Pension Benefit Guaranty Corporation

# PBGC's Single-Employer Guarantee Outcomes

May, 2019

## SUMMARY

The Pension Benefit Guaranty Corporation (PBGC) guarantees pensions of participants in most private sector defined benefit pension plans through two separate programs, for single-employer and for multiemployer plans. Guarantees in these programs are subject to limitations set by law and regulation. PBGC previously studied the outcome of these limitations on participant guaranteed benefits for the single-employer program, in 2008,[1] and for the multiemployer program, in 2015.[2] This study updates the information on single-employer guarantee outcomes to reflect additional program experience.

***Major Findings***:

- A substantial majority (84 percent) of participants received 100 percent of the vested benefits they had earned under their plans.

- 16 percent of vested participants had benefits reduced by one or more of the limitations considered in the current study.

    - For all participants affected by a limitation, the average reduction in the value of plan benefits was 24 percent. For retirees affected by a limitation the average reduction in value was 19 percent.

    - 89 percent of reductions in the value of plan benefits were concentrated in just 10 plans.

- 59 percent of the plans in this study had at least one participant whose benefits were reduced by one or more primary limitation provisions.

The study reviewed participant outcomes in 500 plans trusteed by PBGC between 1988 and 2012. In total these plans covered 1,142,700 participants, more than half of the participants in plans PBGC has trusteed over its history.

Three limitations — the Accrued-at-Normal Limitation, the Maximum Insurance Limitation, and the Phase-in Limitation — accounted for almost all of the participant benefit reductions. For participants with a reduction in vested benefits, these three major limitations reduced the value of benefits by an average of 23 percent compared with 24 percent for all limitations studied.

The study expands the previous (2008) study of 525,000 participants in 125 plans trusteed by PBGC from 1990 to 2005. Findings of this study are broadly comparable with those of the 2008 study despite broadening its scope and methodology.

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[1] This report is the third formal analysis of single-employer guarantee outcomes. The first analysis was included in the 1999 edition of PBGC's Pension Insurance Data Book. Data books may be accessed at https://www.pbgc.gov/prac/data-books The second analysis was published in the 2006 edition of PBGC's Pension Insurance Data Book, with an update published as a report titled "PBGC's Guarantee Limits – an Update," completed in September 2008 (https://www.pbgc.gov/sites/default/files/legacy/docs/guaranteelimits.pdf.

[2] Available at https://www.pbgc.gov/sites/default/files/legacy/docs/2015-ME-Guarantee-Study-Final.pdf

# Contents

# Tables



# Figures

# PBGC's Benefit Limitations

## Background

When a single-employer pension plan fails, PBGC assumes responsibility for the plan's assets and the payment of benefits to plan participants and their beneficiaries. PBGC determines, on a participant-by-participant basis, the benefits to which each participant or beneficiary was entitled when the plan ended.

PBGC pays participants the pension benefits they had accrued under the terms of their plan, subject to certain constraints set by Title IV of the Employee Retirement Income Security Act of 1974, as amended (ERISA) and by PBGC's implementing regulations. Prior to the Pension Protection Act of 2006 (PPA) constraints on the amounts guaranteed were generally applied as of the date the plan terminated; PPA determines guarantee limits based on the earlier of a bankruptcy filing date for the plan sponsor or the date of plan termination.

Most plans that terminate have enough assets to provide the full value of accrued benefits to all participants, by purchasing annuities or through the provision of lump sum benefits. These plans terminate in a "standard termination." The guarantee limits only come into play when a plan fails, and even then, only if the benefit is not payable using the assets available in the plan when it terminated as allocated using the "priority categories" process required by ERISA. The better funded a plan is when it terminates, the less the impact of guarantee limits on participant benefits.

## Primary Guarantee Limitations

There are three guarantee limitations that account for most of the benefit reductions experienced by vested participants. They are the Accrued-at-Normal Limitation, the Maximum Insurance Limitation, and the Phase-In Limitation. A number of other limitations also may apply, but typically only in limited situations, accounting for only a small fraction of total benefit reductions. Participants in a plan may be affected by different primary limitations, or by more than one. For a participant to whom multiple primary limitations could apply, PBGC applies the Accrued-at-Normal Limitation first, followed by the Maximum Insurance Limitation and then the Phase-In Limitation.

### *The Accrued-at-Normal Limitation*

The Accrued-at-Normal Limitation ("AAN Limitation") constrains the benefits PBGC guarantees to a monthly amount no greater than the monthly benefit provided as a straight life annuity available at the plan's normal retirement age. The portion of any combined early retirement benefit and supplemental benefit that exceeds this amount is not guaranteed by PBGC.[3]

[3] Plans in certain industries, such as steel and motor vehicle equipment manufacturing, often pay early retirees a supplemental benefit until they become eligible for Social Security benefits.

For example, assume that a plan entitles a participant to a straight life annuity of $1,000 per month at the plan’s normal retirement age of 65. Suppose further that, if she retires at age 60, she is entitled to an early retirement benefit of $750 per month and a temporary supplemental benefit of $400 per month between the ages of 60 and 62. Her total benefit under the plan from age 60 to age 62 would be $1,150 per month. Application of the AAN Limitation reduces the supplemental benefit payable by $150. In this case, PBGC guarantees a benefit of $1,000 per month from age 60 to age 62, instead of $1,150. On and after age 62, PBGC guarantees a monthly benefit of $750, the same amount she would have received from the plan, had it not terminated.

*The Maximum Insurance Limitation*

The Maximum Insurance Limitation (“Max Limitation”) puts a dollar cap on the benefits PBGC guarantees. The amount of the maximum guaranteed benefit depends on the calendar year in which the underfunded plan terminates.[4] The maximum benefit guarantee is adjusted yearly but is fixed for any plan once that plan terminates.[5] For a plan terminating in 2019, the maximum benefit guarantee is $67,295 per year, for a straight-life annuity that PBGC begins paying at age 65. The guarantee is actuarially reduced for those who begin receiving benefits from PBGC at younger ages or who receive a benefit that includes a survivor benefit. The guarantee is actuarially increased for those who first receive benefits from PBGC at older ages. The participants whose benefits are affected by the Max Limitation tend to be those with high salaries, those whose plans provide very generous benefits, and those who were relatively young as of the plan termination date and were eligible for subsidized or unreduced early retirement benefits under their plans.[6]

*The Phase-In Limitation*

The Phase-In Limitation restricts recent plan benefit improvements provided through a plan amendment.[7] Although any type of plan can be amended to improve benefits, collectively bargained plans often regularly increase benefits in this manner, making them more likely than non-bargained plans to be subject to the Phase-In Limitation. PBGC fully covers benefit improvements that were both adopted and effective more than five years prior to the date of the plan’s termination. It does not cover any benefit increase implemented through a plan amendment that was made within one year of the date of the plan termination. For benefit improvements that became effective (or that the sponsor adopted, if later) more than one year but

[4] PPA modified this provision. If the sponsor entered bankruptcy after September 16, 2006, and the plan terminates while the sponsor is in bankruptcy, the maximum benefit guarantee will be based on the calendar year the sponsor entered bankruptcy.

[5] The maximum guaranteed amount is adjusted annually based on changes in the Social Security “Old-law” contribution and benefit base. The “Old-law” base does not reflect the 1977 amendments to the Social Security Act.

[6] E.g., an individual who is age 55 at plan termination and retired under a “30 and out” plan that allows a participant to retire at any age with unreduced benefits after completing 30 years of service with the plan’s sponsor.

[7] The bankruptcy provision of PPA also applies to the Phase-In Limitation. If the plan terminates while the employer is in bankruptcy, the date of the bankruptcy filing (if after September 16, 2006) will be treated as the termination date. PPA also applied this limitation to payments for “unpredictable contingent event benefits” that are triggered by a specific event, such as a plant shutdown. The trigger date begins the five-year phase-in period.

less than five years prior to the plan's termination, PBGC guarantees the greater of 20 percent of the benefit increase or $20 per month of the increase for each full year the increase was in effect.[8]

## Other PBGC Limitations

The following additional PBGC limitations may also reduce a participant's benefit. Generally, they affect a small number of participants included in this study or have a small impact on the amount a participant's benefit is reduced and are not individually quantified. They are referred to collectively as "Other Limitations."

- Aggregate Maximum Limitation – If an individual was a participant in multiple PBGC-trusteed plans, the Aggregate Maximum Limitation sets a maximum monthly amount that the individual can receive from all plans combined.
- Substantial/Majority Owner Limitation – Participants who were substantial/majority owners in the plan are subject to a special phase-in of their benefit.
- Special Payments – Many steel plans provide a provision allowing for the lump sum payment of three months of the participant's salary in lieu of the first three months of pension payments. PBGC does not guarantee Special Payments.
- Cost of Living Adjustments (COLA) – PBGC will not guarantee COLAs after plan termination.
- Grow-in Benefits - Grow-in benefits exist when a participant has not satisfied the conditions for entitlement (typically more favorable early retirement reduction factors) as of the date of plan termination but may "grow-in" to the benefit if his employment with the plan sponsor continues (the plan sponsor must remain ongoing after plan termination for a participant to have a grow-in benefit). PBGC does not guarantee grow-in benefits.
- Death Benefits – Death benefits in excess of the plan's Qualified Pre-retirement Survivor Annuity benefit, such as a lump sum death benefit equal to the present value of participant's monthly benefit, are not guaranteed by PBGC.
- Additional Limitation Introduced by the Pension Protection Act of 2006 – If a participant becomes entitled to benefits between the date the sponsor filed for bankruptcy and the date of plan termination, PBGC's guarantees are determined as of the bankruptcy filing date for plans whose sponsors enter bankruptcy after September 16, 2006 and are in bankruptcy when the plan terminates. This change is reflected both in the Primary Benefit Limitations and in Other Limitations.

In addition, PBGC does not guarantee benefits for participants that are not yet vested prior to plan termination. The impact of this limitation is not reviewed by this study; benefit losses due to participants that are not vested as of plan termination are not included in the amounts shown as benefit losses, nor are plans counted as impacted by benefit limitations due to the loss of non-vested benefits.

[8] A less generous phase-in provision is applicable for substantial owners of companies that sponsored PBGC-trusteed plans. The substantial owner provision was changed to a majority owner provision by PPA. It now applies to fewer owners and is less onerous when it does apply. This type of phase-in is rarely applicable to participants in large plans.

## Benefits Exceeding PBGC's Guarantees

Some participants in PBGC-trusteed plans receive benefits that exceed the PBGC guarantee level. This can occur if the plan has enough assets to fund benefits above the guarantee or if PBGC recovers, or is deemed to recover, additional funds through collection on its claims against the plan sponsor, in or outside of bankruptcy proceedings. Recoveries are shared with participants according to a specified formula, and the participants' share is used to fund benefits that exceed PBGC's guarantee.[9]

The allocation of assets and recoveries to fund benefits follows ERISA's priority categories. Generally, benefits limited by the Phase-In Limitation (i.e., which have not been in effect for a full five years) are assigned a limited priority which is, at best, fifth out of ERISA's six priority classes. Benefits subject to the AAN or Max Limitations often have a higher priority. Since assets and recoveries are rarely sufficient to restore all benefits lost to limitations, some benefit reductions that would otherwise have occurred due to the AAN and Max Limitations may not occur in a plan in which the Phase-In Limitations have full effect.

Both the order in which limitations are applied and the allocation of assets and recoveries affect participant outcomes and are reflected in the attribution of any benefit losses shown in the report.

[9] PPA changed this provision so that, for plans whose sponsors enter bankruptcy after September 16, 2006 and are in bankruptcy when the plan terminates, the date the sponsor entered bankruptcy proceedings will be used to assign participants to some of the priority categories that PBGC uses to allocate any available plan assets and employer recoveries.

# Results of Study

## Overall Results

### *Participants*

A substantial majority of vested participants receive 100 percent of their accrued vested benefit. This study found that the benefits of 84 percent of vested participants were not reduced by any PBGC benefit limitation. In the sample of 1,142,700 vested participants, the remaining 16 percent of vested participants, about 187,000, had their accrued benefits reduced by one or more of the primary benefit limitation provisions. On average, these participants' benefits were reduced by the primary benefit limitations by 23 percent.

Participants who were active in their plan at the time of plan termination were most likely to face reductions in their benefits. As shown in Table 1, 30 percent of active vested participants included in this study had their benefits reduced compared to 19 percent of retirees and only 4 percent of separated vested participants.[10] More than half of all participants with a reduced benefit were impacted by the Phase-In Limitation. About 9 percent of participants with reduced benefits (less than 2 percent of all participants in the study) were affected by two or all three of the limitation provisions.

***Table 1*** *- Participants with Benefits Reduced by One or More Primary Benefit Limitations, by Participant Status and Limitation*

| | | Percent of Participants Affected By: | | | |
|---|---|---|---|---|---|
| Participant Status | Number of Participants | At Least One Primary Limitation | AAN Limitation | Max Limitation | Phase-In Limitation |
| Retired | 493,400 | 19% | 6% | 4% | 12% |
| Separated | 395,900 | 4% | 1% | 0% | 3% |
| Active | 253,400 | 30% | 3% | 9% | 19% |
| **All Participants** | **1,142,700** | **16%** | **4%** | **4%** | **10%** |

*Note: Some participants had their benefits reduced by more than one limitation provision.*

Table 1 shows that 16 percent of all participants in the study were affected by at least one primary limitation. Table 2 and Table 3 show the average reduction in benefits that results from limitations on the guarantee.

In Table 2, the number of participants whose benefits were limited by each of the primary benefit

[10] An exception to the general pattern occurs in the Motor Vehicle Equipment industry, where retirees received a larger reduction than active workers due to the effect of the AAN Limitation. This is primarily a reflection of the demographics of the Delphi plans, which had a large number of younger retirees still receiving early retirement supplements as of plan termination, and insufficient plan assets to otherwise cover them. For more information on specific industries see Table 10 and the discussion of Results by Industry beginning on page 14.

limitations is shown by participant status. The right-hand portion of the table summarizes the average percent reduction in the lifetime value of benefits caused by each of the primary benefit limitation provisions.

For participants affected by the limitations, the value of their benefits was reduced by a primary limitation by, on average, 23 percent. This average[11] covers a wide range of benefit reductions.

***Table 2*** *- Average Benefit Reduction for Participants, by Primary Benefit Limitation and Status*

| Participant Status | Number of Participants with Reduced Benefits | Average Percent Reduction in Benefit Value From: | | | |
|---|---|---|---|---|---|
| | | All Primary Limitations | AAN Limitation | Max Limitation | Phase-In Limitation |
| Retired | 96,000 | 19% | 12% | 22% | 11% |
| Separated | 15,500 | 18% | 7% | 26% | 16% |
| Active | 75,500 | 30% | 7% | 37% | 12% |
| **All Participants** | **187,000** | **23%** | **11%** | **30%** | **12%** |

The limitation with the largest impact on participants' benefits is the Maximum Limitation, reducing benefit values by an average of 30 percent, when it applies.

Table 3 provides additional detail on benefit limitations as shown by primary limitation, and the various combinations of the primary limitations. It also shows the amount of benefit reductions due to limitations other than the three primary limitations in the bottom half of the table. The average reduction by these four categories of limitations (the three primary benefit limitations as well as those due to Other Limitations) is shown as a pale blue row in the table; the total average reduction shown is the sum of the average reductions for each limitation in the column below.

[11] Throughout this report the average benefit reductions shown are calculated on the basis of the reduction in the present value of benefits for participants as of the date the plan terminated. This weights the amount of the average benefit cuts based on the present value of each participant's expected stream of benefit payments -- i.e., it is the "liability-weighted" average loss due to the limitations on the guarantee. The liability-weighted average is dominated by participants with the largest benefit reductions, which is the group subject to the Maximum Insurance Limitation. If we instead reported the average cut in benefits for the average participant (a "participant-weighted" average), the average cut would be lower – 17 percent instead of the 23 percent calculated above.

***Table 3*** *- Participant Benefit Reductions by Limitation*

| Limitation(s): | AAN Limitation | Max Limitation | Phase-In Limitation | AAN & Max | AAN & Phase-In | Max & Phase-In | AAN, Max & Phase-In | Total |
|---|---|---|---|---|---|---|---|---|
| Number Affected | 32,083 | 32,622 | 105,792 | 3,864 | 5,201 | 4,558 | 2,893 | 187,013 |
| Percent Affected | 2.8% | 2.9% | 9.3% | 0.3% | 0.5% | 0.4% | 0.3% | 16.4% |
| | | | | | | | | |
| Average Reduction | 13.3% | 33.5% | 12.6% | 26.6% | 23.0% | 24.0% | 35.4% | 23.6% |
| AAN | 13.3% | 0.0% | 0.0% | 9.0% | 7.4% | 0.0% | 5.8% | 3.0% |
| Max | 0.0% | 33.1% | 0.0% | 17.5% | 0.0% | 14.7% | 17.5% | 15.8% |
| Phase-In | 0.0% | 0.0% | 11.6% | 0.0% | 15.6% | 8.9% | 12.0% | 4.3% |
| Other | 0.0% | 0.4% | 1.0% | 0.1% | 0.0% | 0.4% | 0.0% | 0.5% |

Adding the impact of Other Limitations to the three primary guarantee limitations increases the percentage reduction in benefits for affected participants from 23 percent to 24 percent (rounded from 23.6 percent in the table above). Most of the impact of the Other Limitations is concentrated in benefit reductions for active participants, whose benefits were reduced, on average, by an additional 1 percent due to the Other Limitations (from 30 percent for Actives as shown in Table 2 to 31 percent). The impact of Other Limitations on separated vested participants and on retirees was, on average, much smaller (adding 0.2 percent to the average benefit reduction for affected separated vested participants and 0.03 percent for affected retirees).

Given the small impact of Other Limitations on the results, the remainder of the report examines solely the impact of the three primary benefit limitations on guarantee outcomes.

***Table 4*** *- Distribution of Participants by Percentage Reduction in Value of Benefits*

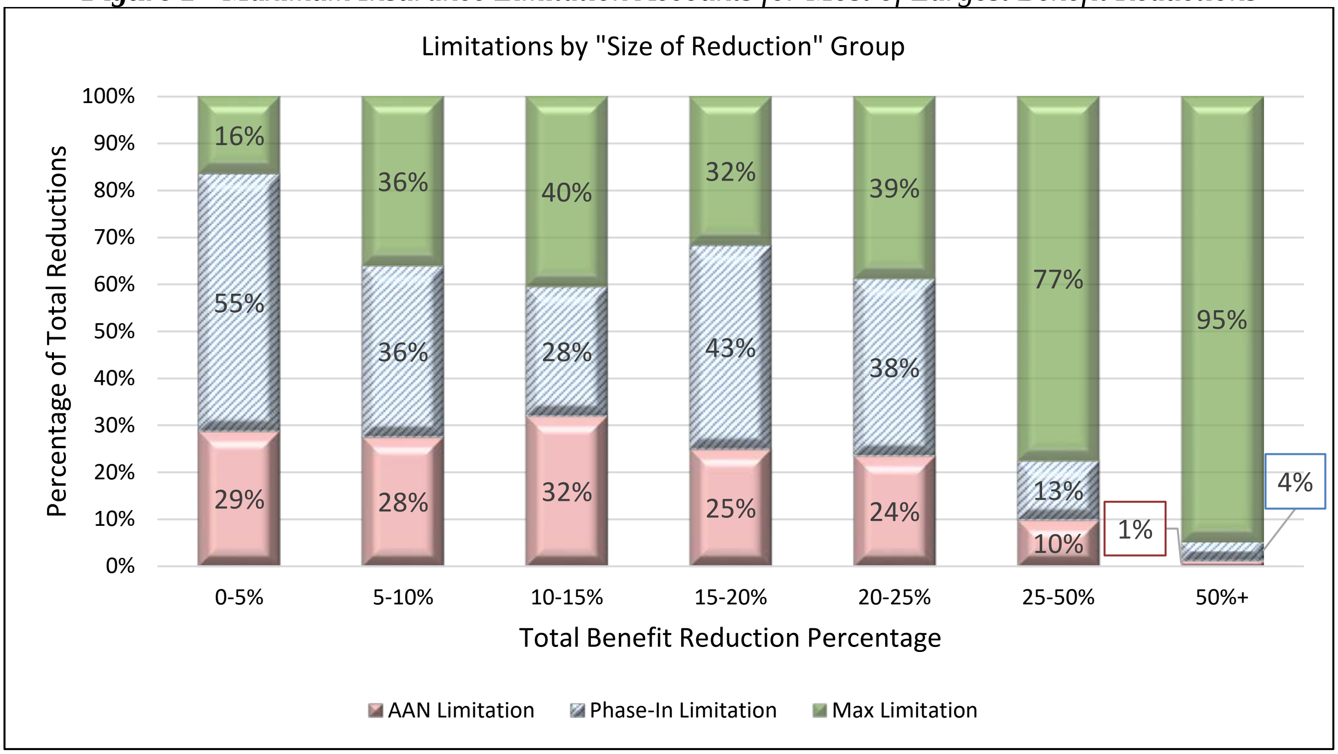
| | Number of Participants | Percent of All Participants | Percent of Those with a Benefit Reduction |
|---|---|---|---|
| Total | 1,142,700 | 100.0% | Not Applicable |
| No Reduction | 955,700 | 83.6% | Not Applicable |
| Total with a Reduction | 187,000 | 16.4% | 100.0% |
| Size of Reduction | | | |
| Less than 5% | 60,600 | 5.3% | 32.4% |
| 5% < 10% | 21,600 | 1.9% | 11.6% |
| 10% < 15% | 20,600 | 1.8% | 11.0% |
| 15% < 20% | 23,600 | 2.1% | 12.6% |
| 20% < 25% | 20,000 | 1.7% | 10.7% |
| 25% < 50% | 30,700 | 2.7% | 16.4% |
| 50% or More | 9,900 | 0.9% | 5.3% |

A substantial majority of vested participants in the plans studied received their full benefit from PBGC. Of the 16 percent of participants whose benefits were reduced due to the limitations on the guarantee almost one-third had a reduction of less than 5 percent and 44 percent had their benefits reduced by less than 10 percent. Two-thirds of those participants affected had benefit reductions of less than 20 percent.

Less than 1 percent of participants lost more than half their benefits; those cases are typically due to benefits being subject to the Maximum Insurance Limitation. These participants represent a little more than 5 percent of participants with a reduced benefit. They are primarily in two industries. The airline industry accounted for 56 percent and the steel industry accounted for 27 percent of participants with reductions of greater than 50 percent.

Figure 1 shows the weight of each primary limitation on each "Size of Reduction" group above. For example, in the group where the Size of Reduction is between 5 percent and 10 percent, 28 percent of the reduction in participant's benefits is due to the AAN Limitation, 36 percent to the Phase-In Limitation and 36 percent to the Max Limitation. For large reductions in benefits (reductions greater than 25 percent) more than 75 percent of the benefit reductions are due to the Max Limitation.

***Figure 1*** *- Maximum Insurance Limitation Accounts for Most of Largest Benefit Reductions*




Additional analysis of the impact of each of the primary benefit limitations begins on page 10.

## *Trusteed Plans*

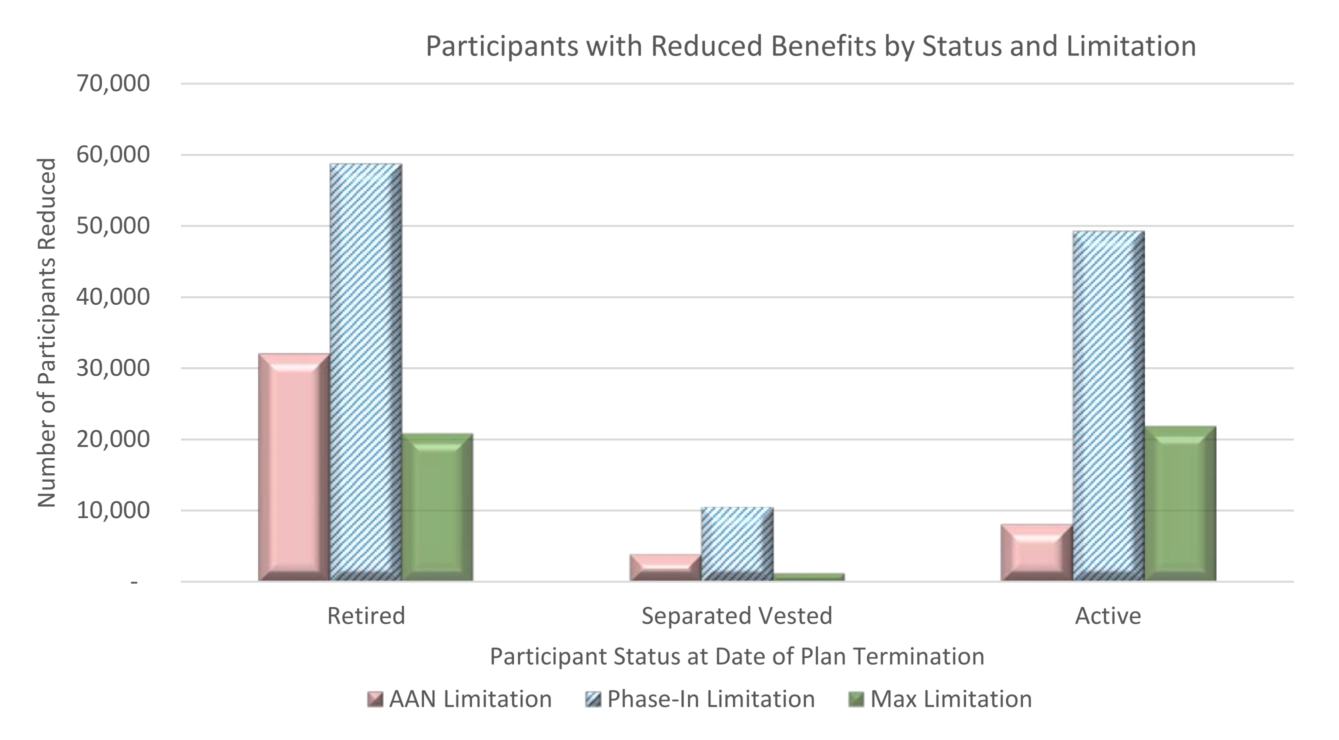
Of the 500 plans included in the study, 59 percent had at least one participant whose benefit was reduced by one of the three primary limitation provisions. As seen in Table 5, the Maximum Insurance and Phase-In Limitations each reduced benefits of some participants in over one-third of the plans reviewed. The AAN Limitation reduced benefits of some participants in less than 20 percent of the 500 plans. In most plans where any benefits were reduced, however, the benefits of only a small percentage of participants were affected.

***Table 5*** *- Plans Affected by Primary Benefit Limitations*

| Total Plans | At Least One Limitation | AAN Limitation | Max Limitation | Phase-In Limitation |
|---|---|---|---|---|
| 500 | 297 | 89 | 173 | 183 |

Figure 2 shows the number of participants affected by each limitation based on their status at the date of plan termination (DOPT).

***Figure 2*** *- Number of Participants Affected by Primary Limitation by Participant Status*




In total, more retired participants are affected by primary limitations than are separated or active vested participants. However, this is due to the fact that plans are typically quite retiree heavy on plan termination – retirees represent the largest of the three categories of participants (retirees, separated with a vested benefit and active participants). As shown earlier in Table 1, ***active*** participants have the highest likelihood of being affected by a benefit limitation. As shown in Table 2, active participants also have larger average benefit reductions than other participant categories.

Among retirees, the impact of the primary limitations varies. The AAN Limitation can only apply to retirees who were younger than the plan's normal retirement age at the point where the guarantee limits were applied. The Max Limitation is adjusted for a participant's age at plan termination (higher for older participants and lower for younger participants). In addition, because single-employer private sector defined benefit plans are rarely adjusted to increase benefits for older retirees in recent years, the Phase-In Limitation may be less likely to apply.

## Analysis by Primary Limitation

### *Accrued-at-Normal Limitation*

Table 6 shows the impact of the Accrued at Normal Limitation. This limitation reduced the supplemental benefits of 44,000 participants in the plans reviewed. Approximately 73 percent of those affected by the AAN Limitation were retirees. The total present value of benefits (PVB) for the affected participants before the application of the limitation was almost $10 billion, or about $222,000 per participant. The AAN Limitation reduced the present value of benefits for all affected participants by about $1.1 billion, an 11 percent reduction.

The AAN Limitation applies to benefits that are paid up to the plan's normal retirement age. By expressing the value of the benefit reduction as a percentage of present value, we show the lifetime reduction in benefit value. The reduction in monthly benefits paid prior to normal retirement age is larger than the average lifetime reduction.

***Table 6*** *- Impact of Accrued-at-Normal Limitation on Benefits of Affected Participants*

| Status | Number of Participants Affected by AAN Limitation | PVB Before Applying AAN Limitation* | PVB After Applying AAN Limitation* | Percent of Pre-Limitation Value Received | PVB Lost Due to AAN Limitation* | Average Loss of PVB per Affected Participant |
|---|---|---|---|---|---|---|
| Retired | 32,000 | $8,661 | $7,643 | 88% | $1,018 | $31,800 |
| Separated | 3,900 | 162 | 151 | 93% | 11 | 2,800 |
| Active | 8,100 | 947 | 885 | 93% | 62 | 7,700 |
| **All Participants** | **44,000** | **$9,770** | **$8,680** | **89%** | **$1,091** | **$24,800** |

**Dollars in millions*

The number of participants affected by the AAN Limitation is 44,000 out of 1,142,700 participants in this study. Four of the 500 plans in this study generated the majority of participants affected by the AAN Limitation. The following four plans contributed a total of 29,000 participants with benefits reduced by the AAN Limitation:

- Retirement Plan for Certain Employees of US Airways, Inc.
- Delphi Retirement Program for Salaried Employees
- Delphi Hourly-Rate Employees' Pension Plan
- Pension Plan of Bethlehem Steel Corporation

### *Maximum Insurance Limitation*

Table 7 shows the impact of the Maximum Insurance Limitation. This limitation also affected the benefits of about 44,000 participants and resulted in substantial reductions in their present value of future benefits, with an average reduction of $131,800. The average present value of benefits for a participant affected by the Max Limitation was nearly $444,000 before applying the limitation, double the present value of benefits for participants affected by the AAN Limitation and nearly four times the present value of benefits for participants impacted by the Phase-In Limitation.

The average benefit loss from the Max Limitation was much larger for active participants than for retired participants. In part, this reflects that the maximum benefit guarantee is actuarially adjusted for age at date of plan termination, making the guarantee amount smaller for those collecting benefits at younger ages. For 2019, the annual maximum benefit guarantees, payable as a straight-life annuity, are $43,742 for a 60 year old, $67,295 for a 65 year old, and $111,710 for a 70 year old.[12] If an unmarried participant of each age were entitled to a benefit of $100,000 per year under their plan, the Max Limitation would reduce the benefit of the 60 year old by $56,258 per year and that of the 65 year old by $32,705 per year, but would not reduce the benefit of the 70 year old.

A second reason retired participants had a lower average benefit reduction is that retirees are more likely to receive benefits greater than guaranteed benefits due to PBGC's allocation of assets in the plan and the allocation of recovery amounts. By law, plan assets are used to cover the benefits of those who were eligible to retire at least three years prior to the date the plan terminated before they are used to cover the benefits of other participants. In many plans that PBGC trustees, plan assets are sufficient to cover all benefits earned by most retirees, even if their benefits exceed the guarantee level for their age. These two reasons explain why the benefits of retirees affected by the Max Limitation were reduced by only 22 percent while the benefits of affected active participants were reduced by 37 percent.

***Table 7** - Impact of Maximum Insurance Limitation on Benefits of Affected Participants*

| Status | Number of Participants Affected by Max Limitation | PVB Before Applying Max Limitation* | PVB After Applying Max Limitation* | Percent of Pre-Limitation Value Received | PVB Lost Due to Max Limitation* | Average Loss of PVB per Affected Participant |
|---|---|---|---|---|---|---|
| Retired | 20,800 | $9,008 | $7,023 | 78% | $1,985 | $95,400 |
| Separated | 1,300 | 276 | 204 | 74% | 72 | 55,400 |
| Active | 21,900 | 10,214 | 6,470 | 63% | 3,744 | 171,000 |
| **All Participants** | **44,000** | **$19,498** | **$13,697** | **70%** | **$5,801** | **$131,800** |

**Dollars in millions*

## *Phase-In Limitation*

Table 8 shows the impact of the Phase-In Limitation. 10 percent of all participants in the study lost some or all of the benefit increases their plans had provided within five years of the date their plan terminated. This limitation reduced the benefits of 118,000 participants.

[12] See https://www.pbgc.gov/news/press/releases/pr18-06

***Table 8*** *- Impact of Phase-In Limitation on Benefits of Affected Participants*

| Status | Number of Participants Affected by Phase-In Limitation | PVB Before Applying Phase-In Limitation* | PVB After Applying Phase-In Limitation* | Percent of Pre-Limitation Benefit Received | PVB Lost Due to Phase-In Limitation* | Average Loss of PVB per Affected Participant |
|---|---|---|---|---|---|---|
| Retired | 58,600 | $8,310 | $7,393 | 89% | $917 | $15,600 |
| Separated | 10,500 | 433 | 366 | 84% | 67 | 6,400 |
| Active | 49,300 | 4,769 | 4,175 | 88% | 594 | 12,000 |
| **All Participants** | **118,400** | **$13,512** | **$11,934** | **88%** | **$1,578** | **$13,300** |

**Dollars in millions*

The Phase-In Limitation impacts the benefits of a far greater number of participants than the AAN and Max Limitations because the benefit of any participant, regardless of benefit level or additional supplement, may be impacted if their plan increased benefits in the period leading up to plan termination. Participants with benefits affected by the Phase-In Limitation had the lowest average present value of future benefits ($114,000) of the three limitation groups. For those affected, the Phase-In Limitation reduced the present value of benefits by an average $13,300, or 12 percent. The largest number of participants with benefits affected by the Phase-In Limitation had their present value of future benefits reduced by less than 5 percent. Only 12,000 of the affected participants had their benefits reduced by another limitation.

### *More Than One Limitation*

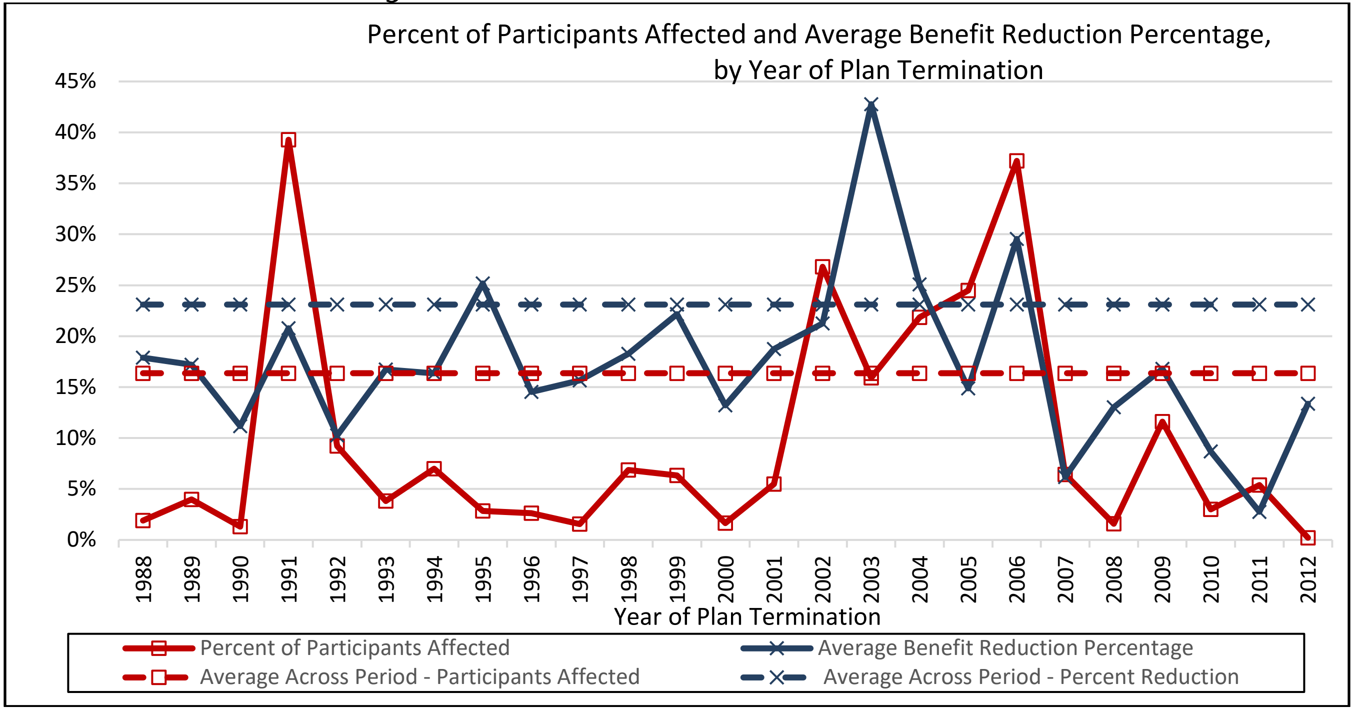
About 16,500 participants had benefits reduced by two or all three of the primary limitation provisions. This is less than 2 percent of all 1,142,700 participants in the study but 9 percent of the 187,000 participants with a benefit reduced by at least one of the limitation provisions.

Over 90 percent of participants affected by PBGC limitations in this study were only affected by one primary limitation. Most of the participants with benefits reduced by multiple PBGC primary limitations were in steel plans.

## Trends Over Time

The PBGC single-employer guarantee amounts are indexed and grow as national average wages grow. One question is whether the adjustment makes the guarantee more or less generous over time, compared with the level of plan promises.  Figure 3 shows the percentage of participants affected by benefit reductions (red) and the average benefit reduction percentage (blue) by year of plan termination. The dotted lines show the average results from the study for all participants. Other than the impacts of specific plans terminating in certain years, there does not appear to be a clear significant historical trend in the results.

***Figure 3*** *– Guarantee Outcome Trends over Time*




There are several large spikes in the graph associated with specific events. A large increase in the percentage of participants with reduced benefits is seen in 1991, due to the termination of the Pan American World Airways plans. Increases in the average reductions in 2003 and 2006 were due to the Retirement Income Plan for Pilots of U.S. Airways, Inc. and the Delta Pilots Retirement Plan, respectively.

Across all plans studied, ten plans accounted for 89 percent of the value of benefit losses among participants, as shown in Figure 4. However, these plans represented less than 30 percent of the participants in the study. Table 9 displays the number of participants affected by a limitation and the average value of benefit reductions for those affected for these plans.

*Figure 4 – Ten Plans Account for Most of the Reductions in Benefit Value*

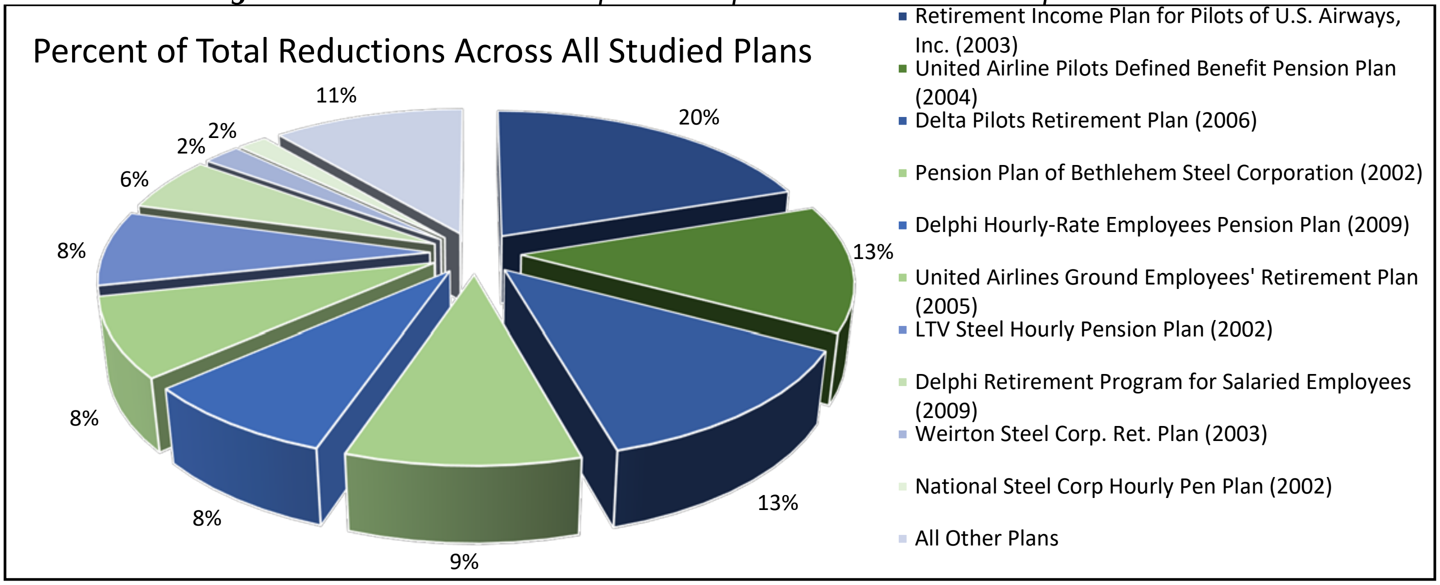



*Table 9 – Value of Benefit Losses for Ten Plans Which Account for Most Reductions in Value*

| Plan | Total Participants | Participants Affected by a Primary Limitation | Average Loss of Benefit Value per Affected Participant |
|---|---|---|---|
| Retirement Income Plan for Pilots of U.S. Airways, Inc. (2003) | 5,800 | 5,200 | 53% |
| United Airline Pilots Defined Benefit Pension Plan (2004) | 14,100 | 9,800 | 26% |
| Delta Pilots Retirement Plan (2006) | 13,000 | 7,600 | 30% |
| Pension Plan of Bethlehem Steel Corporation (2002) | 91,100 | 17,200 | 22% |
| Delphi Hourly-Rate Employees Pension Plan (2009) | 43,000 | 14,500 | 16% |
| United Airlines Ground Employees' Retirement Plan (2005) | 35,800 | 25,500 | 20% |
| LTV Steel Hourly Pension Plan (2002) | 61,300 | 35,500 | 21% |
| Delphi Retirement Program for Salaried Employees (2009) | 19,800 | 5,700 | 19% |
| Weirton Steel Corp. Ret. Plan (2003) | 9,200 | 3,300 | 20% |
| National Steel Corp Hourly Pen Plan (2002) | 9,600 | 3,900 | 20% |
| *All Other Plans* | 840,000 | 58,800 | 14% |
| Total | 1,142,700 | 187,000 | |

## Results by Industry

The data demonstrate significant differences by industry in the impact of the limitations on the guarantee. Table 10 shows the number of participants impacted by at least one of the primary benefit limitations by industry. Participants in plans from the airline, steel, and motor vehicle equipment industries were much more likely to have their benefits reduced by at least one of the three guarantee limitations – 27 percent had their benefits reduced – than were participants from other industries, where only 3 percent experienced benefit reductions.

***Table 10*** *- Participants with Benefits Reduced by One or More Primary Benefit Limitation, by Industry and Limitation*

| | Number of: | | Percent of Participants Affected By: | | | |
|---|---|---|---|---|---|---|
| Industry | Plans | Participants | At Least One Limitation | AAN Limitation | Max Limitation | Phase-In Limitation |
| Airline | 21 | 243,200 | 29% | 3% | 10% | 16% |
| Financial | 16 | 37,200 | 1 | 0 | 0 | 0 |
| Healthcare | 37 | 40,200 | 5 | 0 | 1 | 5 |
| Motor Vehicle Equipment | 25 | 101,300 | 23 | 16 | 4 | 6 |
| Other[13] | 63 | 68,800 | 4 | 1 | 1 | 3 |
| Other Manufacturing | 174 | 267,900 | 3 | 0 | 0 | 3 |
| Retail | 28 | 83,300 | 1 | 0 | 0 | 1 |
| Steel | 136 | 300,800 | 26 | 6 | 5 | 20 |
| **All Industries** | **500** | **1,142,700** | **16%** | **4%** | **4%** | **10%** |

The three limitations impacted different industries in different ways. In terms of present value of future benefits lost, the Maximum Insurance Limitation caused the largest reduction in benefits in the airline, steel, and motor vehicle equipment industries. However, when it came to the number of participants whose benefits were reduced by each limitation, the numbers tell a different story. While the benefits of participants in failed airline industry plans were reduced the most by the Maximum Insurance Limitation, the Phase-In Limitation affected a larger number of participants in that industry. Also, participants in the airline industry were generally only impacted by a single limitation, either the Maximum Insurance Limitation or the Phase-In Limitation, while participants in the motor vehicle equipment and steel industries were more likely to be affected by multiple limitations.[14]

The Accrued-at-Normal Limitation affected participants in the motor vehicle equipment industry more than other industries, with 16 percent of motor vehicle equipment industry participants experiencing a reduction, compared to 6 percent in the steel industry and 3 percent in the airline industry. This appears to reflect the demographics of the largest motor vehicle equipment industry plans, which were the result of a spin-off and thus reflected a relatively recent retiree population, and may also reflect a pattern where the ratio of supplemental benefits to the accrued benefit at normal retirement age is higher than the pattern seen in other industries.

[13] Other includes food and beverage industries, newspapers and other services.
[14] When the sum of the percent of participants affected by each primary limitation is greater than the percent of participants affected by at least one limitation, this indicates that a number of participants were affected by multiple limitations. For example, the steel industry shows 6 percent affected by AAN Limitation, 5 percent by the Max Limitation and 20 percent by the Phase-In Limitation. The sum of these percentages is 31 percent, which compared against the 26 percent affected by at least one Limitation indicates that a number of participants in the steel industry were affected by more than one Primary Limitation.

The steel industry found the largest number of participants impacted by the Phase-In Limitation, with 20 percent (60,000 participants) experiencing reductions, closely followed by the airline industry at 16 percent (40,000 participants). The increase in percentage of participants with benefits affected by the Phase-In Limitation in the steel industry, from 15 percent in the 2008 study to 20 percent in the current study, is largely due to the inclusion of the Pension Plan of Bethlehem Steel in the current study. Table 11 provides a closer look at exactly how the affected participants' benefits were reduced.

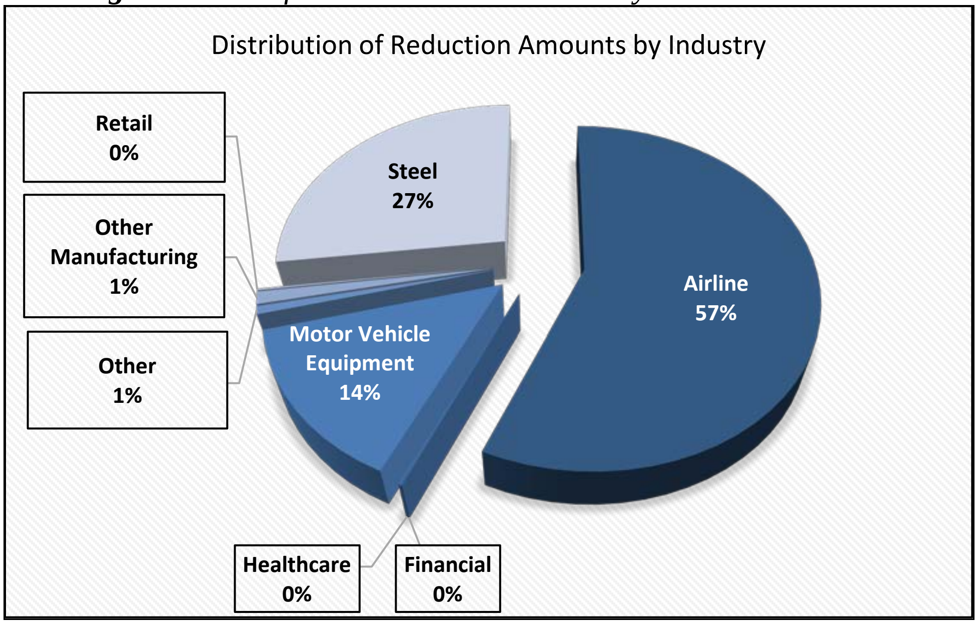
***Table 11** - Average Benefit Reduction for Participants Whose Benefits Were Reduced by One or More Primary Benefit Limitation, by Industry and Limitation*

| Industry | Number of Participants | Percent with Reduced Benefits | Average Percent Reduction From: All Limitations | AAN Limitation | Max Limitation | Phase-In Limitation |
|---|---|---|---|---|---|---|
| Airline | 243,200 | 29% | 28% | 3% | 34% | 13% |
| Financial | 37,200 | 1 | 19 | 0 | 20 | 8 |
| Healthcare | 40,200 | 5 | 8 | 0 | 12 | 5 |
| Motor Vehicle Equipment | 101,300 | 23 | 17 | 14 | 20 | 3 |
| Other | 68,800 | 4 | 18 | 10 | 20 | 14 |
| Other Manufacturing | 267,900 | 3 | 11 | 9 | 19 | 6 |
| Retail | 83,300 | 1 | 15 | 0 | 21 | 8 |
| Steel | 300,800 | 26 | 21 | 8 | 25 | 12 |
| **All Industries** | **1,142,700** | **16%** | **23%** | **11%** | **30%** | **12%** |

Across all industries, the Maximum Insurance Limitation was responsible for the largest percentage reduction in benefit values, reducing the value of benefits by an average of 30 percent, when it applied. In the airline industry it reduced benefits by an average of 34 percent, when it applied.

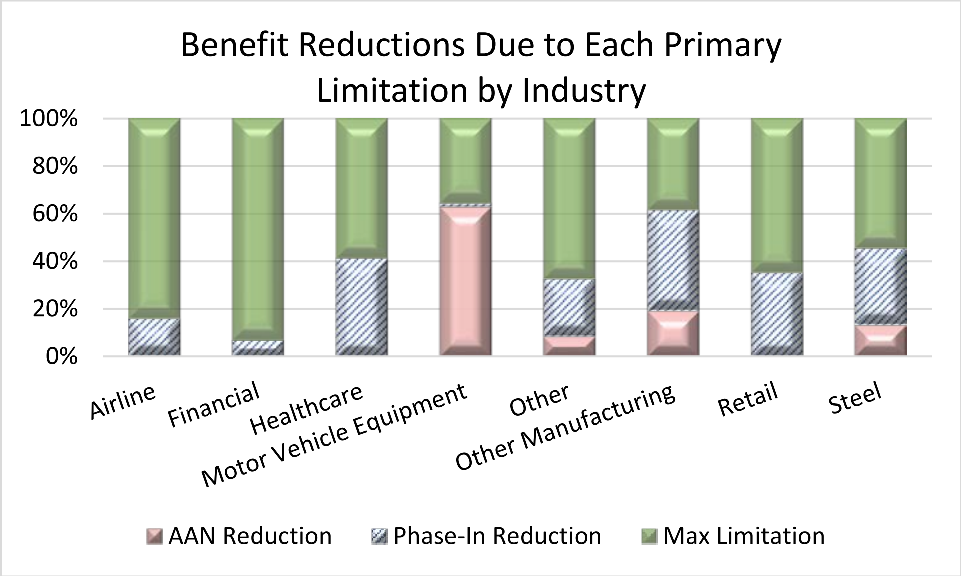
Figure 5 displays the distributions of benefit reductions across industries. The airline, steel, and motor vehicle equipment industries account for most of the value of benefit reductions in the study.

***Figure 5*** *- Benefit Reductions Are Primarily in Three Industries*




The relative magnitude of the primary benefit limitations for each industry is displayed in Figure 6.

***Figure 6*** *- Relative Importance of Primary Benefit Limitations Varies Across Industry*




The airline industry was the most impacted by benefit limitations, and the value of benefit reductions in that industry was primarily due to the Maximum Insurance Limitation. 48 percent of all benefit reductions in the study were attributable to the impact of the Maximum Insurance Limitation on airline industry plans. The remaining reductions in the airline industry resulted from the Phase-In Limitation, accounting for about 9 percent of all reductions in this study.

Meanwhile, the steel industry accounted for 27 percent of all reductions in the study; 15 percent due to the Maximum Insurance Limitation, 9 percent due to the Phase-In Limitation, and 3 percent due to the Accrued-at-Normal Limitation. Lastly, the motor vehicle equipment industry accounted for 14 percent of all reductions in this study; 9 percent due to the Accrued-at-Normal Limitation, 5 percent due to the Maximum Insurance Limitation, and a small amount due to the Phase-In Limitation.

Table 12 shows the number of participants whose benefits were reduced by one or more of the limitation provisions, by both industry and participant status at plan termination.

***Table 12*** *- Number of Participants with Benefits Reduced by One or More Primary Benefit Limitation, by Industry, Participant Status and Limitation*

| Industry | Participant Status | Number of Participants | Number with Benefits Reduced By: At Least One Limitation | AAN Limitation | Max Limitation | Phase-In Limitation |
|---|---|---|---|---|---|---|
| **Airline** | **All Participants** | **243,200** | **69,600** | **7,600** | **23,800** | **39,900** |
| | Retired | 72,400 | 19,100 | 500 | 9,100 | 10,300 |
| | Separated | 52,700 | 5,500 | 2,400 | 500 | 2,600 |
| | Active | 118,100 | 45,000 | 4,700 | 14,200 | 27,000 |
| **Financial** | **All Participants** | **37,200** | **200** | **0** | **100** | **100** |
| | Retired | 8,500 | 0 | 0 | 0 | 0 |
| | Separated | 24,000 | 200 | 0 | 100 | 100 |
| | Active | 4,700 | 0 | 0 | 0 | 0 |
| **Healthcare** | **All Participants** | **40,200** | **2,200** | **0** | **200** | **2,000** |
| | Retired | 7,900 | 100 | 0 | 0 | 100 |
| | Separated | 16,100 | 300 | 0 | 0 | 300 |
| | Active | 16,200 | 1,800 | 0 | 200 | 1,600 |
| **Motor Vehicle Equipment** | **All Participants** | **101,300** | **23,700** | **16,600** | **3,800** | **5,600** |
| | Retired | 48,700 | 18,800 | 15,500 | 2,600 | 2,600 |
| | Separated | 30,300 | 1,100 | 100 | 0 | 1,000 |
| | Active | 22,300 | 3,800 | 1,000 | 1,200 | 2,000 |
| **Other** | **All Participants** | **68,800** | **3,100** | **600** | **500** | **1,900** |
| | Retired | 22,800 | 1,200 | 600 | 300 | 300 |
| | Separated | 37,700 | 1,100 | 0 | 100 | 900 |
| | Active | 8,300 | 800 | 0 | 100 | 700 |
| **Other Manufacturing** | **All Participants** | **267,900** | **9,000** | **1,300** | **700** | **7,800** |
| | Retired | 117,000 | 3,500 | 1,200 | 300 | 2,800 |
| | Separated | 119,600 | 2,000 | 100 | 300 | 1,600 |
| | Active | 31,300 | 3,500 | 0 | 100 | 3,400 |
| **Retail** | **All Participants** | **83,300** | **1,100** | **0** | **0** | **1,100** |
| | Retired | 18,400 | 100 | 0 | 0 | 100 |
| | Separated | 57,700 | 700 | 0 | 0 | 700 |
| | Active | 7,200 | 300 | 0 | 0 | 300 |
| **Steel** | **All Participants** | **300,800** | **78,300** | **17,900** | **14,700** | **59,900** |
| | Retired | 197,800 | 53,300 | 14,200 | 8,500 | 42,400 |
| | Separated | 57,600 | 4,600 | 1,300 | 100 | 3,300 |
| | Active | 45,400 | 20,400 | 2,400 | 6,100 | 14,200 |
| **All Industries** | **All Participants** | **1,142,700** | **187,000** | **44,000** | **44,000** | **118,400** |
| | Retired | 493,400 | 96,000 | 32,000 | 20,800 | 58,600 |
| | Separated | 395,900 | 15,500 | 3,900 | 1,300 | 10,500 |
| | Active | 253,400 | 75,500 | 8,100 | 21,900 | 49,300 |

This table shows that the Accrued-at-Normal Limitation was most prevalent in the steel and motor vehicle equipment industries. Combined, they accounted for 78 percent of all participants with benefits reduced by the Accrued-at-Normal Limitation.

More than half of all participants with benefits reduced by the Max Limitation were in the airline industry. Almost 88 percent of participants with benefits exceeding the maximum insurance limit were from either the airline or steel industries.

The airline and steel industries were also highly affected by the Phase-In Limitation. 84 percent of participants with phase-in reductions were in one of these two industries. More retirees in steel plans were affected by the Phase-In Limitation; however, active participants were 10 percent more likely to experience a reduction due to the Phase-In Limitation. In some collectively bargained plans, the Phase-In Limitation affects the benefits of both active participants and retirees because benefit increases apply to both active workers and retirees.

# METHODOLOGY

## Data Sources

The study is based on a review of PBGC's internal case files for each plan. When a plan is terminated and transferred to PBGC, payments to retirees continue while PBGC takes over the participant records and assets of the plan. PBGC then begins a process to audit the records and assets and value each participant's benefit so as to determine the guarantee amount. Since sponsors of plans that come to PBGC have often been in business hardship for an extended period of time, records may be lacking or in disarray. Thus, the process of determining the final amount of guarantees for each participant may take 2 to 4 years or longer.

This study relied on the data prepared to determine final guarantee amounts for each plan, in particular the following PBGC data sources maintained within the files of PBGC's Office of Benefit Administration (OBA):

- Case Memo. This documents the overall results for the plan, including the "closeout" actuarial valuation numbers and summary details about the plan and its termination. Attachments and appendices to the case memo were also utilized
- Case Database. A final database is created as each plan or "case" is finalized by PBGC. For each plan participant, the database includes numerous data elements related to the determination of the individual's benefit.
- V1 Calculation Spreadsheet. For each case the associated V1 spreadsheet documents the formulas used to calculate each field in the case database, including the calculation of the present value of future benefits.

Since it is based on PBGC case files, the study is limited to participant outcomes under the guarantee program. It does not consider the effects of any arrangements with other parties that may make up losses for certain participants such as follow-on plans or arrangements where a prior employer provides benefits that supplement guarantees.

## Selection of Plans

The 500 plans studied are not a random sample of PBGC trusteed plans but are instead selected to focus on the largest plans for which data was readily available, while also including a range of industries comparable to the range of industries whose plans have terminated and become trusteed by PBGC. To provide a basis for comparison with the prior (2008) study, almost all of those plans were also included. Participants in the plans represent more than half of the participants in plans PBGC has trusteed.[15] Thus, the plans in the study include:

- 115 of the 125 plans included in the prior 2008 study
- 375 plans from the remaining PBGC universe of trusteed plans chosen through a combination of:
    - Selecting plans in order from largest to smallest based on Termination Liability, and

[15] See Table S-19 of PBGC's 2016 Pension Insurance Data Tables.

- Selecting additional plans to more closely match the industry representation of PBGC's trusteed plan population.

The study required access to case files and individual databases on each plan. During PBGC's history, software and storage formats have evolved requiring conversion of historical data for purposes of the study. To minimize technical conversion issues, while still gathering data on the majority of participants from PBGC's history, only plans with Date of Plan Termination (DOPT) between 1988 and 2012 are included. PBGC's case processing typically takes two to four years or longer for the case to be finalized and archived, limiting the universe of plans studied to plans that terminated through 2012. The study period is seven years longer than the prior study which included plans with DOPTs through 2005.

The following table compares the number of plans and participants in all PBGC trusteed plans to the study population, distributed by industry.[16]

***Table 13*** *- PBGC Trusteed Plans and Vested Participants Compared with Plans Included in Study*

| | Trusteed by PBGC (1975-2016): | | | | Included in Study: | | | |
|---|---|---|---|---|---|---|---|---|
| | Plans | | Vested Participants | | Plans | | Vested Participants | |
| Industry | Number | Percent of Total | Number | Percent of Total | Number | Percent of Total | Number | Percent of Total |
| Agriculture, Mining, and Construction | 272 | 5.7% | 46,885 | 2.1% | 13 | 2.6% | 9,520 | 0.8% |
| Manufacturing | 2,820 | 59.1% | 1,339,296 | 58.9% | 345 | 69.0% | 638,853 | 55.9% |
| Transportation and Public Utilities | 209 | 4.4% | 379,331 | 16.7% | 30 | 6.0% | 295,567 | 25.9% |
| Information | 71 | 1.5% | 21,124 | 0.9% | 7 | 1.4% | 5,104 | 0.4% |
| Wholesale Trade | 297 | 6.2% | 44,407 | 2.0% | 10 | 2.0% | 20,652 | 1.8% |
| Retail Trade | 342 | 7.2% | 175,099 | 7.7% | 28 | 5.6% | 83,263 | 7.3% |
| Finance, Insurance, and Real Estate | 158 | 3.3% | 84,758 | 3.7% | 17 | 3.4% | 37,242 | 3.3% |
| Services & Non-Profits | 600 | 12.6% | 182,584 | 8.0% | 50 | 10.0% | 52,538 | 4.6% |
| **Total** | **4,769** | **100%** | **2,273,484** | **100%** | **500** | **100%** | **1,142,739** | **100%** |

## Use of Present Values

The measurement of benefit reductions is performed based on the present value of future benefits, as measured and archived in plan case files, rather than on the benefit amount itself. This approach simplifies the comparisons for participants with benefit amounts that change over time, by determining a single reduction percentage in estimated lifetime value of benefit payments for each individual. This is

[16] Data from PBGC's 2016 Pension Insurance Data Tables (Table S-19), which utilizes broader industry groupings than shown elsewhere in this report.

most important when the AAN Limitation applies to a participant, resulting in reduction of the amount of a temporary supplement that only applies until a later age is attained.

Relevant present value information for each participant was obtained from the Case Database, where it was determined as of the plan's DOPT. For participants who were retired as of the DOPT, the present values shown in the case files would reflect their status at DOPT. For all other participants, present values would have been determined assuming benefit commencement at their Expected Retirement Age (XRA). Interest factors and mortality assumptions reflect the applicable Section 4044 assumptions at DOPT.

About one-third of participants who had not yet retired as of their plan's DOPT have since retired. Analysis of these individuals concluded that re-determining present values as of their actual commencement date (rather than as of their assumed XRA) would have had minimal impact on the outcome.

Determining the impact of the limitation provisions on vested participant benefits required the identification of the present value of the reduction in benefit payments caused by each limitation for each participant in each case. Using the Case Database fields, the estimated present value of the plan benefits the participants would have received over their lifetimes without any reductions was compared to the present value of their lifetime benefits after OBA applied each individual limitation. From the difference in these calculations, the number and percentage of participants whose benefits were reduced by each limitation and the average percentage reduction in benefits was determined.

The average percentage reductions shown in the current study were calculated on an aggregate basis, dividing the total present value of benefit reductions by the total present value of benefits participants would have received if their benefits had not been reduced. This methodology produces a "liability-weighted" average benefit reduction. If we instead reported the average reduction in benefits for the average participant (a "participant-weighted" average) the average reduction would have been lower – 17 percent instead of the 23 percent calculated for the primary benefit reductions.

## Changes in Methodology from Prior (2008) Study

The 2008 study also found 84 percent of vested participants received their full benefits. However, the 2008 study applied a somewhat narrower methodology than the current study, looking only at the three most important limitations, only including benefit losses in excess of 0.5 percent, and finding somewhat higher benefit losses (28 versus 24 percent in the current study) for participants whose benefits were reduced and a larger likelihood that at least one participant in a plan was affected by one of the primary limitations (over 80 percent in the prior study versus less than 60 percent in the current study).

Specific changes to the methodology used to calculate the reduction percentages from our prior (2008) study include:

- The 2008 study rounded the reduction percentage of each participant to the nearest percent. In effect, the rounding treated participants with a benefit reduction of less than 0.5 percent as not experiencing a benefit loss. The current study uses minimal rounding, typically to $1 for most plans.

- Beneficiary records were excluded in the 2008 study. The current study includes both in-pay and deferred beneficiaries. (Neither study, however, included participants who were not vested as of DOPT, nor records of alternate payees under a QDRO with separate records in the database.)

115 of the 125 plans in the 2008 study were also included in the 500 plans in the current study. (The detailed data needed to include the additional 10 plans in the current study was no longer available in one of the formats readily accessible to the study team.)

To evaluate the impact of differences in methodology, we evaluated the 115 plans included in both the 2008 and the current study under both methodologies. The percentage of participants affected by a benefit reduction went up by 1 percent due to the change in the rounding methodology.

## Summary Information for Plans and Participants Studied

In total this study covered 500 plans with 1,142,700 vested participants as of the date the plans terminated. Plans studied terminated between 1988 and the end of 2012. 115 of those plans, covering 468,500 vested participants were also included in the 2008 study.

Figure 7 below depicts the number of participants included in this study by the year in which the plan terminated. Plans terminating in 2002, 2005, and 2009 accounted for 56 percent of all participants included in this study.

***Figure 7*** *- Participants Included in Study by Year*

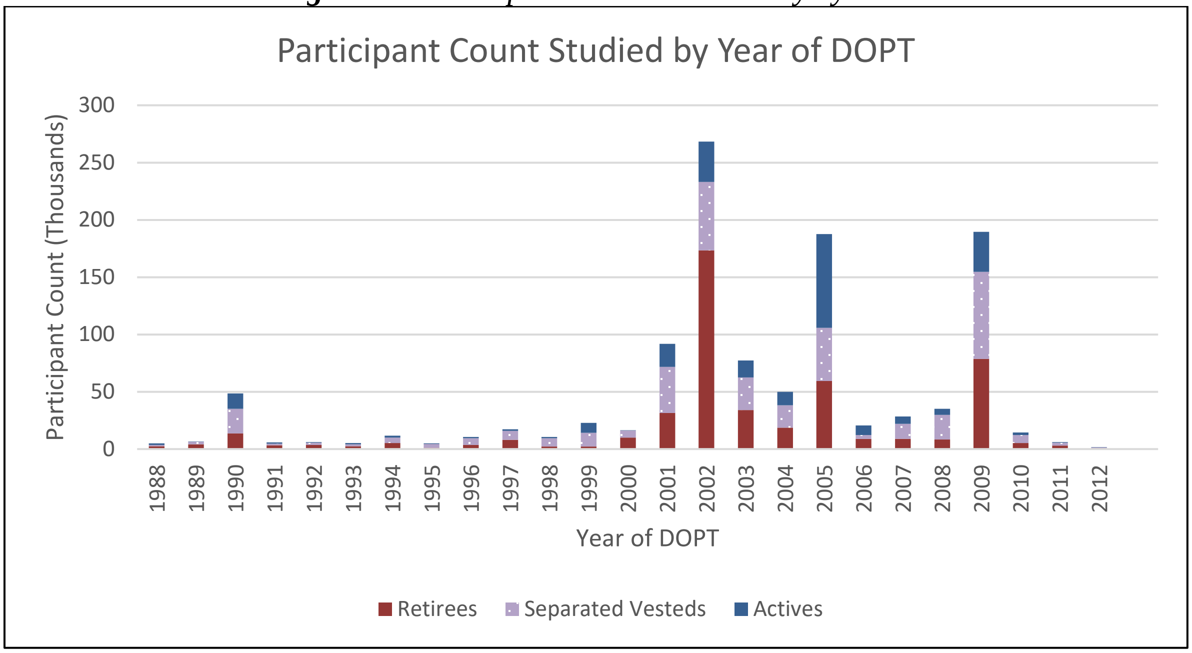
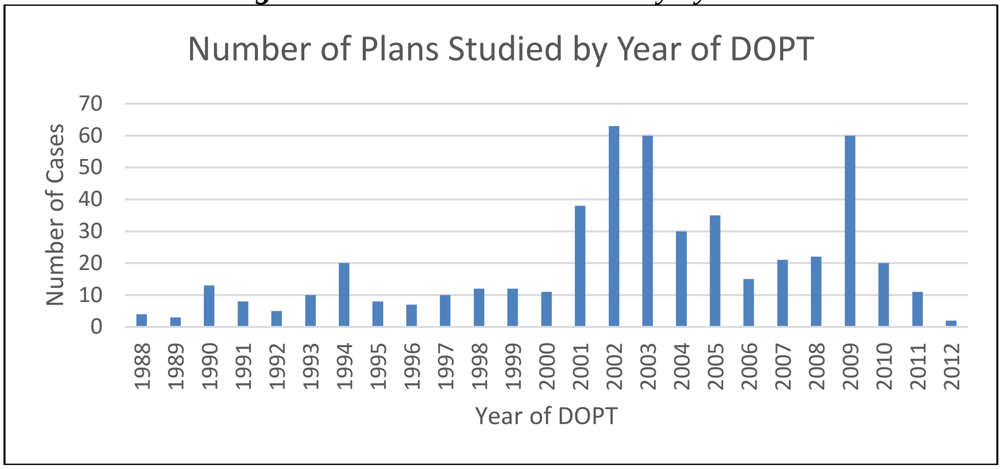



Figure 8 displays the number of plans included in the study by year of termination.

***Figure 8*** *- Plans Included in Study by Year*



## CONCLUSIONS

This study finds that, when a plan fails, 84 percent of vested participants covered by PBGC's single-employer guarantee program receive all the benefits they had accrued under their plans. However, among the group of participants who did not receive their full benefit, the aggregate loss in benefit value was 24 percent. The study conclusions are based on a review of historical records for over half of the participants whose plans have been trusteed by PBGC under the single-employer guarantee program.

Looking at the broader universe of plans that terminate, most plans are well enough funded to be able to provide annuities that will cover all accrued benefits. It is only in the minority of plans which fail where, on average, 16 percent of participants lose a portion of their benefit. To the extent a failing plan is relatively better funded, the number of participants losing a portion of their benefits and the amount of loss is reduced.

For the 16 percent of vested participants with a benefit reduction, these reductions were largely due to three primary benefit limitations: the Accrued-at-Normal Limitation; the Maximum Insurance Limitation; and the Phase-in Limitation. In combination, these three primary benefit limitations generated 23 percent of the 24 percent average benefit value loss.

The Maximum Insurance Limitation continued to be the limitation that caused the largest losses in benefit value for participants affected by a benefit limitation. This limitation applies to individuals with the largest benefits or those who retired early and were still relatively young when the plan was terminated. Participants who lost more than one-quarter of their benefit value represented less than 4 percent of all vested participants; over three-quarters of the reduced benefit value they experienced was due to the Maximum Insurance Limitation. For participants whose benefit value was reduced by more than half (under 1 percent of participants), 95 percent of the loss was due to the Maximum Insurance Limitation.

The PBGC limitation that affects the most participants is the Phase-In Limitation. More than 10 percent of vested participants had their benefits reduced due to the Phase-In Limitation.

Whether a participant's benefit is reduced depends heavily on the characteristics of the plan and individual participants. Many plans did not provide a supplemental benefit or increase benefits through plan amendments. Only those plans that did had participants whose benefit was reduced by the Accrued-at-Normal or Phase-In Limitation.

The study reviewed plan terminations over the period 1988 through 2012. During that period there was no obvious trend in the outcomes for participants under the guarantee limitations. It will be important to monitor the program in the future as changes in plan provisions and to the insurance program evolve.