# THE IMPACT OF MINIMUM WAGE CHANGES ON EMPLOYMENT AND GUAM'S LABOR FORCE

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This study analyzes the impact of minimum wage legislation on Guam for the period 1975 to 1982. Estimates were made using time-series data to determine the impact of the minimum wage on Guam's labor force. Conclusions are drawn as to the policy implication for Guam of continuing increases in the minimum wage without regard to the differences in average wages of Guam and those of the United States.

# 1. Empirical Model for Evaluating the Impact of the Minimum Wage

The model developed in this section is similar in form to other models in the literature. The model estimates the net impact of the minimum wage on Guam's economy. The kind of data available as well as the popularity of these types of equations estimated in several studies in large part dictate their use. Two equations, in which an ad hoc functional specification is used in an attempt to explain the determinants of variations in the labor force participation rate and in the employment participation rate, are estimated for two dependent variables. They include the fraction of the population employed and the fraction in the labor force. The coefficients of these regressions are used to calculate unemployment rate elasticities.

(1) 
$$E/P = MWAGE^{\alpha l} UR^{\alpha l} \exp (\alpha_3 D_1 + \alpha_4 D_2 + \alpha_5 D_3) \varepsilon$$

(2) 
$$L/P = MWAGE^{\beta 1} UR^{\beta 2} \exp(\beta_3 D_1 + \beta_4 D_2 + \beta_5 D_3) \varepsilon$$

where:

E/P: employment ratio (fraction of civilian

noninstitutional population employed)

L/P : labor force ratio (fraction of civilian

noninstitutional population employed)

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UR: cyclical variable; the unemployment rate of males

aged 25-44 lagged one quarter.

Di : set of seasonal dummies (fourth quarter excluded)

 $\varepsilon, \varepsilon$ : error terms (assumed to be distributed log normally)

Kaitz (1976) has argued against estimating unemployment rates directly. He argues that due to a high labor force and the elasticity of changes in employment exhibited in studies of young people, the unemployment rates (ratio of unemployment to the labor force) will show behavior combining the effects of both numerator and denominator, making it difficult to interpret equations using these as dependent variables. According to Kaitz, the population ratio equations are more reliable and much easier to interpret since population is exogenous which means changes in the numerator will not lead to changes in the denominator. The population ratios will therefore show the impact of a variable on employment and the labor force which are the two determinants of the unemployment rate. From this, we can derive the indirect impact of the variable on the unemployment rate.

The minimum wage variable (MWAGE) is one originated by the Bureau of Labor Statistics (Kaitz, 1970) and used in numerous studies including recent studies in Mincer (1976) and Ragan (1981). A group's minimum wage variable is defined to be the ratio of nominal minimum wage deflated by average hourly earnings weighted by each industry within the private sector. The average hourly earnings measure thus standardizes for erosion, due to rising prices and growing productivity of the effectiveness of the minimum wage.

(3) 
$$MWAGE = \sum_{i} \frac{\varepsilon_{i}}{\varepsilon_{t}} \left[ \left( \frac{MB_{i}}{AHE_{i}} \cdot CB_{i} \right) + \left( \frac{MN_{i}}{AHE_{i}} \cdot CN_{i} \right) \right]$$

where:

E : employment

AHE: average hourly earnings

MB: basic minimum wage

MN : minimum wage for newly covered sectors

CB: proportion of nonsupervisory employees covered

by the basic minimum wage

CN: proportion of nonsupervisory employees covered

by the rate applicable to newly covered workers

i : industry

t : total private

The Minimum Wage Variable (MWAGE) is lagged one quarter. Several studies have used various lengths of lags as well as forms of lags without adding significantly to the results (Adie and Chapin, 1970; Adie 1971).

Seasonal dummy variables are included to net out the influence of seasonal changes in employment levels. The last quarter is left out so the dummy variables  $D_1$ ,  $D_2$ ,  $D_3$  represent the first through the third quarters. A cyclical variable UR is the unemployment rate of males aged 25 to 44 lagged one quarter. In the literature, the cyclical variable normally used reflects changes in the economy using changes in GNP as a variable. However, since GNP statistics are not available for Guam, we used an alternative variable which is the unemployment rate of the 25-44 age group. The expected sign of UR in both equations is negative in equations 1 and 2 because employment and labor force participation should be greater in tight than in loose labor markets (Ragan, 1981; Kaitz, 1976). All the variables are incorporated into a log-linear specification. According to Ragan (1981) the log-linear specification is theoretically superior to the simple linear version because the impact of an independent variable is invariant with respect to the initial values of E/P and L/P, whereas in the log-linear form, the impact is proportional. The log-linear specification also lends itself to easy interpretation of the parameter estimates.

## 2. The Data

The data used in this analysis are from the Guam Department of Labor Quarterly Survey of the noninstitutional civilian population. The methods of collecting the information are patterned after those used in collecting similar statistics in the United States. The time

period from which the statistics will be taken is 2nd Quarter 1975 to 2nd Quarter 1982. In cases of missing data (surveys were not made for all quarters in the years 1975, 1978, 1977, 1981 and 1982), an average value was calculated based on the preceding and following observations. In instances where the quarter survey was made and observations reported in a month other than March. June, September, or December, the observations were treated as an observation from the closest quarter. For example, a survey done in May and reported for May is treated as a 2nd Quarter observation. Although the quarterly observations are not average values for a particular quarter (they are actually results of a survey made in a particular month and reported as such), they are treated as quarterly observations in the regression analysis. The total number of observations available for the time period analyzed is 29; however, one observation was lost in lagging the minimum wage and cyclical variables one period.

Table 1 shows the mean, standard deviation and coefficient of variations of the labor force participation rates for the males and females of different age groups. Table 2 shows the mean, standard deviation and coefficient of variations of the employment participation rates for male and female age groups for the time period II 1975 to II 1982.

Table 1 - Labor Force Participation Rates by Age and Sex 1975 - 1982 (Average)\*

Age		Male		1	Female	
	x	X.D.	C.V.	x	S.D.	C.V.
16-19 years	43.4	15.8	36.4	35.7	13.4	37.5
20-24	86.0	3.7	.04	62.1	3.6	.05
25-44	94.3	1.7	.01	60.6	2.7	.04
44+	74.5	2.2	.02	32.7	2.2	.07

<sup>\*</sup> Labor Force participation rate is the ratio of the labor force to the population for a particular age group.

Although the population of males and females is roughly the same for the period 1975-1982, the labor participation rates and employment participation rates are significantly higher for males

than for females in all age groups. A higher variability (as reflected by the coefficient of variation) in all age groups for females than for males raises the question of what variables are the cause of the variability. Higher variability with lower participation rates for females than males implies that external shocks—for example, minimum wage changes—should have a greater impact on the employment of females than males (Ragan, 1981).

Table 2 - Employment Participation Rates by Age and Sex 1975 - 1982 (Average)\*

Age		Male			Female	
	x	X.D.	C.V.	X	S.D.	c.v
16-19 years	26.5	6.2	23.4	21.6	5.6	25.9
20-27	74.1	5.1	.07	52.8	4.8	.09
25-44	90.8	2.1	.02	55.8	3.2	.05
44+	72.0	2.2	.03	30.7	2.3	.07

Employment participation rate is the ratio of the employment to population for a particular age group.

Table 3 shows the mean and standard deviation of unemployment rates for the different age and sex groups.

Table 3 - Mean and Standard Deviation of Unemployment Rates for the Different Age and Sex Groups

Age	M	ale	Fen	nale
	x	X.D.	X	S.D.
16-19 years	31.1	8.1	34.1	8.4
20-24	13.7	4.7	45.0	4.8
25-44	3.7	1.0	8.0	1.9
44+	3.3	1.2	6.2	1.8

From Table 3 we see an unemployment rate for teenagers and the 20-24 age group which exceeds 31 percent for the former age group and 13 percent for the latter age group. When we consider that approximately 21 percent of the labor force is in the age group 16-24 years (Guam Annual Economic Review 1982) our interest in finding out what contributes to these high unemployment rates increases.

Table 4 shows the minimum wage variable for 1975 to 1982. The coverage of the minimum wage is virtually 100 percent because the agricultural sector, although exempt, has less than 100 employees. As mentioned earlier, there has been no measured absolute or relative growth in employment within the agricultural sector. Therefore, it will be assumed that workers who are unable to find work in the covered sector will move out of the labor force.

Table 4 - Nominal Minimum Wage Average Hourly Earnings Weighted by Industry M Wage Variable for Guam and the United States

Date	Nominal Min. Wage	(Guam AHE*)	Guam M. Wage**	U.S. M. Wage**
06/75	\$2.25	\$3.00	66.5	50.2
19/75	\$2.25	\$3.50	66.6	49.1
12/75	\$2.25	\$3.58	62.9	48.2
03/76	\$2.30	\$3.36	68.5	48.5
06/76	\$2.30	\$3.59	64.1	47.8
09/76	\$2.30	\$3.58	64.3	46.9
12/76	\$2.30	\$3.93	58.5	46.0
03/77	\$2.30	\$3.72	61.8	45.2
06/77	\$2.30	\$3.24	71.0	44.3
09/77	\$2.30	\$3.75	61.3	43.5
12/77	\$2.30	\$3.78	60.9	42.6
03/78	\$2.65	\$3.99	66.4	48.3
06/78	\$2.65	\$4.10	64.6	47.2
09/78	\$2.65	\$4.40	60.2	46.2
12/78	\$2.65	\$4.38	60.5	45.0
03/79	\$2.90	\$4.87	59.6	48.3
06/79	\$2.90	\$4.88	59.4	47.7
09/79	\$2.90	\$5.03	57.7	46.6

Table 4 (continued)

Date	Nominal Min. Wage	(Guam AHE*)	Guam M. Wage**	U.S. M. Wage**
12/79	\$2.90	\$5.02	57.8	45.6
03/80	\$3.10	\$5.21	59.5	48.0
06/80	\$3.10	\$4.95	62.6	55.7
09/80	\$3.10	\$5.42	57.2	46.2
12/80	\$3.10	\$5.16	60.01	44.9
03/81	\$3.35	\$5.41	59.2	47.4
06/81	\$3.35	\$5.66	60.6	46.7
09/81	\$3.35	\$5.68	59.0	45.8
12/81	\$3.35	\$5.48	61.1	45.0
03/82	\$3.35	\$5.44	61.5	44.4
06/82	\$3.35	\$5.40	61.8	44.0

<sup>\*</sup> Average hourly earnings.

It may be useful to mention that since families are not required to report the number of family members employed on family farms, nor the annual output produced on these farms, the actual employment in the agricultural sector may be understated. With no data to test this assertion, the assumption that there is a tendency for workers to move from the covered to the uncovered sector and out of the labor force, will be retained:

Table 4 allows us to make a comparison between the MWAGE statistics for the United States and Guam during the period 6/75 to 6/82. For all quarters, the minimum wage variable for Guam exceeds that of the United States and in no instance is the minimum wage variable for Guam less than 50 percent. If the rule of thumb referred to in the minimum wage literature (Report of the Minimum Wage Study Commission 1981) that the minimum wage be not more than 50 percent of the average hourly earnings or average wage rate is correct, then it is clear from Table 4 that the minimum wage on Guam is excessively high.

Mincer's 1976 study shows employment elasticities for teenagers to be .205 for the 16-19 years of age category and .020 for the 25-64 years of age category. The magnitudes of our employment regression

<sup>\*\*</sup> Minimum wage variable.

coefficients for the minimum wage variable are .761 and 1.42 for male and female teenage groups, respectively. Although our results are not significant, the signs of our coefficients are consistent with Mincer's. We expected our coefficients to be larger than Mincer's and others in Table 10 because of the paucity of job opportunities in Guam compared to the United States. Mincer's employment coefficients are larger in magnitude than the labor force coefficients which is again consistent with our results. Our employment coefficients are larger because there is no uncovered sector to which labor can flow.

Ragan (1977) obtained employment elasticities for the minimum wage variable of .23 for females in the 16-17 years old category with .16 labor force elasticity for the minimum wage variable. By and large, almost all the signs of the coefficient in this study are negative which is again consistent with our results.

Welch (1974) finds that an adverse effect on youth employment results from the minimum wage. He shows a coefficient of .29 for the 14-19 age group with males and females combined. The average employment coefficient for both teenage groups in our study is 1.09. We were unable to compare results of Welch's findings for the other groups due to differences in the definition of age groups.

Kaitz (1970) finds a coefficient for the minimum wage variable in the employment equation to be 2.208 for the females aged 16-17 years and again, as in other studies, the coefficient of the minimum wage variable of 2.313 has the same sign as our study. Our coefficient's magnitudes and that of Kaitz are not directly comparable since he used a linear specification whereas we used a log-linear specification.

Adie (1971) finds minimum wage variable coefficients in a loglinear employment equation of .43 and .83 for white and black teenagers, respectively. These results compare favorably with our average results for both teenage groups of 1.09. Again, the sign of our coefficient is the same as Adie's.

We used the MWAGE for Guam in Table 4 to estimate the employment and labor force regression equation for different age groups in the next section of this paper.

## 3. Findings

Equations 1 and 2 are estimated for the period May 1974 to June 1982. Data prior to 1974 and later than 1982 were unavailable at the time of this study. The equations are estimated for four different age subgroups (16-19, 20-24, 25-44, 45+) and sex. The model was estimated using ordinary least squares. All Durbin-Watson statistics proved to be in the acceptable range with the exception of the male teenage group where the employment elasticity coefficient was insignificant.

Estimates of the male and female employment equations for the four different age groups are presented in Tables 5 and 6; estimates of the male and female labor force participation equations are presented in Tables 7 and 8.

In Tables 5 through, 8 the F statistics of the regression used to test the hypothesis that all coefficients are zero exceeds the critical value (at the .05 level of significance for the 25-44 age group for both males and females in both sets of regressions.) Additionally, only the female employment and labor force regressions for the 20-44 age group were significant (at the .05 significance level). The impact of MWAGE is extremely unambiguous for females (in terms of the size of the coefficient and significance) in the 20-24, 25-44, and 45+age groups.

Upon examination of the employment equation in Tables 5 and 6, it is interesting to note that the coefficient of MWAGE,  $\alpha_1$ , is negative in six out of eight runs and is less than zero in six out of eight runs and is significantly so in four.

The impact of MWAGE is extremely apparent for females, both in terms of the size of the coefficient and significance in the 20-44, 25-44 and 45+ age groups.

From Tables 5 and 6 it can be asserted that a 10 percent minimum wage increase decreases employment in the following age and sex groups: by 2.4 percent for males in the 25-44 age group, and by 96 percent, 8.5 percent, and 10 percent for females in the 20-24, 25-44, and 45+ age groups, respectively. A higher ratio of part-time employment to total employment, suggests a higher rate of disemployment for females due to increases in the minimum wage.

A. H. QUAN

Table 5 - Employment Regressions by Age for Males<sup>1</sup>

Age	MW	UR	D1	D2	D3	F	R <sup>2</sup>	DW
16-19	761 (9.83)	139 (9.14)	09 (8.62)	.22 (2.09)	.09 .787	2.04	.317	1.04
20-24	.490 (1.96)	12 (2.41)*	06 (1.68)	.06 (1.67)	.03 (.96)	2.19	2.32	1.29
25-44	239 (4.07)*	044 (3.78)*	023 (2.80)*	01 (1.74)	00 .494	7.67	.635	1.30
45+	.201 (2.01)	05 (2.53)*	.01 (1.30)	.01 (.614)	00 (.480)	3.17	.418	1.74

<sup>1</sup> Values in parenthesis are "t" statistics.

Table 6 - Employment Regressions by Age for Females1

Age	MW	UR	D1	D2	D3	F	R <sup>2</sup>	DW
16-19	-1.42 (1.64)	42 (.245)*	09 (.53)	.17 (1.40)	.13 (1.02)	2.53	.365	1.40
20-24	0.957 (3.51)*	183 (3.42)*	06 (1.59)	00 (00)	.06 (1.61)	5.408	.551	1.20
25-44	851 (5.63)*	06 (2.00)	03 (1.54)	02 (1.10)	.03 (1.73)	8.22	.651	1.50
45+	990 (3.85)*	032 (.63)	.00 (.15)	.05 (1.26)	.07 (1.90)	3.30	.430	1.72

<sup>1</sup> Values in parenthesis are "t" statistics.

<sup>\*</sup> significant at the .05 level.

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Table 7 - Labor Force Regressions for Males by Age<sup>1</sup>

Age	MW	UR	D1	D2	D3	F	R <sup>2</sup>	DW
16-19	-1.532 (1.22)	03 (.11)	11 (.63)	.23 (1.31)	.12 (.69)	.916	.172	.937
20-24	.118 (.69)	02 (.70)	03 (1.20)	.00 (.21)	.00 (.00.)	.748	.145	.870
25-44	221 (3.90)*	022 (2.03)	01 (1.65)	00 (.57)	.00 (.88)	4.43	.501	1.41
45+	.23 (2.18)	03 (1.34)	01 (.314)	.02 (1.37)	.01 (.445)	2.42	.355	1.26

I Values in parenthesis are "t" statistics.

Table 8 - Labor Force Regressions for Females by Age1

Age	MW	UR	D1	D2	D3	F	R <sup>2</sup>	DW
16-19	-1.17	03	00	.33	.193			
	(.846)	(.11)	(.08)	(1.71)	(.955)	.837	.160	.840
20-24	513	096	049	018	.04			
	(2.86)*	(2.74)*	(1.96)	(.733)	(1.55)	4.28	.500	1.50
25-44	647	033	013	.038				
	(5.78)*	(2.12)	(2.13)	(.85)	(2.33)*	8.95	.670	1.62
45+	928	02	.00	.04	.06			
	(4.43)*	(4.31)	(.07)	(1.30)	(2.18)*	4.18	.487	1.87

Values in parenthesis are "t" statistics.

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<sup>\*</sup> mignificant at the .05 level

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For the labor force equations in Tables 7 and 8, it was found that the coefficient of the minimum wage variable  $\beta_1$  is negative in six of the eight equations and significant in four. The four significant coefficients all show that with an increase in the minimum wage of say, 10 percent, the 20-24, 25-44, and 45+ female age groups show a 5.1, 6.4 and 9.2 percent decrease in the labor force, respectively. For males in the 25-44 age group, an assumed 10 percent increase in the minimum wage would result in a 2.2 percent decrease in the labor force.

As predicted, labor force participation and employment vary procyclically. In Tables 5 through 8 most coefficients of the *UR* variable in the employment and labor force equations are negative and significant. Thus as the economy improves, the labor force and employment participation rates increase. Consistent with other studies, it is found that the magnitudes of the *UR* coefficient for the various groups are generally larger in the employment equations than the labor force equations (employment ratios are in general more cyclically sensitive than labor force ratios), which implies that unemployment rates of other age groups and that of adult males move together. Hence, the employment and labor force elasticities of other age groups with respect to *UR* are positive.

The larger relative magnitude of the estimated employment coefficient (as compared to the labor force coefficients) implies that labor flow in the Guamanian economy in response to an increase in the minimum wage is from the covered sector out of the labor force (Mincer, 1976). The largest increase in unemployment due to the increase in the minimum wage occurs in the female 20-24 age group in Table 9. This group has an unemployment rate elasticity of 2.52. Thus, a 10 percent increase in the minimum wage increases the unemployment rate in this group by 25.2 percent. The age group least affected by the minimum wage increase is the male 45+ age group with an unemployment rate elasticity of .88.

Table 9 shows all the unemployment rate elasticities derived from the employment and labor force elasticities.<sup>2</sup>

Table 9 - Unemployment Rate Elasticities for MWAGE Variable

Age	Males	Females
16-19	-1.64	.48
20-24	-2.34	2.52
25-44	1.79	2.38
45+	.88	.938

Most studies reviewed in the literature have observed a significant disemployment effect for teenagers associated with the minimum wage. Although the signs of our coefficients are consistent with the signs of coefficients of similar minimum wage studies, our results are not significant for teenagers. Nevertheless, Guam teenagers may be affected adversely by a minimum wage. Our explanation of the apparent lack of significance in our results for teenagers can be found in the specification of the minimum wage variable used. A more exact specification of the minimum wage variable (MWAGE) would include the fraction of teenagers employed in each industry. Because of the absence of data indicating industry employment by age group, percentage changes in teenage employment are masked by percentage changes in employment of the larger age groups.

$$E/P = AMW^{al} UR^{a2}$$
 and  $L/P = BMW^{\beta l} UR^{2}$ . The unemployment rate is as follows:

$$U/L = 1 - \frac{E/P}{L/P} = 1 - \alpha 1 - \beta 1 \ UR \ \alpha 2 - \beta 2$$

Since 
$$\alpha U/L = \beta 1 - \alpha 1$$
. N, then  $n U/L$ ,  $MW = \alpha U/L$   $MW = \beta 1 - \alpha 1$ .  $e/U$ 

$$U/L = (\beta 1 - \alpha 1) \ \frac{(1 - U/L)}{U/L}$$

NOTE: From this we derive unemployment rate elasticities using the mean values of the unemployment rates for each group. These calculated elasticities are presented in Table 9.

<sup>&</sup>lt;sup>2</sup>Employment and labor force rates equations are of the form:

## 4. Comparison with Other Studies

Overall results in this paper show consistently higher employment and unemployment elasticities for all significant coefficients compared to results found in studies done in the United States.

Table 10 contains employment regression coefficients, with respect to the minimum wage variable, for selected studies. Our intention is to compare the results in this table with our results.

Table 10 - Employment Elasticities (with Respect to Minimum Wage Variable)<sup>1</sup>

			A	
	Age	Males	Females	Both
Mincer (1976)	16-19			205 (NR)
(N.R)	25-64			020 (NR)
Ragan (1977) (Log Linear)	16-17		23(2.39)*	
Welch 1974 (Log Linear)	14-19			29(2.77)*
Kaitz (1970) (Linear)			-2.208(2.3)*	
Adie (1971) (Log Linear)	16-19			63(NR)

<sup>1</sup> Values in parenthesis are "t" statistics.

NR = Not Reported.

<sup>\*</sup> Significant at the .05 level.

It can be fairly stated, in view of the comparisons in Table 10, that Guam's geographical location, extended family relationships and a variety of indigenous characteristics coupled with lack of opportunities for jobs, particularly for teenagers, create an economic atmosphere that allows for more pronounced effects of the minimum wage on employment and unemployment.

## 5. Summary and Conclusions

It has been theoretically determined that the impact of a minimum wage is ambiguous. There are however strong a priori reasons for expecting a reduction in employment and thus an increase in unemployment.

When the employment and labor force responses of the age group 16 and over were estimated for the entire population of Guam, neither the coefficient of the minimum wage variable nor the cyclical variable was significant in either the employment equation or the labor force equation. Nevertheless, when the labor force is segmented by age and sex, significant negative coefficients appeared in both the employment and labor force equations for females (age group 20-24, 25-44 and 45+). Significant employment and labor force coefficients for males, however, were obtained only in the 25-44 age group. The results indicate, or at least strongly suggest, that a higher minimum wage results in disemployment for females substantially more than it does for the males in all groups. The loss in employment is only partially offset by a decline in labor force participation which means that unemployment rates rise in all groups where this occurs. The hypothesis that minimum wage legislation reduces employment for the younger group (25-44) and the older group (45+) is supported by the data.

When compared to similar studies done in the United States, the findings of this study differ primarily in the magnitude of the estimated employment elasticity coefficients and resulting unemployment rate calculations. These differences can be resolved in part by the lower economic and social status given to females in Guamanian society and the large percentage of part-time jobs held by females. Moreover, the extremely limited

number of job opportunities may also have contributed to the differences in magnitude of the estimated employment elasticity coefficients.

As we have seen in the previous section, the employment regression coefficients for the minimum wage variable for teenagers are approximately 1.09 and 1.3. The "t" statistics for both regression coefficients were not significant. The data on teenagers were not very good. Because the number of teenagers constitutes less than one-tenth of the total labor force and the quarterly household survey shows estimates of employment, unemployment, and population with one standard error of the estimated mean in some cases as large as the difference in the means from one quarter to the next (e.g., 1st quarter-8 percent unemployment rate, 2nd quarter - 10 percent unemployment rate and a standard error of the estimated mean for the 1st quarter of 2 percent), it appears that this may have indirectly contributed to statistically nonsignificant estimates for the disaggregated teenage subgroup and to a lesser degree to all age and sex groups. If a larger sample had been taken more consistently by the Guam Department of Labor in its quarterly labor force survey, the estimates for the teenage group and certainly other estimates for larger age and sex groups would have had lower standard errors and would therefore be more definitive.

Based on the female employment elasticity coefficients that we have estimated, a 5.32 percent decrease in employment from 1976 to 1982 resulted from a 5.6 percent increase in the minimum wage for the same time period. Based on the 1982 female employment of 11,000 this means that 585 workers lost their jobs due to an increase in the minimum wage for that period. Male employment decreased by 200 workers for the same time period for the largest age group 25-44 which had total employment in 1982 of approximately 16,000. Therefore, we can conservatively estimate that a total of at least 785 workers would have been additionally employed had there been no minimum wage increase from 1976 to 1982.

The policy implications are clear. There should be less stringent minimum wage legislation and at the very least a minimum wage that takes into consideration the lower average hourly earnings in Guam compared to the continental United States. The ideal situation would be the complete removal of the minimum wage.

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