This Actuarial Note presents a brief historical summary of the actuarial cost estimates for the monthly-disability-benefits portion of the Old-Age, Survivors, and Disability Insurance system. It will trace through not only the changes in the cost estimates resulting from the amended benefit provisions, but also those resulting from changed cost assumptions.

When the disability-benefits program (DI) was enacted in 1956, the estimated level-cost according to the intermediate-cost estimate was .42% of taxable payroll. Following usual practice, a range of cost estimates was prepared to recognize the inherent variability of such long-range estimates—especially for disability benefits. The low-cost estimate was .27% of taxable payroll, while the high-cost estimate was .57%.

In 1958, before the enactment of the 1958 Amendments, revised estimates were presented. These showed the estimated level-cost of the program to be decreased to .35% of taxable payroll. The reasons for this estimated decline in cost were: (a) account was taken of the significant effect of the "offset for other disability benefits" provision (which had previously not been considered) and (b) the estimates of the size of the insured population that would be at risk of becoming disabled were considered more thoroughly and were revised downward (giving greater recognition to the relatively strict eligibility conditions—fully insured, currently insured, and having 20 quarters of coverage in the last 40 quarters preceding disability).

The 1958 Amendments considerably liberalized the DI program by eliminating the aforementioned offset provision; by eliminating the requirement of currently insured status; by adding dependents benefits; and by increasing the general benefit level by about 7%. At the same time, the 1958 Amendments contained a cost-reduction element by raising the maximum earnings base. It will be kept in mind that the 1958 Amendments did not change the age-50 requirement for disability benefits. The estimated level-cost of the disability-benefits program, following the enactment of the 1958 Amendments, was .49% of taxable payroll.

In 1960, before the enactment of the 1960 Amendments, new cost estimates were made for the DI program. Not only did these reflect the higher earnings levels of recent years, but also the actual operating experience as to the rate of persons becoming disabled and going on the benefit roll. Also, some more reliable information was available as to the number of persons possessing insured status sufficient for them to be eligible for disability benefits if they became disabled. Since the rate of becoming disabled that was actually experienced was about the same for men as had been assumed, and considerably lower for women, a reduction in cost was indicated. The effect of the higher general earnings level also moved the cost in the same direction, and this too was so in regard to the estimates of the insured population, which were lower than previously assumed. As a result, the new cost estimates, prepared in 1960, for the system as it was following the 1958 Amendments showed a level-cost of .35% of taxable payroll.

The 1960 Amendments liberalized the program primarily by eliminating the age-50 requirement. As a result, the estimated level-cost of the disability benefits was increased to .56% of taxable payroll. Congress recognized that this resulted in the disability-benefits program having an actuarial lack of balance of .06% of taxable payroll (when measured against the level em-
ployer-employee contribution rate of \( \frac{3}{8} \%), but
the belief was expressed that -- considering the
variability of cost estimates for disability bene-
fits -- this small actuarial deficit was not signi-
ficant. Further, it was believed that, on the
basis of future experience, such adjustments as
might be necessary could be made.

The 1961 Amendments slightly liberalized
the program by raising the minimum primary
benefit from $33 to $40 per month and by liber-
alizing the fully-insured-status requirement in
the next few decades of operation. The actuarial
cost estimates for the disability benefits were
not revised because it was believed that these
changes would not produce significant cost
increases (and, moreover, there were offsetting
factors, such as the higher general earnings
level being experienced and the more favorable
interest basis on trust-fund investments).

At the end of 1962, new cost estimates were
made on the basis of a complete re-examination
of all cost factors involved. The major element
resulting in higher estimated costs for the dis-
bility benefits was that the number of persons
continuing on the benefit roll was significantly
higher than had been anticipated -- or in other
words, disability termination rates due to death
and recovery were lower than assumed in the
actuarial cost estimates. The result of the new
cost estimates was to show a level-cost of .64%
of taxable payroll.

Finally, there is presented an estimate of
what the experience under the disability-benefits
program would have been in the past and of what
it will be in the short-range future (based on the
cost estimates in the 23rd Trustees Report), if
the past liberalizations as to providing depend-
ents benefits and as to eliminating the age-50
requirement had not occurred, but rather the
monthly benefits continued to be restricted to
disabled workers aged 50–64. It is, however,
assumed that certain other of the liberalizing
amendments did occur, such as the elimination
of the anti-duplication provision with other dis-
bility benefits, the general 7% increase in
benefits in the 1958 Amendments, the $40 mini-
imum benefit in the 1961 Amendments, and the
various changes in the insured-status provisions.

The estimates necessary for the concept
considered here are relatively easy to make
because the data on actual benefit disburse-
ments are subdivided between primary benefits
and supplementary benefits (so that the latter
can be dropped out), and further, age data on the
beneficiaries are readily available. Certain
approximations and arbitrary estimates are nec-
essary in connection with such other items as
the Railroad Retirement financial interchange,
the administrative expenses, the military-service
credits reimbursements from the General Treasury,
and the interest earnings of the DI Trust Fund.
It is believed, however, that these can be
reasonably well approximated, especially con-
sidering that they are relatively small items as
contrasted with the data on benefit payments
and contribution income and so will not have a
significant effect on the overall results.

Table 1 compares the estimated disability
benefit payments if the original provisions had
not been changed, as against the data for the
actual operating experience under the program
as it has been amended and as it is projected
for the future under the present provisions. In
calendar year 1962, the actual experience under
the prevailing law resulted in benefit payments
that were more than $400 million higher than
under the original provisions, or an increase of
about 60%. Relating the benefit cost to taxable
payroll, the original provisions would have pro-
duced a cost of .33% for 1962, as against the
actual experience of .52%. In the next 5 years
of operation, the absolute amount of benefit
payments is estimated to increase under both
the actual experience and the original provisions,
but the cost relative to payroll is estimated to
level off (which may be too optimistic a picture).
At the same time, during the next 5 years, the
relationship between the experience under the
present law and that which would have occurred
under the original provisions would be only
slightly changed, with the differential increasing
from the 1962 figure of 61% to about 67% by 1967.

Table 2 shows the progress of the DI Trust
Fund under the original provisions. As would
be anticipated from the previous discussion,
income from contributions significantly exceeds
outgo for benefit payments and, together with the
substantial interest earnings, results in a rapidly
growing trust fund. At the end of 1962, the trust
fund would have amounted to $3.4 billion if the
original provisions had not been changed, as
against the actual figure of $2.4 billion. In the
next 5 years, the trust fund would have grown to
$5.8 billion if the original provisions had not
been changed, whereas the estimate for present
law is a decline to $1.6 billion.
### Table 1
COMPARISON OF DISABILITY BENEFIT PAYMENTS IF ORIGINAL PROVISIONS HAD NOT BEEN CHANGED, WITH ACTUAL EXPERIENCE

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Benefit Payments (in millions)</th>
<th>Benefits as Percent of Payroll</th>
<th>Increase in Cost Due to Amendments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>$57</td>
<td>$57</td>
<td>.03%</td>
</tr>
<tr>
<td>1958</td>
<td>246</td>
<td>249</td>
<td>.14</td>
</tr>
<tr>
<td>1959</td>
<td>390</td>
<td>457</td>
<td>.20</td>
</tr>
<tr>
<td>1960</td>
<td>479</td>
<td>568</td>
<td>.24</td>
</tr>
<tr>
<td>1961</td>
<td>581</td>
<td>887</td>
<td>.29</td>
</tr>
<tr>
<td>1962</td>
<td>685</td>
<td>1105</td>
<td>.33</td>
</tr>
<tr>
<td>Estimated Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td>$739</td>
<td>$1206</td>
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<tr>
<td>1964</td>
<td>765</td>
<td>1257</td>
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<tr>
<td>1965</td>
<td>780</td>
<td>1291</td>
<td>.34</td>
</tr>
<tr>
<td>1966</td>
<td>794</td>
<td>1321</td>
<td>.33</td>
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<tr>
<td>1967</td>
<td>810</td>
<td>1350</td>
<td>.33</td>
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### Table 2
PROGRESS OF DI TRUST FUND IF ORIGINAL PROVISIONS HAD NOT BEEN CHANGED
(in millions)

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Contributions a/</th>
<th>Benefit Payments</th>
<th>Administrative Expenses</th>
<th>Railroad Interchange b/</th>
<th>Interest on Fund</th>
<th>Fund at End of Year</th>
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<tr>
<td>Actual Experience</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>-</td>
<td>$7</td>
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<td>-</td>
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<td>390</td>
<td>46</td>
<td>-$21</td>
<td>42</td>
<td>1900</td>
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<td></td>
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<td>794</td>
<td>60</td>
<td>-5</td>
<td>162</td>
<td>5250</td>
</tr>
<tr>
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<td>810</td>
<td>65</td>
<td>-5</td>
<td>182</td>
<td>5792</td>
</tr>
</tbody>
</table>

a/ Including military-service-credits reimbursements from General Treasury.

b/ A positive figure indicates a payment to the Railroad Retirement Account and vice versa.