

TEXAS DEPARTMENT OF INSURANCE  
WORKERS' COMPENSATION  
RESEARCH AND EVALUATION GROUP



Income Benefit Adequacy in the  
Texas Workers' Compensation  
System, 2000-2014

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## ACKNOWLEDGMENTS

The Research and Evaluation Group (REG) would like to thank the Division of Workers' Compensation for their help in obtaining, evaluating and analyzing injured employees' workers' compensation claim data.

Conrado Garza managed the project, analyzed the data, and authored the report, an updated approach of the 2013 study conducted by Ward Adams. DC Campbell, Botao Shi, Amy Lee, and Dr. Soon-Yong Choi provided valuable editorial comments.

## TABLE OF CONTENTS

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Executive Summary .....	1
1. Purpose of the Analysis.....	2
2. Data Considerations and Methods .....	3
3. Benefit Expenditures by Benefit Type and Injury Year .....	5
4. Changes in Maximum Income Benefit Amounts over Time .....	9
5. Temporary Income Benefits .....	10
6. Impairment Income Benefits (IIBs) .....	16
7. Supplemental Income Benefits (SIBs).....	22
8. Lifetime Income Benefits (LIBs) .....	29
9. Death Benefits (DBs).....	31
10. Summary.....	33

## FIGURES AND TABLES

---

Table 3.1 Total Benefit Payments (Millions), by Benefit Type and Injury Year .....	6
Table 3.2 Number of Claims, by Benefit Type and Injury Year .....	7
Table 3.3 Income Benefit Durations in Weeks, by Benefit Type and Capped Status .....	8
Figure 4.1. Changes in Maximum Benefit Amounts, by FY Temporary Income Benefits .....	9
Figure 5.1. TIBs IRR by Injury Year .....	10
Table 5.1. TIBs IRR by Gender .....	11
Table 5.2. TIBs IRR by Age.....	12
Table 5.3. TIBs IRR by Marital Status .....	13
Figure 5.2. TIBs IRR by Pre-Injury Weekly Wage.....	13
Table 5.4. TIBs IRR by Industry.....	14
Figure 5.3. Percent of TIBs Recipients Capped at the Maximum Benefit Level.....	15
Figure 5.4. TIBs IRR by Capped Benefits .....	16
Figure 6.1. IIBs IRR by Injury Year .....	17
Table 6.1. IIBs IRR by Gender .....	18
Table 6.2. IIBs IRR by Age.....	18
Table 6.3. IIBs IRR by Marital Status .....	19

Figure 6.2. IIBs IRR by Pre-Injury Weekly Wage.....	20
Table 6.4. IIBs IRR by Industry.....	20
Figure 6.3. Percent of IIBs Recipients Capped at the Maximum Benefit Level .....	21
Figure 6.4. IIBs IRR by Capped Benefits .....	22
Figure 7.1. SIBs IRR by Injury Year .....	23
Table 7.1. SIBs IRR by Gender .....	24
Figure 7.2. SIBs IRR by Age.....	24
Table 7.2. SIBs IRR by Marital Status .....	25
Figure 7.3. SIBs IRR by Pre-Injury Weekly Wage.....	26
Figure 7.4. SIBs IRR by Industry .....	26
Figure 7.5. Percent of SIBs Recipients Capped at the Maximum Benefit Level.....	27
Figure 7.6. SIBs IRR by Capped Benefits .....	28
Figure 8.1. LIBs IRR by Injury Year.....	30
Figure 9.1. DBs IRR by Injury Year.....	32

## EXECUTIVE SUMMARY

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In 1989, the Texas Legislature passed Senate Bill 1, which resulted in a complete overhaul of the Texas workers' compensation system and instituted a new model for the payment of income benefits to injured employees. In the last twenty years, much of the system's focus has been placed on medical benefits; however, with the system's significant reductions in medical costs and improvements in injured employee return-to-work rates, more attention is being paid to the adequacy of income benefits paid to injured employees, especially those paid to high-wage earners who receive the maximum compensation rate. It is important to note that workers' compensation income benefits are not taxable so to adequately measure the adequacy of current statutory compensation rates, the amount of workers' compensation income benefits received must be compared to an injured employee's after-tax earnings. In 2013, the Research and Evaluation Group published a study, *Income Benefit Adequacy in the Texas Workers' Compensation System, 2000-2011*, which provided some important baseline information regarding the adequacy of income benefits paid to injured employees in the Texas Workers' Compensation system. This current report updates the 2013 findings with more robust and complete data, but with the same goal: to measure the degree workers' compensation income benefits replace injured employee after-tax earnings. The income benefits considered for this study were Temporary Income Benefits (TIBs), Impairment Income Benefits (IIBs), Supplemental Income Benefits (SIBs), and Lifetime Income Benefits (LIBs). Additionally, this study also analyzes the income replacement rates for beneficiaries receiving death benefits (DBs).

## Key Findings

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- ★ Largest increase in Income Replacement Rates occurred in 2007 due to the statutory increase in Maximum Weekly Benefits.
- ★ The TIBs income replacement rate rose from 85 percent in injury year 2000 to 88 percent in injury year 2014.
- ★ The weekly maximum TIBs payment increased from \$540 in Fiscal Year (FY) 2006 to \$674 in FY 2007, resulting in a decline in the percent of injured employees capped at the maximum benefit amount from 22 percent in 2006 to 13 percent in 2007.
- ★ The IIBs income replacement rate improved from 80 percent in 2000 to 86 percent in 2014.
- ★ The percentage of IIBs recipients capped at the maximum benefit level dropped from 46 percent in injury year 2006 to 35 percent in injury year 2007 because of an increase in the maximum IIBs benefit amount from \$378 a week in FY 2006 to \$472 a week in FY 2007.
- ★ The SIBs income replacement rate increased from a minimum of approximately 47 percent of after-tax income in injury year 2006 to 79 percent in injury year 2010.

- ★ The percent of injured employees receiving SIBs income benefits capped at the statutory maximum amount reached a high of nearly 41 percent in 2006, but decreased after the 2007 benefit amount increases.
- ★ Overall, the income replacement rates for LIBs were 85-100 percent for most of the years after 2007.
- ★ Overall, the income replacement rates for DBs were 90-100 percent for most of the years after 2007.

## 1. PURPOSE OF THE ANALYSIS

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### The Income Replacement Rate (IRR)

This analysis presents estimates of the extent to which lost wages are replaced by income benefits received by injured employees during the injury period. These Income Replacement Rates (IRRs) are calculated for TIBs, IIBs, and SIBs recipients.

### Income Benefits Capped at Maximum Benefits

Another important area of interest is the percentage and characteristics of injured employees whose income benefit amounts are capped at maximum benefit levels. This concept is further discussed below under Data Considerations and Methods.

## Types of Income and Death Benefits

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- ★ **Temporary Income Benefits (TIBs).** TIBs are paid during the period of temporary disability (lost time from work) while the employee is recovering from an on-the-job injury.
- ★ **Impairment Income Benefits (IIBs).** IIBs are paid to injured employees for permanent impairments (impairment evaluations are currently based on the *Guides to the Evaluation of Permanent Impairment, 4th Edition*, published by the American Medical Association).
- ★ **Supplemental Income Benefits (SIBs).** SIBs are paid to injured employees for ongoing disability after IIBs have been exhausted, with all eligibility for SIBs ending at 401 weeks after the date of injury. Only employees with a 15 percent or higher impairment rating who are unemployed or underemployed as a result of their work-related injuries and meet TDI-DWC work search requirements are eligible to receive SIBs.
- ★ **Lifetime Income Benefits (LIBs).** LIBs are paid for the life of the injured employee for specific catastrophic injuries as set forth in Texas Labor Code §408.161.
- ★ **Death Benefits (DBs) and Burial Benefits.** DBs and burial benefits are paid to the deceased employee's spouse or eligible beneficiaries as a result of a death from a compensable injury.

## 2. DATA CONSIDERATIONS AND METHODS

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Data for the analysis are extracted from the Texas Department of Insurance, Division of Workers' Compensation's (TDI-DWC) claims and impairment rating databases, as well as the Texas Workforce Commission's unemployment insurance database. The study includes injured employees who received TIBs, IIBs, SIBs, or LIBs as well as claims receiving DBs during injury years 2000 to 2014. However when considering figures on LIBs and DBs it should be noted that their small populations could produce, to some degree, unstable estimates and therefore be interpreted as such.

A sufficient amount of time must pass, however, before a complete picture of benefit adequacy can be calculated for the entire duration of the claim. Consequently, REG's ability to accurately report complete income replacement data is limited to earlier injury years. This is especially the case for SIBs, which requires 401 weeks (approximately 7 ½ years) for full maturity. SIBs data beyond injury year 2009 are therefore considered incomplete and must be interpreted with caution.

### Calculating the Income Replacement Rate (IRR)

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The formula for the IRR is the amount of income benefits paid to the injured employee during the year divided by the amount of after-tax wages that would have been earned during that benefit payment period if the employee had not been injured. The IRR is a point estimate using the most recent available data, as such the IRR should be viewed as a comparative, not absolute, measurement.

Because Workers' Compensation Income Benefits and Death Benefits are not taxable, data on after-tax annual wages is vital to the IRR calculation. Since all the data necessary to calculate individual after-tax annual wage, specific exemptions and deductions, is unavailable the IRR is estimated using marital status, weekly wage, and a general tax rate structure.

### Understanding How Marital Status, Wages, and Income Affect IRRs

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Wages, federal tax status, and marital status have prominent roles in deriving IRRs. Typically, single injured employees have higher tax burdens than married injured employees, given the lower number of exemptions available to them. After federal income taxes, Medicare, and OASDI are deducted from annual income, single injured employees tend to have lower after-tax wages, and therefore greater probabilities of having their lost wages fully replaced with income benefits.

Married injured employees, on the other hand, typically pay less tax than single injured employees because of the larger number of exemptions and larger standard deductions available to them. Their resulting higher after-tax incomes are more likely to be capped at the maximum benefit level, and therefore less likely to be fully replaced by income benefits.

Similarly, injured employees, whether married or single, with high weekly wages will have less of their income replaced by income benefits than injured employees with low wages, since high-wage employees are more likely to earn more than the maximum allowable benefit amount.



## Capped Income Benefit Payments

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A capped income benefit amount refers to benefit payments equaling the maximum benefit allowed at the *time of injury*.<sup>1</sup> The capped level limits income benefit payments to injured employees with average weekly wages that are higher than the maximum allowable benefit amount. Maximum and minimum benefit amounts are set by the Texas Legislature in accordance with Texas Labor Code Section 408.047, and go into effect on a fiscal year that begins on October 1st and ends September 30th. For example, fiscal year 2007 changes to the benefit amounts were effective from October 01, 2006 through September 30, 2007. For the purpose of this report, the year of benefit changes refers to the appropriate fiscal year.

## State Average Weekly Wage (SAWW)

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In accordance with Texas Labor Code (TLC) §408.047, the workers' compensation SAWW is computed annually by the Division of Workers' Compensation using data from the Texas Workforce Commission under TLC §207.002(c). Prior to 2004, the SAWW was based on the average weekly wage of manufacturing production workers in Texas. In 2004, 2005, and 2006, the SAWW were established statutorily. Since 2006, the SAWW has been 88% of the average weekly wage as computed by the Texas Workforce Commission (TWC).

## Maximum Benefit Amount

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- ★ **Weekly TIBs payments.** TIBs payments may not exceed 100 percent of the state average weekly wage rounded to the nearest whole dollar.
- ★ **Weekly IIBs payments.** IIBs payments may not exceed 70 percent of the state average weekly wage rounded to the nearest whole dollar.
- ★ **Weekly SIBs payments.** SIBs payments may not exceed 70 percent of the state average weekly wage rounded to the nearest whole dollar.
- ★ **Weekly LIBs payments.** LIBs payments may not exceed 100 percent of the state average weekly wage rounded to the nearest whole dollar.
- ★ **Weekly DBs payments.** DBs payments may not exceed 100 percent of the state average weekly wage rounded to the nearest whole dollar.

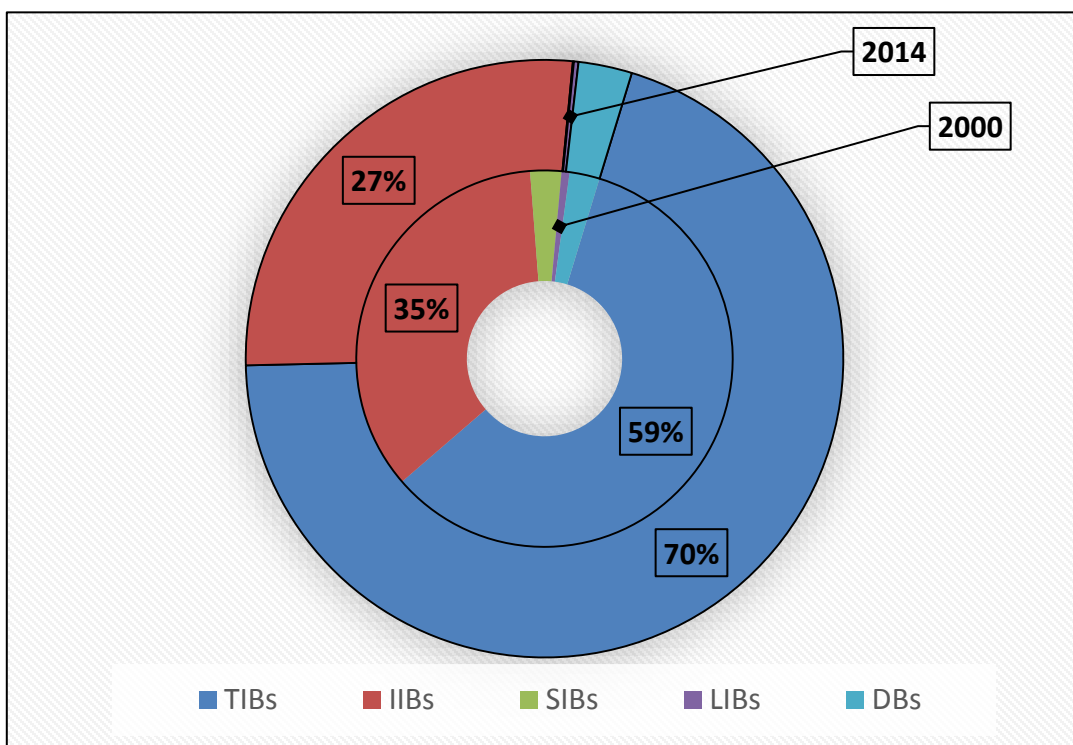
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<sup>1</sup> Benefit information can be found in Texas Labor Code §408.061 .

### 3. BENEFIT EXPENDITURES BY BENEFIT TYPE AND INJURY YEAR

TIBs and IIBs combined account for greater than 90% of the total income benefits paid to injured employees. The distribution of the total income benefits has changed notably over time (see Figure 3.1). From 2000 to 2014 the percent share of IIBs income benefits paid decreased from 35% to 27%. Over the same time frame, the percent share of TIBs income benefits increased from 59% to 70%. This change in distribution however did not lead to an increase in overall costs. While TIBs and IIBs combined represent between 94% and 97% the remaining percentage of total income benefits resides in SIBs, LIBs, and DBs payments.

**Figure 3.1 Benefit Percentage**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

Total payments for all income benefits combined have been mostly decreasing with total cost in 2014 approximately half that of 2000 (see Table 3.1). It's important to mention additional benefits do not begin until the injured employee receiving TIBs reaches maximum medical improvement (MMI) or 104 weeks of benefits. Accordingly, more recent claims may not have qualified as yet for other income benefits which likely affect the distribution of the total income benefit costs.<sup>2</sup>

<sup>2</sup> Data from injury years after 2014 are not included due to the presence of claims that have not sufficiently matured.

**Table 3.1 Total Benefit Payments (Millions), by Benefit Type and Injury Year**

Injury Year	TIBs	IIBs	SIBs	LIBs	DBs
2000	\$629	\$375	\$29	\$7	\$28
2001	\$585	\$334	\$23	\$9	\$23
2002	\$509	\$271	\$17	\$13	\$17
2003	\$431	\$214	\$13	\$8	\$24
2004	\$404	\$184	\$9	\$9	\$21
2005	\$357	\$160	\$9	\$8	\$19
2006	\$324	\$169	\$11	\$7	\$22
2007	\$358	\$174	\$11	\$8	\$24
2008	\$436	\$189	\$17	\$4	\$24
2009	\$407	\$167	\$8	\$5	\$19
2010	\$422	\$170	\$6	\$5	\$17
2011	\$374	\$160	\$4	\$2	\$16
2012	\$349	\$155	\$3	\$3	\$21
2013	\$367	\$158	\$1*	\$2	\$18
2014	\$393	\$151	\$0 <sup>3*</sup>	\$1	\$16

Note: \* Complete data not available because claims are not yet mature for this benefit type.

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## Number of Claims by Benefit Type and Injury Year, 2000-2014

Resembling the total income and death benefit costs, the number of income benefit claims decreased from year 2000 to year 2014 in a corresponding fashion (see Table 3.2).<sup>4</sup> The number of TIBs claims decreased by nearly 44 percent, IIBs decreased by nearly 53 percent, SIBs decreased by more than 89 percent, LIBs decreased by nearly 54 percent, and DBs increased by nearly 17 percent from 2000-2014. Not unlike the total income benefit costs, TIBs and IIBs hold the largest shares, combined greater than 98%, of the number of income benefit claims. Across all measured years approximately 50 percent of TIBs recipients ultimately receive IIBs, meaning half of all injured employees with more than seven days lost time from work received an impairment rating greater than zero. Generally around 1 percent, and dropping, of IIBs recipients receive an impairment rating of at least 15 percent, qualifying them for SIBs

<sup>3</sup> SIBs 2014 Total Benefit Payments were \$310,811.

<sup>4</sup> The LIBs and DBs figures are currently the best estimate of total benefit payments for those benefit types. It is important to note that these estimates are subject to revision, and must be viewed with caution.

benefits. Despite the fact that the total number of SIBs recipients decreased over time more than 100 employees sustain catastrophic injuries yearly. The total number of DBs beneficiaries is mostly stationary just over 200; however 2014 had the highest number of the studied years at 282.

**Table 3.2 Number of Claims, by Benefit Type and Injury Year**

Injury Year	TIBs	IIBs	SIBs	LIBs	DBs
2000	85,199	45,526	1,171	232	242
2001	80,153	46,379	910	231	214
2002	73,821	42,482	649	222	196
2003	65,098	36,503	433	164	220
2004	59,286	32,174	321	183	198
2005	55,408	28,227	263	207	199
2006	52,506	27,122	306	175	194
2007	52,999	26,752	266	157	223
2008	53,698	27,682	308	157	254
2009	48,289	24,795	217	144	192
2010	50,887	23,922	221	97	205
2011	50,483	23,201	201	101	208
2012	48,532	22,271	182	101	262
2013	47,058	21,777	127*	148	257
2014	47,304	21,534	43*	106	282

Note:\* Complete SIBs 2014 data not available because claims are not yet mature for this benefit type.

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## Interpretation of Income Benefits Duration

For the purpose of this study, income benefit duration is a measure of time from the date of injury to the benefit expiration date, or the cutoff date for the study data file, December 2014, whichever came first. Consequently, average durations for more recent injuries will most likely be lower than average durations for older injuries, especially since the former group might still be active recipients of income benefits.

## Length of Income Benefit Duration by Benefit Type and Capped Benefits Status

In general, the average duration of benefits in weeks has decreased from 2000 to 2014 (see Table 3.3). TIBs and IIBs have virtually identical duration distributions by injury year, furthermore we cannot conclude that a statistically significant difference exists between TIBs capped and IIBs capped or between TIBs not-capped and IIBs not-capped. However, SIBs and LIBs benefit durations differ significantly when compared to each other. While injured employees may have a marginally greater benefit duration, we cannot conclude that there exists a statistically significant difference between capped and not-capped for any benefit type, with the exception of DBs with recipients receiving benefits that are not-capped having a significant and substantially longer duration (see Table 3.3).

**Table 3.3 Income Benefit Durations in Weeks, by Benefit Type and Capped Status**

Injury Year	TIBs		IIBs		SIBs		LIBs		DBs†		Weeks
	C	O	C	O	C	O	C	O	C	O	
2000	19	20	21	21	83	81	23	49	88	161	
2001	18	19	19	20	84	90	61	49	66	150	
2002	18	19	18	19	93	92	5	67	119	144	
2003	17	18	18	18	106	98	2	71	118	176	
2004	16	16	17	17	108	110	23	54	110	186	
2005	15	16	16	17	108	104	106	45	110	158	
2006	16	16	16	17	117	98	127	68	193	183	
2007	18	16	16	16	113	108	40	54	116	150	
2008	17	15	15	16	55	79	78	46	120	148	
2009	16	15	15	16	79	63	35	48	93	114	
2010	16	15	16	16	55	61	131	34	101	121	
2011	16	15	16	16	46	44	44	45	91	134	
2012	18	16	16	16	23	30	3	26	89	100	
2013	18	16	14	14	15	17*	27	22	62	79	
2014	14	13	12	12	4*	4*	1	14	44	59	

Note: C – Benefits Capped, O – Benefits Not Capped.

Note:\* Complete SIBs 2014 data not available because claims are not yet mature for this benefit type.

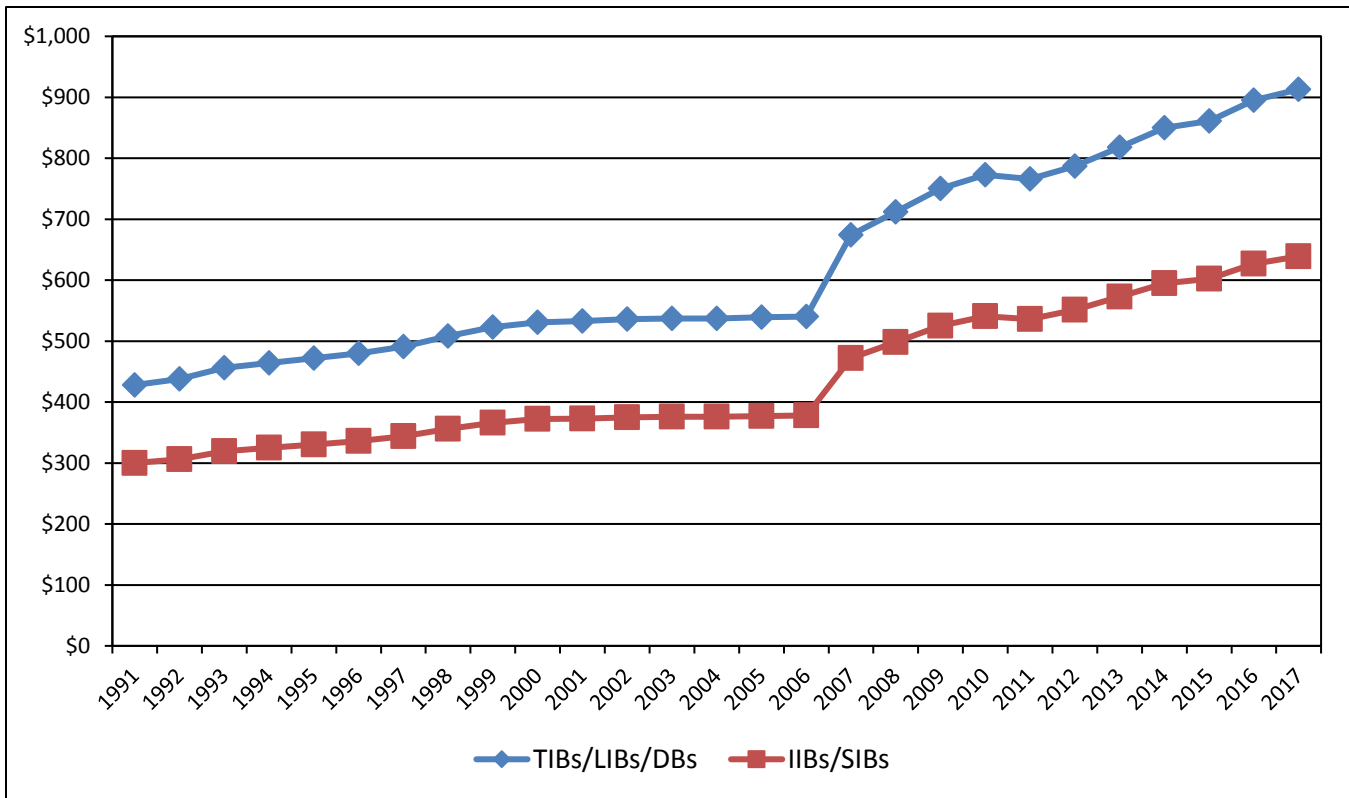
Note: † on DBs column denotes statistically significant difference within benefit type at significance level 0.05.

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## 4. CHANGES IN MAXIMUM INCOME BENEFIT AMOUNTS OVER TIME

The maximum weekly benefit amount was established in the Texas Workers' Compensation act applies to dates of injuries on or after January 1, 1991.<sup>5</sup> Maximum benefit amounts for all benefit types steadily increased from 1991 to 2000 at an average of \$11 per year for TIBs, LIBs, and DBs and an average of \$8 for IIBs and SIBs (see Figure 4.1). Maximum benefit amounts had nearly no increase from 2000 to 2006. In years 2006 to 2007, maximum benefit amounts experienced their most rapid increase. TIBs, LIBs, and DBs increased from \$540 per week to \$674 per week. SIBs and IIBs experienced a similar upturn, increasing from \$378 to \$472. In years 2007 to 2017 maximum benefit amounts experienced another era of steady increase at an average of \$24 per year for TIBs, LIBs, and DBs and an average of \$17 for IIBs and SIBs. Minimum benefit amounts increased congruently for all benefit types with the exception of SIBs and DBs, which have no minimum benefit amount.

**Figure 4.1. Changes in Maximum Benefit Amounts, by FY Temporary Income Benefits**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

<sup>5</sup> In accordance with the Texas Labor Code §408.047, the workers' compensation state average weekly wage is equal to 88 percent of the average weekly wage in covered employment as computed each year by the Texas Workforce Commission under Texas Labor Code §207.002(c).

## 5. TEMPORARY INCOME BENEFITS

**Eligibility:** Loss of more than seven (7) days of work due to work-related injury or illness.

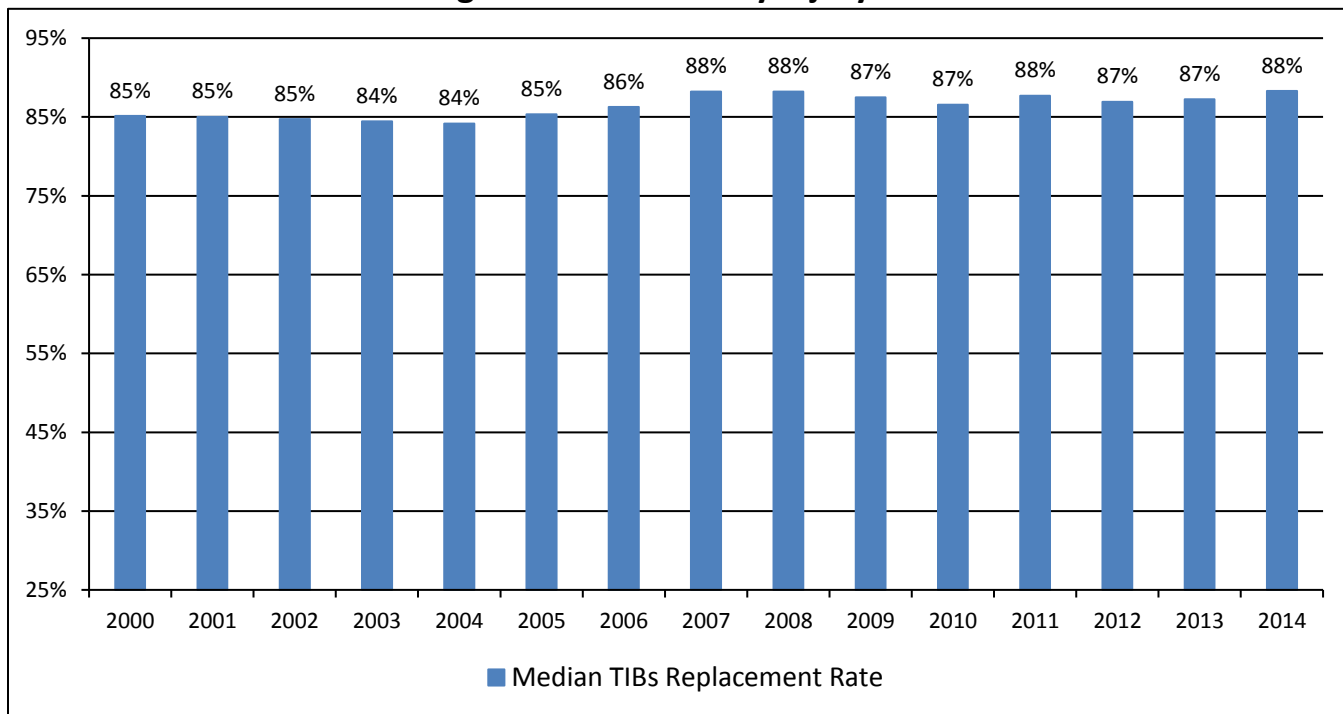
**Benefit amount:** 70 percent of the difference between the injured employee's average weekly wage and any wages earned after the work-related injury, capped at the State Average Weekly Wage (SAWW). If the injured employee earned less than \$8.50/hr. (for injuries that occurred before September 1, 2015) or \$10/hr. (for injuries that occurred after September 1, 2015), then 75 percent of the difference between the injured employee's average weekly wage and any wages earned after the injury for the first 26 weeks of payments.

**Time limit:** Benefits end when the injured employee reaches MMI, or when the injured employee returns to earning the pre-injury average weekly wage or reaches the end of 104 weeks from the 8th day of disability.

### TIBs IRR by Injury Year

The TIBs income replacement rate (IRR) increased from 85 percent in injury year 2000 to 88 percent in injury year 2014. Across all studied years the average income replacement rate was roughly 86 percent. The TIBs income replacement rate experienced the greatest sequence of constant increase from 2004 to 2007 increasing by roughly 4 percent (see Figure 5.1).

Figure 5.1. TIBs IRR by Injury Year

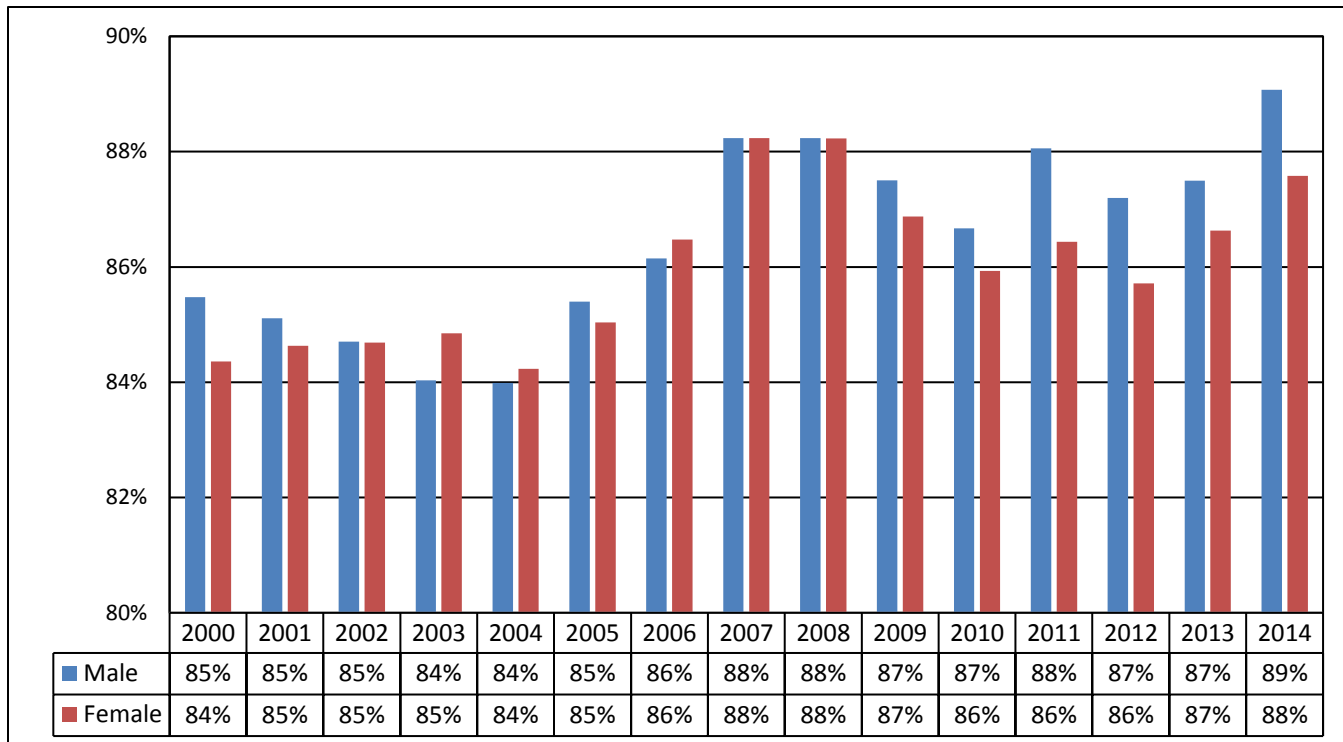


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## TIBs IRR by Gender

Overall, income replacement rates for male and female injured employees are roughly identical, with the male injured employee average about half a percentage point greater than the female injured employee average (see Table 5.1). Male and female income replacement rates trading places every year or so, until a divergence at injury year 2008. During injury years 2008 through 2014, male income replacement rates were consistently greater than female income replacement rates by an average of 1 percent.

**Table 5.1. TIBs IRR by Gender**



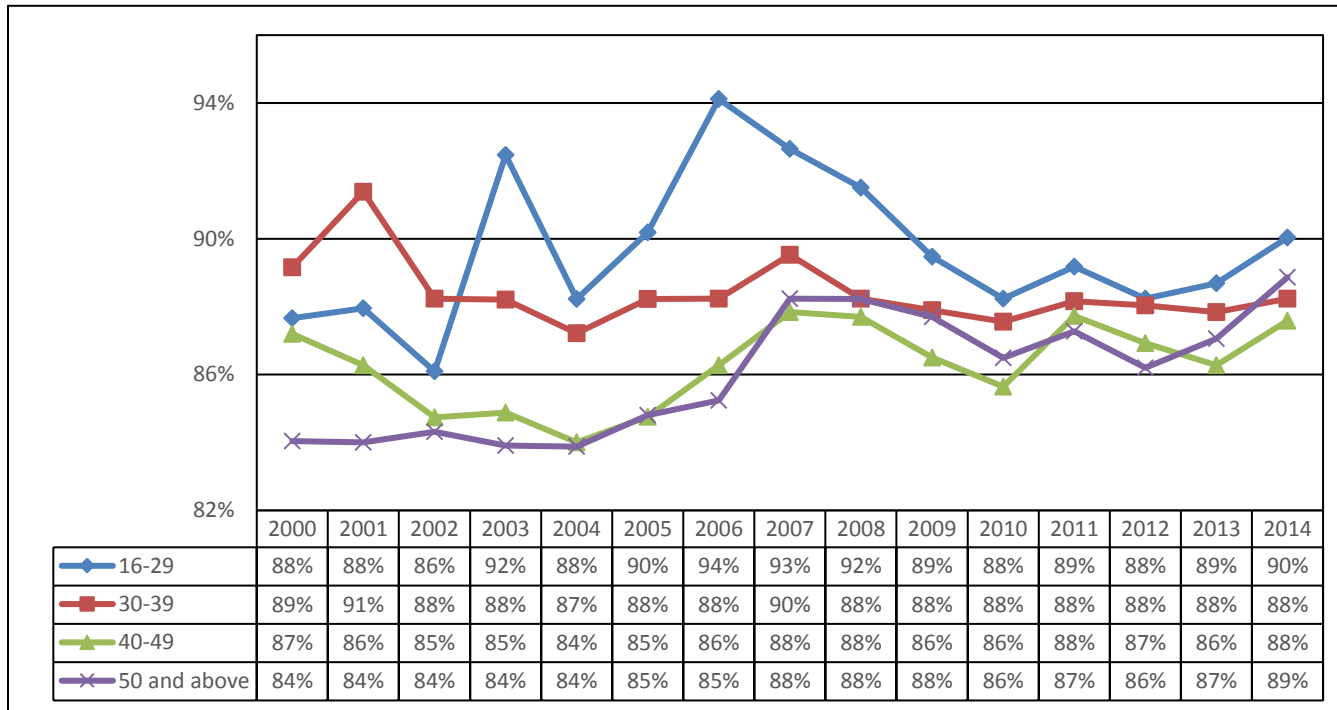
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## TIBs IRR by Age

Examining TIBs income replacement rates by age reveals a noteworthy correlation between an injured employees age and income replacement rate. Evidence suggests that an injured employees age and IRR have an inversely proportional relationship. When age increases, IRR decreases (see Table 5.2). The average income replacement rate was roughly 90 percent and 86 percent for age groups '16-29' and '50 and above', respectively. While multiple factors contribute to this inverse proportional relationship, it's likely that older employees, because of their tenure and experience, have higher salaries, which in turn have a greater likelihood of receiving benefits at the capped level.



**Table 5.2. TIBs IRR by Age**

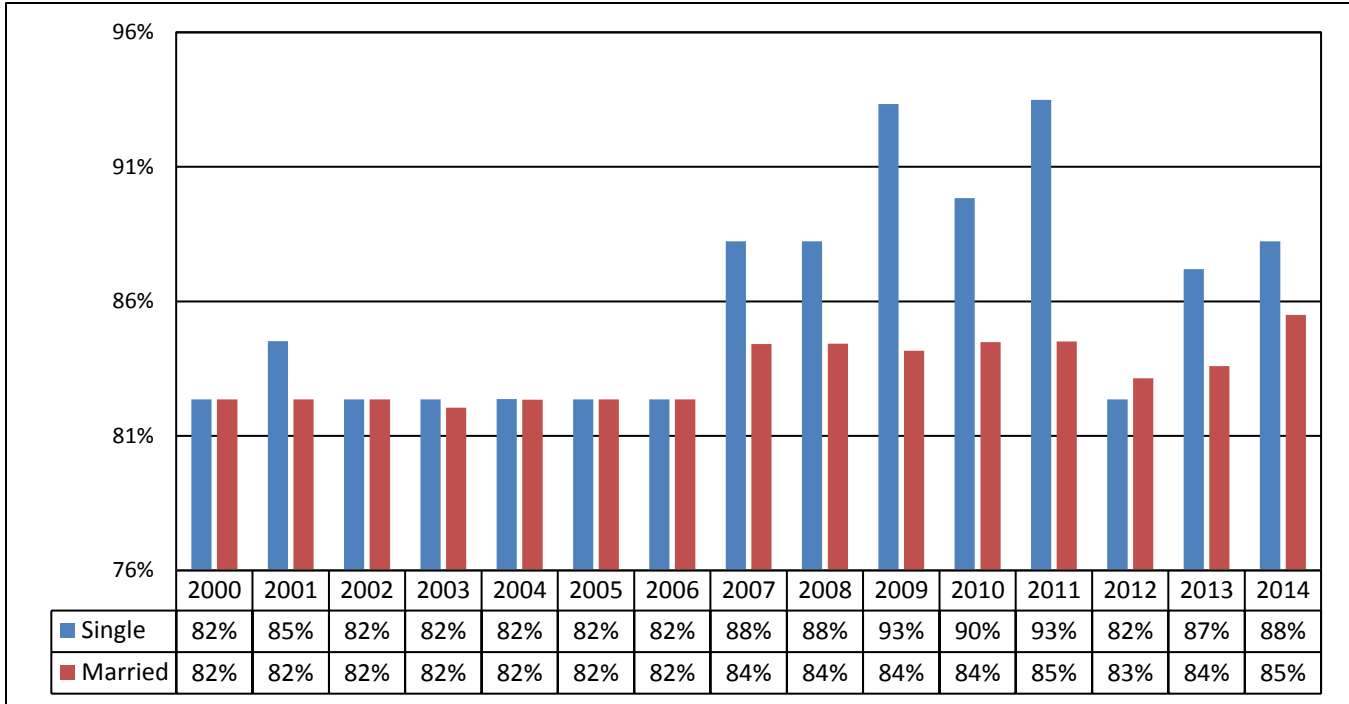


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

### TIBs IRR by Marital Status

The average income replacement rate was roughly 86 percent and 83 percent for marital statuses single and married, respectively. Income replacement rates for married and single injured employees were virtually the same until a divergence in 2006. After 2006, single injured employees had an income replacement rate greater than married injured employees by an average of 4.5 percent (see Table 5.3). It may be the case that married injured employees have higher salaries leading to a higher possibility that their benefits will be capped.

**Table 5.3. TIBs IRR by Marital Status**

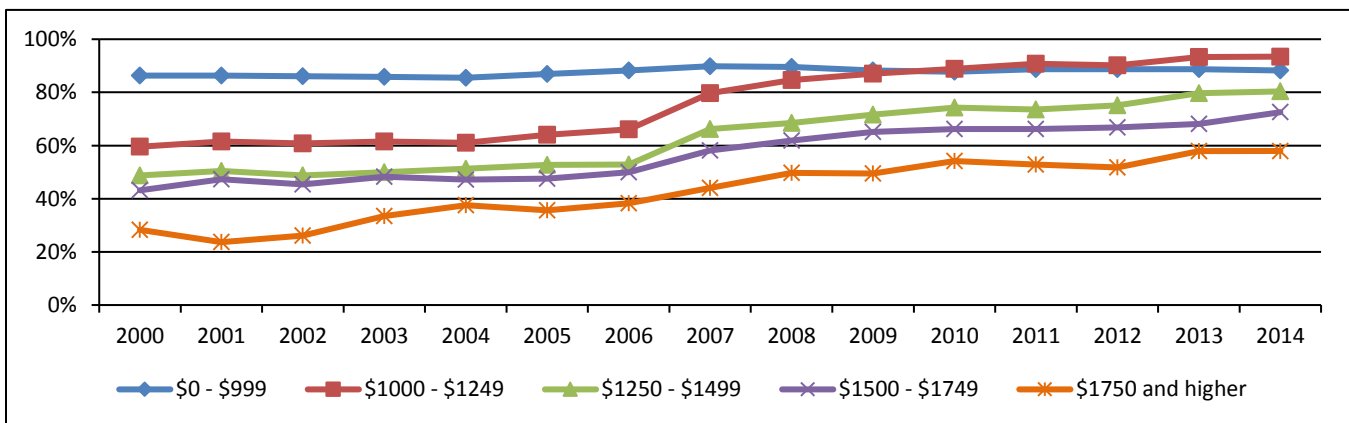


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

### TIBs IRR by Pre-Injury Weekly Wage

While income replacement rates for all pre-injury weekly wage groups increased from injury year 2000 to injury year 2014, employees earning \$1,000 or more experienced greater increases (see Figure 5.2). The average income replacement rate was roughly 88 percent and 43 percent for pre-injury weekly wage groups '\$0-\$999' and '\$1750 and higher' respectively. The income replacement rate for pre-injury weekly wage group '\$1000-\$1249' experienced the most dramatic increase of roughly 13.5 percent from injury year 2006 to injury year 2007. The IRR increases in 2006 are likely due to a benefit cap increase from \$540 per week in 2006 to \$674 per week in 2007.

**Figure 5.2. TIBs IRR by Pre-Injury Weekly Wage**

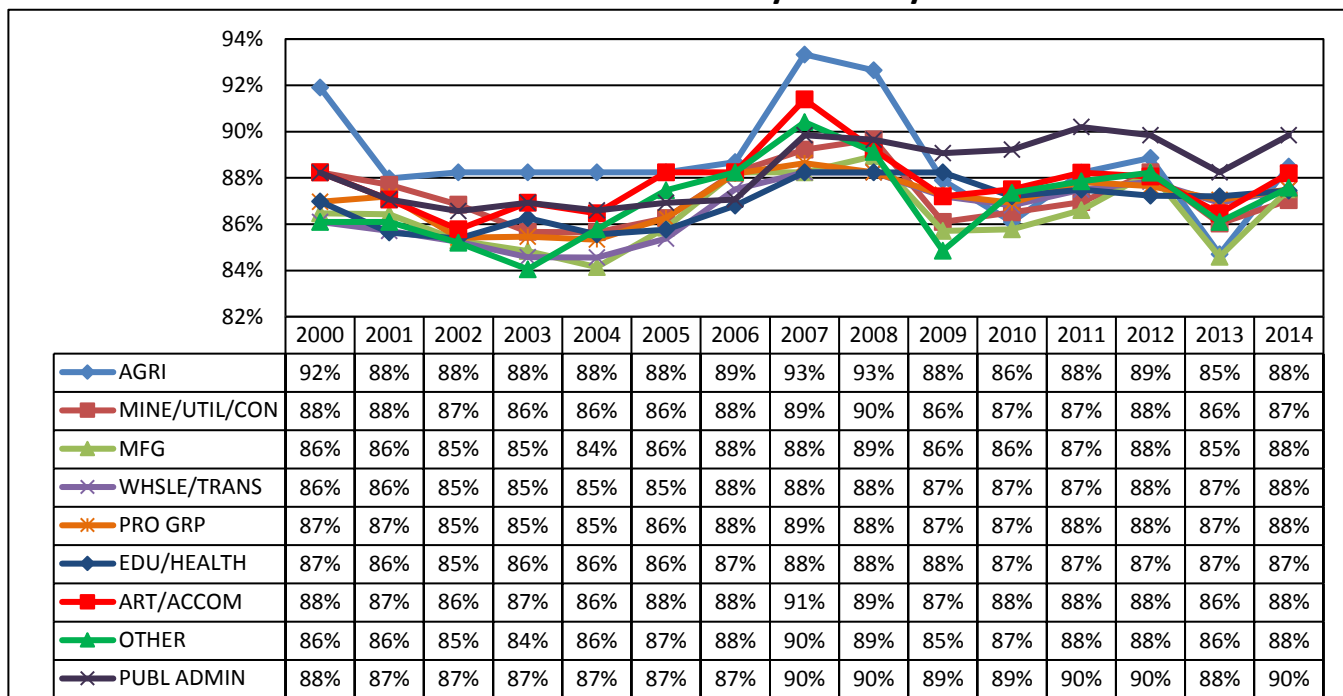


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## TIBs IRR by Industry

Income replacement rates of injured employees in most industries, with the exception of agriculture and mining, experienced an increase from injury year 2000 to injury year 2014 (see Table 5.4). Public Administration had the greatest overall increase and Agriculture had the greatest decrease, while the other industries had relatively stationary income replacement rates. The industry with the lowest average IRR during the studied years was Manufacturing at roughly 86 percent. The overall average for all industries was roughly 87 percent from injury years 2000 to 2014, with injury year 2007 having the greatest overall average for all industries at roughly 90 percent.

**Table 5.4. TIBs IRR by Industry**

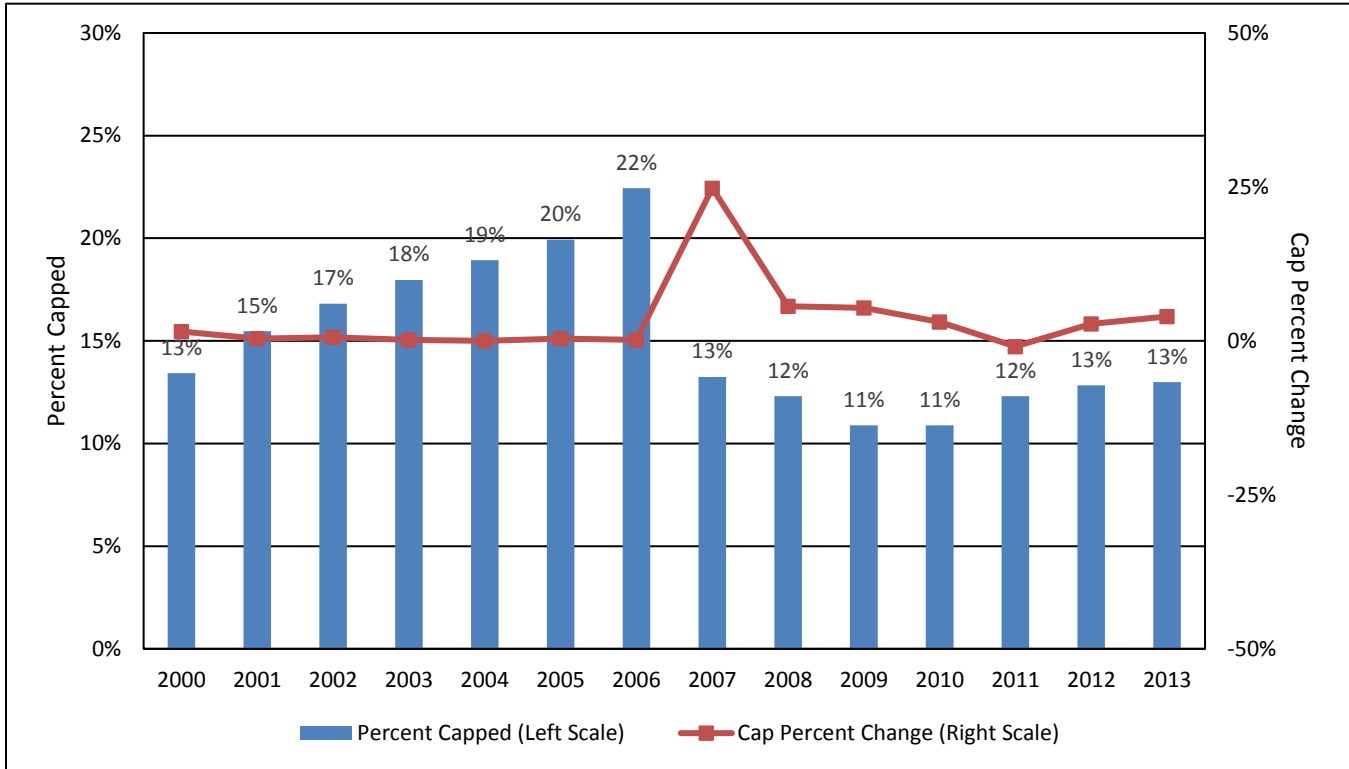


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.  
 Abbreviations: AGRI – Agriculture, MINE/UTIL/CON – Mining/Utilities/Construction, MFG – Manufacturing, WHSLE/TRANS – Wholesale/Retail/Transpiration, PRO GRP – Professional Group, EDU/HEALTH – Education/Healthcare, ART/ACCOM – Arts/Accommodation, OTHER – Other Services, PUBL ADMIN – Public Administration.

## Percent of TIBs Recipients with Benefits Capped at Maximum Amount

From injury years 2000 to 2006 the maximum TIBs payment amounts remained relatively stationary, from \$531 to \$540. This fixed maximum level coupled with increasing nominal wages, due to inflation, likely caused an increase in the percent of injured employees capped at the maximum benefit level, from 13 percent to 22 percent. In fiscal years 2006 and 2007, the TIBs maximum benefit amount increased by approximately 25 percent. The increase in maximum benefits levels produced a decrease in the percent of injured employees capped at the maximum benefit level (see Figure 5.3). Although the maximum benefit amount decreased marginally in 2011, it had an increasing trend from 2007 to 2014 keeping the percent of injured employees capped at the maximum benefit level to roughly 12 percent.

**Figure 5.3. Percent of TIBs Recipients Capped at the Maximum Benefit Level**

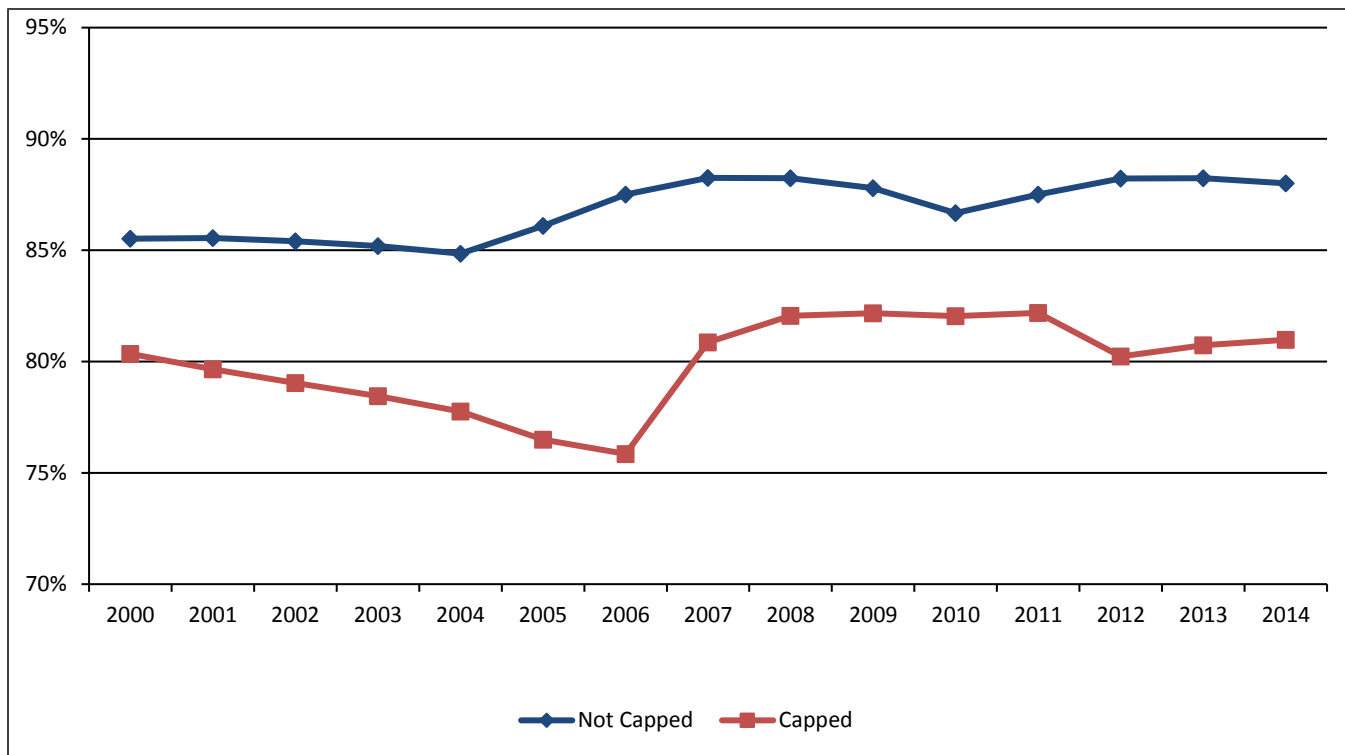


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## IRR of Injured Employees with TIBs Capped at the Maximum Benefit Amount

The difference in income replacement rates between injured employees with capped and not-capped wages increased from 2000 to 2006, which is in accordance with the stagnant maximum benefit amounts at that time (see Figure 5.4). Income replacement rates for those with capped wages reached their lowest level in 2006 at roughly 76 percent then sharply increased to roughly 80 percent, likely because of the increase in maximum benefits. The average income replacement rate was roughly 87 percent and 80 percent for not-capped and capped, respectively. Employees that earn weekly wages greater than the maximum benefit level will consequently have an income replacement rate lower than employees that earn weekly wages below the maximum benefit amount. Thus the capped group, employees earning high wages, generally has a lower income replacement rate by about 7 percent.

**Figure 5.4. TIBs IRR by Capped Benefits**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## 6. IMPAIRMENT INCOME BENEFITS (IIBs)

**Eligibility:** An injured employee becomes eligible for IIBs when Maximum Medical Improvement (MMI) is reached, and the injured employee is assigned an impairment rating greater than zero. The impairment rating is assigned by a doctor using the American Medical Association's *Guides to the Evaluation of Permanent Impairment*, 4th edition.

Note: IIBs are not designed to replace a worker's income, rather they are meant to compensate an employee for any permanent impairment the employee received as a result of the work-related injury.

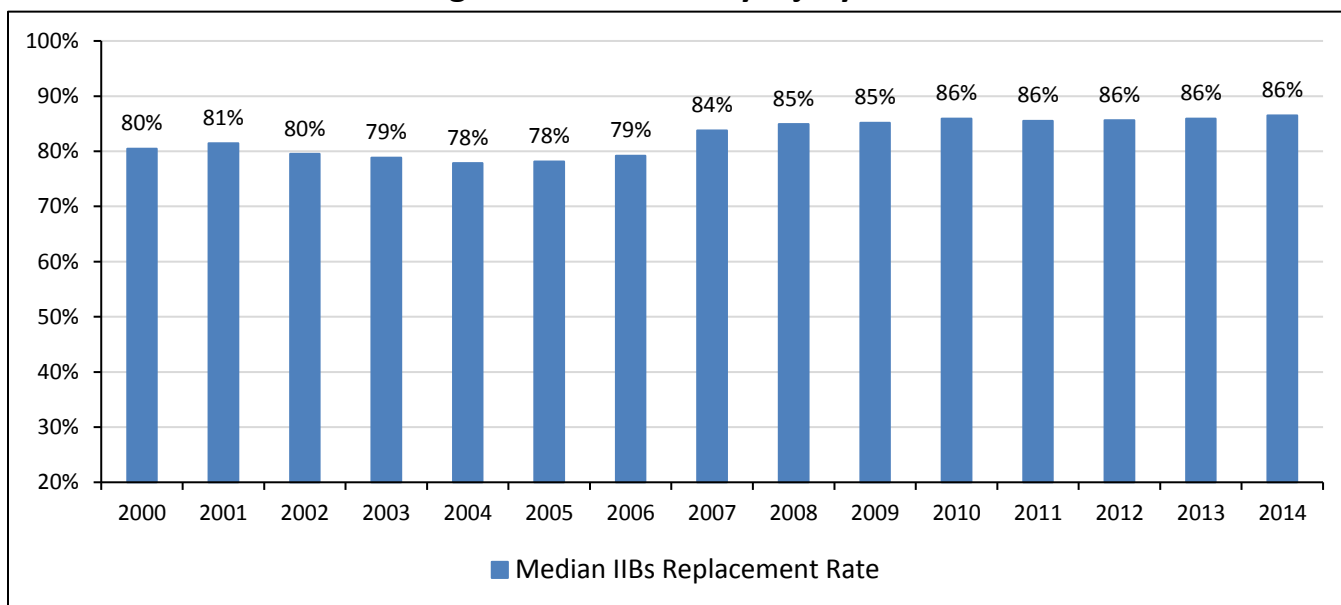
**Benefit amount:** 70 percent of the injured employee's average weekly wage, capped at 70 percent of the state average weekly wage. Three (3) weeks of IIBs are paid for each percentage point of impairment.

**Time limit:** Benefits end after the number of benefit weeks (three times the impairment rating) is reached.

## IIBs IRR by Injury Year

The IIBs income replacement rate increased from 80 percent to 86 percent from year 2000 to 2014 with its greatest increase occurring 2006 to 2007 (see Figure 6.1). IIBs income replacement rates experienced its lowest rate in year 2004 and 2005 at 78 percent. In 2007, income replacement rates increased to 84 percent and remained stable around 86 percent. This increase is likely because of the increase of maximum benefit amounts from \$378 to \$472 in years 2006 to 2007.

**Figure 6.1. IIBs IRR by Injury Year**

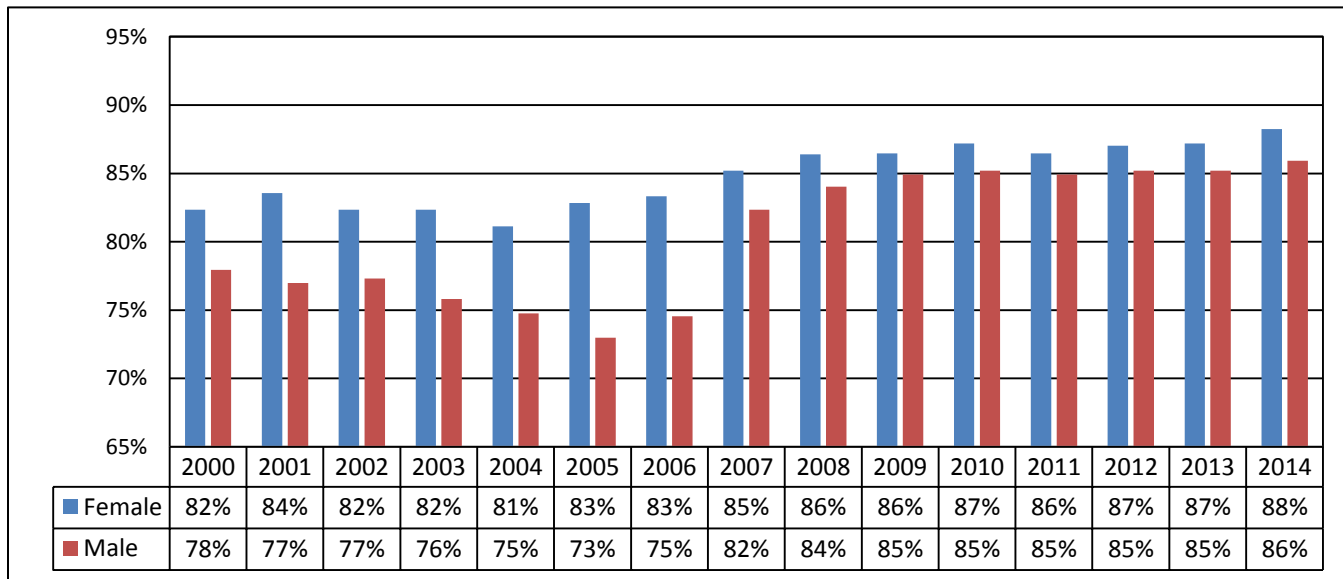


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## IIBs IRR by Gender

The average income replacement rate was roughly 85 percent and 81 percent for genders Female and Male, respectively. Female injured employees saw consistently higher income replacement rates through all studied years. The difference between Female and Male income replacement rates was at its minimum in 2009 at roughly 1.5 percent and at its maximum in 2005 at roughly 10 percent, with an average difference of roughly 4 percent (see Table 6.1). The consistent higher IRRs experienced by female injured employees, similar to Figure 5.4, is likely explained by relatively lower average wages when compared to male injured employees. As an employee's wages increase, the employee's income replacement rates decrease.

**Table 6.1. IIBs IRR by Gender**

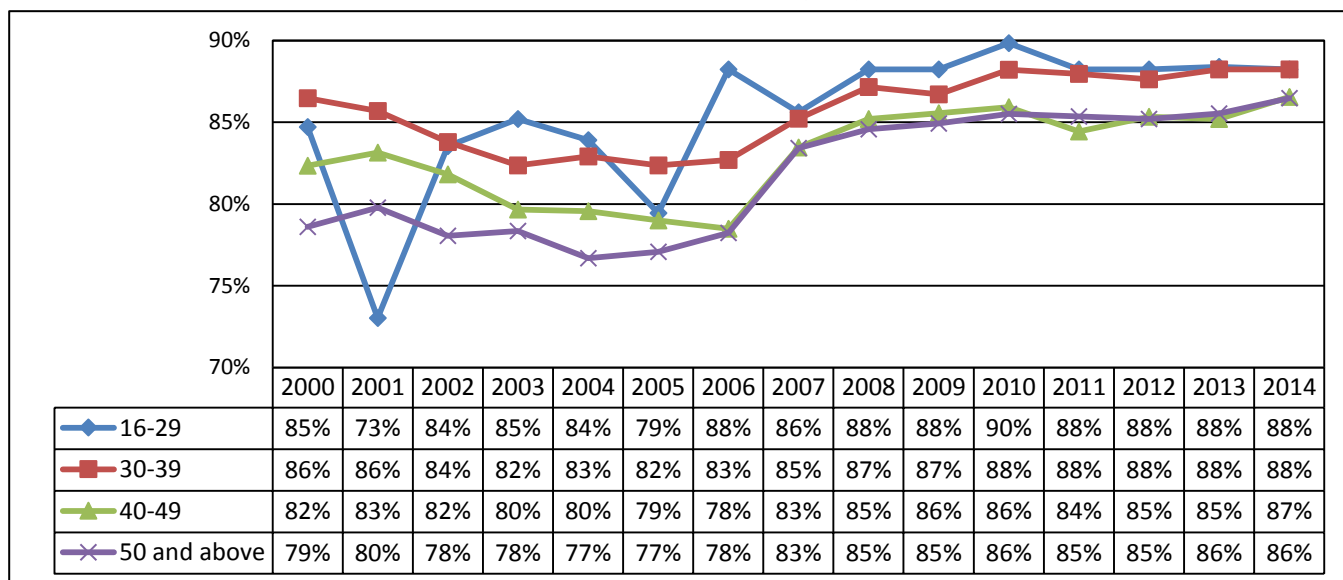


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

### IIBs IRR by Age

All age groups had increasing income replacement rates during injury years 2000 to 2014, but they all experienced their sharpest increases in 2007, likely due to the increase in maximum benefit levels (see Table 6.2). The average income replacement rate was roughly 86 percent and 82 percent for age groups '16-29' and '50 and above', respectively. The inversely proportional relationship between age and IRR, as age increases IRR decreases, is likely caused by the fact that generally older employees have higher wages and are thus more likely to have their benefits capped at maximum benefit levels.

**Table 6.2. IIBs IRR by Age**

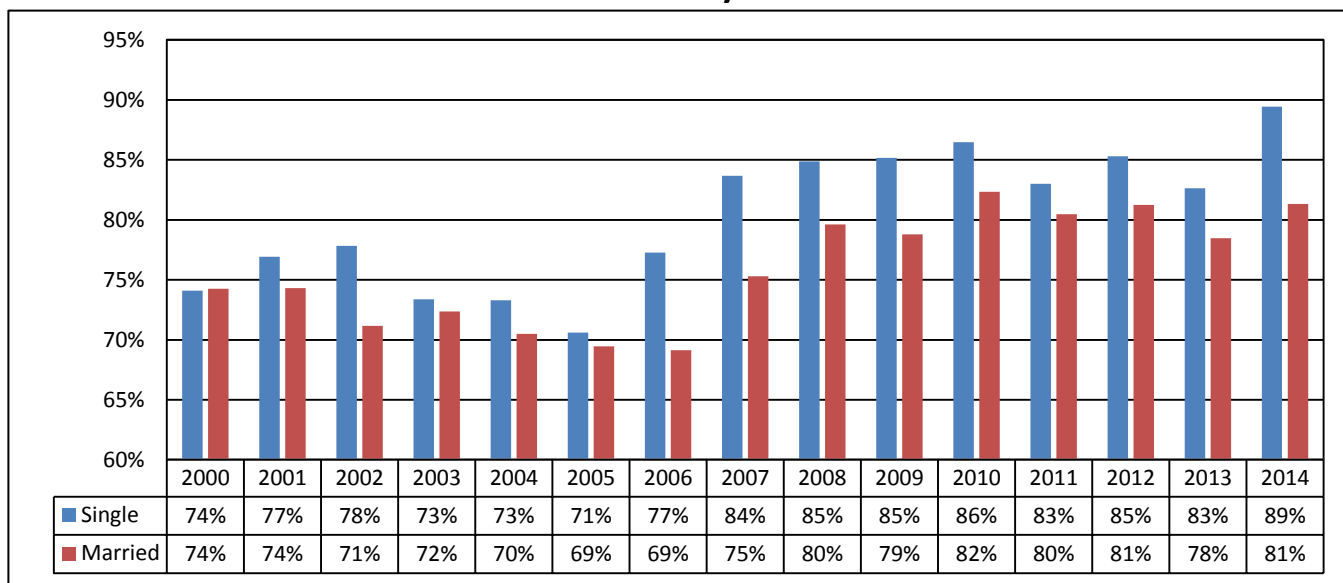


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## IIBs IRR by Marital Status

In general, single injured employees have higher income replacement rates when compared to married injured employees (see Table 6.3). The average income replacement rate was roughly 80 percent and 76 percent for marital status single and married, respectively. With the exception of year 2000, single injured employees regularly have greater IRRs. On average, single injured employee IRRs were roughly 4 percent greater than the IRRs of married injured employees. The disparity between the IRRs of single and married injured employees is likely caused by higher wages by married employees, as an employee's wages increases their IRR decreases.

**Table 6.3. IIBs IRR by Marital Status**



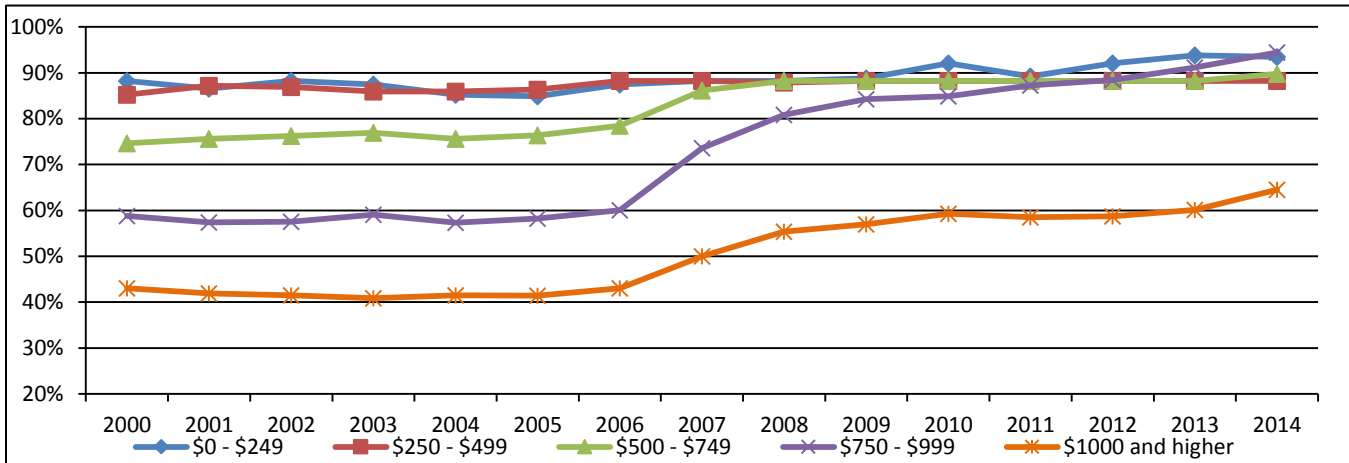
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## IIBs IRR by Pre-Injury Weekly Wage

The income replacement rates for injured employees with pre-injury weekly wages less than \$500 were the highest and remained relatively constant through all studied years (see Figure 6.2). The increase in maximum benefit amounts in 2007 subsequently increased IRRs substantially for pre-injury weekly wages of more than \$750, however the most dramatic increase was to pre-injury weekly wage group \$750-\$900. The employees with higher wages tend to have lower IRRs, which is like because of the higher possibility of having benefits capped at maximum benefits levels.



**Figure 6.2. IIBs IRR by Pre-Injury Weekly Wage**

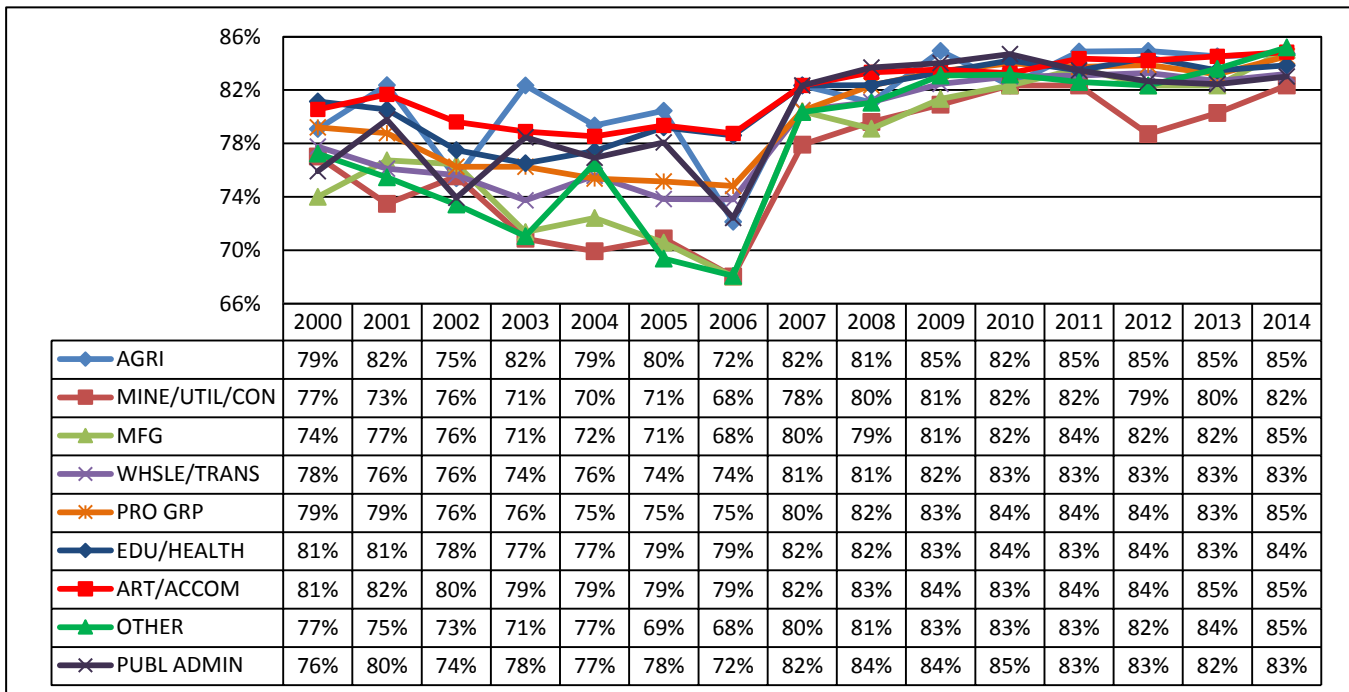


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## IIBs IRR by Industry

All industries saw an increase of income replacement rates from years 2000 to 2014, with the sharpest increases taking place in year 2007 (see Table 6.4). The average IRR increase in 2007 of roughly 8 percent was likely due to the increase in maximum benefit amounts. The average IRR for all industry and for all studied years was roughly 80 percent, with Mining, Manufacturing, Wholesale, and Other Services having IRRs below that average.

**Table 6.4. IIBs IRR by Industry**



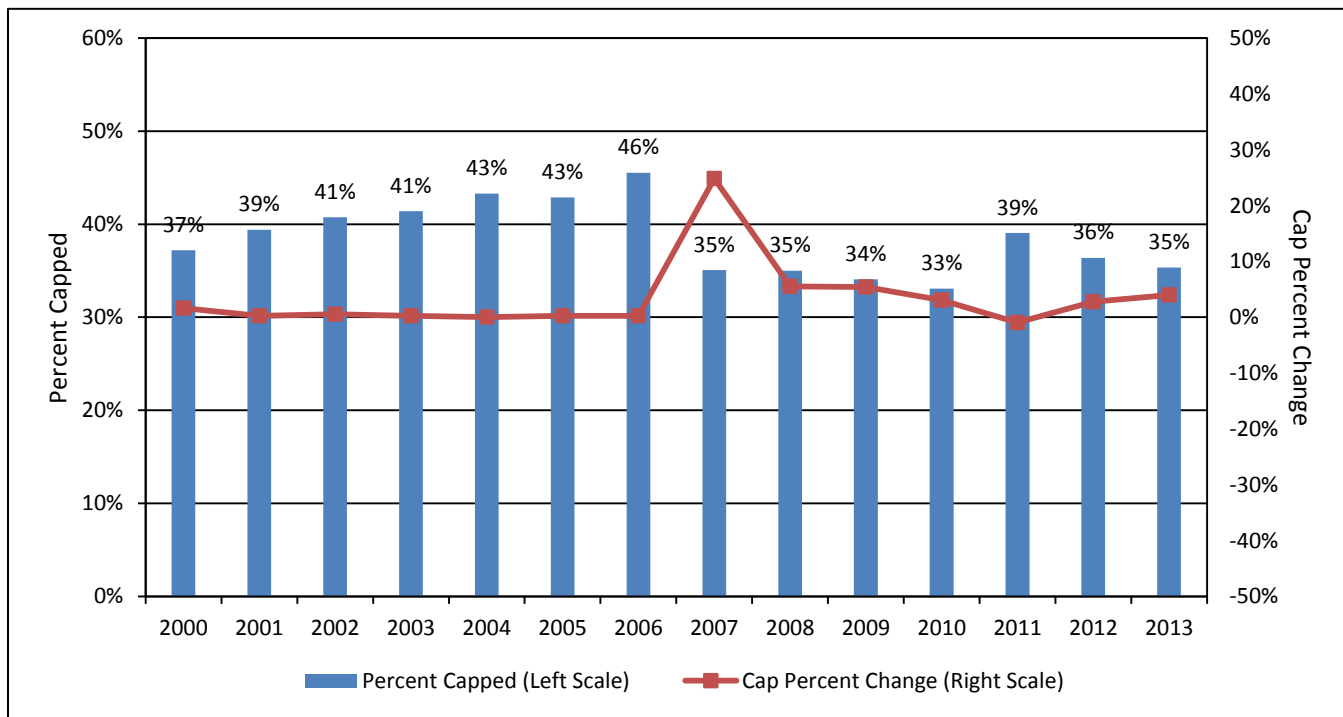
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

Abbreviations: AGRI – Agriculture, MINE/UTIL/CON – Mining/Utilities/Construction, MFG – Manufacturing, WHSLE/TRANS – Wholesale/Retail/Transpiration, PRO GRP – Professional Group, EDU/HEALTH – Education/Healthcare, ART/ACCOM – Arts/Accommodation, OTHER – Other Services, PUBL ADMIN – Public Administration.

## Percent of IIBs Recipients with Benefits Capped at the Maximum Amount

The percentage of IIBs recipients capped at the maximum amount increased from 37 percent to 46 percent in years 2000 to 2006. The maximum benefit amount, the IIBs cap, remained stationary through those years causing an upward trend in the percent of IIBs recipients capped (see Figure 6.3). Similar to the pattern observed in TIBs, the percentage of IIBs recipients capped dropped dramatically in 2007 from 46 percent to 35 percent. This drop is likely due to the approximately 25 percent increase in maximum benefit amounts in 2007. After 2007 the percentage of IIBs recipients capped was relatively stationary at roughly 35 percent.

**Figure 6.3. Percent of IIBs Recipients Capped at the Maximum Benefit Level**

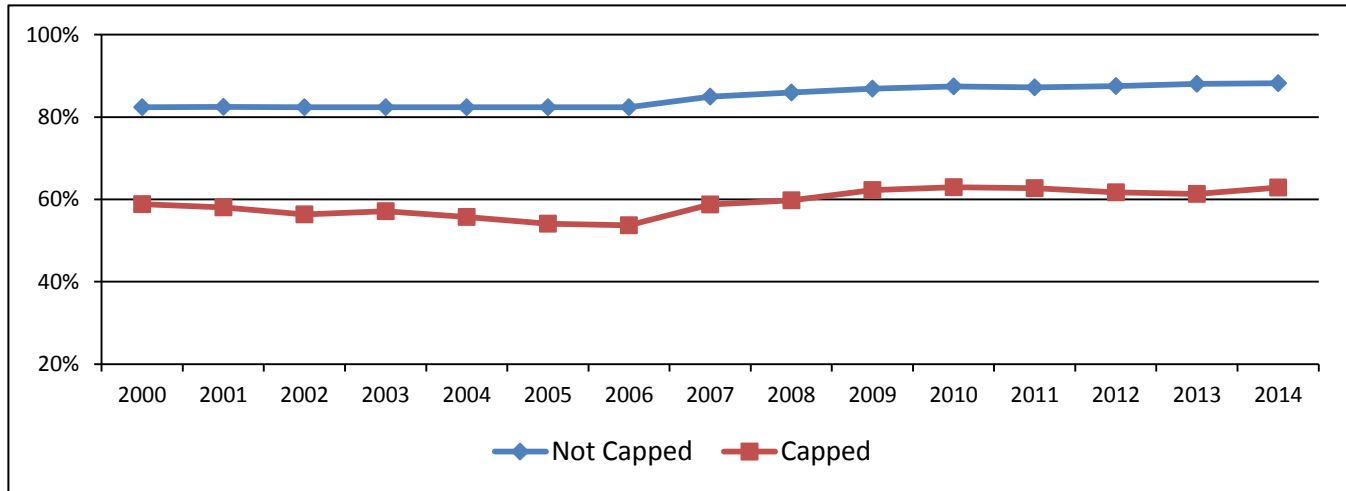


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## IRR of Injured Employees with IIBs Capped at the Maximum Benefit Amount

Income replacement rates for capped and not-capped wages had marginal increases in years 2000 to 2014 (see Figure 6.4). The average income replacement rate was roughly 59 percent and 85 percent for capped benefits and not-capped benefits, respectively. Since both capped and not-capped benefit groups were considerably stable throughout the studied years, the difference was also stable at roughly 26 percent. While both groups demonstrated relatively low variability in year 2007 both groups experienced their sharpest increase in IRR.

**Figure 6.4. IIBs IRR by Capped Benefits**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## 7. SUPPLEMENTAL INCOME BENEFITS (SIBS)

**Eligibility:** An injured employee becomes eligible for Supplemental Income Benefits (SIBs) when the employee

- has an impairment rating of 15 percent or more
- has not returned to work because of the impairment, or has returned to work but is earning less than 80 percent of his or her pre-injury average weekly wage because of the impairment
- did not take a lump sum payment of impairment income benefits, and
- has tried to find a job that matches his or her ability to work.

**Benefit amount:** 80 percent of the difference between 80 percent of the employee's average weekly wage and the weekly wage after the injury, capped at 70 percent of the state average weekly wage.

**Time limit:** Benefits begin the day after IIBs end. Total benefits can be received for a maximum of 401 weeks (approximately 7.5 years) from the date of injury, unless the injured employee qualifies for LIBs.

### Interpreting SIBs Income Replacement Rates (IRR)

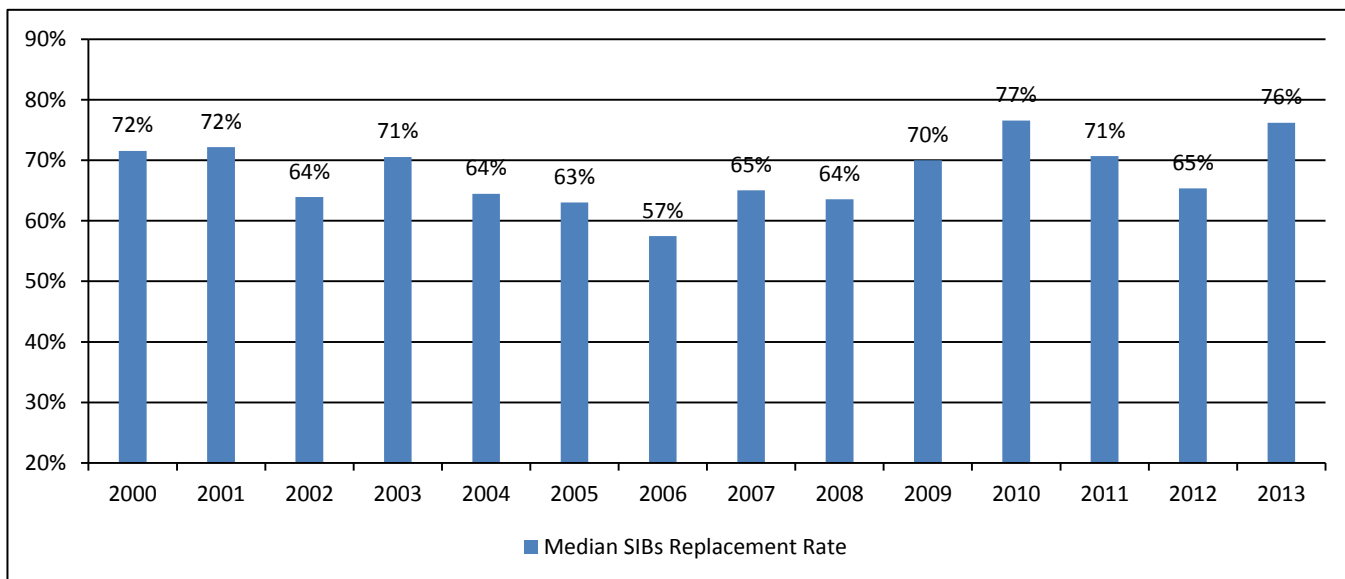
Because of the extended timeframe required for most qualifying SIBs recipients to reach MMI and to exhaust the statutory maximum total benefit duration, this section analyzing SIBs is limited to injury years from 2000 to 2013. Therefore, SIBs outcomes for those injured employees whose claims have not reached 401 weeks must be interpreted with the understanding that future data might change current results.

The total number of SIBs cases by injury year and weekly wage, age of employee, and industry are too few to provide stable yearly estimates. In order to provide more reliable findings for characteristics in this analysis, all SIBs cases are analyzed together, rather than by injury year.

## SIBs IRR by Injury Year

The income replacement rate for injured employees receiving SIBs has somewhat more variation than other benefit types but nevertheless has a slight upward trend with a maximum in year 2010 (see Figure 7.1). The SIBs IRR underwent its longest period of increase in years 2006 to 2010 increasing from 57 percent to 77 percent. After 2007 the SIBs income replacement rate averaged a bit higher than before 2007, which is likely due to the increase in maximum benefit levels.

**Figure 7.1. SIBs IRR by Injury Year**

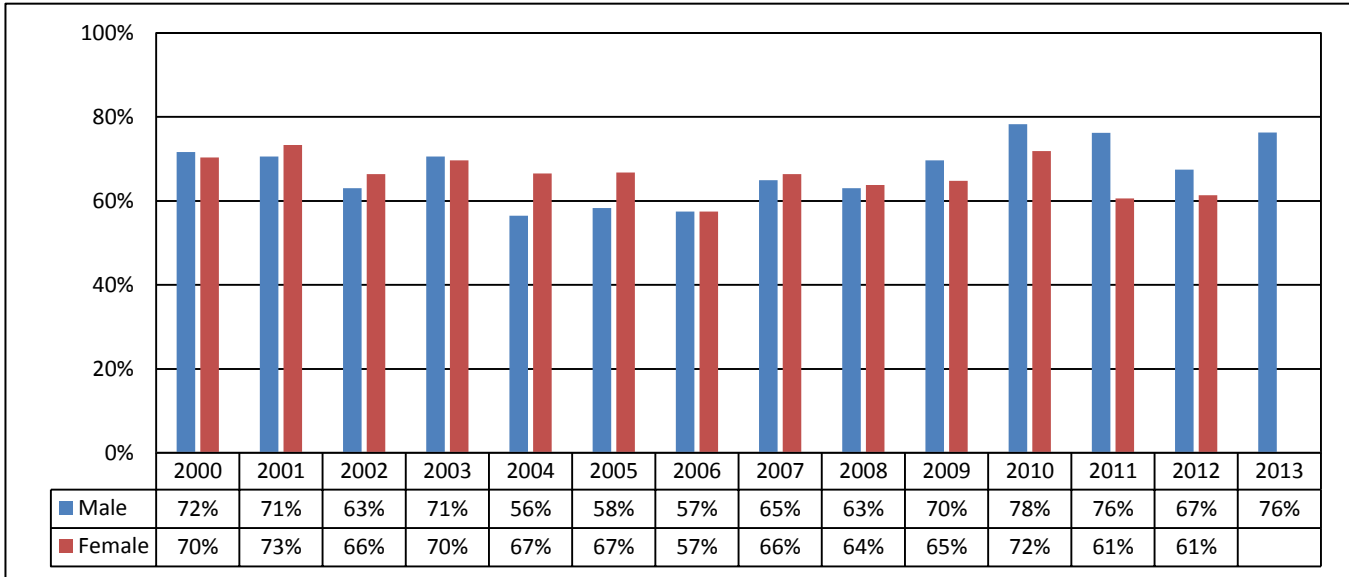


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## SIBs IRR by Gender

The income replacement rates for male injured employees increased while income replacement rates for female injured employees decreased. Because of low reporting numbers, data for some years were unavailable (see Table 7.1). The average income replacement rate was roughly 67 percent and 66 percent for male injured and female injured, respectively.

**Table 7.1. SIBs IRR by Gender**



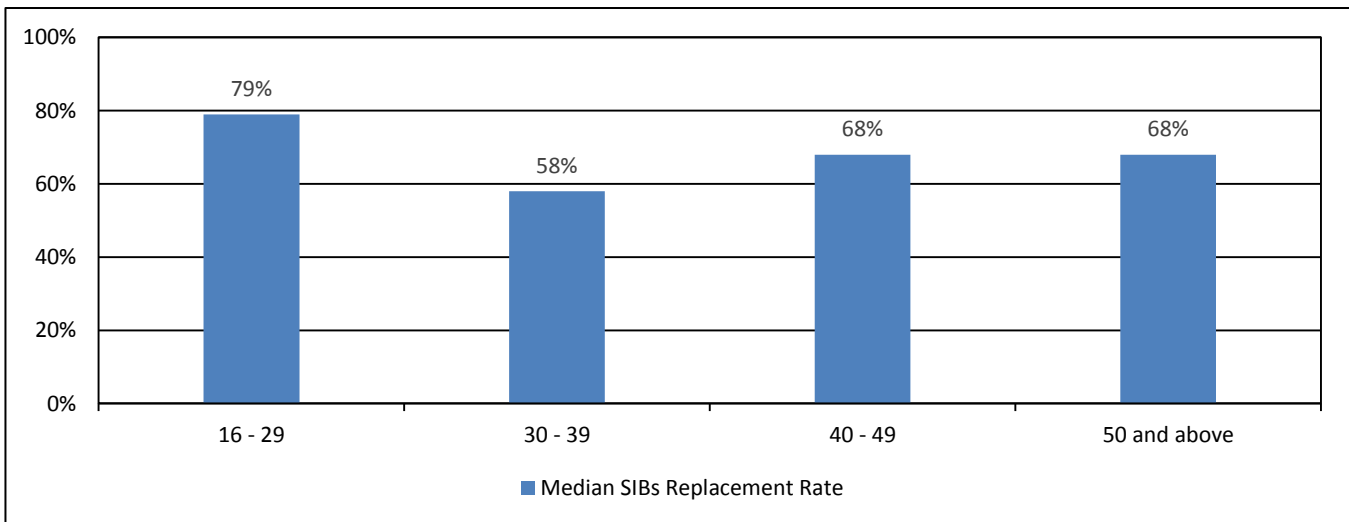
Note: Female data for year 2013 could not be estimated.

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## SIBs IRR by Age

The income replacement rate for injured employees receiving SIBs decrease as age increased. The average SIBs IRR was roughly 68 percent, while employees greater than 30 were somewhat close to the average employees 16-29 were quite far from the average (see Figure 7.2). This downward trend is likely due to older employees receiving higher wages and consequently lower IRRs due to maximum benefit levels.

**Figure 7.2. SIBs IRR by Age**

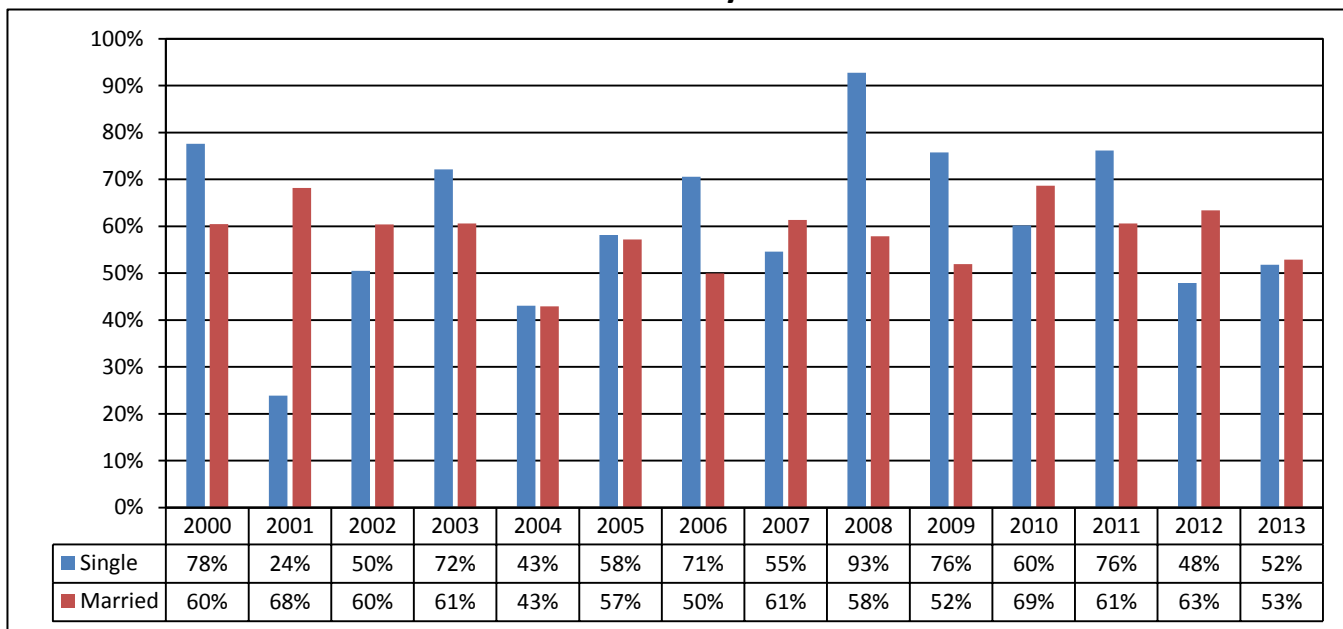


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## SIBs IRR by Marital Status

Generally the income replacement rates for single injured employees were higher than the income replacement rates for married injured employees. The average income replacement rate was roughly 61 percent and 58 percent for single injured and married injured, respectively. Both married and single injured employees saw a minimal if any overall IRR increase (see Table 7.2).

**Table 7.2. SIBs IRR by Marital Status**



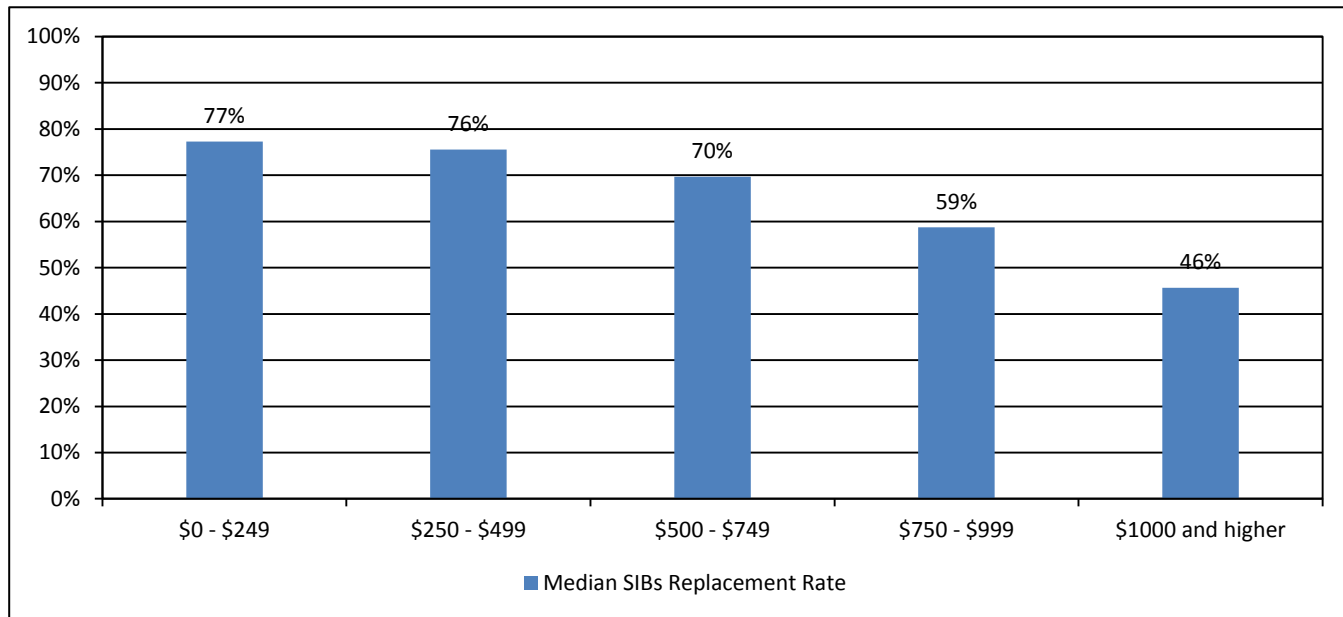
Note: Marital Status Single data for year 2006 could not be estimated.

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## SIBs IRR by Pre-Injury Weekly Wage

The general relationship among IRR and pre-injury weekly wage, as an employee's wage increases their IRR decreases, seen in other benefit types, holds here as well. Injured employees with pre-injury weekly wages of less than \$500 received benefits of over 75 percent of their after-tax income (see Figure 7.3). While the overall average for all pre-injury weekly wage groups was roughly 68 percent, IRRs for injured employees earning more than \$1000 were significantly lower than the average. This disparity is likely due to a higher possibility of benefits being capped at maximum benefit levels.

**Figure 7.3. SIBs IRR by Pre-Injury Weekly Wage**

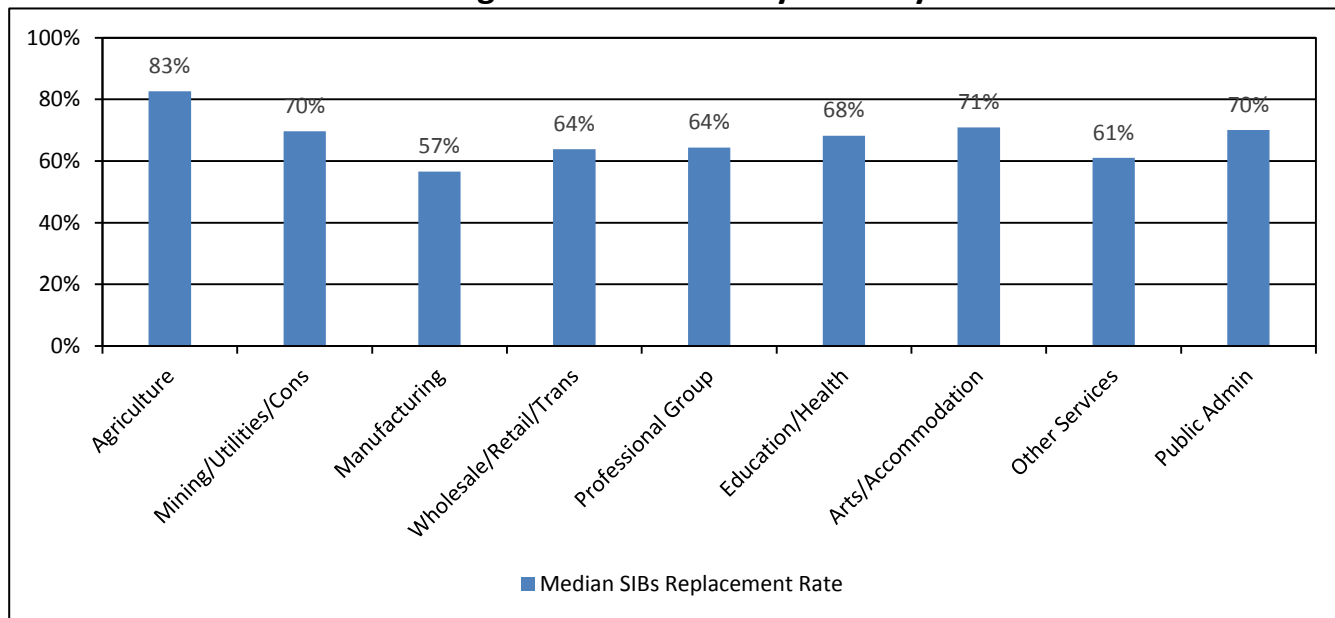


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

### SIBs IRR by Industry

The income replacement rates for injured employees who work in Agriculture and Arts/Accommodation were the highest, greater than 70 percent (see Figure 7.4). The lowest income replacement rates came from Manufacturing at 57 percent. The average income replacement rate for all industries was roughly 67 percent, with more than half of the industry groups being within 3 percentage points of the average.

**Figure 7.4. SIBs IRR by Industry**

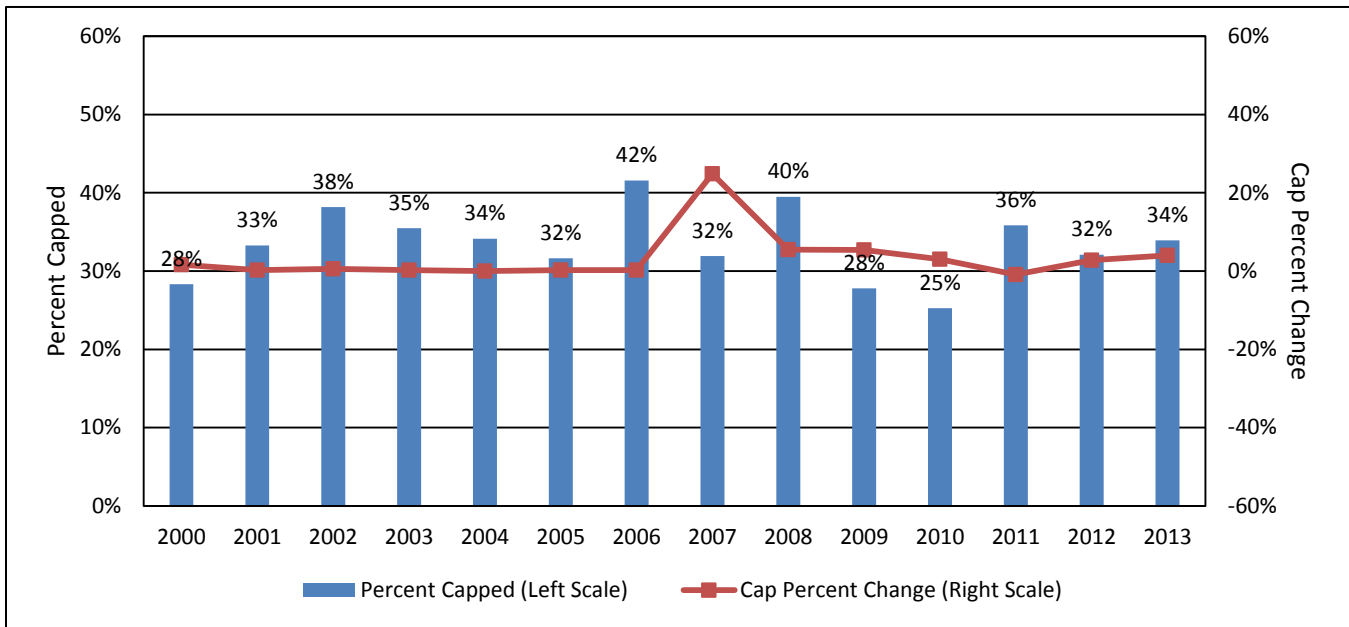


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## Percent of SIBs Recipients with Benefits Capped at the Maximum Amount

The percent of injured employees receiving SIBs benefits that are capped at the maximum amount has fluctuated from years 2000 to 2013, but the average levels after 2006 are lower than the previous years. This percentage had a maximum in year 2006 at 42 percent and a minimum in year 2010 at 25 percent (see Figure 7.5). After 2006, the average percentage of injured employees receiving capped SIBs benefits was roughly 32 percent, compared to 35 percent before 2007.

**Figure 7.5. Percent of SIBs Recipients Capped at the Maximum Benefit Level**



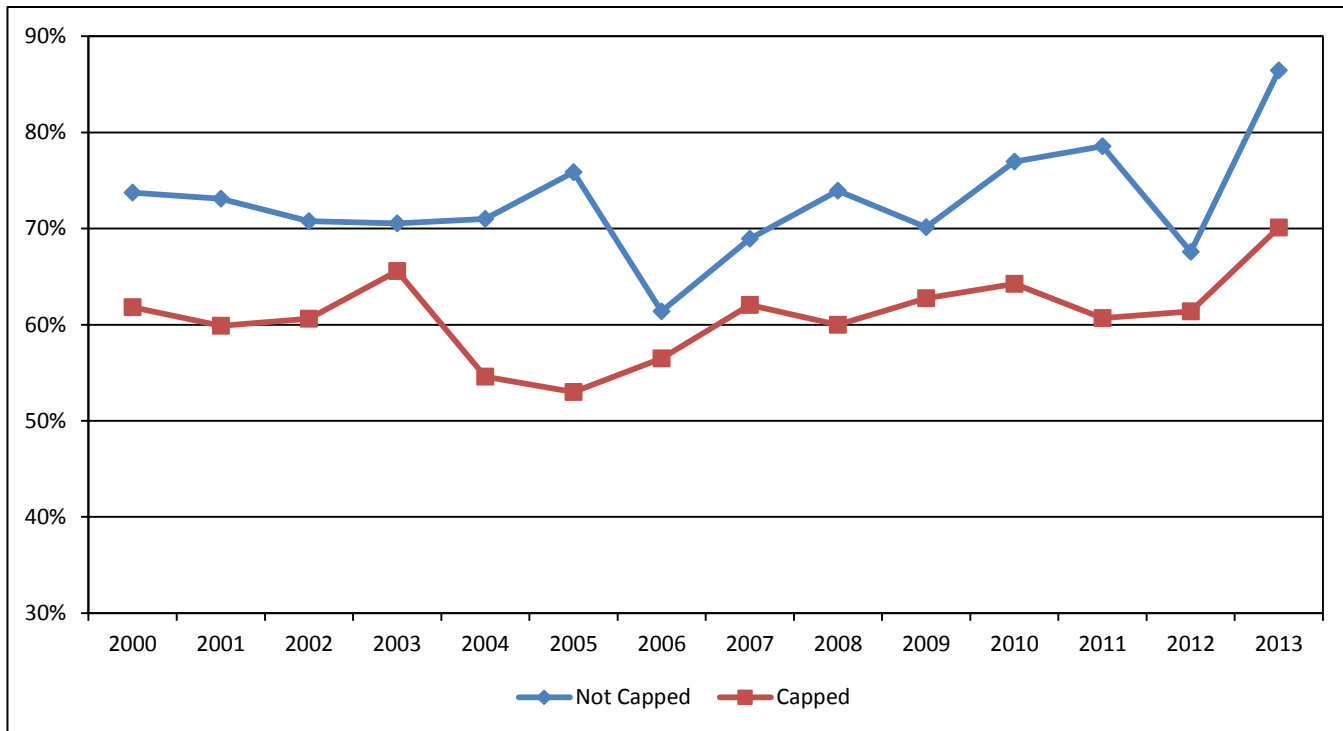
Note: Due to a 401 week maturity SIBs data beyond injury year 2009 must be interpreted with caution.  
 Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## IRR of Injured Employees with SIBs Capped at the Maximum Benefit Amount

The income replacement rates for SIBs both capped and not-capped wages had a slight increasing overall trend (see Figure 7.6). The average income replacement rate was roughly 61 percent and 73 percent for capped and not-capped, respectively. The average difference in IRRs between capped and not-capped wages was roughly 12 percent, this difference holds with the previous pattern, when an employee's wage increases their IRR decreases.



**Figure 7.6. SIBs IRR by Capped Benefits**



Note: Due to a 401 week maturity SIBs data beyond injury year 2009 must be interpreted with caution.  
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## 8. LIFETIME INCOME BENEFITS (LIBS)

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**Eligibility:** An injured employee becomes eligible for Lifetime Income Benefits (LIBs) when the employee incurs one of the following injuries:

- total and permanent loss of sight in both eyes;
- loss of both feet at or above the ankle;
- loss of both hands at or above the wrist;
- loss of one foot at or above the ankle and the loss of one hand at or above the wrist;
- an injury to the spine that results in permanent and complete paralysis of both arms, both legs, or one arm and one leg;
- a physically traumatic injury to the brain resulting in incurable insanity or imbecility; or
- third degree burns that cover at least 40 percent of the body and require grafting, or third degree burns covering the majority of either both hands or one hand and the face.

**Benefit amount:** 75 percent of an injured employee's average weekly wage, with a three percent increase each year. The maximum benefit amount only applies to the first year an injured employee receives LIBs. The maximum benefit amount does not apply to the three percent annual increases.

**Time limit:** An injured employee who believes he or she is eligible for LIBs may submit a written request to the insurance carrier, which in turn has 60 days to respond. LIBs payments must begin on or before the 15th day after the insurance carrier approves. Income benefits stops when the injured employee dies. However, if the injured employee's death was due to the work-related injury or illness, the injured employee's beneficiaries may be eligible to file a claim for and receive death benefits.

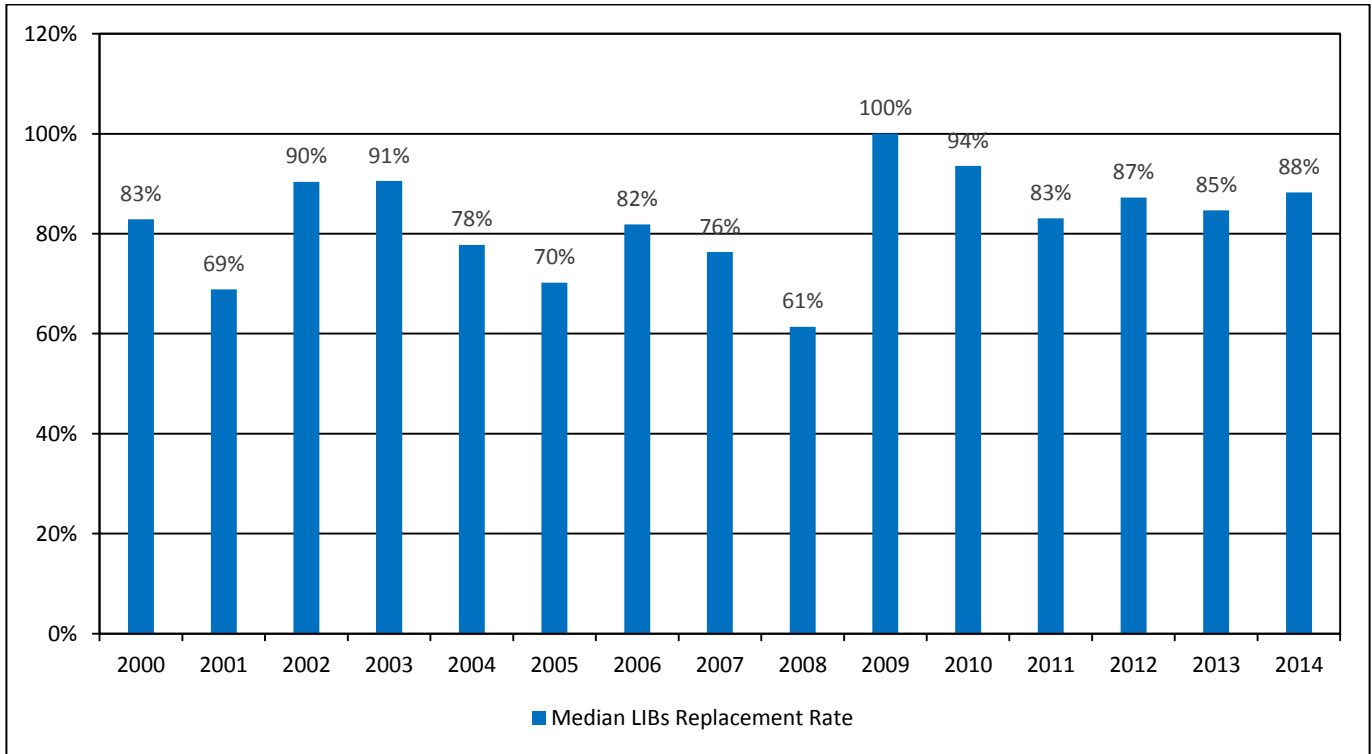
### LIBs IRR by Injury Year

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The income replacement rate calculations for injured employees receiving LIBs are different from the calculations for the benefits discussed earlier, in three important aspects. The maximum benefit amount only applies to the first year of an injured employee's benefits, they include a three percent annual increase, and the maximum benefit amount also does not apply to the annual increases. Given the additional complexities and the relatively low number of LIBs recipients, this section is limited to the overall Income Replacement Rate (IRR) for LIBs recipients. Taking into consideration the fact that the relatively small LIBs population size could produce unstable estimates, replacement rates, like a 100 percent maximum, should be viewed with caution.

Since 2009, the IRR for LIBs fluctuated between 83 percent and 100 percent (see Figure 8.1). However, prior to 2009, the IRR fell as low as 61 percent in 2008, and was highest at 91 percent in 2003. In four of the earlier years, the IRR fell to less than 80 percent. It is interesting to note that between 2006 and 2009, while the maximum capped benefits increased by almost 40 percent (as applied to the first year), the IRR fell precipitously for two of those years, and then rose sharply to 100 percent. The IRR for LIBs appear to have a weak direct relationship to changes in the capped amount. One possibility is that due to the low number of LIBs recipients, a few outlier wages may have disproportional influence on the IRRs, more so than changes in the maximum benefit paid in the first year. Overall, the IRR for LIBs was 85-100 percent for most of the years since 2007, compared to 70-91 percent in the previous years.

**Figure 8.1. LIBs IRR by Injury Year**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## 9. DEATH BENEFITS (DBs)

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**Eligibility:** An injured employee's beneficiaries become eligible for Death and Burial Benefits (DBs) the day after an employee dies from a work-related injury. Death benefits may be available to replace a portion of family income that is lost due to the death of the employee.

Death benefits may be paid to:

- surviving spouse;
- minor child(ren)
- child(ren) enrolled in an accredited educational institution who is less than 25 years old;
- dependent grandchild(ren);
- other dependent family member(s); or
- non-dependent parents - only when there are no surviving eligible dependent family members.

**Benefit amount:** 75 percent of the deceased employee's average weekly wage, subject to maximum and minimum benefit amounts.

**Time limit:** A surviving spouse may receive death benefits for the remainder of his or her life unless the spouse remarries. In such cases, except when the deceased employee is a first-responder, the surviving spouse who remarries will receive a lump sum payment of death benefits equal to two years (104 weeks) of the benefits. A surviving spouse of a first responder who remarries, remains eligible for death benefits for the remainder of his or her life. Dependent children, grandchildren, or other family members may also qualify for a distribution of benefits divided among the beneficiaries.

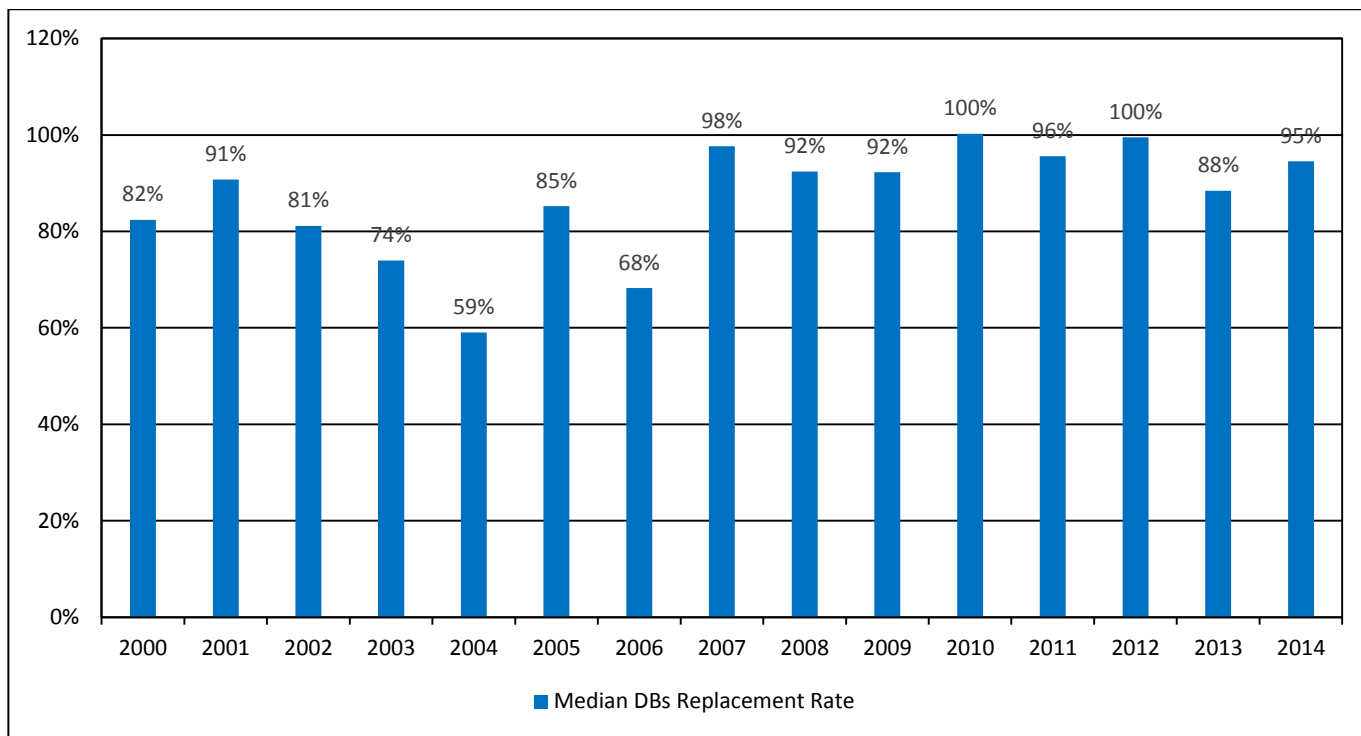
### DBs IRR by Injury Year

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The income replacement rate calculations for beneficiaries receiving DBs are also different from the calculations for the first three benefits discussed earlier. While the maximums and minimums apply to DBs, the relatively low number of DBs claims make the average rates unstable when calculated by other demographics age, industry, marital status etc. Considering the fact that the relatively small DBs population size could produce unstable estimates, replacement rates, like a 100 percent maximum, should be viewed with caution.

However, given that maximum benefit caps apply to DBs, changes in the capped amounts seem to have a more predictable impact on DBs IRR than on LIBs IRR. Prior to the first significant increases to DBs benefits in 2007, only in 2001 did the IRR rise above 90 percent (see Figure 9.1). And since 2007, only in one year, 2013, did the IRR fall below 90 percent. In two of the more recent years (2010 and 2012), the IRR rose to 100 percent. The lowest IRR (59 percent) occurred in 2004. Overall, the IRR for DBs was 95-100 percent for most of the years since 2007, compared to 81-91 percent in the previous years.

**Figure 9.1. DBs IRR by Injury Year**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2017.

## 10. SUMMARY

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The central purpose of this report was to analyze the magnitude and direction of injured employees' workers' compensation income benefits in relationship to wages lost as a result of workplace injuries. Even a surface examination of income replacement rates would reveal the Maximum Benefit Amount to be a key influence. The Maximum Benefit Amount experienced a major increase in FY 2007, which was so significant it might be effective to view income replacement rates and corollaries, from a before and after 2007 perspective. Before 2007, IRRs for TIBs, IIBs, and SIBs experienced downward movement, as Maximum Benefit Amounts stalled and weekly wages increased with inflation. After 2007, IRRs for the same benefit groups saw at least marginal increases.

The general downward trend of TIBs payments from 2000 to 2014 was interrupted with considerable increases in 2006 and 2007, and these increases were likely caused by economic reasons outside of the workers compensation system. Before 2007, stagnant Maximum Benefit levels likely caused the percentage of TIBs recipients capped at the Maximum Benefit Amount to rise. After 2007, the percentage of TIBs recipients capped at the Maximum Benefit Amount experienced a notable drop from a maximum of 22 percent in 2006 to 13 percent in 2007. The TIBs IRR saw an overall increase from 85 percent in 2007 to 88 percent in 2014.

While all benefit types analyzed saw increases, the increase in IIBs IRR wasn't as pronounced as the increase in TIBs IRR, but it did follow the before and after 2007 behavior pattern. The IRR for injured employee receiving IIBs increased from 79 percent in 2006 to 84 percent in 2007. In agreement with the before and after 2007 behavior pattern, the average IIBs IRR before 2007 was roughly 79 percent and the average IIBs IRR after 2007 was roughly 85 percent. The percentage of IIBs recipients capped at the Maximum Benefit Amount before 2007 averaged 41 percent with a maximum of 46 percent in 2006. In 2007 the percentage of IIBs recipients capped at the Maximum Benefit Amount dropped to an average of 35 percent after 2007.

Although the IRR for SIBs experienced greater variation when compared to the other benefit types, the IRR for injured employees receiving SIBs increased from 57 percent in 2006 to 65 percent in 2007. The before and after pattern holds as the average SIBs IRR before 2007 was roughly 66 percent and the average IIBs IRR after 2007 was roughly 70 percent. The percentage of SIBs recipients capped at the Maximum Benefit Amount before 2007 averaged 35 percent, while the percentage of SIBs recipients capped at the Maximum Benefit Amount after 2007 averaged 32 percent.

Generally, the IRRs for both LIBs and DBs were measurably higher in more recent years than in the years prior to 2007. The relatively low numbers of claims for these two benefit types precluded more detailed demographic analyses.

In conclusion, during the study years, Injury Years 2000 to 2014, difference in IRR, between the two time periods 2000-2006 and 2007-2014 surfaced as the clear pattern. It is furthermore clear that while TIBs experienced the highest IRRs, all benefit types saw increases during the studied years. Whether or not Texas workers' compensation benefits are adequate is still unclear, as the answer to that question is fundamentally subjective. Nevertheless it is a question that demands investigation since adequate income replacement for injured employees is a central goal. The Research and Evaluation Group (REG) will continue to study and monitor income benefit adequacy in the Texas workers' compensation system.



Income Benefit Adequacy In The Texas Workers' Compensation System, 2000-2014

Texas Department of Insurance, Workers' Compensation Research and Evaluation Group