits and increased efficiencies, resulting in no change in employment. In contrast, Williams and Sander's study predicted a significant job loss, due to higher costs. However, the authors recognize that the extent of cost impacts derived from living-wage ordinances depends on the institutional context. For example, some institutions respond to higher bids by not hiring those services, while others just accept higher costs. As in the case of the minimum wage, effects of increases in the living wage on the income of poorer groups appear to be minor.

This document is structured in two sections. Section 1 provides various statistics on the number of workers affected by the minimum wage in California. Section 2 discusses the economic effects of minimum-wage rate changes on job retention, growth, and inflation. The information used in this paper is based on an analysis of data from the March 2001 California Population Survey (CPS), and an extensive literature search for studies or articles examining the impact of increasing the minimum wage.

STATISTICS ON WORKERS AFFECTED BY MINIMUM-WAGE PROPOSALS

COMPARISON OF MINIMUM-WAGE RATES IN THE STATES

The minimum wage in California for calendar year 2002 is $6.75 per hour. The Industrial Welfare Commission (IWC), which sets standards for wages, hours, and working conditions in California[1] raised the state minimum wage in October 2000 by $1.00, spread over two separate wage increases. The minimum-wage rate increased from $5.75 per hour to $6.25 per hour on January 1, 2001 and increased again to $6.75 per hour on January 1, 2002.

The federal minimum wage is currently set at $5.15. As of January 1, 2002, 11 states have established state minimum-wage rates that are higher than the federal minimum wage (allowed under federal law). Rates range from $5.65 in Alaska to $6.90 in Washington. California's minimum wage of $6.75 in 2002 is the 2nd highest minimum wage in the nation. Appendix A displays the minimum-wage rate for all states, any future rate increases, if known, and provides the "tip credit" and the cash wage for tipped employees.[2]

TIP CREDIT

Employers can deduct the tip credit to the minimum wage required by law when employees receive tips. The cash wage for tipped employees under federal law is $2.13 an hour. This means that employers can pay tipped employees a cash wage of $2.13 an hour and apply tip earnings toward the balance of the minimum wage, referred to as a "tip credit or tip exemption." For example, under current federal law, Fair Labor Standards Act, covered employers may take a tip credit of up to $3.02 an hour ($2.13 cash wage + $3.02 tip credit = $5.15 minimum wage). In all cases, an employer may use the tip credit only to the extent that employees actually receive that much in tips.

States differ with respect to the tipping credit. Some states follow federal law; others, like California, prohibit employers from taking a tip credit. Others have different levels of tipping credit for different industries, such as the restaurant industry or the hotel industry. Some states are much less generous than the federal law. See Appendix A for the tipping credit for all states.

WORKFORCE RECEIVING $7.00 OR LESS PER HOUR

According to the March 2001 California Population Survey, there were 17.3 million wage and salary workers in California, including approximately 440,000 agricultural workers. Using the March 2001 California Population Survey (CPS), the proportion of the workforce receiving the minimum wage or close enough to be impacted by minimum-

wage changes ($7.00 for this request)* can be estimated. We extrapolated data from the March 2001 CPS to determine the number of workers earning $7.00 or less per hour; earnings that, for full-time workers, are still below the federal poverty level.

California had about 2.9 million workers earning $7.00 or less per hour, in March 2001. Of these, approximately 205,000 were agricultural workers. There were 2.4 million workers who were paid by the hour, and about 500,000 who were not paid by the hour. Those workers not paid by the hour may include workers with daily, weekly, or monthly wages or work done by piecework. These 2.9 million workers earning $7.00 or less per hour may be an overstated number because their total earnings may be higher. The data in the CPS does not account for commissions, tips or overtime that may supplement the minimum-wage rate.

To calculate the number of workers that receive the minimum wage or have salaries close enough to it, we reviewed data from the March 2001 California Population Survey of individuals earning $7.00 or less per hour. Again, we chose $7.00 as being the "amount close enough to the minimum wage to benefit from this legislation" as stated in the request.

Data from the CPS can provide some interesting data for workers earning less than $7.00 per hour. Table 1 provides a breakdown of the number of hours worked and the number of workers working those hours.

Table 1
Hours Worked by Persons Earning $7.00 or Less Per Hour

Hours Worked Per Week	Number of Workers	Proportion of Workers Earning $7.00 or Less
19 hours or less	531,623	17.85%
20-34 hours	521,488	17.52%
35-39 hours	210,085	7.05%
40 hours	1,314,195	44.13%
41-60 hours	152,824	5.13%
61-80	15,661	.53%
Not available	232,000	7.79%

Source: March 2001 California Population Survey, California Research Bureau, California State Library.

Perhaps one of the best ways to assess the number of workers depending on the minimum wage, or an amount close enough to it to live (as this request asks), is to determine how many of the 2.9 million workers earning $7.00 or less per hour fall below the federal poverty level. Using this measure, we determined that 643,491workers or 22 percent had earnings below the federal poverty level (Table 2). The poverty level varies with the

* At the time of the survey, the minimum wage was $6.25, although currently it is $6.75. We were requested to look at those earning the minimum wage or an amount close enough to be affected by an increase in the minimum wage. The $7.00 per hour wage is a very conservative number of who could be affected by raising the minimum wage.

number of dependents in the family. See Table 3 for a listing of earnings levels for the different family sizes in the federal poverty guidelines. Note that the federal poverty level for a family of three in a one-wage-earner family is $14,630 per year or about $6.93 per hour, very close to the $7.00 we selected for our sample.

Table 2
Workers Earning $7.00 or Less Per Hour, With Total Family Income Below the Federal Poverty Level

Number of Dependents (children)	Workers earning $7.00 or less with family income below the federal poverty level	Proportion of workers earning $7.00 or less with family income below the federal poverty level
0	291,042	43.03%
1	88,572	13.09%
2	105,395	15.58%
3	122,498	18.12%
4	38,792	5.76%
5	30,028	4.42%

Source: March 2001 California Population Survey, California Research Bureau, California State Library.

Table 3
Poverty Guidelines for the 48 Contiguous States and the District of Columbia, Excludes Alaska and Hawaii

Size of Family Unit	Poverty Guideline (Annual Income)
1	$8,590
2	$11,610
3	$14,630
4	$17,650
5	$20,670
6	$23,690
7	$26,710
8	$29,730

Source: U.S. Census Bureau, California Research Bureau, California State Library.

Age can also be used to help us ascertain the workers that need their $7.00 per hour earnings to live. For example, of the 2.9 million workers earning $7.00 or less per hour, approximately 487,000 (16.8 percent) are between 16 and 19 years of age. Approximately 639,000 (22 percent) are between 20 and 24 years of age, and approximately 702,000 (24 percent) are between 25 and 34 years of age. Approximately 1.1 million (37.9 percent) are between 35 and 65 years of age. We can assume that most of the 486,613 persons between 16 and 19 years of age are students and therefore do not depend on this income to live. The rest of the group is difficult to make any assumptions

about, strictly on the basis of age. However, Table 4 helps to identify the age of the largest number of workers earning $7.00 or less per hour. Data from Table 4 shows that the majority of workers, 1.1 million or 37.9 percent, are between 35 and 64 years old.

Table 4
AGE DISTRIBUTION OF PERSONS EARNING $7.00 OR LESS PER HOUR

Age Range	Number of persons earning $7.00 or less	Proportion of persons earning $7.00 or less
16-19	486,613	16.30 %
20-24	638,913	21.41 %
25-34	701,515	23.51 %
35-64	1,090,763	36.55 %
65 +	66,446	2.23 %

Source: March 2001 California Population Survey, California Research Bureau, California State Library.

WORKERS EARNING MINIMUM-WAGE RATES (OR CLOSE TO IT) THAT SUPPORT ONE OR MORE DEPENDENTS

The CPS does not provide data to calculate the number of workers that earn minimum-wage rates (or near it) and support at least one dependant. However, information about the number of dependents that each worker has might help to address this question. For example, of the 2.9 million workers that earn $7.00 or less per hour, 566,887 have one dependent, and 486,928 or 16.7 percent have two dependents. Another 370,462 (12.7 percent) have three or more dependents. See Table 5 for a more detailed distribution of workers with dependents. Note that Table 5 does not account for those workers that are single, self-supporting and need this income to live, thereby contributing to some undercounting of this population who needs the minimum wage to support themselves.

If we assume that those with dependents need their earnings to live, we arrive at 1.4 million workers or 49 percent of all the minimum-wage earners; however, this does not consider other wage earners in the household, therefore this number is probably inflated.

Table 5
WORKERS EARNING $7.00 OR LESS PER HOUR WITH DEPENDENTS

Number of Dependents	Number of Workers	Proportion of Workers with Dependents
1	566,887	39.9 %
2	486,928	34.2 %
3	232,592	16.4 %
4	81,300	5.8 %
5	32,219	2.3 %
6	19,010	1.4 %
7	3,981	.02 %
9 or more	1,365	.01 %

Source: March 2001 California Population Survey, California Research Bureau, California State Library

ECONOMIC EFFECTS OF MINIMUM-WAGE RATE CHANGES

This section discusses the economic effects of minimum wages, particularly on California competitiveness. There is extensive literature on the effects of the minimum wage, supporting conflicting results. In a recent book, Card and Krueger have studied and reviewed in detail most of the existing research on minimum-wage effects.[3] Their conclusion is that the minimum wage is a modest transfer program with relatively small negative effects. Card and Krueger's opinion is that the minimum-wage program has been overrated in the political debate, and that some economists and policy makers tend to exaggerate the adverse employment effects of the minimum wage, while others exaggerate its positive effects on the standard of living of the poor.

This section summarizes the effects that the standard economic theory predicts with a minimum wage change. It then looks at the empirical evidence on the effects minimum wage increases have on employment, fringe benefits, productivity (growth), income distribution, inter-industry terms of trade, and California competitiveness. There are a variety of research studies providing conflicting results on each issue. Many of these studies show that negative effects, if any, are minor and short-lived. Specific research for the effects of minimum-wage changes in California is scarce. We found only one study that looked at these effects, focusing on the impact of minimum-wage increases on California's income distribution and the State competitiveness.[4]

ECONOMIC THEORY ON MINIMUM-WAGE EFFECTS

According to the standard economic model presented in nearly every introductory economics textbook, increases in the minimum wage paid by a firm reduce minimum-wage employment. The extent of the reduction depends on the ability of the firm to change the amount of labor required to produce the same amount of output as before.[5] When low-wage labor becomes more expensive (as would be the case when the minimum wage increases), a firm could be able to continue producing the same amount of output as before by substituting low-wage labor for either capital or high-skilled labor. The firm could also increase labor productivity by adopting new technologies or reorganizing the production process. If the firm cannot increase labor productivity, there will be a decline in employment and output when the minimum wage (the price of low-skilled labor) rises. As output falls, the product price eventually increases. The increase in price will totally offset the decline in employer's profits brought about by higher labor costs.

Alternative economic models departing slightly from the standard model yield very different predictions about the effect of the minimum wage. Because the increase in costs can be accommodated in several ways, the negative effects on employment may be smaller than the effects predicted by the standard economic model. For example,

- Profits of firms that hire minimum-wage workers could decline.
- Firms may pass on the cost of the increase in wages to consumers by increasing prices.

- An increase in the minimum wage may induce firms to eliminate inefficiencies or to look for other ways to generate greater revenues.
- A combination of these three effects may occur simultaneously.

However, economists generally agree that a minimum-wage increase will raise the costs of business for employers of low-wage workers.

There are also other elements that complicate the standard economic analysis of the minimum-wage effects:

- Most employers hire workers at a variety of different skill levels and wage rates.
- Workers with the same skills are paid different wages. Even within a relatively homogenous group, such as teenagers, some workers earn more than others.
- Some employers are exempt from minimum-wage laws (or choose not to comply with them).
- Higher wages affect worker productivity.
- Employers may not always operate at peak efficiency. For example, they could negotiate lower prices from their suppliers.
- There are spillover effects on other labor markets. Studies have shown that minimum-wage increases have spillover effects on higher-wage workers as firms try to maintain their seniority profiles or internal wage hierarchies. For example, a Texas study found that, in order to maintain wage differentials, a sizable fraction of fast-food restaurants raised not only the wage of those workers affected by the minimum-wage increase of 1990, but also the wage of those earning more than the minimum wage.[6] In this case, the negative employment effect of the minimum wage could be larger than the effect predicted by the standard economic model.

FINDINGS FROM EMPIRICAL RESEARCH ON THE EFFECTS OF THE MINIMUM WAGE

Employment Effects

Numerous studies have challenged the accuracy of the simple textbook economic model used by many economists to describe the effects of the minimum wage. The most important discrepancy between theory and evidence concerns the employment effect of a higher minimum wage.

Most studies conducted before the mid-1990s found that minimum-wage increases reduced employment. However, the empirical evidence on employment losses is fragile. Recently, some researchers have criticized the methodology used by earlier studies. For

example, applying alternative methodologies to the same data used in earlier research, various new studies have found small and/or statistically insignificant employment effects.

A reason for the discrepancies between researchers is that most studies on minimum-wage effects are time-series analyses (studies that analyze responses over a historical period). One of the major limitations of this type of study is the difficulty of isolating the effects of the minimum wage from other economic and labor market conditions, such as the role of economic cycles or the effect of changes in the demographic structure of the labor force. However, once short- and long-term employment responses are taken into account, research showing positive effects on employment can be reconciled with studies showing the opposite results. Baker, Benjamin, and Stranger conducted a study in 1999, which demonstrated that the same data could yield positive and negative responses in employment, depending on the time span researchers are looking at.[7]

Evidence of Negative Effects on Employment

Extensive research has shown a negative association between minimum-wage increases and employment. For a number of years, a large number of economists accepted as a best-guess estimate that, on average, for each one percent increase in wages, employment would decrease by one-third of a percent. This conclusion was the result of a survey of the literature conducted by Brown, Gilroy, and Kohen in 1982.[8]

Table 6 shows results for a sample of 19 studies covering the period from 1954 through the late 1970s. The average response to a ten percent minimum wage increase for workers 16 to 19 years old was a 1.5 percent reduction in total employment.[9] However, analyses covering the last 15 years (reported in Table 7) showed a significantly weaker relationship.[10] There is also a more recent survey of economists' views of the best estimates of various economic relationships.[11] This survey concluded that a ten percent increase in the teenagers' minimum wage would reduce total employment by one percent, a smaller effect than the 1.5 percent average in earlier studies. But this estimate measures the effect on total employment, rather than low-wage employment. Changes in minimum-wage worker employment can be higher. Examples of the numerous studies documenting negative employment effects from minimum-wage changes are included in Appendix B.

Table 6
Earlier Studies Estimating the Employment Impact of a 10 Percent Increase in the Minimum Wage for Workers 16 to 19 Years of Age

		Percent Change in Employment	Period
1	Kaitz (1970)	-0.98	1954-1968
2	Kosters and Welch	-2.96	1954-1968
3	Kelly (1975)	-1.20	1954-1968
4	Kelly (1976)	-0.66	1954-1974
5	Gramlich (1976)	-0.94	1948-1975
6	Hashimoto and Mincer	-2.31	1954-1969
7	Welch (1876)	-1.78	1954-1968
8	Ragan (1977)	-0.65	1963-1972
9	Mattila (1978)	-0.84	1947-1976
10	Freeman (1979)	-2.46	1948-1977
11	Wachter and Kim	-2.52	1962-1978
12	Iden (1980)	-2.26	1954-1979
13	Ragan (1981)	-0.52	1963-1978
14	Abowd and Killingsworth	-2.13	1954-1979
15	Betsey and Dunson	-1.39	1954-1979
16	Boschen and Grossman	-1.50	1948-1979
17	Brown, Gilroy, and Kohen	-0.96	1954-1979
18	Hamermesh (1981)	-1.21	1954-1978
19	***Average***	**-1.52**	

Source: David Card and Alan B. Krueger, *Myth and Measurement. The New Economics of the* Minimum Wage (Princeton, NJ, Princeton University Press, 1995), p. 181

Table 7
Recent Studies Estimating the Employment Impact of a 10 Percent Increase in the Minimum Wage for Workers 16 to19 Years of Age

		Percent Change in Employment	Period
1	Solon	-0.99	1954-1979
2	Kosters and Welch	-0.60	1954-1986
3	Klerman	-0.52	1954-1988
4	***Average***	**-0.70**	

Source: David Card and Alan B. Krueger, *Myth and Measurement. The New Economics of the* Minimum Wage (Princeton, NJ, Princeton University Press, 1995), p. 181

Evidence of Positive Employment Effects

Contrary to the prediction of the standard economic model, a set of studies has challenged the empirical evidence on negative employment effects from increases in the minimum wage. Card and Krueger discuss extensively many of these studies in a book that summarizes most of the research on the minimum wage.[12] Furthermore, some more recent research found positive employment effects. These controversial results have been based on the analysis of different low-wage workers in different time periods and a variety of regions. Examples of these studies are included in Appendix C.

The increase of the minimum wage could lead to positive effects on employment when these increases may induce firms to eliminate inefficiencies or to look for other ways to generate greater revenues.

Effects on Fringe Benefits

A natural response by firms to a legislated minimum-wage increase is to reduce non-wage compensation. Several economists have argued that the costs created for workers by a minimum-wage increase are partially or even totally offset by reductions in non-wage (fringe) benefits. The reason for this prediction is that, in a competitive labor market, an increase in the minimum wage will increase the number of applicants for minimum-wage jobs as they become more attractive to potential workers. Thus, employers could cut non-wage compensation and continue to recruit the same number of workers as before.

Fringe benefits and training do not appear to be reduced substantially when the minimum wage increases. Although minimum-wage workers are less likely than higher-wage workers to receive employer-provided health insurance and other fringe benefits, there are other common fringe benefits such as free or low-priced meals, or store discount privileges. Card and Krueger's review found that increases in the minimum wage do not appear to be offset by reductions in fringe benefits. According to these authors, a potential explanation for this response is that firms are required by law to offer some fringe benefits to all their workers, if they offer them to any worker.[13]

Price Effects

Most studies have been focused on reduced employment. As we have discussed earlier, most recent studies do not show a significant negative effect on employment. However, these same studies noted some increase in prices. It appears that the short-run effect of the minimum wage increase may be a price increase, with employment effects becoming evident only in the long run.

Two of the studies reported by Card and Krueger analyzed price changes. A comparison of price changes at fast-food restaurants in New Jersey and Pennsylvania after the increase in the New Jersey minimum wage suggests that average prices raised enough to cover the minimum wage increase. Price increases were observed in both sectors:

restaurants affected by the minimum wage and high-wage restaurants. Similar findings were obtained in a Texas study.[14]

Cost Effects

An increase in the minimum wage causes employers' costs to increase. It is difficult to assess how employers respond to higher costs. In addition to reducing employment, these higher costs can be accommodated in several ways. Firms may:

1) pass on the cost of the increase in wages to consumers by increasing prices,
2) absorb the costs by reducing their profit, and
3) eliminate inefficiencies or look for other ways to generate greater revenues.

It is also possible that a combination of all these effects may occur simultaneously.

Profit Effects

Any increase in the product price will partially offset the decline in an employer's profit. Furthermore, the greater the ability of an industry to substitute capital or skilled labor for minimum-wage labor, the less the minimum-wage increase will eat into profit.

Alternative models have different implications for the effect of the minimum wage on profitability. For example, there are some models in which firms have the power to set wage rates for a variety of reasons. Some firms can offset extra costs by filling their vacancies more rapidly to increase productivity (avoiding the cost of having idle capital resources), or can increase efficiencies through other alternative ways. Some firms can actually determine the level of their wages, given their labor market power in the community. Finally, some models take into account that firms may not operate in such a way as to minimize costs on every margin, as it is assumed in the neoclassical model. A simple example of this would be when managers lack sufficient information required to pursue profit maximization.[15]

There is little empirical evidence on the effect of minimum-wage increases on profits, largely because of the difficulty of getting accurate data. Card and Krueger looked at the stock prices of firms that employ a large number of low-wage workers (such as McDonald's and Wal-Mart). The stock market value of a firm represents investors' expectations of the firm's future profits. Thus, one way to look at the effect of profits is to look at stock market valuation of those firms that hire minimum-wage workers when the minimum wage changes. If the standard economic model is correct, a decrease in the stock price of these firms would be observed with minimum-wage increases. Card and Krueger's study of the effects of the minimum wage on the value of firms showed mixed results. For example, contrary to what researchers expected, most of the news about the impending minimum-wage increases during the late 1980s led to little or no change in the market value of low-wage employers. However, more recent news of possible revisions

in the minimum wage seemed to have had some negative effect on the market value of the affected firms.[16]

A research study that analyzed corporate annual reports revealed many instances where managers reported raising prices to offset the effect of the minimum wage. This finding is consistent with a considerable amount of research that strongly suggests that most firms do not reduce employment very much in response to an increase in the minimum wage. It appears that firms can raise prices successfully since there is little evidence of losses in profits.[17]

Responses in Productivity

With increases in productivity, the impact of a higher minimum wage on costs is moderate. Many economists have argued that this is an important effect of minimum-wage increases. Increases in the minimum wage increase productivity if:

- the higher wage reduces worker turnover, increasing the level of worker experience and reducing training costs.
- the higher wage attracts more skilled and productive workers to the labor force.
- higher-wage employers require more effort from employees.
- higher-wage employees tend to increase work effort to keep their positions.
- the firm uses laborsaving capital.

Most research on labor markets has found strong evidence that workers receiving higher wages tend to be more productive and that the skills of the pool of applicants increase with higher wages. However, there are only a few studies actually analyzing whether employees become more productive or reduce their turnover when their wages rise.[18]

Effects on Income Distribution

Some policy makers support the establishment of minimum wage because they believe that it will improve the living conditions of the poor. Opponents of the minimum wage do not believe in the redistributive effects of this regulation. For some, minimum-wage workers are normally distributed among households of all layers of the income distribution; thus, changes in the minimum wage do not change the income distribution. This assumes that most minimum-wage workers are in households with other wageworkers. Others inaccurately stereotype minimum-wage earners as teenagers from middle-class families who work after school for discretionary income.[19]

Furthermore, many economists do not believe that increases in the minimum wage improve the standard of living of low-skill workers because of its negative effect on employment. These economists also predict that, after a minimum-wage increase, employers tend to hire more skilled workers replacing the less skilled minimum-wage

workers. A recent paper challenged the benefits of increasing the minimum wage. The paper concluded that, although minimum-wage increases help some families to escape poverty, employment losses associated with a higher minimum wage also appear to cause some families to fall into poverty. According to their analysis, the net effect is negative on the poor families.[20]

However, U.S. data show that most of the workers who earn the minimum wage belong to families in the lower portion of the earnings distribution. Two-thirds of minimum-wage earners in the United States are adults, and the earnings of a typical minimum-wage worker account for approximately one-half of the individual's family income.[21] Moreover, numerous studies have shown that increases in the minimum wage help the poor and improve income distribution by increasing the standard of living of the families in the bottom layer. However, these positive effects seem to be small. Although what economists term small may be significant to a family living near the poverty level. A sample of these studies include the following:

- A 1990 study concluded that increases in the minimum wage reduced poverty among families by more than previously estimated. Using household data, the study showed that a higher federal minimum wage with full compliance would decrease the poverty gap by 11.1 percent (difference between the level of income of the families of minimum-wage workers and that income defined by the Federal government as the poverty threshold) among families with at least one low-wage worker. They also found that taking into account unemployment effects makes little difference because unemployment effects fall heavily on teenagers, whose contribution to family income is small.[22]

- Macpherson used 1999 current population survey data for California to evaluate the effects of the proposed increase of the minimum wage from $5.75 to $6.25 in January 2001 and to $6.75 in January 2002. The paper also found a modest impact on family income (three percent). The average annual income increase for minimum-wage workers was estimated as $1,002. According to their forecast, more than 32,000 workers would lose their jobs, one-third of them from the retail sector. This job loss would cause an annual income loss to low-wage workers of $331 million. The cost to employers that have a larger proportion of employees earning higher wages would be substantial, about $1 billion per year.[23] However, this analysis raises some methodological questions, since they used parameters from other studies to calculate effects using California survey data.

- Card and Krueger looked at the effect of the 1990-91 increase in the federal minimum wage on the distribution of hourly wages, family earnings, and poverty rates across states. Their results confirmed that there is a positive effect for those workers at the bottom of the wage distribution. The study also found that the overall wage dispersion was reduced by the increase in the minimum wage. However, the actual improvement for the standard of living of families with low earnings was modest.

- In 1999, O'Brien-Strain and MaCurdy conducted a study on this subject in California.[24] The authors analyzed the Survey of Income and Program Participation (SIPP), a nationally representative survey of households conducted by the U.S. Bureau of Census. The authors looked at the distributional effects of the 1996 federal minimum-wage increase from $4.25 to $5.15 an hour, accounting for both the benefits of the wage increase to low-income families and the costs of such an increase for California families. They also looked at the effects of a California-only minimum-wage increase.

  A problem with O'Brien-Strain and MaCurdy's results is that they are very dependent on their assumptions. They looked only to a situation where all the cost adjustment brought about by the minimum-wage increase is through price increases (employment and profits are assumed constant). Their assumptions rely on no negative effects on employment since the academic debate on the presence or absence of employment losses from the minimum wage has given advocates a basis for dismissing the potential costs. In addition, their analysis assumes that consumers remain willing to buy the same quantities of minimum-wage goods at higher prices. They do not consider that people may readjust their expenditures to the new prices.

  O'Brien-Strain and MaCurdy reported that the minimum-wage increase had slight distributional effects across income levels, making low-income families better off. They also found that:

  - less than 15 percent of the additional earnings go to families with children either living in poverty or supported primarily by minimum-wage earners,
  - less than $1 in $4 of additional earnings goes to families that rely on low-wage labor as their primary source of income,
  - forty percent of families with the lowest incomes receive almost half of the additional earnings,
  - more than 20 percent of the additional earnings are collected in taxes,
  - the minimum-wage increase raises the cost of a family's annual expenditures by the same amount as an eight to 12 percent increase in the sales tax, and.
  - cost increases fall disproportionately on necessities such as food, clothing, and health care.

  According to O'Brien-Strain and MaCurdy, an increase in the California minimum wage has a more positive effect on California families' earnings because cost increases can be exported (transferred to other states that import from California) while retaining the same benefits. That is not the case when a federal minimum-wage increase occurs because Californians must pay higher prices for goods produced by minimum-wage workers both within and outside the state. However if California goods are more expensive than the goods in other states, because of an increase in California's minimum wage, there could be

employment losses because California would be less competitive in the national and foreign markets.

Effect on Terms of Trade and Competitiveness

As discussed earlier, firms could adjust to the minimum-wage cost effects by reducing employment, taking less profit, or increasing product prices. Any combination of these three effects can occur. However, profit-maximizing firms will try to protect their profits as much as possible. If firms adjust by reducing employment, production will fall and prices will eventually increase. If employment reduction does not occur, all the cost adjustment is absorbed by higher prices. The extent of these effects on relative prices (competitiveness) between industries depends on a number of factors, including:

- how much the higher wage costs affect total operating costs in the individual firms.
- the market structure (proportion of low-wage workers in the labor force hired by a particular industry).
- how much profit firms were receiving.
- the sensitivity of consumer demand to changes in product prices by the industries. For example, most service industries are less sensitive to changes in demand than apparel industries. Most service sectors pass costs on to customers by raising prices. As consumers adjust their spending, substituting some higher priced products with other cheaper products, there are spillover effects to other industries, including those not hiring minimum-wage workers.
- increases in productivity brought about by cost changes. For example, whether increases in the minimum wage increase the productivity of low-wage workers or attract more skilled workers to low-wage positions.
- the ability of the firm to replace low-skilled workers with machines or higher-skilled workers. For example, machines cannot replace bus drivers, but vending machines could replace certain retail workers.
- the length of the supply chain of firms. There are spillover effects through changes in the demand for intermediate products on industries that do not hire minimum-wage workers. For example, if the number of clients dining in fast-food restaurants declines, fast-food restaurants may buy fewer paper napkins, affecting firms that produce paper goods and also the firms delivering paper goods.

Minimum-Wage Effects on Low-Wage Industries' Terms of Trade

The concern is that an increase in the minimum wage could boost the cost of doing business in California in affected industries. These higher costs would make it more difficult to compete with firms in other states or the rest of the world. Our review did not find any study focusing specifically on the competitive effects of minimum-wage

changes between industries. However, some research has looked at particular industries comparing the effect of the minimum wage on prices across states, cities, and other geographic areas. This research did not find significant changes in relative prices brought about by minimum wage increases.

Employers that pay wages at or near the minimum wage tend to be relatively small businesses, concentrated in the retail trade sector and the restaurant industry. About 80 percent of minimum wage workers in the U.S. are employed in two sectors: (1) retail trade, and (2) service industries. Over half of all minimum-wage workers employed in the retail trade sector alone are employed in multi-establishment firms such as McDonald's or WalMart stores. Other sectors hiring a significant proportion of minimum-wage workers are hotels, grocery stores, variety merchandise stores, construction, health services, personal services, and elementary and secondary education. A large proportion of industries that employ minimum-wage workers are service industries, or industries that do not directly compete with out-of-state industries. Research supports that prices in these sectors are less responsive to changes in demand and that most increases in wages are passed on as price increases.

Spillover effects minimize changes in terms of trade and the competitive positions of those sectors directly affected by the increase in the minimum wage. Even if an industry employs no minimum-wage workers, the prices for that industry's output may rise because the industry uses goods or contracts for services produced with minimum-wage labor. In this case, part of the costs affecting industries hiring minimum-wage workers are transferred to those industries that are not directly affected by the minimum wage. As a result, there are smaller price increases in the low-wage industries and some price increases in the rest of the industries. In this way, costs are spread over all industries.

That price effects are small is supported by the O'Brien-Strain and MaCurdy study when looking at the total effects of minimum-wage changes on prices and consumer spending in California. According to these authors, most of these price increases are relatively small, usually less than two percent. A study by Leonard O'Roark also found that a 50-cent increase in the minimum wage would increase the price of food products by less than one percent and the price of eating and drinking places by almost one percent.[25]

Card and Krueger's comparison of price changes at fast-food restaurants in New Jersey and Pennsylvania after the increase in the New Jersey minimum wage suggests that average prices rose in New Jersey by an amount enough to cover the increase in minimum wage. Within New Jersey, prices rose in all restaurants (not only fast-food restaurants). A study for Texas showed similar results. Finally, Card and Krueger analyzed price data to evaluate increases of average restaurant prices across cities and states affected by the 1990 and 1991 changes in the federal minimum wage. They included cities and states where the effects of the changes in the federal minimum wage had substantial effects on the wages of restaurant workers, as well as those where the impact was smaller. Their conclusion was that prices on average cover the minimum-wage increase, but differences across geographical areas were not significant.[26]

Minimum-Wage Effects on California Competitiveness With Other States

The only study in our review that touches the issue of California's competitiveness is O'Brien-Strain and MaCurdy's research. According to these authors, families outside California consume one-third of California's low-wage goods. However, their study did not measure changes in other states' demand for California goods.[27]

It is unlikely that changes in the minimum wage significantly affect the competitive position of California goods. As discussed earlier, numerous studies indicate that price effects are small. If price effects are spread over all products, changes will be even smaller, and the competitive position of California industries will not be significantly affected. Moreover, most of the industries directly affected by the minimum wage rarely compete with out-of-state industries.

There are also other effects that could offset any adverse effect on California competition. One is when higher costs are absorbed by increases in the productivity of low-wage workers or productivity increases brought about by the addition of more skilled workers to low-wage positions. Another offsetting effect is production increases generated by higher spending by low-wage workers.

CONCLUSIONS ON THE EFFECTS OF THE MINIMUM-WAGE ON CALIFORNIA OVER THE LAST FIVE YEARS

This point has been addressed in earlier sections. California grew rapidly and performed better than other states during the period 1995 through 2000. During this period, California had a minimum-wage proposal in place. Most of the growth experienced during that period was due to increases in productivity, particularly in the information technology sector and other high-tech activities. This was a period of low inflation for the country and California as well.

Could California have grown more rapidly without a minimum wage law in place? This is a question very difficult to answer since it is very hard to isolate the effect of minimum-wage changes from other economic effects. Income increased substantially during this period, together with the demand for California goods and services. Exports also increased significantly. All wages increased statewide.

There is only one study looking at the effects of minimum-wage changes in California that we discussed earlier. This study by O'Brien-Strain and MaCurdy focused on the distributive and competitive effects. The assessment of minimum-wage effects in such a changing environment as California would require a very comprehensive model of the economy. The aforementioned study did not use such a model. Such a model may not be necessary though, since our earlier discussion of the literature on the minimum-wage economic effects on other states indicates that price effects are minor (inflation), and so are the employment effects (job retention). Effects on productivity (main engine of growth) could even be positive provided that changes in wages lead to more efficient ways of production. That could have been the California case.

LIVING WAGES

The Concept of Living Wages

Because living wages are essentially higher minimum-wage proposals for public contracts, we include living wages in this discussion. Living-wage laws establish a supra-minimum wage for private workers under contract with local governments.

Over 50 cities and counties have now adopted living-wage ordinances and many more are still considering them.[28] For example:

- In December 1994, Baltimore became the first city to adopt a living-wage ordinance.
- In 1995 and 1996, many local governments started to adopt or discuss the implementation of living-wage ordinances.
- In 1996, Santa Clara County (California) adopted this type of measure. By that time, the city of Los Angeles started a debate over proposed living-wage laws, adopting in April 1997 the most ambitious measure to date, since it covered more than 1,000 firms and 7,000 workers.
- In Los Angeles, the living wage was set at $7.25 when the employer provided health benefits, or $8.50 when the employer did not provide health benefits.[29]
- In 1997, West Hollywood followed the same policy. In 1998, three more California cities (Oakland, San Jose, and Pasadena) adopted living-wage ordinances.
- In 1999, Los Angeles increased the 1997 living wage, while Hayward also adopted a living-wage ordinance.
- In the year 2000, four more California cities enacted these living-wage laws (Santa Cruz, San Francisco, San Fernando, and Berkeley).[30]

Economic Effects of Living Wage Ordinances

Since living wages affect a specific group of workers, mostly working for public contracts, the economic effects of these ordinances are somewhat different from minimum-wage proposals. This is because 1) companies affected by living wage laws do so voluntarily as part of a contractual negotiation with a government agency, and 2) a public agency's decision to contract for particular services may not be that sensitive to the additional costs from a living-wage requirement. Therefore, the price effects from the imposition of living wages are expected to be stronger than the price effects of changes in the minimum wage because contractors can more easily absorb costs. For example, compared to some minimum-wage businesses (such as a garment industry), living-wage businesses (such as those offering janitorial services) have more opportunity to pass on costs by raising contract prices to the government agency rather than economizing labor.

However, over the long-term, by bidding new contracts, contractors can reflect living-wage increases. Costs for the government (for example a city) will rise, affecting the funding of other services or other city expenditures rather than the janitorial service contract. However, employment may still decline in other sectors. The aggregate effect is likely to be a shift of income from the higher-skill, high-paid workers in other areas to the low-skill workers on living-wage contracts. It is also possible that in the short term, costs are not passed on to government, and the firm may be willing to accept short-term negative profits, if it believes that in the long run they could gain excess profits.

Few economists have studied the indirect effects of living-wage laws. That work requires active cooperation from government agencies and disclosure of confidential information from firms. The only study that examines contracts before and after the implementation of the living-wage ordinance focuses on the effects of the living wage law of Baltimore City.[31] After one year, this study did not find any evidence of price increases in city contracts or employment losses, supporting the hypothesis that costs could be absorbed through small declines in profits or increases in efficiency. However, results should be taken with caution since most contracts are multi-year contracts, and the total effects of wage changes may be felt in a longer run.

There are also two studies on the effects of the living-wage ordinance for Los Angeles. One study was carried out by Pollin (University of Riverside) [32] and the other, by Williams and Sander. [33] The Pollin study predicts both higher costs and higher benefits than the Williams study. The difference between the studies is that they projected different numbers of affected workers. The Pollin study concluded that higher wage costs will be absorbed by lower profits and increased efficiencies, resulting in no change in employment. Williams and Sander's study predicted a significant job loss. They also pointed out that living-wage ordinance enforcement is difficult and cost impacts depend on the institutional context. For example, some departments responded to higher bids by not contracting those services, while others just accepted higher costs.

Regarding income distribution effects, Pollin and Williams and Sander reached different conclusions. Neither Pollin nor Williams and Sander actually estimated the benefits of the ordinance by analyzing actual data from families who would be affected by the law, but they used estimates from other sources which the authors thought represented the situation of the affected families. Pollin estimated that only about 32 cents out of every dollar of extra disposable income is available to the worker (after making adjustments for taxes and subsidies). This smaller increase in disposable income is the result of more than a 50 percent decline in the government subsidies received by the family, which represents substantial savings to the general taxpayer. Williams and Sander found that the income transfer was very modest and that the living-wage ordinance would bring a relatively small number of families out of poverty.

APPENDIX A

Minimum Wage and Tipping Credit by State				
State	**Minimum Wage Rate Per Hour**	**Future Rate Increases**	**Tip Credit**	**Cash Wage For Tipped Employees**
Alabama	No state minimum wage law		$3.02	$2.13
Alaska	$5.65	Automatically set at 50 cents above the rate set in FLSA.	0	$5.65*
Arizona	No state minimum wage law.		$3.02	$2.13
Arkansas	$5.15	Applies to employers of 4 or more employees	50%	$2.575
California	$6.75	$6.75 as of 01/01/02	0	$6.75*
Colorado	$5.15		$3.02	$2.13
Connecticut	$6.70	$6.70 as of 01/01/02	$1.41	$4.74 for hotel, restaurant—other industries differ
Delaware	$6.15	Min. wage automatically replaced with Fed. Min. wage if higher than State.	$3.92	$2.23
District of Columbia	$6.15	Automatically set at $1 above the Federal minimum wage	$2.77	Not specified
Florida	No state minimum wage law		$3.02	$2.13
Georgia	$5.15 for employers of 6 or more employees		$3.02	$2.13

* State does not allow tip credit

Minimum Wage and Tipping Credit by State				
STATE	**MINIMUM WAGE RATE Per Hour**	**FUTURE RATE INCREASES**	**TIP CREDIT**	**CASH WAGE FOR TIPPED EMPLOYEES**
Hawaii	$5.75	$5.75--$1/01/02 $6.25--$1/01/03	$0.20	$5.05
Idaho	$5.15		$1.80	$3.35
Illinois	$5.15	State adopts the Federal minimum wage.	$2.06	$3.09
Indiana	$5.15		$3.02	$2.13
Iowa	$5.15		40%	$3.09
Kansas	$2.65		40%	$1.59
Kentucky	$5.15		$3.02	$2.13
Louisiana	No State minimum wage law		$3.02	$2.13
Maine	$5.75	$5.75 –1/01/02 $6.25 – 1/01/03	50%	$2.88
Maryland	$5.15	The state adopts the Federal minimum wage	$2.77	$2.38
Massachusetts	$6.75	The Massachusetts minimum wage rate automatically increases to 10 cents above the rate set in the FLSA if the Fed. Minimum equals or becomes higher than the State minimum.	$4.12	$2.63
Michigan	$5.15 Applicable to employers of 2 or more employees		$2.50	$2.65
Minnesota	$5.15 Larger employer (annual receipts of $500,000 or more)		$0	$5.15

Minimum Wage and Tipping Credit by State				
STATE	**MINIMUM WAGE RATE Per Hour**	**FUTURE RATE INCREASES**	**TIP CREDIT**	**CASH WAGE FOR TIPPED EMPLOYEES**
Mississippi	No state minimum wage law		$3.02	$2.13
Missouri	$5.15	State adopts the Federal minimum wage rate.	Up to 50%	Not specified
Montana	$5.15 $4.00 businesses with gross annual sales of $110,00 or less.	State adopts the Federal minimum wage	0	$5.15[†]
Nebraska	$5.15 Applicable to employers of 4 or more employees		$3.02	$2.13
Nevada	$5.15	Automatically adopts the Federal minimum if higher than the State.	$0	$5.15[*]
New Hampshire	$5.15	Automatically adopts the Federal minimum if higher than the State.	50 %	$2.58
New Jersey	$5.15	The State adopts the Federal minimum wage rate.	Not specified	
New Mexico	$4.25		$3.02	$2.13
New York	$5.15	Automatically adopts the Federal minimum if higher than the State.	Different amount for different industries .	$3.30
North Carolina	$5.15	Adopts the Federal minimum wage rate.	$3.02	$2.13

[†] State does not allow tip credit.

Minimum Wage and Tipping Credit by State				
STATE	**MINIMUM WAGE RATE Per Hour**	**FUTURE RATE INCREASES**	**TIP CREDIT**	**CASH WAGE FOR TIPPED EMPLOYEES**
North Dakota	$5.15		33%	$3.45
Ohio	$4.25 $3.35 Employers with gross annual sales from $150,000 to $500,000 $2.80 Employers with gross annual sales under $150,000.		50%	$2.125
Oklahoma	$5.15 Employers of ten or more full-time employees at one location and employers with annual gross sales over $100,000 irrespective of number of full-time employees. $2.00 other employers.		50%	$2.58
Oregon	$6.50		0	$6.50*
Pennsylvania	$5.15	The state adopts the Federal minimum wage	$2.32	$2.83
Puerto Rico	$3.61 to $5.15		Not Specified	Not Specified
Rhode Island	$6.15		$3.26	$2.89
South Carolina	$5.15 (state adopts federal minimum wage law)		$3.02	$2.13
South Dakota	$5.15		$3.02	$2.13
Tennessee	$5.15 (state adopts federal minimum wage law)		$3.02	$2.13

* State does not allow tip credit

Minimum Wage and Tipping Credit by State				
STATE	**MINIMUM WAGE RATE Per Hour**	**FUTURE RATE INCREASES**	**TIP CREDIT**	**CASH WAGE FOR TIPPED EMPLOYEES**
Texas	$5.15		50%	$1.68
Utah	$5.15 (state adopts federal minimum wage law)		50%	$2.58
Vermont	$6.25 Applies to employers of two or more employees		45%	$3.44
Virginia	$5.15 (state adopts federal minimum wage law)		Not specified	
Washington	$6.90		$0	$6.90*
West Virginia	$5.15		20%	$4.12
Wisconsin	$5.15		$2.42	$2.33
Wyoming	$5.15		50%	$1.10

Source: U.S. Department of Labor and National Restaurant Association. Prepared by California Research Bureau, California State Library

* State does not allow tip credit

APPENDIX B

Among the numerous studies documenting negative employment effects from minimum-wage changes are:

- Neumark and Wascher 1992 study. The authors found a negative effect on employment when analyzing state data covering the years 1973 through 1989.[34] Their work has been criticized because their results are sensitive to the inclusion of school enrollment, a variable which measurement is methodologically questionable. Leaving school enrollment aside of the explanation, results are no longer statistically significant.

- Much research has documented a negative association between labor turnover and wage rates. One example is a study conducted by Sicilian and Grossberg.[35] However, this study has been criticized because the authors could not separate the minimum-wage rate effect from the fact that low-wage workers always tend to have higher turnover rates than higher-wage workers.

- A study by Kim and Taylor in 1994 analyzed employment data from various County Business Patterns reports.[36] These authors found that the 1988 $4.25 minimum wage reduced retail-trade employment in the state by five percent, and restaurant employment in the state by eight percent. However, critics have revealed that alternative approaches using the same data show small and statistically insignificant employment effects.[37]

- More recently, in 1995, Neumark and Wascher analyzed current population surveys to explore the effect of minimum-wage raises on teenagers. They found that although the negative effects on employment were small, there are other employment shifts that may concern policy makers. For example, higher-skilled teenagers leave school and displace lower-skilled workers from their jobs.[38]

- Currie and Fallick found from their analysis of the National Longitudinal Survey of Youth that individuals affected by the federal minimum wage in 1979 and 1980 were less likely to be employed a year later. Their conclusion held after accounting for differences between workers employed at the minimum wage.[39]

APPENDIX C

The following are some examples of studies challenging the results of earlier studies on the negative effects of the minimum wage on employment:

- One analysis using data from individual fast-food restaurants collected in New Jersey and Texas before and after an increase in the minimum wage showed that starting wages in these establishments increased considerably (11 and eight percent). In both cases, contrary to the predictions of the standard model, there was an increase in employment.[40]
- A recent reexamination of the effect of the minimum-wage increase on employment in the fast-food industry using a new data set found consistent results with the earlier study.[41]
- A study on the effects of the 1996 increase in the federal minimum wage, which raised the wage in Pennsylvania but not in New Jersey, revealed that, relative to New Jersey, Pennsylvania did not experience negative effects on employment. A reexamination of a sample of fast-food restaurants also did not show differences in hour-growth between New Jersey and Pennsylvania.[42]
- Another study looked at short- and long-term effects from changes in the minimum wage. Perhaps higher minimum wages may deter the formation of new restaurants. The analysis found that the rate of restaurant openings and closings in the McDonald's restaurant chain between 1986 and 1991 did not decrease the total number of McDonald's restaurants in a state, or affect the rate of restaurant openings.[43]
- A study using statewide data for teenage workers in California before and after the July 1988 increase in the state's minimum wage found similar results to the New Jersey-Texas studies. There was an increase in teenage employment in California after the 1988 rise in the minimum wage.[44]
- Analyses using statewide data for the 50 states from before and after the 1990 and 1991 increases in the federal minimum wage also found that increases in the minimum wage led to increases in wages for the affected workers with zero or positive effects on employment. These studies focused on a comparison of various labor market outcomes between high-wage states (where the effect of federal minimum-wage legislation had little or no effect on wages) and low-wage states, where the minimum-wage increase represented a significant increase in wages. Employees in retail trade and restaurant industry were also analyzed in these studies.[45]

NOTES

[1] California. Department of Industrial Relations. *Minimum Wage Increases to $6.25 Per Hour Starting January 1* (San Francisco: the Department, December 19, 2000, IR #00-17) http://www.dir.ca.gov/DIRNews/2000/IR2000-17.html.

[2] U.S. Department of Labor. Employment and Standards Administration. Wage and Hour Division. *Minimum Wage Laws in the States* (Washington, DC: the Department, January 1, 2002). http://www.dol.gov./dol/esa/public/minwage/america.htm.

[3] David Card and Alan B. Krueger, *Myth and Measurement: The New Economics of the Minimum Wage*. (Princeton, NJ: Princeton University Press, 1995).

[4] Margaret O'Brien-Strain and Thomas MaCurdy, *"Increasing the Minimum Wage: California's Winners and Losers* (San Francisco: Public Policy Institute of California. 2000).

[5] For example, as quoted by David Card and Alan B. Krueger, George Stigler, about 50 years ago, called for economists to be "outspoken, and singularly agreed" that increases in the minimum wage reduce employment. In David Card and Alan B. Krueger, *Myth and Measurement*, p. 1.

[6] Taeil Kim and Lowell J. Taylor, "The Employment Effect in Retail Trade of California's 1988 Minimum Wage Increase," unpublished paper, Carnegie Mellon University, Department of Economics, Pittsburgh, 1994.

[7] Michael Baker, Dwayne Benjamin, and Shuchita Stanger, "The Highs and Low of the Minimum Wage Effect: A Time-Series Cross-Section Study of the Canadian Law," *Journal of Labor Economics* 17, no. 2 (April 1999), 318-350.

[8] Charles Brown, Curtis Gilroy, and Andrew Kohen, "The Effect of the Minimum Wage on Employment and Unemployment," *Journal of Economic Literature* 20 (1982), 487-528.

[9] Table 1 was taken from David Card and Alan B. Krueger, *Myth and Measurement: The New Economics of the Minimum Wage*. (Princeton, NJ: Princeton University Press, 1995), 181.

[10] Table 2 was taken from David Card and Alan B. Krueger, *Myth and Measurement*, p. 82.

[11] Victor R Fuchs, Alan B. Krueger, and James M. Poterba, "Economists' Views About Parameters, Values, and Policies: Survey Results in Labor and Public Economics," *Journal of Economic Literature* 36, no. 3 (September 1998), 1387-1425. Cited in David Neumark, Mark Schweitzer, and William Wascher, "Will Increasing the Minimum Wage Help the Poor?" Cleveland, OH, Federal Reserve Bank of Cleveland. February 1, 1999.

[12] David Card and Alan B. Krueger, *Myth and Measurement: The New Economics of the Minimum Wage* (Princeton, NJ: Princeton University Press, 1995). See also: Lawrence F. Katz and Alan B Krueger, "The Effect of the Minimum Wage on the Fast-Food Industry." David Card, "Using Regional Variation in Wages to Measure the Effects of the Federal Minimum Wage." David Card, "Do Minimum Wages Reduce Employment? A Case Study of California, 1987-1989." All three articles are in *Industrial and Labor Relations Review* 46, no. 1 (October 1992).

[13] David Card and Alan B. Krueger, *Myth and Measurement*, p.168. See Walter J. Wessels, *Minimum Wages, Fringe Benefits, and Working* Conditions (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1980). See also William T. Alpert, *The Minimum Wage in the Restaurant Industry*, (NY: Praeger, 1986).

[14] David Card and Alan B. Krueger, *Myth and Measurement*, Chapter 2 and Chapter 12 (Conclusions).

[15] David Card and Alan B. Krueger, *Myth and Measurement*, p. 324.

[16] David Card and Alan B. Krueger, *Myth and Measurement*, p. 391.

[17] David Card and Alan B. Krueger, *Myth and Measurement*, p. 320.

[18] Richard Sander and Douglas Williams, "Living Wages and the Problem of Inequality in California," in Daniel J.B. Mitchell and Patricia Nomura, eds., *California Policy Options 2001* (Los Angeles: The School of Public Policy and Social Research, University of California and the UCLA Anderson Forecast). Another

example is a study conducted by Pollin on the effect of living wages in Los Angeles: Robert Pollin, *Economic Analysis of the Los Angeles Living Wage Ordinance* (Riverside, CA: University of California at Riverside, Department of Economics, October 1996). Cited in Carol Zabin, *Assessing the Costs and Benefits of the 'Living Wage Ordinance*: *A Review of the Evidence* (Los Angeles, CA: University of California, Los Angeles, Center for Labor, Research and Education, School of Public Policy, Policy Brief, January 7, 1997). During the course of that study, and for comparison purposes, researchers interviewed contractors in Baltimore, the city that instituted the first living wage ordinance in the U.S. These contractors confirmed that higher wages did reduce turnover and improve workers' morale.

[19] For example, an article by Peter Passell in the New York Times (February 18, 1993) indicated that "much of the gain from a higher minimum wage would go to surfboards and stereos - not into rent and baby formula." Cited in Card and Krueger, *Myth and Measurement*.

[20] David Neumark, Mark Schweitzer, and William Wascher. *Will Increasing the Minimum Wage Help the Poor?* (Cleveland: Federal Reserve Bank of Cleveland, February 1, 1999).

[21] Research by Edward Gramlich, Andrew Kohen and Curtis Gilroy, and Card and Krueger, agrees with this distribution. However, a most recent study by Horrigan and Mincy using 1988 data concluded that minimum wage workers are uniformly distributed across the family-income distribution. See 1) Edward M. Gramlich, "Impact of Minimum Wages on Other Wages, Employment and Family Incomes," in

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[22] Ronald B. Mincy, "Raising the Minimum Wage: Effects on Family Poverty," *Monthly Labor Review* 113, no. 7, (July 1990), pp. 18-25.

[23] David Macpherson, *The Effects of the Proposed California Minimum Wage Hike* (Florida: Employment Policies Institute, Florida State University, October 2000).

[24] Margaret O'Brien-Strain and Thomas MaCurdy, *Increasing the Minimum Wage: California's Winners and Losers* (San Francisco: Public Policy Institute of California, 2000).

[25] Lee Chinkook and Brian O'Roark, *The Impact of Minimum Wage Increases on Food and Kindred Product Prices: An Analysis of Price Pass-Through* (Washington, D.C.: Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture: Technical Bulletin No. 1877, 1999.) Cited in Margaret O'Brien-Strain and Thomas MaCurdy, "Increasing the Minimum Wage: California's Winners and Losers."

[26] David Card and Alan B. Krueger, *Myth and Measurement*.

[27] Margaret O'Brien-Strain and Thomas MaCurdy, "Increasing the Minimum Wage: California's Winners and Losers."

[28] See Richard Sander and Douglas Williams. "Living Wages and the Problem of Inequality." For complete documentation and history of the living wage issue, see the Association of Community Organizations for Reform Now site (http://www.acorn.og/) and the Employment Policies Institute (http://www.epionline.org/).

[29] See Richard Sander and Douglas Willliams. "Living Wages and the Problem of Inequality."

[30] For detailed information, see www.afscme.org/livingwage/livchart.htm and www.acorn.org.

[31] Mark Wesibrot and Michelle Sforza-Roderick. *Baltimore's Living Wage Law: An Analysis of the* Fiscal *and Economic Costs of Baltimore City Ordinance 442* (Washington D.C.: The Preamble Center for Public Policy, 1996).

[32] See Carol Zabin, "Assessing the Costs and Benefits of the 'Living Wage Ordinance': A Review of the Evidence." UCLA Center for Labor Research and Education. School of Public Policy. Policy Brief. January 7, 1997. See also Robert Pollin, "Economic Analysis of the Los Angeles Living Wage Ordinance." University of California at Riverside, Department of Economics. October 1966.

[33] Douglas E. Williams (Carleton College) and Richard H. Sander (UCLA), "An Empirical Analysis of the Proposed Los Angeles Living Wage Ordinance: Final Report." January 17, 1997.

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

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[40] David Card and Alan B. Krueger, *Myth and Measurement*, Chapter 2 and Chapter 12 (Conclusions).

[41] David Card and Alan B. Krueger, *Myth and* Measurement, Chapter 2 and Chapter 12 (Conclusions).

[42] David Card and Alan B. Krueger. "A Reanalysis of the Effect of the New Jersey Minimum Wage Increase on the Fast-Food Industry with Representative Payroll Data." Working Paper #393, Princeton University. January 1999.

[43] David Card and Alan B. Krueger, *Myth and Measurement*, Chapter 2 and Chapter 12 (Conclusions).

[44] David Card and Alan B. Krueger, *Myth and Measurement*, Chapter 3 and Chapter 12 (Conclusions).

[45] David Card and Alan B. Krueger, *Myth and Measurement*, Chapter 4 and Chapter 12 (Conclusions).