# Iowa’s Earned Income Tax Credit Tax Credits Program Evaluation Study 

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## Preface

During the 2005 Legislative Session the lowa Department of Revenue received an appropriation to establish a program to track tax credit awards and claims. In addition, the Department was directed to perform periodic evaluations of tax credit programs. The evaluation of the State's Earned Income Tax Credit represents the first of these studies.

Since the purpose of the lowa Earned Income Tax Credit, like the federal credit upon which it is based, is to provide financial support to low income households, the Department enlisted the assistance of the lowa Department of Human Service (DHS) in conducting this evaluation. We wish to thank Matthew Haubrich, Robert Krebs, and Carol Stratemeyer for their assistance in providing data, information regarding other State income assistance programs, and reviewing the report.

## Executive Summary

The federal Earned Income Tax Credit (EITC) was enacted in 1975 as part of the Tax Reduction Act of 1975. Legislation creating lowa's EITC was passed during the 1989 legislative session. The EITC became available in the State of lowa beginning in the 1990 tax year at five percent of the federal credit and nonrefundable. For the 1991 tax year and beyond, the percentage of the federal credit that a taxpayer was eligible to claim increased to six-and-a-half percent of the federal EITC but the credit remains nonrefundable in the State of lowa.

In the 2006 tax year, nineteen states (including lowa) and the District of Columbia are offering EITCs. With the exception of Minnesota, all the states offering a state EITC determine the amount of their credit as a percentage of the federal EITC. The newest state to add an EITC to their existing tax law is Nebraska, which approved an EITC during the 2006 legislative session. The Nebraska state credit will be eight percent of the federal EITC and the credit will be refundable. In 2008, Michigan will also be implementing a refundable state EITC.

Delaware, Maine and Virginia along with lowa, are the only states that have a completely nonrefundable state EITC. Maryland and Rhode Island have percentages of the state credit that are refundable and non-refundable. Maine's state EITC is the smallest percentage of the federal credit at $4.92 \%$ and non-refundable. Maryland's non-refundable portion of the state credit is the largest percentage of the federal credit at $50 \%$ and Wisconsin has the largest refundable state credit at $43 \%$ when a taxpayer has three or more children.

A majority of EITC filers are unmarried. In the three years that are examined there is a discrepancy between single filers filing for both the federal and the state EITC and single filers filing for only federal EITC. Among filers that are claiming only the federal EITC, the majority of filers have either one or no dependents. The likely reason for these disparities is due to the lack of refundability of the state credit. It is probable that many single filers do not have enough tax liability to claim the state EITC. The majority of claimants are between the ages of 21 and 45 which are households most likely to have children at home. It also shows that there is a greater likelihood to file for only the federal credit when a primary filer is younger.

When examining low income assistance programs and EITC, by county, an interesting note is that for both the Family Investment Program (FIP) and Food Assistance (FA) there is a greater utilization of these programs in the urban counties than in the rural counties in all three years that the data is available. Conversely, the federal and state EITC is more frequently claimed in rural counties than in urban counties in all three years. An explanation of this data may be that it is more difficult to get access to FIP and FA programs because not all rural counties have full-time DHS offices, which
makes it more difficult to obtain these benefits. In contrast, access to EITC is available to every taxpayer regardless of location, as long as the taxpayer is educated about the credit and has enough tax liability to claim the state credit.

The lowa tax code contains several provisions that provide assistance to low income households. This study analyzes how each of these provisions, as well as some others that have been proposed over the pass few years, would affect households at different income levels. In order to make the evaluations comparable, the cost of each proposal was targeted at approximately $\$ 20$ million. This analysis found the proposed law changes that would benefit low-income households (households with adjusted gross income below $\$ 30,000$ ) the most were: increasing the existing nonrefundable EITC to $28.55 \%$ of the federal credit, implementing a refundable EITC of $9.53 \%$ of the federal credit and increasing the minimum filing requirements and alternative tax threshold from \$9,000 to $\$ 11,303$ for single filers and from $\$ 13,500$ to $\$ 18,606$ for all other filing statuses. This analysis was conducted for illustrative purposes only.

## Iowa's Earned Income Tax Credit

## History and Description of lowa Law

Legislation creating lowa's Earned Income Tax Credit (EITC) was passed during the 1989 legislative session. During the 1990 legislative session the amount of the credit was increased in an effort to further help the working poor in lowa. The state's EITC can be found in Section 422.12B, Code of lowa.

The EITC became available in the State of lowa beginning in the 1990 tax year. For the 1990 tax year, the amount of the credit was equal to five percent of the federal EITC that the taxpayer was eligible for as authorized by Title 26, Section 32 of the Internal Revenue Code. The state EITC is nonrefundable, so the credit may not exceed the remaining income tax liability of the taxpayer after the personal exemption credits and other nonrefundable credits are deducted. For the 1991 tax year and beyond, the percentage of the federal credit that a taxpayer was eligible to claim increased to six-and-a-half percent of the federal EITC but the credit remains nonrefundable in the State of lowa.

## History and Description of Federal Earned Income Tax Credit

The federal Earned Income Tax Credit was enacted in 1975 as part of the Tax Reduction Act of 1975. Taxpayers were eligible for the credit if they earned less than $\$ 8,000$ and had children. Initially, the credit allowed eligible taxpayers to claim a refundable credit equal to ten percent of the taxpayer's earned income (up to $\$ 4,000$ ) in that tax year, therefore the maximum credit in 1975 was $\$ 400$. The maximum $\$ 400$ credit was reduced by $\$ 1$ for every $\$ 10$ earned over $\$ 4,000$, so if a taxpayer earned more than $\$ 8,000$, the credit was completely phased out and the taxpayer was no longer eligible.

The original legislation that enacted the EITC was only effective for the 1975 tax year. In the following years the credit was extended through subsequent revenue acts and was permanently added to the Internal Revenue Code by the Revenue Act of 1978. The amount of the EITC was increased by the Deficit Reduction Act of 1984 and expanded again, this time significantly, by the Tax Reform Act of 1986. In 1987, the credit began to be indexed to account for inflation. In 1990, through the Omnibus Budget Reconciliation Act, the credit was increased again to include a supplemental credit amount for families with two or more children. The Omnibus Budget Reconciliation Act of 1993 augmented the EITC by making a small credit available to certain childless workers.

In order to qualify for the federal EITC, a taxpayer must meet certain conditions. First, the taxpayer must have earned income and cannot investment income above a given threshold. The taxpayer, spouse (if filing jointly) and any qualifying children must also have a Social Security Number. In addition, the taxpayer or spouse cannot be the dependent of another taxpayer. The taxpayer must be a U.S. citizen or resident alien for the entire tax year and can file using any status other than married filing separately. The taxpayer does not qualify for the EITC if the taxpayer files Form 2555 or 2555$E Z$ which is related to foreign earned income.

If you do not have a qualifying child, you must also be between the ages of 25 and 65 at the end of the year. You cannot be the dependent of another taxpayer and you must live in the United States for more than half of the tax year.

In order to be considered a "qualifying child" three conditions must be met. The first condition is that the child lived with the taxpayer for more than half of the tax year. A qualifying child can be a son, daughter, adopted child, grandchild, stepchild or foster child. The child can also be a brother, sister, stepbrother or stepsister or any of the taxpayer's descendents as long as he or she cares for them as though they were his or her own child. The child also has to be under the age of 19 at the end of the
year or under the age of 24 if he or she is a full-time student or any age if he or she is permanently and totally disabled.

Figure 1 shows the phase-in and phase-out rates of the federal EITC based on the earned income of unmarried taxpayers in the 2007 tax year. It shows that as a taxpayer increases his or her earned income, the amount of the credit received increases until the maximum amount of the credit is reached. It also shows that at a given amount of earned income the amount of the credit begins to phase-out and does so until the amount of the credit phases-out completely. For married taxpayers, each graph would shift to the right by two thousand dollars.

Figure 1. Federal EITC Schedule for Unmarried Taxpayers, 2007 Tax Year


The income thresholds and maximum credit amounts for the tax years 2002 through 2007 can be found in Table 1. Also found in the table is the poverty thresholds for 2002 through 2004. It can be seen that other than for tax filers with no children, the poverty thresholds are approximately half of the thresholds for filing EITC. This may indicate that EITC filing rates should be greater than the poverty rate. The table also includes the maximum amount of investment income a taxpayer may earn and still qualify for the federal EITC.

## Summary of Research Related to the Impact of Earned Income Tax Credits on Low Income Households

There is a tremendous amount of literature available that discusses different aspects of the Earned Income Tax Credit. There are papers that provide an overview of the current EITC program and make recommendations for improving the EITC (Holt, 2006; Cherry and Sawicky, 2000). Among the suggestions that are made to improve the credit is to restructure the EITC to include other child-based
tax credits (Holt, 2006), to simplify the filing process and to alleviate the marriage penalty of the EITC (Cherry and Sawicky, 2000).

Another aspect of the EITC that has been evaluated is the effect of the EITC on low-income families including those in poverty. An article by Pearson and Scarpetta (2000) looks at whether programs like EITC improve the distribution of income. In a study written by Alan Berube (2006) he evaluates the data about the families that received the EITC in 2000 and in 2003 and determines how the tax code helped these families and looks at possible changes that could further assist these low-income families. Some of these changes include continuing to support and expand both the federal and state EITCs, supporting volunteer tax preparation and increasing the value of the Child and Dependent Care Tax Credit for low-income working families. Nagel and Johnson (2006) look at the effectiveness of state EITCs at reducing poverty.

Some of the research regarding the EITC is the effect that it has on the labor force. In an article by Ellwood (2000), he examines the effect of EITC and other social policy changes and determines whether these changes encourage or discourage entering the labor force. His findings indicate that the increased EITC, welfare reform and a strong economy has led to an increase of low-income single parents entering the work force. It was also found that low wage married mothers did not enter the labor force in the same manner as other groups of married mothers, likely indicating that the income effects and adverse work incentives of the EITC were the cause. In another study the target group that is analyzed is single mothers and how policy changes affect their decision to enter the workforce (Meyer and Rosenbaum, 2000). The indication of this study is that there was an increase in the number of low-income single mothers entering the work force unlike any other low-income group. A measure of the degree of working poor in the 100 largest metropolitan areas in the U.S. and how EITC affected these populations is investigated in a study completed by Alan Berube and Benjamin Forman (2001).

The study by Berube and Forman (2001) also looks at the effect that the infusion of EITC money being distributed has on the local economies of the given metropolitan areas. Edwards (2003) looks at the macroeconomic effects of the EITC, which appears to be that EITC checks stimulate spending on both durable and non-durable goods.

As mentioned earlier there are many studies that examine some aspect of the EITC. A few of these areas have been mentioned above and the full source citations can be found in the bibliography of this paper.

## Other States' Earned Income Tax Credits

In the 2006 tax year, nineteen states (including lowa) and the District of Columbia are offering EITCs. With the exception of Minnesota, all the states offering a state EITC determine the amount of their credit as a percentage of the federal EITC. The newest state to add an EITC to their existing tax law is Nebraska, which approved an EITC during the 2006 legislative session. The Nebraska state credit will be eight percent of the federal EITC and the credit will be refundable. In 2008, Michigan will also be implementing a refundable state EITC.

Delaware, Maine and Virginia along with lowa, are the only states that have a completely nonrefundable state EITC. Maryland and Rhode Island have percentages of the state credit that are refundable and non-refundable. Maine's state EITC is the smallest percentage of the federal credit at $4.92 \%$ and non-refundable. Maryland's non-refundable portion of the state credit is the largest percentage of the federal credit at $50 \%$ and Wisconsin has the largest refundable state credit at 43\% when a taxpayer has three or more children. Table 2 provides an overview of all of the current state EITCs that have been enacted.

## Household Statistics of Earned Income Tax Credit Claimants

Tables 3, 4 and 5 report some of the statistics of the households that are claiming the EITC in tax years 2002, 2003 and 2004. Table 3 shows both the federal and state filing status of claimants of the EITC in the given tax years. As the table shows, a majority of filers are unmarried. It also shows in all three years that there is a discrepancy between single filers filing for both the federal and the state EITC and single filers filing for only federal EITC. The likely reason for this disparity is due to the lack of refundability of the state credit. It is probable that many single filers do not have enough tax liability to claim the state EITC.

Table 4 shows in all three years that among filers claiming both the federal and state EITC, the majority have either one or two dependents. Among filers that are claiming only the federal EITC, the majority of filers have either one or no dependents. Once again this discrepancy is likely a result of the state EITC not being refundable.

Table 5 reports the age of the primary filer on the return with an EITC claim. The majority of claimants are between the ages of 21 and 45 which are households most likely to have children at home. It also shows that there is a greater likelihood to file for only the federal credit when a primary filer is younger.

## Earned Income Tax Credit and Other Low Income Assistance Statistics by County

Tables 6 through 11 show statistics of both EITC claims and low income assistance program claims by county for the 2002-2004 tax years. In tables 6,8 and 10 the dark shaded cells in the last column indicate the counties that have EITC filing rates that are lower than the poverty rate in those counties. Because the income limits for filing for EITC are higher than the poverty line, it should be expected that all counties should have filing rates higher than the poverty rate. The lighter shaded cells in the last column indicate the counties that have a filing rate at least five percent higher than the poverty rate in that county.

In tables 7, 9 and 11 statistics are included for the Family Investment Program (FIP), which is the state version of Temporary Assistance to Needy Families (TANF) and Food Assistance (FA) which are programs administered by the Department of Human Services (DHS). There are a number of conditions that need to be met in order to collect FIP benefits. There is a three-tier income test that takes into account gross monthly income, countable monthly income and net countable monthly income. The countable monthly income includes a deduction from the gross monthly income of twenty percent to cover work related expenses other than child care. The net countable monthly income is calculated by adjusting the countable monthly income with a work incentive deduction of fifty percent. If after the adjustment the net countable income falls below the given benchmark then the applicant qualifies for FIP benefits. For example, for a family of four the household gross monthly income must be below $\$ 1,824.10$, the countable monthly income must be below $\$ 986$ and the net countable income must be below $\$ 495$. In order to claim the Food Assistance benefit a household must have gross income that is below $130 \%$ of the poverty level as well as meeting any other eligibility requirements. In these tables the dark shaded cells indicate the counties with the largest gap between the poverty rate and the percentage of households receiving Food Assistance and the lighter shaded cells indicate the counties with the smallest gap between the poverty rate and the percentage of households receiving Food Assistance (Pollak, 2005).

Table 6 reports the EITC statistics for 2002 as well as the poverty rates for each county. In 2002, there were 65,506 filers that claimed only the federal EITC and 81,794 filers who claimed both federal and state EITC. Therefore, a total of 147,300 taxpayers in the State of lowa claimed some form of the Earned Income Tax Credit in the year 2002. When looking at the percent of households filing EITC
claims in urban counties versus rural counties there is little difference in the percentage of households filing tax returns with claims for the Earned Income Tax Credit. When comparing county EITC filing rates with county poverty rates, there are nine counties in 2002 that had higher poverty rates than EITC filing rates, which indicates that there is a population in those counties that could benefit from the EITC if they have earned income. The counties with higher poverty rates than EITC filing rates were Appanoose, Davis, Decatur, Dickinson, Jefferson, Johnson, Ringgold, Story and Wayne counties. There were five counties that had EITC filing rates that were at least five percentage points higher than the poverty rates in those counties. The counties included in this group are Buena Vista, Clarke, Louisa, Muscatine and Woodbury counties.

Table 7 shows statistics for low income assistance programs including FIP and FA for the year 2002. The percentage of households receiving the assistance is based on the average number of recipients per month in each county throughout the given year. In the year 2002, on average 20,617 households received FIP benefits and 64,545 households received FA benefits each month. The percentage of households receiving these benefits in urban counties was a half percent higher than rural counties for FIP benefits and six-tenths of a percent higher than rural counties for FA benefits. The five counties that had the biggest gap between poverty rates and percent of households receiving FA benefits in 2002 were Allamakee County (7.5\%), Davis County (9.6\%), Ringgold County (9.5\%), Taylor County (7.9\%) and Wayne County (8.4\%).

When looking at tables 6 and 7, it appears that Davis County, Ringgold County and Wayne County struggle the most to make their low income residents aware of both the EITC and other financial assistance programs that are available to them. Conversely, only Muscatine County had an EITC filing rate at least five percent over the poverty rate for the county and one of the smallest gaps between the poverty rate and the percent of household receiving Food Assistance, indicating that the low-income residents of Muscatine County are taking advantage of the programs available to them.

The same data on EITC, FIP and FA for 2003 are reported in Tables 8 and 9. There were 73,662 taxpayers that claimed only federal EITC and 90,265 filers that claimed both federal and state EITC, which is a total of 163,927 taxpayers claiming some form of the Earned Income Tax Credit. This is an 11.3 percent increase over the total number of EITC claims in 2002. In 2003, the disparity between the percentages of filers making EITC claims in rural counties versus urban counties increased over the percentages in 2002. There were only three counties that had higher poverty rates than EITC filing rates in 2003, those counties were Johnson County, Story County and Wayne County. Because Johnson County and Story County are both home to large state universities, the college population may be distorting some of the numbers. In addition to the five counties that had EITC filing rates at least five percentage points over the county poverty rate in 2002, there were three additional counties in 2003. In the case of Marshall County the change was primarily a result of an increased EITC filing rate and in the case of Hancock and Shelby counties it was primarily due to a decrease in the poverty rate.

Table 9 has the statistics for state assistance programs in 2003. During this year, on average 20,293 households received FIP benefits and 68,266 households received FA benefits each month. The average number of households receiving FIP benefits decreased 1.6 percent since 2002 but the number of households receiving FA benefits increased 5.8 percent since 2002. The difference in percentage of household receiving FIP benefits in urban counties compared to rural counties remained a half percent in 2003, but the difference between the percentage of urban and rural households receiving FA benefits increased to one percent. Four out of the five counties that had the largest gaps between poverty rates and percent of households receiving FA benefits in 2002 still had the largest gaps in 2003 but the magnitude of the gaps decreased. These four counties are Allamakee County (6.7\%), Davis County (7.4\%), Ringgold County (7.6\%) and Taylor County (6.5\%). In addition to these four counties Johnson County (6.8\%) and Story County (6.5\%) are also at the top
of the list as having the biggest gap between county poverty rates and the percent of households receiving Food Assistance.

From tables 8 and 9 it can be seen that Johnson and Story counties both had low participation rates in filing for EITC and receiving FA benefits compared to the poverty rates in those counties. As mentioned earlier this could be an issue of having high college student populations and less of an issue of not getting the proper resources to those people who need them. Once again, Muscatine County was the only county to have an EITC filing rate at least five percent over the poverty rate for the county and one of the smallest gaps between the poverty rate and the percent of household receiving Food Assistance.

Tables 10 and 11 report the data for EITC, low income assistance programs and poverty rates for 2004. As table 10 shows, a total of 165,746 taxpayers claimed some EITC in 2004, which is an increase of 1.1 percent over 2003. There were 74,073 tax filers that claimed only the federal EITC and 91,673 filers that claimed both federal and state EITC. The percentages of urban versus rural households filing for EITC remained unchanged except for the percentage of rural households filing for only federal EITC decreased by two-tenths of a percent. There was a dramatic increase in the number of counties which had higher poverty rates than EITC filing rates in 2004 over 2003, but the results were similar to 2002. In 2002, there were nine counties that had higher poverty rates than EITC filing rates and in 2004 that number increased to eleven. Those eleven counties were Appanoose, Decatur, Dickinson, Johnson, Lucas, Mahaska, Page, Poweshiek, Ringgold, Story and Wayne counties. Only Buena Vista and Clarke counties had EITC filing rates more than five percent higher than the poverty rates in those counties, which was a decrease from the eight counties hitting that mark in 2003.

The assistance program statistics are found on Table 11. On average, in 2004, 20,163 households received FIP benefits each month and 80,964 households received FA benefits. The average number of households receiving FIP benefits decreased 0.6 percent since 2003 but the number of households receiving FA benefits increased 18.6 percent since 2003. The difference in percentage of households receiving FIP benefits in urban counties compared to rural counties remained a half percent in 2004, but the difference between the percentage of urban and rural households receiving FA benefits increased again to 1.4 percent. Once again the counties with the biggest gap between the county poverty rate and percent of households that receive FA benefits included Davis County (7.1\%), Johnson County (7.7\%), Ringgold County (8.3\%) and Story County (8.2\%). Wayne County, which was not among this group in 2003 but was present in 2002, also had one of the biggest gaps in the two rates (7.1\%) in 2004.

Tables 10 and 11 show that Johnson, Ringgold, Story and Wayne counties all had both low EITC filing rates and low percentages of households receiving Food Assistance compared to the poverty rates in each of those counties in 2004. No county in 2004 had both an EITC filing rate at least five percent over the poverty rate for the county and one of the smallest gaps between the poverty rate and the percent of household receiving FA benefits.

An interesting note about the low income assistance programs and EITC is that for both FIP and FA there is a greater utilization of these programs in the urban counties than in the rural counties in all three years that the data is available. Conversely, the federal and state EITC is more frequently claimed in rural counties than in urban counties in all three years. One explanation of this data may be that it is more difficult to get access to FIP and FA programs because not all rural counties have full-time DHS offices, which makes it more difficult to obtain these benefits. Although benefit applications are available online and can be requested by phone or mail and DHS is making it easier for applicants to receive benefits by allowing phone interviews instead of requiring face-to-face
interviews. In contrast, access to EITC is available to every taxpayer regardless of location, as long as the taxpayer is educated about the credit and has enough tax liability to claim the state credit.

Also in all three years and in all ninety-nine counties, the percent of households claiming either the federal or both federal and state Earned Income Tax Credits exceeds the percent of households claiming FA benefits. In some counties the difference is only two to three percent and in other counties the difference is as big as twelve percent. It is difficult to determine much from these numbers because in some cases the gap is due to a high percent of EITC claims and a low percent of FA benefits, which could indicate under-utilization of FA benefits or a population that has income too high to qualify for FA benefits. In other counties there is a high percent of households claiming FA benefits and a high percent claiming EITCs which may indicate that both FA benefits and the EITC are being properly utilized.

## Analysis of Tax Code Provisions and Proposals Beneficial to Low-Income lowans

Over the past several years various provisions have been enacted with the intent to provide assistance to low income households through the tax code. Other law changes with a similar objective have also been proposed. Following is a comparison of six such provisions that illustrates their impacts by the level of taxpayer household income. In order to make the evaluations comparable, the cost of each proposal was arbitrarily targeted at $\$ 20$ million. The tax code provisions and proposals evaluated were: increasing the current nonrefundable EITC of $6.5 \%$ to $29.95 \%$, implementing a refundable EITC of $10.63 \%$, increasing the dependent credit from $\$ 40$ to $\$ 68$, raising the minimum filing requirements and alternative tax threshold from $\$ 9,000$ to $\$ 11,303$ for singles and from $\$ 13,500$ to $\$ 18,606$ for all other filing statuses, expanding the income eligibility brackets for the Child and Dependent Care Tax Credit and the eligibility threshold for the Early Childhood Development Tax Credit by 2.41 times, and implementing a dependent deduction (for dependents age 18 and under) from taxable income of $\$ 464$.

Table 12 shows how the roughly $\$ 20$ million in reduced tax liability would be distributed to each of the Adjusted Gross Income (AGI) brackets as a result of the given policy changes. Table 13 shows the percentage of the $\$ 20$ million that would be distributed to taxpayers in each of the AGI brackets.

The changes to the EITC that were evaluated included both a nonrefundable and refundable credit. The evaluation shows that the nonrefundable credit which would equal $29.95 \%$ of the federal credit would benefit taxpayers in the $\$ 20,001$ to $\$ 30,000 \mathrm{AGI}$ bracket the most with the tax liability being reduced by over $\$ 13.9$ million dollars, over 69 percent of the $\$ 20$ million. The refundable credit of $10.63 \%$ would reduce tax liability for the $\$ 0$ to $\$ 10,000 \mathrm{AGI}$ bracket by $\$ 4.8$ million and the $\$ 10,001$ to $\$ 20,000 \mathrm{AGI}$ bracket by $\$ 9.9$ million. Taxpayers in these two brackets would receive over 73 percent of the proposed $\$ 20$ million change.

Increasing the dependent credit from $\$ 40$ to $\$ 68$ was also evaluated, where the credit is not refundable. This change distributes just over half of the $\$ 20$ million to AGI brackets between $\$ 20,001$ and $\$ 70,000$. The majority of the remaining money would be distributed to the higher income brackets and low-income taxpayers would see little benefit.

Increasing the minimum filing requirements and alternative tax threshold from \$9,000 to \$11,303 for single filers and from $\$ 13,500$ to $\$ 18,606$ for other filing statuses decreases the tax liability for the $\$ 20,001$ to $\$ 30,000$ AGI bracket by $\$ 11.4$ million or 57 percent of the $\$ 20$ million. The next AGI bracket that is most helped by this change is the $\$ 10,001$ to $\$ 20,000$ bracket, whose tax liability is reduced by $\$ 5.6$ million. This would also distribute 7 percent of the tax liability reduction to the $\$ 0$ to \$10,000 AGI bracket.

Expanding the eligibility brackets for the Child and Dependent Care Tax Credit by 2.41 times (i.e. former lowest bracket was for net income less than $\$ 10,000$, the bracket would now be $\$ 24,100$ ) and increasing the threshold for the Early Childhood Development Tax Credit from \$45,000 to \$108,450 ( 2.41 times) changes the tax liability of all of the AGI brackets that fall within the threshold except for the Less than $\$ 0 \mathrm{AGI}$ bracket and the $\$ 0$ to $\$ 10,000$ bracket. The greatest reduction of tax liability is seen in the $\$ 50,001$ to $\$ 60,000$ AGI bracket with the $\$ 70,001$ to $\$ 80,000$ bracket close behind.
Although the Child and Dependent Care Tax Credit and Early Childhood Development Tax Credit are refundable, expanding the income limits does not help those in the bottom AGI brackets because they were already eligible for the largest credit amount ( $75 \%$ of the federal credit).

Similar results are seen when a dependent deduction of $\$ 464$ is implemented with the exception that because there is no eligibility threshold all AGI brackets, except the less than $\$ 0$ bracket, experiences some reduction in tax liability with the greatest reduction once again in the $\$ 50,001$ to $\$ 60,000$ AGI bracket. The addition of a dependent deduction reduces taxable income, thus does little to help those with no tax liability.

## Issues Not Covered

One issue that was not covered in this evaluation is the persistence of the population collecting EITC. In future studies it will be determined whether the EITC is a temporary income assistance to help lowincome families out of poverty or if recipients continue to claim the credit for a number of years. In order to effectively complete this analysis, it may be necessary to pass legislation to allow for the sharing of confidential data across government agencies. Another issue that will be covered in the future is whether the state EITC encourages people to enter the work force in the State of lowa. Future studies will also try to understand why urban areas are using the EITC less than rural areas.

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Table 1: Federal Earned Income Tax Credit and Poverty Thresholds for Tax Years 2002-2007

|  | 2002 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{\|c\|} \hline \text { Maximum } \\ \text { Credit } \\ \hline \end{array}$ | AGI must be less than: (filing single) | Poverty Threshold for Single Filers | AGI must be less than: (married filing jointly) | Poverty Threshold for Married Filers | Investment income cannot exceed: |
| Two or More Children | \$4,140 | \$33,178 | \$14,494* | \$34,178 | \$18,244* | \$2,550 |
| One Child | \$2,506 | \$29,202 | \$12,400 | \$30,202 | \$14,480 | \$2,550 |
| No Children | \$376 | \$11,060 | \$9,359 | \$12,060 | \$12,047 | \$2,550 |
|  | 2003 |  |  |  |  |  |
|  | $\begin{array}{\|l\|} \hline \text { Maximum } \\ \text { Credit } \end{array}$ | AGI must be less than: (filing single) | Poverty Threshold for Single Filers | AGI must be less than: (married filing jointly) | Poverty Threshold for Married Filers | Investment income cannot exceed: |
| Two or More Children | \$4,204 | \$33,692 | \$14,824* | \$34,692 | \$18,660* | \$2,600 |
| One Child | \$2,547 | \$29,666 | \$12,682 | \$30,666 | \$14,810 | \$2,600 |
| No Children | \$382 | \$11,230 | \$9,573 | \$12,230 | \$12,321 | \$2,600 |
|  | 2004 |  |  |  |  |  |
|  | $\begin{array}{\|c\|} \hline \text { Maximum } \\ \text { Credit } \end{array}$ | AGI must be less than: (filing single) | Poverty Threshold for Single Filers | AGI must be less than: (married filing jointly) | Poverty Threshold for Married Filers | Investment income cannot exceed: |
| Two or More Children | \$4,300 | \$34,458 | \$15,219* | \$35,458 | \$19,157* | \$2,650 |
| One Child | \$2,604 | \$30,338 | \$13,020 | \$31,338 | \$15,205 | \$2,650 |
| No Children | \$390 | \$11,490 | \$9,827 | \$12,490 | \$12,649 | \$2,650 |
|  | 2005 |  |  |  |  |  |
|  | $\begin{array}{\|c\|} \hline \text { Maximum } \\ \text { Credit } \end{array}$ | AGI must be less than: (filing single) | Poverty Threshold <br> for Single Filers | AGI must be less than: (married filing jointly) | Poverty Threshold for Married Filers | Investment income cannot exceed: |
| Two or More Children | \$4,400 | \$35,263 | N/A | \$37,263 | N/A | \$2,700 |
| One Child | \$2,662 | \$31,030 | N/A | \$33,030 | N/A | \$2,700 |
| No Children | \$399 | \$11,750 | N/A | \$13,750 | N/A | \$2,700 |
|  | 2006 |  |  |  |  |  |
|  | $\begin{array}{\|c\|} \hline \text { Maximum } \\ \text { Credit } \end{array}$ | AGI must be less than: (filing single) | Poverty Threshold for Single Filers | AGI must be less than: (married filing jointly) | $\begin{array}{\|l\|} \hline \text { Poverty Threshold } \\ \text { for Married Filers } \end{array}$ | Investment income cannot exceed: |
| Two or More Children | \$4,536 | \$36,348 | N/A | \$38,348 | N/A | \$2,800 |
| One Child | \$2,747 | \$32,001 | N/A | \$34,001 | N/A | \$2,800 |
| No Children | \$412 | \$12,120 | N/A | \$14,120 | N/A | \$2,800 |
|  | 2007 |  |  |  |  |  |
|  | $\begin{array}{\|c\|} \hline \text { Maximum } \\ \text { Credit } \end{array}$ | AGI must be less than: (filing single) | Poverty Threshold <br> for Single Filers | AGI must be less than: (married filing jointly) | Poverty Threshold for Married Filers | Investment income cannot exceed: |
| Two or More Children | \$4,716 | \$37,783 | N/A | \$39,783 | N/A | \$2,900 |
| One Child | \$2,853 | \$33,241 | N/A | \$35,241 | N/A | \$2,900 |
| No Children | \$428 | \$12,590 | N/A | \$14,590 | N/A | \$2,900 |

N/A - Poverty thresholds are not yet available for 2005-2007

* This amount is for only two children. As the number of children increases, the poverty threshold increases as well.

AGI Thresholds - Internal Revenue Service
Poverty Thresholds - U.S. Census Bureau, includes money from earnings, unemployment compensation, worker's compensation, Social Security, Supplemental Security Income, public assistance, veteran's payments, survivor benefits, pension or retirement income, interest dividends, rents, royalties, income from estates, trusts, educational assistance, alimony, child support, assistance from outside the household and other miscellaneous sources, but does not include noncash benefits such as food stamps or housing subsidies or capital gains or losses.

|  | \％98 | S002 |  | sa | sə | \％01 | 0002 | ग0 |
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|  | \％s | 9002 |  | sə | sə | \％S | L661 | иобอ⿺𠃊 |
|  | \％S |  | z002 | sə | səイ | \％S | 1002 | ешочеуу |
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| \％レレ＇0 | \＆01 | \％LO＇0 | SG | \％010 | 68 | \％LO＇0 | ZS | \％レレ＇0 | ع6 | \％01＇0 | 02 | 6u！ss！w |
| \％とャ゙0 | 168 | \％SL＇ | L6て＇। | \％0ヤ゙0 | 198 | \％＋9 $\downarrow$ | 60て＇เ | \％sع＇0 | 662 | \％ $\mathrm{t9}^{\circ} \mathrm{L}$ | 801＇ | ＋99 |
| \％61． | L80＇। | \％L6＇ ＇ |  | \％レレ＇ | 000＇ 1 | \％レ6＇ | 6L8＇Z | \％ 10 | L98 | \％と6＇ ¢ | 999＇Z | S9－09 |
| \％टと＇て | \＆Z1＇乙 | \％09＇t | レー「と | \％0でて | S86＇ |  | 16でと | \％90＇乙 | GSL＇L | \％てで $\downarrow$ | 0G8＇Z | 09－99 |
| \％81＇9 | 9tく＇t | \％91．9 | Z99＇ャ | \％10＇s | しZS＇ャ | \％S0＇9 | 9St＇t | \％8L＇$\dagger$ | عLO＇t | \％てO＇9 | 890＇ь | SS－LS |
| \％とレ・01 | 06て＇6 | \％00＇6 | 999＇9 | \％とド01 | とが「6 | \％ $29 \cdot 8$ | 068＇9 | \％8L＇6 | ¢\＆ع＇8 | \％とL＇8 | L68＇G | 0G－97 |
| \％Z8＇S1 | 209＇ャレ | \％GL゙レレ | Z0L＇8 | \％S6＇Sl | ャ6と＇ทレ | \％00＇Zし | しヵ8＇8 | \％टと＇91 | 006＇EL | \％99＇Zレ | 98t＇8 | St－レt |
| \％St•91 | 180＇S1 | \％0ぐレレ | †99＇8 | \％ $20 \cdot \angle \downarrow$ | カ0t＇S1 | \％とがで | LSL＇6 | \％GZ ${ }^{\text {¢ }}$ | \＆$\dagger$ S＇SL |  | عย8＇8 | 0t－9¢ |
| \％ع0＇＜l | ع19＇s1 | \％カレ・ | $1 \varepsilon L{ }^{\prime} 6$ | \％Sガくl | ZSL＇S1 | \％6G＇と | 600＇01 | \％19＇くا | 866＇ทレ | \％19 ${ }^{\text {¢ }}$ ¢ | Z61＇6 | S\＆－เモ |
| \％ع9＇Ll | ャ91＇91 | \％¢\＆゙81 | ャ69＇EL | \％81゙くレ | レレS＇S1 | \％LL＇Ll | 060＇EL | \％と9＇91 | と91＇ャレ | \％＜8＇91 | 868＇レレ | 0ع－9Z |
| \％6\＆＇てレ | カ¢と＇レレ | \％Z8＇G1 | してL＇レレ | \％60＇Z | 916＇01 | \％レL｀Gl | \＆ 2 S＇IL $^{\text {d }}$ | \％てぐレレ | 286＇6 | \％とで乌1 | 982＇01 | Sて－ıて |
|  | 6しでし | \％89＇$\varepsilon$ | LZL＇乙 | \％टどレ | 681＇レ | \％69＇$\varepsilon$ | SlL＇Z | \％68＇ | S81＇ | \％レO＇t | OLL＇Z | $\begin{aligned} & \hline \text { дәpun } \\ & \text { pue 0z } \end{aligned}$ |
| ఫuәつ．ə．d | S．əə！！ 10 \＃ | ךиәэләd | S．əリ！」 f0 \＃ | †uәวләd | s．əə！」 f0 \＃ | ¡иәつл2d | S．əリ！コ 10 \＃ | ¡uәэ」əd | S．əə！コ 10 \＃ | ұuәэ」əd | sıə！！」 fo \＃ |  |
|  |  | 2113 |  |  | S8［еләрә」 | 2113 |  | OIİ әłel | 8 ¢еләрә」 | 2119［ed |  |  |
| †00Z |  |  |  | ع00Z |  |  |  | Z00Z |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| \％00＇001 | ع 29 ＇16 | \％00＇001 | ع 20 ＇$\dagger \angle$ | \％00．001 | S9Z＇06 | \％00＇001 | Z99＇\＆L | \％00＇001 | ع8 L＇¢8 | \％00＇001 | \＆SS＇L9 | Slełol |
| \％SO＇0 | $\angle t$ | \％ $\mathrm{EO}^{\circ} 0$ | 七乙 | \％$+0 \cdot 0$ | $\bigcirc \varepsilon$ | \％E0＇0 | $\varepsilon 乙$ | \％SO＇0 | 0t | \％E0＇0 | 12 | ＋8 |
| \％8000 | ZL | \％$+0 \cdot 0$ | 92 | \％90＇0 | 9 S | \％SO＇0 | 0t | \％90＇0 | ¢S | \％90＇0 | てt | $L$ |
| \％てで0 | ع0Z | \％で「0 | 98 | \％カで0 | 81乙 | \％で「0 | 88 | \％ちで0 | 802 | \％91．0 | 601 | 9 |
| \％SL＇0 | 689 | \％レー゙0 | †0¢ | \％18．0 | て\＆L | \％St「0 | 8て¢ | \％ャ8＇0 | 6LL | \％6大＇0 | 6て¢ | G |
| \％よ¢ $\varepsilon$ | $\varepsilon 90$＇$\varepsilon$ | \％S8． | $0<\varepsilon^{\prime} \downarrow$ | \％St＇を | SIL＇E | \％66． | 89t＇ | \％Z¢ ${ }^{\text {¢ }}$ | 000 ＇$\varepsilon$ | \％レ0＇て | LGE＇ | † |
| \％8ヤ゙レレ | GZ9＇01 | \％とて＇9 | ع19＇ャ | \％レ8レレ | カ99＇01 | \％89＇9 | 816＇t | \％てを＇てし | 86t＇01 | \％88＇9 | 979＇ャ | $\varepsilon$ |
| \％レL＇レヒ | ZLO＇6Z | \％0661 | 0ャレ＇ャレ | \％レ8 เع | SLL＇8Z | \％t9 ${ }^{\text {\％}}$ | 0くガヤレ | \％8L＇レヒ | ZLO＇LZ | \％L6．61 | て67＇と1 | Z |
| \％0で0t | ZS8＇9E | \％てで0¢ | 98と＇zて | \％98．0t | عとt＇9¢ | \％Z9＊0\＆ | Gsc＇zZ | \％GL＇0t | 60ぐ七を | \％ヶ8．0¢ | عと8＇0乙 | $\downarrow$ |
| \％91＇Z1 | OSL＇レレ | \％レでし | GZ9＇0¢ | \％レガレレ | L6て＇01 | \％で 0 － | ZLL＇6Z | \％とがOレ | ¢88＇8 | \％99＇6を | ャてL＇9て | 0 |
| ұนәัләd | s．ə！！コ $\ddagger 0$ \＃ | †иәэ」əd | s．ıə！！」 10 \＃ |  | sıə！！」 fo \＃ | ұиәэләd | s．əө！」 f0 \＃ | ¡иәэлəd | s．əə！」 10 \＃ | łиәวлеd | sıə！！」 fo \＃ |  |
| OIIG 라나 | S8｜eגәрә」 | O1ㅣㅋㅣ． |  |  | S8［eגəрә」 | 3113 | әpos Kıuo | O1İ 2tel | 8 ןe．təpa」 | 3113 |  |  |
| †002 |  |  |  | $\varepsilon 002$ |  |  |  | Z00Z |  |  |  |  |




|  |  |  | 86\＄ | ＋6S＇LS |  | $68 \varepsilon^{\prime}$ ¢ | L99＇1\＄ |  | Lto＇z |  | วuep！sajuon |
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| \％${ }^{\prime}$ て＇ | \％${ }^{\prime} 6$ | \％0＇zl |  |  | \％L＇9 | Sト1＇く |  | \％${ }^{\text {c }}$ | 826＊98 | 800＇869 | solpunos jexny |
| \％6＇${ }^{\text {L－}}$ | \％「＇6 | \％どし |  |  | \％で9 | 6L9＇t |  | \％ 1 ＇s | 8L9＇82 | 828＊099 | solpunoj uequn |
| \％9＇で | \％1＇6 | \％くしゃ | 26\＄ | LLS＇1\＄ | \％¢＇9 | ャ6L＇18 | 8L9＇1 | \％で9 | 909＇s9 | 9ع8＇8Gて＇1 |  |
| \％$\varepsilon^{\text {® }}$ ¢ | \％ $0 \cdot 6$ | \％どてし | 88\＄ | ع99＇15 | \％1＇L | t9 ${ }^{\text {¢ }}$ | GLL＇LS | \％でG | $0 \vdash$ ¢ | E99＇9 |  |
| \％0＇ $\mathrm{C}^{-}$ | \％S＇L | \％s＇0l | 86\＄ | ZL9＇LS | \％8＇s | 902 | 069＇15 | \％L＇$\downarrow$ | 991 | $68 \varepsilon^{\prime} \varepsilon$ | Kıunoう чдом |
| \％${ }^{\text {－}}$－ | \％8．01 | \％6＇s1 | 86\＄ | 959＇15 | \％${ }^{\text {＇}} 6$ | ZLL＇$\varepsilon$ | LS8＇LS | \％6．9 | $898{ }^{\text {c }}$ | と $¢ 9$＇Lt | Kıunoう Kınqpoom |
| \％S＇${ }^{\text {－}}$ | \％0＇6 | \％s＇0l | 98\＄ | 8セt＇し\＄ | \％$\dagger$＇ | LSt | L9t＇LS | \％0＇9 | 0Zt | L८と＇8 |  |
| \％${ }^{\text {L }}$－ | \％0＊8 | \％じてし | $88 \$$ | ع0S＇LS | \％S＇L | S88 | 899＇15 | \％9＇t | L\＆ | SEL＇S | Kıunoう O6eqeuu！ |
| \％¢＇${ }^{\text {－}}$ | \％でしト | \％ぐてし | $16 \$$ | $1 \angle 9^{\prime \prime} 15$ | \％8＇9 | L91＇1 | 218＇15 | \％6＇s | L00＇1 | 8Z1＇くし | Kıunoj delsqam |
| \％ぢて | \％でけし | \％8＇しL | ＋6\＄ | $669^{\prime \prime} 15$ | \％ $2 \cdot 9$ | SIZ | ع£L＇LS | \％S＇s | 981 | $86 \varepsilon^{\prime} \varepsilon$ | Kıunoj әuкем |
| \％6＇$\varepsilon^{-}$ | \％0＇8 | \％6゙レ | $06 \$$ | 9tS＇15 | \％99 | 029 | 16915 | \％$\varepsilon^{\text {＇s }}$ | 297 | 269＇8 |  |
| \％ 8 ＇${ }^{\text {c }}$ | \％L＇S | \％s＇6 | 88\＄ | 8Lずし | \％L＇G | 116 | 0L9＇LS | \％8＇$\varepsilon$ | G69 | S98＇G1 | 亿ıunoう иәлем |
| \％L＇${ }^{\text {c }}$ | \％${ }^{\text {c }}$＇ | \％で91 | ع6\＄ | L89＇1S | \％L＇8 | ع68＇। | $129{ }^{\prime \prime}$＇S | \％¢＇L | 681＇ | ¢ ¢6＇S1 $^{\text {d }}$ | Kıunoj Oill ${ }^{\text {dem }}$ M |
| \％と＇${ }^{\text {－}}$ | \％がで | \％L＇と1 | L8\＄ | 06t＇LS | \％9＇L | †LZ | L99＇15 | \％1＇9 | દ 2 ¢ | 829 ＇$\varepsilon$ | Kıunoう uadng ue＾ |
| \％8＇で | \％ガレ | \％でけし | 96\＄ | 899＇15 | \％0＇8 | 9St | 1ヵS＇15 | \％で9 | Z¢\＆ | 869＇s | Kıunoう uolun |
| \％じレ－ | \％L＇Z1 | \％8＇દ1 | 86\＄ | S89＇15 | \％L＇L | 8 ¢て | 9 $28^{\prime} 15$ | \％で9 | 661 | 67 ¢＇$\varepsilon$ | Kıunos 10｜K（E） |
| \％L＇$\varepsilon^{-}$ | \％L＇8 | \％がてし | 68 \＄ | LLS＇LS | \％じく | StS | ちて9＇15 | \％$\varepsilon^{\text {＇}}$ | ع0t | $09^{\circ} \mathrm{L}$ | Kıunoう eure |
| \％6 ${ }^{\circ} \mathrm{Z}$ | \％L＇6 | \％8＇9 | ع8\＄ | 8てヤ＇し\＄ | \％9＇$\varepsilon$ | カセレ＇レ | ャモセ＇し\＄ | \％でદ | $100{ }^{\circ}$ | ¢98＇L | Kıunoj KıOS |
| \％6＇で | \％8．9 | \％L＇6 | L8\＄ | ャ6け＇し\＄ | \％${ }^{\text {＇9 }}$ | 669 | $6 \mathrm{t9}$＇LS | \％9＇${ }^{\text {c }}$ | いレ | 6St゙レ | Kıunoう $\times$ xo！ 5 |
| \％$L^{\prime}$＇${ }^{\text {－}}$ | \％${ }^{\text {－}} 8$ | \％8＇てl | S6\＄ | 619 ＇1 | \％${ }^{\text {c }}$ | 968 | $869^{\prime \prime} 15$ | \％${ }^{\text {c }}$ | $00 \varepsilon$ | カャナ＇S | Kıunoo Kqıə ${ }^{\text {a }}$ |
| \％L＇で | \％L＇6 | \％がてし | S6\＄ | $69^{\prime \prime} 15$ | \％カ＇9 | カレع＇t | $6 \vdash 8^{\prime} 15$ | \％0＇9 | 010＇t | عLO＇L9 | Kıunoj Hoss |
| \％$L^{\circ} 0^{-}$ | \％ 8 ＇01 | \％0．しL | ع6\＄ | LE9＇1S | \％¢＇9 | ¢¢ | ＋6S＇15 | \％s＇$\downarrow$ | $8 \downarrow 2$ | $00 S^{\prime} \mathrm{S}$ | Kıunojos |
| \％6＇ | \％どけし | \％ガてし | t6\＄ | $1 \angle 9^{\prime \prime} 15$ | \％ $2 \cdot 9$ | $6 \angle 1$ | $096{ }^{\prime \prime} 15$ | \％「＇9 | ELL | $878{ }^{\prime} 7$ | Kıunoう ploб6u！ |
| \％0＇${ }^{\text {－}}$ | \％${ }^{\text {＇}} 6$ | \％101 | 06\＄ | カtS＇1S | \％L＇S | 86ヵ | 199＇LS | \％ち＇ャ | ع88 | $60 L^{\prime} 8$ |  |
| \％L＇で | \％${ }^{\text {－}}$－ | \％8＇てl | t6\＄ | カ19＇1 | \％0＇L | ＋69＇z | $608^{\prime \prime} 15$ | \％${ }^{\prime}$＇ | 6ャレ＇て | ャャ6＇98 |  |
| \％${ }^{\text {－}}$ ¢ ${ }^{\text {－}}$ | \％0．8 | \％トレ | 26\＄ | LLS＇1S | \％$\% 9$ | 692＇01 | $069^{\prime \prime} 1$ | \％8＇† | $878{ }^{\circ} \mathrm{L}$ | عLS＇Z91 | Kıunoj Y｜Od |
| \％で＇－ | \％0001 | \％でし | 26\＄ | 0z9＇1\＄ | \％9＇9 | 292 | S99＇1 | \％9＇$\downarrow$ | 281 | ZL6＇$¢$ | Kıunoo sełuoyeood |
| \％8＇${ }^{-}$ | \％9＇9 | \％が01 | $68 \$$ | GZS＇15 | \％${ }^{\text {c }}$ | 9¢9 | 909＇LS | \％${ }^{\text {＇}}$＇ | 68t | S60＇01 | Kıunos ulinoukld |
| \％6＇${ }^{\text {－}}$ | \％0＇01 | \％6．し上 | 06\＄ | Z ZS＇LS | \％8＇9 | GLE | てヤぐし\＄ | \％ 1 ＇G | $8 \varepsilon 乙$ | Z99＇t | Kıunoう Ollv oled |
| \％て＇0－ | \％0＇Z | \％でてし | $68 \$$ | ャ\＆S＇し¢ | \％8＇9 | 967 | L6S＇LS | \％$\dagger$＇ | ع68 | S1E＇L | Kıunoj $\mathrm{obed}_{\text {d }}$ |
| \％9＇${ }^{\text {c }}$ | \％9＇L | \％トレレ | $16 \$$ | ャ6t＇LS | \％6．9 | 802 | S89＇15 | \％でも | 9 L | $900^{\circ} \mathrm{E}$ | Kıunoj eloesso |
| \％${ }^{\text {－}}$ ¢ | \％で8 | \％どレ | †8\＄ | LLG＇1S | \％9＇9 | て¢ヶ | $169^{\prime \prime} 15$ | \％L＇t | 118 | tLG＇9 | Kıunoう ue！rg．0 |
| \％+ ＇s－ | \％9＇6 | \％L＇tし | ع6\＄ | S09＇15 | \％${ }^{\text {¢ }} 8$ | $0<\varepsilon^{\prime \prime}$ | 0ZL＇LS | \％9＇9 | 9Z1＇ | S10＇Ll | Kıunoj autieesnw |
| \％がで | \％ 8 ＇01 | \％でとし | L6\＄ | 0¢L＇LS | \％9＇L | 60t | ع9L＇LS | \％9＇9 | ع0¢ | $66 \varepsilon^{\prime}$ S | Kıunoo Kıamobyuow |
| \％ $8^{\circ}{ }^{-}$ | \％S゙レ | \％どとし | ع6\＄ | OS9＇15 | \％${ }^{\circ} \mathrm{L}$ | ZSZ | 859＇15 | \％ $2 \cdot 9$ | LZZ | ャ69＇$\varepsilon$ | Kıunos aoduow |
| \％L＇で | \％0＇L | \％L＇E1 | $16 \$$ | ャt9＇LS | \％S＇L | ع¢\＆ | て19＇1 | \％ ¢ $^{\prime} 9$ | 962 | IZL＇t | Kıunoj euouow |
| \％6＇ | \％0＇6 | \％6\％${ }^{\circ}$ | $16 \$$ | LLC＇1S | \％s＇9 | ع0¢ | $828^{\prime \prime}$ \＄ | \％${ }^{\text {¢ }}$ ¢ | 102 | L29＇t |  |
| \％6＇で | \％1－8 | \％0＇レ | t6\＄ | $669^{\prime} 1 \$$ | \％で9 | 898 | LE8＇1 | \％8＇$\downarrow$ | GLZ | LSL＇S | Kıunoj sıl！w |
| \％8＇${ }^{\text {－}}$ | \％ 1 －01 | \％6゙巾 | 96\＄ | 60915 | \％8＇8 | 8ロナ＇レ | 018.15 | \％1＇9 | $800{ }^{\circ}$ | 619＇91 | Kıunoう Illeystew |
| \％${ }^{\text {＇2＇}}$ | \％0＇8 | \％ 1 －01 | $28 \$$ | S0S＇LS | \％${ }^{\text {c }}$ ¢ | 乙とL | $169^{\prime \prime} 15$ | \％9＇$\downarrow$ | 409 | عモて＇EL | Kıunos uoluew |
| \％${ }^{\text {＇2 }}$－ | \％ナ－01 | \％s＇Zl | $98 \$$ | 1Lヤ＇レ\＄ | \％6．9 | 999 | S89＇15 | \％9＇9 | ¢\＆S | $119{ }^{\text {a }}$ | Kıunoj eyseyew |
| \％9＇${ }^{-}$ | \％ $0^{\circ} \mathrm{L}$ | \％900 | t6\＄ | 0z9＇1\＄ | \％$\%$＇9 | $0 \angle \varepsilon$ | 902＇LS | \％と＇$\downarrow$ | \＆SZ | 198＇G | Kıunoう uos！pew |
| \％6＇${ }^{\text {c }}$ | \％L＇L | \％9＇レ | $68 \$$ | عIS＇1S | \％8＇9 | ع $\ell$ | 119＇LS | \％ $8^{\prime} \downarrow$ | 乙と乙 | 98L＇t | Kıunoう uok7 |
| \％ $8^{\circ} 0^{-}$ | \％し＇て1 | \％がてし | L6\＄ | L99＇LS | \％¢9 | $6 \angle Z$ | 89L＇LS | \％ $8^{\text {＇}}$ | $6 \dagger$ ¢ | ع92＇t | Kıunoう seon7 |
| \％て＇9－ | \％8＇8 | \％0＇tl | 26\＄ | tSc＇LS | \％9＇8 | \＆t | 9L9＇15 | \％ち＇ | $6 L Z$ | 891＇9 | Kıunoj es！no |
| \％0＇${ }^{-}$ | \％ $0^{\circ} \mathrm{L}$ | \％0001 | $88 \$$ | 109＇15 | \％¢＇s | St9＇t | ¢89＇15 | \％s＇t | StL＇$\varepsilon$ | 9LL＇E8 | Kıuno unul |
| suḷelo Jila Kuv jo \％pue <br>  | $\begin{gathered} \text { Кұunoэ Кq } \\ \text { әұеу Кұәәлоd } \end{gathered}$ |  |  | щ！elo［eגapay | sploчəsnoH fo \％ | sw！e！jo \＃ |  |  | su！e｜ア fo\＃ | $\begin{array}{\|c\|} \hline \text { Kıunoэ u! } \\ \text { sployәsnoн э๐ \# } \end{array}$ |  |


| \％0＇9 | \％レ＇$\dagger$ | \％8＇${ }^{\text {c }}$ | \％6゙レレ | \％8＇L | S6Z＇L | \％9＇Z | でカ | L89＇91 | Kıunoう 207 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \％S＇8 | \％8＇ | \％S＇レレ | \％8＇8 | \％0＇$\varepsilon$ | $67 Z$ | \％8＇0 | LS | $\dagger 19 \times$ | Kıunoう पınssoy |
| \％6． | \％ナ＇ | \％S＇$\varepsilon$ L | \％0゙レレ | \％9＇¢ | †8Z | \％ガ | 02 | OSO＇S | Kıunoj y |
| \％0．8 | \％9＇9 | \％S＇レレ | \％で6 | \％9＇${ }^{\text {c }}$ | 七6Z | \％0＇1 | $\downarrow 8$ | $91 て ゙ 8$ | Kıunos sauor |
| \％と＇$\downarrow$ | \％S＇9 | \％L＇L | \％6．6 | \％ナ ${ }^{\text {¢ }}$ | Lt9＇1 | \％8＇0 | 80t | 199＇8t | Kıunoう uosuyor |
| \％0＇9 | \％${ }^{\text {¢ }}$ S | \％8＇てし | \％6＇Zし | \％8＇L | GLG | \％0＇Z | $6 ヶ 1$ | $08 \varepsilon^{\prime} L$ | Kıunoう uosıəдəə |
| \％8＇ | \％でを | \％9＇6 | \％ドレ | \％6．$\varepsilon$ | 919 | \％でし | L61 | 9ع8＇S1 | Kıunoj dadse¢ |
| \％0＇8 | \％1＇S | \％${ }^{\text {L＇EL }}$ | \％で01 | \％${ }^{\text {¢ }}$ S | †9t | \％${ }^{\prime}$ | 乙とし | LOL＇6 | Kıunoう uosyग्¢ |
| \％＊＊ | \％ナ＇$\varepsilon$ | \％8＇6 | \％8＇G | \％カ＇ | 6S1 | \％L＇0 | 0 S | S99＇9 | Kıunoう емо |
| \％L＇6 | \％6．9 | \％ガで | \％9＇6 | \％L＇Z | $\varepsilon 6$ | \％L＇0 | SZ | SlS＇ | Kıunos epl |
| \％L＇8 | \％9＇9 | \％0＇Zし | \％6．8 | \％$\varepsilon^{\circ} \varepsilon$ | GSL | \％6．0 | レt | てZL＇† | Kıunoう ¥ploqunh |
| \％9＇6 | \％0＇L | \％9＇で | \％${ }^{\text {L＇OL }}$ | \％${ }^{\text {¢ }}$ ¢ | $\downarrow$ ¢ | \％6．0 | $8 \varepsilon$ | 9LE＇ナ | Kıunoう рлемоН |
| \％L＇L | \％でも | \％9＇Zし | \％${ }^{\text {c }}$ ¢ | \％6＇t | 60t | \％ガ | 811 | $98 \varepsilon^{\prime \prime}$ | Kıunos Kıuə |
| \％S＇${ }^{\text {b }}$ | \％1＇て | \％0゙レレ | \％L＇8 | \％9＇9 | 0ちt | \％9＇ | SOL | ع1L＇9 | Kıunoう uos！ıлен |
| \％8＇L | \％9＇t | \％8＇レ | \％9＊8 | \％0＇t | 乙દะ | \％でし | tol | Z98＇8 | Kıunoう u！psen |
| \％L＇6 | \％0＇9 | \％6レレ | \％でし | \％でて | GIL | \％8＇0 | 0 t | 0عて＇G | Kıunoう уэоэue\％ |
| \％S＇L | \％8 ${ }^{\text {® }}$ | \％S＇レレ | \％L゙L | \％6 ${ }^{\text {® }}$ | ع8乙 | \％と＇ | 06 | †91．L | Kıunoう uot！uen |
| \％1゙L | \％L＇G | \％${ }^{\text {col }}$ | \％L＇8 | \％0 ${ }^{\circ}$ | 991 | \％9＇0 | $9 \varepsilon$ | S89＇S | Kıunoう ə！lutn |
| \％89 | \％でを | \％9＊8 | \％0＇s | \％8． | $\angle 6$ | \％9＇0 | $1 \varepsilon$ | 868＇G | Kıunos Kpundg |
| \％6 ${ }^{\circ}$ | \％6＇s | \％ガとし | \％ガ01 | \％s＇t | 012 | \％S＇ | IL | カャ9＇t | Kıunoう әuәอл⿹ |
| \％1＇9 | \％S＇t | \％ガレレ | \％6．6 | \％カ＇ | 061 | \％0＇Z | $\varepsilon L$ | 6 SG ＇$\varepsilon$ | Kıunos luomery |
| \％0＇6 | \％1．9 | \％6レレ | \％レ＇6 | \％0＇$\varepsilon$ | しヤレ | \％8＊0 | Lع | LSL＇t | Kıunos u！lyuedy |
| \％¢9 | \％¢＇$\varepsilon$ | \％S＇${ }^{\text {c }}$ | \％9＇01 | \％${ }^{\text {¢ }}$ | 815 | \％0＇Z | Sャレ | LlE＇L | Kıunos pKoly |
| \％で9 | \％S＇t | \％ナ゙とし | \％9「レレ | \％ドく | †89 | \％ع＇乙 | OZZ | S8S＇6 |  |
| \％¢＇8 | \％L＇$\dagger$ | \％G＇${ }^{\text {c }}$ | \％9＇6 | \％6＇t | \＆¢ | \％と＇レ | †9 | LZ6＇ナ |  |
| \％が | \％8 ${ }^{\text {¢ }}$ | \％8レレ | \％で8 | \％ガ $\dagger$ | S89＇L | \％${ }^{\prime}$＇ | 98 ¢ | 18で98 | Kıunoう ənbnqna |
| \％6＇t | \％ナ＇ | \％8＇9 | \％ع＇L | \％6．1 | LZZ | \％S＇0 | $\varepsilon 9$ | S0L＇レし | Kıunoう uosuly |
| \％9＇9 | \％でて | \％でヤレ | \％6001 | \％L＇8 | 919＇1 | \％8＇${ }^{\text {c }}$ | LZG | 979＇81 | Kıunoう sauiow sag |
| \％${ }^{\prime} 6$ | \％で | \％L゙てし | \％L＇8 | \％${ }^{\text {® }}$ ¢ | 0LZ | \％${ }^{\text {¢ }}$ | Z8 | GLL＇L |  |
| \％0＇Z | \％0＇s | \％どャレ | \％どLL | \％どてし | LLV | \％L＇Z | t01 | 9 28 ＇$\varepsilon$ | Kıunoj dnłeoag |
| \％ぢ8 | \％9＇6 | \％6で | \％0゙ャレ | \％ガカ | 6S1 | \％0＇1 | S\＆ | LLS＇E | Kıunos s！ıeg |
| \％${ }^{\text {c }}$ | \％0＇$\varepsilon$ | \％と＇6 | \％0＇s | \％0＇Z | 098 | \％9＇0 | ナレレ |  | Kıunos sel｜ra |
| \％9＇8 | \％9＇$\dagger$ | \％ガヤレ | \％ど01 | \％L＇S | \＆0t | \％6．1 | Zとし | $810^{\circ} \mathrm{L}$ | Kıunos projmedo |
| \％1＇9 | \％0＇$\varepsilon$ | \％ガとし | \％ع＇01 | \％ع＇L | ع6S＇L | \％でて |  | 008＇ 1 Z | Kıunos uołu！！ |
| \％S＇01 | \％ガレ | \％L゙てし | \％9＇6 | \％でて | ع61 | \％9＇0 | LS | 208 ＇8 | Kıunoj uotkelo |
| \％1－8 | \％6．${ }^{\text {c }}$ | \％9＇で | \％ガ8 | \％S＇$\downarrow$ | $6 \mathrm{~S} \mathrm{\varepsilon}$ | \％でし | 66 | ع $66^{\prime} L$ | Kıunos Kelo |
| \％6．8 | \％G＇Z | \％ガ91 | \％${ }^{\text {LOOL }}$ | \％9＇L | ع0¢ | \％6．1 | 82 | L66＇$\varepsilon$ | Kıunoう әулеว |
| \％8．8 | \％S＇S | \％どてし | \％0＇6 | \％¢ ${ }^{\text {¢ }}$ ¢ | 961 | \％6．0 | ZS | 乙ع9＇S | Kıunoう меseyग！${ }^{\text {a }}$ |
| \％L＇9 | \％6 ${ }^{\text {® }}$ | \％S＇レレ | \％L＇8 | \％8＇t | ¢8Z | \％ガ | 98 | ع $28{ }^{\prime} \mathrm{G}$ | Kıunoう әәуолачว |
| \％ド | \％で $\downarrow$ | \％0＇で | \％${ }^{\text {¢ }}$ ， | \％6＇t | SSO＇L | \％でし | LSZ | 69S＇レZ | Kıunoう opıos oııə |
| \％${ }^{\text {c }} 9$ | \％ع＇$\varepsilon$ | \％6．8 | \％0＇9 | \％L＇Z | GOZ | \％8＊0 | 19 | $189{ }^{\circ} \mathrm{L}$ | Kıunos depaj |
| \％と＇6 | \％${ }^{\text {c }} 9$ | \％9＇\＆1 | \％9001 | \％と＇${ }^{\text {b }}$ | Z8Z | \％ع＇เ | 78 | $109 \times 9$ | Kıunoう ssej |
| \％$\underbrace{\prime}$ G | \％8．0 | \％G＇Zし | \％0＇8 | \％でし | GS9 | \％8． | 091 | 260＇6 | Kıuno Iloux |
| \％L＇L | \％8＇9 | \％ガレレ | \％S＇01 | \％$\chi^{\prime}$ ¢ | 261 | \％6．0 | Lt | LしでG | Kıunos unouleg |
| \％6．8 | \％${ }^{\text {¢ }}$ S | \％S＇レレ | \％L＇L | \％9＇Z | † 21 | \％8＊0 | ¢G | S8S＇9 | Kıunos dalıng |
| \％0ㄴレ | \％6＇S | \％L゙ゅし | \％9＇6 | \％$\chi^{\circ}$＇ | 008 | \％じレ | 88 | ZS1＇8 | Kıunoう els！$\uparrow$ eueng |
| \％1．8 | \％6．＇ | \％どレレ | \％で6 | \％ع＇$\varepsilon$ | 888 | \％でし | ع01 | 998＊8 | Kıunoう ueueyong |
| \％9＇9 | \％9＇${ }^{\text {c }}$ | \％9＇8 | \％9｀9 | \％0＇$\varepsilon$ | 882 | \％8＊0 | GL | 08S＇6 |  |
| \％1＇9 | \％6＇${ }^{\text {c }}$ | \％ガ01 | \％でし | \％と＇$\downarrow$ | $6 \angle t$ | \％でし | $1 \varepsilon 1$ | 961＇レレ | Kıunoう 2uoog |
| \％0＇9 | \％1＇ | \％レ＇をレ | \％でレレ | \％1＇8 | 8ヵでャ | \％8＇Z | L8t＇ | Z1S＇ZS |  |
| \％0＇9 | \％0＇Z | \％+ －01 | \％し「9 | \％レ＇$\dagger$ | 9\＆t | \％でし | てとし | 06S＇01 | Kıunos uołueg |
| \％1＇6 | \％0＇L | \％6゙レレ | \％8＇6 | \％8＇${ }^{\text {c }}$ | $\downarrow 8$ | \％6．0 | 97 | $900^{\circ} \mathrm{E}$ | Kıunoう uoqnpn ${ }^{\text {a }}$ |
| \％0＇s | \％8＇9 | \％でャレ | \％${ }^{\text {L＇S }}$ ， | \％ع＇6 | ع 29 | \％9＇Z | 921 | SعL＇9 |  |
| \％${ }^{\prime} 6$ | \％G＇L | \％S゙レレ | \％L＇6 | \％でて | ع91 | \％L＇0 | ZS | SlE＇L | Kıunoう әәуешеıIV |
| \％9＇6 | \％t＇L | \％6＇とL | \％L゙レレ | \％と＇$\downarrow$ | 06 | \％L＇0 | カ | 801＇乙 | Kıunos swepy |
| \％$\varepsilon^{\prime \prime}$ | \％6＇${ }^{\text {b }}$ | \％どレレ | \％8．8 | \％6 ${ }^{\text {® }}$ | $8 \downarrow 1$ | \％8．0 | 62 | 09L＇$\varepsilon$ | Kıunoう ग！epy |
| $\forall \boldsymbol{6}$ 反u！ <br>  | \% pue Киәлод эо әұеу иן |  | $\begin{gathered} \text { Kıunoう Кq } \\ \text { әұеу К } \swarrow \text { әлоd } \end{gathered}$ |  |  |  |  |  |  |


| \％でL | \％9＇t | \％0＇Zし | \％S＇6 | \％6 ${ }^{\text {t }}$ | 6Z6＇ع¢ | \％ガ | tL6＇6 | 800＇869 | selpunos lexny |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \％8＇ | \％6 ${ }^{\text {® }}$ | \％どレレ | \％ナ＇6 | \％S＇${ }^{\text {c }}$ | 919＊0¢ | \％6＇ | Et9＇01 | 828＇099 | sol！unoj ueq入n |
| \％9＇9 | \％0＇$\downarrow$ | \％L゙レL | \％1＇6 | \％${ }^{\text {¢ }}$ S | StS＇t9 | \％9＇ | L19＇0Z | 9ع8＇89て＇し | 1ełO1 |
| \％ガ8 | \％${ }^{\text {c }}$ S | \％どてし | \％0＇6 | \％6 ${ }^{\text {® }}$ | GSZ | \％でし | 92 | E99＇9 | Kıunoう $\downarrow$ ¢б！ 1 M |
| \％1＇8 | \％${ }^{\text {¢ }}$ S | \％S＇01 | \％S＇L | \％ナ＇て | $\bigcirc 8$ | \％9＇0 | ZZ | $6 \varepsilon^{\prime} \varepsilon$ | Kıunoう ¢łı0М |
| \％+ －01 | \％0＇9 | \％6＇s． | \％801 | \％8＇ | とレヤ＇Z | \％でて | \＆Z6 |  | Kıunoう KınqpooM |
| \％で9 | \％8＇t | \％S＇01 | \％0＇6 | \％で十 | LSE | \％でし | 101 | LてE＇8 | Kıunoう Yə！ |
| \％で8 | \％1゙ $\downarrow$ | \％じてし | \％0＊8 | \％6 ${ }^{\text {® }}$ | 102 | \％1． | 6 S | Sع1＇S | Kıunoう обеqәuu！M |
| \％どャ | \％8＇Z | \％L゙てし | \％でしレ | \％＊＊ | 9とt＇ | \％9＇Z | ¢ ¢ $\dagger$ | 8Z1＇く1 | Kıunoう deңsqəM |
| \％0＇9 | \％＊＊ | \％8＇レレ | \％でャレ | \％8＇9 | 861 | \％9＇1 | S9 | $86 \varepsilon^{\prime} \varepsilon$ | Kıunoj әuKem |
| \％${ }^{\text {c }} 8$ | \％ガ | \％6゙レ | \％0＇8 | \％9＇${ }^{\text {c }}$ | 11E | \％0＇ | S8 | Z69＇8 | Kıunoう uothulysem |
| \％1゙L | \％ع＇$\varepsilon$ | \％S＇6 | \％L＇G | \％ナ＇て | Z8\＆ | \％0＇ | ZS1 | S98＇S1 | Kıunoj uadeм |
| \％9＇9 | \％8． | \％で91 | \％S＇Zし | \％L＇01 | 969＇1 | \％0＇$\varepsilon$ | \＆$\llcorner\stackrel{ }{ }$ | SZ6＇S1 | Kıunoう Ol｜әdeM |
| \％$\chi^{\prime} 8$ | \％0＇L | \％L＇とし | \％ャでて | \％ナ｀ | ¢61 | \％G＇เ | tS | 879＇\＆ | Kıunoう uadng ue＾ |
| \％ガ9 | \％9＇${ }^{\text {c }}$ | \％でャレ | \％ガレレ | \％8＇L | でち | \％S＇1 | 98 | 869＇G | Kıunos uolun |
| \％0＇6 | \％6．L | \％8＇\＆1 | \％L゙てし | \％8＇t | GSL | \％6．0 | 62 | 6 6Z＇દ | Kıunoう 10， $\mathbf{K e l}_{1}$ |
| \％0＇6 | \％${ }^{\text {c＇}}$ | \％ガてし | \％L＇8 | \％ナ＇$\varepsilon$ | 292 | \％${ }^{\circ}$ | 98 | 0S9＇L | Kıunoう emel |
| \％8＇$\varepsilon$ | \％9＊9 | \％8＇9 | \％L＇6 | \％${ }^{\text {¢ }}$ ¢ | $\angle 96$ | \％0＇1 | 862 | S98＇เย | Kıunoう KıOㄱㅇ |
| \％G＇L | \％9＇$\downarrow$ | \％L＇6 | \％8．9 | \％でて | \＆¢Z | \％L＇0 | 08 | 6Sガレ | Kıunoj xno！s |
| \％${ }^{\text {¢ }}$ ， | \％ガ $\downarrow$ | \％8＇Zし | \％1＊8 | \％L＇ | 661 | \％8＊ | Et | ナカヤ＇S | Kıunos Kqıə ${ }^{\text {¢ }}$ |
| \％0＇9 | \％と＇Z | \％がてし | \％L＇6 | \％＊＇ | $686{ }^{\prime} \downarrow$ | \％L＇Z | L6L＇レ | عLO＇L9 | Kıunoj Hoss |
| \％8＇L | \％でし | \％0゙レレ | \％と＇01 | \％${ }^{\text {¢ }}$ ¢ | ZLL | \％L＇0 | $0 t$ | 009＇S | Kıunoj oes |
| \％L゙L | \％¢ 6 | \％ガで | \％どヤレ | \％8＇t | S\＆1 | \％でし | $\varepsilon \varepsilon$ | 8Z8＇Z | Kıunoう plo66u！y |
| \％L＇9 | \％L＇G | \％${ }^{\text {col }}$ | \％じ6 | \％ナ ${ }^{\text {¢ }}$ | \＆6Z | \％1． | 66 | 60L＇8 | Kıunoう yə！¢ |
| \％${ }^{\circ} 9$ | \％¢＇$\varepsilon$ | \％8＇Zし | \％${ }^{\text {L＇OL }}$ | \％9＇9 | 8てヤ＇Z | \％9＇Z | 976 | 七七6＇9¢ |  |
| \％0＇9 | \％6＇Z | \％レ゙レ | \％0＇8 | \％${ }^{\text {c }}$ S | L6で8 | \％8＇ | ع88＇Z | عLS＇Z91 | Kıunoj Y／0d |
| \％が9 | \％${ }^{\prime}$＇ | \％でレレ | \％0＇01 | \％L＇t | 681 | \％8＇0 | $\varepsilon \varepsilon$ | Z $26{ }^{\circ} \mathrm{E}$ | Kıunoう sełuoyeood |
| \％で8 | \％ガ $\dagger$ | \％ガ01 | \％9＇9 | \％でて | 8LZ | \％8＇0 | 62 | G60＇01 | Kıunoj पłnouKld |
| \％8＇8 | \％0＇L | \％6゙レレ | \％0＇01 | \％0＇$\varepsilon$ | しカレ | \％9＇0 | 87 | 299＇t | Kıunos OY丬 |
| \％8＇t | \％9＇t | \％でてし | \％0＇Z | \％ガL |  | \％${ }^{\prime}$＇ | 891 | GlE＇L |  |
| \％ガ6 | \％6．9 | \％レ゙レ | \％9＇L | \％L＇ | 0 S | \％9＊0 | 81 | $900{ }^{\text {¢ }}$ ¢ | Kıunoう elozeso |
| \％で8 | \％0＇s | \％どレレ | \％で8 | \％でと | LOZ | \％0＇ | $\angle 9$ | † LS＇9 | Kıunoう uә！u9．0 |
| \％6．9 | \％8＇ | \％L゙ヤレ | \％9＇6 | \％8＇L | 8てع＇เ | \％0 ${ }^{\circ}$ | ELS | S10＇ 21 | Kıunoう әu！̧eosnW |
| \％0＇L | \％9＇$\downarrow$ | \％でとし | \％8＇01 | \％で9 | $\downarrow$ ¢¢ | \％G＇1 | $\varepsilon 8$ | $66 \varepsilon^{\prime} \mathrm{G}$ | Kıunos Kıamob̧uow |
| \％8＇9 | \％0＇9 | \％どとし | \％S＇レL | \％G＇9 | †¢て | \％9＇ | 69 | ¢69＇$\varepsilon$ | Kıunoj əoıuow |
| \％${ }^{\text {c }} 6$ | \％が9 | \％L＇EL | \％0＇レレ | \％9＇t | 812 | \％1． | 09 | LZL＇t | Kıunoう euouow |
| \％8＇8 | \％6．9 | \％6001 | \％0＇6 | \％${ }^{\text {＇}}$＇ | $L 6$ | \％G＇0 | $\varepsilon Z$ | LZ9＇ナ | Kıunoう IIəบフ！！ |
| \％でG | \％${ }^{\prime}$＇ | \％0＇レレ | \％${ }^{\text {² }} 8$ | \％8＇ | عદย | \％$\chi^{\prime}$ Z | $1 \varepsilon 1$ | LSL＇S | Kıunoう sıI！W |
| \％ガ8 | \％L＇ | \％6゙ゅレ | \％${ }^{\text {L＇OL }}$ | \％ナ＇9 | 290＇1 | \％6．1 | LLE | 6し9「91 | Kıunoj IIeyssew |
| \％0＇9 | \％6．${ }^{\text {¢ }}$ | \％+ －01 | \％0＇8 | \％レ＇ナ | $\dagger$ tS | \％レ＇レ | OSL | عとて＇દ1 | Kıunos uoluew |
| \％8＇9 | \％L＇$\varepsilon$ | \％G＇Zし | \％ナ－01 | \％L＇9 | St9 | \％6． | 981 | 1196 | Kıunos eyseyew |
| \％L゙L | \％レ゙カ | \％9＇01 | \％ $0^{\circ} \mathrm{L}$ | \％6＇Z | 021 | \％8＇0 | 67 | 198＇G | Kıunoう uos！pew |
| \％6．6 | \％09 | \％9＇レレ | \％L＇L | \％L＇ | Z8 | \％9＊0 | 62 | S8L＇t | Kıunos uok7 |
| \％L＇9 | \％が9 | \％ガてし | \％L＇Zし | \％L＇S | ヤ七て | \％0＇Z | 98 | ع9Z＇t | Kıunoj seon7 |
| \％レ゙6 | \％6．${ }^{\circ}$ | \％O＇ャレ | \％8 8 | \％6＇t | ZgZ | \％8＇ | ع6 | 8SL＇S | Kıunoう es！no7 |
| \％でG | \％でて | \％0＇01 | \％0＇L | \％8＇t | てャ0＇ャ | \％9＇1 | S98＇เ | 9LL＇E8 | Kłunoう uu！ |
|  <br>  |  \％pue Кдәлод эо әұуу й＇н！ | OIIヨ Kuv 6u！̣！e！ | Кłипоう Кq әұеу Кцәлод |  |  |  |  |  |  |



|  |  |  | 66\＄ | 0t9＇1 1 |  | †て6＇G | 6L9＇LS |  | \＆S0＇t |  | ऐuәp！saduon |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \％L＇t＇ | \％0＇6 | \％L＇とし |  |  | \％9 ${ }^{\circ}$ | 919＇¢S |  | \％ 1 ＇9 | 12S＇Zて | L90＇Z0L | solpunoo jexny |
| \％${ }^{\text {＇2－}}$ | \％8＇6 | \％66L |  |  | \％＋＇9 | 6t9＇98 |  | \％${ }^{\text {c }}$ ¢ | しゃじと | S98＇699 | solpunoj uequn |
| \％8＇$\varepsilon^{-}$ | \％${ }^{\prime} 6$ | \％6で | ¢6\＄ | 869＇15 | \％LL | G9z＇06 | t99＇15 | \％8＇9 | 299＇EL | 乙\＆6＇LLて＇। |  |
| \％でゆ－ | \％$\chi^{\prime} 8$ | \％s＇Zし | 06\＄ | $68 S^{\prime} 1 \$$ | \％ $0^{\circ} \mathrm{L}$ | 297 | 089＇1\＄ | \％s＇${ }^{\text {c }}$ | $89 \varepsilon$ | 299＇9 | Kıunoj $\ddagger$ ¢ $6!4 \mathrm{M}$ |
| \％0＇t－ | \％でし | \％でし | 96\＄ | ャレ9＇し¢ | \％9＇9 | 乙と乙 | $189^{\prime \prime} 15$ | \％9＇ャ | ع91 | レヵG＇$\varepsilon$ | Kıunoう чдом |
| \％ $8^{\text {＇¢ }}$ | \％でレ | \％0＇Ll | 86\＄ | $869^{\prime \prime}$ \＄ | \％9＇6 | 156 ＇$\varepsilon$ | $618^{\prime} 15$ | \％¢＇L | 9r1＇$\varepsilon$ | 069＇レ | Kıunoう Kınqpoom |
| \％9＇${ }^{\text {¢ }}$ | \％8＇L | \％がレ | 08§ | と0カ＇レS | \％${ }^{\text {c }}$ 9 | $\varepsilon$ LS | ててヤ＇し\＄ | \％$\varepsilon^{\prime}$ G | Ltt | $06 \varepsilon^{\prime \prime} 8$ |  |
| \％s＇t－ | \％ 8 \％ | \％8＇て1 | $16 \$$ | 98S＇LS | \％L＇L | t68 | カレS＇レS | \％て＇G | S92 | Otr＇s | Kıunoj O6eqəuu！${ }^{\text {a }}$ |
| \％0＇て＇ | \％801 | \％8＇てし | $16 \$$ | 11915 | \％L＇9 | Ltril | 86L＇LS | \％ 1 ＇9 | $6 \mathrm{to}{ }^{\circ}$ | GLL＇LL | Kıunoj ${ }^{\text {ditsqam }}$ |
| \％で0 | \％S＇Z1 | \％とてし | $68 \$$ | 6S9＇15 | \％¢＇9 | ZZZ | カ19＇1\＄ | \％ 8 ＇ | 961 | $66 \varepsilon^{\prime} \varepsilon$ | Kunoう әuкем |
| \％s＇t－ | \％L＇L | \％でてし | L8\＄ | 06t＇LS | \％9＇9 | 189 | 6LS＇LS | \％9＇9 | 28t | 0SL＇8 |  |
| \％でず | \％0＇9 | \％でol | 06\＄ |  | \％0＇9 | †96 | $619{ }^{\prime \prime}$ \＄ | \％でャ | ZL9 | 860＇91 | қииооэ иәлем |
| \％$\varepsilon^{\text {＇}}$－ | \％でてし | \％¢91 | ＋6\＄ | 9LS＇15 | \％${ }^{\prime} 8$ | LOカ＇ | 819＇15 | \％L＇L | Gzて＇। | S96＇S1 |  |
| \％8＇${ }^{\text {－}}$ | \％でし | \％0＇El | $28 \$$ | 89t＇L\＄ | \％でし | 192 | 989＇15 | \％ $8^{\prime}$ G | 012 | ャ¢9＇$\varepsilon$ | Kıunoう uaing ue＾ |
| \％0＇t－ | \％レレレ | \％ －${ }^{\text {c }}$ | 96\＄ | 099＇15 | \％¢ 8 | 88t | 9E9＇15 | \％L＇9 | $98 \varepsilon$ | ILL＇S | Kıunoう uolun |
| \％$\varepsilon^{\prime}$ ¢ | \％L＇01 | \％0＇t1 | $96 \$$ | 1891 ＇\＄ | \％$\chi^{\prime} L$ | $8 \varepsilon$ ¢ | L69＇15 | \％9＇9 | SIL | てセでと | $\mathrm{K}_{1}$ |
| \％ $\mathrm{S}^{\text {¢ }}$ ¢ | \％6．8 | \％ナでて | 96\＄ | 999＇15 | \％${ }^{\text {ck }}$ | 2tS | tSS＇LS | \％$\varepsilon^{\prime}$ G | 0レヤ | $699^{\circ} \mathrm{L}$ | Kıunoう eureı |
| \％L＇z | \％${ }^{\circ} 6$ | \％ト＇L | 08\＄ | $89 \varepsilon^{\prime \prime} 1 \$$ | \％9＇$\varepsilon$ | 121＇ | $89 \varepsilon^{\prime \prime} 1 \$$ | \％¢＇$\varepsilon$ | SLI＇L | $0 \varepsilon \stackrel{\text {＇ż }}{ }$ | Kıunoj KıOlS |
| \％9＇${ }^{\text {－}}$ | \％¢9 | \％${ }^{\text {－}}$－ | $16 \$$ | $829^{\prime \prime} 15$ | \％${ }^{\text {¢ }} 9$ | 902 | $679^{\prime \prime}$ \＄ | \％0＇$\downarrow$ | ع97 | tSs＇レ | Kıunoう $\times$ no！${ }^{\text {a }}$ |
| \％て＇¢－ | \％ $8^{\circ} \mathrm{L}$ | \％0＇El | 96\＄ | LL9＇LS | \％$\%$＇L | 668 | ع0＇s＇ls | \％9＇9 | L0E | カ⿰⿺乚一匕゙S | Kıunoj Kqle ${ }^{\text {¢ }}$ S |
| \％$\varepsilon^{\text {c }}$ ¢ | \％ 8 ＂01 | \％9＇EL | t6\＄ | 89915 | \％${ }^{\text {L }}$ | 28L＇t | L08＇15 | \％¢＇9 | 9\＆t＇t | S18＇L9 | Kıunoj |
| \％1で－ | \％0＇6 | \％トレレ | $66 \$$ | GL9＇LS | \％＋＇9 | \＆¢ | $189 ' 1 \$$ | \％8＇$\downarrow$ | ¢92 | \＆tS＇S | Kıunoj ${ }^{\text {os }}$ |
| \％で0－ | \％がてし | \％9＇Z1 | 86\＄ | 6SL＇LS | \％L＇9 | 161 | ＋68＇15 | \％6．9 | 991 | 乙と8＇乙 | Kıunoう ploб6u！y |
| \％s＇${ }^{\text {－}}$ | \％0＇6 | \％s＇01 | 88\＄ | 0¢S＇15 | \％ $8^{\text {＇}}$ | 909 | $0 \varepsilon 9^{\prime \prime} 15$ | \％L＇t | カレカ | LEL＇8 |  |
| \％－¢ ${ }^{\text {－}}$ | \％で01 | \％$\varepsilon$ ¢ $\downarrow$ | 66\＄ | ع0L＇LS | \％ぢく | †LL＇Z | 68L＇LS | \％8＇G | SLL＇Z | S8て＇LE |  |
| \％0＇ $\mathrm{E}^{-}$ | \％9＊8 | \％9ヶし | ع6\＄ | 10914 | \％¢＇9 | 06L＇OL | 879 ＇1 | \％ 1 ＇s | SSt＇8 | ع88＇991 | Kıunoj M1Od $^{\text {d }}$ |
| \％9＇${ }^{\text {－}}$ | \％9＇6 | \％でし | ¢6\＄ | ZL9＇1\＄ | \％9＇9 | 192 | 699＇15 | \％9＇ャ | 181 | $8 \vdash 6{ }^{\circ} \mathrm{E}$ | Kıunoj sełuoyeood |
| \％9＇${ }^{-}$ | \％＊＇9 | \％0＇01 | 06\＄ | tSS＇15 | \％ $8^{\text {＇}}$ | 88 S | ع8L＇L\＄ | \％で $\downarrow$ | 6Zt | 69 ＇01 | Kıunoう ¢ınowk |
| \％ $\mathrm{S}^{\text {c }}$ て－ | \％0＇6 | \％S＇レL | 26\＄ | 869＇15 | \％+ ＇9 | 282 | ＋89＇15 | \％$\square^{\text {＇}}$ | 9 SZ | 90L＇t | Kunoj OサlV Oled |
| \％0＇${ }^{\text {－}}$ | \％ゼレ | \％がで | 98\＄ | 28t＇15 | \％8＇9 | 967 | 6 G＇$^{\prime} 1$ S | \％9＇ | \＆レம | カ18゙く |  |
| \％s＇t－ | \％8＇9 | \％どレ | 285 | 0LS＇LS | \％89 | toz | S9L＇LS | \％9＇$\downarrow$ | Lع1 | L00＇$\varepsilon$ | Kıunoう elozeso |
| \％$\varepsilon^{\prime} \varepsilon^{-}$ | \％ $8^{\circ} \mathrm{L}$ | \％トレレ | $68 \$$ | 90G＇15 | \％と＇9 | GLt | $6 \mathrm{LS}^{\prime \prime} \mathrm{L}$ | \％ $8^{\prime} \downarrow$ | 918 | ع6S＇9 |  |
| \％$\varepsilon^{\text {＇}}{ }^{-}$ | \％¢＇6 | \％8＇けし | ＋6\＄ | 019＇15 | \％0 8 | $6 \angle \varepsilon^{\prime \prime}$ | 20815 | \％L＇9 | 8SL＇し | 081＇2l | Kıunoj oulpeosnw |
| \％6でて | \％ 1 －01 | \％0＇\＆1 | 66\＄ | L89＇15 | \％$\%$＇L | ع6£ | $8 \mathrm{tL} \mathrm{\prime L}$ | \％L＇G | 908 | $96 \varepsilon^{\prime}$ G | Kıunoう Kıauobiuow |
| \％0＇${ }^{\text {c－}}$ | \％${ }^{\circ} \mathrm{OL}$ | \％ －¢ | 96\＄ | ZLS＇1S | \％0＇L | £¢Z | t¢9＇1s | \％${ }^{\text {＇9 }}$ | 8 L | 169 ＇$\varepsilon$ | Kıunoj aoruow |
| \％カ＇$\underbrace{-}$ | \％＋＇01 | \％8＇を1 | 06\＄ | ع99＇15 | \％ぢL | 158 | 06915 | \％ャ＇9 | ع0¢ | LZL＇t | Kıunoj euouow |
| \％68． | \％L＇8 | \％9001 | $98 \$$ | 98t＇し\＄ | \％+ ＇9 | 282 | 969＇1 | \％9＇ャ | عا乙 | 8t9＇t |  |
| \％でで | \％ع＇8 | \％S＇01 | ＋6\＄ | $0 \varepsilon 91$＇\＄ | \％6．${ }^{\text {G }}$ | レセを | 78L＇LS | \％9＇ャ | L92 | 908 ＇S | Ķunoj slı！${ }^{\text {d }}$ |
| \％${ }^{\text {c }}$－ | \％9＇01 | \％L＇S1 | 66\＄ | 9L9＇15 | \％0＇6 | と6でし | GZL＇LS | \％L＇9 | とんじ！ | 669＇91 | Kıunoj Ileyskew |
| \％でて－ | \％ $8^{\circ} \mathrm{L}$ | \％0001 | $68 \$$ | tSS＇LS | \％$\square^{\text {＇G }}$ | ZZL | 809＇15 | \％9＇ャ | 029 | ャ0ガとし | Kıunos uouew |
| \％8＇ | \％s＇01 | \％とで | 98\＄ | 9\＆゙＇しら | \％ち＇9 | 129 | 099＇LS | \％6＇s | 999 | 2996 | Kıunoj eyseyew |
| \％9＇${ }^{\text {c }}$ | \％8＇9 | \％が01 | 06\＄ |  | \％ $8^{\text {¢ }}$ | ャャ¢ | 299＇15 | \％9＇$\downarrow$ | عLZ | Lt6＇S | Kıunoう uos！pew |
| \％$\varepsilon^{\text {＇}}$－ | \％$\varepsilon^{\prime \prime}$ | \％900 | L6\＄ | 819＇15 | \％と＇9 | $80 \varepsilon$ | 9t9＇15 | \％ ¢＇$^{\text {b }}$ | 802 | $898{ }^{\text {＇t }}$ | Kıunoj uok 7 |
| \％L＇${ }^{\text {－}}$ | \％9＇レ | \％$\varepsilon$ ¢ $¢$ | 86\＄ | 8S9＇15 | \％6．9 | 962 | SS9＇LS | \％ヶ＇9 | $\dagger \angle Z$ | $1 \angle Z ' t$ | Kıunoo seכn7 |
| \％$\varepsilon^{\prime} 9$－ | \％6．8 | \％でS1 | 165 | ¢89＇LS | \％6．8 | ع9t | 6SL＇LS | \％ \＆$^{\text {9 }}$ | GZE | Z61＇S | Kıunoう Es！ |
| \％L＇て＇ | \％ $8^{\circ} \mathrm{L}$ | \％s＇01 | $06 \$$ |  | \％9＇9 | 19L＇t | E8S＇LS | \％6＇t | ZLL＇t | 29t＇S8 | Kıuno－uul |
| su！e｜コ J11ヨ Kuv jo \％pue Кдәлод ңо әғеу ии＇ния | $\begin{gathered} \hline \text { Кұипоэ Кq } \\ \text { әұеу Кұәлоd } \end{gathered}$ |  |  |  | sploчəsnö $\ddagger 0 \%$ \％ | su！e｜o jo \＃ |  |  | su！̣el jo \＃ | $\begin{array}{\|c\|} \hline \text { Kıunos u! } \\ \text { spıoчәsnoн эо \# } \end{array}$ |  |





|  |  |  | 001\＄ | L99＇1 |  | ZLL＇S | カセL゙し |  | St6＇$\varepsilon$ |  | ұuәp！saıuon |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \％t＇${ }^{\text {－}}$ | \％${ }^{\circ}$ O1 | \％ 9 ¢ $\varepsilon 1$ |  |  | \％9 ${ }^{\circ}$ | † 26 ＇$¢ G$ |  | \％6．9 | くヤ8＇レ | 910＇802 | sollunos jexny |
| \％${ }^{\text {c }}{ }^{-}$ | \％S＇レ | \％0＇て1 |  |  | \％＋＇9 | $669^{\circ} \mathrm{L} \mathrm{\varepsilon}$ |  | \％ $9^{\prime}$ ¢ | 9Zて＇てع | GLL＇t89 | solpunoj uequn |
| \％と＇で | \％ 9 OL | \％ 8 ＇てl | 96\＄ | ع99＇1 | \％${ }^{\text {L }}$ L | عL9＇16 | 102＇15 | \％L＇G | ع 20 ＇tL | เعL＇z6て＇। | $\underline{\text { Plo }}$（ |
| \％くでで | \％9＇6 | \％でてし | ＋6\＄ | 0Z9＇1\＄ | \％1－L | L97 | L06＇LS | \％${ }^{\text {¢ }}$ ¢ | عєє | 289＇9 |  |
| \％6でで | \％0＇8 | \％601 | 1015 | 9L9＇15 | \％89 | \＆ャて | عLL＇L\＄ | \％${ }^{\text {＇}}$＇ | St | tsc＇$\varepsilon$ | Kıйоэ чдом |
| \％でゅ－ |  | \％9＇Ll | 1015 | ZSL＇LS | \％8＇6 | 980＇t | 828＇1\＄ | \％ $8 \cdot$ | 19Z＇$\varepsilon$ | LZL＇レナ | Kıunoう Kınqpoom |
| \％がて－ | \％L＇8 | \％トレレ | $98 \$$ | 86t＇し\＄ | \％+ ＇9 | LZS | 6レガレ | \％ $0^{\circ} \mathrm{G}$ | てZヤ | \＆ $8 \mathrm{t}^{\prime} 8$ |  |
| \％${ }^{\text {＇}}$ ¢ | \％で6 | \％とてし | 86\＄ | $169^{\prime \prime} 15$ | \％L＇L | L68 | 60L＇LS | \％9＇t | 682 | tLl＇s | Kıunoう Oбеqәuu！ |
| \％ャ－0－ | \％ガてし | \％8＇て1 | $96 \$$ | 289＇15 | \％8＇9 | عLL＇L | t9L＇LS | \％0＇9 | ャ $0^{\circ} \mathrm{l}$ | ع9て＇LL | Kıunoj delsqam |
| \％が | \％9「と1 | \％でてし | L6\＄ | 989＇15 | \％「＇9 | LLZ | $689^{\prime \prime}$ \＄ | \％6．9 | 661 | $00{ }^{\text {¢ }}$＇ | Kıunoう әuкем |
| \％$\varepsilon^{\prime} \varepsilon^{-}$ | \％s 8 | \％8 | ع6\＄ | 8E9＇15 | \％89 | 969 | 8L9＇15 | \％${ }^{\text {¢ }}$ S | 9 t | ع18＇8 |  |
| \％0＇${ }^{\text {－}}$ | \％8＇9 | \％8＇6 | ＋6\＄ | 8L9＇15 | \％L＇G | 676 | で9＇1 | \％${ }^{\text {L＇t }}$ | LL9 | 968 ＇91 | 亿ıunoう иәлем |
| \％がて－ | \％ど巾 |  | S6\＄ | $829^{\prime} 1 \$$ | \％0 6 | OSがし | St9＇1 | \％L＇L | $68 \chi^{\prime} 1$ | LE1＇91 | Kıunoj OllodeM |
| \％${ }^{\circ} 0^{-}$ | \％9＇Z1 | \％$\varepsilon$ ¢ 1 | 96\＄ | 9t9＇15 | \％6．9 | ZSZ | セ\＆S＇LS | \％＋＇9 | †¢ | 099 ＇$\varepsilon$ | Kıunoう uaing ue $\Lambda$ |
| \％ $8^{\circ}$ て－ | \％$\chi^{\prime} \mathrm{Zl}$ | \％${ }^{\text {b }}$ S | 0015 | $6 \downarrow$ く＇し | \％ع8 | 18 t | 019＇1 | \％L＇9 | 068 | ع8L＇S | Kıunoう uo！un |
| \％ $\mathrm{E}^{\circ}{ }^{-}$ | \％9＇レ | \％6． 1 | zol\＄ | $889^{\prime} 15$ | \％L＇9 | 812 | tSL＇LS | \％でG | 691 | \＆̧て＇દ | Kıunos 10｜ $\mathbf{K l}_{1}$ |
| \％ $\mathrm{E}^{\prime} \mathrm{Z}^{-}$ | \％L＇6 | \％0＇Z1 | L6\＄ | 889 ＇15 | \％L＇9 | LLS | ZZL＇LS | \％$\varepsilon^{\circ} \mathrm{G}$ | 60t | 989＇L | Kıunoう eure |
| \％s＇$\downarrow$ | \％L＇レ | \％て＇L | L8\＄ | 809＇15 | \％9＇$\varepsilon$ | $90{ }^{\prime}$＇ | とヤどし\＄ | \％9 ${ }^{\text {¢ }}$ | てOZ＇1 | $0 \varepsilon 9$＇$\varepsilon$ | Kıunoj KıOYS |
| \％8＇て＇ | \％${ }^{\text {L }}$ | \％6＇6 | L8\＄ | 19t＇LS | \％0＇9 | 869 | G0L＇L | \％6＇$\varepsilon$ | 19t | L69＇レا | Kıunoj $\times$ xo！ 5 |
| \％ぢと－ | \％8＇8 | \％でてし | 26\＄ | カレぐ1 | \％9＇9 | 098 | S09＇15 | \％9＇9 | $80 \varepsilon$ | ＋9ガS | Kıunoj Kqlə ${ }^{\text {¢ }}$ S |
| \％L＇${ }^{\text {－}}$ | \％と＇Z1 | \％0＇t | 66\＄ | しゃぐ1S | \％でし | ع06＇t | 698.15 | \％8＇9 | 999＇t | L99＇89 | Kıunoj ${ }^{\text {Hos }}$ |
| \％90＇ | \％0．01 | \％9＇01 | 001\＄ | ＋99＇15 | \％で9 | เヵ¢ | 129＇15 | \％カ＇$\downarrow$ | $9 \downarrow$ ¢ | EtS＇S | Kıunojos |
| \％L＇L | \％L＇ ¢ | \％0＇Z1 | 96\＄ | 89L＇L\＄ | \％と＇9 | 281 | ع $26^{\prime \prime} 1 \$$ | \％L＇G | £91 | GL8＇Z | Kıunoう ploб6u！ |
| \％で0 | \％¢ 01 | \％ 8 O1 | $16 \$$ | 999＇15 | \％9＇ | 109 | 988＇L\＄ | \％9＇ャ | とاЬ | S16＇8 | Kıunoう yo！чsemod |
| \％ ® $^{\text {－}}$ | \％ガレレ | \％L＇EL | 66\＄ | GZL＇LS | \％L＇L | Lع6＇Z | 96L＇LS | \％6．${ }^{\text {¢ }}$ | 6ヶでて | ع16＇LE | Kıunoう э！шедемеңод |
| \％s＇${ }^{\text {－}}$ | \％8＇6 | \％どレ | $96 \$$ | عS9＇15 | \％ $2 \cdot 9$ | SZ6\％ | LZL＇LS | \％${ }^{\circ} \mathrm{G}$ | 009＇8 | ¢68＇ZL1 | Kıunos \10d |
| \％$\varepsilon^{\circ} 0^{-}$ | \％${ }^{\circ} \mathrm{OL}$ | \％801 | 86\＄ | 00L＇LS | \％99 | 992 | 819＇15 | \％でャ | 891 | Oz0＇t | Kıunoo sełuoyevod |
| \％ $8^{\text {® }}$ ¢ | \％じL | \％6．01 | 26\＄ | ZLS＇15 | \％で9 | 989 | 9ZL＇LS | \％L＇$\downarrow$ | 08t | ¢8て＇01 | Kıunos uinoukld |
| \％が | \％8＇6 | \％でし | 96\＄ | て¢9＇15 | \％ち－9 | 008 | 789＇LS | \％6＇$\downarrow$ | $0 \varepsilon 乙$ | \＆ZL＇t | Kıunoう OサV Oled |
| \％6＇0 | \％8＇て1 | \％6゙レ | S6\＄ | ャt9＇しS | \％「＇9 | 0 0 Ј | 80L＇LS | \％${ }^{\text {＇}}$ ¢ | ع0t | LOE＇L | Kıunoう aбed |
| \％が¢ | \％${ }^{\circ} \mathrm{L}$ | \％801 | $06 \$$ | عs9＇LS | \％ $0^{\circ} \mathrm{L}$ | 012 | 06t＇L\＄ | \％$\%$＇$\varepsilon$ | 915 | S10＇$\varepsilon$ | Kıunoj elozoso |
| \％${ }^{\text {＇2－}}$ | \％L＇8 | \％801 | 06\＄ | tSS＇15 | \％ $8^{\prime}$ G | S88 | G69＇15 | \％0＇s | $0 \varepsilon \varepsilon$ | 619＇9 | Kıunoう ue！ra．0 |
| \％68＇${ }^{-}$ | \％でし | \％$\stackrel{\text {＇sl }}{ }$ | L6\＄ | عL9＇LS | \％9＇8 | 6くt＇ | 192＇L\＄ | \％99 | 8tr゙！ | Zてヤ゙くL | Kıunoう วu！̣⿺辶snw |
| \％L＇レ－ | \％9＇レレ | \％とをとし | LOL\＄ | ＋8L＇LS | \％9＇L | 0レt | S9L＇LS | \％L＇G | $60 \varepsilon$ | ع68＇S | Kıunoo Kızmobyuow |
| \％8＇ | \％8＇レ | \％9＇\＆1 | 26\＄ | tS9＇1 | \％${ }^{\text {L }}$ | tSZ | 6ZL＇LS | \％¢＇9 | ¢\＆ | $869^{\prime} \varepsilon$ | Kıunoう əouuow |
| \％6＇L－ | \％L＇レレ | \％9＇EL | 0015 | LEL＇LS | \％ぢL | ZSE | 8L9＇LS | \％+ ＇9 | 162 | 8\＆L＇t | Kıunoう euouow |
| \％0＇${ }^{\text {－}}$ | \％0＇6 | \％0001 | 26\＄ | †Z9＇し\＄ | \％ち＇9 | G6z | 1 เG＇15 | \％9 ${ }^{\text {® }}$ | L91 | 689 ＇t |  |
| \％${ }^{\circ} 0^{-}$ | \％＋＇6 | \％${ }^{\text {－}}$ OL | 1015 | 969＇15 | \％ $8^{\text {＇}}$ | しゅを | てعL＇LS | \％と＇t | £¢ | $006{ }^{\text {＇S }}$ | Ķunoj sl！！ |
| \％ $8^{\prime}$ ¢ | \％0＇Z1 | \％8＇s． | L6\＄ | 899＇15 | \％¢ 6 | 869＇1 | 68L＇LS | \％で9 | $8 \mathrm{FO}{ }^{\circ}$ | 964＇91 | Kıunoo Ileystew |
| \％じ－ | \％8＇8 | \％66 | $68 \$$ | OSG＇15 | \％¢＇${ }^{\text {¢ }}$ | LtL | ع89＇15 | \％カ＇$\downarrow$ | 009 | LOS＇\＆1 | Kıunos uoum |
| \％$\varepsilon^{\circ} 0$ | \％0＇Z1 | \％L゙レ | ＋6\＄ | L19＇15 | \％+ ＇9 | L6S | 618.15 | \％9＇9 | StS | 69L＇6 | Kıunos eyseyew |
| \％でで | \％ $8^{\circ} \mathrm{L}$ | \％0001 | 96\＄ | $6 \mathrm{t9}$＇15 | \％6＇${ }^{\circ}$ | LSE | 18s＇15 | \％でヤ | GSZ | 101＇9 | Kıunoう uos！pew |
| \％L＇レ－ | \％+8 | \％8＇6 | 86\＄ | $1 \mathrm{~L}^{\prime \prime} \mathrm{L}$ | \％0＇9 | ャ62 | t09＇15 | \％ 8 ＇$\varepsilon$ | †81 | 128 ＇t | Kıunos uo人7 |
| \％ 80 | \％S＇E1 | \％ぐてし | 2015 | 6ZL＇LS | \％8＇9 | Z62 | ع69＇15 | \％6．9 | £sZ | \＆8で† | Kıunoj seonf |
| \％9＇$\varepsilon^{-}$ | \％S＇01 | \％1＇t | 0015 | 669 ＇15 | \％9＇8 | Ltt | LZ8＇LS | \％${ }^{\circ}$＇ | 188 | 8LL＇s | Kıunoj es！no 7 |
| \％S＇L－ | \％て＇6 | \％L＇01 | 26\＄ | 96S＇15 | \％ $8^{\prime} \mathrm{G}$ | Z90＇S | LE9＇15 | \％6＇${ }^{\text {b }}$ | L\＆$\varepsilon^{\prime} \dagger$ | 068＇L8 | Kıuno unit |
| sulielo Jile Kut jo \％pue Кдәлод эо әғеу ии нып |  |  |  |  | sployәsnot $\ddagger 0 \%$ | su！！o fo\＃ |  |  | su！e｜ア fo\＃ | $\begin{gathered} \text { Kıunoう u! } \\ \text { spןочәsnoн } \ddagger \text { \# } \end{gathered}$ |  |







| \％6． | \％S＇$\dagger$ |  | \％${ }^{\text {¢ }}$－ | \％9＇9 | 986＇68 | \％と＇ | †Sカ「6 | 910＇80L | selpunos jexny |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \％0＇9 | \％S＇t | \％0＇Zし | \％S＇レL | \％0＇L | LL6＇0才 | \％8＇1 | 60L＇01 | SLL＇t8S | selpunos ueqıก |
| \％9＇9 | \％でカ | \％8＇てレ | \％S＇01 | \％と＇9 | †96＇08 | \％9＇ | ع91＇02 | เعL＇て6で＇ |  |
| \％S＇L | \％6＇t | \％でてし | \％S＇6 | \％9＇ャ | 708 | \％S＇1 | 96 | Z8S＇9 |  |
| \％L＇L | \％8＇t | \％6\％${ }^{\text {O }}$ | \％0＊8 | \％でを | SIL | \％${ }^{\prime} 0$ | $\angle 1$ | 七SG＇${ }^{\text {c }}$ | Kıunos чдоМ |
| \％1．6 | \％6＇t | \％9＇LL | \％ナ¢ | \％S＇8 | LSS＇$\varepsilon$ | \％ガて | 9101 | LZL＇レナ | Kıunoj Kınqpoom |
| \％ガ8 | \％0＇9 | \％じレし | \％L｀8 | \％L＇Z | 0 0乙 | \％L゙0 | LS | ع8t＇8 | Kıunoう צə！ |
| \％0＇8 | \％6＇t | \％どてし | \％で6 | \％と＇$\downarrow$ | LZZ | \％0＇ | 09 | †Ll＇S | Kıunoう o6eqәuu！$M$ |
| \％0＇$\downarrow$ | \％9＇$\varepsilon$ | \％8＇Zし | \％ガてし | \％8｀8 | 1LS＇レ | \％レ＇Z | 998 | ع9でく1 | Kıunoう ләłsqə ${ }^{\text {a }}$ |
| \％L＇S | \％${ }^{\circ}$ | \％でてし | \％9＇とし | \％S＇9 | Z ZZ | \％ガ | $8{ }^{\text {8 }}$ | $00{ }^{\prime}$＇ | Kıunoう əuイеM |
| \％どL | \％0＇t | \％8＇レレ | \％¢ 8 | \％S＇t | 668 | \％ど1 | ZIL | ع18＇8 |  |
| \％で9 | \％ع＇ | \％8＇6 | \％8＇9 | \％¢＇$\varepsilon$ | 289 | \％1． | LLL | 968＇91 | Kıunos uaxem |
| \％S＇t | \％レ＇Z | \％L＇91 | \％どャレ | \％でてし | S96＇L | \％0＇$\varepsilon$ | L8t | LE1＇91 | Kıunoう OllədeM |
| \％9＇L | \％6．9 | \％と＇${ }^{\text {c }}$ | \％9＇Zし | \％L＇S | 602 | \％ど1 | Lt | 099＇\＆ | Kıunoう uanng ue＾ |
| \％ドく | \％ガ $\dagger$ | \％し「ら1 | \％どてし | \％6．L | 6St | \％と＇レ | †L | E8L＇S | Kıunos uoiun |
| \％ド | \％6．9 | \％6゙レL | \％9＇レレ | \％L＇t | GS1 | \％L゙0 | 12 | \＆Sでદ | Kıunoj dolkeı |
| \％0＇8 | \％9＇9 | \％0＇Zし | \％L＇6 | \％1＇ | عاع | \％で | 16 | 989＇L | Kıunoj emel |
| \％9 ${ }^{\text {® }}$ | \％で8 | \％でし | \％L゙レレ | \％¢＇$\varepsilon$ | ャ81＇レ | \％6．0 | ヤレع | 0ع9＇\＆ | Kıunoj KıO ${ }_{\text {S }}$ |
| \％8＇L | \％0＇9 | \％6．6 | \％1゙く | \％1＇Z | \＆ャ乙 | \％${ }^{\circ} 0$ | †9 | L69＇レし | Kıunoj xno！s |
| \％G＇L | \％レ゙カ | \％でてし | \％8＇8 | \％L＇t | 6 SZ | \％8＇0 | 功 | †9t＇S | Kıunoう Kqıə ${ }^{\text {K }}$ |
| \％ガ $\dagger$ | \％8＇ 7 | \％0＇ャレ | \％と＇Zし | \％G＇6 | 8¢G＇9 | \％ガて | 0291 | L9G＇89 | Kıunoう Hoss |
| \％どL | \％L＇9 | \％9＇01 | \％0＇01 | \％$\varepsilon^{\prime}$ ¢ | 781 | \％L゙0 | Lع | $\varepsilon \dagger \mathrm{S}^{\prime} \mathrm{S}$ | Kıunoj ${ }^{\text {ers }}$ |
| \％9＊9 | \％$\underbrace{\circ} 8$ | \％0＇Z | \％L＇EL | \％ナ｀ | 991 | \％8．0 | ZZ | SL8＇Z | Kıunoう ploб6u！ |
| \％1＇9 | \％${ }^{\prime} 9$ | \％ど01 | \％S＇01 | \％で $\downarrow$ | عLE | \％${ }^{\circ}$ | S6 | S16＇8 |  |
| \％$\underbrace{\prime}$ ¢ | \％0＇$\varepsilon$ | \％L＇EL | \％ガレレ | \％＊＊ | ع81＇${ }^{\text {c }}$ | \％S＇Z | $\angle 96$ | ع16＇LE |  |
| \％6 ${ }^{\text {b }}$ | \％ガ $\varepsilon$ | \％どレレ | \％8＇6 | \％＊ 9 | ャ90＇レレ | \％9＇ | 89LZ | 七68＇ZL1 | Kıunos Y 10 d |
| \％カ＇ | \％${ }^{\text {¢ }}$ S | \％8＇01 | \％S＇01 | \％＊＇${ }^{\text {c }}$ | 912 | \％0＇ | Lt | OZO＇t | Kıunos sełuoyeood |
| \％0＊8 | \％で† | \％6\％${ }^{\circ}$ | \％1゙L | \％6＇ | L62 | \％8＇0 | 08 | †8で01 | Kıunos पınowKıd |
| \％S＇L | \％し「9 | \％でしレ | \％8＇6 | \％$L^{\prime}$ ¢ | 921 | \％9＇0 | 82 | EZL＇t | Kıunoj O까일d |
| \％${ }^{\text {¢ }}$ S | \％0＇9 | \％6゙レレ | \％8＇Zし | \％8．9 | 66t | \％8＇ | $\downarrow$ ¢ | LOE＇L |  |
| \％ナ・8 | \％0ㄷ | \％8＇01 | \％ガレ | \％ガて | ZL | \％9＇0 | 81 | S10＇\＆ | Kıunoう elozoso |
| \％1゙L | \％0＇9 | \％8＇01 | \％L゙8 | \％L＇$\varepsilon$ | Stて | \％0＇ | †9 | 61999 | Kıunoう uelı ${ }^{\text {a }}$ ， |
| \％L＇9 | \％8＇${ }^{\text {r }}$ | \％${ }^{\text {¢ }}$ ¢ | \％でしレ | \％ガ8 | 8St＇ | \％ガて | 815 | てZガくレ | Kıunoう əu！peosnW |
| \％9＇9 | \％6．${ }^{\text {¢ }}$ | \％どとし | \％9＇レレ | \％L＇L | GLt | \％9＇ | 98 | £68＇G | Kłunos Kıemobłuow |
| \％0＇9 | \％でも | \％9＇EL | \％8＇レレ | \％9＇L | $\varepsilon \angle Z$ | \％9＇1 | 9 S | 869＇E | Kłunos əoduow |
| \％6．L | \％1．9 | \％9＇\＆1 | \％L゙レ | \％9＇9 | 992 | \％ 1 | \＆S | 8\＆L゙七 | Kıunoj euouow |
| \％0＇L | \％1．9 | \％0001 | \％0＇6 | \％6＇${ }^{\text {c }}$ | LEL | \％9＇0 | 87 | 689 ＇t | Kıunoう IIəYア！W |
| \％8＇t | \％レ゙カ | \％レ이 | \％ガ6 | \％${ }^{\circ} \mathrm{S}$ | 118 | \％9＇ | 26 | $006{ }^{\text {¢ }}$ | Kıunos slı！${ }^{\text {d }}$ |
| \％L＇9 | \％6＇Z | \％8＇¢1 | \％0＇Z1 | \％1＇6 | 0ZS＇1 | \％じて | $9 \mathrm{~S} \mathrm{\varepsilon}$ | 96L＇91 | Kıunoう IIeys．ew |
| \％ガ乌 | \％で | \％6．6 | \％8．8 | \％9＇t | 919 | \％0＇ | 0ヶレ | LOG＇EL | Kıunoj uounew |
| \％9＇$\varepsilon$ | \％6＇$\varepsilon$ | \％L＇レレ | \％0＇Z | \％1•8 | L8L | \％0＇Z | 161 | 69L＇6 | Kıunoj eyseyew |
| \％1＇9 | \％6．$\varepsilon$ | \％0＇01 | \％8＇L | \％6＇$\varepsilon$ | 0ヶて | \％8＇0 | $8{ }^{8}$ | 10199 | Kıunos uos！${ }^{\text {Pew }}$ |
| \％9＇9 | \％6＇t | \％8＇6 | \％1－8 | \％でを | GS1 | \％8＇0 | $6 \varepsilon$ | 128＇t | Kıunoう uok7 |
| \％S＇t | \％${ }^{\circ} \mathrm{S}$ | \％L＇Zし | \％S＇${ }^{\text {c }}$ | \％で8 | \＆ระ | \％でて | $\varepsilon 6$ | ¢8でャ | Kıunos seon7 |
| \％で8 | \％9＇t | \％レ゙ヤレ | \％G＇01 | \％6．9 | S0E | \％0＇Z | ع01 | 8L1＇G | Kıunoj esino |
| \％6 ${ }^{\circ}$ | \％ガて | \％L＇01 | \％で6 | \％8＇9 | Zャ6＇G | \％L゙し | †ZS। | 068＇L8 | Kıunos uu！ |
|  <br>  |  \％pue Кұәлод эо әұеу й＇н！ |  <br>  | Кұunoう Кq әұеу Кұәәод |  | $\forall\rfloor$ Ku！ spןoyəsnoH $\ddagger 0$ \＃ |  | dla бu！ィ！əәәәу sployəsnoH $\ddagger 0$ \＃ | Kıunoう u！ spıoчəosnoн $\ddagger 0$ \＃ |  |



Table 12: Change in Tax Liability by Adjusted Gross Income Brackets for Six Policy Options



