Comparisons of approximations to the percentiles of noncentral t, χ^2 and F distributions

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1. INTRODUCTION AND SUMMARY

It is widely recognized that the noncentral *t,* χ^2 and *F* distributions are of considerable theoretical and practical importance in many mathematical and statistical applications. They arise in many statistical problems involving a sum of random variables of differing means. For instance, noncentral *t-distribution* is useful in evaluating power function ofthe Student's *t-test* (Owen, 1968, 1985; Johnson *et al.* 1995, pp. 509-510), calculating confidence interval of the coefficient of variation (Lehmann, 1986, p.352; Johnson *et al.,* 1995, pp. 510-511; Vangel, 1996), approximating the distribution of sample coefficient of variation and calculation of its percentage points (McKay, 1932; Iglewicz *et al.,* 1968; Vangel, 1996), calculating confidence limits on the proportions in the tail of a normal distribution (Durrant, 1978; Odeh and Owen, 1980), constructing confidence limits on one-sided quantiles and 'tolerance limit' for the normal distribution (Wolfowitz, 1946; Johnson *et al., 1995,* pp. 511-512), one-sided tolerance limits for the linear regression (Kabe, 1976), and in the study of acceptance sampling plans involving proportion of defective items (Owen, 1968; 1985). Guenther (1975) describes the use of noncentral t-distribution in testing hypotheses involving the quantiles of two normal populations.

Noncentral χ^2 has applications in deriving expected values of quadratic forms in analysis of variance (Graybill, 1976, pp.139-140), in approximating nonnull distribution and power of χ^2 -test of goodness of fit (Tiku, 1985a), as well as certain other nonparametric tests (Andrews, 1954; Lehmann, 1975, p. 247). In addition, noncentral χ^2 also appears in the derivation of asymptotic (n tends to infinity) nonnull distribution of the Hotelling´s T2 (Anderson, 1984, pp.163-164; Tiku, 1985a), and that of likelihood ratio-statistics for tests of multivariate linear hypotheses (Wilks, 1962, p. 419; Sugiura, 1968; Graybill, 1976, pp. 189-190). Similarly, there are many applications of noncentral F-distribution including evaluation of power function or sensitivity function of analysis of variance F-test (Graybill, 1976, pp. 128-130; Ha, 1980), determination of sample size in an experimental design (Odeh and F ox, 1991), derivation of nonnull distribution and power of the Hotelling´s T 2 (Anderson, 1984, pp. 161-163; Tiku, 1985 b), in discriminant analysis (Rao, 1970; Lachenbruch, 1975) and certain engineering problems in communication theory (Price, 1964). Genizi and Soller (1979) give certain interesting applications of a mixture of two noncentral F-distributions.

In many of applications involving these distributions, one has to compute their percentiles involving the evaluation of the inverse probability functions (see, *e.* g., Bagui, 1993, 1996). However, the evaluation of such inverse functions is extremely tedious involving slow and expensive techniques of numerical iteration such as the Newton-Raphson procedure (see, *e.* g., Ralston and Wilf, 1967; Carnahan *et al., 1969).* There are a number of approximations for computing the percentage points of these distributions, at arbitrary probability levels, available in the literature. The applicability of several of these approximations is further enhanced by ease of their computational simplicity. The purpose of this paper is to compare these approximations to determine their accuracy. Some of these approximations were previously investigated by Tiku (1966), Mudholkar *et al.* (1976), Tiku and Yip (1978) and Cox and Reid (1987). A brief description of each procedure is given and appropriate tables comparing their accuracy, calculated for each procedure, are shown for each distribution.

2. APPROXIMATIONS TO PERCENTILES OF THE NONCENTRAL t-DISTRIBUTION

The noncentral t-distribution was first derived by Fisher (1931) who also showed how the tables of the standard normal distribution could be used to approximate this distribution. There are several approximations to percentiles of the noncentral t-distribution available in the literature. Some of the important ones are considered here.

In this *section,* $t_v'(\delta)$ *will be used to* denote a noncentral ***t*** variate with *v* degrees of freedom and the noncentrality parameter δ **.** In addition, $t_{v,\alpha}'(\delta)$ will denote its
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100 α *-th* percentile defined by:

$$\Pr\left[t_v'(\delta) \le t_{v,\alpha}'(\delta)\right] = \alpha$$

Jennett and Welch (1939), assuming that $X + K \sim X \sim$ is approximately normall) distributed, where X has a standard normal distribution, χ^2 has a chi-square distributior with *v* degrees of freedom *(*X and χ^2 are distributed independently) and K is a constant gave the approximation

$$t_{v,\alpha}'(\delta) \approx \frac{\delta b_v + z_\alpha \sqrt{b_v^2 + \left(1 - b_v^2\right)\left(\delta^2 - z_\alpha^2\right)}}{b_v^2 - z_\alpha^2\left(1 - b_v^2\right)} \qquad (2.1)$$

where

$$b_v = \frac{\sqrt{2}\,\Gamma\{(v+1)/2\}}{\sqrt{v}\,\Gamma(v/2)}$$

and z_α is determined by

$$\Pr\{Z < z_\alpha\} = \int_{-\infty}^{z_\alpha} (2\pi)^{-\frac{1}{2}} \exp\left(-\frac{1}{2} z^2\right) dz = \alpha$$

Akahira (1995) obtained the approximation (2.1) as a special case of the Cornish-Fisl expansion by ignoring terms of higher order than o(v-^{1}) .

Johnson and Welch (1940) simplified the approximation (2.1) leading to the approximation

$$t'_{v,\alpha}(\delta) \approx \frac{\delta b_v + z_\alpha \sqrt{1 + \frac{1}{2v}\left(\delta^2 - z_\alpha^2\right)}}{1 - z_\alpha^2/2v} \tag{2.2}$$

Masuyama (1951) obtained values of this approximation using an improved binomia1 paper. Akahira (1995) obtained the approximation (2.2) as a specia1 case of (2.1) by letting $b_v \approx 1$ and $1 - b_v^2 \approx 1/(2v)$.

An approximation intermediate between (2.1) and (2.2) was given by van Eeden (1961) as

$$t'_{v,\alpha}(\delta) \approx \frac{\delta b_v + z_\alpha \sqrt{b_v^2 + \left(1 - b_v^2\right)\left(\delta^2 - z_\alpha^2\right)}}{b_v^2 - z_\alpha^2\left(1 - b_v^2\right)} \tag{2.3}$$

Approximations (2.1), (2.2) and (2.3), however, give real values for $t'_{v,\alpha}(\delta)$ only for limited ranges of values of δ and z_α (see, e. g., Johnson *et al.* 1995, p. 521).

For small values of δ and large values of *v*(> 20), the simple approximation of the standardized $t'_{v,\alpha}(\delta)$ variate by a standard normal variate yields the result (Johnson *et al.,* 1995, p. 523):

$$t'_{v,\alpha}(\delta) \approx \frac{v}{v-1}\delta b_v + z_\alpha \sqrt{\frac{v}{v-1}\left(1 + \delta^2\right) - \frac{v^2}{(v-1)^2}\delta^2 b_v^2} \tag{2.4}$$

The normal approximation (2.4) is, of course, applicable for very small values of δ and large values *of* *v* and is included here for the sake of completeness.

Cornish and Fisher (1937) (see also Fisher and Cornish, 1960) expansion (see the Appendix) applied to the distribution of (expansion up to and including terms in v^{-2}) yields the following approximation $t'_v(\delta)$ (van Eeden, 1961; Johnson *et al.* 1995, p. 524):

$$t'_{v,\alpha}(\delta) \approx z_\alpha + \delta + \frac{1}{4v}\left[z_\alpha^3 + z_\alpha + \left(2z_\alpha^2\right)\delta\right] + \frac{1}{96v^2}\begin{bmatrix} 5z_\alpha^5 + 16z_\alpha^3 + 3z_\alpha + 3\left(4z_\alpha^4 + 12z_\alpha^2 + 1\right)\delta \\ + 6\left(z_\alpha^3 + 4z_\alpha\right)\delta^2 - 4\left(z_\alpha^2 - 1\right)\delta^3 - 3z_\alpha\delta^4 \end{bmatrix}$$

(2.5)

Shibata (1981) derived approximation (2.5) fram the Taylor series expansion of the characteristic function of $t_v'(\delta)-\delta$ with a chi-square variate having v degrees of freedom. Akahira derived (1995) it by applying the Cornish-Fisher expansion and using the characteristic function of a chi-square variate with *v* degrees of freedom.

The corresponding Cornish-Fisher expansion applied to the central t-distribution (δ = 0) give the result (see, e. g., Sahai and Thompson, 1974):

$$t_{v,\alpha}'(\delta) \approx z_\alpha + \frac{z_\alpha^3 + z_\alpha}{4_v} + \frac{5z_\alpha^5 + 16z_\alpha^3 + 3z_\alpha}{96v^2}$$

If these terms in (2.5) are replaced by $t_{v,\alpha}$, (2.5) becomes (van Eeden, 1961; Johnson *et al.* 1995, p. 524):

$$t_{v,\alpha}'(\delta) \approx t_{v,\alpha} + \delta + \frac{\delta}{4v}\left(1 + 2z_\alpha^2 + \delta z_\alpha\right) + \frac{1}{96v^2}\delta\begin{bmatrix} 3\left(4z_\alpha^4 + 12z_\alpha^2 + 1\right) \\ + 6\left(z_\alpha^3 + 4z_\alpha\right)\delta - 4\left(z_\alpha^2 - 1\right)\delta^2 - 3z_\alpha\delta^3 \end{bmatrix} \tag{2.6}$$

We will call the approximations (2.5) and (2.6) as Cornish and Fisher's 1st and 2nd approximations respectively.

Azorin (1953), starting fram the relationship

$$\mathrm{var}\left(t_v'(\delta)\right) = a^2 + b^2\left[E\left(t_v'(\delta)\right)\right]^2, \tag{2.7}$$

with

$$a = \sqrt{\frac{v}{(v-2)}}, \quad b = \Gamma\left(\frac{1}{2}v\right)\sqrt{2\left\{(v-2)\left[\Gamma\left(\frac{1}{2}(v-1)\right)\right]^2 - 1\right\}^{-1}}$$

and

$$E\left(t_v'(\delta) = \left(\frac{1}{2}v\right)^{1/2}\frac{\Gamma\left(\frac{1}{2}(v-1)\delta\right)}{\Gamma\left(\frac{1}{2}v\right)}\right),$$

obtained the transformation

$$\frac{1}{b}\sinh^{-1}\left(\frac{b}{a}t'_{v}(\delta)\right)-\frac{1}{b}\sinh^{-1}\left(\frac{b}{a}E\left(t'_{v}(\delta)\right)\right), \tag{2.8}$$

which is to be approximated as a standard normal variate. In addition, Azorin (1953) suggested two similar transformations of simpler forms:

$$\sqrt{v}\sinh^{-1}\left(t_{v}(\delta)/\sqrt{v}\right) \tag{2.9}$$

$$\sqrt{\frac{2}{3}v}\sinh^{-1}\left(t'_{v}(\delta)/\sqrt{\frac{2}{3}v}\right) \tag{2.10}$$

The standarized versions of (2.9) and (2.10), correcting for mean and standard deviation of the transformed variables to terms of order v -1, are

$$\frac{\sqrt{v}\sinh^{-1}\left(t'_{v}(\delta)/\sqrt{v}\right)-\delta-\frac{1}{2}\delta^{2}v^{-1/2}-\frac{1}{4}\delta v^{-1}}{\sqrt{1+\frac{1}{2}\left(2-\delta^{2}\right)v^{-1}}} \tag{2.11}$$

and

$$\frac{\sqrt{\frac{2}{3}v}\sinh^{-1}\left(t'_{v}(\delta)/\sqrt{\frac{2}{3}v}\right)-\delta-\left(\frac{1}{2}\delta^{2}/\sqrt{\frac{2}{3}v}\right)_{v}}{\sqrt{1+\frac{1}{2}\left(1-2\delta^{2}\right)v^{-1}}} \tag{2.12}$$

We will call approximations (2.8), (2.11) and (2.12) as Azorin´s 1st, 2nd and 3rd approximations respectively.

There is a considerable degree of skewness in the noncentral *t-distribution* for 1arge values of δ and small values of v (Johnson and Welch, 1940). Thus, approximations (2.8), (2.11) and (2.12) are expected to be rather very poor for simultaneously small values of v and large values of δ. The results of numerical computations show that these approximations are not at all satisfactory; however; they have been included here for the sake completeness. Also, for small values of v, the quality of approximation deteriorates rather rapid1y as δ increases. For very large values of v, the approximations improve somewhat, but still are not to be recommended. Only Azorin´s 1st approximation is included in our comparative study.

Laubscher (1960) also considered the transformation (2.8). Furthermore, he proposed two modifications of (2. 8) of the form:

$$L_1 = \frac{1}{b}\sinh^{-1}\left(\frac{b}{a}t'_v(\delta)\right) - \frac{1}{b}\sinh^{-1}\left(\frac{b}{\alpha}\mu\right) + \frac{1}{2}b^2\mu\mu_2^{(-1/2)} \qquad (2.13)$$

$$L_2 = L_1 - \frac{1}{6}b^4\mu_2^{(-5/2)}\mu_3\left[2\mu^2 - \left(a^2/b^2\right)\right], \qquad (2.14)$$

Where a, b and $\mu = E\,(t'_v(\delta))$ are given as in (2.7) and μ_2 and μ_3 are the second and third central moments of $t'_v(\delta)$ given by

$$\mu_2 = \frac{v\left(1+\delta^2\right)}{(v-2)} \quad \text{and} \quad \mu_3 = \frac{v\left(\delta^2+2v-3\right)}{(v-2)(v-3)} - 2\mu_2$$

and

The approximations (2.13) and (2.14) are expected to eliminate more bias than (2.8).

In addition, following Laubcher´s (1960) conjecture, we consider the approximations

$$\frac{(2v-1)^{1/2}\left[(1/v)t'^2_v(\delta)\right]^{1/2} - \left[2\left(1+\delta^2\right) - \left(1+2\delta^2\right)/\left(1+\delta^2\right)\right]^{1/2}}{\left[(1/v)t'^2_v(\delta) + \left(1+2\delta^2\right)/\left(1+\delta^2\right)\right]^{1/2}} \qquad (2.15)$$

$$\frac{(1-2/9v)\left[t'^2_v(\delta)/\left(1+\delta^2\right)\right]^{1/3} - \left[1-2\left(1+2\delta^2\right)/9\left(1+\delta^2\right)^2\right]}{\left\{\left[2\left(1+2\delta^2\right)/9\left(1+\delta^2\right)^2\right] + (2/9v)\left[t'^2_v(\delta)/\left(1+\delta^2\right)\right]^{2/3}\right\}^{1/2}} \qquad (2.16)$$

where each is to be approximated as a standard normal variate.

Approximations (2.15) and (2.16) are obtained as special cases of approximations (4.4) and (4.7) with v_1 =1 and v_2 =v, since then $F'_{1,v}(\lambda) = \chi'^2_1(\lambda)/\{\chi^2_v/v\}$ reduces to the noncentral random variable t'^2_v with $\delta = \delta$. We will call approximations (2.13), (2.14), (2.15) and (2.16) as Laubscher´s 1st, 2nd, 3rd, and 4th approximations respectively.

Harley (1957) suggested an approximation of $t_v'(\delta)$ in terms of a function of the sample correlation coefficient (r), in a random sample of size n = v + 2 from a bivariate population with correlation coefficient p , by the relationship

$$t_v'(\delta) = \frac{r}{\sqrt{(1-r^2)}}\sqrt{\frac{v(2v+1)}{2v+1+\delta^2}}, \tag{2.17}$$

where

$$\rho = \delta\sqrt{\frac{2}{[(2v+1+\delta^2)]}}$$

Approximation (2.17) is of course valid for $\delta \le (2v+1)^{1/2}$ and is thus applicable for only small values of δ. The percentiles of $t_v'(\delta)$ can be approximated from the percentiles r by using relationship (2.17).

One can obtain the percentiles of r by using the Fisher´s Z-transformation

$$Z = \frac{1}{2}\log_e\left(\frac{1+r}{1-r}\right) \tag{2.18}$$

which is considered as approximately normally distributed with mean $\frac{1}{2}\log_e\left(\frac{1+\rho}{1-\rho}\right)$ and variance $1/(n-3)$. However, following the recommendation of David (1938), we approximate (2.18) by a normal random variable with mean μ and variance σ^2 given by

$$\mu = \frac{1}{2}\log_e\left(\frac{1+\rho}{1-\rho}\right) + \frac{\rho}{2(n-1)}\left\{1+\frac{5+\rho^2}{4(n-1)}\right\}$$

and

$$\sigma^2 = \frac{1}{n-1}\left[1+\frac{4-\rho^2}{2(n-1)}+\frac{22-6\rho^2-3\rho^4}{6(n-1)^2}\right]$$

This approximation is considered to be the most accurate one of all the existing normal approximations *of r* (see, e. g., Kraemer, 1973).

Another kind of approximation of r was considered by Ruben (1966) who showed that $r/\sqrt{1-r^2}$ is distributed as

$$\left[Z+\chi_{n-1}\rho/\sqrt{\left(1-\rho^2\right)}\right]/\chi_{n-2}, \tag{2.19}$$

where Z is a unit normal variate, χ_v is a chi-variate with v degrees of freedom, and Z, χ_{n-1} and χ_{n-2} are mutually independent. For large values of n, χ_{n-1} and χ_{n-2} may be approximated by normal variates using Fisher' s approximation that $\sqrt{2\chi_v^2}-2\sqrt{2v-1}$ is approximately distributed as a unit normal variate. Using these results, it can be shown that the transformed variate

$$\frac{r\left(1-r^2\right)^{-1/2}\left(n-\frac{3}{2}\right)^{1/2}-\rho\left(1-\rho^2\right)^{-1/2}\left(n-\frac{5}{2}\right)^{-1/2}}{\left[1+\frac{1}{2}r^2\left(1-r^2\right)^{-1}+\frac{1}{2}\rho^2\left(1-\rho^2\right)^{-1}\right]^{1/2}} \tag{2.20}$$

We will call the approximations of the type (2.17), based on percentiles of r through (2.18), its improved version due to David, and (2.20), as Harley's 1st, 2nd, and 3rd approximations respectively.

Merrington and Pearson (1958) gave an approximation to the percentiles of $t_v'(\delta)$ based on an approximation by a Pearson Type IV distribution. Let β_1 and β_2 be the moment ratios, i. e.,

$$\beta_1=\frac{\mu_3^2}{\mu_2^3} \qquad \text{and} \qquad \beta_2=\frac{\mu_4}{\mu_2^2},$$

where μ_2', μ_3 and μ_4 denote the second, third and fourth central moments respectively of the noncentral t-distribution. Then, we have

$$t_{v,\alpha}'(\delta)\approx\mu+\sigma U\left(\beta_1,\beta_2,\alpha\right), \tag{2.21}$$

where $U(\beta_1,\beta_2,\alpha)$ is the 100α *-th* percentile of the standardized Pearson Type IV distribution and μ and σ are the mean and standard deviation respectively of the noncentral t distribution. The approximation (2.21) is of course applicable for $v > 4$ since μ_4 do es not exist for $V \le 4$. This approximation, however, is not included in our comparative study because of complexity in computing the percentiles of the Pearson Type IV distribution.

Halperin (1963) developed bounds for the percentiles of $t'_{v,\alpha}(\delta)$ given by

$$t'_{v,\alpha}(\delta) \le \frac{\delta\sqrt{v}}{\chi_{v-1-\alpha}} + t_{v,\alpha} \qquad \alpha \ge 0.5$$

and

$$t'_{v,\alpha}(\delta) \ge \frac{\delta\sqrt{v}}{\chi_{v-1-\alpha}} + t_{v,\alpha} \qquad \alpha \ge 0.43 \tag{2.22}$$

Where $t_{v,\alpha}$ and $\chi^2_{v,\alpha}$ denote *100a - th* percentiles of central *t* and χ^2 distributions respectively. Although approximation (2.22) is not of great accuracy, it is inc1uded here to investigate the sharpness of the bounds.

Kraemer and Paik (1979) proposed a central t approximation to the noncentral t-distribution by the relationship

$$\Pr\left[t'_v(\delta) \le t\right] \approx \Pr\left[t_v \le t\left(1+\delta^2/v\right)^{1/2} - \delta\left(1+t^2/v\right)^{1/2}\right]$$

Akahira (1995) and Akahira *et al.* (1995) derived an higher order approximation formula from the Cornish-Fisher expansion for the statistic based on a linear combination of a normal random variable and a chi-square random variable. The approximate percentile $t'_{v,\alpha}(\delta)$ is derived from the formula:

$$\frac{b_v t'_{v,\alpha}(\delta) - \delta}{\sqrt{1 + t'^2_{v,\alpha}(\delta)\left(1-b_v^2\right)}} \approx z_\alpha - \frac{t'^3_{v,\alpha}(\delta)\left(z^2_{\alpha-1}\right)}{24\left\{1 + t'^2_{v,\alpha}(\delta)\left(1-b_v^2\right)\right\}^{3/2}}\left\{\frac{1}{v^2} + \frac{1}{4v^3}\right\}, \tag{2.23}$$

where b_v is defined as in (2.1).

Approximation (2.23) gives only an implicit expression and will require an iterative procedure for its solution. Akahira *et al.* (1995) showed that for a fixed α such that $|z_\alpha| \ge 1$ and for sufficiently large *v* which is independent of δ, the solution to (2.23) exists uniquely. The existence of solution is guaranteed when $0.1 \le \alpha \le 0.15$ for v = 1, $0.03 \le \alpha \le 0.15$ for v= 2, $0.01 \le \alpha \le 0.15$ for v= 3, and $0.003 \le \alpha \le 0.15$ for $v \le 4$. Approximation (2.23) is not inc1uded in our comparative study. However, Akahira *et al.* (1995) made a detailed numerical comparison of this along with Jennett-Welch, JohnsonWelch and van Eeden (1st Cornish-Fisher) approximations and found that approximation (2.23) had better numerical precision than others inc1uded in the study.

The percentiles $t'_{v,\alpha}(\delta)$ calculated for various approximations as well as the exact values, for selected values of α, v and δ, are given in Table l. On comparing the approximate values of $t'_{v,\alpha}(\delta)$ with the exact values one notices some very interesting results. For higher percentiles and small values of *v*, Johnson-Welch and normal approximations perform best; however, for smaller values of δ, the Johnson-Welch approximation is less accurate than the normal. As δ increases, the accuracy of JohnsonWelch approximation improves. For moderate to large values of *v*, the Jennett-Welch and van Eeden approximations are superior to others; the former being better than the latter. For 50th percentile ($\alpha = 0.5$), the Jennett-Welch and van Eeden approximations are equivalent and perform better than others. In tbis case, the Johnson-Welch approximation reduces to δ. This fact partially confirms the validity of the computations since they were obtained using the general formulae for all the approximations. For the lower percentiles, the normal approximation performs very poorly. In tbis case, the van Eeden approximation performs better except when both *v* and δ are small and then Jennett-Welch approximation is superior. For all the cases, when v is sufficiently large, all the approximations compare favorably. Both the 1st and 2nd Cornish-Fisher approximations provide excellent results for moderate to large values of *v* and small values of δ. However, both approximations progressively degenerate as λ_1 increases, especially for small values of *v* and extreme lower and upper percentiles. In this regard, the performance of the 1st Cornish-Fisher is much worse than the 2nd one. The three approximations due to Azorin perform poorly, especially for small values of *v*. Azorín´s 2nd and 3rd approximations show even much poorer performance than the 1st approximation and their results are not included in Table l.

Similarly, Laubscher´s approximations, especially 3rd and 4th, show a rather poor performance, particularly for higher percentiles. For large values of *v*, both Azorin and Laubscher type approximations show a spectacular improvement, but are still not to be recommended. There is not much difference among three approximations of Harley, based on distinct approximations of percentiles of the sample correlation coefficient and the approximations deteriorate rather rapidly for large values of δ. As expected, Halperin's bounds are not too sharp, and are to be recommended only as a crude approximation. Finally, Kraemer-Pike approximation gives a uniformly poor performance, especially for small values of *v* and large values of δ. For lower percentiles, the approximation gets better as *v* increases, but is still not to be recommended.

TABLE 1. APPROXIMATE AND EXACT PERCENTILES OF THE NONCENTRAL t-DISTRIBUTION

$\alpha = 0.05$

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	-0.7411	2.1020	4.3267	7.7942	16.5568	19.9033
	Jolmson- Welch	-0.6936	1.9891	4.1023	7.3954	15.7145	18.8914
	van Eeden	-0.7458	2.0824	4.2754	7.6944	16.3380	19.6396
	Normal Approx.	-1.3103	0.1152	0.8794	1.9010	4.2925	5.1877
	1st Comish-Fisher	-0.7384	2.1824	7.5897	54.0981	1130.31	2394.57
	2nd Comish-Fisher	-0.7384	1.9281	3.3582	4.4074	15.1171	28.9562
	1st Azorín	-1.1456	1.4591	3.3179	6.1314	13.1484	15.8195
	1 st Laubscher	-1.3163	1.0992	2.7857	5.2813	11.4376	13.7729
4	2nd Laubscher	-1.3379	1.1301	2.8193	5.3169	11.4713	13.8066
	3rd Laubscher	0.0974	2.1492	4.2658	7.6311	16.1752	19.4412
	4th Laubscher	-0.3424	2.1079	4.2929	7.7189	14.1008	17.3473
	1st Harley	-0.9217	---------	---------	---------	---------	---------
	2nd Harley	-0.7155	---------	---------	---------	---------	---------
	3rd Harley	-0.7816	---------	---------	---------	---------	---------
	Halperin	-1.4825	0.4654	2.4133	5.6598	14.1008	17.3473
	Kraemer-Paik	0.9219	1.0793	2.4710	4.5713	9.8061	11.7985
	Exact	-0.7389	2.0801	4.2453	7.6163	16.1484	19.4090
	Jennet- Welch	-0.6800	2.2227	4.7373	8.6645	18.5322	22.2927
	Jolmson-Welch	-0.6628	2.1715	4.6319	8.4754	18.1314	21.8110
	van Eeden	-0.6806	2.2186	4.7239	8.6359	18.4668	22.2135
	Normal Approx.	-0.8100	1.7557	3.9256	7.2763	15.0420	18.8246
	1st Cornish-Fisher	-0.6797	2.2260	5.0854	14.8637	187.36	387.538
	2nd Comish-Fisher	-0.6798	2.1853	4.4084	6.9132	8.9293	9.0394
	1st Azonn	-0.7698	2.0629	4.4885	8.2568	17.6988	21.2945
	1st Laubscher	-0.8042	1.9537	4.3153	7.9755	17.1287	20.6121
10	2nd Lau bscher	-0.8129	1.9577	4.3246	7.9875	17.1419	20.6255
	3rd Laubscher	0.0942	2.3082	4.7337	8.5964	18.3480	22.0674
	4th Laubscher	-0.3194	2.4223	4.7316	8.6415	18.4762	22.2247
	1st Harley	-0.7394	3.2218	---------	---------	---------	---------
	2nd Harley	-0.6802	3.4743	---------	---------	---------	---------
	3rd Harley	-0.6971	3.0268	---------	---------	---------	---------
	Halperin	-1.0734	1.1439	3.3611	7.0565	16.6645	20.3599
	Kraemer-Paik	0.7483	1.6879	3.6658	6.7187	14.3722	17.2884
	Exact	-0.6798	2.2171	4.7078	8.5876	18.3400	22.0581
	Jennet-Welch	-0.6664	2.2652	4.9062	9.0540	19.4542	23.4126
	Jolmson-Welch	-0.6559	2.2318	4.8360	8.9270	19.1843	23.0881
	van Eeden	-0.6666	2.2634	4.8998	9.0394	19.4195	23.3704
	Normal Approx.	-0.7388	2.0037	4.4521	8.2770	17.8370	21.4720
	1st Cornish-Fisher	-0.6663	2.2650	5.0048	11.1435	82.2995	161.078
	2nd Cornish-Fisher	-0.6663	2.2491	4.7403	8.0379	12.5998	13.2271
	1st Azorín	-0.7163	2.1756	4.7687	8.8305	18.9993	22.8679
	1st Laubscher	-0.7352	2.1103	4.6628	8.6581	18.6504	22.4504
16	2nd Laubscher	-0.7406	2.1107	4.6671	8.6649	18.6586	22.4588
	3rd Laubscher	0.0934	2.3633	4.9213	9.0154	19.3307	23.2600
	4th Laubscher	-0.3143	2.2880	4.9068	9.0426	19.4236	23.3752
	1st Harley	-0.7021	2.4773	---------	---------	---------	---------
	2nd Harley	-0.6677	2.6039	---------	---------	---------	---------
	3rd Harley	-0.6772	2.3907	---------	---------	---------	---------
	Halperin	-0.9659	1.3743	3.7144	7.6145	17.7550	21.6551
	Kraemer-Paik	0.7085	1.8954	4.1188	7.5723	16.2270	19.5231
	Exact	-0.6663	2.2627	4.8900	9.0062	19.3261	23.2550

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.05**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet- W elch	-0.6561	2.3037	5.0779	9.4849	20.5284	24.7245
	Johnson- W elch	-0.6506	2.2851	5.0379	9.4116	20.3719	24.5363
	van Eeden	-0.6562	2.3031	5.0756	9.4792	20.5139	24.7065
	Nonnal Approx.	-0.6917	2.1750	4.8549	9.1037	19.7350	23.7725
	1st Cornish-Fisher	-0.6561	2.3032	5.0929	9.9338	36.7232	61.0747
	2nd Cornish-Fisher	-0.6561	2.2987	5.0176	9.0504	16.8975	19.0193
	1st Azorín	-0.6806	2.2597	5.0116	9.3789	20.3144	24.4685
	1 st Laubscher	-0.6898	2.2257	4.9553	9.2864	20.1277	24.2452
30	2nd Laubscher	-0.6929	2.2248	4.9563	9.2893	20.1312	24.2496
	3rd Laubscher	0.0928	2.4132	5.1102	9.4732	20.4593	24.6372
	4th Laubscher	-0.3106	2.3289	5.0828	9.4184	20.5153	24.7083
	1st Har1ey	-0.6747	2.3260	8.3732	---	---	---
	2nd Har1ey	-0.6572	2.3909	8.5449	---	---	---
	3rd Har1ey	-0.6620	2.2854	8.2229	---	---	---
	Halperin	-0.8691	1.6142	4.0978	8.2371	18.9993	23.1386
	Kraemer·Paik	0.6784	2.0860	4.5741	8.4754	18.2421	21.9574
	Exact	-0.6561	2.3028	5.0713	9.4614	20.4564	24.6346
	Jennet-Welch	-0.6516	2.3231	5.1748	9.7538	21.2508	25.6147
	Jo1mson-Welch	-0.6483	2.3118	5.1498	9.7076	21.1516	25.4953
	van Eeden	-0.6516	2.3229	5.1738	9.7512	21.2489	25.6061
	Nonnal Approx.	-0.6721	2.2487	5.0459	9.5337	20.7928	25.0651
	1st Cornish-Pisher	-0.6516	2.3229	5.1771	9.8714	26.4200	37.5459
	2nd Cornish-Fisher	-0.6516	2.3213	5.1500	9.5534	19.2827	22.4060
	1st Azorín	-0.6657	2.2978	5.1370	9.6941	21.1315	25.4720
	1 st Laubscher	-0.6710	2.2776	5.1030	9.6378	21.0179	25.3362
50	2nd Laubscher	-0.6727	2.2766	5.1030	9.6391	21.0202	25.3388
	3rd Laubscher	0.0925	2.4385	5.2164	9.7564	21.2103	25.5616
	4th Laubscher	-0.3089	2.3495	5.1815	9.7534	21.2446	25.6068
	1st Harley	-0.6626	2.3149	5.8494	---	---	---
	2nd Harley	-0.6523	2.3540	5.8494	---	---	---
	3rd Harley	0.6551	2.2914	5.7884	---	---	---
	Halperin	-0.8153	1.7666	4.3485	8.6517	19.8399	24.1431
	Kraemer-Paik	0.6649	2.1853	4.8357	9.0313	19.5349	23.5260
	Exact	-0.6516	2.3228	5.1718	9.7415	21.2075	25.5595
	Jennet-Welch	-0.6496	2.3319	5.2213	9.8928	21.6519	26.1136
	Johnson-Welch	-0.6473	2.3237	5.2031	9.8590	21.5788	26.0257
	van Eeden	-0.6496	2.3318	5.2208	9.8914	21.6476	26.1083
	Nonnal Approx.	-0.6641	2.2795	5.1307	9.7382	21.3302	25.7276
	1st Comish-Fisher	-0.6496	2.3318	5.2216	9.9389	24.0271	31.7238
	2nd Comish-Fisher	-0.6496	2.3310	5.2078	9.7767	20.3057	23.9993
	1st Azorín	-0.6596	2.3141	5.1949	9.8515	21.5698	26.0155
	1st Laubscher	-0.6633	2.2997	5.1705	9.8109	21.4877	25.9175
70	2nd L"lubscher	-0.6645	2.2989	5.1702	9.8115	21.4893	25.9192
	3rd Laubscher	0.0924	2.4500	5.2673	9.9023	21.6248	26.0765
	4th Laubscher	-0.3082	2.3588	5.2287	9.8936	21.6482	26.1088
	1st Harley	-0.6575	2.3195	5.5206	---	---	---
	2nd Harley	-0.6502	2.3475	5.5709	---	---	---
	3rd Harley	-0.6522	2.3029	5.4801	---	---	---
	Halperin	-0.7876	1.8504	4.4884	8.8850	20.3162	24.7129
	Kraemer-Paik	0.6591	2.2310	4.9642	9.3213	20.2390	24.3847
	Exact	0.6498	2.3318	5.2196	9.8852	21.6216	26.0744

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.05**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	-0.6482	2.3387	5.2587	10.0106	22.0144	26.5691
	Jobnson-Welch	-0.6466	2.3329	5.2456	9.9864	21.9619	26.5058
	van Eeden	-0.6482	2.3386	2.2583	10.0098	22.0119	26.5659
	Normal Approx.	-0.6582	2.3024	5.1959	9.9037	21.7922	26.3024
	1st Comish-Fisher	-0.6482	2.3386	5.2584	10.0267	23.029	29.0352
	2nd Cornish-Fisher	-0.6482	2.3382	5.2516	9.9472	21.2447	25.2502
	1st Azorín	-0.6551	2.3264	5.2404	9.9825	21.9588	26.5028
	1st Laubscher	-0.6576	2.3163	5.2232	9.9537	21.9006	26.4332
100	2nd Laubscher	-0.6585	2.3157	5.2229	9.9539	21.9016	26.4344
	3rd Laubscher	0.0923	2.4588	5.3080	10.0255	21.9980	26.5448
	4th Laubscher	-0.3077	2.3659	5.2664	10.0122	22.0124	26.5663
	1st Harley	-0.6536	2.3066	5.3887	14.2737	---------	---------
	2nd Harley	-0.6486	2.3463	5.4233	14.3538	---------	---------
	3rd Harley	-0.6500	'2.3150	5.3613	14.2002	---------	---------
	Halperin	-0.7634	1.9269	4.6173	9.1012	20.7595	25.2435
	Kraerner-Paik	0.6548	2.2666	5.0692	9.5709	20.8719	25.1605
	Exact	-0.6482	2.3386	5.2576	10.0061	21.9942	26.5423

'---' designates undefined values.

TABLE 1 *(Cont.)*

α = **0.10**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	-0.3070	2.4718	4.8219	8.5580	18.0769	21.7197
	Johnson- W elch	-0.2882	2.3375	4.5663	8.1088	17.1323	20.5853
	van Eeden	-0.3076	2.4513	4.7727	8.4644	17.8735	20.4747
	Normal Approx.	-0.7441	1.1971	2.6230	4.8030	10.2650	12.3466
	1st Comish-Fisher	-0.3071	2.5886	7.9035	47.8337	915.598	1923.13
	2nd Comish-Fisher	-0.3071	2.3427	4.0613	5.9576	17.5251	29.7081
	1st Azorín	-0.6050	2.0727	4.1958	7.5227	15.9509	19.1718
	1st Laubscher	-0.7653	1.6770	3.5780	6.5126	13.8899	16.7036
4	2nd Laubscher	-0.7885	1.7108	3.6168	6.5528	13.9305	16.7442
	3rd Laubscher	0.2549	2.5025	4.7943	8.4801	17.8943	21.4986
	4th Laubscher	0.0087	2.4749	4.7922	8.4933	17.9326	21.5456
	1st Harley	-0.4963	---	---	---	---	---
	2nd Harley	-0.3213	---	---	---	---	---
	3rd Harley	-0.3905	---	---	---	---	---
	Halperin	-0.8161	1.3350	3.4862	7.0715	16.3933	199786
	Kraemer-Paik	0.4541	1.6188	3.3293	5.7043	12.2745	14.7518
	Exact	-0.3069	2.4589	4.7779	8.4626	17.8580	21.4547
	Jennet-Welch	-0.2914	2.5880	5.1811	9.3030	19.7552	23.7484
	JoOOson-Welch	-0.2841	2.5279	5.0640	9.0955	19.3178	232229
	van Eeden	-0.2915	2.5836	5.1688	9.2774	19.6973	23.6784
	Normal Approx.	-0.3918	2.3254	4.7343	8.5415	18.1712	21.8477
	1 st Comish- Fisher	-0.2914	2.5964	5.5252	14.6092	155.961	316.401
	2nd Comish-Fisher	-0.2914	2.5570	4.9105	7.9090	12.2690	13.4532
	1st Azorín	-0.3601	2.5208	5.0881	9.1555	19.4570	23.3915
	1 st Laubscher	-0.3941	2.4069	4.9028	8.8502	18.8334	22.6446
10	2nd Laubscher	-0.4028	2.4111	4.9128	8.8633	18.8479	22.6593
	3rd Laubscher	0.2485	2.6381	5.1823	9.2734	19.6739	23.6489
	4th L·tubscher	0.0084	2.6031	5.1758	9.2833	19.7080	23.6911
	1st Harley	-0.3592	3.7319	---	---	---	---
	2nd Harley	-0.3035	3.9972	---	---	---	---
	3rd Harley	-0.3261	3.5602	---	---	---	---
	Halperin	-0.5813	1.7914	4.1640	8.1185	18.4000	22.3544
	Kraemer-Paik	0.3491	2.1478	4.2976	7.6962	16.3177	19.6128
	Exact	-0.2914	2.5847	5.1665	9.2657	19.6622	23.6348
	Jennet-Welch	-0.2876	2.6295	5.3286	9.6335	20.5299	24.6885
	JoOOson- Welch	-0.2832	2.5905	5.2514	9.4959	20.2391	24.3391
	van Eeden	-0.2877	2.6276	5.3228	9.6207	20.4998	24.6519
	Normal Approx.	-0.3437	2.4889	5.0924	9.2324	19.6960	23.6879
	1st Comish-Fisher	-0.2876	2.6312	5.4309	11.4384	71.2901	135.069
	2nd Comish-Fisher	-0.2876	2.6158	5.1908	8.8211	15.1606	16.7306
	1st Azorín	-0.3261	2.5978	5.2903	9.5766	20.4177	24.5544
	1 st Laubscher	-0.3449	2.5306	5.1795	9.3938	20.0448	24.1079
16	2nd Laubscher	-0.3503	2.5310	5.1840	9.4010	20.0536	24.1169
	3rd Laubscher	-0.2469	2.6860	5.3287	9.6238	20.5043	24.6572
	4th Laubscher	-0.5124	1.9609	4.4341	9.5561	19.2733	23.3954
	1st Harley	-0.3292	2.8746	---	---	---	---
	2nd Harley	-0.2960	3.0043	---	---	---	---
	3rd Harley	-0.3096	2.7933	---	---	---	---
	Halperin	-0.5124	1.9609	4.4341	8.5561	19.2733	23.3954
	Kraemer-Paik	0.3235	2.3270	4.6862	8.4252	17.8981	21.5165
	Exact	-0.3876	2.6280	5.3209	9.6113	20.4706	24.6155

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **= 0.10**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	-0.2848	2.6673	5.4780	9.9962	21.4229	25.7779
	Jolmson- Welch	-0.2824	2.6458	5.4345	9.9180	21.2569	25.5783
	van Eeden	-0.2848	2.6668	5.4760	9.9913	21.4106	25.7629
	Normal Approx.	-0.3123	2.6010	5.3687	9.8121	21.0409	25.3196
	1st Comish-Fisher	-0.2848	2.6674	5.4959	10.3923	34.5385	25.3196
	2nd Cornish-Fisher	-0.2848	2.6630	5.4276	9.6479	18.5727	21.3099
	1st Azorín	-0.3037	2.6544	5.4663	9.9823	21.3985	25.7490
	1st Laubscher	-0.3129	2.6199	5.4083	9.8863	21.2031	25.5152
30	2nd Laubscher	-0.3157	2.6190	5.4094	9.8893	21.2075	25.5197
	3rd Laubscher	0.2457	2.7295	5.4956	9.9923	21.3944	25.7418
	4th Laubscher	0.0082	2.6876	5.4818	9.9932	21.4121	25.7646
	1st Harley	-0.3066	2.6960	9.0210	---	---	---
	2nd Harley	-0.3157	2.6190	9.1984	---	---	---
	3rd Harley	0.2457	2.7295	8.8795	---	---	---
	Halperin	-0.4471	2.1427	4.7325	9.0488	20.2713	24.5876
	Kraemer-Paik	-0.3039	2.4902	5.0711	9.1828	19.5825	23.5506
	Exact	-0.2848	2.6668	5.4749	9.9858	21.3912	25.7383
	Jelmet- W e1ch	-0.2835	2.6866	5.5622	10.2208	22.0173	26.5093
	Jolmson- W e1ch	-0.2821	2.6734	5.5352	10.1720	21.9131	26.3840
	van Eeden	-0.2835	2.6864	5.5613	10.2187	22.0114	26.5021
	Normal Approx.	-0.2994	2.6490	5.5012	10.1190	21.8066	26.2566
	1st Cornish-Fisher	-0.2835	2.6866	5.5660	10.328	26.2192	36.1128
	2nd Cornish-Fisher	-0.2835	2.6850	5.5414	10.0600	20.4715	23.9949
	1st AzorÍl1	-0.2944	2.6799	5.5578	10.2180	22.0149	26-5068
	1st Laubscher	-0.2997	2.6596	5.5231	10.1602	21.8974	26.3662
50	2nd Laubscher	-0.3014	2.6586	5.5231	10.1615	21.8999	26.3688
	3 rd Laubscher	0.2451	2.7518	5.5839	10.2231	21.0009	26.4878
	4th Laubscher	0.0082	2.7079	5.5674	10.2204	22.0121	26.5028
	1st Harley	-0.2965	2.6797	6.2851	---	---	---
	2nd Harley	-0.2863	2.7190	6.3602	---	---	---
	3rd Harley	-0.2906	2.6558	5.2258	---	---	---
	Halperin	-0.4090	2.2601	4.9291	9.3776	20.9436	25.3920
	Kraemer-Paik	0.2949	2.5748	5.2896	9.6426	20.6464	26.8408
	Exact	-0.2835	2.6864	5.5608	10.2155	21.9988	26.4857
	Jennet·We1ch	-0.2829	2.6953	5.6025	10.3365	22.3449	26.9162
	Johnson- W elch	-0.2819	2.6858	5.5830	10.3008	22.2687	26.8245
	van Eeden	-0.2929	2.6952	5.6020	10.3352	22.3414	26.9118
	Normal Approx.	-0.2941	2.6692	5.5604	10.2666	22.2008	26.7433
	1st Cornish-Fisher	-0.2829	2.6953	5.6037	10.3800	24.2829	31.4418
	2nd Cornish-Fisher	-0.2829	2.6945	5.5912	5.5912	21.3504	25.2592
	1st Azorín	-0.2906	2.6909	5.6002	10.3364	22.3479	26.9201
	1 st Laubscher	-0.2944	2.6764	5.5754	10.2950	22.2635	26.8191
70	2nd Laubscher	-0.2956	2.6756	5.5752	10.2956	22.2652	26.8209
	3 rd Laubscher	0.2449	2.7618	5.6262	10.3416	22.3342	26.9014
	4th Laubscher	0.0082	2.7170	5.6084	10.3371	22.3419	26.9123
	1st Harley	-0.2922	2.6832	5.9231	---	---	---
	2nd Harley	-0.2850	2.7113	5.9740	---	---	---
	3rd Harley	0.2880	2.6660	5.8832	---	---	---
	Halperin	-0.3891	2.3250	5.0390	9.5625	21.3234	25.8468
	Kraemer-Paik	0.2911	2.6135	5.3963	9.8805	21.2205	25.5405
	Exact	-0.2829	2.6952	5.6017	10.3332	22.3322	26.8998

'---' designates undefined values.

TABLE 1 *(Cont.)* α =**0.10**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	-0.2825	2.7021	5.6348	10.4341	22.6397	27.2859
	Jolmson-Welch	-0.2818	2.6954	5.6209	10.4088	22.5852	27.2203
	van Eeden	-0.2825	2.7020	5.6345	10.4335	22.6377	27.2833
	Normal Approx.	-0.2903	2.6841	5.6061	10.3868	22.6447	27.1693
	1st Comish-Fisher	-0.2825	2.7020	5.6351	10.4502	23.4721	29.2817
	2nd Comish-Fisher	-0.2825	2.7016	5.6289	10.3832	22.0352	26.2523
	1st Azorin	-0.2879	2.6991	5.6337	10.4353	22.6447	27.2921
	1st Laubscher	-0.2904	2.6890	5.6163	10.4061	22.5852	27.2210
100	2nd Laubscher	-0.2913	2.6884	5.6160	10.4063	22.5862	27.2221
	3 rd Lauhscher	0.2447	2.7696	5.6601	10.4416	22.6334	27.2763
	4th Lauhscher	0.0082	2.7240	5.6411	10.4354	22.6381	27.2836
	1st Harley	-0.2890	2.6892	5.7744	14.8744	---	---
	2nd Harley	-0.2840	2.7095	5.8092	14.9558	---	---
	3rd Harley	-0.2861	2.6777	5.7471	14.8028	---	---
	Halperin	-0.3714	2.3845	5.1404	9.7336	21.6759	26.2691
	Kraemer-Paik	0.2882	2.6437	5.4833	10.0843	21.7335	26.1690
	Exact	-0.2825	2.7020	5.6344	10.4322	22.6314	27.2748

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.25**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	0.3414	3.1940	5.8458	10.1739	21.3257	25.6053
	Jolmson-Welch	0.3212	3.0143	5.5208	9.6109	20.1482	24.1917
	van Eeden	0.3411	3.1764	5.8080	10.1042	21.1762	25.4253
	Normal Approx.	0.2021	3.0048	5.5363	9.6521	20.2447	24.3087
	1st Cornish-Fisher	0.3416	3.3594	8.2035	34.8714	530.69	1090.15
	2nd Comish-Fisher	0.3417	3.1365	5.4826	8.9754	22.0879	31.4086
	1st Azorín	0.2589	3.2777	6.0198	10.4842	21.9812	26.3928
	1st Laubscher	0.1031	2.7892	5.2071	9.1189	19.1613	23.0117
4	2nd L'mbscher	0.0837	2.8305	5.2579	9.1730	19.2168	23.0673
	3rd Laubscher	0.6168	3.2694	5.8971	10.2671	21.5270	25.8477
	4th Laubscher	05549	3.1986	5.8330	10.1443	21.2588	25.5245
	1st Harley	0.1744	---	---	---	---	---
	2nd Harley	0.3163	---	---	---	---	---
	3rd Harley	0.1953	---	---	---	---	---
	Halperin	0.1211	2.7067	5.2922	9.6014	20.8053	25.1145
	Kraemer-Paik	0.2383	2.6093	4.7685	8.2910	17.3717	20.8562
	Exact	0.3415	3.2130	5.8905	10.2573	21.5050	25.8210
	Jennet-Welch	0.3319	3.2501	6.0263	10.5510	22.1777	26.6353
	Johnson- W elch	0.3237	3.1730	5.8852	10.3057	21.6638	26.0184
	van Eeden	0.3318	3.2465	6.0176	10.5337	22.1392	26.5889
	Normal Approx.	0.3072	3.2773	6.0851	10.6557	22.3974	26.8991
	1st Comish-Fisher	0.3319	3.2689	6.3160	13.965	99.7219	190.797
	2nd Comish-Fisher	0.3319	3.2333	5.8807	9.8217	18.3456	21.3979
	1st Azorín	0.3193	3.3357	6.1891	10.8350	22.7719	27.3486
	1 st Laubscher	0.2853	3.2119	5.9801	10.4836	22.4795	26.4795
10	2nd Laubscher	0.2767	3.2164	5.9914	10.4986	22.0638	26.4965
	3rd Laubscher	0.6002	3.2653	6.0448	10.5880	22.2628	26.7384
	4th Laubscher	0.5419	3.2596	6.0237	10.5406	22.1525	26.6048
	1st Harley	0.2671	4.7106	---	---	---	---
	2nd Harley	0.3189	4.9996	---	---	---	---
	3rd Harley	0.2691	4.5183	---	---	---	---
	Halperin	0.1929	2.8709	5.5490	10.0124	21.6173	26.0807
	Kraemer-Paik	0.2902	2.9684	5.4695	9.5441	20.0283	24.0500
	Exact	0.3319	3.2550	6.0418	10.5844	22.2542	26.7280
	Jennet-Welch	0.3295	3.2730	6.1064	10.7292	22.5940	27.1405
	Johnson-Welch	0.3244	3.2237	6.0154	10.5705	22.2613	26.7410
	van Eeden	0.3295	3.2715	6.1024	10.7208	22.5749	27.1172
	Normal Approx.	0.3166	3.2997	6.1623	10.8284	22.8022	27.3904
	1st Comish-Fisher	0.3295	3.2792	6.2007	11.916	51.5812	89.1733
	2nd Comish-Fisher	0.3295	3.2653	6.0307	10.2975	19.7936	23.0019
	1st Azorín	0.3232	3.3320	6.2198	10.9278	23.0100	27.6398
	1 st Laubscher	0.3044	3.2611	6.0995	10.7255	22.5929	27.1398
16	2nd Laubscher	0.2991	3.2616	6.1044	10.7335	22.6027	27.1498
	3rd Laubscher	0.5961	3.2840	6.1164	10.7514	22.6484	27.2098
	4th Laubscher	0.5389	3.2841	6.1067	10.7239	22.5802	27.1236
	1st Harley	0.2892	3.5967	---	---	---	---
	2nd Harley	0.3210	3.7329	---	---	---	---
	3rd Harley	0.2895	3.5015	---	---	---	---
	Halperin	0.2188	2.9454	5.6720	10.2165	22.0319	26.5764
	Kraemer-Paik	0.3034	3.0831	5.7124	9.9949	21.0012	25.2214
	Exact	0.3295	3.2753	6.1149	10.7496	22.6431	27.2009

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.25**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jelll1et·Welch	0.3276	3.2948	6.1894	10.9276	23.0797	27.7327
	Jolmson·Welch	0.3249	3.2679	6.1393	10.8399	22.8954	27.5113
	van Eeden	0.3276	3.2944	6.1880	10.9245	23.0722	27.7235
	Normal Approx.	0.3216	3.3128	6.2273	10.9957	23.2230	27.9047
	1st Comish·Fisher	0.3276	3.2963	6.2097	11.2011	30.6207	44.2072
	2nd Cornish·Pisher	0.3276	3.2923	6.1613	10.7407	21.5789	25.3851
	1st AzorÍ11	0.3248	3.3285	6.2555	11.0444	24.3249	28.0270
	1 st Laubscher	0.3157	3.2930	6.1946	10.9419	23.1138	27.7741
30	2nd Laubscher	0.3128	3.2920	6.1957	10.9451	23.1186	27.7790
	3 rd Lau bscher	0.5961	3.2840	6.1164	10.7514	23.0738	27.2068
	4th Laubscher	0.5365	3.3071	6.1917	10.9260	23.0738	27.7254
	bt Harley	0.3062	3.3425	10.1968	---	---	---
	2nd Harley	0.3230	3.4096	10.3841	---	---	---
	3rd Ha.rley	0.3060	3.2938	10.0443	---	---	---
	Halperin	0.2457	3.0312	5.8166	10.4590	22.5292	27.1716
	Kraemer-Paik	0.3137	3.1855	5.9462	10.4486	22.0032	26.4308
	Exact	0.3276	3.2956	6.1929	10.9376	23.1069	27.7662
	Jelmet-Welch	0.3260	3.3063	6.2367	11.0512	23.4038	28.1311
	Jolmson-Welch	0.3252	3.2899	6.2062	10.9974	23.2904	27.9949
	van Eeden	0.3268	3.3061	6.2362	11.0499	23.4003	28.1268
	Normal Approx.	0.3234	3.3180	6.2620	11.0971	23.5007	28.2475
	1st Comish·Fisher	0.3268	3.3067	6.2425	11.1303	25.8422	33.5815
	2nd Comish·Fisher	0.3268	3.3053	6.2251	10.9646	22.5872	26.8055
	1st Azorín	0.3252	3.3271	6.2782	11.1253	23.5597	28.3183
	1st Laubscher	0.3199	3.3063	6.2424	11.0648	23.4353	28.1693
50	2nd Laubscher	0.3183	3.3054	6.2425	11.0661	23.4379	28.1721
	3rd Laubscher	0.5916	3.3125	6.2367	11.0554	23.4206	28.1523
	4th Laubscher	0.5355	3.3191	6.2398	11.0511	23.4010	28.1276
	1st Harley	0.3139	3.3059	7.0514	---	---	---
	2nd Harley	0.3239	3.3457	7.1290	---	---	---
	3rd Harley	0.3137	3.2765	6.9868	---	---	---
	Halperin	0.2627	3.0890	5.9153	10.6259	22.8733	27.5838
	Kraemer·Paik	0.3184	3.2378	6.0762	10.7169	22.6188	27.1766
	Exact	0.3268	3.3066	6.2383	11.0564	23.4199	28.1513
	Jelll1et·Welch	0.3264	3.3115	6.2596	11.1150	23.5822	28.3524
	Johnson·Welch	0.3253	3.2998	6.2375	11.0761	23.5002	28.2539
	van Eeden	0.3264	3.3114	6.2593	11.1142	23.5801	28.3499
	Normal Approx.	0.3240	3.3202	6.2784	11.1495	23.6556	28.4405
	1 st Comish- Fisher	0.3264	3.3117	6.2621	11.1492	24.7169	30.9349
	2nd Comish·Fisher	0.3264	3.3110	6.2532	11.0646	23.0562	27.4778
	1st Azorín	0.3254	3.3266	6.2898	11.1693	23.6971	28.4904
	1 st Laubscher	0.3216	3.3119	6.2644	11.1264	23.6087	28.3845
70	2nd Laubscher	0.3204	3.3111	6.2642	11.1270	23.6104	28.3864
	3rd Laubscher	0.5910	3.3171	6.2581	11.1166	23.5936	28.3672
	4th Laubscher	0.5350	3.3246	6.2631	11.1153	23.5806	28.3503
	1st Harley	0.3172	3.3026	6.6213	---	---	---
	2nd Harley	0.3244	3.3310	6.6734	---	---	---
	3rd Harley	0.3170	3.2815	6.5775	---	---	---
	Halperin	0.2719	3.1216	5.9714	10.7209	23.0698	27.8194
	Kraemer·Paik	0.3204	3.2616	6.1389	10.8539	22.9456	27.5744
	Exact	0.3254	3.3116	6.2604	11.1182	23.5934	28.3667

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.25**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	0.3261	3.3155	6.2779	11.1688	23.7425	28.5531
	Johnson- W e1ch	0.3253	3.3073	6.2623	11.1413	23.6844	28.4833
	van Eeden	0.3261	3.3155	6.2777	11.1687	23.7413	28.5517
	Normal Approx.	0.3245	3.3218	6.2915	11.1941	23.7964	28.6179
	1st Cornish- Fisher	0.3261	3.3156	6.2789	11.1827	24.2362	29.7011
	2nd Cornish-Fisher	0.3261	3.3153	6.2746	11.1413	23.4224	28.0071
	1 st AzofÍn	0.3254	3.3262	6.2994	11.2078	23.8251	28.6525
	1 st Laubscher	0.3228	3.3160	6.2817	11.1778	23.7634	28.5785
100	2nd Laubscher	0.3220	3.3154	6.2814	11.1780	23.7645	28.5795
	3rd Laubscher	0.5904	3.3207	6.2754	11.1685	23.7496	28.5628
	4th Laubscher	0.5347	3.3288	6.2815	11.1695	23.7416	28.5519
	1st Harley	0.3197	3.3048	6.4362	15.9227	---	---
	2nd Harley	0.3245	3.3247	6.4716	16.0064	---	---
	3rd Harley	0.3196	3.2899	6.4061	15.8476	---	---
	Halperin	0.2803	3.1519	6.0235	10.8095	23.2532	28.0392
	Kraemer-Paik	0.3220	3.2801	6.1897	10.9400	23.2345	27.9280
	Exact	0.3261	3.3156	6.2783	11.1707	23.7499	28.5628

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.50**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-WeIch	1.0638	4.2554	7.4469	12.7662	26.5962	31.9154
	Johnson-WeIch	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	van Eeden	1.0638	4.2554	7.4469	12.7662	26.5962	31.9154
	Normal Approx.	1.2533	5.0133	8.7732	15.0398	31.3329	37.5994
	1st Cornish- F isher	1.0671	4.4245	8.3444	17.2734	67.3014	102.246
	2nd Cornish-Fisher	1.0671	4.2936	7.5671	13.1270	28.1924	34.2207
	1st Azorín	1.2533	5.0133	8.7732	15.0398	31.3329	37.5994
	1st Laubscher	1.0841	4.3630	7.6461	13.1150	27.3296	32.7963
4	2nd Laubscher	1.0632	4.4175	7.7163	13.1913	27.4084	32.8753
	3rd Laubscher	1.1721	4.3223	7.6026	13.0595	27.2308	32.6796
	4th Laubscher	1.1952	4.2801	7.4841	12.8287	26.7261	32.0714
	1st Harley	0.9487	---	---	---	---	---
	2nd Harley	1.0698	---	---	---	---	---
	3rd Harley	0.8367	---	---	---	---	---
	Halperin	1.0916	4.3665	7.6414	13.0995	27.2907	32.6488
	Kraemer-Paik	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	Exact	1.0669	4.3312	7.6165	13.0839	27.2829	32.7423
	JelUlet-Welch	1.0253	4.1011	7.1769	12.3033	25.6318	30.7582
	Johnson-WeIch	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	van Eeden	1.0253	4.1011	7.1769	12.3033	25.6318	30.7582
	Nonnal Approx.	1.0837	4.3349	7.5861	13.0047	27.0931	32.5117
	1st Cornish-Fisher	1.0257	4.1279	7.3201	13.0238	32.1432	42.0094
	2nd Cornish- Fisher	1.0257	4.1070	7.1957	12.3603	25.8857	31.1253
	1st Azorín	1.0837	4.3349	7.5861	13.0047	27.0931	32.5117
	1 st Laubscher	1.0489	4.1966	7.3450	12.5924	26.2352	31.4824
10	2nd Laubscher	1.0400	4.2016	7.3580	12.6100	26.2552	31.5026
	3rd Laubscher	1.1127	4.1032	7.2172	12.3974	25.8502	31.0228
	4th Laubscher	1.1471	4.1077	7.1826	12.3119	25.6495	30.7794
	1st Harley	0.9770	6.0270	---	---	---	---
	2nd Harley	1.0267	6.3445	---	---	---	---
	3rd Harley	0.9293	5.7328	---	---	---	---
	Halperill	1.0346	4.1385	7.2424	12.4155	25.8657	31.0388
	Kraemer-Paik	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	Exact	1.0257	4.1179	7.2239	14.4024	25.8588	31.0331
	JelUlet-Welch	1.0157	4.0629	7.1102	12.1888	25.3934	30.4721
	Jolmson-WeIch	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	van Eeden	1.0157	4.0629	7.1102	12.1888	25.3934	30.4721
	Norn1al Approx.	1.0501	4.2006	7.3510	12.6017	26.2535	31.5042
	1st Cornish-Fisher	1.0159	4.0734	7.1661	12.4702	27.9368	34.8669
	2nd Cornish-Fisher	1.0159	4.0652	7.1175	12.2111	25.4925	30.6154
	1st Azorín	1.0501	4.2006	7.3510	12.6017	26.2535	31.5042
	1 st Laubscher	1.0311	4.1245	7.2182	12.3745	25.7807	30.9370
16	2nd Laubscher	1.0256	4.1250	7.2236	12.3835	25.7917	30.9483
	3rd Laubscher	1.0986	4.0513	7.1259	12.2406	25.5233	30.6304
	4th Laubscher	1.1359	4.0677	7.1127	12.1922	25.4000	30.4800
	1st Harley	0.9852	4.5037	---	---	---	---
	2nd Harley	1.0163	4.6487	---	---	---	---
	3rd Harley	0.9549	4.3651	---	---	---	---
	Halperill	1.0213	4.0853	7.1494	12.2560	25.5334	30.6401
	Kraemer- Pa ik	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	Exact	1.0152	4.0705	7.1341	12.2441	25.5268	30.6345

'---' designates undefined values.

TABLE 1 *(Cont.)*

α = **0.50**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	1.0084	4.0335	7.0586	12.1004	25.2092	30.2510
	Jolmson-Welch	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	van Eeden	1.0084	4.0335	7.0586	12.1004	25.2092	30.2510
	Normal Approx.	1.0259	4.1036	7.1813	12.3108	25.6475	30.7770
	1st Comish-Fisher	1.0084	4.0364	7.0745	12.1804	25.9326	31.5010
	2nd Comish-Fisher	1.0084	4.0341	7.0606	12.1067	25.2373	30.2917
	lstAzoÓfi	1.0259	4.1036	7.1813	12.3108	25.6475	30.7770
	1 st Laubscher	1.0167	4.0667	7.1168	12.2003	25.4174	30.5010
30	2nd Laubscher	1.0138	4.0657	7.1179	12.2037	25.4227	30.5064
	3rd Laubscher	1.0879	4.0117	7.0562	12.1209	25.2737	30.3309
	4th Laubscher	1.1275	4.0375	7.0598	12.1014	25.2110	30.2532
	1st Harley	0.9919	4.1110	11.6561	---	---	---
	2nd Harley	1.0085	4.1805	11.8545	---	---	---
	3rd Harley	0.9755	4.0431	11.4634	---	---	---
	Halperin	1.0113	4.0450	7.0788	12.1350	25.2813	30.3376
	Kraemer-Paik	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	Exact	1.0084	4.0359	7.0677	12.1249	25.2751	30.3323
	Jennet-Welch	1.0050	4.0200	7.0351	2.0601	25.1253	30.1504
	Jolmson- Welch	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	van Eeden	1.0050	4.0200	7.0351	12.0601	25.1253	30.1504
	Normal Approx.	1.0153	4.0613	7.1072	12.1838	25.3830	30.4596
	1st Comish-Fisher	1.0050	4.0211	7.0408	12.0890	25.3857	30.6004
	2nd COnllsh-Fisher	1.0050	4.0203	7.0358	12.0624	25.1354	30.1650
	1st Azorín	1.0050	4.0200	7.0351	12.0601	25.1253	30.1504
	1st Laubscher	1.0100	4.0400	7.0701	12.1201	25.2504	30.3005
50	2nd Laubscher	1.0083	4.0390	7.0701	12.1215	25.2532	30.3035
	3rd Laubscher	1.0830	3.9938	7.0247	12.0668	25.1609	30.1955
	4th Laubscher	1.1237	4.0238	7.0360	12.0606	25.1260	30.1511
	1st Harley	0.9951	4.0311	---	---	---	---
	2nd Harley	1.0051	4.0716	---	---	---	---
	3rd Harley	0.9852	3.9909	---	---	---	---
	Halperín	1.0067	4.0267	7.0470	12.0806	25.1679	30.2015
	Kraemer-Paik	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	Exact	1.0050	4.0210	7.0390	12.0723	25.1621	30.1965
	Jelmet-Welch	1.0036	4.0143	7.0250	12.0429	25.0894	30.1073
	Jolmson-Welch	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	van Eeden	1.0036	4.0143	7.0250	12.0429	25.0894	30.1073
	Normal Approx.	1.0109	4.0435	7.0761	12.1305	25.2719	30.3263
	1st Comish-Fisher	1.0036	4.0149	7.0280	12.0576	25.2223	30.3369
	2nd Comish-Fisher	1.0036	4.0149	7.0254	12.0441	25.0946	30.1148
	1st Azorín	1.0109	4.0435	7.0761	12.1305	25.2719	30.3263
	1st Laubscher	1.0071	4.0286	7.0500	12.0858	25.1788	30.2146
70	2nd L'lubscher	1.0059	4.0277	7.0498	12.0865	25.1806	30.2165
	3rd Laubscher	1.0810	3.9861	7.0113	12.0438	25.1129	30.1379
	4th Laubscher	1.1220	4.0181	7.0259	12.0432	25.0898	30.1077
	1st Harley	0.9965	4.0117	7.4388	---	---	---
	2nd Harley	1.0036	4.0405	7.4923	---	---	---
	3rd Harley	---	3.9831	---	---	---	---
	Halperin	1.0048	4.0192	7.0335	12.0575	25.1197	30.1436
	Kraemer-Paik	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	Exact	1.0036	4.0148	7.0272	12.0503	25.1142	30.1386

'---' designates undefined values.

TABLE 1 *(Cont.}*

$\alpha = 0.50$

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	1.0025	4.0100	7.0175	12.0300	25.0626	30.0751
	Johnson-Welch	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	van Eeden	1.0025	4.0100	7.0175	12.0300	25.0626	30.0751
	Normal Approx.	1.0076	4.0303	7.0531	12.0909	25.1895	30.2274
	1st Cornish-Fisher	1.0025	4.0103	7.0189	12.0372	25.1277	30.1876
	2nd Cornish-Fisher	1.0025	4.0101	7.0177	12.0306	25.0651	30.0788
	1st Azorín	1.0076	4.0303	7.0531	12.0909	25.1895	30.2274
	1 st Laubscher	1.0050	4.0200	7.0350	12.0600	25.1251	30.1501
;00	2nd Laubscher	1.0042	4.0193	7.0347	12.0603	25.1262	30.1514
	3 rd Lau bscher	1.0794	3.9804	7.0013	12.0265	25.0769	30.0947
	4th Laubscher	1.1208	4.0137	7.0183	12.0303	25.0628	30.0753
	1st Harley	0.9975	4.0027	7.1998	17.1572	---------	---------
	2nd Harley	1.0025	4.0228	7.2359	17.2436	---------	---------
	3rd Harley	-------	3.9828	7.1639	---------	---------	---------
	Halperin	1.0033	4.0134	7.0234	12.0402	25.0835	30.1004
	Kraemer-Paik	1.0000	4.0000	7.0000	12.0000	25.0000	30.0000
	Exact	1.0025	4.0103	7.0187	12.0343	25.0786	30.0958

'---' designates undefined values.

TABLEl *(Cont.)*

α **=0.75**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet- W elch	1.9219	5.8595	9.9978	16.9866	35.2586	42.2959
	Johnson-Welch	1.7994	5.4681	9.3234	15.8362	32.8666	39.4260
	van Eeden	1.9330	5.9198	10.1103	17.1844	35.6751	42.7962
	Normal Approx.	2.3046	7.0217	12.0101	20.4275	42.4210	50.8902
	1st Comish-Fisher	1.9284	5.8911	8.6406	-2.7594	-429.652	-945.486
	2nd Comish-Fisher	1.9284	5.8923	10.3561	18.3267	35.6832	38.3369
	1st Azorín	2.4052	7.3785	12.6286	21.4843	44.6199	53.5285
	1st Laubscher	2.2012	6.4847	11.0454	18.7584	38.9305	46.7001
4	2nd Laubscher	2.1762	6.5594	11.1440	18.8663	39.0425	46.8124
	3rd Laubscher	0.6168	3.2269	5.8971	10.2671	21.5270	25.8477
	4th Laubscher	0.5549	3.1986	5.8330	10.1443	21.2589	25.5245
	1st Harley	1.8686	---	---	---	---	---
	2nd Harley	1.9727	---	---	---	---	---
	3rd Harley	0.1953	---	---	---	---	---
	Halperín	2.1831	6.5104	10.8376	18.0497	36.8891	44.0132
	Kraemer-Paik	0.2383	2.6093	4.7685	8.2910	17.3711	20.8562
	Exact	1.9309	5.9577	10.2069	17.3736	36.0914	43.2984
	Jennet-Welch	1.7675	5.1476	8.6697	14.6422	30.3082	36.3477
	Jolmson-We1ch	1.7228	5.0132	8.4407	14.2530	29.5000	35.3782
	van Eeden	1.7689	5.1566	8.6879	14.6756	30.3802	36.4344
	Normal Approx.	1.8603	5.3925	9.0870	15.3537	31.7887	38.1242
	1st Comish-Fisher	1.7686	5.1603	8.5401	12.0205	-40.1235	-115.531
	2nd Comish-Fisher	1.7686	5.1605	8.8146	15.3942	34.3302	41.8803
	1st Azorín	1.8800	5.4613	9.2056	15.5559	32.2090	38.6285
	1st Laubscher	1.8432	5.3044	8.9253	15.0705	31.1931	37.4088
10	2nd Laubscher	1.8339	5.3100	8.9404	15.0913	31.2167	37.432
	3rd Laubscher	0.6002	3.2653	6.0448	10.5880	22.2628	26.7384
	4th Laubscher	0.5419	3.2596	6.0237	10.5406	22.1525	26.6048
	1st Harley	1.7365	7.6493	---	---	---	---
	2nd Harley	1.7859	7.9956	---	---	---	---
	3rd Harley	0.2691	4.5183	---	---	---	---
	Halperill	1.9181	5.5731	9.2280	15.3196	31.1577	37.2493
	Kraemer-Paik	0.2902	2.9684	5.4695	9.5441	20.0283	24.0500
	Exact	0.7688	5.1649	8.7135	14.7323	30.5128	36.5953
	Jennet-Welch	1.7317	4.9719	8.3221	14.0055	28.9365	34.6962
	J olmson- W elch	1.7044	4.8917	8.1865	13.7756	28.4598	34.1243
	van Eedell	1.7322	4.9753	8.3296	14.0198	28.9680	34.7342
	Normal Approx.	1.7837	5.1014	8.5397	14.3749	29.7048	35.6180
	1 st Comish-Fisher	1.7321	4.9780	8.2903	13.1281	2.7277	-22.5389
	2nd Cornish-Fisher	1.7321	4.9781	8.3976	14.4460	31.8112	38.9501
	l&t Azonn	1.7944	5.1387	8.6038	14.4841	29.9315	35.8900
	1 st Laubscher	1.7748	5.0561	8.4564	14.2283	29.3953	35.2461
16	2nd Laubscher	1.7692	5.0566	8.4623	14.2384	29.4079	35.2590
	3rd Laubscher	0.5961	3.2840	6.1164	10.7514	22.6486	27.2068
	4th Laubscher	0.5389	3.2841	6.1067	10.7239	22.5802	27.1236
	1st Harley	1.7112	5.5476	---	---	---	---
	2nd Harley	1.7425	5.7026	---	---	---	---
	3rd Harley	0.2895	3.5015	---	---	---	---
	Halperin	1.8419	5.3259	8.8028	14.5975	29.6638	35.4585
	Kraemer-Paik	0.3034	3.0831	5.7124	9.9949	21.0012	25.2214
	Exact	1.7322	4.9791	8.3425	14.0508	29.0446	34.8277

'---' designates undefined values.

TABLE 1 *(Cont.)*

$\alpha = 0.75$

ν	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	1.7046	4.8342	8.0365	13.4596	27.7270	33.2351
	Johnson-Welch	1.6904	4.7932	7.9676	13.3435	27.4867	32.9471
	van Eeden	1.7048	4.8352	8.0388	13.4643	27.7379	33.2486
	Normal Approx.	1.7302	4.8944	8.1353	13.6259	28.0720	33.6493
	1st Comish-Fisher	1.7048	4.8363	8.0340	13.2742	20.9763	18.1256
	2nd Comish-Fisher	1.7048	4.8363	8.0645	13.6491	29.2489	35.6158
	1st Azorín	1.7354	4.9123	8.1660	13.6782	28.1804	33.7794
	1st Laubscher	1.7260	4.8737	8.0972	13.5587	27.9295	33.4780
30	2nd Laubscher	1.7231	4.8726	8.0985	13.5624	27.9352	33.4839
	3rd Laubscher	0.5930	3.3025	6.1925	10.9377	23.1088	27.7686
	4th Laubscher	0.5365	3.3071	6.1917	10.9260	23.0738	27.7254
	1~1 Harley	1.6932	4.9441	13.2984	---	---	---
	2nd Harley	1.7100	5.0165	13.5083	---	---	---
	3rd Harley	0.3060	3.2938	10.0443	---	---	---
	Halperin	1.7898	5.1110	8.4323	13.9676	28.3596	33.8949
	Kraemer-Paik	0.3137	3.1855	5.9462	10.4486	22.0032	26.4308
	Exact	1.7048	4.8365	8.0436	13.4778	27.7750	33.2945
	Jennet-Welch	1.6925	4.7708	7.8980	13.1798	27.7768	32.4466
	Jolmson- W elch	1.6840	4.7466	7.8578	13.1123	26.9381	32.2793
	van Eeden	1.6925	4.7711	7.8989	13.1817	27.0823	32.4523
	Normal Approx.	1.7073	4.8046	7.9525	13.2706	27.2652	32.6716
	1st Comish-Fisher	1.6925	4.7716	7.8987	13.1324	24.9237	27.4875
	2nd Comish-Fisher	1.6925	4.7716	7.9097	13.2674	27.9019	33.7840
	1st Azorín	1.7102	4.8148	7.9701	13.3005	27.3272	32.7460
	1;1 Laubscher	1.7049	4.7930	7.9314	13.2332	27.1858	32.5761
50	2nd Laubscher	1.7032	4.7919	7.9314	13.2347	27.1888	32.5792
	3rd Laubscher	0.5916	3.3125	6.2367	11.0554	23.4206	28.1523
	4th Laubscher	0.5355	3.3191	6.2398	11.0511	23.4010	28.1276
	1st Harley	1.6855	4.7936	8.9535	---	---	---
	2nd Harley	1.6956	4.8353	9.0372	---	---	---
	3rd Harley	0.3137	3.2765	6.9868	---	---	---
	Halperin	1.7585	4.9956	8.2328	13.6281	27.6558	33.0511
	Kraemer-Paik	0.3184	3.2378	6.0762	10.7169	22.6188	27.1766
	Exact	1.6925	4.7716	7.9010	13.1883	27.1028	32.4780
	Jennet-Welch	1.6873	4.7434	7.8365	13.0497	26.7608	32.0592
	Johnson-Welch	1.6813	4.7263	7.8081	13.0021	26.6628	31.9417
	van Eeden	1.6873	4.7436	7.8370	13.0507	26.7635	32.0625
	Normal Approx.	1.6977	4.7668	7.8739	13.1115	26.8882	32.2120
	1 st Cornish- Fisher	1.6873	4.7438	7.8373	13.0316	25.7713	29.7274
	2nd Cornish-Fisher	1.6873	4.7438	7.8429	13.1005	27.2908	32.9399
	1st Azorin	1.6998	4.7740	7.8862	13.1324	26.9316	32.2640
	1st Laubscher	1.6960	4.7588	7.8593	13.0858	26.8334	32.1461
70	2nd Laubscher	1.6948	4.4579	7.8590	13.0865	26.8353	32.1481
	3rd Laubscher	0.5910	3.3171	6.2581	11.1153	23.5936	28.3672
	4th Laubscher	0.5350	3.3246	6.2630	11.1153	23.5806	32.6326
	1st Harley	1.6823	4.7473	8.3053	---	---	---
	2nd Harley	1.6952	4.7766	8.3604	---	---	---
	3rd Harley	0.3170	3.2815	6.5775	---	---	---
	Halperin	1.7432	4.9386	8.1341	13.4599	27.3069	32.6326
	Kraemer-Paik	0.3204	3.2616	6.1389	10.8539	22.9456	27.5744
	Exact	1.6873	4.7438	7.8381	13.0547	26.7772	32.0800

'---' designates undefined values.

TABLE 1 *(Cont.)*

α = **0.75**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	1.6834	4.7228	7.7893	12.9462	26.4972	31.7345
	Johnson-Welch	1.6792	4.7109	7.7692	12.9134	26.4296	31.6535
	van Eeden	1.6835	4.7229	7.7895	12.9468	26.4987	31.7363
	Normal Approx.	1.6906	4.7388	7.8146	12.9878	26.5826	31.8368
	1 st Cornish- Fisher	1.6834	4.7230	7.7898	12.9403	26.0746	30.7094
	2nd Cornish- Fisher	1.6835	4.7230	7.7925	12.9740	26.8192	32.2835
	1st Azorín	1.6921	4.7438	7.8231	13.0023	26.6124	31.8726
	1 sl Laubscher	1.6895	4.7334	7.8047	12.9703	26.5453	31.7919
100	2nd Laubscher	1.6887	4.7327	7.8043	12.9706	26.5464	31.7932
	3rd Laubscher	0.5905	3.3207	6.2754	11.1685	23.7496	28.5628
	4th L·mbscher	0.5347	3.3288	6.2815	11.1695	23.7416	28.5519
	l&t Harley	1.6799	4.7191	7.9965	18.4706	---	---
	2nd Harley	1.6849	4.7394	8.0334	18.5597	---	---
	3rd Harley	0.3196	3.2899	6.4061	15.8476	---	---
	Halperin	1.7303	4.8902	8.0501	13.3167	21.0098	32.2763
	Kraemer-Paik	0.3220	3.2801	6.1899	10.9700	23.2345	27.9280
	Exact	1.6835	4.7230	7.7901	12.9491	26.5075	31.7478

'---' designates undefined values.

TABLE 1 *(Cont.)*

$\alpha = 0.90$

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jemlet-Welch	3.0223	8.3895	14.1853	24.0259	49.8062	63.7146
	Johnson-Welch	2.8048	7.7292	13.0504	22.0911	45.7842	58.5678
	van Eeden	3.0793	8.6355	14.6291	24.7959	51.4188	65.7800
	Normal Approx.	3.2507	8.8295	14.9234	25.2766	52.4007	67.0340
	1st Comish-Fisher	2.9264	7.8318	9.5593	-21.7114	-901.408	-1933.7
	2nd Cornish-Fisher	2.9264	7.8692	13.6469	24.1107	43.8967	43.4716
	1st Azorín	3.6954	10.2889	17.4371	29.5623	61.3096	73.5407
	1 st Laubscher	3.4383	9.0812	15.2757	25.8263	53.4994	64.1655
4	2nd Laubscher	3.4070	9.1820	15.4101	25.9742	53.6530	64.3197
	3rd Laubscher	0.2549	2.5025	4.7943	8.4801	17.8943	21.4986
	4th Laubscher	0.0087	2.4749	4.7922	8.4933	17.9326	21.5456
	btHarley	2.9372	---	---	---	---	---
	2nd Harley	3.0168	---	---	---	---	---
	3rd Harley	-0.3905	---	---	---	---	---
	Halperin	3.4725	9.2902	15.1080	24.8043	50.0147	59.7110
	Kraemer-Paik	0.4541	1.6118	3.2393	5.7943	12.2745	14.7518
	Exact	2.9843	8.1941	13.8366	23.4263	48.5565	58.2403
	Jennet-Welch	2.5301	6.3670	10.4901	17.5620	36.2133	46.2958
	Jolmson-Welch	2.4631	6.1878	10.1885	17.0516	35.1555	44.9425
	van Eeden	2.5357	6.3935	10.5412	17.6539	36.4096	46.5477
	Nornlal Approx.	2.5592	6.3444	10.4378	17.4678	36.0149	46.0416
	1st Comish-Fisher	2.5248	6.3050	9.9286	11.2729	-108.477	-263.836
	2nd Comish-Fisher	2.5248	6.3110	10.5826	18.6044	42.7721	52.5118
	1st Azorín	2.6431	6.6110	10.8926	18.2394	37.6166	45.0969
	1st Laubscher	2.6037	6.4335	10.5700	17.6766	36.4331	43.6755
10	2nd Laubscher	2.5937	6.4399	10.5874	17.7007	36.4606	43.7034
	3rd Laubscher	0.2485	2.6381	5.1823	9.2734	19.6739	23.6489
	4th Laubscher	0.0084	2.6031	5.1758	9.2833	19.7080	23.6911
	1st Harley	2.4942	9.4387	---	---	---	---
	2nd Harley	2.5447	9.8090	---	---	---	---
	3rd Harley	-0.3261	3.5602	---	---	---	---
	Halperin	2.8059	7.1069	11.4079	18.5763	37.2140	44.3824
	Kraemer-Paik	0.3491	2.1478	4.2976	7.6962	16.3177	19.6128
	Exact	2.5261	6.3364	10.4261	17.4439	35.9596	43.1085
	Jennet-Welch	2.4308	5.9430	9.6733	16.0841	33.0484	42.2304
	Jolmson-Welch	2.3914	5.8423	9.5060	15.8025	32.4659	41.4854
	van Eeden	2.4327	5.9526	9.6926	16.1201	33.1267	42.3312
	Nornlal Approx.	2.4440	5.9122	9.6095	15.9709	32.8110	41.9264
	1st Comish-Fisher	2.4290	5.9218	9.4885	13.8993	-21.0177	-76.4677
	2nd Comish-Fisher	2.4290	5.9241	9.7439	16.7632	38.0638	47.1058
	1st Azorín	2.4894	6.0552	9.8525	16.3824	33.6635	40.3430
16	1 st Laubscher	2.4689	5.9657	9.6898	16.0972	33.0626	39.6211
	2nd Laubscher	2.4630	5.9663	9.6963	16.1085	33.0767	39.6355
	3rd L'lUbscher	0.2469	2.6860	5.3384	9.6177	20.4771	24.6232
	4th Laubscher	0.0083	2.6476	5.3287	9.6238	20.5043	24.6572
	1st Harley	2.4084	6.6304	---	---	---	---
	2nd Harley	2.4405	6.7952	---	---	---	---
	3rd Harley	-0.3096	2.7933	---	---	---	---
	Halperin	2.6475	6.5799	10.5123	17.0662	34.1065	40.6604
	Kraemer-Paik	0.3235	2.3270	4.6862	8.4252	17.8981	21.5165
	Exact	2.4293	5.9303	9.6436	16.0252		

'---' designates undefined values.

TABLE 1 *(Cont.)*

α = **0.90**

v	APPROXIMATIONS	δ					
		1	4	7	**12**	25	32
	Jennet-Welch	2.3587	5.6285	9.0398	14.8914	30.4263	38.8497
	Jolmson-Welch	2.3387	5.5794	8.9595	14.7575	30.1503	38.4969
	van Eeden	2.3593	5.6311	9.0453	14.9024	30.4512	38.8819
	Normal Approx.	2.3641	5.6062	8.9939	14.8095	30.2541	38.6292
	1 st Cornish- Fisher	2.3583	5.6232	8.9989	14.3881	16.3722	56314
	2nd Comish-Fisher	2.3583	5.6239	9.0715	15.2027	33.1776	40.7812
	1st Azonn	2.3859	5.6745	9.1093	15.0044	30.6572	36.7178
	1 st Laubscher	2.3764	5.6340	9.0362	14.8761	30.3856	36.3914
30	2nd Laubscher	2.3734	5.6329	9.0376	14.8801	30.3918	36.3978
	3rd Laubscher	0.2457	2.7295	5.4956	9.9923	21.3944	25.7418
	4th Laubscher	0.0082	2.6876	5.4818	9.9932	21.4121	257646
	1st Harley	2.3468	5.7599	14.9543	---	---	---
	2nd Harley	2.3639	5.8355	15.1747	---	---	---
	3rd Harley	-0.2966	2.6557	8.8794	---	---	---
	Halperin	2.5172	6.1376	9.7580	15.7920	31.4804	37c5144
	Kraemer-Paik	0.3039	2.4902	5.0711	9.1828	19.5825	23.5506
	Exact	2.3584	5.6247	9.0292	14.8675		
	Jennet-Welch	2.2372	5.4884	8.7441	14.3042	29.0776	37.0973
	Johnson-Welch	2.3155	5.4601	8.6986	14.2282	28.9218	36.8994
	van Eeden	2.3274	5.4893	8.7462	14.3085	29.0868	37.1106
	Nonnal Approx.	2.3301	5.4735	8.7133	14.2487	28.9593	36.9471
	1st Cornish-Fisher	2.3271	5.4866	87321	14.1586	24.5371	24.6181
	2nd COnllsh-Fisher	2.3271	5.4869	8.7583	14.4519	30.5871	37.2721
	1st Azorín	2.3426	5.5125	8.7791	14.3595	29.1881	34.9369
	1st Laubscher	2.3371	5.4901	8.7388	14.2888	29.0382	34.7566
50	2nd Laubscher	2.3354	5.4890	8.7388	24.2903	29.0413	34.7599
	3rd Laubscher	0.2451	2.7518	5.5839	10.2231	22.0009	26.4878
	4th Laubscher	0.0082	2.7079	5.5674	10.2204	22.0121	26.5028
	1st Harley	2.3201	5.5178	9.9136	---	---	---
	2nd Harley	2.3303	5.5608	10.0004	---	---	---
	3rd Harley	-0.2906	2.6558	6.2258	---	---	---
	Halperin	2.4505	5.9059	9.3614	]5.1204	30.0939	35.8529
	Kraemer-Paik	0.2949	2.5748	5.2896	9.6424	20.6464	24.8408
	Exact	2.3271	5.4869	8.7397	14.2929	29.0460	34.7656
	Jemlet- Welch	2.3140	5.4289	8.6150	14.0363	28.4317	36.2530
	J olUlson- W elch	2.3057	5.4091	8.5632	139841	28.3248	36.1164
	van Eeden	2.3141	5.4294	8.6160	14.0386	28.4374	36.2605
	Normal Approx.	2.3159	5.4]79	8.5919	13.9944	28.3430	36.1393
	1st Cornish-Fisher	2.3139	5.4280	8.6096	i3.9733	26.3216	29.1934
	2nd Comish-Fisher	2.3139	5.4282	8.6229	]4.1229	29.4083	35.6495
	1st Azorin	2.3247	5.4452	8.6379	]4.0718	28.5025	34.1005
	1 st Laubscher	2.3209	5.4296	8.6102	14.0233	28.3995	33.9766
70	2nd Laubscher	2.3197	5.4287	0.6099	14.0240	28.4015	33.9788
	3rd Laubscher	0.2449	2.7618	5.6262	10.3416	22.3342	26.9014
	4th Laubscher	0.0082	2.7170	5.6084	]0.3371	22.3419	26.9123
	1st Harley	2.3089	5.4359	9.1318	---	---	---
	2nd Harley	2.3161	5.4659	9.1885	---	---	---
	3rd Harley	-0.2880	2.6660	5.8832	---	---	---
	Halperin	2.4186	5.7929	9.1673	14.7913	29.4136	35.0376
	Kraemer-Paik	0.2911	2.6135	5.3963	9.8805	21.2205	25.5405
	Exact	2.3139	5.4282	8.6125	14.0296	28.4117	33.9907

'---' designates undefined values.

TABLE 1 *(Cont.)*

α = **0.90**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jelll1et-Welch	2.3042	5.3845	8.5168	13.8256	27.9015	35.5523
	Johnson-Welch	2.2984	5.3709	8.4950	13.7900	27.8288	35.4594
	van Eeden	2.3042	5.3848	8.5173	13.8268	27.9046	35.5564
	Normal Approx.	2.3054	5.3766	8.5000	13.7951	27.8364	35.4688
	1st COnllsh- Fisher	2.3041	5.3841	8.5144	13.8000	26.9848	31.2224
	2nd COnllsh-Fisher	2.3041	5.3842	8.5210	13.8733	28.4973	34.3858
	1st Azorín	2.3115	5.3954	8.5317	13.8483	27.9460	33.4167
	1 st Laubscher	2.3089	5.3848	8.5129	13.8154	27.8762	33.3328
100	2nd Laubscher	2.3080	5.3841	8.5125	13.8156	27.8774	33.3341
	3rd Laubscher	0.2447	2.7696	5.6601	10.4416	22.6334	27.2763
	4th Laubscher	0.0082	2.7240	5.6411	10.1354	22.6381	27.2836
	1st Harley	2.3006	5.3823	8.7448	19.7251	---	---
	2nd Harley	2.3057	5.4029	8.7826	19.8166	---	---
	3rd Harley	-0.2861	2.6777	5.7471	14.8028	---	---
	Halperin	2.3920	5.6977	9.0035	14.5130	28.8379	34.3474
	Kraemer-Paik	0.2882	2.6437	5.4833	10.0843	21.7335	26.1690
	Exact	2.3041	5.3841	8.5155	13.8218	27.8888	33.3475

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.95**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-We1ch	4.0476	11.1239	18.8186	31.8833	66.1049	84.5663
	Johnson-Welch	3.7156	10.0990	17.0519	28.8689	59.8362	76.5441
	Van Eeden	4.1929	11.7059	19.8542	33.6706	69.8392	89.3479
	Normal Approx.	3.8170	9.9113	16.6670	28.1786	58.3732	74.6677
	1st Cornish-Fisher	3.7760	9.4351	10.6889	-32.8902	-1192.95	-2543.02
	2nd Cornish-Fisher	3.7760	9.3804	16.0614	28.1752	49.6107	47.3358
	btAzorín	4.6372	12.5075	21.1237	35.7685	74.1431	88.9303
	1st Laubscher	4.3364	11.0558	18.5158	31.2546	64.7011	77.5957
4	2nd Laubscher	4.2998	11.1768	18.6780	31.4332	64.8869	77.7821
	3rd Laubscher	0.0974	2.1492	4.2658	7.6311	16.1752	19.4412
	4th Laubscher	-0.3424	2.1079	4.2929	7.7189	16.3875	19.6990
	1st Harley	3.7409	---	---	---	---	---
	2nd Harley	3.7956	---	---	---	---	---
	3rd Harley	-0.7816	---	---	---	---	---
	Halperin	4.5042	11.6213	18.7383	30.6001	61.4407	73.3025
	Kraemer-Paik	0.9219	1.0793	2.4710	4.5713	9.8061	11.7985
	Exact	3.8385	10.1155	16.9837	28.6924		
	Jennet-We1ch	3.0602	7.2979	11.9238	19.8973	40.9717	52.3702
	Johnson-We1ch	2.9757	7.0800	11.5583	19.2792	39.6906	50.7314
	Van Eedel1	3.0710	7.3433	12.0094	20.0497	41.2051	52.7851
	Normal Approx.	2.9775	6.9141	11.2463	18.7331	38.5441	49.2627
	1st Cornish-Fisher	3.0381	7.1221	10.9455	10.9976	-150.574	-355.12
	2nd Cornish-Fisher	3.0381	7.1134	11.8051	20.7680	48.2355	59.3373
	1st Azorín	3.1286	7.3722	12.0231	20.0488	41.2711	49.4695
	1 st Laubscher	3.0872	7.1804	11.6716	19.4327	39.9741	47.9115
10	2nd Laubscher	3.0766	7.1873	11.6906	19.4590	40.0043	47.9421
	3rd Laubscher	0.0942	2.3082	4.7337	8.5964	18.3480	22.0674
	4th Laubscher	-0.3194	2.2422	4.7316	8.6415	18.4762	22.2247
	1st Harley	2.9946	10.6898	---	---	---	---
	2nd Harley	3.0460	11.0725	---	---	---	---
	3rd Harley	-0.6971	3.0268	---	---	---	---
	Halperin	3.4055	8.1847	12.9640	20.9293	41.6393	49.6046
	Kraemer-Paik	0.7483	1.6879	3.6658	6.7187	14.3722	17.2884
	Exact	3.0417	7.1800	11.6789	19.4420		
	Jennet-We1ch	2.8886	6.6236	10.6492	17.6123	36.1007	46.1170
	Johnson- W e1ch	2.8406	6.5071	10.4570	17.2896	35.4335	45.2638
	Van Eeden	2.8922	6.6390	10.6795	17.6680	36.2209	46.2715
	Nornlal Approx.	2.8391	6.3974	10.2498	16.9261	34.6700	44.2855
	1st Cornish-Fisher	2.8814	6.5621	10.3144	14.4851	-35.5827	-109.598
	2nd Comish-Fisher	2.8814	6.5587	10.6502	18.3017	42.0772	52.2989
	1st Azorín	2.9206	6.6417	10.6618	17.6217	36.1093	43.2625
	1 st Laubscher	2.8995	6.5475	10.4889	17.3172	35.4659	42.4892
16	2nd L1ubscher	2.8935	6.5481	10.4959	17.3292	35.4810	42.5047
	3rd L1ubscher	0.0934	2.3633	4.9213	9.0154	19.3307	23.2600
	4th L1ubscher	-0.3143	2.2880	4.9068	9.0426	19.4236	23.3752
	1st Harley	2.8528	7.3547	---	---	---	---
	2nd Harley	2.8857	7.5254	---	---	---	---
	3rd Harley	-0.6772	2.3906	---	---	---	---
	Halperin	3.1635	7.4163	11.6692	18.7573	37.1863	44.2744
	Kraemer-Paik	0.7085	1.8954	4.1188	7.5723	16.2270	19.5231
	Exact	2.8823	6.5780	10.5450	17.4058		

'---' designates undefined values.

TABLE 1 *(Cont.)*

α **=0.95**

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	2.7689	6.1475	9.7116	15.8685	32.2912	41.2095
	Johnson-Welch	2.7451	6.0927	9.6232	15.7217	31.9892	40.8235
	Van Eeden	2.7698	6.1515	9.7199	15.8846	32.3272	41.2561
	Normal Approx.	2.7435	6.0322	9.5077	15.5178	31.5600	40.2735
	1st Comish-Fisher	2.7672	6.1315	9.6314	15.1279	13.5895	-2.0023
	2nd COrnlsh-Fisher	2.7672	6.1306	9.7269	16.2135	35.6794	44.0484
	1st Azorín	2.7826	6.1483	9.7024	15.8452	32.2357	38.5916
	1st Laubscher	2.7728	6.1066	9.6265	15.7111	31.9510	38.2492
30	2nd Laubscher	2.7698	6.1055	9.6279	15.7153	31.9574	38.2560
	3rd Laubscher	0.0928	2.4132	5.1102	9.4732	20.4593	24.6372
	4th Laubscher	-0.3106	2.3289	5.0828	9.4814	20.5153	24.7083
	Jst Harley	2.7517	6.2825	16.0349	---	---	---
	2nd Harley	2.7691	6.3602	16.2614	---	---	---
	3rd Harley	-0.6619	2.2854	8.2229	---	---	---
	Halperin	2.9709	6.7920	10.6130	16.9814	33.5393	39.9077
	Kraemer-Paik	0.6748	2.0860	4.5741	8.4754	18.2421	21.9574
	Exact	2.7673	6.1343	9.6771	15.7914		
	Jennet-Welch	2.7178	5.9417	9.2887	15.0407	30.4042	38.7623
	JolUlson- W elch	2.7039	5.9107	92395	14.9598	30.2388	38.5509
	Van Eeden	2.7181	5.9430	9.2916	15.0467	30.4185	38.7810
	Nonnal Approx.	2.7028	5.8739	9.1686	14.8340	29.9732	38.2105
	1st Comish-Fisher	2.7172	5.9362	9.2632	14.8185	24.3337	22.8895
	2nd Comish-Fisher	2.7172	5.9358	9.2975	15.2093	32.2861	39.4677
	1st AzorÍn	2.7252	5.9401	9.2792	15.0195	30.3552	36.3120
	1 st Laubscher	2.7197	5.9172	9.2379	14.9466	30.1999	36.1251
50	2nd Laubscher	2.7179	5.9161	9.2379	14.9482	30.2032	36.1286
	3rd Laubscher	0.0925	2.4385	5.2164	9.7564	21.2103	25.5616
	4th Laubscher	-0.3089	2.3495	5.1815	9.7534	21.2446	25.6068
	1st Harley	2.7079	5.9708	10.5234	---	---	---
	2nd Harley	2.7182	6.0145	10.6121	---	---	---
	3rd Harley	-0.6551	2.2914	5.7884	---	---	---
	Halperin	2.8752	6.4730	10.0708	16.0672 .	31.6578	37.6541
	Kraemer-Paik	0.6649	2.1853	4.8357	9.0313	19.5347	23.5260
	Exact	2.7172	5.9368	9.2747	15.0058		
	Jennet-Welch	2.6965	5.8555	9.1067	14.6694	29.5194	37.6055
	Johnson-Welch	2.6867	5.8339	9.0728	14.6140	29.4065	37.4613
	Van Eeden	2.6966	5.8562	9.1082	14.6726	29.5273	37.6159
	Normal Approx.	2.6858	5.8075	9.0216	14.5228	29.2136	37.2140
	] st COrnlsh-Fisher	2.6962	5.8527	9.0946	14.5701	26.6845	28.8909
	2nd Comish-Fisher	2.6962	5.8525	9.1121	14.7695	30.7418	37.3492
	1st Azorín	2.7015	5.8538	9.0988	14.6521	29.4794	35.2435
	1 st Laubscher	2.6977	5.8380	9.0706	14.6024	29.3734	35.1159
70	2nd Laubscher	2.6965	5.8371	9.0703	14.6031	29.3755	35.1182
	3rd Laubscher	0.0924	2.4500	5.2673	9.9023	21.6248	26.0765
	4th Laubscher	-0.3082	2.3588	5.2287	9.8936	21.6482	26.1088
	1st Harley	2.6896	5.8617	9.6495	---	---	---
	2nd Harley	2.6969	5.8922	9.7073	---	---	---
	3rd Harley	-0.6522	2.3029	5.4801	---	---	---
	Halperin	2.8301	6.3195	9.8090	15.6248	30.7459	36.5617
	Kraemer-Paik	0.6591	2.2310	4.9642	9.3213	20.2390	24.3845
	Exact	2.6962	5.8530	9.0991	14.6489		

'---' designates undefined values.

TABLE 1 *(Cont.)*

$\alpha = 0.95$

v	APPROXIMATIONS	δ					
		1	4	7	12	25	32
	Jennet-Welch	2.6808	5.7916	8.9695	14.3802	28.7999	36.6563
	Johnson- W elch	2.6740	5.7768	8.9463	14.3427	28.7238	36.5592
	van Eeden	2.6808	5.7919	8.9702	14.3819	28.8041	36.6619
	Normal Approx.	2.6734	5.7582	8.9102	14.2782	28.5868	36.3835
	1st Comish-Fisher	2.6806	5.7902	8.9639	14.3381	27.5601	31.5545
	2nd Comish-Fisher	2.6806	5.7902	8.9725	14.4358	29.5482	35.6991
	1st Azorin	2.6842	5.7901	8.9634	14.3670	28.7691	34.3708
	1st Laubscher	2.6816	5.7794	9.9443	14.3335	28.6977	34.2848
100	2nd Laubscher	2.6807	5.7787	8.9439	14.3337	28.6989	34.2861
	3rd Laubscher	0.0923	2.4588	5.3080	10.0255	21.9980	26.5448
	4tb Laubscher	-0.3077	2.3659	5.2664	10.0122	22.0124	26.5663
	1st Harley	2.6760	5.7886	9.2081	20.5107	---	---
	2nd Harley	2.6811	5.8095	9.2464	20.6037	---	---
	3rd Harley	0.6500	2.3150	5.3613	14.2002	---	---
	Halperin	2.7930	6.1914	9.5898	15.2537	29.9800	35.6439
	Kraemer-Paik	0.6548	2.2666	5.0692	9.5709	20.8719	25.1605
	Exact	2.6806	5.7903	8.9656	14.3688		

'---' designates undefined values.

3. **APPROXIMA TIONS TO PERCENTILES OF THE NONCENTRAL χ^2 -DISTRIBUTION**

The noncentral χ^2-distribution was obtained by Fisher (1928, p. 663), as a limiting case of the distribútion of the multiple correlation coefficient, who also gave upper 5% points of the distribution for certain selected values of the degrees of freedom and noncentrality parameter. There are many approximations to the noncentral χ^2 -distribution, suggested in the literature, which can be used to compute the percentiles of the distribution. Some of the important ones are considered here.

In this section, $\chi_v'^2(\lambda)$ will be used to denote a noncentral χ^2 -variate with v degrees of freedom and the noncentrality parameter χ^2. In addition, $\chi_{v,\alpha}'^2(\lambda)$ will denote its 100α - *th* percentile defined by

$$\Pr\left[\chi_v'^2(\lambda) \le \chi_{v,\alpha}'^2(\lambda)\right] = \alpha. \tag{3.1}$$

Patnaik (1949) suggested an approximation of $\chi_v'^2(\lambda)$ by $c\chi_f^2$ where f and,f, obtained by equating the first two moments of the two variables, are

$$c = (v+2\lambda)/(v+\lambda) \quad \text{and} \quad f = (v+\lambda)^2/(v+2\lambda) \tag{3.2}$$

Patnaik (1949) also proposed a normal approximation of $\chi_v'^2(\lambda)$ which consists in first v approximating $\chi_v'^2(\lambda)$ by $c\chi_f^2$ and then approximating $\sqrt{2\chi_f^2}$ by a normal variate with mean $\sqrt{2f-1}$ and variance l. The resulting approximation is:

$\left\{\left[2(v+\lambda)/(v+2\lambda)\right]\chi_v'^2\right\}^{1/2}$ has a normal distribution with mean

$\left\{\left[2(v+\lambda)^2/(v+2\lambda)\right]-1\right\}^{1/2}$ and variance 1

We will refer the two Patnaik´s approximations as the Patnaik´s 1st and 2nd approximations respectively.

Pearson (1959) suggested an improvement to the approximation (3.2) which consists in approximating $\chi'^2_v(\lambda)$ by $b+c\chi^2_f$ where b, c and f, obtained by equating the first three moments of the two variables, are

$$b = \lambda^2/(v+3\lambda), c = (v+3\lambda)/(v+2\lambda),$$

and

$$f = (v+2\lambda)^3/(v+3\lambda)^2 . \qquad (3.3)$$

Abdel-Aty (1954) also considered a normal approximation which consists in first approximating $\chi'^2_v(\lambda)$ by $b+c\chi^2_f$ and then applying the Wilson-Hilferty (1931) approximation to the central χ^2_f. The resulting approximation is: $\left\{(v+\lambda)^{-1}\chi'^2_v(\lambda)\right\}^{1/3}$ has a normal distribution with mean $1-2(v+2\lambda)/9(v+\lambda)^2$ and variance $2(v+2\lambda)/9(v+\lambda)^2$.

Sankaran (1959, 1963) discussed among others the following normal approximations of $\chi'^2_v(\lambda)$

(i) $\left[\chi'^2_v(\lambda)-(v-1)/2\right]^{1/2}$ has a normal distribution with mean $\left[\lambda+(v-1)/2\right]^{1/2}$ and variance 1

(ii) $\left\{\left[\chi'^2_v(\lambda)-(v-1)/3\right]/(v+\lambda)\right\}^{1/2}$ has a normal distribution mean $1-(v+2)/6r-(v^2-2v-10)/(72r^2)-(v^3-12v^2-6v+44)/(432r^3)$ and variance $-5(v^4-28v^3+24v^2+111v-1028)/(10368r^4)$

(iii) $\left[\chi'^2_v(\lambda)/(v+\lambda)\right]^h$ has a normal distribution with mean $1+h(h-1)(v+2\lambda)/(v+\lambda)^2-h(h-1)(2-h)(1-3h)(v+2\lambda)^2/(2(v+\lambda)^4)$

and variance $\left[2h^2(v+2\lambda)/(v+\lambda)^2\right]\left[1-(1-h)(1-3h)(v+2\lambda)/(v+\lambda)^2\right]$,

where $h=1-2(v+\lambda)(v+3\lambda)/\left(3(v+2\lambda)^2\right)$

We will call these approximations as Sankaran´s 1st, 2nd and 3 rd approximations respectively.

Johnson (1959) developed a simple normal approximation of $\chi'^2_v(\lambda))$ via

$$\Pr\left[\chi'^2_v(\lambda) \le t\right] \approx \Pr\left\{Z \le (t-v-\lambda+1) / [2(v+2\lambda)]^{1/2}\right\} \qquad (3.4)$$

by applying a normal approximation to the right hand side of the equation

$$\Pr\left[\chi'^2_v(\lambda) \le t\right] = \Pr\left[X_1 - X_2 \ge v/2\right],$$

where X_1 and X_2 are independent Poisson variables with mean *(1/2)t* and (1/2) λ, respectively.

Johnson and Kotz (1970, p. 141) suggested a simple normal approximation of $\chi'^2_v(\lambda)$ by its direct standardization via

$$\Pr\left[\chi'^2_v(\lambda) \le t\right] \simeq \Pr\left\{Z \le (t-v-\lambda) / [2(v+2\lambda)]^{1/2}\right\}. \qquad (3.5)$$

In both approximations (3.4) and (3.5) the error (as $\lambda \Rightarrow \infty$) is $\mathbf{O}_0(\lambda^{1/2})$, uniformly in t. Approximations (3.4) and (3.5) although extremely simple are not very accurate, and have been included here for the sake of completeness.

Bol' shev and Kuznetzov (1963), using a method in which the distribution of $\chi'^2_v(\lambda)$ is related to the distribution of central χ^2 with the same number of degrees of *v* freedom, gave an approximation as (see also Johnson et al. 1995, pp. 465-466).

$$\Pr\left[\chi'^2_v(\lambda) \le t\right] \approx \Pr\left\{\chi^2_v \le t\left[1-\frac{\lambda}{v}+\frac{1}{2}\left(\lambda^2/v^2\right)\left(1+\frac{t}{v+2}\right)+\mathbf{O}\left(\lambda^3\right)\right]\right\} \qquad (3.6)$$

where $\mathbf{O}\left(\lambda^3\right)$ is uniform in any finite interval of t, $\lambda \Rightarrow 0$, leading to the approximation

$$\chi'^{2}_{v,\alpha}(\lambda) \approx \chi^{2}_{v,\alpha} + (\lambda/v)\chi^{2}_{v,\alpha} + \frac{1}{2}(\lambda/v)^{2}\left[1 - \frac{1}{v+2}\chi^{2}_{v,\alpha}\right]\chi^{2}_{v,\alpha} \quad (3.7)$$

Approximation (3.7) is not very accurate, but has been included here for the sake of completeness. For small values of *v*, the quality of the approximation deteriorates rapidly as λ increases. For very large values of *v*, the approximation improves somewhat but is still not to be recommended.

Cox and Reid (1987) considered the approximation

$$\Pr\left[\chi'^{2}_{v}(\lambda) \le t\right] \approx \Pr\left\{\chi^{2}_{v} \le t/(1+\lambda/v)\right\} \quad (3.8)$$

Approximation (3.8) is valid for $\lambda = 0$ as $v \Rightarrow \infty$ Note that ignoring the third term in the brackets in (3.6) gives an approximation, which is asymptotically equivalent to (3.8).

In addition, Cox and Reid (1987) proposed approximating $\chi'^{2}_{v}(\lambda)$ by the linear combination $(1-\lambda/2)\chi^{2}_{v} + (\lambda/2)\chi^{2}_{v+2}$, prompted by a result given in Barndorff-Nielsen and Cox (1985, Equation 1.6). We will call these approximations as Cox-Reid´s 1st and 2nd approximations respectively.

Temme (1993) gave a simple and useful approximation, for large values of t and λ, as

$$\Pr\left[\chi'^{2}_{v}(\lambda) \le t\right] \approx \begin{cases} (t/\lambda)^{(v-1)/4}\left[1 - \Phi\left(\sqrt{2\lambda} - \sqrt{2t}\right)\right], & t \le \lambda \\ 1 - (t/\lambda)^{(v-1)/4}\left[1 - \Phi\left(\sqrt{2t} - \sqrt{2\lambda}\right)\right], & t > \lambda \end{cases} \quad (3.9)$$

Although approximation (3.9) is quite simple for evaluating a probability expression, it requires the use of an iterative procedure to compute the corresponding percentile value and is not included in our comparative study.

Finally, we note a simple empirical approximation, reported by Tukey (1957), to the percentiles of $\chi'^{2}_{v}(\lambda)$ given by

$$\chi'^{2}_{v,0.95}(\lambda) \approx \left[1.6449 + \sqrt{\lambda} + 0.51\frac{v-1}{\left(\sqrt{\lambda}+1\right)} - 0.024\frac{(v-5)(v-1)}{\sqrt{\lambda}\left(\sqrt{\lambda}+1\right)}\right]^{2} \quad (3.10)$$

Although approximation (3.10) is limited to only 95th percentiles, it has been included here for detailed comparison in view of its usefulness, simplicity and accuracy.

The percentiles of $\chi_v^{'2}(\lambda)$ calculated for various approximations as well as the exact values, for selected values of α, v and λ, are shown in Table 2. For higher values of percentiles, the Patnaik´s central χ^2 approximation is the most accurate, when *v* and λ are small. In this situation, the 1st and 3rd approximations of Sankaran are also quite accurate. For lower percentiles, the 3rd approximation of Sankaran performs best; and for small values of *v* and λ, the Patnaik´s central χ^2 approximation is also quite accurate. Johnson and Johnson-Kotz type approximations differ by a percentile of one unit and give satisfactory results for higher percentiles and large values λ. Bol´shev-Kuznetzov and the two Cox-Reid approximations have extremely poor performance for simultaneously small values of *v* and large values of λ. However, their accuracy improves dramatically for large values of *v,* but are still not to be recommended. Tukey´s empirical approximation for the 95th percentile, although quite accurate for small values of *v* progressively degenerates as *v* increases.

TABLE 2 APPROXIMATE AND EXACT PERCENTILES OF THE NONCENTRAL χ^2 -DISTRIBUTION

α =0.05

ν	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
2	IstPatnaik	0.2029	0.9276	1.6650	3.5218	6.8911	12.6799	17.5501
	2ndPatnaik	0.0340	0.5952	1.2784	3.0777	6.4076	12.1699	17.0291
	Pearson	0.0826	0.5276	1.1867	2.9709	6.3000	120691	16.9340
	Abdel-Aty	0.1703	0.8913	1.6325	3.4968	6.8736	12.6685	17.5414
	15t Sankaran	0.6765	0.7270	1.3184	3.0457	6.3427	12.0933	16.9513
	2nd Sankaran	0.4057	0.6364	1.2582	3.0104	6.3213	12.0800	16.9411
	3rd Sankaran	0.1205	0.6422	1.2930	3.0520	6.3556	12.1049	16.9613
	Johnson	-2.6523	-2.3560	-1.7037	0.0893	3.4362	9.2257	14.1021
	Johnson-Kotz	-1.6523	-0.3560	-0.7037	1.0893	4.4362	10.2257	15.1021
	Bol'shev-Kuznetzov	0.1664	0.5077	0.6801	i.8650	4.1219	9.1939	14.5383
	1 st Cox-Reíd	0.1539	0.3078	0.4103	0.6155	0.9233	1.3849	1.7740
	2nd Cox-Reíd	0.4067	1.3189	1.9270	3.1433	4.9677	7.7043	9.8328
	Exact	0.1684	0.6456	1.2635	3.0] 14	6.3216	12.0800	16.9410
4	1st Patnaik	0.9343	1.9551	2.8237	4.8508	8.3635	14.2672	19.1911
	2nd Patnalk	0.6782	1.6081	2.4397	4.4204	7.8956	]3.7707	18.6820
	Pearson	0.8843	1.7079	2.4938	4.4236	7.8658	13.7229	18.6289
	Abdel-Aty	0.9105	1.9305	2.8010	4.8321	8.3495	14.2575	19.1835
	15t Sankaran	1.5041	1.9905	2.6963	4.5492	7.9437	13.7707	18.6650
	2nd Sankaran	1.0589	1.7846	2.5481	5.5463	7.8845	13.7329	18.6355
	3rd Sankaran	0.8768	1.7456	2.5404	4.4705	7.9043	13.7509	18.6514
	Johnson	-1.6979	-1.0581	-0.3047	1.6041	5.0430	10.9062	15.8179
	Johnson-Kotz	-0.6979	-0.0581	0.6953	2.6041	6.0430	11.9062	16.8179
	Bol'shev-Kuznetzov	0.9080	1.7347	2.4817	4.4455	8.5659	17.3898	26.4456
	1 st Cox- Reíd	0.8884	1.4214	1.7768	2.4875	3.5536	5.1527	6.3965
	2nd Cox-Reíd	1.1731	2.5600	3.4847	5.3340	8.1080	12.2690	15.5053
	Exact	0.9087	1.7650	2.5421	4.4551	7.8843	13.7330	18.6360
	1st Patnaik	2.5072	3.7791	4.7670	6.9644	10.6373	16.6816	21.6752
	2nd Patnaik	2.2307	3.4373	4.3950	6.5529	10.1893	16.2029	21.1819
	Pearson	2.4868	3.6387	4.5578	6.6570	10.2427	16.2182	2l.!814
	Abdel-Aty	2.4931	3.7640	4.7524	6.9514	10.6268	16.6739	21.6689
	1 st Sankaran	3.1261	4.0018	4.8364	6.8443	10.3660	16.2980	21.2434
	2nd Sankaran	2.6080	3.6988	4.6021	6.6851	10.2597	16.2277	21.1878
	3rd Sankaran	2.4767	3.6469	4.5740	6.6798	10.2661	16.2381	21.1984
	Johnson	0.0215	0.9908	1.8604	3.9128	7.4730	13.4378	18.3993
	Johnson-Kotz	1.0215	1.9908	2.8604	4.9128	8.4730	14.4378	19.3993
	Boltshev-Kuznetzov	2.4938	3.6745	4.6295	6.9426	11.4195	20.4016	29.2682
	1 st Cox-Retd	2.4770	3.4058	4.0251	5.2636	7.1213	9.9079	12.0752
	2nd Cox-Reíd	2.7462	4.4829	5.6406	7.9562	11.4295	16.6394	206916
	Exact	2.4937	3.6643	4.5844	6.6786	10.2573	16.2270	21.1870
10	1st Patnaik	4.3554	5.7001	6.6577	6.1751	12.0607	10.1200	24.1024
	2nd Patnaik	4.0745	5.4565	6.4988	8.7794	12.5382	18.6654	23.7030
	Pearson	4.3446	5.7000	6.7136	8.9433	12.6490	18.7294	23.7451
	Abdel-Aty	4.3459	5.7799	6.8476	9.1657	12.9617	19.1227	24.1772
	1 st Sankaran	4.9905	6.1145	7.0457	9.1787	12.8108	18.8379	23.8307
	2nd Sankaran	4.4447	5.7541	6.7543	8.9700	12.6657	18.7391	23.7518
	3rd Sankaran	4.3366	5.7008	6.7195	8.9554	12.6640	18.7439	23.7581
	Johnson	1.9419	3.1309	4.0893	6.2590	9.9247	15.9815	20.9895
	Johnson-Kotz	2.9419	4.1309	5.0893	7.2590	10.9247	16.9815	21.9895
	Bolshev-Kuznetzov	4.3476	5.7281	6.7808	9.2038	13.6323	22.0613	30.0992
	1 st Cox-Reíd	4.3443	5.5164	6.3045	7.8806	10.2448	13.7910	16.5493
	2nd Cox-Reíd	4.5832	6.5118	7.7975	10.3690	14.2261	20.0119	24.5120
	Exact	4.3474	5.7137	6.7297	8.9587	12.6606	18.7370	23.7500
12	1st Patnaik	5.6788	7.1970	8.3063	10.6880	14.5501	20.7758	25.8650
	2nd Patnaik	5.3968	6.8682	7.9542	10.3009	14.1280	20.3212	25.3939
	Pcarson	5.6710	7.1269	8.1901	10.4921	14.2677	20.4117	25.4600
	Andel-Al\'	5.6711	7.1888	8.2980	10.6801	14.5433	20.7703	25.8604
	1st Sanbran	6.3184	7.5660	8.5496	10.7540	14.4518	20.5357	25.5603
	2nd Sankaran	5.7622	7.1788	8.2298	10.5186	14.2847	20.4219	25.4672
	3rd Sankaran	5.6642	7.1258	8.1929	10.5001	14.2789	20.4235	25.4711
	Johnson	3.2963	4.5970	5.6041	7.8412	11.5699	17.6837	22.7209
	Johnson-Kotz	4.2963	5.5970	6.6041	8.8412	12.5699	18.6837	23.7209
	Bolshev-Kuznetzov	5.6729	7.1500	8.2484	10.7183	15.1054	23.2213	30.8073
	1st Cox-Reíd	5.6615	6.9680	7.8390	9.5811	12.1941	16.1136	19.1621
	2nd Cox-Reid	5.8983	7.9152	9.2598	11.9490	15.9828	22.0336	26.7397
	Exact	5.6727	7.1365	8.2020	10.5044	14.2777	20.4180	25.7650
16	l~t Patnaík	8.4715	10.1209	11.2971	13.7837	17.7593	24.1004	29.2533
	2nd Patnaík	8.1887	9.7997	10.9557	13.4108	17.3529	23.6612	28.7967
	Pearson	8.4670	10.0750	11.2169	13.6384	17.5352	23.7941	28.9028
	Abdel-Aty	8.4662	10.1151	11.2913	13.7781	17.7541	24.0960	29.2495
	1 st Sankaran	9.1145	10.5496	11.6184	13.9437	17.7581	23.9513	29.0301
	2nd Sankaran	8.5460	10.1244	11.2560	13.6657	17.5535	23.8057	28.9114
	3rd Sankaran	8.4620	10.0728	11.2169	13.6420	17.5418	23.8022	28.9109
	Johnson	6.1309	7.6041	8.6910	11.0430	14.8838	21.1021	26.1941
	Johnson-Kotz	7.1309	8.6041	9.6910	12.0430	15.8838	22.1021	27.1941
	Bolshev-Kuznetzov	8.4679	10.0908	11.2595	13.8049	18.1433	25.8218	32.7651
	15t Cox-Reíd	8.4592	9.9521	10.9473	12.9377	15.9233	20.4017	23.8849
	2nd Cox-Reíd	8.6761	10.8193	12.2481	15.1057	19.3921	25.8218	30.8226
	Exact	8.4678	10.0802	11.2240	13.6468	17.5427	23.8000	28.9070

TABLE 2 *(Cont.)*

α **=0.05**

v	APPROXIMA TIONS	λ						
		1	4	6	10	16	25	32
	IstPatnaik	14.4328	16.2621	17.5337	20.1744	24.3227	30.8472	36.1053
	2nd Patnaik	14.1497	15.9507	17.2066	19.8210	23.9394	30.4321	35.6722
	Pearson	14.4307	16.2381	17.4891	20.0854	24.1717	30.6217	35.8351
	Abdel-Aty	14.4297	16.2588	17.5304	20.1711	24.3196	30.8444	36.1027
	1 st Sankaran	150747	16.7540	17.9437	20.4518	24.4542	30.8307	36.0084
	2nd Sankaran	14.4971	16.2861	17.5296	20.1163	24.1945	30.6307	35.8478
24	3rd Sankaran	14.4278	16.2360	17.4879	20.0860	24.1742	30.6257	35.8397
	Johnson	12.1388	13.8412	15.0430	17.5699	21.5925	27.9895	33.1786
	Johnson-Kotz	13.1388	14.8412	16.0430	]8.5699	22.5925	28.9895	34.1786
	Bol'shev-Kuznetzov	14.4811	16.2464	17.5128	20.1804	24.5190	317853	380662
	1st Cox-Reid	14.4254	16.1565	17.3105	19.6186	23.0807	28.2739	38.3130
	2nd Cox-Reid	14.6138	16.9099	18.4406	21.5021	26.0943	32.9826	38.8401
	Exact	14.4310	16.2401	17.4022	20.0897	24.1762	30.6250	358380
	1st Patnaik	19.1146	21.0386	22.3624	250899	29.3387	35.9739	41.297
	2nd Patnaik	19.8915	30.7310	330433	34.7464	38.0677	38.6738	40.979
	Pearson	19.1132	21.0222	22.3310	250241	29.2212	35.7894	41.070
	Abdel-Aty	19.1124	21.0363	22.3601	25.0875	29.3364	35.9718	41.295
	1 st Sankaran	19.7540	25.5560	22.8108	25.4223	29.5375	360301	41.273
	2nd Sankaran	19.1759	21.0713	22.3740	250589	29.2484	35.8097	41.087
30	3rd Sankaran	19.1111	21.0205	22.3298	25.0240	29.2225	35.7920	41.073
	Johnson	16.8412	18.6605	19.9247	22.5515	26.6837	33.1941	38447
	Johnson-Kotz	17.8412	19.6605	20.9247	23.5515	27.6837	34.1941	39447
	Bol'shev-Kumetzov	19.1134	21.0277	22.3473	250905	29.4656	36.6136	42.659
	1st Cox-Reid	19.1091	20.9583	22.1912	24.6569	28.3554	33.9032	38.218
	2nd Cox-Reid	19.2823	21.6512	23.2304	26.3889	31.1267	38.2333	43.76l
	Exact	19.1133	21.0233	22.3328	250269	29.2244	35.7920	41.073
	IstPatnaik	35.462	37.587	39.026	41.952	46.440	53.350	58.841
	2nd Patnaik	35.179	37.289	38.719	41.628	46094	52.979	58.454
	Pearson	35.462	37.580	39.013	41.921	46.379	53.244	58.702
	Abdel-Aty	35.461	37.586	39.025	41.951	46.439	53.349	58.840
	1 st Sankaran	36.093	38.143	39.538	42.383	46.770	53.560	58.978
	2nd Sankaran	35.532	37.643	39.072	41.975	46.426	53.283	58.738
50	3rd Sankaran	35.461	37.579	39012	41.921	46.379	53.244	58.703
	Johnson	33.226	35.284	36.684	39.538	43.936	50.738	56.163
	Johnson-Kotz	34.226	36.284	37.684	40.538	44.936	51738	57.163
	Bol'shev-Kumetzov	35.462	37.582	39.019	41.948	46.479	53.587	59.373
	1st Cox-Reid	35.460	37.545	38.936	41717	45.889	52.146	57.013
	2nd Cox-Reid	35.601	38.110	39.783	43.128	48.147	55.675	61.530
	Exact	35.462	37.580	39.013	41.922	46.380	53.245	58.703
	lstl'atnaik	52.480	54.722	56.232	59.283	63.930	71.033	76.647
	2nd Patnaik	52.197	54.428	55.931	58.969	63.599	70.680	76.280
	Pearson	52.480	54.719	56.224	59.266	63.894	70.964	76.553
	Abdel-Aty	52.480	54.722	56.231	59.283	63930	71.032	76.646
	1 st Sankaran	53.105	55.293	56.770	59.760	64.328	71.330	76.879
	2nd Sankaran	52.574	54.808	56.311	59.347	63.968	71.030	76.614
70	3rd Sankaran	52.479	54.718	56.224	59.266	63.894	70.964	76.553
	Johnson	50.262	52.456	53.936	56.932	61.507	68.518	74.073
	Johnson-Kotz	51.262	53.456	54.936	57.932	62.507	69.518	75.073
	Bol'shev-Kumetzov	52.480	54.720	56.228	59.279	63.946	71.146	76.913
	1st Cox-Reid	52.478	54.696	56.174	59.131	63.565	70.218	75.392
	2nd Cox-Reid	52.601	55.185	56.908	60.355	65.524	78.277	79.308
	Exact	52.480	54.719	56.225	59.266	63.894	70.965	76.553
	IstPatnaik	78.710	81.063	82.641	85.817	90.629	97.938	103.688
	2nd Patnaik	78.427	80.772	82.345	85.512	90.310	97.602	103.340
	Pearson	78.710	81.061	82.637	85.808	90.608	97.897	103.630
	Abdel-Aty	78.710	81.063	82.641	85.817	90.629	97.938	103.688
	1st Sankaran	79.328	81.643	83.198	86.330	91.081	98.311	104.077
	2nd Sankaran	78.857	81.204	82.777	85.943	90.736	98014	103.739
100	3rd Sankaran	78.710	81.061	82.637	85.808	90.609	97.897	103.630
	Johnson	76.507	78.826	80.382	83.518	88.274	95.510	101.210
	Johnson-Kotz	77.507	79.826	81.382	84.518	89.274	96.510	102.210
	Bol'shev-Kumetzov	78.710	81.061	82.638	85.814	90.634	97.987	103.808
	1st Cox-Reid	78.709	81.047	82.605	85.722	90.398	97.412	102.867
	2nd Cox-Reid	78.813	81.465	83.234	86.770	92.074	100.030	106.218
	Exact	78.710	81.061	82.637	85.808	90.609	97.897	103.630

TABLE 2 *(Cont.)*

α **= 0.10**

v	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	IstPatnai	0.388	1.437	2.396	4.663	8.566	15.030	20.355
	2ndPatnaik	0.231	1.217	2.162	4.419	8.320	14.784	20.111
	Pearson	0.305	1.194	2.119	4.362	8.260	14.728	20.057
	Abdel-Aty	0.372	1.429	2.394	4.667	8.574	15.040	20.366
	1 st Sankaran	0.503	1.205	2.108	4.337	8.231	14.699	20.030
	2nd Sankaran	0.340	1.157	2.077	4.320	8.221	14.693	20.026
2	3rd Sankaran	0.316	1.220	2.135	4.363	8.250	14.712	20.040
	Jobnson	-1.625	-0.731	0.219	2.499	6.432	12.931	18.276
	Johnson-Kotz	0.625	0.269	1.219	3.499	7.432	13.931	19.276
	Bol'shev~Kuznetzov	0.341	1.031	i.741	3.760	8.284	18.440	29]34
	1 st Cox-Reid	0.316	0.632	0.843	1.264	1.896	2.845	3.582
	2nd Cox-Reid	0.637	1.917	2.769	4.475	7.034	10.872	13.857
	Exact	0.344	1.190	2.093	4.326	8.224	14.695	20.027
	1stPatnaik	1.381	2.706	3.773	6.174	10.184	16.731	22.095
	2nd Patnaik	1.221	2.505	3.560	5.948	9.951	16.495	21.859
	Pearson	1.351	5.564	3.590	5.946	9.930	16.464	21.825
	Abdel-Aty	1.378	2.706	3.776	6.190	10.193	16.741	22.105
	1 st Sankaran	1.590	2.631	3.623	5.950	9.920	16.448	21.807
	2nd Sankaran	1.337	2.525	3.549	5.906	9.893	16.431	21.794
4	3rd Sankaran	1.350	2.570	3.593	5.943	9.920	16.450	21.809
	Jobnson	-0.439	0.722	1.750	4121	8.126	14.682	20.055
	Jobnson-Kotz	0.56]	1.722	2.750	5.121	9.126	15.682	21.055
	Bol'shev-Kuznetzov	1.357	2.565	3.644	6.457	12.319	24.803	37.575
	1 sI Cox-Reid	1.330	2.127	2.659	3.723	5.318	7.711	9.573
	2nd Cox-Reid	1.634	3.345	4.485	6.766	10.188	15.320	19.312
	Exact	1.357	2.558	3.573	5.919	9.899	16.435	21.797
	IstPatnaik	3.268	4.819	5.986	8.521	12.653	19.304	24.719
	2ndPatnaik	3.119	4.640	5.795	8.315	12.437	19.081	24.493
	Pearson	3.257	4.743	5.875	8.362	12.456	19.080	24.484
	Abdel-Aty	3.271	4.824	5.992	8.528	12.662	19.314	24.729
	1st Sankaran	3.516	4.861	5.953	8.401	12.653	19.304	24.719
	2nd Sankaran	3.233	4.706	5.837	8.325	12.421	19.049	24.455
7	3rd Sankaran	3.259	4.745	8.875	8.359	12.448	19.068	24.470
	Johnson	1.563	2.981	4.100	6.583	10.682	17.317	22.729
	Johnson-Kotz	2.563	3.98]	5.100	7.583	11.682	18.317	23.729
	Bol'shev-Kuznetzov	3.258	4.769	5.975	8.861	14.380	25.332	36.069
	1st Cox-Reid	3.238	4.452	5.261	6.880	9.309	12.951	15.784
	2nd Cox-Reid	3.501	5.503	6.838	9.508	13.514	19.521	24.194
	Exact	3.257	4.738	5.863	8.342	12.431	19.054	24.459
	IstPatnaik	5.372	7.069	8.303	10.935	15.161	21.898	27.357
	2nd Patnaik	5.230	6.902	8.125	10.743	14.957	21.685	27.140
	Pearson	5.366	7.022	8.228	10.818	15.003	21.707	27.151
	Abdel-Aty	5.376	7.075	8.309	10.942	15.170	21.908	27.366
	1 st Sankaran	5.631	7.170	8.337	10.882	15.037	21.721	27.157
	2nd Sankaran	5.340	6.988	8.194	10.784	14.971	21.678	27.123
10	3rd Sankaran	5.370	7.025	8.230	10.815	14.997	21.697	27.139
	Jobnson	3.722	5.311	6.499	9.073	13.254	19.961	25.409
	Jobnson-Kotz	4.722	6.311	7.499	10.073	14.254	20.961	26.409
	Bol'shev-Kuznetzov	5.366	7.043	8.305	11.177	16.352	26.068	35.244
	1st Cox-Reid	5.352	6.811	7.784	9.730	12.649	17.028	20.434
	2nd Cox-Reid	5.584	7.747	9.181	12.058	16.374	22.848	27.883
	Exact	5.366	7.017	8.219	10.802	14.983	21.685	27.128
	1st Patnaik	6.845	8.616	9.886	12.570	16.850	23.638	29.123
	2nd Patnaik	6.706	8.456	9.715	12.386	16.653	23.430	28.911
	Pearson	6.841	8.580	9.827	12.472	16.712	23.464	28.933
	Abde1-Aty	6.850	8.623	9.893	12.578	16.858	23.647	29.132
	1 st Sankaran	7.108	8.742	9.950	12.551	16.758	23.487	28.497
	2nd Sankaran	6.814	8.548	9.794	12.441	16.682	23.437	28.907
12	3rd Sankaran	6.846	8.584	9.829	12.471	16.707	23.456	28.922
	Johnson	5.219	6.895	8.121	10.748	14.978	21.729	27.200
	Johnson-Kotz	6.219	7.895	9.121	11.748	15.978	22.729	28.200
	Bol'shev-Kuznetzov	6.841	8.598	9.889	12.760	17.789	26.957	35.435
	1 st Cox-Reid	6.829	8.405	9.456	11.557	14.709	19.437	23.114
	2nd Cox-Reid	7.047	9.275	10.761	13.732	18.190	24.876	30.076
	Exact	6.841	8.576	9.819	12.459	16.694	23.440	28.912
	IstPatnaik	9.905	11.792	13.118	15.889	20.260	27.136	32.670
	2nd Patnaik	9.771	11.641	12.958	15.716	20.073	26.938	32.466
	Pearson	9.903	11.769	13.079	15.819	20.152	26.992	32.507
	Abde1-Aty	9.911	11.799	13.125	15.897	20.268	27.145	32.678
	1 st Sankaran	10.170	11.950	13.225	15.920	20.217	27030	32.534
	2nd Sankaran	9.876	11.740	13.050	15.790	20.125	26.967	32.483
16	3rd Sankaran	9.908	11.773	13.082	15.819	20.149	26.986	32.498
	Johnson	8.311	10.121	11.410	14.126	18.443	25.276	30.790
	Johnson-Kotz	9.311	11.121	12.410	15.126	19.443	26.276	31.790
	Bo1'shev-Kuznetzov	9.903	11.781	13.120	16.010	20.872	29.349	36.926
	1 st Cox-Reid	9.894	11.640	12.804	15.132	18.624	23.863	27.937
	2nd Cox-Reid	10089	12.418	13.970	17.076	21.734	28.721	34.155
	Exact	9.903	11.766	13.073	15.809	20.138	26.975	32.488

TABLE2 *(Cont.)*

α **=0.10**

v	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	IstPatnaik	16.318	18.361	19.768	22.657	27.177	34.198	39.812
	2nd Patnaik .	16.189	18.220	19.620	22.509	27.006	34.015	39.623
	Pearson	16.317	18.349	19.747	22.625	27.106	34.094	39.689
	Abdel-Aty	16.323	18.367	19.775	22.674	27.185	34.206	39.820
	1 st Sankaran	16.580	18.551	19.920	22.758	27.201	34.157	39.738
	2nd Sankaran	16.293	18.327	19.725	22.604	27.087	34.076	39.671
24	3rd Sankaran	16.322	18.354	19.751	22.628	27.106	34.090	39.684
	Johnson	14.759	16.748	18.126	20.978	25.437	32.409	37.998
	Johnson-Kotz	15.759	17.748	19.126	21.978	26.437	33.409	38.998
	Bol'shev-Kumetzov	16.317	18.355	19.768	22.724	27.482	35.349	42.073
	1 st Cox-Reid	16.311	18.268	19.573	22.183	26.098	31.970	36.537
	2nd Cox-Reid	16.475	18.925	20.558	23.825	28.724	36.074	41.790
	Exaet	16.3164	18.3475	19.7436	22.6191	27.0967	34.081	39.674
	IstPatnaik	21.201	23.415	24.867	27.838	32.430	39.539	45.205
	2nd Patnaik	2 l.l 65	23.279	24.725	27.686	32.267	39.364	45.023
	Pearson	21.290	23.407	24.852	27.808	32.376	39.455	45.102
	Abdel-Aty	21.296	23.421	24.873	27.845	32.437	39.547	45.212
	1 st Sankaran	25.551	23.618	25.037	27.956	32.487	39.534	45.164
	2nd Sankaran	21.272	23.391	24.837	27.794	32.363	39.443	45.089
30	3rd Sankaran	21.295	23.412	24.856	27.811	32.377	39.453	45098
	Johnson	19.748	21.828	23.254	26.184	30.729	37.790	43.428
	Johnson-Kotz	20.748	22.828	24.254	27.184	31.729	38.790	44.428
	Bol'shev-Kumetzov	21.290	23.411	24.866	27.873	32.629	40.314	46.747
	1 st Cox-Reid	21.286	23.346	24.719	27.466	31.585	37765	42.572
	2nd Cox-Reid	21.435	23.942	25613	28.956	33.970	41.491	47.341
	Exact	21.2899	23.4060	24.8496	27.8030	32.3683	39.444	45.090
	1st Patnaik	38.445	40.739	42.287	45.423	50.212	57.543	63.342
	2ndPatnaik	38.324	40.611	42.156	45.285	50.065	57.385	63.178
	Pearson	38.445	40.736	42.281	45.410	50.185	573495	63.280
	Abdel-Aty	38.449	40.744	42.292	45.429	50.217	57.549	63.348
	1 st Sankaran	38.699	40.959	42.487	45.588	50.331	57.609	63.376
	2nd Sankaran	38.456	40.749	42.295	45.424	50.199	57508	63.290
50	3rd Sankaran	38.449	40.740	42.285	45.414	50.187	57496	63.280
	Johnson	36.931	39.197	40.729	43.836	48.588	55876	61.649
	Johnson-Kotz	37.931	40.197	41.429	44.836	49.588	56.876	62.649
	Bol'shev-Kuznetzov	38.444	40.737	42.286	45.434	50.280	57830	63.934
	1 st Cox-Reid	38.442	40.704	42.211	45.226	49.749	56.533	61.809
	2nd Cox-Reid	38.561	41.178	42.923	46.412	51.647	59.498	65.604
	Exact	38.4445	40.7351	42.280	45.4076	50.1808	57.489	63.273
	IstPatnaik	56.121	58.512	60.119	63.360	68.279	75.765	81.663
	2nd Patnaik	56.002	58.389	59.993	63.228	68.140	75.618	81.510
	Pearson	56.121	58.511	60.116	63.352	68.262	75.735	81.622
	Abdel-Aty	56.125	58.517	60.124	63.364	68.283	75.771	81.668
	1st Sankaran	56.371	58.739	60.331	63.544	68.484	75.872	81.741
	2nd Sankaran	56.174	58.564	60.169	63.404	68.312	75.780	81.663
70	3rd Sankaran	56.125	58.515	60.120	63.356	68.266	75.738	81.623
	Johnson	54.621	56.993	58.588	61.806	66.696	74.146	80.020
	Johnson-Kotz	55.621	57.621	57.993	59.588	62.806	67.696	75.146
	Bol'shev-Kumetzov	56.121	58.512	60.118	63.364	68.310	75.906	81.961
	1 st Cox-Reid	56.119	58.491	60.071	63.233	67976	75.089	80622
	2nd Cox-Reid	56.221	58.897	60.681	64.249	69.601	77.629	83.873
	Exact	56.1206	58.5106	60.1155	63.3508	68.2601	75.731	81..617
	IstPatnaik	83.183	85.666	87.329	90.672	95.725	103.380	109.387
	2ndPatnaik	83.066	85.546	87.207	90.546	95.594	103.242	109.244
	Pearson	83.183	85.665	87.327	90.668	95.716	103.363	109.362
	Abdel-Aty	83.186	85.669	87.333	90.676	95.729	103.384	109.391
	1 st Sankaran	83.428	85.895	87.548	90.872	95.899	103.519	109.503
	2nd Sankaran	83.310	85.790	87.451	90.788	95.831	103.468	109.461
100	3rd Sankaran	83.186	85.669	87.331	90.671	95.720	103.365	109.364
	Johnson	81.696	84.165	85.819	89.146	94.177	101.803	107.790
	Johnson-Kotz	82.696	85.165	86.819	90.146	95.177	102.803	108.790
	Bol'shev-Kumetzov	83.183	85.665	87.328	90.673	95.738	103.443	109.525
	1 st Cox-Reid	83.182	85.652	87.300	90.594	95.535	102.948	108.713
	2nd Cox-Reid	83.268	85.996	87.816	91.454	96.911	105.097	111.464
	Exact	83.183	85.665	87.327	90.667	95.715	103.360	109.359

TABLE 2 *(Cont.)*

$\alpha = 0.25$

ν	APPROXIMA TIONS	λ						
		1	4	6	10	16	25	32
	1st Patnaik	0.966	2.721	4.109	7.130	11.978	19.610	25.714
	2nd Palnaik	0.954	2.747	4.155	7.201	12.071	19.720	25.833
	Pearson	0.950	2.711	4.117	7.164	]2.039	19.693	25.809
	Abdel-Aty	0.982	2.747	4.137	7.158	12.004	19.632	25.735
	1 sI Sankaran	0.803	2.593	4.016	7.084	11.975	19.643	25.765
	2nd Sankaran	0780	2.597	4.021	7.086	11.979	19.646	25.767
	3rd Sankaran	0.945	2.669	4.067	7111	11.990	19.650	25.769
	Johnson	0.092	1.984	3.431	6.526	11.438	19.122	25.251
	Johnson-Kolz	1.092	2.984	4.437	7.526	12.438	20.122	26.251
	Bol'shev-Kuznelzov	0.925	2.711	4.518	9.610	20.942	46.252	72.834
	1.1 Cox-Reid	0.863	1.726	2.301	3.452	5.178	7.767	9.781
	2nd Cox-Reid	1.249	3.270	4.617	7.311	11.353	17.415	22.130
	Exact	0.927	2.628	4.628	7.095	11.982	19.647	25.768
	IslPalnaik	2.455	4.398	5.845	8.958	13.8217	21A859	27.6047
	2nd Palnaik	2.481	4.446	5.904	9.005	13.9165	21.5965	27.7232
	Pearson	2.453	4.404	5.861	8.963	13.8783	21.5638	27.6939
	Abdel-Aty	2.474	4.422	5.869	8.952	13.8449	21.5069	27.6242
	1.1 Sankaran	2.322	4.291	5.761	8.880	13.8118	21.5106	27 6472
	2nd Sankaran	2.311	4.304	5.775	8.893	13.8219	21.5182	25.6534
4	3rd Sankaran	2.464	4.387	5.834	8.928	13.8407	21. 5278	27.6597
	Johnson	1.663	3.696	5.185	8.327	13.2770	20.9900	27.1340
	johnson-Kotz	2.663	4.696	6.185	9.327	14.2768	21.9905	28.1342
	Bol'shev-Kuznetzov	2.444	4.498	6.276	10.812	20.0649	39.4565	59.1116
	1 st Cox-Reid	2.403	3.845	4.806	6.729	9.6128	13.9385	17.3030
	2nd Cox-Reid	2.689	4.987	6.519	9.583	14.1789	21.0731	26.4352
	Exact	2.442	4.356	5.807	8.909	13.8300	21.5220	27.6560
	1st Patnaik	4.8879	6.9893	8.4932	11.6455	16.5955	24.3038	30.4432
	2nd Patnaik	4.9342	7.0504	8.5624	11.7278	16.6918	24.4139	30.5607
	Pearson	4.8889	6.9990	8.5105	11.6777	16.6460	24.3743	30.4524
	Abdel-Aty	4.9046	70089	8.5136	11.6663	16.6157	24.3227	30.4611
	1st Sankaran	4.7570	6.8859	8.4080	11.5911	16.5749	24.3168	30.4743
	2nd Sankaran	4.7658	6.9104	8.4335	11.6143	16.5938	21.3312	30.4864
	3rd Sankaran	4.9023	6.9974	8.5009	11.6584	16.6206	24.3465	30.4971
	Johnson	4.1384	6.3057	78422	11.0435	16.0431	23.7984	29.9625
	Johnson-Kolz	5.1384	7.3057	8.8422	12.0345	170431	24.7984	30.9625
	Bol´shev--Kuznetzov	4.8856	7.0527	8.7259	12.6223	19.8403	33.7577	47.1460
	1st Cox-Reid	4.8627	6.6862	7.9019	10.3332	13.9802	19.4508	23.7056
	2nd Cox-Reid	5.0768	7.5428	9.1868	12.4747	17.4066	24.8045	30.5584
	Exact	4.884	6.9730	8.4770	11.6390	16.6070	24.3380	30.4910
	1st Patnaik	7.4263	9.6296	11.1746	14.3808	19.3779	27.1258	33.2844
	2nd Patnaik	7.4813	9.6967	11.2484	14.4655	19.4747	27.2352	33.4008
	Pearson	7.4273	9.6383	11.1899	14.4090	19.4227	27.1896	33.3593
	Abdol-Aty	7.4409	9.6463	11.1920	14.3988	19.3958	27.1429	33.3009
	1 st Sankaran	7.2913	6.5220	11.0837	14.3182	19.3472	27.1281	33.3050
	2nd Sankaran	7.3151	9.5564	11.1186	14.3502	19.3740	27.1490	33.3228
7	3rd Sankaran	7.4402	9.6426	11.1882	14.3987	19.4054	27.1680	333367
	Johnson	6.6957	8.9531	10.5259	13.7754	18.8182	26.6113	32.7945
	Johnson-Kotz	7.6957	9.9531	11.5259	14.7754	19.8182	27.6113	33.7945
	Bol'shov-Kuznelzov	7.4257	9.6685	11.3114	]4.9518	21.2988	32.8137	43.4244
	1st Cox-Reid	7.4I09	9.4321	10.7795	13.4744	17.5167	23.5802	28.2962
	2nd Cox-Reld	7.5878	101396	11.8409	15.2433	20.3469	28.0024	33.9567
	Exact	7.425	9.6220	11.1680	14.3800	19.3970	271580	33.3290
	1st Patnaik	9.1535	11.4081	12.9754	16.2]20	21.2369	29.0092	35.1800
	2nd Patnaik	9.2121	11.4776	13.0510	16.2976	21.3339	29.1181	35.2956
	Pearson	9.1543	11.4159	12.9891	16.2377	21.2784	29.0690	35.2508
	Ahdol-Aty	9.1670	11.4233	12.9913	16.2286	21.2536	29.0253	35.1956
	1 sI Sankaran	9.0157	11.2971	12.8803	16.1440	21.2000	29.0050	35.1942
	2nd Sankaran	9.0479	11.3375	12.9209	16.1816	21.3318	29.0301	35.2156
12	3rd Sankaran	9.1667	11.4220	12.9904	16.2312	21.2649	29.0507	35.2309
	Johnson	8.4309	10.7342	12.3270	15.6041	20.6727	28.4892	34.6843
	Johnon-Kotz	9.4309	11.7342	13.3270	16.6041	21.6727	29.4892	35.6843
	Bol'shev-Kuznetzov	9.1533	11.4375	130767	16.6344	22.6694	33.2932	42.8596
	1st Cox-Reid	9.1416	11.2512	12.6576	15.4704	19.6896	26.0185	30.9409
	2nd Cox-Reid	9.3019	11.8922	13.6191	17.0729	22.2536	30.0246	36.0687
	Exact	9.153	11.404	12.971	16.213	21.250	29.0400	35.2230
	1st Patnaik	12.6645	14.9979	16.6014	19.8896	24.9638	32.7807	38.9743
	2nd Patnaik	1.7280	15.0706	16.6793	19.9761	25.0605	32.8884	39.0885
	Pearson	12.6652	15.0040	16.6124	19.9108	24.9992	32.8335	39.0378
	Abdol-Aty	12.6763	15.0110	16.6151	19.9039	24.9785	32.7952	38.9885
	1st Sankaran	12.5220	14.8803	16.4985	19.8118	24.9155	32.7645	38.9767
	2nd Sankaran	12.5693	14.9324	16.5502	19.8598	24.9570	32.7980	39.0055
16	3rd Sankaran	12.6764	15.0117	16.6168	19.9093	24.9914	32.8204	39.0226
	Johnson	11.9531	14.3270	15.9526	19.2768	24.3914	32.2507	38.4683
	Johnson-Kctz	129531	15.3270	16.9526	20.2768	25.3914	33.2507	39.4683
	Bol'.hev-Kuznetzov	12.6646	15.0162	16.6626	20.1442	25.8389	35.4431	43.7943
	1st Cox-Reid	12.6567	14.8903	16.3793	19.3574	23.8244	30.5251	35.7367
	2nd Cox-Reid	12.7938	15.4384	17.2014	20.7276	26.0168	33.9506	40.1214
	Exact	12.6640	14.9960	16.6010	19.8930	24.9770	32.8090	39.0130

TABLE2 *(Cont.)*

α **=O.25**

v	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	IstPatnaik	19.8348	22.2720	23.9272	27.2934	32.4473	40.3408	46.5751
	2nd Patnaik	19.9036	22.3480	24.0072	27.3805	32.5431	40.4464	46.6866
	Pearson	19.8351	22.2759	23.9345	27.3083	32.4733	40.3826	46.6270
	Abdel-Aty	19.6856	22.1440	238118	27.2000	32.3808	40.3050	46.5578
	1st Sankaran	]9.7604	22.2193	23.8855	27.2688	32.4416	40.3554	46.6018
	2nd Sankaran	19.8446	22.2840	23.9409	27.3113	32.4721	40.3760	46.6179
24	3rd Sankaran	19.8351	22.2759	23.9345	27.3083	32.4733	40.3826	46.6270
	Johnson	19.1362	21.6041	23.2768	26.6727	31.8619	39.7945	46.0519
	Johnson-Kotz	20.1352	22.5041	24.2768	27.6727	32.8619	40.7945	47.0519
	Bol'shev-Kuznetzov	19.8349	22.2809	23.9559	27.4120	32.8617	41.6336	48.9519
	]st Cox-Reid	19.8305	22.2101	23.7966	26.9694	31.7288	38.8677	44.4203
	2nd Cox-Reid	19.9403	22.6496	24.4558	28.0681	33.4867	41.6145	47.9361
	Exact	19.8350	22.2720	23.9280	27.2980	32.4590	40.3640	46.608
	IstPatnaik	25.2966	27.7866	29.4696	32.330]	38.032]	46.0243	52.2350
	2nd Patnaik	25.3679	27.8639	29.5505	32.9673	38.1771	46.1250	52.3954
	Pearson	25.2969	27.7894	29.4752	32.8920	38.1039	46.0600	52.3307
	Abdel-Aty	25.3053	27.7958	29.4793	32.8903	38.0927	46.0352	52.2965
	1st Sankaran	25.1440	27.6528	29.3472	32.7778	38.0050	45.9767	52.2561
	2nd Sankaran	25.2390	27.7459	29.4379	32.8627	38.0805	46.0403	52.3121
30	3rd Sankaran	25.3054	27.7972	29.4819	32.8963	38.1045	46.0564	52.3247
	Johnson	24.6041	27.1199	28.8182	32.2551	37.4892	45.4683	51.7519
	Johnson-Kotz	25.6041	28.1199	29.8182	33.2551	38.4892	46.4683	52.7519
	Bol'shev-Kuznetzov	25.2967	27.7924	29.4882	32.9565	38.3507	41.8736	53.8605
	1st Cox-Reid	25.2935	27.7413	29.3731	32.6368	37.5323	44.8756	50.5871
	2nd Cox-Reid	25.3909	28.1306	29.9571	33.6]01	39.0896	47.3088	53.7016
	Exact	25.2970	27.7870	29.4710	32.8840	38.0920	46.0450	52.315
	Jst Patnaik	43.8024	46.3992	48.1423	51.6533	56.9715	65.0400	71.3746
	2nd Patnaik	43.8781	46.4790	48.2247	51.7403	57.0645	65.1404	71.4798
	Pearson	43.8025	46.4005	48.1450	51.6596	56.9841	65.0625	71.4045
	Abdel-Aty	43.8090	46.4062	48.1495	51.6608	56.9794	65.0482	71.3829
	1st Sankaran	43.6429	46.2534	48.0050	51.5315	56.8701	64.9640	71.3151
	2nd Sankaran	43.8057	46.4096	48.1567	51.6740	56.9995	65.0762	71.4161
50	3rd Sankaran	43.8091	46.4070	48.1512	51.6649	56.9877	65.0636	71.4038
	Johnson	43.1215	43.7355	47.4892	51.0193	56.3623	64.4613	70.8154
	Johnson-Kotz	44.1215	46.7355	48.4892	52.0193	57.3623	65.4613	71.8154
	Bol'shev-Kuznetzov	13.8024	46.4010	48.1490	51.6801	57.0655	65.3481	71.9569
	1st Cox-Reid	43.8009	46.3775	48.0951	51.5305	56.6836	64.4131	70.4250
	2nd Cox-Reid	43.8748	46.6729	48.5383	52.2692	57.8654	66.2598	72.7888
	Exact	43.8020	46.4000	48.1430	51.6560	56.9790	65.0540	71.3950
	IstPatnaik	62.5806	65.2372	67.0158	70.589	75.985	84.143	90.534
	2nd Patnaik	62.6587	65.3184	67.0990	70.676	76.076	84.241	90.636
	Pearson	62.5807	65.2380	67.0174	70.593	75.993	84.159	90.555
	Abdel-Aty	62.5862	65.2430	67.0218	70.595	75.991	84.150	90.540
	1 st Sankaran	62.4175	650847	66.8701	70.456	75.869	84.049	90.454
	2nd Sankaran	62.6505	65.3085	67.0877	70.662	76.058	84.217	90.607
70	3rd Sankaran	62.5862	65.2436	67.0229	70.598	75.997	84.162	90.556
	Johnson	61.9061	64.5756	66.3623	69.951	75.366	83.551	89.958
	Johnson-Kotz	62.9061	65.5756	67.3623	70.951	76.366	84.551	90.958
	Bol'shev-Kuznetzov	62.5806	65.2384	67.0192	70.602	76.031	84.296	90.826
	1st Cox-Reid	62.5797	65.2239	66.9868	70.5!2	75.801	83.733	89.903
	2nd Cox-Reid	62.6414	65.4707	67.3569	71.129	76.788	85.276	91.877
	Exact	62.5810	65.2380	67.017	70.591	75.990	84.154	90.548
	1st Patnaik	91.035	93.746	95.558	99.123	104.667	112.923	119.376
	2nd Patnaik	91.115	93.829	95.642	99.279	104.758	113.019	119.475
	Pearson	91.035	93.747	95.559	99.195	104.672	112.933	119.390
	Abdel-Aty	91.040	93.751	95.563	99.198	104.672	112.928	119.381
	1st Sankaran	90.869	93.588	95.405	99.049	104.537	112.811	119.277
	2nd Sankaran	91.211	93.918	45.728	99.357	104.825	113.071	119.517
100	3rd Sankaran	91.040	93.751	95.564	99.200	104.676	112.936	119.392
	Johnson	90.366	93.087	94.905	98.551	104.041	112.317	118.784
	Johnson-Kotz	91.366	94.087	95.905	99.551	105.041	113.317	119.784
	Bol'shev-Kuznetzov	91.035	93.747	95.560	99.199	104.689	112.994	119.513
	1 st Cox-Reld	91.035	93.739	95.541	99.147	104.555	112.667	118.976
	2nd Cox-Reid	91.086	93.943	95.847	99.657	105.371	113.942	120.609
	Exact	91.035	93.747	95.559	99.194	104.670	112.930	119.386

TABLE 2 ***(Cont.)***

$\alpha = 0.50$

v	APPROXIMATIONS	λ						
		1	4	6	**10**	**16**	**25**	**32**
	1st Patnaik	2.]724	4.9329	6.8684	10.8024	16.7576	25.7275	32.7150
	2nd Patnaik	2.3333	5.1667	7. 1250	11.0833	17.0556	26.0370	33.0294
	Pearson	2.2160	5.0910	7.0660	11.0420	17.0270	26.0180	33.0140
	Abdel-Aty	2.1960	4.9560	6.8890	10.8]90	16.7700	25.7360	32.7220
	1 st Sankaran	2.0000	5.0000	7.ססס	]1.0000	17.0000	26.0000	33.0000
	2nd Sankaran	2.0740	5.0330	7.0240	11.0150	17.0100	26.0060	33.0050
2	3rd Sankaran	2.2060	5.0480	7.0230	11.0060	17.0000	25.9980	32.9980
	Johnson	2.0000	50000	7.ססס	11.0000	17.0000	26.0000	33.0000
	Johnson-Kotz	3.0000	6.0000	8.ססס	12.0000	18.0000	27.0000	34.0000
	Bol'shev-Kuznetzov	2.1930	5.9710	9.6210	19.6410	41.4640	89.4840	39.5150
	1 st Cox-Reid	2.0794	4.1589	5,5452	8.3178	12.4766	18.7150	23,5670
	2nd Cox-Reid	2.3715	5.3271	7.2975	1].2383	17.1495	26.0163	32.9123
	Exact	2.1770	5.0440	7.0280	11.0170	17.0100	26.0070	330052
	1st Patnaik	4.2263	7.0253	8.9559	12.8752	18.8136	27.7685	34.7489
	2nd Patnaik	4.4000	7.2500	9.2000	13.1429	19.1000	28.0690	34.0556
	Pearson	4.2470	7.1280	9.0970	13.0650	19.0440	28.0290	35.0230
	Abdel-Aty	4.2420	7.0410	8.9710	12.8880	18.8240	27.7760	34.7550
	1 st Sankaran	4.0000	7.0000	9.0000	13.0000	19.0000	28.0000	35.0000
	2nd Sankaran	4.1390	7.0790	9.0610	]3.0420	19.0280	28.0190	35.0150
4	3rd Sankaran	4.2530	7,1130	9.0770	13.0430	19.0240	28.0130	35.0090
	Johnson	4,0000	7.0000	9.0000	13.0000	19.0000	28.0000	35.0000
	Johnson-Kotz	5.0000	8.0000	10,0000	14.0000	20.8240	29.0000	36.0000
	Bol'shev-Kuznetzov	4.2420	7.4530	10.0550	16.3700	28.6140	53.2190	77.5320
	1 st Cox-Reid	4.1959	6.7134	8.3917	11.7484	16.7835	24.3360	30.2102
	2nd Cox-Reid	4.3524	7.3395	9.3310	13.3138	19.2881	28.2495	35.2195
	Exact	4.2350	7.1020	9.0720	13.0460	19.0300	28.0190	35.0150
	1st Patnaik	7.2638	10.1055	12.0397	15.9537	21.8800	30.6207	37.7933
	2ndPatnaik	7.4375	10.3182	12.2692	16.2059	22.1522	31.1094	38.0897
	Pearson	7.2730	10.1670	12.1330	16.0940	22.0660	31.0450	38.0360
	Abdel-Aty	7.2730	10.1160	12.0500	15.9630	21.8880	30.8270	37.7990
	1 st Sankaran	7.0000	10.0000	]2.0000	16.0000	22.0000	31.0000	38.0000
	2nd Sankaran	7.1850	10.1240	12.1010	16.0730	22.0520	31.0350	38.0290
7	3rd Sankaran	7.2800	10.1640	12.1250	16.0830	22.0530	31.0330	38.0250
	Johnson	7.0000	10.0000	12.0000	16.0000	22.0000	31.0000	38.0000
	Johnson-Kotz	8.0000	11.0000	13.0000	17.0000	23.0000	32.0000	39.0000
	Bol'shev-Kuznetzov	7.2710	10.2780	12.4730	17.3210	25.7390	40.9450	54.9100
	1st Cox-Reid	7.2524	9.9720	11.7851	15.4113	20.8505	29.0094	35.3552
	2nd Cox-Reid	7.3443	10.3399	12.3369	16.3309	22.3220	31.3086	38.2982
	Exact	7.2690	10.1540	12.1180	16.0800	22.0540	31.0360	38.0291
	1st Patnaik	10.2319	13.1523	15.0933	19.0094	24.0314	33.3640	40.3314
	2nd Patnaik	10.4545	13.3571	15.3571	19.2500	25.1923	34.1429	41.1190
	Pearson	10.2870	13.1940	15.1590	19.1180	25.0840	34.0590	41.0480
	Abdel-Aty	10.2890	13.1600	15.1010	19.0170	24.9380	33.8700	40.8360
	1 st Sankaran	10.0000	13.0000	15.0000	19.0000	25.0000	34.0000	41.0000
	2nd Sankaran	10.2130	13.1560	15.1310	19.1000	25.0720	34.0510	41.0410
10	3rd Sankaran	10.2930	13.1940	15.1570	19.1110	25.0760	34.0500	40.0400
	Johnson	10.0000	13.0000	15.0000	19.0000	25.0000	34.0000	41.0000
	Johnson-Kotz	11.0000	14.0000	16,0000	20.0000	26.0000	35.0000	42.0000
	Bul'shev-Kuznetzov	10.2860	13.2440	15.3190	19.7180	26.9370	39.1630	49.8310
	1st Cox-Reid	10.2760	13.0785	14.9469	18.6836	24.2887	32.6964	39.2356
	2nd Cox-Reid	10.3411	13.3388	15.3373	19.3343	25.3299	34.3231	41.3179
	Exact	10.2850	13.1860	15.1500	19.107	25.0750	34.0520	41.0420
	1st Patnaik	12.2895	15.1748	17.1193	21.0383	26.9596	35.8891	42.8540
	2nd Patnaik	12.4615	15.3750	17.3333	21.2727	27.2143	36.1622	43.1364
	Pearson	12.293	15.207	17.173	21.131	27.096	36.068	43.056
	Abdel-Aty	12.295	15.181	17.123	21.044	26.965	35.894	42.859
	1st Sankaran	12.000	15.000	17.000	21.000	27.000	36.000	43.000
	2nd Sankaran	12.228	15.173	17.149	21.115	27.085	36.061	43.050
12	3rd Sankaran	12.298	15.209	17.173	21.127	27089	36.061	43.048
	Johnson	12.000	15.000	17.000	21.000	27.000	36.000	43.000
	Johnson-Kotz	13.000	16.000	18.000	22.000	28.000	37.000	44.000
	Bol'shev-Kuznetzov	12.293	15.240	17.280	25.539	28.376	39.641	49.241
	1 st Cox-Reid	12.2853	15.1204	17.01 05	20.7906	26,4608	34.9660	41.5812
	2nd Cox-Reid	12.3398	15.3382	17.3372	21.3351	27.3319	36.3272	43.3236
	Exact	12.292	15.201	17.166	21.122	27.087	36.061	43.0497
	IstPatnaik	16.2996	19.2059	21.1576	25.0830	31.0057	39.9320	46.8936
	2nd Patnaik	16.4706	14.4000	21.3636	25.3077	31.2500	40.1951	47.1667
	Pearson	16.302	19.228	21.196	25.153	31.115	40084	47.069
	Abdel-Aty	16.304	19.211	21.162	25.088	31.010	39.936	46.897
	1st Sankaran	16.000	19.000	21.000	25.000	31.000	40.000	47000
	2nd Sankaran	16.254	19.203	21.179	25.143	31.110	40.080	47.066
16	3rd Sankaran	16.306	19.230	21.196	25.151	31.111	40.079	47.064
	Johnson	16.000	19.000	21.000	25.000	31.000	40,000	47.000
	Johnson-Kotz	17.000	20.000	22.000	26.000	32.000	41.000	48.000
	Bol'shev-Kuznetzov	16.302	19.244	21.250	25.368	31.811	42.073	50.551
	1st Cox-Reid	16.2972	19.1731	21.0904	24.9251	30.6770	39.3049	46.0155
	2nd Cox-Reid	16.3382	19.3373	21.3367.	25.3355	31.3337	40.3310	47.3290
	Exact	16.301	19.224	21.191	25.147	31.1 09	40.078	47.064

TABLE2 ***(Cont.)***

$\alpha = 0.50$

v	APPROXIMATIONS	λ						
		1	4	6	**10**	**16**	**25**	32
	IstPatnaik	24.3102	27.2419	29.2039	33.1413	39.0706	47.9970	54.9559
	2ndPatnaik	24.4800	24.4286	29.4000	33.3529	39.3000	48.2449	55.2143
	Pearson	24.311	27.254	29.226	33.185	39.146	48.11 1	55.093
	Abdel-	24.313	27.245	29.207	33.145	39.074	48.000	54.959
	1st Sankaran	24.000	27.000	29.000	33.000	39.000	48.000	55.000
	2nd Sankaran	24.299	27.254	29.230	33.193	39.154	48.117	55098
24	3rd Sankaran	24.314	27.256	29.227	33.185	39.145	48.108	55.090
	Johnson	24.000	27.000	29.000	33.000	39.000	48.000	55.000
	Johnson-Kotz	25.000	28.000	30.000	34.000	40.000	49.000	56.000
	Bol'shev-Kuznetzov	24.311	27.259	29.246	33.268	39.426	48.943	56.577
	1st Cox-Reid	24.3091	27.2262	29.1709	33.0604	38.8945	47.6458	54.4524
	2nd Cox-Reid	24.3366	27.3362	29.3359	33.3354	39.3346	48.3334	55.3324
	Exact	24.311	27.252	29.224	33.182	39.142	48.107	55.0892
	IstPatnaik	30.3146	33.2579	35.2253	391698	45.1046	54.0335	60.9922
	2ndPatnaik	30.4839	33.4412	35.4167	39.3750	45.3261	54.2727	61.2419
	Pearson	30.315	33.266	35.241	39.203	15.164	54.127	61.108
	Abdel-	30.317	33.260	35.228	39.172	45.107	54.036	60.995
	1st Sankaran	30.000	33.000	35.000	39.000	45.000	54.000	61.000
	2nd Sankaran	30.330	33.287	35.264	39.226	45.185	54.144	61.123
30	3rd Sankaran	30.318	33.268	35.243	39.203	45.163	54.126	61.106
	Johnson	30.000	33.000	35.000	39.000	45.000	54.000	61.000
	Johnson-Kotz	31.000	34.000	36.000	40.000	46.000	55.000	62.000
	Bol´shev-Kuznetzov	30.315	33.269	35.252	39.250	45.329	54.631	62.017
	1 st Cox-Reid	30.3139	33.2475	35.2032	39.1147	44.9819	53.7827	60.6278
	2nd Cox-Reid	30.3359	33.3357	35.3355	39.3352	45.3347	54.3339	61.3333
	Exact	30.315	33.265	35.240	39.200	45.161	54.124	61.1 05
	1st Patnaik	50.322	53.286	55.264	59.224	65.174	74.113	81.075
	2nd Patnaik	50.490	53.463	55.446	59.417	65.379	74.333	81.305
	Pearson	50.322	53.289	55.271	59.240	65.205	74.168	8 l.l 48
	Abdel-	50.323	53.287	55.265	59.226	65.175	74.115	81.077
	1st Sankaran	50.000	53.000	55.000	59.000	65.000	74.000	81.000
	2nd Sankaran	50.428	53.390	55.368	59.330	65.285	74.234	81204
50	3rd Sankaran	50.324	53.290	55.272	59.241	65.205	74.168	8 l.l 47
	Johnson	50.000	53.000	55.000	59.000	65.000	74.000	81.000
	Johnson-Kotz	51.000	54.000	56.000	60.000	66.000	75.000	82.000
	Bol'shev-Kuznetzov	50.322	53.290	55.273	59.525	65.252	74.318	81.427
	1 st Cox-Reid	50.322	53.282	55.255	59.202	65.122	74.002	80.909
	2nd Cox-Reid	50.335	53.335	55.335	59.335	65.344	74.334	81.334
	Exact	50.322	53.289	55.270	59.239	65.204	74.166	81.146
	1st Patnaik	70.325	73.298	75.282	79.251	85.211	94.159	101.126
	2nd Patnaik	70.493	73.473	75.461	79.438	85.407	94.368	101.343
	Pearson	70.325	73.300	75.286	79.260	85.230	94.196	101.l75
	Abdel-Aty	70.326	73.300	75.283	79.252	85.212	94.160	101.l27
	I st Sankaran	70.000	73.000	75.000	79.000	85.000	94.000	101.000
	2nd Sankaran	70.523	73.488	75.467	79.429	85.381	94.324	101.289
70	3rd Sankaran	70.326	73.301	75.287	79.261	85.231	94.196	101.l75
	Johnson	70.000	73.000	75.000	79.000	85.000	94.000	101.000
	Johnson-Kotz	71.000	74.000	76.000	80.000	86.000	95.000	102.000
	Bol'shev-Kuznetzov	70.325	73.301	75.287	79.266	85.249	94.260	101.298
	1st Cox-Reid	70.325	73.296	75.277	79.239	85.182	94.097	101.030
	2nd Cox-Reid	70.334	73.334	75.334	79.334	85.334	94.334	101.334
	Exact	70.325	73.300	75.286	79.260	85.229	94.195	101.174
	1st Patnaik	100.328	103.309	105.296	109.274	115.242	124.201	131.173
	2ndPatnaik	100.495	103.481	105.472	109.455	115.431	124.400	131.379
	Pearson	100.328	103.309	]05.298	109.279	115.253	124.223	131204
	Abdel-Aty	100.328	103.309	105.297	109.274	115.243	124.202	131.173
	15t Sankaran	100.000	103.000	105.000	109.000	115.000	124.000	131.000
	2nd Sankaran	100.665	103.632	105.611	109.573	115.523	124.460	131.419
100	3rd Sankaran	100.328	103.310	]05.299	109.279	115.254	124.223	131.204
	Johnson	100.000	]03.000	105.000	109.000	115.000	124.000	131.000
	Johnson-Kotz	101.000	104.000	106.000	110.000	116.000	]25.000	132.000
	Bol'shev-Kuznetzov	100.328	103.310	105.299	109.281	115.261	]24.249	131.254
	1st Cox-Reid	100.327	103.307	]05.294	109.268	115.228	124.168	131.121
	2nd Cox-Reid	100.334	103.334	105.334	109.334	115.334	124.334	131.334
	Exact	100.328	103.309	105.298	109.278	115.253	124.223	131.203

TABLE2 *(Cont.)*

α = **0.75**

ν	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	1st	4.152	8.133	10.671	15.575	22.674	33.008	40.889
	2nd Patnaik	4.319	8.345	10.891	15.800	22.899	33.230	41.109
	Pearson	4.212	8.308	10.872	15.797	22.904	33.238	41.118
	Abdel-	4.139	8.114	10.651	15.554	22.655	32.990	40.872
	1 st Sankaran	4.107	8.317	10.894	15.826	22.935	33.267	41.145
	2nd Sankaran	4.218	8.349	10.915	15.838	22.942	33.271	41.149
	3rd Sankaran	4.192	8.300	10.873	15.808	22.922	33.258	41.139
	Johnson	3.908	8016	10.569	15.474	22.562	32.878	40.749
	Johnson-Kotz	4.908	9016	11.569	16.474	23.562	33.878	41.749
	Bol'shev-Kuznetzov	4.265	10.019	14.919	27.270	52.178	103.897	156.033
	1 st r.ox-Reid	4.159	8.318	11.090	16.636	24.953	37.430	47.134
	2nd Cox-Reid	4.079	7.998	10.611	15.836	23.674	35.431	44.575
	Exact	4.210	8.339	10.909	15.835	22.940	33.270	44.148
	1st Patnaik	6.713	10.550	13.026	17.854	24.891	35.176	43.035
	2nd Patnaik	6.865	10.737	13.224	18.060	25.102	35.389	43.247
	Pearson	6.735	10.653	13.161	18.023	25.082	35.380	43.243
	Abdel-	6.699	10.533	13.008	17.835	24.873	35.159	43.019
	1 st Sankaran	6.588	10619	13.149	18.030	25.098	35.399	43.263
	2nd Sankaran	6.754	10.694	13.203	18063	25.119	35.412	43.273
4	3rd Sankaran	6.723	10.649	13.162	18.031	25.096	35.397	43.261
	Johnson	6.337	10.304	12.815	17.673	24.723	35.010	42.866
	Johnson-Kotz	7.337	11.304	13.815	18.673	25.723	36.010	43.866
	Bol'shev-Kuznetzov	6.749	11.046	14.084	20.573	31.340	49.820	66.123
	1 st Cox-Reid	6.732	10.771	13.463	18.848	26.926	39.043	48467
	2nd Cox-Reid	6.613	10.296	12.752	17.663	25.030	36.079	44.674
	Exact	6.737	10.674	13.188	18.054	25.114	35.409	43.271
	1st Patnaik	10.315	14.042	16.466	21.219	28.188	38.414	46.244
	2nd Patnaik	10.453	14.206	16.641	21.406	28.384	38.615	46.447
	Pearson	10.324	14.098	16.549	21.338	28.338	38.587	46.426
	Abdel-	10.303	14.027	16.450	21.203	28.172	38.399	46.230
	1 st Sankaran	10.153	14.024	16.502	21.319		38.593	46.436
	2nd Sankaran	10.358	14.142	16.592	21.379	28.374	38.618	46.455
7	3rd Sankaran	10.313	14.093	16.547	21.343	28.348	38.600	46.441
	Johnson	9.862	13.694	16.158	20.956	27.957	38.202	46037
	Johnson-Kotz	10.862	14.694	17.158	21.956	28.957	39.202	47.037
	Bol'shev-Kuznetzov	1 0.328	14.195	16.770	21.909	29.596	41.075	49.960
	1st Cox-Reid	10.328	14.201	16.783	21.947	29.693	41.313	50.350
	2nd Cox-Reid	10.213	13.740	16.082	20.795	27.850	38.432	46.663
	Exact	10.325	14.111	16.567	21.362	28.364	38.612	46451
	1st Patnaik	13.795	17.451	19.841	24.543	31.461	41.639	49.444
	2nd Patnaik	13.924	17.603	20.002	24.717	31.645	41.830	49.639
	Pearson	13.799	17.486	19.897	24.632	31.581	41.787	49.605
	Abdel-Aty	13.784	17.438	19.828	24.529	31.446	41.625	49.431
	1st Sankaran	13.619	17.388	19.826	24.592	31.563	41.782	49.605
	2nd Sankaran	13.851	17.540	19.947	24.677	31.620	41.820	49.634
10	3rd Sankaran	13.789	17.480	19.894	24.634	31.588	41.797	49.617
	Johnson	13.304	17.047	19.474	24.225	31.182	41.389	49.206
	Johnson-Kotz	14.304	18.047	20.474	25.225	32.182	42.389	50.026
	Bol'shev-Kuznetzov	13.801	17.522	19.975	24.811	31.892	42.127	49.767
	1 st Cox-Reid	13.804	17.568	20.078	25.098	32.627	43.921	52.705
	2nd r.ox-Reid	13.697	17.142	19.438	24.032	30.921	41.256	49.294
	Exact	13.800	17.495	19.910	24.650	31.603	41.809	49.627
	1st Patnaik	16.075	19.696	22.068	26.743	33.632	43.782	51.573
	2nd Patnaik	16.201	19.841	22.222	26.910	33.810	43.969	51.763
	Pearson	16.078	19.723	22.113	26.817	33.738	43.917	51721
	Abdel-Aty	16.065	19.684	22.055	26.730	33.618	43.769	51.560
	1 st Sankaran	15.894	19.613	22.030	26.766	33.710	43.905	51716
	2nd Sankaran	16.143	19.784	22.169	26.867	33.779	43.951	51.752
12	3rd Sankaran	16.060	19.716	22.108	26.818	33.743	43.926	51.732
	John.son	15.569	19.266	21.673	26.396	33.327	43.511	51.316
	Johnson-Kotz	16.569	20.266	22.673	27.396	34.327	44.511	52.316
	Bol'shev-KUlIletzov	16.079	17.744	22.156	26.905	33.842	43.828	51.246
	1 st Cox-Reid	16.083	17.794	22.268	27.217	34.639	45.773	54.433
	2nd Cox-Reid	15.981	19.388	21.660	26.203	33.018	43.240	51.190
	Exact	16.079	19.730	22.123	26.833	33.757	43.938	51.742
	1st Patnaik	20.574	24.139	26.483	31.113	37.955	48.057	55.822
	2nd Patnaik	20.695	24.275	26.627	31.269	38.122	48.234	56.003
	Pearson	20.576	24.156	26.513	31.168	38.038	48.169	55.949
	Abdel-Aty	20.565	24.128	26.472	31.102	37.943	48.045	55.810
	1 st Sankaran	20.388	24.030	26.411	31.098	37.994	48.145	55.933
	2nd Sankaran	20.667	24.236	26.585	32.229	38.088	48.2119	55.984
16	3rd Sankaran	20.567	24.149	26.508	31.166	38.040	48.176	55.957
	Johnson	20.047	23.673	26.047	30.723	37.609	47.749	55.532
	Johnson-Kotz	21.047	24.673	27.047	31.723	38.609	48.749	56.532
	Bol'shev-Kuznetzov	20.577	24.165	26.529	31.187	38.001	47.835	55.161
	1 st Cox-Reid	20.579	24.211	26.632	31.474	38.738	49.633	58.107
	2nd Cox-Reid	20.487	23.841	26.077	30.549	37.257	47.319	55.145
	Exact	20.576	24.161	26.521	31.180	38.054	48.187	55.967

TABLE2 *(Cont.)*

$\alpha = 0.75$

v	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	1stPalnaik	29.415	32.903	35.207	39.772	46.541	56.567	64.288
	2nd Patnaik	29.530	33029	35.339	39.914	46.694	56.730	64.457
	Pearson	29.416	32.912	35.223	39.805	46.596	56.649	64.385
	Abdel-	29.407	32.894	35.197	39.763	46.531	56.557	64.278
	1 st Sankaran	29.224	32.766	35.098	39.710	46.529	56.605	64.352
	2nd Sankaran	29.558	33.034	35.334	39.898	56.670	56.705	64.433
24	3rd Sankaran	29.408	32.905	35.217	39.801	46.596	56.652	64.390
	Johnson	28.864	32.396	34.723	39.327	46.138	56.206	63.948
	Johnson-Kotz	29.864	33.395	35.723	40.327	47.138	57.206	64.945
	Bol'shev-Kuznetzov	29.416	32.914	35.225	39.797	46.528	56.338	63.732
	1st Cox-Reld	29.418	32.948	35.301	40.008	47.069	57.659	65.896
	2nd Cox-Reid	29.338	33.628	34.82]	39.208	45.788	55.659	63.336
	Exact	29.416	32.914	35.227	39.812	46.607	56.663	64.400
	lstPatnaik	35.957	39.408	41.687	46.218	52.943	62.923	70.617
	2nd Patnaik	36.069	39.527	41.814	46.351	53.088	63.079	70.778
	Pearson	35.958	39.412	41.699	46.240	52.986	62.990	70.698
	Abdel-	35.950	39.398	41.679	46.208	52.934	62.914	70.608
	1st Sankaran	35.766	39.257	41.563	46.132	52.905	62.933	70.654
	2nd Sankaran	36.139	39.568	41.841	46.361	53082	63063	70.760
30	3rd Sankaran	35.951	39.405	41.692	46.236	52.984	62.991	70.701
	Johnson	35.396	38.880	41.182	45.745	52.5!1	62.532	70.248
	J ohnson- Kolz	36.396	39.880	42.182	46.745	53.511	63.532	71248
	Bol'shev-Kuznetzov	35.958	39.413	41.699	46.231	52.927	62.742	70.187
	1st Cox-Reid	35.960	39.440	41.760	46.400	53.360	63.800	71.919
	2nd Cox-Reld	35.886	39.146	41.319	45.666	52.186	61.965	69.572
	Exact	35.958	39.413	41.702	46.246	52.994	63.001	70.711
	1st Patnaik	57.459	60.823	63.056	67.502	74.128	83.994	91.618
	2nd Patnalk	57.566	60.936	63.172	67.624	74.258	84.133	91.762
	Pearson	57.459	60.825	63.060	67.512	74.150	84.031	91.667
	Abdel-	57.453	60.817	63049	67.495	74.121	83.987	91.611
	1st Sankaran	57.267	60.657	62.905	67.378	74.040	83.946	91.595
	2nd Sankaran	57.764	61.099	63.316	67.737	74.338	84.179	91.793
50	3rd Sankaran	57.453	60.819	63.055	67.508	74.146	84030	91.667
	Johnson	56.878	60.264	62.511	66.981	73.638	83.539	91.185
	Johnson-Kotz	57.878	61.264	63.511	67.981	74.638	84.539	92.185
	Bol'shev-Kuznetzov	57.459	60.825	63060	67506	74.120	83.914	91.426
	1 st Cox-Reid	57.460	60.840	63.094	67600	74.360	84.500	92.387
	2nd Cox-Reid	57401	60.603	62.737	67.006	73.409	53015	90.485
	Exact	57.459	60.826	63.062	67.515	74.154	84.038	91.675
	IstPatnaik	78.684	81.999	84.202	88.595	95.156	104.941	112.514
	2nd Patna¡k	78.789	82.107	84.313	88.711	95.277	]05.070	112.648
	Pearson	78.684	82.000	84.204	88.601	95.]68	104.965	112.547
	Abdel-Aty	78.679	81.993	84.197	88.590	95.149	104.935	112.508
	I st Sankaran	78.492	81.825	84.040	88.454	95.041	104.860	112.456
	2nd Sankaran	78.109	82.390	84.575	88.936	95.458	105.203	112.754
70	3rd Sankaran	78.679	81.995	84.200	88.597	95.164	104.962	112.545
	Johnson	78.094	81.424	83.638	88.049	94.634	104.449	112.042
	Johnson-Kotz	79.094	82.424	84.638	89.049	95.634	105.449	113.042
	Bol'shev-Kuznetzov	78.684	82.000	84.204	88.598	95.152	104.899	113.412
	1 sI Cox-Reid	78.685	82.010	84.226	88.659	95.308	105.283	113.040
	2nd Cox-Reid	78.634	81.804	83.918	88.145	94.487	103.999	111.397
	Exact	78.684	82.000	84.205	88.603	95.171	104.969	112.552
	I stPatnaik	110.232	113.500	15675	120.016	126.507	136.206	143.723
	2nd Palnaik	110.334	113.605	115.782	120.126	126.622	136.327	143.848
	Pearson	110.232	113.501	115.676	120019	126.514	136.221	143.743
	Abdel-Aty	110.228	113.496	115.670	120.011	126.502	136.201	143.718
	1 st Sankaran	110.041	113.322	115.505	119.860	126.373	136.098	143.633
	2nd Sankaran	110.830	114.063	115.217	120.520	126.964	136.606	144.088
100	3rd Sankaran	110.228	113.497	115.672	120.015	126.511	136.217	143.741
	Johnson	109.634	112.913	115095	119.449	125.959	135.683	143.216
	Johnson-Kotz	110.634	113.913	116095	120.449	126.959	136.683	144.216
	Bol'shev-Kuznetzov	110.232	113.501	115.676	120.017	126.506	136.188	143.675
	I sI Cox-Reid	110.233	113.507	115.690	120.055	126.604	135.427	144.066
	2nd Cox-Reid	110.189	113.332	115.427	119.617	125.903	135.332	142.665
	Exact	110.232	113.501	115.677	120020	126.516	136.223	143.746

TABLE2 *(Cont.)*

α =O.90

v	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	1st Patnaik	6.710	11.964	15.083	20.895	29.043	40.614	49.303
	2nd Patnaik	6.625	11.854	14.962	20.759	28.894	40.453	49.136
	Pearson	6.7326	11.9920	15.0953	20.8780	28.9960	40.5383	49.2125
	Abdel-	6.6518	11.9075	15.0306	20.8494	29.0056	40.5833	49.2756
	1st Sankaran	6.7815	12.0795	15.1770	20.9478	29.0537	40.5854	49.2543
	2nd Sankaran	6.8725	12.849	15.1765	20.9449	29.0508	40.5830	49.2522
2	3rd Sankaran	6.7053	12.0167	15.1316	20.9213	29.0392	40.5778	49.2497
	Johnson	5.625	1O.731	13.781	19.501	27.568	39.069	47.724
	Johnson-Kotz	6.6248	11.7313	14.7813	20.5009	28.5679	40.0693	49.136
	Bol'shev-Kuznetzov	6.821	12.422	15.285	18.922	19.151	7.738	-10.893
	1 st Cox-Reid	6.908	13.816	18.421	27.631	41.447	62.170	78.288
	2nd Cox-Reid	6.192	10.954	14.128	20.477	29.999	44.284	55.393
	Exact	6.770	12.064	15.165	20.940	29.048	40.582	49.251
	1st	9.632	14.566	17.585	23.286	31351	42.859	51.S19
	2ndPatnaik	9.550	14.459	17.467	23.153	31.205	42.701	51355
	Pearson	9.6351	14.5691	17.5806	23.2625	313038	42.7866	51.4328
	Abdel-	9.5939	14.5242	17.5447	23.2484	313180	42.8309	51.4937
	1 st Sankaran	9.6950	14.6534	17.6617	23.3343	313646	42.8368	51.4774
	2nd Sankaran	9.7804	14.6643	17.6618	23.3281	313573	42.8303	51.4717
4	3rd Sankaran	9.6091	14.5761	17.5991	23.2914	313371	42.8198	51.4647
	Johnson	8.439	13.278	16.250	21.879	29.874	41318	49.945
	Johnson-Kotz	9.4394	17.2783	17.2496	22.8788	30.8743	42.3183	50.9453
	Bol'shev-Kuznetzov	9.652	14.405	16.853	20.018	20.440	11339	-3.815
	1st Cox-Reid	9.724	15.559	19.449	27.228	38.897	56.401	70.015
	2nd Cox-Reid	9.212	13.510	16.375	22.105	30.701	43.594	53.623
	Exact	9.650	14.616	17.631	23.313	31.349	42.826	51.469
	1st Patnaik	13.689	18.341	21.259	26.833	34.794	46.218	54.837
	2nd Patnaik	13.604	18.236	21.144	26.705	34.652	46.064	54.677
	Pearson	13.6884	18.3360	21.2471	26.8077	34.7492	46.1505	54.7572
	Abdel-	13.6622	18.3115	21.2283	26.8034	34.7662	46.1928	54.8145
	1 st Sankaran	13.7686	18.4237	213317	26.8838	34.8147	46.2050	54.8059
	2nd Sankaran	13.8585	18.4471	21.3393	26.8788	34.8049	46.1948	54.7963
7	3rd Sankaran	13.6660	18.3310	21.2514	26.8229	34.7717	46.1762	54.7832
	Johnson	12.437	17.019	19.900	25.417	33.318	44.683	53.27l
	Johnson-Kotz	13.4372	18.0193	20.9000	26.4174	34.3184	45.6832	54.2714
	Bol'shev-Kuznetzov	13.693	18.226	lO.838	25.074	28.961	29.244	24.859
	1 st Cox-Reid	13.734	18.884	22.317	29.184	39.485	54.935	66.952
	2nd Cox-Reid	13.350	17.350	20017	25.350	33.350	45.350	54.683
	Exact	13.694	18.363	21.280	26.845	34.787	46.185	54.7902
	1st Patnaik	17.558	22.028	24.870	30.346	38.218	49.567	58.149
	2nd Patnaik	17.471	21.924	24.758	30.221	38.081	49.416	57.992
	Pearson	17.5576	22.0210	24.8579	30.3214	38.1772	49.5048	58.0748
	Abdel-	17.5371	22.0038	24.8456	30.3209	38.1945	49.5445	58.1285
	1 st Sankaran	17.6534	22.1150	24.9478	30.4024	38.2473	49.5636	58.1274
	2nd Sankaran	17.7590	22.1558	24.9688	30.4044	38.2385	49.5523	58.1160
10	3rd Sankaran	17.5384	22.0118	24.8554	30.3285	38.1922	49.5247	58.0961
	Johnson	16.278	20.689	23.501	28.927	36.746	48.039	56.591
	Johnson-Kotz	17.2783	21.6893	24.5009	29.9269	37.7456	49.0387	57.5907
	Bol'shev-Kuznetzov	17.559	21.957	24.623	29.318	34.767	39.355	39.949
	1 st Cox-Reid	17.586	22.382	25.579	31.974	41.567	55.955	67146
	2nd Cox-Reid	17.268	21.112	23.674	28.798	36.485	48.014	56.982
	Exact	17.561	22.038	24.881	30.350	38.208	49.535	58.104
	1st Patnaik	20.074	24.450	27.252	32.672	40.493	51.795	60.354
	2nd Patnalk	19.985	24.347	27.141	32.549	40.357	51.646	60.199
	Pearson	20.0731	24.4439	27.2407	32.6490	40.4537	51.736	60.2830
	Abdel-	20.0549	24.4292	27.2305	32.6495	40.4706	51.7739	60.3342
	1st Sankaran	20.1770	24.5424	27.3343	32.7333	40.5270	51.7976	60.3381
	2nd Sankaran	20.2995	24.5964	27.3664	32.7425	40.5225	51.7871	60.3265
\2	3rd Sankara	20.0556	24.4335	27.2357	32.6256	40.4651	51.7528	60.3016
	Johnson	18.781	23.105	25.879	31.252	39.022	50.271	58.800
	Johnson-Kotz	19.7813	24.1052	26.8788	32.2524	40.0220	51.2708	59.8000
	Bolrshev~Kuznetzov	20.074	24.398	27.071	31.914	37.924	44.113	46.583
	1 st Cox-Reid	20.095	24.732	27.824	34.007	43.282	57.194	68.014
	2nd Cox-Reid	19.807	23.579	26.094	31.123	38.668	49.984	58.786
	Exact	20.075	24.457	27.259	32.674	40.482	51.764	60.311
	IstPatnaik	24.999	29.233	31.969	37.294	45.023	56.240	64.756
	2nd Patnaik	24.909	29.130	31.859	37.173	44.890	56.096	64.604
	Pearson	24.9985	29.2274	31.9588	37.2737	44.9883	56.1874	64.6912
	Abdel-Aty	24.9833	29.2155	31.9507	37.2748	45.0036	56.2218	64.7380
	1 st Sankaran	25.1150	29.3343	32.0598	37.3646	45.0675	56.2543	64.7512
	2nd Sankaran	25.2614	29.4166	32.1170	37.3919	44.0737	56.2485	64.7419
16	3rd Sankaran	24.9835	29.2163	31.9513	37.2728	44.9944	56.1993	64.7055
	Johnson	23.689	27.879	30.590	35.874	43.557	54.724	63.210
	Johnson-Kotz	24.6893	28.8788	31.5903	36.8743	44.5566	55.7239	64.2105
	Bol'shev-Kuznetzov	24.999	29.201	31.860	36.840	43.460	51.478	56.129
	1st Cox-Reid	25.013	29.427	32.370	38.255	47.084	60.326	70.625
	2nd Cox-Reid	24.766	28.437	30.885 .	35.780	43.123	54.137	62.703
	Exact	25.000	29.236	31.972	37.298	45.011	56.212	64.716

TABLE2 *(Cont.)*

α **=O.90**

v	APPROXIMA TIONS	λ						
		1	4	6	10	16	25	32
	1st Patnaik	34.572	38.616	41.258	46.439	54.020	65.094	73.532
	2nd Patnaik	34.479	38.514	41.150	46.323	53.893	64.955	73.387
	Pearson	34.5713	38.6127	41.2508	46.4244	53.9934	65.0509	73.4782
	Abdel-	34.5593	38.6031	41.2441	46.4247	54.0051	65.0787	73.5171
	1 st Sankaran	34.7043	38.7333	41.3646	46.5270	54.0834	65.1274	73.5472
	2nd Sankaran	34.9094	38.8754	41.4775	46.6000	54.1222	64.1411	73.5510
24	3rd Sankaran	34.5593	38.6022	41.2421	46.4195	53.9937	65.0564	73.4865
	Johnson	33.241	37.252	39.874	45.022	52.563	63.591	72.002
	Johnson-Kotz	34.2414	38.2524	40.8743	46.0220	53.5627	64.5907	73.0017
	Bol'shev-Kuznetzov	34.571	38.601	41.208	46.230	53.285	62.791	69.291
	1 st Cox-Reid	34.579	38.729	41.495	47.028	55.327	67.776	77.458
	2nd Cox-Reid	34.380	37.930	40.297	45031	52.132	62.783	71.067
	Exact	34.572	38.617	41.258	46.436	54.009	65.069	73.497
	1 st Patnaik	41.592	45.541	48.131	53.231	60.723	71.705	80.092
	2ndPatnaik	41.498	45.439	48.025	53.116	60.599	71.570	79.951
	Pearson	41.5920	45.5381	48.1257	53.2189	60.7005	71.6682	80.045
	Abdel-	41.5816	45.5295	48.1194	53.2184	60.7096	71.6919	80.079
	1st Sankaran	41.7333	45.6667	48.2473	53.3291	60.7976	71.7512	80.120
	2nd Sankaran	41.9826	45.8539	48.4037	53.4405	60.8668	71.7861	80.140
30	3rd Sankaran	41.5815	45.5283	48.1171	53.2130	60.6986	71.6708	80.051
	Johnson	40.252	44.172	46.746	51.816	59.271	70.210	78.572
	Johnson-Kotz	41.2524	45.1723	47.7456	52.8155	60.2708	71.2105	79.572
	Bol'shev-Kuznetzov	41.592	45.531	48.100	53098	60.249	70.196	77.29
	1st Cox-Reid	41.598	45.623	48.307	53.675	61.726	73.803	83.196
	2nd Cox-Reid	41.420	44.913	47.242	51.900	58.886	69.365	77.516
	Exaet	41.592	45.541	48.130	53.277	60.712	71.683	80.062
	1st Patnaik	64.428	68.181	70.661	75.575	82.852	93.599	101.848
	2ndPatnaik	64.331	68.079	70.556	75.464	82.733	93.471	101.715
	Pearson	64.428	68.179	70.658	75.568	82.838	93.575	101.816
	Abdel-Aty	64.420	68.172	70.652	75.566	82.842	93.589	101.839
	1 st Sankaran	64.585	68.326	70.798	75.697	82.954	93.675	101.908
	2nd Sankaran	64.978	68.660	71.099	77.944	83.142	93.804	102.007
50	3rd Sankaran	64.420	68.171	70.650	75.562	82.834	93.573	101.816
	Johnson	63.069	66.803	69.271	74.164	81.412	92.124	100.351
	Johnson-Kotz	64.069	67.803	70.271	75.164	82.412	93.124	101.351
	Bol'shev-Kuznetzov	64.43	68.18	70.65	75.53	82.69	93.06	100.82
	1 st Cox-Reid	64.430	68.220	70.747	75.801	83.381	94.751	103.594
	2nd Cox-Reid	64.295	67.678	69.933	74.444	81.209	91.358	99.252
	Exaet	64.428	68.180	70.659	75.572	82.844	93.583	101.826
	IstPatnaik	86.747	90.390	92.804	97.603	104.737	115.316	123.462
	2ndPatnaik	86.649	90.288	92.700	97.495	104.622	115.193	123.334
	Pearson	86.747	90.389	92.803	97.599	104.728	115.299	123.439
	Abdel-Aty	86.741	90.383	92.797	97.596	104.729	115.308	123.454
	1 st Sankaran	86.914	90.546	92.954	97.740	104.857	115.413	123.544
	2nd Sankaran	87.445	91.020	93.395	98.124	105172	115.654	123742
70	3rd Sankaran	86.741	90.383	92.796	97.593	104.723	115.296	123.437
	Johnson	85.379	89.007	91.412	96.194	103.304	113.854	121.980
	Johnson-Kotz	86.379	90.007	92.412	97.194	104.304	114.854	122.980
	Bol'shev-Kuznetzov	86.75	90.39	92.80	97.58	104.66	115.05	122.957
	1 st Cox-Reid	86.749	90.414	92.858	97.745	105.076	116.072	124.625
	2nd Cox-Reid	86.635	89.959	92.175	96.607	103.255	113.227	120.983
	Exact	86.747	90.389	92.803	97.601	104.731	115.305	123.445
	1st Patnaik	119.682	123.223	125.576	130.262	137.249	147.647	155.677
	2ndPatnaik	119.583	123.121	125.472	130.155	137.137	147.529	155.554
	Pearson	119.682	123.223	125.575	130.260	137.244	147.637	155.661
	Abdel-Aty	119.677	123.218	125.570	130.256	137.243	147.641	155.670
	1 st Sankaran	119.857	123.390	125.737	130.413	137.386	147.765	155.781
	2nd Sankaran	120.386	124.066	126.380	130.998	137.895	148.185	156.146
100	3rd Sankaran	119.677	123.218	125.570	130.255	137.239	147.633	155.658
	Johnson	118.304	121.835	124.181	128.854	135.823	146.197	154.210
	Johnson-Kotz	119.304	122.835	125.181	129.854	136.823	147.197	155.210
	Bol-Kuz	119.60	123.22	125.57	130.25	137.21	147.52	155.44
	1st Cox-Reid	119.683	123.238	125.608	130.348	137.458	148.123	156.417
	2nd Cox-Reid	119.588	122.860	125.041	129.402	135.945	145.759	153.392
	Exact	119.682	123.223	125.575	130.261	137.245	147.640	155.665

TABLE 2 *(Cont.)*

α **=*O.95***

v	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	]stPatnaik	8.6229	14.7194	18.2017	24.5691	33.3512	45.6639	54.8357
	2nd Patnaik	8.2400	14.67	17.7063	24.0491	33.06	45.] 148	54.2816
	Pearson	8.596	14.577	18.004	24.300	33.020	45.282	54.430
	Abdel-	8.557	14.662	18.]52	24.530	33.321	45642	54.817
	1 st Sankaran	8.735	14.684	18093	24.365	33.068	45.318	54.460
	2nd Sankaran	8.790	14.662	18.071	24.348	33.056	15.309	54.453
2	3rd Sankaran	8.575	14.615	18.049	24.345	33.060	45.316	54.459
	Johnson	6.652	12.356	15.704	21.911	30.564	42.774	51.898
	Johnson-Kotz	7.6520	13.356	16.704	22.9111	31.564	43.774	52.898
	Bol'shev-Kuznetzov	8.61	12.01	10.54	-1.34	-41.53	-152.16	-279.96
	1st Cox-Reid	8.987	17.974	23.966	35.949	53.923	80.885	101.855
	2nd Cox-Reid	7.7396	12.9840	16.4803	23.4728	33.9616	49.6948	64.9317
	Tukey	8.6195	]4.6452	18.0690	24.3560	33.0683	45.3239	54.4685
	Exact	8.642	14.640	18.060	24.344	33.054	48.308	54.452
	1st Patnaik	11.72	17.3751	20.7428	26.9904	35.6869	47.9363	570789
	2ndPatnaik	11.3685	17.33	20.2892	26.5034	35.1744	47.4051	56.5396
	Pearson	11.67	17.269	20.589	26.767	35.397	47589	56.703
	Abdel-	11.671	17.337	20.707	29.960	35.662	47.916	57.062
	1st Sankaran	11.907	17.421	20.715	26.861	35.467	47640	56.746
	2nd Sankaran	11.896	17.366	20.662	26.8]7	35.434	47.6]6	56.726
4	3rd Sankaran	11.667	17.283	20.612	26.797	35.428	47617	56.729
	Johnson	9.698	15.058	18.305	24.396	32.957	45.094	54.182
	Johnson-Kotz	10.698	16.058	19.305	25.396	33.957	46.094	55.182
	Bol'shev-Kuznetzov	11.69	16.22	]7.51	15.97	3.32	-38.93	-91.09
	1 st Cox-Reid	11.860	18.975	23.719	33.207	47.439	68.786	85.390
	2nd Cox-Reid	11.0397	15.6954	18.7993	25.0070	34.3186	48.2860	59.1495
	Tukey	11.8742	17.3631	20.6703	26.8348	35.4561	476417	56.7537
	Exact	11.707	17.309	20.629	26.803	35.427	47613	56.724
	1st	160074	21.2758	24.5123	30.6080	39.16	51.3435	60.4431
	2ndPatnaik	]5.00	21.27	24.0968	30.1559	38.7027	50.8351	59.9231
	Pearson	15.998	21.205	24.403	30.434	38.946	51.040	60.107
	Abdel-	]5.985	21.251	24.488	30.585	39.]66	51.327	60.428
	1 st Sankaran	16.285	21.409	24.575	30.567	39.045	51.113	60.168
	2nd Sankaran	16.246	21.335	24.499	30.498	38.989	51.069	60.131
7	3rd Sankaran	15.979	21.205	24.410	30.451	38.966	51.061	60127
	Johnson	13.979	19.009	22.140	28.087	36.527	48.562	57601
	Johnson-Kotz	14.979	20.009	23.140	29.087	37.527	49.562	58.601
	Bol'shev-Kuznetzov	16.00	20.81	23.22	26.08	25.53	13.80	-4.38
	1 st Cox-Reid	16.007	22.106	26. 125	34.163	46.221	64.307	78.374
	2nd Cox-Reid	]5.4931	19.7708	22.6227	28.3263	36.8818	49.7151	59.6965
	Tukey	16.2482	21.3158	24.4767	30.4756	38.9688	51.0553	60.1211
	Exact	]6.004	21.288	24.428	30.461	38.970	51.061	60.125
	1st	20.0965	25.1023	28.2379	34.2065	42.6788	54.7479	63.8054
	2nd Patnaik	19.7861	24.7363	27.8463	33.7790	42.2169	54.2584	63.3020
	Pearson	20.091	25.053	28.156	34.063	42.475	54.480	63.502
	Abdel-	20.080	25.084	28.219	34.188	42.661	54.733	63.792
	15t Sankaran	20.421	25.297	28.365	34.232	42.600	54.573	63.580
	2nd Sankaran	20.384	25.222	28.285	34.153	42.530	54.516	63.531
10	3rd Sankaran	20.076	25.047	28.157	34.077	42.489	54.496	53.519
	Jolmson	18.058	22.869	25.911]	31.741	40.075	52.018	61.011
	Johnson-Kotz	19.058	23.869	26.911	32.741	41.075	53.018	62.011
	Bol'shev-Kuznetzov	20.09	24.86	27.56	31.80	35.28	34.01	27.63
	1st Cox-Reid	20.138	25.630	29.291	36.614	47598	64.075	76.890
	2nd Cox-Reid	19.6666	23.7451	29.4641	31.9022	40.0593	52.2949	61.8116
	Tukey	19.3591	24.9490	28.0604	33.9643	42.3658	54.3744	63.4028
	Exact	20.094	25.067	28.174	34.089	42.495	54.498	63.519
	]st Patnaik	22.7467	27.6199	30.7000	36.5948	45.0007	57.0154	66.0456
	2nd Patnaik	22.4400	27.2637	30.3199	36.1799	44.5521	56.5367	65.5521
	Pearson	22.742	27.579	30.631	36.474	44.819	57.768	65.7626
	Abdel-	22.733	27.604	30.684	36.579	44.986	57002	66.033
	] st Sankaran	23.093	27.845	30.861	36.657	44.959	56.874	65.851
	2nd Sankaran	23.065	27.777	30.784	36.576	44.884	56.809	65.794
12	3rd Sankaran	22.729	27.573	30.630	36.480	44.829	56.782	65.776
	Johnson	20.704	25.403	28.396	34.159	42.430	54.316	63.279
	Johnson-Kotz	21.704	26.403	29.396	35.159	43.430	55.316	64.279
	Bollshev-Kuznetzov	2274	27.45	30.22	34.88	39.68	41.931	39.577
	] st Cox-Reid	22.778	28.035	31.539	38.548	49.061	64.830	77.096
	2nd Cox-Reid	22.3554	26.3435	29.0022	34.3197	42.2958	54.2601	63.5656
	Tukey	20.4838	27.1118	30.2721	36.1754	44.5490	56.5248	65.5358
	Exact	22.744	27.590	30.646	36.492	44.836	56.785	65.778

TABLE 2 *(Cont.)*

α **=O.95**

v	APPROXIMA TIONS	λ						
		1	4	6	10	16	25	32
	1st Patnaik	27.9193	32.5894	35.5782	41.3460	49.6338	61.5443	70.5222
	2ndPatna¡k	27.6172	32.2470	35.2150	40.9507	49.2054	61.0843	70.0458
	Pearson	27.917	32.561	35.528	41.253	49.484	61.331	70.272
	Abdel-Aty	27.908	32.577	35.566	41.333	49.621	61.533	70.511
	1st Sankaran	28.297	32.861	35.793	41.467	49.653	61.460	70.381
	2nd Sankaran	28.293	32.812	35.729	41.391	49.574	61.388	70.315
16	3rd Sankaran	27.906	32.554	35.524	41.254	49.491	61.341	70.283
	Johnson	25.869	30.396	33.309	38.957	47116	58.898	67.806
	Johnson-Kotz	26.869	31.396	34.309	39.957	48.116	59.898	68.806
	Bol'shev-Kuznetzov	27.916	32.492	35.305	40.364	46.532	52.589	54.649
	1 st Cox-Reid	27.940	32.870	36.157	42.731	52.592	67.384	78.889
	2nd Cox-Reid	27.5828	314424	34.0154	39.1616	46.8808	58.4596	67.4654
	Tukey	20.1592	30.6351	34.1458	40.2496	48.6771	60.6514	69.6521
	Exact	27.917	32.568	35.537	41.265	49.499	61.346	70.286
	1stPatnaik	37.9212	42.3250	45.1830	50.7560	58.8485	70.5753	79.4572
	2nd Patnaik	376241	419985	44.8401	50.3862	58.4484	70.1436	79.0079
	Pearson	37920	42.309	45.153	50.695	58.743	70.413	79.259
	Abdel-Aty	37.913	42.316	45.174	50.747	58.839	70.566	79.448
	1 st Sankaran	38.336	42.657	45.467	50.959	58.957	70.580	79.403
	2nd Sankaran	38.391	42.660	45.449	50.914	58.893	70.510	79.332
24	3rd Sankaran	37.912	42.302	45.148	50.693	58.744	70.417	79.265
	Johnson	35.861	40.159	42.957	48.430	56.407	68.011	76.821
	Johnson-Kotz	36.861	41.159	43.957	49.430	57407	69.011	77.821
	Bol'shev-Kuznetzov	37920	42.282	45.063	50.322	57.450	66.433	72.002
	1 st Cox-Reid	37.932	42.484	45.519	51588	60.692	74.347	84.968
	2nd Cox-Reid	37.6501	41.3552	43.8254	48.7656	56.1759	67.2914	75.9368
	Tukey	10.6661	33.7201	39.1079	46.6287	55.7486	68.0675	77.1821
	Exact	37.920	42.312	45.158	50.702	58.752	70.423	79.269
	IstPatnaik	45.2242	49.4937	52.2811	57.7428	65.7164	77.3242	86.141
	2ndPatnaik	44.9291	49.1743	519476	57.3855	65.3310	76.9083	85.708
	Pearson	45.223	49.482	52.259	57.696	65632	77.188	85.971
	Abdel-Aty	45.218	49.487	52.274	57.735	65.709	77.317	86.134
	l st Sankaran	45.657	49.855	52.600	57.989	65.874	77.381	86.138
	2nd Sankaran	45.758	49.902	52.622	57.976	65.832	77.322	86.075
30	3rd Sankaran	45.217	49.476	52.254	57.693	65.631	77.191	85.976
	Johnson	43.159	47.340	50.075	55.449	63.316	74.806	83.553
	Johnson-Kotz	44.159	49.340	51075	56.449	64.316	75.806	84.553
	Bol'shev-Kuznetzov	45.223	49.466	52.205	57.469	64.828	74.659	81.303
	1st Cox-Reid	45.232	49.609	52.528	58.364	67.119	80.250	90.464
	2nd Cox-Reid	44.9836	48.6155	510368	55.8794	63.1433	74.0391	82.514
	Tukey	1.7953	32.2045	39.9763	49.5413	59.7977	72.7592	82.11
	Exact	45.223	49.484	52.262	57.701	65.639	77.197	85.980
	1stPatnaik	68.851	72.850	75.486	80.696	88.380	99.676	108.314
	2nd Patnaik	68.560	72.543	75.170	80.362	88.025	99.295	107.917
	Pearson	68.851	72.845	75.476	80.673	88.333	99.594	108.206
	Abdel-Aty	68.847	72.846	75.482	80.691	88.375	99.671	108.309
	1 st Sankaran	69.318	73.268	75.874	81.028	88.641	99.851	108.433
	2nd Sankaran	69.572	73.466	76.041	81.147	88.708	99.870	108.429
50	3rd Sankaran	68.847	72.841	75.472	80.669	88.331	99.594	108.206
	Johnson	66.774	70.716	73.316	78.462	86.064	97.262	105.837
	J ohnson - Kotz	67.774	71.716	74.316	79.462	87.064	98.262	106.837
	Bol'shev-Kuznetzov	68.851	72.841	75.460	80.603	88.076	98.741	106.586
	1 st Cox-Reid	68.855	72.905	75.605	81.006	89.106	101257	110.708
	2nd Cox-Reid	68.668	72.160	74.487	79.142	86.124	96.597	104.742
	Tukey	128.14	8.95	25.76	46.11	63.95	81.83	93.1
	Exact	68.851	72.846	75.477	80.675	88.337	99.599	108.211
	1stPatnaik	91.822	95.671	98.218	103.271	110.763	121.835	130.336
	2ndPatnaik	91.532	95.370	97.910	102.950	110.423	121.474	129.961
	Pearson	91.822	95.668	98.212	103.257	110.733	121.780	130.261
	Abdel-Aty	91.819	95.668	98.215	103.268	110.759	121.832	130.332
	1 st Sankaran	92.306	96.118	98.641	103.651	111.083	122.081	130.532
	2nd Sankaran	92.710	96.465	98.956	103.910	111.278	122.208	130.621
70	3rd Sankaran	91.819	95.665	98.209	103.254	110.731	121.779	130.260
	Johnson	89.738	93.544	96.064	101.068	108.493	119.482	127.927
	Johnson-Kotz	90.738	94.544	97.064	102.068	109.493	120.482	128.927
	Bollshev~Kuznetzov	91.822	45.666	98.205	103.226	110.615	121.378	129.482
	1 st Cox-Reid	91.825	95.704	98.291	103.464	111.224	122.864	131.917
	2nd Cox-Reid	91.670	95.085	97.362	101.916	108.748	118.994	126.964
	Tukey	127.62	6.58	2.42	25.84	53.30	79.60	94.66
	Exact	91.822	95.669	98.213	103.259	110.735	121.783	130.264

TABLE2 ***(Cont.)***

α ***=O.95***

v	APPROXIMATIONS	λ						
		1	4	6	10	16	25	32
	IstPatnaik	125.584	129.296	131.760	136.661	143.956	154.788	163.134
	2ndPatnaik	125.296	128.999	131.458	136.349	143.630	154.445	162.779
	Pearson	125.584	129.295	131.756	136.653	143.939	154.753	163.085
	Abde]-Aty	125.582	129.294	131.757	136.658	143.953	154.785	163.131
	1st Sankaran	126.083	129.768	132.213	137.08]	144.330	155.100	163.404
	2nd Sankaran	126.701	130.330	132.743	137.551	144.725	155.408	163.660
100	3rd Sankaran	125.582	129.292	131.754	136.651	143.936	154.752	163.084
	Johnson	123.493	127.174	129.6]8	134.482	141.726	152.490	160.790
	Jobnson-Kotz	124.493	128.174	130.6]8	135.482	142.726	153.490	161.790
	Bol'shev-Kuznetzov	125.584	129.294	131.754	136.640	143.888	154.577	162.737
	1st Cox-Reid	125.586	129.316	131.803	136.776	144.237	155.428	164.132
	2nd Cox-Reid	125.458	128.806	131.038	135.502	142.198	152.243	160.055
	Tukey	219.92	293.95	63.72	0.04	19.86	56.79	79.07
	Exact	125.584	129.295	131.757	136.654	143.940	1'i4.755	163.087

4. APPROXIMATIONS TO PERCENTILES OF THE NONCENTRAL. F-DISTRIBUTION

The noncentral F-distribution was derived by Tang (1938) though Patnaik (1948) seems to have been the first to call it by this name. There are various approximations of the noncentral F-distribution discussed in the literature which can be used to compute the percentiles of the distribution. Some of the important ones are considered here.

In this section, $F'_{\nu_1,\nu_2}(\lambda)$ will be used to denote a noncentral F-variate with ν_1 and ν_2 degrees of freedom and the noncentrality parameter *A*. In addition, $F'_{\nu_1,\nu_2;\alpha}(\lambda)$ will denote its 100 α *-th* percentile defined by

$$\Pr\left[F'_{\nu_1,\nu_2}(\lambda) \le F'_{\nu_1,\nu_2;\alpha}(\lambda)\right] = \alpha \quad . \tag{4.1}$$

Patnaik (1949) suggested an approximation of

$$F'_{\nu_1,\nu_2}(\lambda) = \left[\chi'^2_{\nu_1}(\lambda)/\nu_1\right] / \left[\chi^2_{\nu_2}/\nu_2\right] \tag{4.2}$$

by first approximating the distribution of $\chi'^2_{\nu_1}(\lambda)$ by that of $c\chi^2_f$ where c and f, obtained by equating the first two moments of the two variables, are

$$c = (\nu_1 + 2\lambda)/(\nu_1 + \lambda) \quad \text{and} \quad f = (\nu_1 + \lambda)^2/(\nu_1 + 2\lambda).$$

Then the distribution of $F'_{\nu_1,\nu_2}(\lambda)$ is approximated by that of:

$$(cf/\nu_1)F_{f,\nu_2} = (1 + \lambda/\nu_1)F_{f,\nu_2}.$$

Laubscher (1960) proposed a square root transformation by expressing

$$\left[(\nu_1/\nu_2)F'_{\nu_1,\nu_2}(\lambda)\right]^{1/2} = \left[2\chi'^2_{\nu_1}(\lambda)\right]^{1/2} / \left[2\chi^2_{\nu_2}\right]^{1/2}, \tag{4,3}$$

and then approximating the distributions of $\left[2\chi'^{2}_{v_1}(\lambda)\right]^{1/2}$ and $\left(2\chi^{2}_{v_2}\right)^{1/2}$ by appropriate normal random variates. A theorem due to Fieller (1932) <<which states that if X and Y are independent and normally distributed with means μ_x and μ_y and standard deviations σ_x and σ_x respectively, then the ratio $R = \left(\mu_x V - \mu_y\right)/\left(\sigma_x^2 V^2 + \sigma_y^2\right)^{1/2}$ where V = Y/X is nearly normally distributed with zero mean and unit variance, provided the probability of X being negative is very small>> can then be applied to the variable $\left[(v_1/v_2)F'_{v_1,v_2}(\lambda)\right]^{1/2}$ to show that the transformed random variable

$$\frac{\left(2v_2-1\right)^{1/2}\left[\left(v_1/v_2\right)F'_{v_1,v_2}(\lambda)\right]^{1/2}-\left[2\left(v_1+\lambda\right)-\left(v_1+2\lambda\right)/\left(v_1+\lambda\right)\right]^{1/2}}{\left[\left(v_1/v_2\right)F'_{v_1,v_2}(\lambda)+\left(v_1+2\lambda\right)/\left(v_1+\lambda\right)\right]^{1/2}} \tag{4.4}$$

has approximately a standard normal distribution.

Laubscher (1960) further considered as a possible normalizing transformation

$$\left(v_2/2-2\right)^{1/2}\mathrm{Cosh}^{-1}\left\{\frac{v_1\left(v_2-2\right)^{1/2}\left[F'_{v_1,v_2}(\lambda)+\left(v_2/v_1\right)\right]}{v_2\left(v_1+v_2-2\right)^{1/2}}\right. \tag{4.5}$$

which is approximately normal with mean

$$\left(v_2/2-2\right)^{1/2}\mathrm{Cosh}^{-1}\left\{\frac{v_1+v_2+\lambda-2}{\left(v_2-2\right)^{1/2}\ \left(v_1+v_2-2\right)^{1/2}}\right.$$

and with unit variance. This approximation, however, is not very satisfactory and is included here for the sake of completeness.

In addition, Laubcher (1960) proposed an improved normal approximation of $F'_{\nu_1,\nu_2}(\lambda)$ by using the second derivative term in the Taylor series for expectations. Thus, the transformed random variable

$$\left(\nu_2/2-2\right)^{1/2}\left[Cosh^{-1}\left\{\frac{\left(\nu_2-2\right)^{1/2}\left(1+\frac{\nu_1}{\nu_2}F'_{\nu_1,\nu_2}(\lambda)\right)}{\left(\nu_1+\nu_2-2\right)^{1/2}}\right\}-Cosh^{-1}\left\{\frac{\left(\nu_2-2\right)^{1/2}\left(1+\frac{\nu_1}{\nu_2}\mu'_1\right)}{\left(\nu_1+\nu_2-2\right)^{1/2}}\right\}\right]$$
$$+\left(\frac{\mu'_1+\nu_2/\nu_1}{\nu_2-4}\right)\mu_2^{-1/2} \tag{4.6}$$

may be better approximated by a standard normal distribution, where μ'_2 and μ_2 are the first two moments of $F'_{\nu_1,\nu_2}(\lambda)$ as given in (4.8).

We will call the approximations (4.4), (4.5) and (4.6) as Laubscher's 1st, 2nd and 3rd approximations respectively.

Laubscher (1960) and Severo and Zelen (1960) independently proposed that $\left\{\chi'^2_{\nu_1}(\lambda)\right\}^{1/3}$ and $\left\{\chi^2_\nu\right\}^{1/3}$ be each approximated by a normal distribution as in Abdel-Aty (1954) and Wilson-Hilferty (1931) approximations of noncentral and central χ^2 distributions respectively. By applying the Fieller theorem as stated earlier to the transformed random variable $\left[(\nu_1/\nu_2)F'_{\nu_1,\nu_2}(\lambda)\right]^{1/3}$, it follows that

$$\frac{\left(1-2/9\nu_2\right)\left[\nu_1 F'_{\nu_1,\nu_2}(\lambda)/\left(\nu_1+\lambda\right)\right]^{1/3}-\left[1-2\left(\nu_1+2\lambda\right)/9\right.}{\left\{\left[2\left(\nu_1+2\lambda\right)/9\left(\nu_1+\lambda\right)^2\right]+\left(2/9\nu_2\right)\left[\nu_1 F'_{\nu_1,\nu_2}(\lambda)/\left(\nu_1+\lambda\right.\right.\right.} \tag{4.7}$$

has approximately a standard normal distribution.

An approximation similar in spirit to thar of (4.7) can be obtained by first approximating $F'_{v_1,v_2}(\lambda)$ by a central *F*-distribution as in Patnaik's approximation (4.2) considered above and then approximating the central *F*-distribution by a unit normal distribution via Paulson's (1942) approximation (see, e. g., Sahai and Thompson, 1974). The resulting approximation, however, is slightly more complicated and does not result in any appreciable increase in accuracy.

Tiku (1965) proposed approximating the distribution of $F'_{v_1,v_2}(\lambda)$ by that of $b + cF_{f,v_2}$ where b, c and f, obtained by equating the first three moments of the two variables, are

$$b = [v_2/(v_2-2)](c-1-\lambda/v_1),$$
$$c = (f/v_1)(H/K)[1/(2f+v_2-2)],$$

and

$$f = (1/2)(v_2-2)\left\{\left[H^2/\left(H^2-4K^3\right)\right]^{1/2}-1\right\}$$

with

$$H = 2(v_1+\lambda)^3+3(v_1+\lambda)(v_1+2\lambda)(v_2-2)+(v_1+3\lambda)(v_2-2)^2$$

and

$$K = (v_1+\lambda)^2+(v_2-2)(v_1+2\lambda)$$

Tiku and Yip (1978) considered a four-moment approximation similar to above. The procedure consists of approximating the distribution of $F'_{v_1,v_2}(\lambda)$ by that of $b + cF_{f_1,f_2}$ where b, c, f_1 and f_2 are obtained by equating the first four moments of the two variables. The expressions for, μ'_1 and the central moments , μ_2, μ_3 and μ_4,of $F'_{v_1,v_2}(\lambda)$, as obtained in Pearson and Tiku (1970), are .

$$\mu_1' = \frac{v_2}{(v_2-2)}(1+r),$$

$$\mu_2 = \frac{2v_2^2(v_1+v_2-2)}{v_1(v_2-2)^2(v_2-4)}\left[1+2r+\frac{v_1}{(v_1+v_2-2)}r^2\right],$$

$$\mu_3 = \frac{8v_2^3(v_1+v_2-2)(2v_1+v_2-2)}{v_1^2(v_2-2)^{2^3}(v_2-4)(v_2-6)}\left[1+3r+\frac{6v_1}{(2v_1+v_2-2)}r^2\right] + \frac{2v_1^2}{(v_1+v_2-2)(2v_1+v_2-2)}r^3, \tag{4.8}$$

and

$$\mu_4 = \frac{12v_2^4(v_1+v_2-2)}{v_1^3(v_2-2)^4(v_2-4)(v_2-6)(v_2-8)} \left\{\begin{array}{l}\left[\begin{array}{l}2(3v_1+v_2-2)(2v_1+v_2-2)+\\(v_1+v_2-2)(v_2-2)(v_1+2)\end{array}\right](1+4r)+\\ 2v_1(3v_1+2v_2-4)(v_2+10)r^2+4v_1^2(v_2+10)r^3+\frac{v_1^3(v_2+10)}{v_1+v_2-2}r^4\end{array}\right\},$$

where

$$r = \lambda / v_1$$

The first tour moments of F_{f_1,f_2}, obtained by putting $\lambda = 0$ in (4.8), are:

$$m_1' = \frac{f_2}{(f_2-2)}, \qquad m_2 = \frac{2f_2^2(f_1+f_2-2)}{f_1(f_2-2)^2(f_2-4)},$$

$$m_3 = \frac{8f_2^3(f_1+f_2-2)(2f_1+f_2-2)}{f_1^2(f_2-2)^3(f_2-4)(f_2-6)} \tag{4.9}$$

$$m_4 = \frac{12f_2^4(f_1+f_2-2)}{f_1^3(f_2-2)^4(f_2-4)(f_2-6)(f_2-8)}\{2(3f_1+f_2-2)(2f_1+f_2-2)+(f_1+f_2-2)(f_2-2)(f_1+2)\}.$$

The values of b, c, f_1 and f_2 as obtained by equating the first four moments of $F'_{v_1,v_2}(\lambda)$ and $b+$ c f_1 b + c F_{f_1,f_2} ,as given in (4.8) and (4.9), are:

$$f_2 = 2\left[3+\frac{\beta_2+3}{\beta_2-(3+1.5\beta_1)}\right],$$

$$f_1 = \frac{1}{2}(f_2-1)\left[\sqrt{\left(1+\frac{32(f_2-4)/(f_2-6)^2}{\beta_1-32(f_2-4)/(f_2-6)^2}\right)}-1\right],$$

$$f_1 = \frac{1}{2}(f_2-1)\left[\sqrt{\left(1+\frac{32(f_2-4)/(f_2-6)^2}{\beta_1-32(f_2-4)/(f_2-6)^2}\right)}-1\right],$$

$$c = \sqrt{\left\{\frac{f_1(f_2-2)^2(f_2-4)}{2f_2^2(f_1+f_2-2)}\mu_2\right\}}, \quad \text{and} \quad b = \mu_1' - \frac{f_2}{f_2-2}c,$$

with

$$\beta_1 = \frac{\mu_3^2}{\mu_2^3} \qquad \text{and} \qquad \beta_2 = \frac{\mu_4}{\mu_2^2}.$$

Mudholkar *et al.* (1976) proposed an approximation of

$$F'_{v_1, v_2}(\lambda) = \left[\chi'^2_{v_1}(\lambda)/v_1\right] / \left[\chi^2_{v_2}/v_2\right]$$

by first approximating the distribution of $\chi'^2_{v_1}(\lambda)$ by that of $b + c\chi^2_f$ where b, e and f are obtained by equating the first three moments of the two variables. Then the distribution of $F'_{v_1,v_2}(\lambda)$ is approximated by that of $b' + c' F_{f,v_2}$, where b' and c' are obtained by equating the first two moments of the two variables. The resulting values of b', c' and f are

$$b' = -[v_2/(v_2-2)](c - 1 - \lambda/v_1),$$

$$c' = \{(f/v_1)/[(v_2-2)f]^{1/2}\}[(v_2-2)(v_1+2\lambda)+(v_1+\lambda)^2]^{1/2},$$

and

$$f = (v_1+2\lambda)^3/(v_1+3\lambda)^2.$$

Using an approximation (3.7) for the noncentral χ^2, Cox and Reid (1987) proposed an approximation

$$\Pr\left[F'_{v_1, v_2}(\lambda) \le t\right] \approx \Pr\left[F_{v_1, v_2} \le t/(1+\lambda/v_1)\right].$$

The above approximation is, of course, valid to $\mathbf{O}(v_1^{-1})$ for $\lambda = \mathbf{O}(1)$ as $(v_1 \Rightarrow \infty)$.

The percentiles of $F'_{v_1,v_2}(\lambda)$ calculated for the various approximations as well as their exact values, for selected values of α, v_1, v_2 and λ, are shown in Table 3. The results show that the four moment central F-approximation of Tiku and Yip is the most accurate. It is considerably more accurate than the Tiku's three-moment approximation, although much more difficult to compute. Severo-Zelen' s normal approximation seems to be the easiest to compute although slightly less accurate than Patnaik' s approximation for large values of v_2. Patnaik' s approximation is relatively simple to compute and gives a rather satisfactory results for both lower and upper percentiles. The two-stage approximation of Mudholkar *et al.* compares favorably in accuracy with that of Tiku's three-moment approximation and is much simpler to compute. The accuracy of both approximations increases with v_1 and

decreases with v_2, and both approximations are less accurate in the lower tail of the distribution. The 1st Laubscher and Severo-Zelen have similar performance. Although they give rather satisfactOIY results for lower percentiles, especially when both v_1 and v_2 are large, their performance is extremely poor for upper percentiles. Both 2nd and 3rd Laubscher are undefined for $v_2 \leq 4$. Although they perform rather poorly for small values of v_2, their performance improves steadily as v_2 increases. For both lower and upper percentiles, Cox-Reid approximation performs very poorly for small values of v_1, but its performance improves considerably as v_1 increases.

TABLE3. APPROXIMA TE AND EXACT PERCENTILES OF THE NON CENTRAL **F-DISTRIBUTION**

α **=O.05**

v_2	λ	Patnaík	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exaet
						$v_1 = 3$					
	1	0.1568	0.0953	---------	---------	0.1494	0.1363	0.1178	0.1372	0.1437	0.1493
	4	0.3918	0.3194	---------	---------	0.3857	0.3226	0.3032	0.3334	0.2515	0.3455
3	10	1.0225	0.9687	---------	---------	1.0211	0.9476	0.9412	0.9647	0.4671	0.9555
	16	1.7270	1.7015	---------	---------	1.7298	1.6629	1.6603	1.6793	0.6827	1.6662
	25	2.8297	2.8487	---------	---------	2.8383	2.7793	2.7783	2.7931	1.0061	2.7804
	32	3.7034	3.7571	---------	---------	3.7165	3.6606	3.6600	3.6727	1.2576	3.6612
	1	0.1622	0.0953	0.7477	12.7511	0.1540	0.1401	0.1387	1.1408	0.1479	0.1538
	4	0.4162	0.3310	1.5369	6.6105	0.4087	0.3363	0.3341	0.3459	0.2589	0.3614
	10	1.1222	1.0455	0.8149	3.2310	1.1185	1.0275	1.0264	1.0458	0.4808	1.0374
	16	1.9288	1.8731	0.6904	2.0144	1.9275	1.8430	1.8425	1.8624	0.7026	1.8476
	25	3.2047	3.1856	0.8371	1.2200	3.2075	3.1346	3.1344	3.1524	1.0355	3.1366
	32	4.2222	4.2317	1.0645	0.9331	4.2276	4.1615	4.1613	4.1775	1.2944	4.1626
	1	0.1673	0.0956	0.6692	1.0462	0.1584	0.1438	0.1428	0.1442	0.1518	0.1580
	4	0.4401	0.3425	0.5936	0.6022	0.4315	0.3498	0.3475	0.3566	0.2656	0.3763
10	10	1.2296	1.1271	1.0646	0.7634	1.2241	1.1104	1.1087	1.1271	0.4932	1.1222
	16	2.1572	2.0666	1.7892	1.2787	2.1539	2.0421	2.0410	2.0625	0.7209	2.0484
	25	3.6528	3.5868	3.0393	2.2613	3.6518	3.5516	3.5511	3.5729	1.0623	3.5547
	32	4.8576	4.8121	4.0724	3.1012	4.8580	4.7666	4.7663	4.7873	1.3279	4.7686
	1	0.1702	0.0958	0.5539	0.6899	0.1609	0.1460	0.1403	0.1462	0.1540	0.1603
	4	0.4547	0.3493	0.6238	0.5464	0.4454	0.3582	0.3420	0.3623	0.2694	0.3850
20	10	1.3011	1.1804	1.3129	1.0624	1.2948	1.1641	1.1482	1.1765	0.5004	1.1766
	16	2.3193	2.2016	2.2512	1.8885	2.3150	2.1789	2.1669	2.1962	0.7313	2.1862
	25	3.9898	3.8656	3.8393	3.3363	3.9872	3.8579	3.8501	3.8786	1.0777	3.8620
	32	5.3511	5.2597	5.1484	4.5453	5.3494	5.2278	5.2221	5.2495	1.3472	5.2306
	1	0.1712	0.0959	0.5323	0.6292	0.1618	0.1468	1.1387	0.1470	0.1547	0.1611
	4	0.4601	0.3517	0.6371	0.5529	0.4506	0.3613	0.3363	0.3643	0.2708	0.3881
30	10	1.3289	0.1207	1.3848	1.1616	1.3223	1.1846	1.1567	1.1942	0.5029	1.1972
	16	2.3847	2.2555	2.3874	2.0797	2.3801	2.2332	2.2097	2.2474	0.7350	2.2406
	25	4.1320	4.0108	4.0863	3.6770	4.1291	3.9850	3.9679	4.0034	1.0832	3.9893
	32	5.5648	5.4524	5.4913	5.0111	5.5627	5.4244	5.4111	5.4447	1.3540	5.4275
	1	0.1721	0.0959	0.5183	0.5916	0.1626	0.1474	0.1371	0.1475	0.1554	0.1618
	4	0.4645	0.3538	0.6478	0.5619	0.4549	0.3639	0.3296	0.3659	0.2719	0.3907
50	10	1.3528	1.2181	1.4391	1.2391	1.3460	1.2023	1.1592	1.2088	0.5950	1.2147
	16	2.4426	2.3028	2.4927	2.2292	2.4377	2.2806	2.2406	2.2910	0.7381	2.2880
	25	2.2614	4.1239	4.2840	3.9491	4.2582	4.0992	4.0664	4.1138	1.0877	4.1036
	32	5.7627	5.6301	5.7718	5.3892	5.7603	5.6045	5.5768	5.6213	1.3596	5.6077
	1	0.1724	0.0959	0.5130	0.5777	0.1629	0.1477	0.1363	0.1478	0.1557	0.1621
	4	0.4665	0.3547	0.6523	0.5664	0.4568	0.3651	0.3260	0.3665	0.2724	0.3918
70	10	1.3636	1.2259	1.4617	1.2718	1.3567	1.2102	1.1584	1.2151	0.5059	1.2225
	16	2.4691	2.3244	2.5373	2.2926	2.4641	2.3023	2.2518	2.3104	0.7394	2.3096
	25	4.3220	4.1768	4.3698	4.0667	4.3187	4.1523	4.1083	4.1642	1.0896	4.1566
	32	5.8567	5.7143	5.8957	5.5548	5.8542	5.6894	5.6505	5.7034	1.3620	5.6925
	1	0.1727	0.0959	0.5093	0.5682	0.1632	0.1480	0.1357	0.1480	0.1559	0.1624
	4	0.4680	0.3553	0.6557	0.5700	0.4582	0.3660	0.3230	0.3670	0.2728	0.3927
100	10	1.3719	1.2319	1.4784	1.2961	1.3649	1.2163	1.1569	1.2199	0.5066	1.2285
	]6	2.4898	2.3411	2.5705	2.3400	2.4847	2.3191	2.2588	2.3251	0.7404	2.3262
	25	4.3698	4.2183	4.4349	4.1556	4.3665	4.1940	4.1386	4.2032	1.0911	4.1982
	32	5.9316	5.7811	5.9907	5.6812	5.92896	5.7565	5.7057	5.7677	1.3639	5.7595

'----' designates undefined

TABLE3 *(Cont.)*

α **=O.05**

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 5$					
	1	0.2267	0.1968	---------	---------	0.2246	0.2224	0.2199	0.2225	0.2218	0.2247
	4	0.3874	0.3555	---------	---------	0.3858	0.3664	0.3608	0.3689	0.3327	0.3724
3	10	0.7767	0.7556	---------	---------	0.7774	0.7467	0.7437	0.7526	0.5546	0.7502
	16	1.2009	*}.l954*	---------	---------	1.2037	1.1720	1.1705	1.1788	0.7764	1.1738
	25	1.8617	1.8817	---------	---------	1.8678	1.8369	1.8363	1.8433	1.1092	1.8377
	32	2.3849	2.4252	---------	---------	2.3937	2.3631	2.3627	2.3690	1.3680	2.3635
	1	0.2433	0.2067	1.7440	7.2330	0.2405	0.2382	0.2380	0.2383	0.2376	0.2406
	4	0.4210	0.3793	1.1578	4.4605	0.4185	0.3952	0.3945	0.3976	0.3564	0.4022
5	10	0.8617	0.8257	0.7345	2.4814	0.8605	0.8224	0.8220	0.8292	0.5940	0.8269
	16	1.3491	1.3251	0.6354	1.6733	1.3494	1.3100	1.3097	1.3182	0.8316	1.3124
	25	2.1154	2.1118	0.6924	1.1039	2.1177	2.0807	2.0806	2.0890	1.1880	2.0818
	32	2.7253	2.7382	0.8112	0.8811	2.7291	2.6941	2.6940	2.7019	1.4652	2.6947
	1	0.2600	0.2165	0.5652	0.7111	0.2567	0.2541	0.2538	0.2542	0.2534	0.2568
	4	0.4562	0.4037	0.5779	0.5540	0.4529	0.4247	0.4239	0.4267	0.3801	0.4327
10	10	0.9562	0.9035	0.8796	0.6792	0.9540	0.9047	0.9040	0.9114	0.6336	0.9101
	16	1.5213	1.4747	1.3137	0.9875	1.5200	1.4669	1.4664	1.4760	0.8870	1.4702
	25	2.4223	2.3895	2.0583	1.5702	2.4221	2.3712	2.3709	2.3815	1.2671	2.3730
	32	3.1457	3.1245	2.6740	2.0690	3.1462	3.0983	3.0981	3.1087	1.5628	3.0995
	1	0.2705	0.2225	0.5217	0.5483	0.2668	0.2640	0.2623	0.2641	0.2633	0.2669
	4	0.4789	0.4191	0.6184	0.5497	0.4752	0.4436	0.4371	0.4450	0.3949	0.4520
20	10	1.0216	0.9555	1.0587	0.8944	1.0188	0.9603	0.9528	0.9655	0.6582	0.9661
	16	1.6463	1.5820	1.6277	1.3971	1.6443	1.5782	1.5721	1.5862	0.9214	1.5820
	25	2.6567	2.5998	2.5814	2.2668	2.6555	2.5889	2.5847	2.5992	1.3163	2.5911
	32	3.4759	3.4262	3.3658	2.9910	3.4752	3.4108	3.4077	3.4220	1.6235	3.4124
	1	0.2744	0.2247	0.5159	0.5254	0.2706	0.2677	0.2651	0.2677	0.2669	0.2706
	4	0.4876	0.4249	0.6335	0.5639	0.4837	0.4508	0.4402	0.4518	0.4004	0.4592
30	10	1.0476	0.9761	1.1125	0.9676	1.0045	0.9820	0.9685	0.9862	0.6673	0.9879
	16	1.6977	1.6256	1.7230	1.5288	1.6955	1.6232	1.6112	1.6300	0.9342	1.6270
	25	2.7569	2.6890	2.7464	2.4916	2.7554	2.6805	2.6713	2.6899	1.3346	2.6828
	32	3.6204	3.5575	3.5898	3.2926	3.6193	3.5456	3.5383	3.5562	1.6460	3.5474
	1	0.2776	0.2265	0.5129	0.5127	0.2738	0.2708	0.2672	0.2708	0.2700	0.2739
	4	0.4950	0.4298	0.6457	0.5776	0.4910	0.4568	0.4419	0.4575	0.4050	0.4654
50	10	1.0703	0.9940	1.1541	1.0256	1.0672	1.0009	0.9796	1.0039	0.6750	1.0067
	16	1.7436	1.6644	1.7981	1.6331	1.7412	1.6630	1.6422	1.6681	0.9450	1.6669
	25	2.8488	2.7705	2.8800	2.6729	2.8472	2.7637	2.7459	2.7712	1.3500	2.7660
	32	3.7551	3.6794	3.7750	3.5395	3.7538	3.6701	3.6548	3.6790	1.6650	3.6719
	1	0.2791	0.2274	0.5119	0.5085	0.2753	0.2722	0.2682	0.2722	0.2714	0.2752
	4	0.4983	0.4320	0.6509	0.5839	0.4943	0.4596	0.4422	0.4601	0.4070	0.4681
70	10	1.0807	1.0021	1.1716	1.0504	1.0775	1.0095	0.9835	1.0117	0.6784	1.0153
	16	1.7648	1.6822	1.8302	1.6778	1.7624	1.6813	1.6548	1.6854	0.9498	1.6851
	25	2.8921	2.8088	2.9386	2.7519	2.8905	2.8026	2.7786	2.8088	1.3568	2.8049
	32	3.8195	3.7375	3.8575	3.6483	3.8182	3.7291	3.7075	3.7366	1.6734	3.7309
	1	0.2802	0.2280	0.5113	0.5057	0.2763	0.2733	0.2689	0.2733	0.2724	0.2762
	4	0.5008	0.4336	0.6547	0.5887	0.4968	0.4617	0.4423	0.4620	0.4068	0.4702
100	10	1.0887	1.0084	1.1846	1.0689	1.0855	1.0161	0.9860	1.0178	0.6810	1.0218
	16	1.7814	1.6961	1.8543	1.7114	1.7790	1.6956	1.6636	1.6987	0.9534	1.6993
	25	2.9265	2.8391	2.9832	2.8119	2.9247	2.8333	2.8028	2.8381	1.3621	2.8355
	32	3.8709	3.7838	3.9210	3.7317	3.8695	3.7760	3.7477	3.7820	1.6799	3.7777

'----' designates undefined

TABLE3 *(Cont.)*

α **=O.05**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar *et al.*	Cox-Reid	Exact
						$v_1 = 10$					
	1	0.2975	0.2926	---------	---------	0.2780	0.2971	0.2970	0.2971	0.2966	0.2973
	4	0.3889	0.3848	---------	---------	0.3897	0.3859	0.3853	0.3861	0.3775	0.3866
3	10	0.5905	0.5916	---------	---------	0.5921	0.5839	0.5832	0.5849	0.5393	0.5847
	16	0.8038	0.8le20	---------	---------	0.8064	0.7960	0.7956	0.7975	0.7011	0.7966
	25	1.1337	1.1537	---------	---------	1.1379	1.1258	1.1255	1.1276	0.9438	1.1261
	32	1.3945	1.4242	---------	---------	1.4000	1.3870	1.3868	1.3888	1.1326	1.3872
	1	0.3319	0.3217	0.9702	3.4045	0.3317	0.3314	0.3313	0.3314	0.3307	0.3315
	4	0.4353	0.4248	0.7812	2.5631	0.4352	0.4313	0.4312	0.4315	0.4209	0.4321
	10	0.6663	0.6589	0.6046	1.7137	0.6667	0.6572	0.6572	0.6584	0.6013	0.6583
	16	0.9129	0.9107	0.5471	1.2840	0.9138	0.9020	0.9019	0.9039	0.7818	0.9027
	25	1.2965	1.3036	0.5552	0.9379	1.2983	1.2852	1.2851	1.2875	1.0524	1.2856
	32	1.6008	1.6158	0.6005	0.7854	1.6034	1.5899	1.5899	1.5924	1.2628	1.5902
	1	0.3708	0.3545	0.5053	0.5129	0.3702	0.3701	0.3701	0.3701	0.3693	0.3703
	4	0.4885	0.4702	0.5531	0.5033	0.4879	0.4829	0.4828	0.4832	0.4701	0.4840
10	10	0.7556	0.7378	0.7252	0.5965	0.7552	0.7428	0.7426	0.7441	0.6715	0.7441
	16	1.0445	1.0297	0.9448	0.7541	1.0444	1.0286	1.0284	1.0308	0.8730	1.0296
	25	1.4981	1.4893	1.3141	1.0417	1.4984	1.4809	1.4808	1.4840	1.1752	1.4815
	32	1.8602	1.8567	1.6187	1.2871	1.8608	1.8432	1.8431	1.8465	1.4102	1.8436
	1	0.3982	0.3772	0.5284	0.4999	0.3974	0.3974	0.39720.	0.3974	0.3965	0.3976
	4	0.5265	0.5022	0.6160	0.5568	0.5256	0.5196	5183	0.5198	0.5047	0.5209
20	10	0.8217	0.7956	0.8619	0.7617	0.8210	0.8053	0.8032	0.8065	0.7210	0.8068
	16	1.1449	1.1195	1.1538	1.0218	1.1443	1.1237	1.12171.	1.1259	0.9373	1.1249
	25	1.6571	1.6349	1.6330	1.4592	1.6568	1.6333	61.6318	1.6367	1.2617	1.6342
	32	2.0690	2.0500	2.0247	1.8208	2.0689	2.0449	2.0436	2.0487	1.5140	2.0455
	1	0.4093	0.3862	0.5395	0.5089	0.4084	0.4084	0.4080	0.4084	0.4075	0.4086
	4	0.5419	0.5151	0.6379	0.5830	0.5410	0.5345	0.5321	0.5347	0.5186	0.5358
30	10	0.8493	0.8195	0.9058	0.8197	0.8485	0.8311	0.8270	0.8321	0.7409	0.8327
	16	1.1877	1.1576	1.2211	1.1117	1.1870	1.1638	1.1597	1.1658	0.9631	1.1651
	25	1.7269	1.6985	1.7379	1.5988	1.7265	1.6995	1.6960	1.7027	1.2965	1.7004
	32	2.1624	2.1360	2.1606	2.0004	2.1620	2.1341	2.1311	2.1379	1.5558	2.1348
	1	0.4190	0.3942	0.5490	0.5185	0.4181	0.4181	0.4175	0.4181	0.417]	0.4183
	4	0.5556	0.5265	0.6558	0.6054	0.5547	0.5476	0.5439	0.5478	0.5309	0.5490
50	10	0.8741	0.8409	0.9413	0.8671	0.8732	0.8542	0.8474	0.8550	0.7584	0.8558
	16	1.2268	1.1922	1.2760	1.1850	1.2261	1.2003	1.1929	1.2019	0.9859	1.2016
	25	1.7922	1.7577	1.8252	1.7139	1.7916	1.7609	1.7540	1.7635	1.3272	1.7618
	32	2.2508	2.2173	2.2756	2.1503	2.2503	2.2]79	2.2117	2.2212	1.5926	2.2]87
	1	0.4235	0.3978	0.5534	0.5231	0.4226	0.4225	0.4218	0.4225	0.4215	0.4228
	4	0.56]9	0.5317	0.6636	0.6154	0.5609	0.5537	0.5492	0.5538	0.5365	0.5550
70	10	0.8857	0.8508	0.9538	0.8877	0.8848	0.8650	0.8564	0.8656	0.7664	0.8666
	16	1.2453	1.2085	1.3001	1.2171	1.2446	1.2174	1.2077	1.21869	0.9964	1.2187
	25	1.8234	1.7860	1.8643	1.7649	1.8229	1.7901	1.7806	1.7923	1.3412	1.7910
	32	2.2936	2.2565	2.3277	2.2174	2.2931	2.2583	2.2494	2.2611	1.6095	2.2590
	1	0.4269	0.4006	0.5567	0.5268	0.426]	0.4259	0.4251	0.4259	0.4250	0.4262
	4	0.5668	0.5357	0.6695	0.6230	0.5658	0.5584	0.5532	0.5584	0.5409	0.5597
100	10	0.8948	0.8586	0.9685	0.9034	0.8939	0.8734	0.8631	0.8738	0.7727	0.8750
	16	1.2599	1.2214	1.3185	1.2415	1.2592	1.2309	1.2189	1.2319	1.0045	1.2322
	25	1.8484	1.8085	1.8944	1.8041	1.8478	1.8133	1.8011	1.8151	1.3522	1.8142
	32	2.3281	2.2880	2.3682	2.2692	2.3276	2.2906	2.2788	2.2929	1.6226	2.2913

'----' designates undefined

TABLE3 *(Cont.)*

$\alpha = 0.05$

ν_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar *et al.*	Cox-Reid	Exact
						$\nu_1 = 20$					
	1	0.3390	0.3448	---------	---------	0.3403	0.3390	0.3390	0.3390	0.3389	0.3390
	4	0.3892	0.3961	---------	---------	0.3907	0.3889	0.3888	0.3889	0.3873	0.3889
3	10	0.4937	0.50358	---------	---------	0.4956	0.4927	0.4926	0.4928	0.4841	0.4928
	16	0.6015	0.6148	---------	---------	0.6039	0.6000	0.5999	0.6002	0.5809	0.6001
	25	0.7666	0.7856	---------	---------	0.7698	0.7647	0.7647	0.7651	0.7262	0.7648
	32	0.8968	0.9204	---------	---------	0.9006	0.8948	0.8947	0.8952	0.8391	0.8948
	1	0.3875	0.3895	0.5721	1.6225	0.3880	0.3875	0.3875	0.3875	0.3873	0.3875
	4	0.4452	0.4477	0.5231	1.4230	0.4458	0.4447	0.4447	0.4447	0.4427	0.4448
5	10	0.5659	0.5705	0.4676	1.1179	0.5668	0.5645	0.5645	0.5646	0.5533	0.5646
	16	0.6912	0.6983	0.4455	0.9252	0.6923	0.6890	0.6890	0.6892	0.6640	0.6891
	25	0.8836	0.8951	0.4467	0.7433	0.8852	0.8809	0.8809	0.8813	0.8300	0.8810
	32	1.0357	1.0509	0.4642	0.6520	1.0376	1.0327	1.0327	1.0333	0.9591	1.0328
	1	0.4475	0.4446	0.4870	0.4441	0.4475	0.4474	0.4474	0.4474	0.4472	0.4474
	4	0.5145	0.5116	0.5290	0.4660	0.5146	0.5139	0.5138	0.5139	0.5111	0.5140
10	10	0.6563	0.6542	0.6298	0.5329	0.6565	0.6541	0.6540	0.6542	0.6389	0.6543
	16	0.8043	0.8037	0.7441	0.6176	0.8046	0.8009	0.8009	0.8013	0.7666	0.8012
	25	1.0332	1.0353	0.9297	0.7625	1.0336	1.0288	1.0287	1.0294	0.9583	1.0289
	32	1.2146	1.2192	1.08105	0.8841	1.2152	1.2099	1.2098	1.2106	1.1074	1.2100
	1	0.4946	0.4877	0.5552	0.5139	0.4941	0.4945	0.4945	0.4945	0.4943	0.4945
	4	0.5693	0.5618	0.6165	0.5650	0.5692	0.5684	0.5682	0.5684	0.5649	05682
20	10	0.7285	0.7208	0.7555	0.6869	0.7285	0.7254	0.7250	0.7256	0.7016	0.7256
	16	0.8960	0.8887	0.9079	0.8243	0.8960	0.8911	0.8907	0.8915	0.8474	0.8914
	25	1.1565	1.1506	1.1508	1.0469	1.1565	1.1500	1.1495	1.1507	1.0592	1.1502
	32	1.3639	1.3595	1.3472	1.2282	1.3640	1.351í8	1.3564	1.3578	1.2240	1.3570
	1	0.5153	0.5065	0.5805	0.5442	0.5151	0.5152	0.5152	0.5152	0.5149	0.5152
	4	0.5934	0.5838	0.6478	0.6038	0.5932	0.5923	0.5920	0.5923	0.5885	0.5924
30	10	0.7606	0.7502	0.7992	0.7427	0.7605	0.7569	0.7561	0.7571	0.7356	0.7572
	16	0.9372	0.9268	0.9646	0.8974	0.9371	0.9314	0.9304	0.9318	0.8827	0.9317
	25	1.2127	1.2030	1.2279	1.1464	1.2127	1.2050	1.2040	1.2058	1.1034	1.2053
	32	1.4329	1.4241	1.4408	1.3488	1.4329	1.4243	1.4233	1.4253	1.2751	1.4245
	1	0.5346	0.5240	0.6024	0.5707	0.5344	0.5344	0.5344	0.5344	0.5342	0.5345
	4	0.6159	0.6042	0.6746	0.6371	0.6157	0.6147	0.6140	0.6147	0.6105	0.6148
50	10	0.7908	0.7779	0.8365	0.7899	0.7906	0.7866	0.7850	0.7867	0.7631	0.7869
	16	0.9763	0.9628	1.0131	0.9593	0.9762	0.9696	0.9676	0.9699	0.9157	0.9699
	25	1.2670	1.2535	1.2947	1.2313	1.2668	1.2577	1.2556	1.2585	1.1447	1.2581
	32	1.4999	1.4868	1.5227	1.4524	1.4998	1.4895	1.4875	1.4905	1.3227	1.4898
	1	0.5438	0.5323	0.6124	0.5828	0.5436	0.5437	0.5436	0.5437	0.5434	0.5437
	4	0.6267	0.6140	0.6867	0.6521	0.6265	0.6254	0.6246	0.6254	0.6210	0.6255
70	10	0.8054	0.7912	0.8534	0.8113	0.8052	0.8008	0.7988	0.8009	0.7763	0.8011
	16	0.9954	0.9803	1.0354	0.9873	0.9952	0.988.1	0.9853	0.9884	0.9315	0.9884
	25	1.2936	1.2782	1.3256	1.2700	1.2935	1.2836	1.2805	1.2842	1.1644	1.2839
	32	1.5332	1.5178	1.5608	1.4999	1.5330	1.5217	1.5187	1.5226	1.3455	1.5220
	1	0.5511	0.5389	0.6202	0.5923	0.5510	0.5510	0.5509	0.5510	0.5507	0.5510
	4	0.6353	0.6218	0.6962	0.6638	0.6351	0.6339	0.6329	0.6339	0.6294	0.6341
100	10	0.8171	0.8018	0.8666	0.8278	0.8169	0.8123	0.8097	0.8124	0.7868	0.8126
	16	1.0107	0.9944	1.0528	1.0091	1.0105	1.0030	0.9994	1.0032	0.9441	1.0033
	25	1.3153	1.2983	1.3499	1.3002	1.3151	1.3045	1.3004	1.3050	1.1801	1.3048
	32	1.5603	1.5432	1.5911	1.5373	1.5602	1.5479	1.5438	1.5487	1.3637	1.5482

'----' designates undefined

TABLE3 *(Cont.)*

α **=O.05**

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reld	Exact
						$v_1 = 30$					
	I	0.3536	0.3626	---------	---------	0.3551	0.3536	0.3536	0.3536	0.3536	0.3536
	4	0.3884	0.3984	---------	---------	0.3901	0.3884	0.3884	0.3884	0.3878	0.3884
3	10	0.4596	0.4717	---------	---------	0.4616	0.4593	0.4593	0.4593	0.4563	0.4593
	16	0.5321	0.5466	---------	---------	0.5344	0.5316	0.5316	0.5317	0.5247	0.5317
	25	0.6426	0.6608	---------	---------	0.6454	0.6419	0.6419	0.6420	0.6273	0.6419
	32	0.7294	0.7507	---------	---------	0.7327	0.7286	0.7286	0.7287	0.7072	0.7286
	1	0.4079	0.4135	0.4371	1.1014	0.4086	0.4079	0.4079	0.4079	0.4079	0.4079
	4	0.4482	0.4544	0.4180	0.9979	0.4490	0.4481	0.4481	0.4481	0.4473	0.4481
5	10	0.5307	0.5385	0.3954	0.8434	0.5317	0.5303	0.5303	0.5303	0.5263	0.5303
	16	0.6152	06247	0.3868	0.7343	0.6163	0.6145	0.6145	0.6145	0.6052	0.6145
	25	0.7441	0.7565	0.3902	0.6213	0.7455	0.7431	0.7431	0.7432	0.7236	0.7431
	32	0.8456	0.8604	0.4018	0.5601	0.8472	0.8444	0.8444	0.8446	0.8157	0.8444
	1	0.4775	0.4787	0.4837	0.4279	0.4777	0.4774	0.4774	0.4774	0.4774	0.4774
	4	0.5248	0.5263	0.5172	0.4501	0.5250	0.5246	0.5246	0.5246	0.5236	0.5246
10	10	0.6223	0.6246	0.5905	0.5027	0.6226	0.6216	0.6216	0.6217	0.6160	0.6217
	16	0.7226	0.7259	0.6696	0.5628	0.7230	0.7214	0.7214	0.7215	0.7084	0.7215
	25	0.8763	0.8815	0.7949	0.6614	0.8767	0.8746	0.8746	0.8748	0.8470	0.8746
	32	0.9976	1.0044	0.8961	0.7428	0.9982	0.9956	0.9956	0.9959	0.9548	0.9957
	I	0.5351	0.5327	0.5709	0.5287	0.5351	0.5350	0.5350	0.5350	0.5349	0.5350
	4	0.5883	0.5858	0.6173	0.5694	0.5883	0.5880	0.5880	0.5880	0.5867	0.5881
20	10	0.6987	0.6964	0.7164	0.6581	0.6987	0.6977	0.6976	0.6977	0.6902	0.6978
	16	0.8128	0.8108	0.8213	0.7535	0.8129	0.8114	0.8109	0.8111	0.7938	0.8111
	25	0.9884	0.9874	0.9855	0.9044	0.9885	0.9858	0.9856	0.9861	0.9491	0.9859
	32	1.1276	1.12777	1.1172	1.0262	1.1277	1.1245	1.1244	1.1249	1.0699	1.1246
	1	0.5614	0.5573	0.6035	0.5685	0.5614	0.5614	0.5614	0.5614	0.5613	0.5614
	4	0.6174	0.6131	0.6541	0.6150	0.6174	0.6171	0.6170	0.6171	0.6156	0.6172
30	10	0.7339	0.7294	0.7620	0.7155	0.7339	0.7327	0.7325	0.7328	0.7243	0.7328
	16	0.8547	0.8502	0.8760	0.8228	0.8547	0.8525	0.8522	0.8527	0.8329	0.8526
	25	1.0410	1.0370	1.0545	0.9919	1.0410	1.0378	1.0374	1.0381	0.9959	1.0380
	32	1.1890	1.1856	1.1975	1.1281	1.1890	1.1852	1.1848	1.1856	1.1227	1.1853
	1	0.5869	0.5811	0.6325	0.6036	0.5869	0.5869	0.5869	0.5869	0.5868	0.5869
	4	0.6457	0.6394	0.6867	0.6549	0.6456	0.6453	0.6451	0.6453	0.6436	0.6453
50	10	0.7682	0.7614	0.8023	0.7654	0.7682	0.7667	0.7662	0.7668	0.7572	0.7668
	16	0.8956	0.8886	0.9245	0.8831	0.8956	0.8930	0.8923	0.8931	0.8708	0.8931
	25	1.0929	1.0859	1.1160	1.0684	1.0929	1.0890	1.0880	1.0892	1.0411	1.0891
	32	1.2499	1.2432	1.2696	1.2175	1.2499	1.2453	1.2443	1.2457	1.1737	1.2454
	1	0.5995	0.5928	0.6461	0.6200	0.5995	0.5995	0.5995	0.5995	0.5994	0.5995
	4	0.6596	0.6523	0.7020	0.6734	0.6595	0.6592	0.6589	0.6592	0.6574	0.6592
70	10	0.7852	0.7772	0.8212	0.7885	0.7851	0.7835	0.7828	0.7836	0.7734	0.7836
	16	0.9160	0.9077	0.9473	0.9110	0.9159	0.9131	0.9120	0.9132	0.8894	0.9132
	25	1.1189	1.1104	1.1451	1.1040	1.1188	1.1145	1.1132	1.1148	1.0634	1.1147
	32	1.2807	1.2722	1.3039	1.2594	1.2806	1.2755	1.2740	1.2758	1.1988	1.2756
	1	0.6098	0.6023	0.6569	0.6329	0.6097	0.6097	0.6097	0.6097	0.6096	0.6097
	4	0.6709	0.6629	0.7142	0.6880	0.6708	0.6705	0.6702	0.6705	0.6686	0.6705
100	10	0.7990	0.7902	0.8363	0.8067	0.7990	0.7973	0.7963	0.7973	0.7866	0.7974
	16	0.9327	0.9233	0.9655	0.9331	0.9326	0.9296	0.9281	0.9297	0.9046	0.9297
	25	1.1404	1.1306	1.1684	1.1323	1.1403	1.1356	1.1337	1.1358	1.08159	1.1357
	32	1.3062	1.2963	1.3315	1.2928	1.3061	1.3004	1.2984	1.3007	1.2192	1.3005

'----' designates undefined

TA.BLE 3 *(Cont.)*

α **=O.O5**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	MudhoIkar et al.	Cox-Reid	Exact
						$v_1 = 50$					
	1	0.3656	0.3769	---------	---------	0.3673	0.3656	0.3656	0.3656	0.3656	0.3656
	4	0.3872	0.3992	---------	---------	0.3890	0.3872	0.3872	0.3872	0.3871	0.3872
3	10	0.4309	0.4443	---------	---------	0.4329	0.4309	0.4309	0.4309	0.4301	0.4309
	16	0.4750	0.4899	---------	---------	0.4772	0.4749	0.4749	0.4749	0.4731	0.4749
	25	0.5418	0.5590	---------	---------	0.5443	0.5416	0.5416	0.5416	0.5376	0.5416
	32	0.5940	0.6131	---------	---------	0.5968	0.5938	0.5938	0.5938	0.5878	0.5938
	1	0.4249	0.4332	0.3281	0.6744	0.4258	0.4249	0.4249	0.4249	0.4249	0.4249
	4	0.4501	0.4589	0.3243	0.6377	0.4510	0.4501	0.4501	0.4501	0.4499	0.4501
5	10	0.5010	0.5109	0.3206	0.5768	0.5021	0.5009	0.5010	0.5010	0.4999	0.5010
	16	0.5525	0.5635	0.3210	0.5288	0.5537	0.5524	0.5524	0.5524	0.5499	0.5524
	25	0.6305	0.6433	0.3273	0.4739	0.6318	0.6303	0.6303	0.6303	0.6249	0.6303
	32	0.6917	0.7059	0.3357	0.4413	0.6931	0.6914	0.6914	0.6914	0.6832	0.6914
	1	0.5034	0.5078	0.4825	0.4180	0.5037	0.5034	0.5034	0.5034	0.5034	0.5034
	4	0.5333	0.5380	0.5058	0.4354	0.5337	0.5333	0.5333	0.5333	0.5330	0.5333
10	10	0.5939	0.5992	0.5539	0.4724	0.5943	0.5938	0.5938	0.5938	0.5923	0.5938
	16	0.6553	0.6614	0.6038	0.5115	0.6557	0.6551	0.6551	0.6551	0.6515	0.6551
	25	0.7486	0.7558	0.6809	0.5731	0.7491	0.7482	0.7482	0.7482	0.7403	0.7482
	32	0.8219	0.8301	0.7423	0.6229	0.8224	0.8213	0.8213	0.8214	0.8094	0.8213
	1	0.5717	0.5728	0.5874	0.5458	0.5718	0.5717	0.5717	0.5717	0.5717	0.5717
	4	0.6057	0.6069	0.6184	0.5739	0.6058	0.6057	0.6057	0.6057	0.6053	0.6057
20	10	0.6749	0.6763	0.6822	0.6322	0.6750	0.6747	0.6746	0.6747	0.6726	0.6747
	16	0.7452	0.7470	0.7478	0.6924	0.7453	0.7448	0.7448	0.7448	0.7399	0.7448
	25	0.8523	0.8547	0.8487	0.7856	0.8524	0.8516	0.8515	0.8516	0.8407	0.8516
	32	0.9366	0.9396	0.9286	0.8597	0.9367	0.9357	0.9356	0.9358	0.9192	0.9357
	1	0.6046	0.6041	0.6276	0.5951	0.6046	0.6046	0.6046	0.6046	0.6046	0.6046
	4	0.6406	0.6401	0.6614	0.6269	0.6406	0.6405	0.6405	0.6405	0.6401	0.6405
30	10	0.7139	0.7135	0.7309	0.6925	0.7140	0.7137	0.7136	0.7137	0.7113	0.7137
	16	0.7886	0.7884	0.8023	0.7601	0.7887	0.7881	0.7881	0.7882	0.7824	0.7881
	25	0.9026	0.9028	0.9121	0.8646	0.9027	0.9018	0.9016	0.9018	0.8891	0.9018
	32	0.9925	0.9930	0.9991	0.9476	0.9925	0.9914	0.9913	0.9915	0.9720	0.9914
	1	0.6377	0.6356	0.6648	0.6398	0.6377	0.6377	0.6377	0.6377	0.6377	0.6377
	4	0.6758	0.6736	0.7011	0.6747	0.6758	0.6757	0.6757	0.6757	0.6752	0.6757
50	10	0.7534	0.7511	0.7758	0.7468	0.7534	0.7531	0.7530	0.7531	0.7502	0.7531
	16	0.8327	0.8304	0.8526	0.8212	08327	0.8320	0.8318	0.8320	0.8253	0.8320
	25	0.9539	0.9517	0.9707	0.9359	0.9539	0.9527	0.9525	0.9528	0.9378	0.9528
	32	1.0496	1.0475	1.0645	1.0271	1.0496	1.0481	1.0479	1.0482	1.0253	1.0482
	1	0.6547	0.6518	0.6830	0.6612	0.6547	0.6547	0.6547	0.6547	0.6547	0.6547
	4	0.6938	0.6907	0.7205	0.6976	0.6938	0.6937	0.6937	0.6937	0.6932	0.6937
70	10	0.7737	0.7704	0.7977	0.7728	0.7736	0.7733	0.7731	0.7733	0.7702	0.7733
	16	0.8553	0.8519	0.8771	0.8504	0.8553	0.8546	0.8543	0.8546	0.8472	0.8546
	25	0.9804	0.9769	0.9995	0.9701	0.9803	0.9791	0.9786	0.9791	0.9627	0.9791
	32	1.0792	1.0758	1.0967	1.0653	1.0792	1.0775	1.0771	1.0776	1.0526	1.0776
	1	0.6689	0.6653	0.6978	0.6786	0.6689	0.6689	0.6689	0.6689	0.6689	0.6689
	4	0.7089	0.7051	0.7363	0.7162	0.7089	0.7088	0.7087	0.7088	0.7082	0.7088
100	10	0.7907	0.7866	0.8156	0.7938	0.7906	0.7902	0.7900	0.7902	0.7869	0.7902
	16	0.8744	0.8701	0.8973	0.8741	0.8744	0.8735	0.8731	0.8735	0.8656	0.8736
	25	1.0027	0.9983	1.0231	0.9979	1.0027	1.0012	1.0006	1.0013	0.9837	1.0013
	32	1.1042	1.0998	1.1232	1.0965	1.1042	1.1024	1.1017	1.1024	1.0755	1.1024

'----' designates undefined

TABLE 3 *(Cont.)*

α **=O.05**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exaet
						$v_1 = 70$					
	1	0.3708	0.3831	---------	---------	0.3725	0.3708	0.3708	0.3708	0.3708	0.3708
	4	0.3865	0.3993	---------	---------	0.3883	0.3865	0.3865	0.3865	0.3864	0.3865
3	10	0.4181	0.4319	---------	---------	0.4201	0.4181	0.4181	0.4181	0.4178	0.4181
	16	0.4499	0.4648	---------	---------	0.4520	0.4498	0.4498	0.4498	0.4491	0.4498
	25	0.4978	0.5144	---------	---------	0.5002	0.4977	0.4977	0.4977	0.4961	0.4977
	32	0.5352	0.5532	---------	---------	0.5378	0.5352	0.5352	0.5352	0.5327	0.5352
	1	0.4324	0.4417	0.2811	0.4956	0.4334	0.4324	0.4324	0.4324	0.4324	0.4324
	4	0.4508	0.4605	0.2809	0.4773	0.4517	0.4508	0.4508	0.4508	0.4507	0.4508
5	10	0.4877	0.4982	0.2821	0.4457	0.4887	0.4876	0.4876	0.4876	0.4872	0.4876
	16	0.5248	0.5362	0.2851	0.4195	0.5259	0.5248	0.5248	0.5248	0.5238	0.5248
	25	0.5809	0.5936	0.2921	0.3877	0.5821	0.5808	0.5808	0.5808	0.5786	0.5808
	32	0.6248	0.6385	0.2993	0.3678	0.6261	0.6246	0.6246	0.6247	0.6212	0.6246
	1	0.5152	0.5208	0.4825	0.4147	0.5155	0.5152	0.5152	0.5152	0.5152	0.5152
	4	0.5370	0.5430	0.5001	0.4285	0.5374	0.5370	0.5370	0.5370	0.5369	0.5370
10	10	0.5811	0.5876	0.5361	0.4570	0.5815	0.5811	0.5811	0.5811	0.5805	0.5811
	16	0.6255	0.6326	0.5729	0.4863	0.6260	0.6255	0.6255	0.6255	0.6240	0.6255
	25	0.6927	0.7006	0.6291	0.5317	0.6932	0.6926	0.6926	0.6926	0.6893	0.6926
	32	0.7454	0.7540	0.6735	0.5679	0.7459	0.7451	0.7451	0.7452	0.7401	0.7452
	1	0.5889	0.5914	0.5957	0.5549	0.5890	0.5889	0.5889	0.5889	0.5889	0.5889
	4	0.6139	0.6166	0.6190	0.5763	0.6141	0.6139	0.6139	0.6139	0.6138	0.6139
20	10	0.6645	0.6674	0.6663	0.6198	0.6646	0.6644	0.6644	0.6644	0.6635	0.6644
	16	0.7155	0.7187	0.7144	0.6642	0.7157	0.7154	0.7154	0.7154	0.7133	0.7154
	25	0.7929	0.7966	0.7877	0.7321	0.7930	0.7926	0.7926	0.7926	0.7880	07926
	32	0.8535	0.8576	0.8454	0.7857	0.8537	0.8532	0.8531	0.8532	0.8460	0.8532
	1	0.6253	0.62633	0.6400	0.6091	0.6254	0.6253	0.6253	06253	0.6253	0.6253
	4	0.6519	0.6530	0.6654	0.6331	0.6520	0.6519	0.6519	0.6519	0.6517	0.6519
30	10	0.7057	0.7069	0.7169	0.6820	0.7057	0.7056	0.7056	0.7056	0.7046	0.7056
	16	0.7601	0.7614	0.7693	0.7318	0.7601	0.7599	0.7598	0.7599	0.7574	0.7599
	25	0.8425	0.8442	0.8491	0.8079	0.8426	0.8422	0.8422	0.8422	0.8367	0.8422
	32	0.9073	0.9092	0.9120	0.8680	0.9074	0.9068	0.9068	0.9069	0.8983	0.9068
	1	0.6629	0.6624	0.6820	0.6591	0.6630	0.6630	0.6630	0.6630	0.6629	0.6629
	4	0.6112	0.6906	0.7093	0.6855	0.6912	0.6912	0.6912	0.6912	0.6909	0.6912
50	10	0.7483	0.7478	0.7647	0.7393	0.7483	0.7482	0.7482	0.7482	0.7470	0.7482
	16	0.8062	0.8057	0.8212	0.7941	0.8062	0.8059	0.8059	0.8060	0.8030	0.8060
	25	0.8941	0.8938	0.9072	0.8778	0.8941	0.8937	0.8936	0.8937	0.8870	0.8937
	32	0.9632	0.9630	0.9751	0.9439	0.9633	0.9626	0.9625	0.9627	0.9524	0.9627
	1	0.6827	0.6814	0.7030	0.6836	0.6827	0.6827	0.6827	0.6827	0.6827	0.6827
	4	0.7118	0.7104	0.7312	0.7112	0.7118	0.7118	0.7118	0.7118	0.7115	0.7118
70	10	0.7707	0.7693	0.7887	0.7674	0.7707	0.7706	0.7705	0.7706	0.7692	0.7706
	16	0.8305	0.8290	0.8472	0.8246	0.8305	0.8302	0.8301	0.8302	0.8269	0.8302
	25	0.9213	0.9199	0.9364	0.9121	0.9213	0.9208	0.9207	0.9208	0.9135	0.9208
	32	0.9928	0.9915	1.0069	0.9811	0.9928	0.9921	0.9919	0.9922	0.9808	0.9921
	1	0.6996	0.6976	0.7205	0.7038	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996
	4	0.7294	0.7273	0.7496	0.7324	0.7294	0.7294	0.7294	0.7294	0.7291	0.7294
100	10	0.7899	0.7877	0.8087	0.7905	0.7899	0.7897	0.7896	0.7897	0.7883	0.7897
	16	0.8513	0.8490	0.8689	0.8497	0.8513	0.8509	0.8508	0.8509	0.8474	0.8509
	25	0.9447	0.9423	0.9608	0.9403	0.9447	0.9441	0.9438	0.9441	0.9361	0.944
	32	1.0183	1.0159	1.0335	1.0120	1.0183	1.0175	1.0172	1.0175	1.0050	1.0175

'----' designates undefined

TABLE3 *(Cont.)*

$\alpha = 0.05$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Ze1en	Tiku	Tiku-Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 100$					
	1	0.3747	0.3876	---------	---------	0.3765	0.3747	0.3747	0.3747	0.3747	0.3747
	4	0.3858	0.3992	---------	---------	0.3877	0.3858	0.3858	0.3858	0.3858	0.3858
3	10	0.4082	0.4223	---------	---------	0.4102	0.4082	0.4082	0.4082	0.4081	0.4082
	16	0.4306	- 0.4455	---------	---------	0.4327	0.4306	0.4306	0.4306	0.4303	0.4306
	25	0.4644	0.4805	---------	---------	0.4666	0.4643	0.4643	0.4643	0.4637	0.4643
	32	0.4907	0.5077	---------	---------	0.4931	0.4907	0.4907	0.4907	0.4897	0.4907
	1	0.4381	0.4482	0.2457	0.3631	0.4391	0.4381	0.4381	0.4381	0.4381	0.4381
	4	0.4512	0.4616	0.2470	0.3546	0.4522	0.4512	0.4512	0.4512	0.4511	0.4512
5	10	0.4773	0.4883	0.2502	0.3394	0.4784	0.4773	0.4773	0.4773	0.4772	0.4773
	16	0.5036	0.5152	0.2540	0.3262	0.5047	0.5036	0.5036	0.5036	0.5032	0.5036
	25	0.5431	0.5557	0.2608	0.3095	0.5443	0.5431	0.5431	0.5431	0.5422	0.5431
	32	0.5739	0.5873	0.2669	0.2987	0.5752	0.5739	0.5739	0.5739	0.5726	0.5739
	1	0.5242	0.5308	0.4826	0.4127	0.5246	0.5242	0.5242	0.5242	0.5242	0.5242
	4	0.5398	0.5466	0.4955	0.4231	0.5402	0.5398	0.5398	0.5398	0.5398	0.5398
10	10	0.5712	0.5784	0.5217	0.4442	0.5716	0.5711	0.5711	0.5711	0.5709	0.5711
	16	0.6026	0.6103	0.5482	0.4657	0.6031	0.6026	0.6026	0.6026	0.6021	0.6026
	25	0.6501	0.6584	0.5884	0.4985	0.6506	0.6500	0.6500	0.6500	0.6488	0.6500
	32	0.6872	0.6959	0.6199	0.5243	0.6877	0.6871	0.6871	0.6871	0.6851	0.6871
	1	0.6025	0.6060	0.6026	0.5625	0.6026	0.6025	0.6025	0.6025	0.6025	0.6025
	4	0.6204	0.6241	0.6196	0.5782	0.6206	0.6204	0.6204	0.6204	0.6204	0.6204
20	10	0.6565	0.6604	0.6537	0.6098	0.6566	0.6565	0.6565	0.6565	0.6561	0.6565
	16	0.6928	0.6969	0.6882	0.6418	0.6929	0.6927	0.6927	0.6927	0.6919	0.6927
	25	0.7475	0.7521	0.7404	0.6903	0.7477	0.7474	0.7474	0.7474	0.7456	0.7474
	32	0.7903	0.7952	0.7813	0.7284	0.7905	0.7902	0.7902	0.7902	0.7874	0.7902
	1	0.6419	0.6441	0.6504	0.6208	0.6420	0.6420	0.6420	0.6420	0.6420	0.6420
	4	0.6611	0.6633	0.6688	0.6384	0.6612	0.6611	0.6611	0.6611	0.6610	0.6611
30	10	0.6996	0.7019	0.7061	0.6739	0.6996	0.6996	0.6995	0.6996	0.6992	0.6996
	16	0.7383	0.7408	0.7436	0.7097	0.7384	0.7383	0.7382	0.7383	0.7373	0.7383
	25	0.7968	0.7995	0.8005	0.7641	0.7969	0.7967	0.7967	0.7967	0.7945	0.7967
	32	0.8426	0.8455	0.8451	0.8067	0.8427	0.8424	0.8424	0.8424	0.8390	0.8424
	1	0.6837	0.6843	0.6966	0.6756	0.6837	0.6837	0.6837	0.6837	0.6837	0.6837
	4	0.7041	0.7047	0.7165	0.6950	0.7041	0.7041	0.7041	0.7041	0.7040	0.7041
50	10	0.7451	0.7458	0.7567	0.7340	0.7452	0.7451	0.7451	0.7451	0.7446	0.7451
	16	0.7865	0.7873	0.7973	0.7735	0.7865	0.7864	0.7864	0.7864	0.7852	0.7864
	25	0.8490	0.8499	0.8587	0.8333	0.8491	0.8489	0.8488	0.8489	0.8462	0.8489
	32	0.8979	0.8990	0.9069	0.8803	0.8980	0.8978	0.8977	0.8978	0.8936	0.8978
	1	0.7062	0.7060	0.7204	0.7031	0.7062	0.7062	0.7062	0.7062	0.7061	0.7062
	4	0.7272	0.7271	0.7410	0.7233	0.7272	0.7272	0.7272	0.7272	0.7271	0.7272
70	10	0.7697	0.7695	0.7827	0.7641	0.7697	0.7696	0.7696	0.7696	0.7691	0.7696
	16	0.8124	0.8123	0.8248	0.8054	0.8125	0.8123	0.8123	0.8123	0.8110	0.8123
	25	0.8772	0.8771	0.8886	0.8680	0.8772	0.8770	0.8769	0.8770	0.8739	0.8770
	32	0.9279	0.9279	0.9387	0.9172	0.9279	0.9276	0.9276	0.9276	0.9229	0.9276
	1	0.7257	0.7249	0.7406	0.7261	0.7257	0.7257	0.7257	0.7257	0.7257	0.7257
	4	0.7474	0.7465	07619	0.7471	0.7474	0.7474	0.7474	0.7474	0.7473	0.7474
100	10	0.7910	0.7902	0.8048	0.7894	0.7910	0.7910	0.7909	0.7910	0.7904	0.7910
	16	0.8351	0.8342	0.8482	0.8322	0.8351	0.7350	0.8349	0.8350	0.8335	0.8350
	25	0.9018	0.9009	0.9141	0.8972	0.9018	0.9015	0.9014	0.9015	0.8982	0.9015
	32	0.9540	0.9532	0.9658	0.9482	0.9540	0.9537	0.9536	0.9537	0.9485	0.9537

'----' designates undefined values.

TABLE3 *(Cont.)*

$\alpha = 0.10$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severop Zelen	Tiku	Tiku-Yip	Muddholkar et al.	Cox-Reid	Exact
						$v_1 = 3$					
	1	0.2636	0.2184	---------	---------	0.2599	0.2481	0.2296	0.2488	0.2473	0.2558
	4	0.6003	0.5503	---------	---------	0.5980	0.5492	0.5297	0.5571	0.4328	0.5601
3	10	1.4367	1.3964	---------	---------	1.4385	1.3824	1.3760	1.3948	0.8038	1.3859
	16	2.3415	2.3131	---------	---------	2.3477	2.2952	2.2925	2.3070	1.1748	2.2966
	25	3.7391	3.7280	---------	---------	3.7527	3.7028	3.7018	3.7128	1.7313	3.7033
	32	4.8401	4.8419	---------	---------	4.8597	4.8093	4.8087	4.8180	2.1642	4.8096
	1	0.2689	0.2205	1.3401	7.0625	0.2652	0.2530	0.2517	0.2535	0.2511	0.2601
	4	0.6251	0.5690	0.8047	3.4688	0.6226	0.5698	0.5677	0.5763	0.4395	0.5787
5	10	1.5351	1.4854	0.7331	1.5876	1.5351	1.4710	1.4701	1.4834	0.8162	1.4737
	16	2.5356	2.4958	1.0127	0.9936	2.5379	2.4783	2.4778	2.4913	1.1929	2.4796
	25	4.0942	4.0693	1.6282	0.7151	4.1003	4.0473	4.0471	4.0592	1.7580	4.0479
	32	5.3274	5.3135	2.1735	0.6951	5.3366	5.2867	5.2866	5.2975	2.1975	5.2871
	1	0.2740	0.2230	0.5755	0.7255	0.2707	0.2580	0.2571	0.2583	0.2549	0.2644
	4	0.6501	0.5882	0.7601	0.5921	0.6480	0.5915	0.5896	0.5959	0.4461	0.5971
10	10	1.6420	1.5819	1.5876	1.1131	1.6416	1.5675	1.5662	1.5779	0.8285	1.5678
	16	2.7567	2.7037	2.6019	1.8978	2.7574	2.6857	2.6849	2.6982	1.2109	2.6857
	25	4.5168	4.4752	4.2434	3.2305	4.5188	4.4549	4.4544	4.4678	1.7844	4.4549
	32	5.9201	5.8871	5.5650	4.3233	5.9232	5.8645	5.8643	5.8771	2.2305	5.8646
	1	0.2771	0.2245	0.5448	0.5567	0.2740	0.2611	0.2564	0.2612	0.2572	0.2669
	4	0.6656	0.6000	0.8308	0.6599	0.6639	0.6056	0.5931	0.6082	0.4501	0.6083
20	10	1.7133	1.6457	1.8217	1.4880	1.7135	1.6326	1.6210	1.6398	0.8358	1.6296
	16	2.9126	2.8490	3.0025	2.5541	2.9134	2.8317	2.8231	2.8415	1.2216	2.8291
	25	4.8315	4.7757	4.9114	4.3132	4.8328	4.7566	4.7511	4.7683	1.8002	4.7549
	32	6.3747	6.3252	6.4525	5.7448	6.3762	6.3051	6.3011	6.3173	2.2503	6.3039
	1	0.2782	0.2251	0.5390	0.5313	0.2752	0.2622	0.2556	0.2623	0.2580	0.2678
	4	0.6713	0.6044	0.8486	0.6878	0.6698	0.6110	0.5920	0.6127	0.4515	0.6124
30	10	1.7409	1.6703	1.8814	1.5942	1.7415	1.6581	1.6385	1.6635	0.8385	1.6533
	16	2.9752	2.9072	3.1102	2.7399	2.9765	2.8905	2.8745	2.8984	1.2255	2.8862
	25	4.9634	4.9012	5.1032	4.6284	4.9649	4.8827	4.8714	4.8928	1.8059	4.8797
	32	6.5699	6.5125	6.7175	6.1679	6.5715	6.4936	6.4848	6.5045	2.2574	6.4913
	1	0.2791	0.2256	0.5351	0.5163	0.2762	0.2631	0.2547	0.2632	0.2587	0.2686
	4	0.6761	0.6080	0.8611	0.7097	0.6748	0.6155	0.5901	0.6166	0.4527	0.6158
50	10	1.7647	1.6914	1.9246	1.6732	1.7656	1.6802	1.6510	1.6839	0.8407	1.6736
	16	3.0305	2.9582	3.1909	2.8801	3.0322	2.9426	2.9164	2.9481	1.2287	2.9362
	25	5.0828	5.0144	5.2534	4.8724	5.0848	4.9970	4.9762	5.0046	1.8107	4.9921
	32	6.7497	6.6847	6.9307	6.5013	6.7517	6.6669	6.6496	6.6756	2.2633	6.6629
	1	0.2795	0.2258	0.5335	0.5110	0.2767	0.2636	0.2543	0.2636	0.2590	0.2689
	4	0.6782	0.6096	0.8659	0.7189	0.6770	0.6175	0.5889	0.6184	0.4532	0.6173
70	10	0.7755	1.7008	1.9421	1.7057	1.7766	1.6903	1.6557	1.6930	0.8416	1.6827
	16	3.0558	2.9816	3.2245	2.9383	3.0577	2.9665	2.9342	2.9707	1.2301	2.9590
	25	5.1386	5.0672	5.3180	4.9760	5.1409	5.0504	5.0232	5.0564	1.8127	5.0443
	32	6.8348	6.7660	7.0242	6.6449	6.8371	6.7489	6.7254	6.7561	2.2659	6.7439
	1	0.2798	0.2259	0.5324	0.5074	0.2770	0.2639	0.2540	0.2639	0.2592	0.2692
	4	0.6798	0.6108	0.8695	0.7256	0.6787	0.6191	0.5878	0.6197	0.4536	0.6184
100	10	1.7837	1.7081	1.9548	1.7295	1.7850	1.6981	1.6589	1.7000	0.8424	1.6897
	16	3.0755	2.9997	3.2494	2.9814	3.0776	2.9851	2.9473	2.9882	1.2311	2.9767
	25	51826	5.1087	5.3667	5.0535	5.1851	5.0924	5.0590	5.0970	1.8143	5.0853
	32	6.9024	6.8305	7.0957	6.7534	6.9049	6.8141	6.7841	6.8196	2.2679	6.8079

'----' designates undefined values.

TABLE 3 *(Cont.)*

α **=O.10**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 5$					
	1	0.3369	0.3163	---------	---------	0.3364	0.3338	0.3312	0.3339	0.3315	0.3349
	4	0.5570	0.5345	---------	---------	0.5571	0.5417	0.5361	0.5435	0.4973	05447
3	10	1.0665	1.0480	---------	---------	1.0689	1.0448	1.0418	1.0491	08288	1.0464
	16	1.6095	1.5969	---------	---------	1.6144	1.5886	1.5871	1.5935	1.1604	1.5894
	25	2.4464	2.4434	---------	---------	2.4558	2.4286	2.4279	2.4332	1.6511	*IAI~9*
	32	3.1058	3.1101	---------	---------	3.1187	3.0900	3.0896	3.0943	2.0445	3.0902
	1	0.3537	0.3301	0.9307	4.0130	0.3529	0.3502	0.3499	0.3503	0.3475	0.3514
	4	0.5906	0.5638	0.6919	2.4008	0.5902	0.5730	0.5723	0.5746	0.5213	0.5756
5	10	1.1492	1.1248	0.6547	1.3009	1.1499	1.1227	1.1223	1.1273	08688	1.1241
	16	1.7513	1.7318	0.8082	0.8980	1.7533	1.7250	1.7248	1.7305	1.2163	1.7258
	25	2.6857	2.6742	1.1592	0.6758	2.6900	2.6624	2.6623	2.6680	1.7376	2.6628
	32	3.4245	3.4192	1.4761	0.6338	3.4307	3.4036	3.4035	3.4089	2.1431	3.4038
	1	0.3710	0.3443	0.5620	0.5762	0.3703	0.3672	0.3670	0.3672	0.3639	0.3682
	4	0.6262	0.5950	0.7155	0.5785	0.6258	0.6063	0.6056	0.6075	0.5459	0.6080
10	10	1.2416	1.2106	1.2261	0.9123	1.2417	1.2096	1.2090	1.2137	0.9098	1.2100
	16	1.9158	1.8881	1.8342	1.3825	1.9165	1.8824	1.8820	1.8880	1.2737	1.8825
	25	2.9735	2.9517	2.8150	2.1771	2.9749	2.9423	2.9420	2.9485	1.8196	2.9423
	32	3.8152	3.7982	3.6049	2.8289	3.8173	3.7863	3.7861	3.7926	2.2442	3.7863
	1	0.3819	0.3532	0.5644	0.5224	0.3814	0.3779	0.3766	0.3779	0.3742	0.3788
	4	0.6494	0.6150	0.7777	0.6523	0.6492	0.6281	0.6232	0.6289	0.5613	0.6288
20	10	1.3053	1.2692	1.3927	1.1761	1.3056	1.2696	1.2641	1.2726	0.9356	1.2685
	16	2.0345	2.0000	2.1057	1.8213	2.0351	1.9955	1.9911	2.0000	1.3098	1.9943
	25	3.1909	3.1603	3.2518	2.8775	3.1917	3.1525	3.1496	3.1583	1.8711	3.1517
	32	4.1181	4.0908	4.1756	3.7355	4.1191	4.0814	4.0792	4.0877	2.3077	4.0808
	1	0.3860	0.3565	0.5661	0.5192	0.3856	0.3819	0.3799	0.3819	0.3781	0.3827
	4	0.6582	0.6226	0.7939	0.6790	0.6582	0.6365	0.6287	0.6371	0.5671	0.6367
30	10	1.3305	1.2923	1.4369	1.2527	1.3311	1.2934	1.2840	1.2957	0.9451	1.2914
	16	2.0830	2.0456	2.1811	1.9481	2.0838	2.0417	2.0335	2.0454	1.3232	2.0397
	25	3.2831	3.2484	3.3799	3.0846	3.2840	3.2414	3.2353	3.2465	1.8903	3.2398
	32	4.2494	4.2172	4.3489	4.0087	4.2503	4.2088	4.2040	4.2145	2.3314	4.2076
	1	0.3894	0.3593	0.5675	0.5188	0.3892	0.3853	0.3826	0.3853	0.3813	0.3861
	4	0.6657	0.6290	0.8057	0.6998	0.6658	0.6436	0.6329	0.6440	0.5719	0.6434
50	10	1.3526	1.3124	1.4698	1.3105	1.3534	1.3143	1.2999	1.3159	0.9533	1.3114
	16	2.1262	2.0860	2.2387	2.0450	2.1273	2.0829	2.0694	2.0856	1.3346	2.0798
	25	3.3673	3.3286	3.4818	3.2465	3.3684	3.3224	3.3112	3.3263	1.9065	3.3199
	32	4.3711	4.3341	4.4899	4.2257	4.3722	4.3267	4.3172	4.3313	2.3514	4.3246
	1	0.3909	0.3605	0.5681	0.5191	0.3908	0.3868	0.3838	0.3869	0.3827	0.3876
	4	0.6691	0.6319	0.8104	0.7086	0.6693	0.6469	0.6346	0.6471	0.5741	0.6464
70	10	1.3626	1.3215	1.4833	1.3344	1.3635	1.3238	1.3067	1.3250	0.9568	1.3204
	16	2.1462	2.1046	2.2630	2.0856	2.1474	2.1019	2.0851	2.1040	1.3396	2.0983
	25	3.4069	3.3663	3.5260	3.3157	3.4082	3.3605	3.3458	3.3637	1.9137	3.3574
	32	4.4290	4.3896	4.5523	4.3198	4.4303	4.3828	4.3698	4.3866	2.3602	4.3801
	1	0.3921	0.3615	0.5685	0.5195	0.3920	0.3880	0.3847	0.3880	0.3838	0.3887
	4	0.6716	0.6341	0.8135	0.7150	0.6719	0.6493	0.6358	0.6495	0.5758	0.6486
100	10	1.3704	1.3285	1.4933	1.3521	1.3714	1.3312	1.3116	1.3321	0.9596	1.3274
	16	2.1618	2.1191	2.2812	2.1159	2.1631	2.1168	2.0969	2.1184	1.3434	2.1127
	25	3.4381	3.3960	3.5596	3.3678	3.4396	3.3906	3.3724	3.3931	1.9192	3.3869
	32	4.4752	4.4338	4.6002	4.3912	4.4766	4.4275	4.4108	4.4304	2.3670	4.4241

'----' designates undefined values.

TABLE3 *(Con!.)*

$\alpha = 0.10$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku- Yip	Mudholkar *et al.*	Cox-Reid	Exact
						$v_1 = 10$					
	1	0.4042	0.3990	---------	---------	0.4052	0.4039	0.4038	0.4039	04033	0.4040
	4	0.5249	0.5195	---------	---------	0.5264	0.5227	0.5221	0.5229	0.5133	0.5231
3	10	0.7853	0.7813	---------	---------	0.7879	0.7805	0.7798	0.7812	0.7332	0.7809
	16	1.0572	1.0556	---------	---------	1.0612	1.0516	1.0511	1.0526	0.9432	1.0518
	25	1.4746	1.4771	---------	---------	1.4808	1.4689	1.4686	1.4702	1.2831	1.4690
	32	1.8032	1.8091	---------	---------	1.8113	1.7978	1.7976	1.7991	1.5398	1.7979
	1	0.4373	0.4301	0.6113	1.9116	0.4377	0.4370	0.4370	0.4370	0.4362	0.4371
	4	0.5695	0.5616	0.5531	1.4302	0.5701	0.5668	0.5667	0.5669	0.5552	0.5671
5	10	0.8574	0.8503	0.5551	0.9638	0.8585	0.8513	0.8512	0.8521	0.7931	0.8517
	16	1.1601	1.1548	0.6271	0.7471	1.1620	1.1528	1.1527	1.1541	1.0311	1.1531
	25	1.6268	1.6249	0.7907	0.5994	1.6299	1.6193	1.6193	1.6209	1.3880	1.6195
	32	1.9954	1.9962	0.9408	0.5540	1.9994	1.9881	1.9880	1.9897	1.6656	1.9882
	1	0.4750	0.4655	0.5651	0.5046	0.4751	0.4746	0.4746	0.4746	0.4736	0.4746
	4	0.6206	0.6099	0.6724	0.5575	0.6208	0.6172	0.6171	0.6174	0.6028	0.6175
10	10	0.9422	0.9313	0.9434	0.7473	0.9425	0.9343	0.9341	0.9351	0.8611	0.9344
	16	1.2837	1.2739	1.2493	0.9849	1.2843	1.2739	1.2738	1.2753	1.1194	1.2740
	25	1.8140	1.8066	1.7375	1.3794	1.8150	1.8035	1.8034	1.8054	1.5069	1.8036
	32	2.2347	2.2293	2.1301	1.7023	2.2361	2.2243	2.2242	2.2264	1.8083	2.2243
	1	0.5015	0.4901	0.6025	0.5418	0.5016	0.5010	0.5008	0.5010	0.4998	0.5010
	4	0.6570	0.6440	0.7391	0.6503	0.6572	0.6530	0.6521	0.6532	0.6361	0.6531
20	10	1.0043	0.9904	1.0662	0.9371	1.0046	0.9949	0.9934	0.9956	0.9088	0.9947
	16	1.3769	1.3632	1.4248	1.2664	1.3772	1.3648	1.3634	1.3661	1.1814	1.3645
	25	1.9597	1.9474	2.0032	1.7965	1.9601	1.9463	1.9452	1.9481	1.5904	1.9460
	32	2.4245	2.4136	2.4647	2.2251	2.4251	2.4109	2.4101	2.4131	1.9084	2.4107
	1	0.5121	0.4999	0.6139	0.5582	0.5123	0.5116	0.5113	0.5115	0.5103	0.5116
	4	0.6717	0.6577	0.7583	0.6809	0.6720	0.6675	0.6659	0.6676	0.6495	0.6675
30	10	1.0301	1.0147	1.1017	0.9947	1.0304	1.0200	1.0173	1.0206	0.9279	1.0196
	16	1.4163	1.4009	1.4814	1.3512	1.4167	1.4032	1.4004	1.4043	1.2063	1.4026
	25	2.0230	2.0084	2.0848	1.9239	2.0234	2.0081	2.0058	2.0098	1.6238	2.0076
	32	2.5084	2.4948	2.5701	2.3868	2.5089	2.4932	2.4912	2.4952	1.9486	2.4927
	1	0.5214	0.5085	0.6229	0.5719	0.5217	0.5209	0.5204	0.5209	0.5196	0.5209
	4	0.6847	0.6698	0.7732	0.7050	0.6851	0.6804	0.6778	0.6804	0.6613	0.6802
50	10	1.0532	1.0365	1.1295	1.0396	1.0537	1.0426	1.0381	1.0430	0.9447	1.0418
	16	1.4522	1.4351	1.5237	1.4179	1.4527	1.4382	1.4334	1.4390	1.2281	1.4372
	25	20819	2.0650	2.1516	2.0256	2.0824	2.0655	2.0612	2.0669	1.6532	2.0646
	32	2.5874	2.5712	2.6579	2.5176	2.5879	2.5704	2.5666	2.5721	1.9839	2.5696
	1	0.5257	0.5124	0.6267	0.5778	0.5260	0.5251	0.5246	0.5251	0.5238	0.5251
	4	0.6907	0.6753	0.7795	0.7152	0.6911	0.6862	0.6833	0.6863	0.6667	0.6860
70	10	1.0640	1.0466	1.1414	1.0586	1.0645	1.0530	1.0475	1.0533	0.9524	1.0521
	16	1.4691	1.4511	1.5421	1.4464	1.4697	1.4546	1.4485	1.4552	1.2381	1.4534
	25	2.1099	2.0920	2.1813	2.0698	2.1105	2.0929	2.0871	2.0940	1.6667	2.0917
	32	2.6255	2.6079	2.6975	2.5752	2.6261	2.6076	2.6023	2.6090	2.0000	2.6065
	1	0.5290	0.5155	0.6296	0.5823	0.5294	0.5284	0.5279	0.5284	0.5271	0.5284
	4	0.6954	0.6796	0.7842	0.7229	0.6958	0.6908	0.6874	0.6909	0.6708	0.6905
100	10	1.0724	1.0546	1.1503	1.0729	1.0730	1.0612	1.0548	1.0615	0.9583	1.0602
	16	1.4824	1.4638	1.5561	1.4679	1.4831	1.4675	1.4602	1.4680	1.2459	1.4662
	25	2.1323	2.1134	2.2042	2.1035	2.1330	2.1147	2.1074	2.1155	1.6771	2.1133
	32	2.6561	2.6374	2.7283	2.6193	2.6567	2.6374	2.6305	2.6386	2.0125	2.6361

'----' designates undefined values.

TABLE3 *(Cont.)*

$\alpha = 0.10$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 20$					
	1	0.4413	0.4420	---------	---------	0.4431	0.4413	0.4413	0.4413	0.4412	0.4413
	4	0.5061	0.5070	---------	---------	0.5082	0.5058	0.5058	0.5058	0.5042	0.5059
3	10	0.6397	0.6415	---------	---------	0.6425	0.6390	0.6389	0.6390	0.6302	0.6390
	16	0.7766	0.7794	---------	---------	0.7801	0.7755	0.7754	0.7757	0.7563	0.7756
	25	0.9853	0.9900	---------	---------	0.9899	0.9839	0.9839	0.9842	0.9453	0.9840
	32	1.1492	1.1555	---------	---------	1.1548	1.1478	1.1477	1.1481	1.0924	1.1478
	1	0.4867	0.4860	0.4450	0.9581	0.4876	0.4866	0.4866	0.4866	0.4865	0.4867
	4	0.5584	0.5578	0.4426	0.8313	0.5595	0.5581	0.5581	0.5581	0.5560	0.5581
5	10	0.7071	0.7070	0.4629	0.6693	0.7085	0.7061	0.7061	0.7062	0.6950	0.7062
	16	0.8600	0.8607	0.5029	0.5740	0.8618	0.8586	0.8585	0.8587	0.8340	0.8586
	25	1.0938	1.0959	0.5830	0.4950	1.0961	1.0919	1.0919	1.0922	1.0425	1.0919
	32	1.2777	1.2812	0.6550	0.4633	1.2806	1.2758	1.2757	1.2761	1.2047	1.2758
	1	0.5424	0.5400	0.5753	0.4919	0.5427	0.5423	0.5423	0.5423	0.5421	0.5423
	4	0.6228	0.6203	0.6423	0.5383	0.6232	0.6224	0.6224	0.6224	0.6196	0.6224
10	10	0.7907	0.7883	0.7886	0.6483	0.7912	0.7893	0.7893	0.7894	0.7745	0.7893
	16	0.9643	0.9624	0.9449	0.7714	0.9649	0.9622	0.9622	0.9624	0.9294	0.9622
	25	1.2308	1.2299	1.1897	0.9696	1.2317	1.2282	1.2281	1.2285	1.1617	1.2282
	32	1.4413	1.4413	1.3853	1.1302	1.4424	1.4384	1.4384	1.4389	1.3425	1.4384
	1	0.5856	0.5818	0.6395	0.5812	0.5858	0.5856	0.5856	0.5856	0.5853	0.5856
	4	0.6729	0.6688	0.7211	0.6529	0.6731	0.6724	0.6723	0.6724	0.6689	0.6724
20	10	0.8565	0.8521	0.8969	0.8112	0.8567	0.8547	0.8544	0.8548	0.8362	0.8547
	16	1.0474	1.0432	1.0829	0.9815	1.0477	1.0447	1.0444	1.0449	1.0034	1.0446
	25	1.3420	1.3383	1.3728	1.2495	1.3423	1.3384	1.3381	1.3388	1.2543	1.3383
	32	1.5754	1.5722	1.6040	1.4642	1.5758	1.5714	1.5712	1.5720	1.4494	1.5714
	1	0.6044	0.5999	0.6604	0.6118	0.6045	0.6043	0.6043	0.6043	0.6041	0.6043
	4	0.6948	0.6898	0.7464	0.6906	0.6949	0.6942	0.6939	0.6942	0.6904	0.6942
30	10	0.8854	0.8801	0.9315	0.8634	0.8856	0.8834	0.8829	0.8835	0.8629	0.8834
	16	1.0844	1.0790	1.1274	1.0483	1.0846	1.0813	1.0806	L0815	1.0355	1.0812
	25	1.3922	1.3870	1.4329	1.3389	1.3924	1.3880	1.3873	1.3884	1.2944	1.3879
	32	1.6366	1.6318	1.6767	1.5716	1.6368	1.6319	1.6313	1.6325	1.4958	1.6318
	1	0.6218	0.6166	0.6779	0.6370	0.6219	0.6217	0.6217	0.6217	0.6214	0.6217
	4	0.7151	0.7094	0.7676	0.7214	0.7152	0.7144	0.7140	0.7144	0.7102	0.7144
50	10	0.9125	0.9062	0.9605	0.9058	0.9127	0.9103	0.9093	0.9104	0.8878	0.9102
	16	1.1193	1.1127	1.1648	1.1030	1.1195	1.1158	1.1145	1.1160	1.0653	1.1156
	25	1.4401	1.4336	1.4842	1.4127	1.4403	1.4354	1.4340	1.4357	1.3317	1.4351
	32	1.6956	1.6892	1.7395	1.6610	1.6958	1.6902	1.6890	1.6907	1.5388	1.6899
	1	0.6301	0.6246	0.6858	0.6482	0.6303	0.6300	0.6299	0.6300	0.6297	0.6300
	4	0.7248	0.7187	0.7770	0.7350	0.7249	0.7241	0.7236	0.7241	0.7197	0.7240
70	10	0.9255	0.9187	0.9735	0.9246	0.9258	0.9232	0.9219	0.9232	0.8996	0.9230
	16	1.1361	1.1290	1.1819	1.1272	1.1364	1.1325	1.1308	1.1326	1.0795	\.1322
	25	1.4636	1.4563	1.5078	1.4458	1.4638	1.4585	1.4567	1.4588	1.3494	1.4582
	32	1.7246	1.7174	1.7686	1.7013	1.7249	1.7189	1.7171	1.7193	1.5593	1.7186
	1	0.6367	0.6309	0.6919	0.6567	0.6389	0.6366	0.6365	0.6366	0.6363	0.6366
	4	0.7325	0.7261	0.7844	0.7454	0.7327	0.7318	0.7312	0.7318	0.7272	0.7317
100	10	0.9359	0.9288	0.9837	0.9389	0.9362	0.9335	0.9319	0.9336	0.9090	0.9333
	16	1.1497	1.1421	1.1952	1.1459	1.1500	1.1459	1.1438	1.1460	1.0908	1.1455
	25	1.4826	1.4747	1.5264	1.4714	1.4828	1.4772	1.4748	1.4775	1.3635	1.4768
	32	1.7483	1.7404	1.7918	1.7327	1.7486	1.7422	1.7398	1.7426	1.5756	1.7418

'----' designates undefined values

TABLE 3 *(Cont.)*

α =O.10

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 30$					
	1	0.4540	0.4563	---------	---------	0.4562	0.4504	0.4540	0.4540	0.4540	0.4540
	4	0.4986	0.5011	---------	---------	0.5009	0.4985	0.4985	0.4985	0.4979	0.4985
3	10	0.5891	0.5923	---------	---------	0.5919	0.5889	0.5888	0.5889	0.5858	0.5889
	16	0.6809	0.6849	---------	---------	0.6843	0.6806	0.6806	0.6806	0.6737	0.6806
	25	0.8204	0.8256	---------	---------	0.8245	0.8199	0.8199	0.8199	0.8055	0.8199
	32	0.9297	0.9360	---------	---------	0.9344	0.9292	0.9291	0.9292	0.9080	0.9292
	1	0.5043	0.5054	0.3882	0.6600	0.5054	0.5043	0.5043	0.5043	0.5042	0.5043
	4	0.5538	0.5551	0.3946	0.6049	0.5551	0.5538	0.5538	0.5538	0.5530	0.5538
	10	0.6549	0.6566	0.4166	0.5260	0.6563	0.6546	0.6546	0.6546	0.6506	0.6546
	16	0.7577	0.7600	0.4468	0.4740	0.7594	0.7572	0.7572	0.7572	0.7482	0.7572
	25	0.9140	0.9173	0.5018	0.4262	0.9162	0.9133	0.9133	0.9134	0.8946	0.9133
	32	1.0367	1.0408	0.5498	0.4049	1.0392	1.0359	1.0359	1.0361	1.0085	1.0360
	1	0.5680	0.5677	0.5808	0.4927	0.5684	0.5680	0.5680	0.5680	0.5679	0.5680
	4	0.6239	0.6237	0.6295	0.5293	0.6244	0.6239	0.6239	0.6239	0.6229	0.6239
10	10	0.7386	0.7386	0.7315	0.6086	0.7391	0.7382	0.7382	0.7382	0.7328	0.7382
	16	0.8557	0.8560	0.8378	0.6934	0.8564	0.8550	0.8550	0.8551	0.8427	0.8550
	25	1.0343	1.0353	1.0022	0.8270	1.0351	1.0333	1.0333	1.0334	1.0076	1.0333
	32	1.1749	1.1764	1.1328	0.9343	1.1758	1.1737	1.1737	1.1739	1.1358	1.1737
	1	0.6199	0.6183	0.6570	0.6022	0.6200	0.6198	0.6198	0.6198	0.6198	0.6198
	4	0.6811	0.6795	0.7156	0.6550	0.6813	0.6810	0.6810	0.6810	0.6797	0.6810
20	10	0.8072	0.8056	0.8377	0.7663	0.8074	0.8067	0.8066	0.8067	0.7997	0.8067
	16	0.9366	0.9350	0.9642	0.8827	0.9368	0.9356	0.9355	0.9357	0.9196	0.9356
	25	1.1346	1.1333	1.1592	1.0633	1.1348	1.1331	1.1330	1.1332	1.0996	1.1331
	32	1.2908	1.2898	1.3139	1.2071	1.2911	1.2891	1.2890	1.2893	1.2395	1.2891
	1	0.6433	0.6411	0.6830	0.6394	0.6434	0.6433	0.6433	0.6433	0.6432	0.6433
	4	0.7071	0.7047	0.7448	0.6971	0.7072	0.7069	0.7068	0.7069	0.7055	0.7069
30	10	0.8385	0.8360	0.8736	0.8184	0.8386	0.8378	0.8377	0.8379	0.8300	0.8378
	16	0.9737	0.9712	1.0070	0.9449	0.9738	0.9725	0.9723	0.9726	0.9545	0.9725
	25	1.1809	1.1786	1.2129	1.1411	1.1811	1.1792	1.1790	1.1794	1.1412	1.1792
	32	1.3448	1.3427	1.3763	1.2971	1.3450	1.3428	1.3425	1.3430	1.2865	1.3427
	1	0.6659	0.6630	0.7057	0.6708	0.6660	0.6658	0.6658	0.6658	0.6657	0.6658
	4	0.7320	0.7289	0.7703	0.7326	0.7321	0.7318	0.7317	0.7318	0.7302	0.7318
50	10	0.8687	0.8653	0.9048	0.8621	0.8688	0.8679	0.8676	0.8679	0.8590	0.8678
	16	1.0096	1.0062	1.0444	0.9973	1.0097	1.0083	1.0078	1.0083	0.9879	1.0082
	25	1.2263	1.2228	1.2602	1.2069	1.2264	1.2243	1.2237	1.2244	1.1811	1.2242
	32	1.3979	1.3946	1.4317	1.3737	1.3980	1.3955	1.3949	1.3957	1.3315	1.3954
	1	0.6769	0.6737	0.7163	0.6851	0.6770	0.6769	0.6769	0.6769	0.6768	0.6769
	4	0.7442	0.7408	0.7821	0.7486	0.7443	0.7440	0.7438	0.7439	0.7423	0.7439
70	10	0.8835	0.8798	0.9194	0.8820	0.8836	0.8827	0.8822	0.8827	0.8732	0.8826
	16	1.0274	1.0235	1.0620	1.0211	1.0275	1.0259	1.0253	1.0260	1.0042	1.0258
	25	1.2489	1.2449	1.2826	1.2370	1.2490	1.2467	1.2459	1.2468	1.2007	1.2466
	32	1.4245	1.4205	1.4580	1.4090	1.4247	1.4219	1.4211	1.4221	1.3535	1.4218
	1	0.6859	0.6824	0.7243	0.6962	0.6860	0.6858	0.6858	0.6858	0.6857	0.6858
	4	0.7541	0.7504	0.7915	0.7611	0.7542	0.7539	0.7537	0.7539	0.7521	0.7538
100	10	0.8956	0.8915	0.9309	0.8974	0.8957	0.8947	0.8941	0.8947	0.8848	0.8946
	16	1.0419	1.0376	1.0759	1.0398	1.0420	1.0404	1.0395	1.0404	1.0175	1.0402
	25	1.2674	1.2630	1.3005	1.2607	1.2676	1.2651	1.2640	1.2652	1.2166	1.2649
	32	1.4465	1.4420	1.4792	1.4368	1.4466	1.4437	1.4425	1.4438	1.3714	1.4435

'----' designates undefined values

TABLE3 *(Cont.)*

α =O.10

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 50$					
	1	0.4643	0.4678	---------	---------	0.4668	0.4643	0.4643	0.4643	0.4643	0.4643
	4	0.4918	0.4955	---------	---------	0.4944	0.4918	0.4918	0.4918	0.4916	0.4918
3	10	0.5471	0.5512	---------	---------	0.5499	0.5470	0.5470	0.5470	0.5463	0.5470
	16	0.6028	9·6074	---------	---------	0.6059	0.6027	0.6027	0.6027	0.6009	0.6027
	25	0.6869	0.6922	---------	---------	0.6905	0.6867	0.6867	0.6868	0.6828	06867
	32	0.7526	0.7586	---------	---------	0.7566	0.7525	0.7525	0.7525	0.7466	0.7525
	1	0.5188	0.5213	0.3422	0.4298	0.5201	0.5188	0.5188	0.5188	0.5188	0.5188
	4	0.5495	0.5521	0.3505	0.4118	0.5509	0.5495	0.5495	0.5495	0.5493	0.5495
5	10	0.6114	0.6144	0.3695	0.3834	0.6130	0.6114	0.6114	0.6114	0.6104	0.6114
	16	0.6739	0.6772	0.3909	0.3627	0.6756	0.6738	0.6738	0.6738	0.6714	0.6738
	25	0.7683	0.7722	0.4264	0.3416	0.7702	0.7681	0.7681	0.7681	0.7630	0.7681
	32	0.8421	0.8465	0.4560	0.3313	0.8443	0.8419	0.8419	0.8419	0.8342	0.8419
	1	0.5899	0.5911	0.5862	0.4957	0.5904	0.5899	0.5899	0.5899	0.5899	0.5899
	4	0.6248	0.6261	0.6177	0.5207	0.6254	0.6248	0.6248	0.6248	0.6246	0.6248
10	10	0.6955	0.6970	0.6820	0.5723	0.6961	0.6954	0.6954	0.6954	0.6940	0.6954
	16	0.7668	0.7686	0.7476	0.6255	0.7675	0.7667	0.7667	0.7667	0.7634	0.7667
	25	0.8749	0.8771	0.8476	0.7074	0.8757	0.8747	0.8747	0.8747	0.8675	0.8747
	32	0.9597	0.9621	0.9265	0.7725	0.9605	0.9593	0.9593	0.9594	0.9484	0.9593
	1	0.6505	0.6506	0.6739	0.6230	0.6507	0.6505	0.6505	0.6505	0.6505	0.6505
	4	0.6891	0.6892	0.7115	0.6575	0.6893	0.6891	0.6891	0.6891	0.6887	0.6891
20	10	0.7673	0.7674	0.7881	0.7281	0.7675	0.7671	0.7671	0.7671	0.7652	0.7671
	16	0.8465	0.8467	0.8661	0.8003	0.8467	0.8462	0.8462	0.8462	0.8418	0.8462
	25	0.9667	0.9672	0.9848	0.9106	0.9670	0.9663	0.9663	0.9663	0.9566	0.9663
	32	1.0611	1.0617	1.0784	0.9977	1.0614	1.0606	1.0605	1.0606	1.0458	1.0606
	1	0.6792	0.6787	0.7055	0.6670	0.6793	0.6792	06792	0.6792	0.6792	0.6792
	4	0.7196	0.7190	0.7452	0.7046	0.7196	0.7195	0.7195	0.7195	0.7191	0.7195
30	10	0.8014	0.8009	0.8261	0.7815	0.8015	0.8012	0.8012	0.8012	0.7990	0.8012
	16	0.8844	0.8839	0.9085	0.8599	0.8845	0.8841	0.8841	0.8841	0.8789	0.8841
	25	1.0106	1.0102	1.0341	0.9799	1.0107	1.0101	1.0100	1.0101	0.9988	1.0101
	32	1.1097	1.1095	1.1331	1.0745	1.1099	1.1092	1.1091	1.1092	1.0921	1.1091
	1	0.7079	0.7068	0.7344	0.7055	0.7080	0.7079	0.7079	0.7079	0.7079	0.7079
	4	0.7499	0.7488	0.7760	0.7458	0.7500	0.7500	0.7499	0.7500	0.7495	0.7499
50	10	0.8355	0.8343	0.8608	0.8280	0.8356	0.8353	0.8353	0.8353	0.8328	0.8353
	16	0.9224	0.9212	0.9473	0.9120	0.9225	0.9221	0.9220	0.9221	0.9161	0.9221
	25	1.0548	1.0536	1.0793	1.0405	1.0549	1.0542	1.0540	1.0542	1.0410	1.0542
	32	1.1589	1.1578	1.1835	1.1419	1.1590	1.1582	1.1580	1.1583	1.1381	1.1582
	1	0.7225	0.7211	0.7482	0.7236	0.7225	0.7225	0.7225	0.7225	0.7224	0.7225
	4	0.7655	0.7640	0.7909	0.7651	0.7655	0.7654	0.7654	0.7654	07649	0.7654
70	10	0.8529	0.8513	0.8777	0.8499	0.8530	0.8527	0.8526	0.8527	0.8499	0.8527
	16	0.9419	0.9402	0.9662	0.9365	0.9419	0.9415	0.9413	0.9415	0.9349	0.9415
	25	1.0775	1.0758	1.1015	1.0691	1.0775	1.0768	1.0766	1.0768	1.0624	1.0768
	32	1.1843	1.1826	1.2082	1.1738	1.1843	1.1834	1.1832	1.1835	1.1616	1.1834
	1	0.7347	0.7330	0.7599	0.7381	0.7347	0.7347	0.7347	0.7347	0.7346	0.7346
	4	0.7784	0.7766	0.8032	0.7806	0.7785	0.7783	0.7783	0.7783	0.7778	0.7783
100	10	0.8674	0.8656	0.8915	0.8674	0.8675	0.8672	0.8671	0.8672	0.8643	0.8672
	16	0.9581	0.9562	0.9817	0.9562	0.9582	0.9577	0.9575	0.9577	0.9507	0.9577
	25	1.0965	1.0945	1.1197	1.0921	1.0966	1.0958	1.0954	1.0958	1.0803	1.0957
	32	1.2056	1.2035	1.2286	1.1996	1.2057	1.2047	1.2043	1.2047	1.1812	1.2046

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.10$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku- Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 70$					
	1	0.4688	0.4727	---------	---------	0.4713	0.4688	0.4688	0.4688	0.4688	0.4688
	4	0.4886	0.4927	---------	---------	0.4913	0.4886	0.4886	0.4886	0.4886	0.4886
3	10	0.5285	0.5329	---------	---------	0.5314	0.5285	0.5285	0.5285	0.5282	0.5285
	16	0.5685	0.5734	---------	---------	0.5717	0.5685	0.5685	0.5685	0.5678	0.5685
	25	0.6289	0.6342	---------	---------	0.6323	0.6288	0.6288	0.6288	0.6272	0.6288
	32	0.6759	0.6818	---------	---------	0.6797	0.6759	0.6759	0.6759	0.6734	0.6759
	1	0.5252	0.5281	0.3223	0.3336	0.5266	0.5252	0.5252	0.5252	0.5252	0.5252
	4	0.5474	0.5505	0.3298	0.3256	0.5489	0.5474	0.5474	0.547'1	0.5474	0.5474
5	10	0.5921	0.5955	0.3456	0.3123	0.5937	0.5921	0.5921	0.5921	0.5917	0.5921
	16	0.6371	0.6408	0.3625	0.3022	0.6388	0.6371	0.6371	0.6371	0.6361	0.6371
	25	0.7049	0.7089	0.3893	0.2916	0.7068	0.7048	0.7048	0.7048	0.7027	0.7048
	32	0.7578	0.76224	0.4111	0.2863	0.7598	0.7577	0.7577	0.7577	0.7545	0.7577
	1	0.5997	0.6015	0.5889	0.4977	0.6003	0.5997	0.5997	0.5997	0.5997	0.5997
	4	0.6251	0.6270	0.6122	0.5166	0.6257	0.6251	0.6251	0.6251	0.6250	0.6251
10	10	0.6763	0.6784	0.6593	0.5550	0.6770	0.6763	0.6763	0.6763	0.6757	0.6763
	16	0.7278	0.7301	0.7069	0.5940	0.7285	0.7278	0.7278	0.7278	0.7264	0.7277
	25	0.8055	0.8081	0.7792	0.6535	0.8063	0.8054	0.8054	0.8054	0.8024	0.8054
	32	0.8663	0.8691	0.8359	0.7005	0.8671	0.8662	0.8662	0.8662	0.8615	0.8662
	1	0.6647	0.6654	0.6822	0.6333	0.6649	0.6647	0.6647	0.6647	0.6647	0.6647
	4	0.6929	0.6937	0.7099	0.6589	0.6931	0.6929	0.6929	0.6929	0.6928	0.6929
20	10	0.7498	0.7506	0.7659	0.7108	0.7500	0.7497	0.7497	0.7497	0.7490	0.7497
	16	0.8071	0.8080	0.8225	0.7634	0.8073	0.8070	0.8070	0.8070	0.8051	0.8070
	25	0.8937	0.8948	0.9083	0.8433	0.8939	0.8935	0.8935	0.8935	0.8894	0.8935
	32	0.9614	0.9627	0.9756	0.9060	0.9617	0.9612	0.9612	0.9613	0.9549	0.9613
	1	0.6963	0.6965	0.7168	0.6808	0.6964	0.6963	0.6963	0.6963	0.6963	0.6963
	4	0.7259	0.7260	0.7461	0.7088	0.7260	0.7258	0.7258	0.7258	0.7257	0.7258
30	10	0.7855	0.7857	0.8053	0.7652	0.7856	0.7854	0.7854	0.7854	0.7845	0.7854
	16	0.8457	0.8459	0.8652	0.8224	0.8458	0.8455	0.8455	0.8456	0.8434	0.8455
	25	0.9367	0.9371	0.9560	0.9092	0.9368	0.9365	0.9365	0.9365	0.9316	0.9365
	32	1.0080	1.0085	1.0272	0.9774	1.0081	1.0078	1.0077	1.0078	1.0003	1.0077
	1	0.7286	0.7282	0.7492	0.7233	0.7286	0.7286	0.7286	0.7286	0.7286	07286
	4	0.7596	0.7591	0.7800	0.7532	0.7596	0.7595	0.7595	0.7595	0.7593	0.7595
50	10	0.8221	0.8216	0.8422	0.8138	0.8221	0.8220	0.8220	0.8220	0.8209	0.8220
	16	0.8852	0.8848	0.9052	0.8751	0.8853	0.8851	0.8850	0.8851	0.8825	0.8851
	25	0.9809	0.9805	1.0008	0.9682	0.9809	0.9806	0.9806	0.9806	0.9748	0.9806
	32	1.0559	1.0556	1.0759	1.0414	1.0560	1.0556	1.0555	1.0556	1.0467	1.0556
	1	0.7454	0.7447	0.7654	0.7438	0.7454	0.7454	0.7454	0.7454	0.7454	0.7454
	4	0.7771	0.7764	0.7970	0.7746	0.7771	0.7771	0.7771	0.7771	0.7769	0.7771
70	10	0.8411	0.8404	0.8607	0.8371	0.8412	0.8410	0.8410	0.8410	0.8399	0.8410
	16	0.9058	0.9051	0.9253	0.9004	0.9059	0.9057	0.9056	0.9057	0.9028	0.9057
	25	1.0040	1.0032	1.0233	0.9966	1.0040	1.0037	1.0036	1.0037	0.9973	1.0037
	32	1.0810	1.0803	1.1003	1.0722	1.0810	1.0807	1.0806	1.0807	1.0708	1.0806
	1	0.7597	0.7587	0.7790	0.7605	0.7597	0.7597	0.7597	0.7597	0.7597	0.7597
	4	0.7920	0.7910	0.8111	0.7921	0.7920	0.7920	0.7920	0.7920	0.7918	0.7920
100	10	0.8573	0.8563	0.8761	0.8562	0.8574	0.8573	0.8572	0.8573	0.8560	0.8572
	16	0.9234	0.9224	0.9420	0.9211	0.9235	0.9233	0.9232	0.9233	0.9202	0.9233
	25	1.0237	1.0226	1.0421	1.0199	1.0238	1.0234	1.0233	1.0234	1.0165	1.0234
	32	1.1025	1.1014	1.1209	1.0976	1.1025	1.1021	1.1019	1.1021	1.0914	1.1021

'----' designates undefined values

TABLE3 *(Cont.)*

α = **0.10**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 100$					
	1	0.4721	0.4764	---------	---------	0.4748	0.4721	0.4721	0.4721	0.4721	0.4721
	4	0.4861	0.4905	---------	---------	0.4889	0.4861	0.4861	0.4861	0.4861	0.4861
3	10	0.5143	0.5189	---------	---------	0.5172	0.5143	0.5143	0.5143	0.5142	0.5143
	16	0.5425	0.5474	---------	---------	0.5455	0.5425	0.5425	0.5425	0.5422	0.5425
	25	0.5849	0.5902	---------	---------	0.5882	0.5849	0.5849	0.5849	0.5843	0.5850
	32	0.6179	0.6236	---------	---------	0.6214	0.6179	0.6179	0.6179	0.6170	1.6179
	1	0.5299	0.5333	0.3073	0.2625	0.5315	0.5300	0.5300	0.5300	0.5300	0.5299
	4	0.5457	0.5492	0.3134	0.2594	0.5473	0.5457	0.5457	0.5457	0.5457	0.5457
5	10	0.5773	0.5810	0.3258	0.2543	0.5790	0.5773	0.5773	0.5773	0.5772	0.5773
	16	0.6090	0.6129	0.3387	0.2503	0.6108	0.6090	0.6090	0.6090	0.6087	0.6090
	25	0.6567	0.6609	0.3585	0.2462	0.6586	0.6567	0.6567	0.6567	0.6559	0.6567
	32	0.6939	0.6984	0.3744	0.2442	0.6959	0.6939	0.6939	0.6939	0.6926	1.6939
	1	0.6073	0.6095	0.5909	0.4996	0.6079	0.6073	0.6073	0.6073	0.6072	0.6073
	4	0.6253	0.6276	0.6077	0.5133	0.6260	0.6253	0.6253	0.6253	0.6253	0.6253
10	10	0.6616	0.6640	0.6414	0.5411	0.6622	0.6616	0.6616	0.6616	0.6614	0.6616
	16	0.6979	0.7005	0.6753	0.5691	0.6987	0.6979	0.6979	0.6979	0.6974	0.6979
	25	0.7527	0.7555	0.7265	0.6115	0.7535	0.7527	0.7527	0.7527	0.7515	0.7527
	32	0.7955	0.7985	0.7666	0.6448	0.7963	0.7954	0.7954	0.7954	0.7936	1.7954
	1	0.6759	0.6771	0.6888	0.6416	0.6761	0.6759	0.6759	0.6759	0.6759	0.6759
	4	0.6960	0.6972	0.7087	0.6601	0.6962	0.6960	0.6960	0.6960	0.6960	0.6960
20	10	0.7364	0.7377	0.7488	0.6973	0.7367	0.7364	0.7364	0.7364	0.7361	0.7364
	16	0.7769	0.7784	0.7890	0.7348	0.7772	0.7770	0.7770	0.7770	0.7763	0.7770
	25	0.8381	0.8397	0.8497	0.7915	0.8384	0.8381	0.8381	0.8381	0.~365	0.8381
	32	0.8859	0.8875	0.8972	0.8358	0.8862	0.8858	0.8858	0.8858	0.8833	0.8858
	1	0.7099	0.7106	0.7260	0.6922	0.7100	0.7099	0.7099	0.7099	0.7099	0.7099
	4	0.7311	0.7317	0.7471	0.7123	0.7312	0.7311	0.7311	0.7311	0.7310	0.7311
30	10	0.7735	0.7743	0.7894	0.7528	0.7737	0.7735	0.7735	0.7735	0.7732	0.7735
	16	0.8162	0.8170	0.8320	0.7936	0.8164	0.8162	0.8162	0.8162	0.8154	0.8162
	25	0.8806	0.8815	0.8964	0.8552	0.8807	0.8805	0.8805	0.8805	0.8786	0.8805
	32	0.9309	0.9318	0.9467	0.9034	0.9310	0.9308	0.9308	0.9308	0.9278	0.9308
	1	0.7455	0.7456	0.7617	0.7383	0.7455	0.7455	0.7455	0.7455	0.7455	0.7455
	4	0.7677	0.7678	0.7839	0.7599	0.7678	0.7677	0.7677	0.7677	0.7676	0.7677
50	10	0.8124	0.8125	0.8285	0.8033	0.8124	0.8123	0.8123	0.8123	0.8119	0.8123
	16	0.8573	0.8574	0.8734	0.8471	0.8573	0.8572	0.8572	0.8572	0.8562	0.8572
	25	0.9250	0.9252	0.9412	0.9132	0.9251	0.9250	0.9249	0.9250	0.9226	0.9250
	32	0.9780	0.9783	0.9943	0.9650	0.9781	0.9779	0.9779	0.9779	0.9743	0.9779
	1	0.7644	0.7643	0.7800	0.7610	0.7645	0.7644	0.7644	0.7644	0.7644	0.7644
	4	0.7872	0.7870	0.8028	0.7833	0.7873	0.7872	0.7872	0.7872	0.7871	0.7872
70	10	0.8330	0.8329	0.8485	0.8282	0.8331	0.8330	0.8330	0.8330	0.8326	0.8330
	16	0.8792	0.8790	0.8946	0.8734	0.8792	0.8791	0.8791	0.8791	0.8780	0.8791
	25	0.9488	0.9486	0.9643	0.9418	0.9488	0.9487	0.9487	0.9487	0.9461	0.9487
	32	1.0033	1.0031	1.0188	0.9954	1.0033	1.0031	1.0031	1.0031	0.9991	1.0031
	1	0.7809	0.7804	0.7957	0.7799	0.7809	0.7809	0.7809	0.7809	0.7809	0.7809
	4	0.8041	0.8037	0.8189	0.8028	0.8042	0.8041	0.8042	0.8041	0.8041	0.8041
100	10	0.8509	0.8505	0.8656	0.8489	0.8510	0.8509	0.8509	0.8510	0.8504	0.8510
	16	0.8981	0.8977	0.9127	0.8954	0.8982	0.8981	0.8981	0.8981	0.8968	0.8981
	25	0.9694	0.9689	0.9840	0.9657	0.9694	0.9693	0.9693	0.9693	0.9664	0.9693
	32	1.0252	1.0247	1.0398	1.0208	1.0252	1.0250	1.0250	1.0250	1.0205	1.0250

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.25**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 3$					
	1	0.5865	0.5699	---------	---------	0.5873	0.5789	0.5603	0.5792	0.5660	0.5802
	4	1.1894	1.1619	---------	---------	1.1904	1.1653	1.1457	1.1690	0.9906	1.1655
3	10	2.5516	2.4923	---------	---------	2.5533	2.5265	2.5200	2.5322	1.8396	2.5263
	16	3.9705	3.8732	---------	---------	3.9742	3.9493	3.9466	3.9547	2.6887	3.9493
	25	6.1303	5.9716	---------	---------	6.1380	6.1137	6.1127	6.1183	3.9623	0.1137
	32	7.8206	7.6126	---------	---------	7.8319	7.8065	7.8059	7.8105	4.9528	7.8065
	]	0.5747	0.5657	0.7109	2.3465	0.5771	0.5690	0.5679	0.5691	0.5534	0.5683
	4	1.1787	1.1658	1.0536	1.0642	1.1814	1.1603	1.1588	1.1625	0.9684	1.1556
5	10	2.5632	2.5340	2.]094	0.6905	2.5656	2.5431	2.5424	2.5469	1.7984	2.5404
	16	4.0167	3.9653	3.2955	0.8418	4.0196	3.9990	3.9987	4.0030	2.6285	3.9978
	25	6.2375	6.1487	5.1472	1.3169	6.2423	6.2232	6.2231	6.2268	3.8736	6.2227
	32	7.9789	7.8595	6.6122	1.7658	7.9857	7.9665	7.9665	7.9698	4.8419	7.9663
	]	0.5677	0.5649	0.8054	0.586]	0.5717	0.5638	0.5632	0.5638	0.5454	0.56]0
	4	1.1774	1.1766	1.4490	0.9655	1.182]	1.1659	1.1649	1.1667	0.9545	1.1552
10	10	2.5989	2.5949	2.9624	2.1472	2.6029	2.5873	2.5866	2.5888	1.7726	2.5801
	16	4.1079	4.0949	4.5679	3.4661	4.1112	4.0978	4.0974	4.0995	2.5907	4.0937
	25	6.4284	6.3978	7.0354	5.5241	6.4316	6.4201	6.4199	6.4218	3.8178	6.4181
	32	8.2545	8.2087	8.9767	7.1534	8.2581	8.2472	8.2471	8.2488	4.7723	8.2460
	1	0.5649	0.5655	0.7963	0.6003	0.5699	0.5620	0.5596	0.5621	0.54]9	0.5581
	4	1.1795	1.1854	1.4558	1.1218	1.1857	1.1731	],]679	1.1733	0.9484	1.1581
20	*10*	2.6304	2.640]	2.9900	2.5042	2.6360	2.627]	2.6232	2.6272	1. 76] 4	2.6153
	16	4.1853	4.1933	4.6217	4.0130	4.1899	4.1842	4.]816	4.1842	2.5743	4.1763
	25	6.5924	6.5937	7.1400	6.3598	6.5960	6.5928	6.5913	6.5926	3.7937	6.5882
	32	8.4948	8.4893	9.1276	8.2]82	8.4980	8.4957	8.4946	8.4955	4.7422	8.4925
	1	0.5641	0.5658	0.7898	0.6065	0.5695	0.56]6	0.5584	0.5616	0.5409	0.5572
	4	1.1807	1.1889	1.4496	1.1568	1.1876	1.1763	1.1694	1.1764	0.9466	1.1597
30	10	2.6437	2.6583	2.9837	2.5827	2.6501	2.6443	2.6391	2.6442	1.7579	2.6303
	16	4.2183	4.2338	4.6]94	4.1360	4.2238	4.2221	4.2185	4.2216	2.5693	4.2121
	25	6.6643	6.6769	7.1506	6.5554	6.6686	6.6702	6.6680	6.6693	3.7863	6.6637
	32	8.6021	8.6110	9.]526	8.4742	8.6058	8.6086	8.6070	8.6075	4.7329	8.6038
	1	0.5634	0.566]	0.7838	0.6108	0.5692	0.5613	0.5575	0.5613	0.5401	0.5565
	4	1.1819	1.1920	1.4428	1.1800	1.1893	1.1793	1.1711	1.1793	0.9451	1.16li
50	]0	2.6555	2.6741	2.9756	2.6352	2.6628	2.6600	2.6540	2.6597	1.7553	2.6439
	16	4.2482	4.2698	4.6142	4.2203	4.2545	4.2571	4.2531	4.2563	2.5654	4.2446
	25	6.7306	6.7526	7.1572	6.6942	6.7357	6.7427	6.7405	6.7414	3.7806	6.7339
	32	8.7025	8.7232	9.1732	8.6600	8.7069	8.7156	8.7141	8.7141	4.7257	8.7087
	1	0.5632	0.5663	0.7811	0.6125	0.5691	0.5612	0.5571	0.5612	0.5397	0.5562
	4	1.1824	1.1933	1.4395	1.1888	1.1901	1.1807	1.1719	1.1807	0.9445	1.1618
70	10	2.6609	2.6813	2.9715	2.6553	2.6686	2.6673	2.6613	2.6671	1.7541	2.6501
	16	4.2620	4.2863	4.6115	4.2533	4.2688	4.2735	4.2699	4.2728	2.5637	4.2599
	25	6.7619	6.7880	7.1602	6.7501	6.7675	6.7773	6.7757	6.7761	3.7782	67673
	32	8.7504	8.7763	9.1834	8.7364	8.7553	8.7673	8.7665	8.7657	4.7227	8.7592
	1	0.5629	0.5664	0.7790	0.6137	0.5690	0.5611	0.5569	0.56] 1	0.5395	0.5560
	4	1.1828	1.1944	1.4369	1.1950	],]907	],]817	1.1727	1.1817	0.9441	1.1624
100	10	2.6652	2.6869	2.9683	2.6696	2.6731	2.673]	2.6672	2.6728	1.7533	2.6550
	16	4.2728	4.2992	4.6093	4.2770	4.2800	4.2865	4.2835	4.2859	2.5625	4.2718
	25	6.7866	6.8159	7.1627	6.7909	6.7926	6.8050	6.8043	6.8039	3.7764	6.7938
	32	8.7885	8.8]85	9.1919	8.7928	8.7939	8.8089	8.8091	8.8074	4.7205	8.7995

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.25**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Til.'U	Til.'U-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 5$					
	1	0.6427	0.6281	---------	---------	0.6431	0.6412	0.6386	0.6412	0.6368	0.6414
	4	1.0189	0.9957	---------	---------	1.0195	1.0118	1.0061	1.0126	0.9553	1.0119
3	10	1.8387	1.7947	---------	---------	1.8402	1.8288	1.8258	1.8307	1.5921	1.8287
	16	2.6883	2.6209	---------	---------	2.6911	2.6788	2.6773	2.6810	2.2290	1.6788
	25	3.9815	3.8771	---------	---------	3.9869	3.9734	3.9727	3.9755	3.1843	3.9734
	32	4.9941	4.8601	---------	---------	5.0017	4.9869	4.9865	4.9889	3.9273	4.9869
	1	0.6397	0.6329	0.6900	1.3891	0.6408	0.6385	0.6383	0.6385	0.6334	0.6383
	4	1.0194	1.0083	0.9262	0.8455	1.0207	1.0138	1.0133	1.0143	0.9500	1.0125
	10	1.8553	1.8326	1.5618	0.6332	1.8567	1.8470	1.8467	1.8484	1.5834	1.8460
	16	2.7264	2.6898	2.2681	0.7052	2.7284	2.7184	2.7182	2.7200	2.2168	2.7178
	25	4.0566	3.9974	3.3724	0.9679	4.0599	4.0495	4.0494	4.0512	3.1668	4.0493
	32	5.0999	5.0223	4.2476	1.2251	5.1045	5.0936	5.0935	5.0952	3.9057	5.0934
	1	0.6419	0.6416	0.8112	0.6038	0.6438	0.6411	0.6410	0.6411	0.6350	0.6404
	4	1.0288	1.0279	1.2185	0.8764	1.0310	1.0254	1.0250	1.0256	0.9525	1.0221
10	10	1.8911	1.8864	2.1334	1.5966	1.8931	1.8864	1.8861	1.8869	1.5874	1.8834
	16	2.7975	2.7867	3.0964	2.3876	2.7993	2.7928	2.7926	2.7935	2.2224	2.7908
	25	4.1886	4.1670	4.5750	3.6198	4.1906	4.1845	4.1844	4.1853	3.1748	4.1834
	32	5.2832	5.2524	5.7382	4.5955	5.2854	5.2794	5.2793	5.2802	3.9156	5.2787
	1	0.6449	0.6482	0.8048	0.6462	0.6476	0.6445	0.6439	0.6445	0.6376	0.6434
	4	1.0378	1.0425	1.2219	0.9968	1.0408	1.0364	1.0345	1.0364	0.9564	1.0314
20	10	1.9217	1.9268	2.1529	1.8407	1.9245	1.9207	1.9190	1.9208	1.5941	1.9156
	16	2.8578	2.8612	3.1343	2.7488	2.8602	2.8576	2.8563	2.8576	2.2317	2.8537
	25	4.3028	4.3019	4.6457	4.1573	4.3048	4.3031	4.3023	4.3030	3.1881	4.3007
	32	5.4439	5.4388	5.8378	5.2719	5.4457	5.4444	5.4438	5.4443	3.9320	5.4427
	1	0.6463	0.6508	0.7994	0.6568	0.6493	0.6460	0.6452	0.6460	0.6388	0.6448
	4	1.0417	1.0483	1.2171	1.0238	1.0451	1.0411	1.0385	1.0411	0.9583	1.0354
30	10	1.9347	1.9432	2.1497	1.8953	1.9379	1.9357	1.9333	1.9356	1.5971	1.9294
	16	2.8839	2.8923	3.1347	2.8315	2.8867	2.8861	2.8843	2.8859	2.2360	2.8812
	25	4.3533	4.3597	4.6550	4.2849	4.3556	4.3565	4.3554	4.3561	3.1943	4.3531
	32	5.5162	5.5202	5.8564	5.4364	5.5182	5.5198	5.5189	5.5192	3.9396	5.5171
	1	0.6476	0.6531	0.7945	0.6640	0.6508	0.6474	0.6465	0.6474	0.6400	0.6460
	4	1.0451	1.0533	1.2121	1.0417	1.0489	1.0453	1.0423	1.0453	0.9599	1.0389
50	10	1.9463	1.9577	2.1453	1.9323	1.9500	1.9493	1.9466	1.9491	1.6000	1.9419
	16	2.9075	2.9201	3.1332	2.8889	2.9109	2.9125	2.9106	2.9122	2.2399	2.9063
	25	4.4002	4.4126	4.6619	4.3764	4.4029	4.4068	4.4057	4.4061	3.1999	4.4022
	32	5.5842	5.5958	5.8725	5.5569	5.5866	5.5915	5.5907	5.5906	3.9465	5.5877
	1	0.6481	0.6541	0.7922	0.6667	0.6515	0.6481	0.6470	0.6481	0.6405	0.6466
	4	1.0467	1.0556	1.2097	1.0486	1.0506	1.0473	1.0442	1.0473	0.9607	1.0406
70	10	1.9517	1.9643	2.1431	1.9467	1.9556	1.9556	1.9530	1.9555	1.6012	1.9477
	16	2.9186	2.9330	3.1324	2.9116	2.9222	2.9250	2.9233	2.9246	2.2417	2.9181
	25	4.4224	4.4375	4.6653	4.4136	4.4254	4.4309	4.4301	4.4303	3.2025	4.4256
	32	5.6168	5.6318	5.8805	5.6069	5.6195	5.6262	5.6258	5.6254	3.9497	5.6218
	1	0.6486	0.6549	0.7904	0.6686	0.6520	0.6486	0.6475	0.6486	0.6409	0.6471
	4	1.0479	1.0573	1.2078	1.0534	1.0520	1.0488	1.0456	1.0488	0.9613	1.0418
100	10	1.9559	1.9695	2.1414	1.9569	1.9600	1.9606	1.9581	1.9605	1.6022	1.9522
	16	2.9273	2.9431	3.1318	2.9280	2.9311	2.9349	2.9335	2.9346	2.2431	2.9275
	25	4.4400	4.4572	4.6681	4.4410	4.4433	4.4502	4.4499	4.4496	3.2045	4.4442
	32	5.6429	5.6604	5.8873	5.6440	5.6459	5.6542	5.6544	5.6534	3.9522	5.6491

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.25$

v_2	λ	Patnaik	Laubscher ¡sI	Laubscher 2nd	Laubscher 3rd	Severo-Zeien	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 10$					
	1	0.6872	0.6704	---------	---------	0.6878	0.6870	0.6869	0.6871	0.6863	0.6871
	4	0.8849	0.8630	---------	---------	0.8857	0.8839	0.8832	0.8839	0.8734	0.8839
3	10	1.2983	1.2652	---------	---------	1.2998	1.2962	1.2955	1.2965	1.2478	1.2962
	16	1.7225	1.6775	---------	---------	1.7248	1.7199	1.7195	1.7205	1.6221	1.7200
	25	2.3674	2.3037	---------	---------	2.3710	2.3648	2.3645	2.3654	2.1836	2.3648
	32	2.8724	2.7939	---------	---------	2.8772	2.8699	2.8697	2.8705	2.6203	2.8699
	1	0.6949	0.6860	0.6697	0.7506	0.6954	0.6948	0.6948	0.6948	0.6939	0.6948
	4	0.8960	0.8844	0.8105	0.6129	0.8967	0.8952	0.895]	0.8952	0.8831	0.8950
5	10	1.3191	1.3008	1.1359	0.5409	1.3200	1.3172	1.3171	1.3175	1.2616	1.3170
	16	1.7547	1.7291	1.4874	0.5707	1.7561	1.7524	1.7524	1.7528	1.6400	1.7523
	25	2.4183	2.3813	2.0351	0.6873	2.4205	2.4160	2.4159	2.4165	2.2077	2.4159
	32	2.9387	2.8925	2.4696	0.8060	2.9416	2.9365	2.9365	2.9370	2.6493	2.9364
	1	0.7103	0.7081	0.8220	0.6402	0.7109	0.7102	0.7102	0.7102	0.7091	0.7101
	4	0.9175	0.9144	1.0407	0.8042	0.9182	0.9170	0.9170	0.9171	0.9025	0.9166
10	10	1.3566	1.3508	1.5059	1.1763	1.3574	1.3555	1.3555	1.3557	1.2893	1.3549
	16	1.8112	1.8020	1.9884	1.5731	1.8121	1.8099	1.8098	1.8101	1.6761	1.8093
	25	2.5063	2.4915	2.7266	2.1878	2.5074	2.5049	2.5049	2.5052	2.2562	2.5045
	32	3.0527	3.0332	3.3070	2.6741	3.0540	3.0513	3.0513	3.0516	2.7075	3.0511
	1	0.7233	0.7248	0.8232	0.7062	0.7242	0.7233	0.7233	0.7233	0.7220	0.7232
	4	0.9358	0.9373	1.0472	0.9052	0.9367	0.9357	0.9354	0.9357	0.9189	0.9349
20	10	1.3887	1.3896	1.5228	1.3404	1.3897	1.3887	1.3882	1.3887	1.3128	1.3874
	16	1.8601	1.8598	2.0163	1.7980	1.8609	1.8601	1.8597	1.8601	1.7066	1.8590
	25	2.5837	2.5810	2.7729	2.5033	2.5845	2.5839	2.5836	2.5838	2.2974	2.5830
	32	3.1540	3.1493	3.3688	3.0603	3.1549	3.1543	3.1541	3.1542	2.7568	3.1536
	1	0.7289	0.7317	0.8209	0.7219	0.7299	0.7289	0.7288	0.7289	0.7275	0.7288
	4	0.9436	0.9468	1.0456	0.9286	0.9447	0.9437	0.9433	0.9437	0.9260	0.9427
30	10	1.4027	1.4060	1.5232	1.3788	1.4038	1.4033	1.4026	1.4032	1.3228	1.40]6
	16	1.8817	1.8845	2.0196	1.8515	1.8827	1.8826	1.8820	1.8825	1.7196	1.8810
	25	2.6186	2.6202	2.7818	2.5805	2.6195	2.6199	2.6194	2.6197	2.3149	2.6186
	32	3.2004	3.2008	3.3830	3.1568	3.2013	3.2019	3.2015	3.2016	2.7779	3.2008
	1	0.7339	0.7378	0.8187	0.7327	0.7351	0.7340	0.7339	0.7340	0.7325	0.7338
	4	0.9507	0.9552	1.0438	0.9448	0.9519	0.9510	0.9505	0.9510	0.9323	0.9498
50	10	1.4155	1.4208	1.5230	1.4058	1.4168	1.4167	1.4160	1.4167	1.3318	1.4147
	16	1.9017	1.9072	2.0221	1.8899	1.9029	1.9036	1.9031	1.9035	1.7314	1.9016
	25	2.6515	2.6567	2.7897	2.6374	2.6525	2.6541	2.6537	2.6539	2.3307	2.6324
	32	3.2446	3.2493	3.3962	3.2289	3.2456	3.2476	3.2473	3.2472	2.7969	3.2461
	1	0.7363	0.7406	0.8176	0.7369	0.7375	0.7363	0.7362	0.7363	0.7348	0.7361
	4	0.9539	0.9591	1.0429	0.9512	0.9553	0.9544	0.9539	0.9544	0.9352	0.9532
70	10	1.4215	1.4276	1.5229	1.4166	1.4229	1.4231	1.4224	1.4230	1.3360	1.4208
	16	1.9111	1.9178	20233	1.9055	1.9125	1.9137	1.9132	1.9136	1.7368	1.9114
	25	2.6673	2.6741	2.7937	2.6609	2.6685	2.6707	2.6705	2.6705	2.3380	2.6687
	32	3.2660	3.2727	3.4030	3.2593	3.2672	3.2699	3.2698	3.2696	2.8056	3.2682
	1	0.7381	0.7427	0.8169	0.7400	0.7394	0.7382	0.7381	0.7382	0.7366	0.7380
	4	0.9565	0.9621	1.0423	0.9558	0.9580	0.9571	0.9566	0.9571	0.9375	0.9558
100	10	1.4262	1.4330	1.5229	1.4244	1.4277	1.4281	1.4276	1.4281	1.3393	1.4257
	16	1.9187	1.9262	2.0243	1.9170	1.9201	1.9217	1.9214	1.9216	1.7411	1.9192
	25	2.6799	2.6879	2.7971	2.6785	2.6812	2.6841	2.6841	2.6838	2.3438	2.6818
	32	3.2833	3.2914	3.4087	3.2822	3.2845	3.2880	3.2882	3.2877	2.8125	3.2860

'----' designates undefined values

TABLE 3 *(Cont.)*

α **=O.25**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 20$					
	1	0.7092	0.6901	---------	---------	0.7103	0.7092	0.7092	0.7092	0.7091	0.7092
	4	0.8121	0.7903	---------	---------	0.8134	0.8120	0.8120	0.8120	0.8104	0.8120
3	10	1.0218	0.9941	---------	---------	1.0235	1.0215	1.0214	1.0215	1.0130	1.0215
	16	1.2346	1.2007	---------	---------	1.2367	1.2341	1.2340	1.2341	1.2155	1.2341
	25	1.5567	1.5135	---------	---------	1.5595	1.5561	1.5560	1.5562	1.5194	1.5561
	32	1.8088	1.7581	---------	---------	1.8122	1.8081	1.8080	1.8082	1.7558	1.8081
	1	0.7243	0.7133	0.6571	0.4730	0.7250	0.7243	0.7243	0.7243	0.7242	0.7243
	4	0.8297	0.8169	0.7374	0.4508	0.8304	0.8296	0.8296	0.8296	0.8276	0.8296
	10	1.0449	1.0286	0.9073	0.4439	1.0459	1.0446	1.0446	1.0446	1.0345	1.0445
	16	1.2636	1.2436	1.0845	0.4641	1.2648	1.2631	1.2631	1.2632	1.2414	1.2631
	25	1.5953	1.5695	1.3577	0.5203	1.5970	1.5947	1.5947	1.5948	1.5518	1.5947
	32	1.8551	1.8246	1.5738	0.5760	1.8572	1.8545	1.8545	1.8546	1.7932	1.8545
	1	0.7504	0.7461	0.8317	0.6714	0.7508	0.7504	0.7504	0.7504	0.7503	0.7504
	4	0.8599	0.8549	0.9476	0.7639	0.8603	0.8599	0.8599	0.8599	0.8575	0.8599
10	10	1.0845	1.0777	1.1856	0.9577	1.0849	1.0843	1.0843	1.0843	1.0718	1.0842
	16	1.3134	1.3049	1.4285	1.1584	1.3140	1.3131	1.3131	1.3131	1.2862	1.3130
	25	1.6614	1.6500	1.7979	1.4662	1.6621	1.6610	1.6610	1.6611	1.6077	1.6609
	32	1.9343	1.9206	2.0878	1.7089	1.9352	1.9340	1.9339	1.9340	1.8578	1.9339
	1	0.7734	0.7726	0.8416	0.7527	0.7737	0.7734	0.7734	0.7734	0.7732	0.7734
	4	0.8866	0.8857	0.9605	0.8615	0.8869	0.8866	0.8866	0.8866	0.8836	0.8865
20	10	1.1196	1.1181	1.2045	1.0870	1.1199	1.1196	1.1195	1.1196	1.1046	1.1194
	16	1.3578	1.3556	1.4539	1.3187	1.3582	1.3579	1.3578	1.3579	1.3255	1.3576
	25	1.7210	1.7175	1.8334	1.6729	1.7214	1.7211	1.7210	1.7211	1.6568	1.7208
	32	2.0064	2.0018	2.1316	1.9516	2.0068	2.0065	2.0064	2.0065	1.9146	2.0063
	1	0.7837	0.7843	0.8433	0.7731	0.7840	0.7837	0.7837	0.7837	0.7835	0.7837
	4	0.8986	0.8992	0.9629	0.8858	0.8990	0.8987	0.8986	0.8987	0.8954	0.8986
30	10	1.1355	1.1383	1.2086	1.1193	1.1359	1.1357	1.1356	1.1357	1.1193	l.l354
	16	1.3783	1.3783	1.4599	1.3592	1.3786	1.3785	1.3784	1.3785	1.3432	1.3782
	25	1.7487	1.7480	1.8430	1.7260	1.7491	1.7492	1.7490	1.7491	1.6789	1.7488
	32	2.0403	2.0389	2.1442	2.0147	2.0406	2.0407	2.0406	2.0407	1.9401	2.0404
	I	0.7935	0.7951	0.8450	0.7883	0.7938	0.7935	0.7935	0.7935	0.7932	0.7935
	4	0.9099	0.9118	0.9651	0.9039	0.9104	0.9101	0.9100	0.9101	0.9065	0.9099
50	10	1.1507	1.1526	1.2125	l.l435	1.1511	1.1510	1.1509	l.l510	l.l332	1.1506
	16	1.3978	1.3996	1.4658	1.3898	1.3982	1.3984	1.3983	1.3983	1.3598	1.3979
	25	1.7756	1.7772	1.8524	1.7666	1.7759	1.7764	1.7763	1.7764	1.6998	1.7759
	32	2.0732	2.0746	2.1568	2.0635	2.0736	2.0742	2.0742	2.0741	1.9642	2.0738
	I	0.7981	0.8002	0.8459	0.7946	0.7985	0.7981	0.7982	0.7981	0.7979	0.7981
	4	0.9154	0.9178	0.9663	0.9114	0.9158	0.9156	0.9155	0.9156	0.9118	0.9154
70	10	1.1580	1.1606	1.2145	1.1536	1.1585	1.1585	1.1584	1.1585	1.1398	1.1580
	16	1.4073	1.4099	1.4688	1.4027	1.4077	1.4081	1.4080	1.4080	1.3678	1.4075
	25	1.7887	1.7914	1.8574	1.7840	1.7892	1.7899	1.7898	1.7898	1.7097	1.7893
	32	2.0896	2.0921	2.1634	2.0847	2.0899	2.0909	2.0909	2.0908	1.9757	2.0903
	I	0.8019	0.8043	0.8467	0.7993	0.8023	0.8019	0.8019	0.8019	0.8016	0.8019
	4	0.9198	0.9225	0.9674	0.9170	0.9203	0.9199	0.9199	0.9199	0.9161	0.9198
100	10	1.1639	1.1670	1.2162	1.1612	1.1644	1.1645	1.1644	1.1645	1.1451	1.1640
	16	1.4149	1.4182	1.4714	1.4125	1.4154	1.4159	1.4159	1.4159	1.3742	1.4152
	25	1.7995	1.8029	1.8616	1.7973	1.7999	1.8009	1.8009	1.8008	1.7177	1.8002
	32	2.1029	2.1063	2.1691	2.1010	2.1033	2.1046	2.1047	2.1045	1.9849	2.1039

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.25$

v_2	λ	PatnaIk	Laubseher Isl	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reld	Exact
						$v_1 = 30$					
	1	0.7164	0.6964	---------	---------	0.7177	0.7164	0.7163	0.7164	0.7163	0.7164
	4	0.7862	0.7643	---------	---------	0.7877	0.7862	0.7862	0.7862	0.7856	0.7862
3	10	0.9273	0.9014	---------	---------	0.9291	0.9272	0.9272	0.9272	0.9243	0.9272
	16	1.0697	-1.0396	---------	---------	1.0717	1.0695	1.0695	1.0695	1.0629	1.0695
	25	1.2847	1.2483	---------	---------	1.2872	1.2844	1.2844	1.2845	1.2709	1.2844
	32	1.4527	1.4114	---------	---------	1.4557	1.4524	1.4524	1.4525	1.4326	1.4524
	1	0.7343	0.7224	0.6524	0.3889	0.7351	0.7343	0.7343	0.7343	0.7343	0.7343
	4	0.8060	0.7929	0.7089	0.3861	0.8069	0.8060	0.8060	0.8060	0.8053	0.8060
5	10	0.9510	0.9354	0.8253	0.3933	0.9521	0.9509	0.9509	0.9509	0.9475	0.9509
	16	1.0975	1.0794	0.9447	0.4115	1.0988	1.0974	1.0974	1.0974	1.0896	1.0974
	25	1.3190	1.2969	1.1275	0.4509	1.3206	1.3188	1.3188	1.3188	1.3028	1.3188
	32	1.4922	1.4671	1.2715	0.4880	1.4940	1.4920	1.4920	1.4920	1.4686	1.4920
	1	0.7651	0.7598	0.8360	0.6846	0.7654	0.7651	0.7651	0.7651	0.7650	0.7651
	4	0.8399	0.8340	0.9153	0.7492	0.8403	0.8399	0.8399	0.8399	0.8391	0.8399
10	10	0.9916	0.9845	1.0761	0.8815	0.9920	0.9915	0.9915	0.9915	0.9871	0.9915
	16	1.1451	1.1368	1.2391	1.0167	1.1457	1.1450	1.1450	1.1450	1.1352	1.1450
	25	1.3777	1.3674	1.4859	1.2226	1.3783	1.3775	1.3775	1.3775	1.3573	1.3775
	32	1.5597	1.5479	1.6793	1.3846	1.5605	1.5596	1.5596	1.5596	1.5300	1.5596
			,								
	1	0.7929	0.7912	0.8504	0.7724	0.7931	0.7929	0.7929	0.7929	0.7928	0.7929
	4	0.8706	0.8687	0.9318	0.8476	0.8708	0.8706	0.8706	0.8706	0.8696	0.8706
20	10	1.0284	1.0261	1.0970	1.0001	1.0287	1.0284	1.0284	1.0284	1.0230	1.0284
	16	1.1886	1.1857	1.2645	1.1570	1.1888	1.1886	1.1886	1.1886	1.1765	1.1885
	25	1.4316	1.4278	1.5185	1.3941	1.4319	1.4317	1.4316	1.4316	1.4067	1.4316
	32	1.6222	1.6177	1.7175	1.5803	1.6225	1.6222	1.6222	1.6222	1.5857	1.6221
	1	0.8059	0.8055	0.8545	0.7955	0.8061	0.8059	0.8059	0.8059	0.8058	0.8059
	4	0.8849	0.8845	0.9365	0.8734	0.8851	0.8849	0.8849	0.8849	0.8838	0.8849
30	10	1.0457	1.0451	1.1031	1.0323	1.0459	1.0458	1.0458	1.0458	1.0398	1.0457
	16	1.2091	1.2081	1.2722	1.1939	1.2093	1.2092	1.2092	1.2092	1.1958	1.2091
	25	1.4573	1.4558	1.5287	1.4396	1.4575	1.4575	1.4574	1.4575	1.4297	1.4573
	32	1.6521	1.6501	1.7299	1.6326	1.6523	1.6523	1.6523	1.6523	1.6117	1.6522
	1	0.8185	0.8192	0.8587	0.8133	0.8187	0.8185	0.8185	0.8185	0.8184	0.8185
	4	0.8989	0.8996	0.9413	0.8933	0.8990	0.8989	0.8989	0.8989	0.8976	0.8988
50	10	1.0626	1.0633	1.1093	1.0565	1.0628	1.0627	1.0627	1.0627	1.0560	1.0626
	16	1.2292	1.2298	1.2799	1.2227	1.2294	1.2295	1.2294	1.2294	1.2144	1.2293
	25	1.4826	1.4830	1.5392	1.4755	1.4828	1.4830	1.4830	1.4830	1.4520	1.4828
	32	1.6817	1.6819	1.7427	1.6741	1.6819	1.6822	1.6822	1.6822	1.6368	1.6820
	1	0.8247	0.8258	0.8610	0.8210	0.8249	0.8247	0.8247	0.8247	0.8246	0.8247
	4	0.9057	0.9069	0.9439	0.9019	0.9059	0.9058	0.9058	0.9058	0.9044	0.9057
70	10	1.0709	1.0722	1.1126	1.0671	1.0712	1.0711	1.0711	1.0711	1.0640	1.0710
	16	1.2392	1.2405	1.2841	1.2353	1.2394	1.2395	1.2395	1.2395	1.2236	1.2393
	25	1.4953	1.4966	1.5448	1.4913	1.4955	1.4958	1.4958	1.4958	1.4630	1.4956
	32	1.6967	1.6978	1.7497	1.6926	1.6969	1.6973	1.6973	1.6972	1.6492	1.6970
	1	0.8298	0.8313	0.8629	0.8269	0.8299	0.8298	0.8298	0.8298	0.8297	0.8298
	4	0.9113	0.9129	0.9461	0.9085	0.9115	0.9114	0.9114	0.9114	0.9099	0.9113
100	10	1.0778	1.0795	1.1154	1.0751	1.0780	1.0780	1.0780	1.0780	1.0705	1.0778
	16	1.2474	1.2492	1.2877	1.2450	1.2476	1.2478	1.2478	1.2478	1.2311	1.2475
	25	1.5057	1.5076	1.5497	1.5036	1.5060	1.5064	1.5064	1.5064	1.4720	1.5061
	32	1.7090	1.7109	1.7557	1.7070	1.7092	1.7098	1.7099	1.7097	1.6593	1.7095

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.25$

v_2	λ	Palnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3'·	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar Et al.	Cox-Reid	Exact
						$v_1 = 50$					
	1	0.7220	0.7013	---------	---------	0.7235	0.7220	0.7220	0.7220	0.7220	0.7220
	4	0.7646	0.7426	---------	---------	0.7662	0.7646	0.7646	0.7646	0.7644	0.7646
3	10	0.8501	0.8257	---------	---------	0.8520	0.8501	0.8501	0.8501	0.8494	0.8501
	16	0.9360	0.9091	---------	---------	0.9381	0.9360	0.9360	0.9360	0.9343	0.9360
	25	1.0654	1.0347	---------	---------	1.0678	1.0654	1.0654	1.0654	1.0617	1.0654
	32	1.1664	1.1326	---------	---------	1.1690	1.1663	1.1663	1.1663	1.1608	1.1663
	1	0.7424	0.7297	0.6484	0.3251	0.7434	0.7424	0.7424	0.7424	0.7424	0.7424
	4	0.7862	0.7727	0.6840	0.3296	0.7873	0.7862	0.7862	0.7862	0.7861	0.7862
5	10	0.8743	0.8593	0.7560	0.3416	0.8754	0.8743	0.8743	0.8743	0.8734	0.8743
	16	0.9628	0.9462	0.8289	0.3567	0.9641	0.9628	0.9628	0.9628	0.9608	0.9628
	25	1.0962	1.0772	0.9394	0.3835	1.0976	1.0961	1.0961	1.0961	1.0918	1.0961
	32	1.2002	1.1794	1.0262	0.4067	1.2019	1.2002	1.2002	1.2002	1.1937	1.2002
	1	0.7773	0.7712	0.8399	0.6965	0.7778	0.7773	0.7773	0.7773	0.7773	0.7773
	4	0.8233	0.8168	0.8886	0.7368	0.8237	0.8233	0.8233	0.8233	0.8231	0.8233
10	10	0.9156	0.9084	0.9866	0.8182	0.9161	0.9156	0.9156	0.9156	0.9145	0.9156
	16	1.0086	1.0005	1.0853	0.9005	1.0091	1.0085	1.0085	1.0085	1.0059	1.0085
	25	1.1487	1.1395	1.2341	1.0250	l.i494	1.1487	1.1487	i.1487	1.1431	1.1487
	32	1.2582	1.2480	1.3504	1.1225	1.2590	1.2582	1.2582	1.2582	1.2498	1.2582
	1	0.8100	0.8075	0.8590	0.7904	0.8102	0.8100	0.8100	0.8100	0.8100	0.8100
	4	0.8579	0.8552	0.9091	0.8370	0.8581	0.8579	0.8579	0.8579	0.8577	0.8579
20	10	0.9544	0.9514	1.009*9	0.9310	0.9546	0.9544	0.9544	0.9544	0.9530	0.9544
	16	1.0516	1.0482	1.1114	1.0258	1.0518	1.0516	1.0515	1.0516	1.0483	1.0515
	25	1.1983	1.1943	1.2647	1.1691	1.1985	1.1983	1.1983	1.1983	1.1912	1.1983
	32	1.3130	1.3086	1.3845	1.2813	1.3133	1.3130	1.3130	1.3130	1.3024	1.3130
	1	0.8259	0.8247	0.8657	0.8163	0.8260	0.8259	0.8259	0.8259	0.8259	0.8259
	4	0.8748	0.8735	0.9163	0.8646	0.8749	0.8748	0.8748	0.8748	0.8745	0.8748
30	10	0.9733	0.9717	1.0181	0.9621	0.9734	0.9733	0.9733	0.9733	0.9717	0.9733
	16	1.0725	1.0708	1.1208	1.0604	1.0727	1.0726	1.0726	1.0726	1.0688	1.0725
	25	1.2226	1.2205	1.2758	1.2090	1.2227	1.2226	1.2226	1.2226	1.2146	1.2226
	32	1.3399	1.3376	1.3970	1.3254	1.3401	1.3400	1.3400	1.3400	1.3279	1.3400
	1	0.8419	0.8417	0.8731	0.8374	0.8420	0.8419	0.8419	0.8419	0.8419	0.8419
	4	0.8918	0.8915	0.9241	0.8871	0.8918	0.8918	0.8918	0.8918	0.8914	0.8918
50	10	0.9923	0.9920	1.0270	0.9874	0.9924	0.9923	0.9923	0.9923	0.9905	0.9923
	16	1.0937	1.0934	1.1308	1.0886	1.0938	1.0938	1.0938	1.0938	1.0895	1.0938
	25	1.2472	1.2467	1.2877	1.2417	1.2473	1.2473	1.2473	1.2473	1.2381	1.2472
	32	1.3673	1.3667	1.4105	1.3616	1.3674	1.3675	1.3675	1.3675	1.3537	1.3674
	1	0.8501	0.8504	0.8771	0.8470	0.8502	0.8501	0.8501	0.8501	0.8501	0.8501
	4	0.9004	0.9007	0.9284	0.8973	0.9005	0.9004	0.9004	0.9004	0.9001	0.9004
70	10	1.0020	1.0023	1.0319	0.9989	1.0021	1.0020	1.0020	1.0020	1.0001	1.0020
	16	1.1046	1.1048	1.1364	1.1014	1.1047	1.1047	1.1047	1.1047	1.1001	1.1046
	25	1.2598	1.2600	1.2944	1.2567	1.2599	1.2600	1.2600	1.2600	1.2501	1.2599
	32	1.3814	1.3816	1.4180	1.3783	1.3815	1.3817	1.3817	1.3816	1.3668	1.3816
	1	0.8569	0.8575	0.8806	0.8545	0.8570	0.8569	0.8569	0.8569	0.8569	0.8569
	4	0.9076	0.9083	0.9322	0.9053	0.9077	0.9077	0.9077	0.9077	0.9073	0.9076
100	10	1.0101	1.0108	1.0363	1.0080	1.0102	1.0102	1.0102	1.0102	1.0081	1.0102
	16	1.1137	1.1144	1.1413	1.1116	1.1138	1.1138	1.1138	1.1138	1.1089	1.1137
	25	1.2705	1.2712	1.3002	1.2686	1.2706	1.2707	1.2707	1.2707	1.2601	1.2706
	32	1.3933	1.3940	1.4247	1.3916	1.3934	1.3936	1.3937	1.3936	1.3777	1.3935

'----' designates undefined values

TABLE 3 *(Cont.)*

α **=O.25**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3'''	Severo-Zelen	Tiku	Tiku- Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 70$					
	1	0.7244	0.7033	---------	---------	0.7260	0.7244	0.7244	0.7244	0.7244	0.7244
	4	0.7550	0.7331	---------	---------	0.7567	0.7550	0.7550	0.7550	0.7550	0.7550
3	10	0.8165	0.7927	---------	---------	0.8183	0.8165	0.8165	0.8165	0.8162	0.8165
	16	0.8781	0.8525	---------	---------	0.8801	0.8781	0.8781	0.8781	0.8774	0.8781
	25	0.9707	0.9424	---------	---------	0.9730	0.9707	0.9707	0.9707	0.9692	0.9707
	32	1.0429	1.0125	---------	---------	1.0453	1.0429	1.0429	1.0429	1.0406	1.0429
	1	0.7459	0.7328	0.6467	0.2989	0.7469	0.7459	0.7459	0.7459	0.7459	0.7459
	4	0.7775	0.7638	0.6726	0.3040	0.7786	0.7775	0.7775	0.7775	0.7774	0.7775
	10	0.8408	0.8260	0.7249	0.3155	0.8420	0.8408	0.8408	0.8408	0.8404	0.8408
	16	0.9043	0.8884	0.7775	0.3282	0.9056	0.9043	0.9043	0.9043	0.9035	0.9043
	25	0.9998	0.9822	0.8570	0.3491	1.0012	0.9998	0.9998	0.9998	0.9980	0.9998
	32	1.0743	1.0553	0.9193	0.3665	1.0758	1.0743	1.0743	1.0723	1.0716	1.0743
	1	0.7828	0.7763	0.8417	0.7020	0.7833	0.7828	0.7828	0.7828	0.7828	0.7828
	4	0.8159	0.8092	0.8769	0.7313	0.8164	0.8159	0.8159	0.8159	0.8158	0.8159
10	10	0.8824	0.8751	0.9475	0.7902	0.8830	0.8824	0.8824	0.8824	0.8820	0.8824
	16	0.9492	0.9413	1.0184	0.8495	0.9498	0.9492	0.9492	0.9492	0.9481	0.9492
	25	1.0497	1.0409	1.1251	0.9389	1.0503	1.0497	1.0497	1.0497	1.0474	1.0497
	32	1.1281	1.1186	1.2083	1.0088	1.1288	1.1280	1.1280	1.1280	1.1246	1.1280
	1	0.8179	0.8150	0.8632	0.7989	0.8181	0.8179	0.8179	0.8179	0.8179	0.8179
	4	0.8526	0.8495	0.8994	0.8327	0.8528	0.8526	0.8526	0.8526	0.8525	0.8526
20	10	0.9221	0.9188	0.9721	0.9006	0.9223	0.9221	0.9221	0.9221	0.9216	0.97.21
	16	0.9920	0.9885	1.0451	0.9688	0.9923	0.9920	0.9920	0.9920	0.9907	0.9920
	25	1.0973	1.0933	1.1550	1.0717	1.0976	1.0973	1.0973	1.0973	1.0944	1.0973
	32	1.1795	1.1752	1.2409	1.1521	1.1798	1.1795	1.1795	1.1795	1.1750	1.1795
	1	0.8354	0.8337	0.8714	0.8263	0.8355	0.8354	0.8354	0.8354	0.8354	0.8354
	4	0.8708	0.8691	0.9080	0.8614	0.8709	0.8708	0.8708	0.8708	0.8707	0.8708
30	10	0.9419	0.9400	0.9815	0.9318	0.9420	0.9419	0.9419	0.9419	0.9413	0.9419
	16	1.0134	1.0113	1.0553	1.0026	1.0135	1.0134	1.0134	1.0134	1.0118	1.0134
	25	1.1211	1.1188	1.1666	1.1094	1.1212	1.1211	1.1211	1.1211	1.1177	1.1211
	32	1.2052	1.2027	1.2535	1.1928	1.2054	1.2053	1.2053	1.2053	1.2001	1.2053
	1	0.8533	0.8527	0.8805	0.8493	0.8534	0.8533	0.8533	0.8533	0.8533	0.8533
	4	0.8895	0.8889	0.9175	0.8854	0.8896	0.8895	0.8895	0.8895	0.8894	0.8895
50	10	0.9622	0.9615	0.9919	0.9580	0.9623	0.9622	0.9622	0.9622	0.9615	0.9622
	16	1.0353	1.0346	1.0667	1.0309	1.0354	1.0354	1.0354	1.0354	1.0336	1.0354
	25	1.1457	1.1448	1.1794	1.1410	1.1457	1.1457	1.1457	1.1457	1.1418	1.1457
	32	1.2319	1.2309	1.2675	1.2270	1.2319	1.2319	1.2319	1.2319	1.2259	1.2319
	1	0.8627	0.8626	0.8857	0.8600	0.8627	0.8627	0.8627	0.8627	0.8627	0.8627
	4	0.8993	0.8991	0.9230	0.8966	0.8993	0.8993	0.8993	0.8993	0.8991	0.8993
70-	10	0.9728	0.9727	0.9978	0.9702	0.9729	0.9728	0.9728	0.9728	0.9720	0.9728
	16	1.0468	1.0467	1.0731	1.0442	1.0469	1.0469	1.0469	1.0469	1.0449	1.0469
	25	1.1585	1.1583	1.1867	1.1559	1.1586	1.1586	1.1586	1.1586	1.1543	1.1586
	32	1.2458	1.2455	1.2755	1.2431	1.2459	1.2459	1.2459	1.2459	1.2393	1.2459
	1	0.8706	0.8709	0.8903	0.8687	0.8707	0.8706	0.8706	0.8706	0.8706	0.8706
	4	0.9076	0.9078	0.9278	0.9057	0.9076	0.9076	0.9076	0.9076	0.9074	0.9076
100_	10	0.9819	0.9821	1.0031	0.9800	0.9819	0.9819	0.9819	0.9819	0.9810	0.9819
	16	1.0566	1.0569	1.0789	1.0549	1.0567	1.0567	1.0567	1.0567	1.0546	1.0567
	25	1.1695	1.1697	1.1933	1.1679	1.1695	1.1696	1.1696	1.1696	1.1649	1.1696
	32	1.2578	1.2580	1.2826	1.2562	1.2578	1.2579	1.2579	1.2579	1.2508	1.2579

'----' designates undefined values

TABLE 3 *(Cont.)*

α **=O.25**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3'·	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 100$					
	1	0.7261	0.7048	---------	---------	0.7279	0.7261	0.7261	0.7261	0.7261	0.7261
	4	0.7477	0.7258	---------	---------	0.7495	0.7477	0.7477	0.7477	0.7477	0.7477
3	10	0.7909	0.7677	---------	---------	0.7928	0.7909	0.7909	0.7909	0.7908	0.7909
	16	0.8342	0.8097	---------	---------	0.8362	0.8342	0.8342	0.8342	0.8340	0.8342
	25	0.8992	0.8728	---------	---------	0.9014	0.8992	0.8992	0.8992	0.8987	0.8992
	32	0.9499	0.9219	---------	---------	0.9522	0.9499	0.9499	0.9499	0.9490	0.9499
	1	0.7485	0.7352	0.6453	0.2796	0.7496	0.7485	0.7485	0.7485	0.7485	0.7485
	4	0.7708	0.7570	0.6638	0.2843	0.7719	0.7708	0.7708	0.7708	0.7707	0.7708
5	10	0.8153	0.8008	0.7009	0.2939	0.8166	0.8153	0.8153	0.8153	0.8152	0.8153
	16	0.8599	0.8446	0.7381	0.3041	0.8613	0.8600	0.8599	0.8599	0.8597	0.8600
	25	0.9270	0.9105	0.7942	0.3200	0.9284	0.9270	0.9270	0.9270	0.9264	0.9270
	32	0.9793	0.9618	0.8380	0.3330	0.9808	0.9793	0.9793	0.9793	0.9783	0.9793
	1	0.7869	0.7801	0.8432	0.7062	0.7874	0.7869	0.7869	0.7869	0.7869	0.7869
	4	0.8103	0.8033	0.8680	0.7270	0.8109	0.8103	0.8103	0.8103	0.8103	0.8103
10	10	0.8572	0.8498	0.9178	0.7688	0.8578	0.8572	0.8572	0.8572	0.8570	0.8572
	16	0.9042	0.8964	0.9677	0.8106	0.9048	0.9042	0.9042	0.9042	0.9038	0.9042
	25	0.9748	0.9664	1.0427	0.8736	0.9754	0.9748	0.9748	0.9748	0.9739	0.9748
	32	1.0298	1.0209	1.1011	0.9227	1.0305	1.0298	1.0298	1.0298	1.0285	1.0298
	1	0.8241	0.8209	0.8665	0.8055	0.8243	0.8241	0.8241	0.8241	0.8241	0.8241
	4	0.8486	0.8453	0.8921	0.8295	0.8488	0.8486	0.8486	0.8486	0.8485	0.8486
20	10	0.8977	0.8942	0.9434	0.8775	0.8979	0.8977	0.8977	0.8977	0.8975	0.8977
	16	0.9469	0.9432	0.9949	0.9256	0.9472	0.9469	0.9469	0.9469	0.9464	0.9469
	25	1.0210	1.0170	1.0722	0.9980	1.0213	1.0210	1.0210	1.0210	1.0199	1.0210
	32	1.0787	1.0745	1.1325	1.0545	1.0790	1.0787	1.0787	1.0787	1.0770	1.0787
	1	0.8429	0.8409	0.8760	0.8343	0.8430	0.8429	0.8429	0.8429	0.8429	0.8429
	4	0.8679	0.8659	0.9019	0.8592	0.8680	0.8679	0.8679	0.8679	0.8679	0.8679
30	10	0.9182	0.9161	0.9538	0.9090	0.9183	0.9182	0.9182	0.9182	0.9179	0.9182
	16	0.9686	0.9664	1.0059	0.9589	0.9687	0.9686	0.9686	0.9686	0.9680	0.9686
	25	1.0444	1.0420	1.0842	1.0341	1.0446	1.0444	1.0444	1.0445	1.0431	1.0444
	32	1.1036	1.1010	1.1452	1.0927	1.1037	1.1036	1.1036	1.1036	1.1016	1.1036
	1	0.8626	0.8617	0.8869	0.8590	0.8626	0.8626	0.8626	0.8626	0.8626	0.8626
	4	0.8882	0.8873	0.9131	0.8846	0.8883	0.8882	0.8882	0.8882	0.8882	0.8882
50	10	0.9397	0.9387	0.9657	0.9360	0.9398	0.9397	0.9397	0.9397	0.9394	0.9397
	16	0.9914	0.9903	1.0185	0.9876	0.9914	0.9914	0.9914	0.9914	0.9907	0.9914
	25	1.0691	1.0679	1.0979	1.0651	1.0692	1.0691	1.0691	1.0691	1.0676	1.0691
	32	1.1297	1.1285	1.1598	1.1256	1.1298	1.1297	1.1297	1.1297	1.1273	1.1297
	1	0.8731	0.8727	0.8931	0.8709	0.8731	0.8731	0.8731	0.8731	0.8731	0.8731
	4	0.8991	0.8986	0.9195	0.8969	0.8991	0.8991	0.8991	0.8991	0.8990	0.8991
70	10	0.9512	0.9507	0.9726	0.9490	0.9512	0.9512	0.9512	0.9512	0.9509	0.9512
	16	1.0035	1.0030	1.0257	1.0013	1.0035	1.0035	1.0035	1.0035	1.0028	1.0035
	25	1.0823	1.0817	1.1058	1.0800	1.0823	1.0823	1.0823	1.0823	1.0806	1.0823
	32	1.1437	1.1431	1.1682	1.1415	1.1437	1.1437	1.1437	1.1437	1.1411	1.1437
	1	0.8822	0.8821	0.8988	0.8807	0.8822	0.8822	0.8822	0.8822	0.8822	0.8822
	4	0.9085	0.9084	0.9254	0.9070	0.9085	0.9085	0.9085	0.9085	0.9084	0.9085
100	10	0.9611	0.9611	0.9788	0.9597	0.9612	0.9612	0.9612	0.9612	0.9608	0.9611
	16	1.0140	1.0139	1.0324	1.0126	1.0141	1.0140	1.0141	1.0140	1.0132	1.0140
	25	1.0937	1.0936	1.1130	1.0924	1.0937	1.0937	1.0937	1.0937	1.0918	1.0937
	32	1.1559	1.1557	1.1760	1.1546	1.1559	1.1559	1.1559	1.1559	1.1530	1.1559

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.50$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku- Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 3$					
	1	1.3541	1.3500	---------	---------	1.3534	1.3540	1.3358	1.3540	1.3333	1.3520
	4	2.5272	2.4857	---------	---------	2.5210	2.5274	2.5081	2.5273	2.3333	2.5235
3	10	4.9993	4.8462	---------	---------	4.9783	4.9998	4.9935	4.9997	4.3333	4.9984
	16	7.5103	7.2316	---------	---------	7.4735	7.5109	7.5083	7.5107	6.3332	7.5103
	25	11.2964	10.8214	---------	---------	11.2354	11.2969	11.2959	11.2968	9.3333	11.2967
	32	14.2474	13.6171	---------	---------	14.1672	14.2478	14.2472	14.2476	11.6667	14.2477
	1	1.2284	1.2500	2.2222	0.7250	1.2314	1.2320	1.2315	1.2319	1.2095	1.2279
	4	2.2926	2.3016	3.8889	0.8794	2.2937	2.3062	2.3056	2.3046	2.1167	2.2986
5	10	4.5342	4.4872	7.2222	1.8766	4.5294	4.5508	4.5506	4.5476	3.9310	4.5474
	16	6.8103	6.6959	10.5556	3.0209	6.7997	6.8254	6.8253	6.8220	5.7453	6.8238
	25	10.2417	10.0198	15.5556	4.8020	10.2223	10.2542	10.2541	10.2510	8.4667	10.2535
	32	12.9160	12.6085	19.4444	6.2074	12.8898	12.9269	12.9268	12.9240	10.5834	12.9265
	1	1.1445	1.1842	1.6667	1.0030	1.1493	1.1509	1.1509	1.1508	1.1268	1.1454
	4	2.1365	2.1805	2.9167	2.0102	2.1408	2.1625	2.1627	2.1605	1.9719	2.1522
10	10	4.2257	4.2510	5.4167	4.1021	4.2276	4.2613	4.2615	4.2563	3.6620	4.2558
	16	6.3467	6.3435	7.9167	6.2099	6.3465	6.3816	6.3817	6.3754	5.3522	6.3785
	25	9.5439	9.4925	11.6667	9.3783	9.5410	9.5748	9.5748	9.5682	7.8874	9.5732
	32	12.0355	11.9449	14.5833	11.8446	12.0308	12.0633	12.0634	12.0570	9.8593	12.0624
	1	1.1054	1.1538	1.4815	1.0435	1.1110	1.1134	1.1143	1.1133	1.0883	1.1072
	4	2.0640	2.1245	2.5926	2.0587	2.0695	2.0975	2.1013	2.0961	1.9045	2.0862
20	10	4.0830	4.1420	4.8148	4.1334	4.0867	4.1330	4.1374	4.1284	3.5369	4.1262
	16	6.1326	6.1808	7.0370	6.2168	6.1350	6.1849	6.1885	6.1784	5.1693	6.1806
	25	9.2219	9.2491	10.3704	9.3452	9.2230	9.2718	9.2742	9.2639	7.6180	9.2694
	32	11.6295	11.6386	12.9630	11.7795	11.6298	11.6764	11.3781	11.6681	9.5225	11.6747
	1	1.0928	1.1441	1.4286	1.0438	1.0986	1.1013	1.1030	1.1012	1.0758	1.0949
	4	2.0407	2.1065	2.5000	2.0506	2.0464	2.0769	2.0840	2.0758	1.8827	2.0653
30	10	4.0370	4.1069	4.6429	4.1018	4.0411	4.0930	4.1023	4.0892	3.4965	4.0859
	16	6.0636	6.1285	6.7857	6.1603	6.0665	6.1241	6.1322	6.1183	5.1103	6.1194
	25	9.1183	9.1707	10.0000	9.2510	9.1202	9.1781	9.1843	9.1706	7.5309	9.1753
	32	11.4988	11.5400	12.5000	11.6556	11.5001	11.5564	11.5612	11.5480	9.4137	11.5543
	1	1.0829	1.1364	1.3889	1.0411	1.0889	1.0917	1.0943	1.0917	1.0660	1.0853
	4	2.0222	2.0924	2.4306	2.0389	2.0282	2.0607	2.0718	2.0600	1.8656	2.0490
50	10	4.0007	4.0793	4.5139	4.0680	4.0051	4.0622	4.0782	4.0595	3.4646	4.0549
	16	6.0093	6.0872	6.5972	6.1035	6.0125	6.0775	6.0931	6.0731	5.0637	6.0725
	25	9.0367	9.1089	9.7222	9.1593	9.0390	9.1068	9.1200	9.1004	7.4623	9.1035
	32	11.3960	11.4622	12.1528	11.5368	11.3977	11.4651	11.4764	11.4576	9.3278	11.4626
	1	1.0786	1.1331	1.3725	1.0393	1.0847	1.0877	1.0907	1.0877	1.0619	1.0812
	4	2.0144	2.0863	2.4020	2.0328	2.0204	2.0539	2.0671	2.0534	1.8583	2.0422
70	10	3.9853	4.0675	4.4608	4.0517	3.9898	4.0493	4.0694	4.0472	3.4511	4.0420
	16	5.9862	6.0697	6.5196	6.0767	5.9896	6.0582	6.0788	6.0547	5.0439	6.0531
	25	9.0021	9.0827	9.6078	9.1166	9.0045	9.0774	9.0960	9.0721	7.4331	9.0740
	32	11.3523	11.4293	12.0098	11.4817	11.3542	11.4275	11.4442	11.4211	9.2914	11.4249
	1	1.0755	1.1307	1.3605	1.0377	1.0816	1.0847	1.0880	1.0847	1.0588	1.0781
	4	2.0085	2.0818	2.3810	2.0278	2.0147	2.0488	2.0638	2.0484	1.8528	2.0371
100	10	3.9738	4.0588	4.4218	4.0389	3.9784	4.0398	4.0637	4.0382	3.4409	4.0324
	16	5.9690	6.0566	6.4626	6.0558	5.9725	6.0440	6.0695	6.0413	5.0291	6.0389
	25	8.9762	9.0632	9.5238	9.0835	8.9787	9.0559	9.0802	9.0517	7.4113	9.0524
	32	11.3197	11.4046	11.9048	11.4391	11.3217	11.4002	11.4228	11.3950	9.2641	11.3974

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.50**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al	Cox-Reid	Exaet
						$v_1 = 5$					
	1	1.3281	1.3000	---------	---------	1.3240	1.3281	1.3256	1.3281	1.3228	1.3278
	4	2.0410	1.9867	---------	---------	2.0334	2.0412	2.0356	2.04l1	1.9842	2.0402
3	10	3.5224	3.4000	---------	---------	3.5061	3.5227	3.5197	3.5226	3.3071	3.5221
	16	5.0261	4.8286	---------	---------	5.0003	5.0264	5.0249	5.0263	4.6299	5.0261
	25	7.2947	6.9800	---------	---------	7.2545	7.2950	7.2943	7.2949	6.6141	7.2948
	32	9.0637	8.6562	---------	---------	9.0121	9.0640	9.0636	9.0639	8.1574	9.0639
	1	1.2048	1.2037	2.0000	0.6335	1.2047	1.2056	1.2056	1.2056	1.2000	1.2049
	4	1.8513	1.8395	3.0000	0.8004	1.8501	1.8558	1.8556	1.8554	1.8000	1.8536
5	10	3.1943	3.1481	50000	1.4025	3.1899	3.2013	3.2012	3.2001	3.0000	3.1998
	16	4.5573	4.4709	7.0000	2.0840	4.5495	4.5642	4.5642	4.5628	4.2000	4.5634
	25	6.6133	6.4629	10.0000	3.1469	6.6004	6.6196	6.6195	6.6181	6.0000	6.6192
	32	8.2165	8.0150	12.3333	3.9871	8.1995	8.222]	8.2221	8.2207	7.4000	8.22]9
	1	1.1228	1.1403	1.5000	1.0150	1.1244	1.1245	1.1245	1.1245	1.1183	1.1234
	4	1.7254	1.7427	2.2500	1.6291	1.7268	1.7346	1.7347	1.7340	1.6775	1.7313
10	10	2.9770	2.9825	3.7500	2.8858	2.9773	2.9925	2.9926	2.9905	2.7958	2.9900
	16	4.2469	4.2356	5.2500	4.1505	4.2463	4.2635	4.2635	4.2607	3.9141	4.2619
	25	6.1626	6.1228	7.5000	6.0513	6.1605	6.1782	6.1783	6.1751	5.5916	6.1774
	32	7.6563	7.5932	9.2500	7.5309	7.6531	7.6708	7.6708	7.6676	6.8963	7.6702
	1	1.0848	1.1111	L3333	1.0363	1.0869	1.0870	1.0874	1.0870	1.0804	1.0857
	4	1.667]	1.6980	2.0000	1.6516	1.6692	1.6797	1.6813	1.6792	1.6207	1.6758
20	10	2.8765	2.9060	3.3333	2.8976	2.8781	2.8991	2.9013	2.8972	2.7011	2.8961
	16	4.1037	4.1270	4.6667	4.1478	4.1047	4.1292	4.1310	4.1262	3.7816	4.1271
	25	5.9548	5.9658	6.6667	6.0249	5.9552	5.9805	5.9817	5.9765	5.4023	5.9792
	32	7.3980	7.3985	8.2222	7.4854	7.3980	7.4228	7.4237	7.4185	6.6628	7.4218
	1	1.0725	1.1017	1.2857	1.0320	1.0748	1.0749	1.0757	1.0749	1.0682	1.0736
	4	1.6482	1.6836	1.9286	1.64]4	1.6506	1.6622	1.6654	1.66]8	1.6023	1.6582
30	10	2.8441	2.8814	3.2143	2.8733	2.8460	2.8699	2.8745	2.8683	2.6706	2.8667
	16	4.0576	4.0920	4.5000	4.1086	4.0589	4.0875	4.09] 7	4.0847	3.7388	4.085]
	25	5.8879	5.9152	6.4286	5.963]	5.8888	5.9190	5.9223	5.9152	5.34]2	5.9175
	32	7.3149	7.3358	7.9286	7.4059	7.3]55	7.3456	7.3483	7.3412	6.5874	7.3444
	1	1.0628	1.0943	1.2500	1.026i	1.0652	1.0655	1.0665	1.0654	1.0586	1.0640
	4	1.6334	1.6723	1.8750	1.6297	1.6359	1.6485	1.6537	1.6483	1.5879	1.6445
50	10	2.8186	2.8619	3.1250	2.8482	2.8207	2.8474	2.8555	2.8462	2.6465	2.8440
	16	4.0212	4.0644	4.3750	4.0697	4.0228	4.0555	4.0636	4.0533	3.705]	4.0529
	25	5.8352	6.8754	6.2500	5.9033	5.8363	5.8721	5.8793	5.8688	5.2930	5.8704
	32	7.2494	7.2864	7.7083	7.3298	7.2504	7.2867	7.2929	7.2828	6.5280	7.2853
	1	1.0587	1.0911	1.2353	1.0231	1.0611	1.0614	1.0627	1.0614	1.0545	1.0600
	4	1.6271	1.6675	1.8529	1.6239	1.6297	1.6428	1.6490	1.6426	1.5817	1.6387
70	10	2.8078	2.8537	3.0882	2.8363	2.8099	2.8380	2.8482	2.8370	2.6362	2.8346
	16	4.0058	4.0528	4.3235	4.0515	4.0075	4.0422	4.0531	4.0404	3.6907	4.0396
	25	5.8128	5.8585	6.1765	5.8755	5.8141	5.8528	5.8629	5.8499	5.2725	5.8509
	32	7.2217	7.2654	7.6176	7.2946	7.2227	7.2624	7.2717	7.2590	6.5027	7.2610
	1	1.0557	1.0888	1.2245	1.0206	1.0581	1.0584	1.0599	1.0584	1.0514	1.0570
	4	1.6224	1.6639	1.8367	1.6192	1.6250	1.6385	1.6456	1.6383	1.5772	1.6344
100	10	2.7997	2.8476	3.0612	2.8270	2.8019	2.8310	2.8433	2.8303	2.6286	2.8276
	16	3.9943	4.0440	4.2857	4.0373	3.9960	4.0324	4.0460	4.0310	3.6800	4.0298
	25	5.7961	5.8459	6.1224	5.8540	5.7974	5.8386	5.8520	5.8364	5.2572	5.8367
	32	7.2009	7.2498	7.5510	7.2674	7.2020	7.2448	7.2574	7.2419	6.4839	7.2433

'----' designates undefined values

TABLE 3 *(Cont.)*

α **=O.50**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 10$					
	1	1.3024	1.2545	---------	---------	1.2961	1.3024	1.3023	1.3024	1.3016	1.3024
	4	1.6661	1.6029	---------	---------	1.6578	1.6661	1.6655	1.6661	1.6566	1.6660
3	10	2.4083	2.3100	---------	---------	2.3955	2.4083	2.4076	2.4083	2.3666	2.4082
	16	3.1588	3.0231.	---------	---------	3.1414	3.1589	3.1584	3.1589	3.0766	3.1588
	25	4.2911	4.0971	---------	---------	4.2666	4.2912	4.2909	4.2912	4.1416	4.2911
	32	5.1744	4.9343	---------	---------	5.1442	5.1745	5.1743	5.1744	4.9699	5.1744
	1	1.1810	1.1616	1.8333	0.5977	1.1792	1.1811	1.1811	1.1811	1.1803	1.1811
	4	1.5108	1.4841	2.3333	0.7233	1.5083	1.5115	1.5115	1.5114	1.5022	1.5112
5	10	2.1835	2.1389	3.3333	1.0343	2.1795	2.1851	2.1851	2.1849	2.1461	2.1848
	16	2.8638	2.7991	4.3333	1.3734	2.8582	2.8657	2.8657	2.8654	2.7899	2.8655
	25	3.8899	3.7936	5.8333	1.9010	3.8819	3.8920	3.8920	3.8916	3.7556	3.8918
	32	4.6904	4.5688	7.0000	2.3186	4.6803	4.6924	4.6924	4.6919	4.5068	4.6923
	1	1.1006	1.1005	1.3750	1.0312	1.1006	1.1008	1.1008	1.1008	1.1000	1.1007
	4	1.4079	1.4060	1.7500	1.3432	1.4078	1.4096	1.4096	1.4095	1.4000	1.4091
10	10	2.0348	2.0263	2.5000	1.9731	2.0343	2.0387	2.0387	2.0383	2.0000	2.0381
	16	2.6686	2.6518	3.2500	2.6055	2.6677	2.6735	2.6735	2.6728	2.6000	2.6730
	25	3.6247	3.5940	4.3750	3.5558	3.6232	3.6299	3.6300	3.6290	3.5000	3.6297
	32	4.3705	4.3283	5.2500	4.2955	4.3684	4.3757	4.3757	4.3747	4.2000	4.3755
	1	1.0635	1.0723	1.2222	1.0362	1.0639	1.0638	1.0639	1.0638	1.0629	1.0637
	4	1.3604	1.3699	1.5555	1.3467	1.3609	1.3630	1.3633	1.3629	1.3528	1.3623
20	10	1.9661	1.9744	2.2222	1.9707	1.9665	1.9723	1.9729	1.9718	1.9325	1.9715
	16	2.5786	2.5838	2.8889	2.5960	2.5788	2.5866	2.5872	2.5858	2.5123	2.5859
	25	3.5024	3.5018	3.8889	3.5346	3.5024	3.5115	3.5120	3.5102	3.3819	3.5110
	32	4.2230	4.2173	4.6667	4.2648	4.2228	4.2322	4.2326	4.2308	4.0583	4.2319
	1	1.0515	1.0632	1.1786	1.0280	1.0521	1.0519	1.0520	1.0519	1.0509	1.0518
	4	1.3451	1.3583	1.5000	1.3352	1.3457	1.3481	1.3489	1.3480	1.3376	1.3474
30	10	1.9440	1.9576	2.1429	1.9520	1.9445	1.9513	1.9527	1.9509	1.9108	1.9505
	16	2.5496	2.5619	2.7857	2.5698	2.5500	2.5593	2.5608	2.5585	2.4840	2.5585
	25	3.4631	3.4721	3.7500	3.4971	3.4633	3.4743	3.4756	3.4730	3.3439	3.4738
	32	4.1756	4.1816	4.5000	4.2185	4.1757	4.1872	4.1883	4.1857	4.0127	4.1868
	1	1.0421	1.0560	1.1458	1.0194	1.0427	1.0425	1.0427	1.0425	1.0415	1.0424
	4	1.3331	1.3492	1.4583	1.3234	1.3337	1.3364	1.3378	1.3364	1.3256	1.3357
50	10	1.9266	1.9444	2.0833	1.9335	1.9272	1.9351	1.9377	1.9348	1.8937	1.9341
	16	2.5268	2.5447	2.7083	2.5444	2.5273	2.5383	2.5412	2.5376	2.4618	2.5374
	25	3.4321	3.4488	3.6458	3.4613	3.4325	3.4458	3.4486	3.4446	3.3139	3.4451
	32	4.1382	4.1534	4.3750	4.1745	4.1386	4.1527	4.1553	4.1512	3.9767	4.1522
	1	1.0381	1.0530	1.1323	1.0153	1.0387	1.0385	1.0388	1.0385	1.0375	1.0384
	4	1.3279	1.3453	1.4412	1.3178	1.3286	1.3315	1.3332	1.3314	1.3205	1.3307
70	10	1.9192	1.9388	2.0588	1.9248	1.9199	1.9283	1.9318	1.9280	1.8864	1.9273
	16	2.5171	2.5373	2.6765	2.5326	2.5177	2.5295	2.5336	2.5289	2.4523	2.5286
	25	3.4190	3.4388	3.6029	3.4447	3.4194	3.4340	3.4380	3.4330	3.3012	3.4333
	32	4.1224	4.1415	4.3235	4.1543	4.1228	4.1384	4.1423	4.1371	3.9614	4.1378
	1	1.0351	1.0507	1.1224	1.0121	1.0357	1.0356	1.0359	1.0356	1.0345	1.0354
	4	1.3241	1.3424	1.4286	1.3135	1.3248	1.3278	1.3299	1.3278	1.3167	1.3271
100	10	1.9137	1.9347	2.0408	1.9181	1.9144	1.9233	1.9276	1.9230	1.8809	1.9223
	16	2.5099	2.5319	2.6531	2.5234	2.5105	2.5230	2.5282	2.5226	2.4452	2.5221
	25	3.4091	3.4314	3.5714	3.4319	3.4096	3.4253	3.4308	3.4245	3.2917	3.4246
	32	4.1106	4.1326	4.2857	4.1386	4.1109	4.1280	4.1333	4.1269	3.9500	4.1274

'----' designates undefined values

TABLE 3 *(Cont.)*

α **=O.50**

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 20$					
	1	1.2865	1.2286	---------	---------	1.2792	1.2865	1.2865	1.2865	1.2864	1.2865
	4	1.4716	1.4050	---------	---------	1.4632	1.4716	1.4716	1.4716	1.4702	1.4716
3	10	1.8448	1.7600	---------	---------	1.8341	1.8448	1.8447	1.8448	1.8378	1.8448
	16	2.2204	2.1167	---------	---------	2.2074	2.2204	2.2203	2.2204	2.2053	2.2204
	25	2.7861	2.6533	---------	---------	2.7695	2.7861	2.7861	2.7861	2.7566	2.7861
	32	3.2273	3.0715	---------	---------	3.2079	3.2273	3.2272	3.2273	3.1854	3.2273
	1	l.l663	l.l376	1.7500	0.5970	l.l638	l.l663	l.l663	l.l663	l.l662	l.l663
	4	1.3340	1.3009	2.0000	0.6736	1.3313	1.3341	1.3341	1.3341	1.3328	1.3341
5	10	1.6723	1.6296	2.5000	0.8372	1.6687	1.6726	1.6726	1.6725	1.6660	1.6725
	16	2.0127	1.9599	3.0000	1.0082	2.0083	2.0131	2.0131	2.0130	1.9992	2.0130
	25	2.5254	2.4568	3.7500	1.2715	5.5198	2.5259	2.5259	2.5258	2.4989	2.5259
	32	2.9252	2.8440	4.3333	1.4794	2.9186	2.9258	2.9258	2.9257	2.8877	2.9257
	1	1.0867	1.0777	1.3125	1.0429	1.0863	1.0868	1.0868	1.0868	1.0867	1.0868
	4	1.2431	1.2325	1.5000	1.2003	1.2425	1.2433	1.2433	1.2433	1.2419	1.2432
10	10	1.5582	1.5439	1.8750	1.5161	1.5575	1.5589	1.5589	1.5589	1.5524	1.5588
	16	1.8754	1.8567	2.2500	1.8326	1.8745	1.8764	1.8764	1.8763	1.8628	1.8763
	25	2.3531	2.3275	2.8125	2.3077	2.3519	2.3544	2.3544	2.3542	2.3286	2.3543
	32	2.7256	2.6943	3.2500	2.6776	2.7241	2.7270	2.7270	2.7268	2.6908	2.7270
	1	1.0501	1.0501	l.l667	1.0388	1.0501	1.0501	1.0501	1.0501	1.0500	1.0501
	4	1.2011	1.2008	1.3333	l.l948	1.2011	1.2015	1.2015	1.2015	1.2000	1.2014
20	10	1.5057	1.5043	1.6667	1.5073	1.5056	1.5069	1.5070	1.5068	1.5000	1.5067
	16	1.8121	1.8091	2.0000	1.8200	1.8120	1.8140	1.8141	1.8138	1.8000	1.8138
	25	2.2737	2.2678	2.5000	2.2893	2.2735	2.2761	2.2763	2.2758	2.2500	2.2760
	32	2.6336	2.6252	2.8889	2.6545	2.6333	2.6363	2.6364	2.6359	2.6000	2.6362
	1	1.0383	1.0412	l.l250	1.0284	1.0384	1.0383	1.0383	1.0383	1.0382	1.0383
	4	l.l876	l.l907	1.2857	l.l826	l.l877	l.l881	l.l882	l.l881	l.l865	l.l880
30	10	1.4888	1.4915	1.6071	1.4914	1.4888	1.4903	1.4906	1.4902	1.4831	1.4901
	16	1.7917	1.7938	1.9286	1.8004	1.7918	1.7941	1.7945	1.7939	1.7798	1.7939
	25	2.2481	2.2486	2.4107	2.2641	1.2481	2.2513	2.2517	2.2510	2.2247	2.2512
	32	2.6040	2.6030	2.7857	2.6248	1.6039	2.6076	2.6079	2.6071	2.5708	2.6074
	1	1.0290	1.0341	1.0937	1.0183	1.0291	1.0290	1.0291	1.0290	1.0289	1.0290
	4	l.l770	l.l827	1.2500	l.l708	l.l772	l.l776	l.l778	l.l776	l.l759	l.l775
50	10	1.4754	1.4815	1.5625	1.4762	1.4756	1.4773	1.4779	1.4772	1.4699	1.4771
	16	1.7757	1.7817	1.8750.	1.7818	1.7758	1.7787	1.7795	1.7785	1.7639	1.7785
	25	2.2280	2.2334	2.3437	2.2403	2.2281	2.2321	2.2330	2.2318	2.2048	2.2319
	32	2.5807	2.5855	2.7083	2.5969	2.5808	2.5853	2.5862	2.5849	2.5478	2.5851
	1	1.0251	1.0312	1.0809	1.0136	1.0252	1.0251	1.0251	1.0251	1.0250	1.0251
	4	l.l725	l.l793	1.2353	l.l654	l.l727	l.l731	l.l734	l.l731	l.l714	l.l730
0	10	1.4698	1.4772	1.5441	1.4692	1.4699	1.4718	1.4727	1.4718	1.4642	1.4716
	16	1.7689	1.7766	1.8529	1.7732	1.7691	1.7722	1.7734	1.7721	1.7571	1.7720
	25	2.2195	2.2270	2.3162	2.2293	2.2196	2.2241	2.2254	2.2238	2.1964	2.2239
	32	2.5708	2.5780	2.6765	2.5841	2.5709	2.5761	2.5774	2.5757	2.5380	2.5759
	1	1.0221	1.0289	1.0714	1.0099	1.0223	1.0222	1.0222	1.0222	1.0220	1.0222
	4	l.l691	l.l767	1.2245	l.l612	l.l693	l.l698	l.l702	l.l698	l.l680	l.l697
100	10	1.4656	1.4740	1.5306	1.4638	1.4657	1.4678	1.4689	1.4678	1.4600	1.4676
	16	1.7638	1.7727	1.8367	1.7666	1.7640	1.7674	1.7690	1.7673	1.7521	1.7672
	25	2.2131	2.2222	2.2959	2.2208	2.2133	2.2182	2.2200	2.2179	2.1901	2.2179
	32	2.5634	2.5725	2.6531	2.5742	2.5636	2.5693	2.5712	2.5689	2.5307	2.5691

_1 '----' designates undefined values

TABLE3 *(Cont.)*

α **=*O.50***

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 30$					
	1	1.2807	1.2193	---------	---------	1.2730	1.2807	1.2807	1.2807	1.2806	1.2807
	4	1.4050	1.3376	---------	---------	1.3966	1.4050	1.4050	1.4050	1.4046	1.4050
3	10	1.6548	1.5750	---------	---------	1.6449	1.6548	1.6548	1.6548	1.6524	1.6548
	16	1.9056	1.8130	---------	---------	1.8941	1.9056	1.9056	1.9056	1.9003	1.9056
	25	2.2829	2.1709	---------	---------	2.2689	2.2829	2.2829	2.2829	2.2721	2.2829
	32	2.5770	2.4497	---------	---------	2.5612	2.5770	2.5769	2.5770	2.5613	2.5770
	1	1.1608	1.1290	1.7222	0.6002	1.1582	1.1608	1.1608	1.1608	1.1608	1.1608
	4	1.2735	1.2386	1.8889	*0.6547*	*1.2707*	1.2735	1.2735	1.2735	1.2731	1.2735
5	10	1.4999	1.4583	2.2222	0.7670	1.4965	1.5000	1.5000	1.5000	1.4978	1.5000
	16	1.7272	1.6787	2.5556	0.8822	1.7233	1.7273	1.7273	1.7273	1.7225	1.7273
	25	2.0691	2.0101	3.0556	1.0583	2.0644	2.0693	2.0693	2.0693	2.0595	2.0693
	32	2.3357	2.2682	3.4444	1.1968	2.3302	2.3359	2.3359	2.3358	2.3216	2.3359
	1	1.0816	1.0696	1.2917	1.0475	1.0810	1.0816	1.0816	1.0816	1.0816	1.0816
	4	1.1866	1.1734	1.4167	1.1528	1.1860	1.1867	1.1867	1.1867	1.1862	1.1867
10	10	1.3975	1.3816	1.6667	1.3636	1.3968	1.3978	1.3978	1.3977	1.3956	1.3977
	16	1.6093	1.5904	1.9167	1.5747	1.6084	1.6097	1.6097	1.6096	1.6049	1.6096
	25	1.9279	1.9043	2.2917	1.8915	1.9268	1.9284	1.9284	1.9283	1.9189	1.9284
	32	2.1762	2.1488	2.5833	2.1381	2.1749	2.1768	2.1768	2.1767	2.1631	2.1767
	1	1.0451	1.0422	1.1481	1.0401	1.0450	1.0451	1.0451	1.0451	1.0451	1.0451
	4	1.1466	1.1433	1.2593	1.1443	1.1465	1.1467	1.1467	1.1467	1.1462	1.1466
20	10	1.3504	1.3461	1.4815	1.3527	1.3503	1.3508	1.3508	1.3507	1.3485	1.3507
	16	1.5550	1.5496	1.7037	1.5613	1.5548	1.5556	1.5557	1.5556	1.5507	1.5556
	25	1.8628	1.8555	2.0370	1.8742	1.8626	1.8638	1.8638	1.8637	1.8542	1.8637
	32	2.1027	2.0937	2.2963	2.1177	2.1025	2.1039	2.1039	2.1037	2.0901	2.1038
	1	1.0334	1.0333	1.1071	1.0290	1.0334	1.0334	1.0334	1.0334	1.0333	1.0334
	4	1.1337	1.1336	1.2143	1.1319	1.1337	1.1338	1.1338	1.1338	1.1333	1.1338
30	10	1.3352	1.3347	1.4286	1.3379	1.3352	1.3357	1.3358	1.3357	1.3333	1.3357
	16	1.5375	1.5365	1.6429	1.5439	1.5375	1.5384	1.5385	1.5383	1.5333	1.5383
	25	1.8419	1.8397	1.9643	1.8531	1.8418	1.8432	1.8433	1.8431	1.8333	1.8431
	32	2.0791	2.0760	2.2143	2.0936	2.0790	2.0806	2.0808	2.0805	2.0667	2.0806
	1	1.0241	1.0264	1.0764	1.0184	1.0242	1.0241	1.0241	1.0241	1.0241	1.0241
	4	1.1235	1.1260	1.1806	1.1202	1.1236	1.1237	1.1238	1.1237	1.1232	1.1237
50	10	1.3233	1.3258	1.3889	1.3238	1.3233	1.3239	1.3241	1.3239	1.3214	1.3239
	16	1.5238	1.5261	1.5972	1.5276	1.5238	1.5249	1.5252	1.5249	1.5196	1.5248
	25	1.8254	1.8274	1.9097	1.8333	1.8254	1.8271	1.8275	1.8270	1.8169	1.8271
	32	2.0605	2.0620	2.1528	2.0710	2.0605	2.0626	2.0630	2.0624	2.0482	2.0625
	1	1.0202	1.0234	1.0637	1.0135	1.0202	1.0202	1.0202	1.0202	1.0202	1.0202
	4	1.1192	1.1227	1.1667	1.1147	1.1193	1.1194	1.1195	1.1194	1.1189	1.1194
70	10	1.3182	1.3219	1.3725	1.3174	1.3183	1.3189	1.3193	1.3189	1.3163	1.3189
	16	1.5179	1.5217	1.5784	1.5201	1.5 180	1.5192	1.5197	1.5192	1.5138	1.5192
	25	1.8184	1.8221	1.8872	1.8242	1.8185	1.8204	1.8210	1.8203	1.8100	1.8203
	32	2.0526	2.0561	2.1274	2.0607	2.0526	2.0550	2.0556	2.0548	2.0403	2.0549
	1	1.0173	1.0212	1.0544	1.0097	1.0173	1.0173	1.0173	1.0173	1.0172	1.0173
	4	1.1160	1.1203	1.1565	1.1106	1.1161	1.1162	1.1164	1.1162	1.1157	1.1162
100	10	1.3144	1.3191	1.3605	1.3124	1.3145	1.3152	1.3157	1.3152	1.3126	1.3152
	16	1.5136	1.5185	1.5646	1.5143	1.5136	1.5150	1.5157	1.5150	1.5095	1.5149
	25	1.8132	1.8182	1.8707	1.8171	1.8133	1.8154	1.8163	1.8154	1.8048	1.8154
	32	2.0467	2.0517	2.1088	2.0527	2.0468	2.0494	2.0504	2.0493	2.0345	2.0493

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.50$

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 50$					
	1	1.2758	1.2118	---------	---------	1.2679	1.2758	1.2758	1.2758	1.2757	1.2758
	4	1.3509	1.2831	---------	---------	1.3425	1.3509	1.3509	1.3509	1.3508	1.3509
3	10	1.5015	1.4260	---------	---------	1.4921	1.5015	1.5014	1.5015	1.5009	1.5015
	16	1.6523	1.5691	---------	---------	1.6420	1.6523	1.6523	1.6523	1.6510	1.6523
	25	1.8789	1.7840	---------	---------	1.8673	1.8789	1.8790	1.8789	1.8761	1.8790
	32	2.0555	1.9513	---------	---------	2.0427	2.0555	2.0555	2.0555	2.0512	2.0555
	1	1.1563	1.1220	1.7000	0.6043	1.1535	1.1563	1.1563	1.1563	1.1562	1.1563
	4	1.2244	1.1881	1.8000	0.6386	1.2215	1.2244	1.2244	1.2244	1.2243	1.2244
5	10	1.3608	1.3204	2.0000	0.7081	1.3576	1.3608	1.3608	1.3608	1.3603	1.3608
	16	1.4975	1.4529	2.2000	0.7783	1.4940	1.4975	1.4975	1.4975	1.4963	1.4975
	25	1.7029	1.6518	2.5000	0.8847	1.6989	1.7030	1.7030	1.7030	1.7004	1.7030
	32	1.8629	1.8068	2.7333	0.9681	1.8585	1.8630	1.8630	1.8630	1.8591	1.8630
	1	1.0773	1.0629	1.2750	1.0515	1.0767	1.0773	1.0773	1.0773	1.0773	1.0773
	4	1.1407	1.1255	1.3500	1.1148	1.1401	1.1407	1.1407	1.1407	1.1406	1.1407
10	10	1.2679	1.2509	1.5000	1.2415	1.2671	1.2679	1.2679	1.2679	1.2674	1.2679
	16	1.3952	1.3764	1.6500	1.3682	1.3944	1.3953	1.3953	1.3953	1.3941	1.3953
	25	1.5866	1.5649	1.8750	1.5584	1.5857	1.5867	1.5867	1.5867	1.5842	1.5867
	32	1.7356	1.7117	2.0500	1.7064	1.7346	1.7358	1.7358	1.7358	1.7321	1.7358
	1	1.0409	1.0357	1.1333	1.0414	1.0408	1.0409	1.0409	1.0409	1.0409	1.0409
	4	1.1022	1.0967	1.2000	1.1040	1.1021	1.1022	1.1022	1.1022	1.1021	1.1022
20	10	1.2250	1.2188	1.3333	1.2291	1.2249	1.2251	1.2251	1.2251	1.2246	1.2251
	16	1.3481	1.3411	1.4667	1.3543	1.3479	1.3483	1.3483	1.3483	1.3470	1.3483
	25	1.5330	1.5248	1.6667	1.5421	1.5328	1.5333	1.5333	1.5333	1.5307	1.5333
	32	1.6770	1.6678	1.8222	1.6882	1.6768	1.6774	1.6774	1.6773	1.6736	1.6774
	1	1.0292	1.0269	1.0929	1.0296	1.0292	1.0292	1.0292	1.0292	1.0292	1.0292
	4	1.0898	1.0874	1.1571	1.0915	1.0898	1.0898	1.0898	1.0898	1.0897	1.0898
30	10	1.2113	1.2085	1.2857	1.2151	1.2112	1.2114	1.2114	1.2114	1.2108	1.2114
	16	1.3330	1.3297	1.4143	1.3388	1.3329	1.3332	1.3332	1.3332	1.3319	1.3332
	25	1.5158	1.5119	1.6071	1.5243	1.5157	1.5162	1.5162	1.5161	1.5135	1.5161
	32	1.6582	1.6537	1.7571	1.6686	1.6581	1.6586	1.6587	1.6586	1.6548	1.6586
	1	1.0200	1.0200	1.0625	1.0186	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
	4	1.0801	1.0801	1.1250	1.0797	1.0801	1.0801	1.0801	1.0801	1.0800	1.0801
50	10	1.2004	1.2003	1.2500	1.2020	1.2004	1.2006	1.2006	1.2006	1.2000	1.2006
	16	1.3210	1.3208	1.3750	1.3242	1.3210	1.3213	1.3214	1.3213	1.3200	1.3213
	25	1.5022	1.5017	1.5625	1.5077	1.5022	1.5027	1.5029	1.5027	1.5000	1.5027
	32	1.6434	1.6425	1.7083	1.6503	1.6433	1.6440	1.6441	1.6440	1.6400	1.6440
	1	1.0161	1.0171	1.0500	1.0135	1.0161	1.0161	1.0161	1.0161	1.0161	1.0161
	4	1.0759	1.0769	1.1118	1.0743	1.0759	1.0760	1.0760	1.0760	1.0759	1.0760
70	10	1.1958	1.1969	1.2353	1.1960	1.1959	1.1960	1.19p1	1.1960	1.1954	1.1960
	16	1.3160	1.3170	1.3588	1.3176	1.3160	1.3163	1.3165	1.3163	1.3149	1.3163
	25	1.4965	1.4974	1.5441	1.5000	1.4965	1.4971	1.4973	1.4971	1.4943	1.4971
	32	1.6371	1.6378	1.6882	1.6420	1.6371	1.6378	1.6380	1.6378	1.6337	1.6378
	1	1.0132	1.0149	1.0408	1.0096	1.0132	1.0132	1.0132	1.0132	1.0132	1.0132
	4	1.0729	1.0746	1.1020	1.0702	1.0729	1.0729	1.0729	1.0729	1.0728	1.0729
100	10	1.1924	1.1943	1.2245	1.1913	1.1924	1.1926	1.1927	1.1926	1.1920	1.1926
	16	1.3122	1.3141	1.3469	1.3125	1.3122	1.3126	1.3128	1.3126	1.3112	1.3126
	25	1.4922	1.4941	1.5306	1.4942	1.4922	1.4929	1.4932	1.4929	1.4900	1.4929
	32	1.6324	1.6343	1.6735	1.6356	1.6324	1.6333	1.6336	1.6332	1.6290	1.6332

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.50**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 70$					
	1	1.2736	1.2084	---------	---------	1.2656	1.2736	1.2736	1.2736	1.2736	1.2736
	4	1.3274	1.2595	---------	---------	1.3191	1.3274	1.3274	1.3274	1.3274	1.3274
3	10	1.4352	1.3618	---------	---------	1.4262	1.4352	1.4352	1.4352	1.4350	1.4352
	16	1.5432	1.4641	---------	---------	1.5335	1.5432	1.5432	1.5432	1.5426	1.5432
	25	1.7052	1.6177	---------	---------	1.6945	1.7052	1.7052	1.7052	1.7041	1.7052
	32	1.8314	1.7373	---------	---------	1.8199	1.8314	1.8314	1.8314	1.8297	1.8314
	1	1.1542	1.1189	1.6905	0.6065	1.1515	1.1542	1.1542	1.1542	1.1542	1.1542
	4	1.2030	1.1662	1.7619	0.6315	1.2001	1.2030	1.2030	1.2030	1.2030	1.2030
5	10	1.3007	1.2609	1.9048	0.6818	1.2976	1.3007	1.3007	1.3007	1.3005	1.3007
	16	1.3986	1.3557	2.0476	0.7325	1.3952	1.3986	1.3986	1.3986	1.3981	1.3986
	25	1.5454	1.4979	2.2619	0.8090	1.5417	1.5455	1.5455	1.5455	1.5444	1.5455
	32	1.6598	1.6086	2.4286	0.8688	1.6558	1.6598	1.6598	1.6598	1.6582	1.6598
	1	1.0754	1.0600	1.2679	1.0533	1.0747	1.0754	1.0754	1.0754	1.0754	1.0754
	4	1.1208	1.1049	1.3214	1.0986	1.1202	1.1208	1.1208	1.1208	1.1208	1.1208
10	10	1.2119	1.1945	1.4286	1.1891	1.2111	1.2119	1.2119	1.2119	1.2117	1.2119
	16	1.3030	1.2843	1.5357	1.2797	1.3022	1.3030	1.3030	1.3030	1.3026	1.3030
	25	1.4398	1.4191	1.6964	1.4156	1.4389	1.4399	1.4399	1.4399	1.4389	1.4399
	32	1.5464	1.5240	1.8214	1.5213	1.5454	1.5464	1.5464	1.5464	1.5449	1.5464
	1	1.0390	1.0329	1.1270	1.0421	1.0389	1.0390	1.0390	1.0390	1.0390	1.0390
	4	1.0830	1.0765	1.1746	1.0868	1.0828	1.0830	1.0830	1.0830	1.0829	1.0830
20	10	1.1709	1.1639	1.2698	1.1762	1.1708	1.1709	1.1709	1.1709	1.1708	1.1709
	16	1.2590	1.2514	1.3651	1.2656	1.2588	1.2590	1.2590	1.2590	1.2586	1.2590
	25	1.3912	1.3827	1.5079	1.3997	1.3910	1.3913	1.3913	1.3913	1.3903	1.3913
	32	1.4941	1.4849	1.6190	1.5041	1.4939	1.4943	1.4943	1.4942	1.4927	1.4943
	1	1.0274	1.02411	1.0867	1.0299	1.0273	1.0274	1.0274	1.0274	1.0274	1.0274
	4	1.0708	1.0674	1.1326	1.0741	1.0707	1.0708	1.0708	1.0708	1.0708	1.0708
30	10	1.1578	1.1541	1.2245	1.1625	1.1577	1.1578	1.1578	1.1578	1.1576	1.1578
	16	1.2448	1.2408	1.3163	1.2508	1.2448	1.2449	1.2449	1.2449	1.2444	1.2449
	25	1.3756	1.3710	1.4541	1.3833	1.3755	1.3757	1.3757	1.3757	1.3746	1.3757
	32	1.4773	1.4723	1.5612	1.4864	1.4772	1.4775	1.4775	1.4775	1.4759	1.4775
	1	1.0182	1.0172	1.0565	1.0187	1.0182	1.0182	1.0182	1.0182	1.0182	1.0182
	4	1.0612	1.0602	1.1012	1.0624	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
50	10	1.1474	1.1463	1.1905	1.1497	1.1474	1.1475	1.1475	1.1475	1.1472	1.1475
	16	1.2337	1.2324	1.2798	1.2371	1.2337	1.2338	1.2338	1.2338	1.2333	1.2338
	25	1.3633	1.3617	1.4137	1.3681	1.3632	1.3635	1.3635	1.3635	1.3624	1.3635
	32	1.4641	1.4624	1.5179	1.4700 .	1.4641	1.4644	1.4644	1.4644	1.4627	1.4644
	1	1.0143	1.0143	1.0441	1.0136	1.0143	1.0143	1.0143	1.0143	1.0143	1.0143
	4	1.0572	1.0572	1.0882	1.0570	1.0572	1.0572	1.0572	1.0572	1.0571	1.0572
70	10	1.1430	1.1430	1.1765	1.1439	1.1430	1.1431	1.1431	1.1431	1.1429	1.1431
	16	1.2290	1.2289	1.2647	1.2308	1.2290	1.2291	1.2292	1.2291	1.2286	1.2291
	25	1.3580	1.3578	1.3971	1.3612	1.3580	1.3583	1.3584	1.3583	1.3571	1.3583
	32	1.4585	1.4582	1.5000	1.4625	1.4585	1.4588	1.4589	1.4588	1.4571	1.4588
	1	1.0114	1.0121	1.0350	1.0096	1.0114	1.0114	1.0114	1.0114	1.0114	1.0114
	4	1.0541	1.0549	1.0787	1.0529	1.0541	1.0542	1.0542	1.0542	1.0541	1.0542
100	10	1.1397	1.1405	1.1662	1.1394	1.1398	1.1398	1.1399	1.1398	1.1396	1.1398
	16	1.2255	1.2262	1.2536	1.2260	1.2255	1.2256	1.2257	1.2256	1.2250	1.2256
	25	1.3541	1.3549	1.3848	1.3558	1.3542	1.3544	1.3546	1.3544	1.3532	1.3544
	32	1.4543	1.4550	1.4869	1.4568	1.4543	1.4547	1.4549	1.4547	1.4530	1.4547

'----' designates undefined values

TABLE 3 *(Cont.)*

$\alpha = 0.50$

ν_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar *et al.*	Cox-Reid	Exact
						$\nu_1 = 100$					
	1	1.2719	1.2059	----	----	1.2638	1.2719	1.2719	1.2719	1.2719	1.2719
	4	1.3097	1.2418	----	----	1.3014	1.3097	1.3097	1.3097	1.3097	1.3097
3	10	1.3853	1.3134	----	----	1.3765	1.3853	1.3853	1.3853	1.3853	1.3853
	16	1.4610	1.3852	----	----	1.4517	1.4610	1.4610	1.4610	1.4608	1.4610
	25	1.5746	1.4928	----	----	1.5646	1.5746	1.5746	1.5746	1.5742	1.5746
	32	1.6630	1.5765	----	----	1.6524	1.6630	1.6630	1.6630	1.6623	1.6630
	1	1.1527	1.1166	1.6833	0.6083	1.1499	1.1527	1.1527	1.1527	1.1527	1.1527
	4	1.1870	1.1498	1.7333	0.6261	1.1840	1.1870	1.1870	1.1870	1.1869	1.1870
5	10	1.2555	1.2162	1.8333	0.6617	1.2524	1.2555	1.2555	1.2555	1.2554	1.2555
	16	1.3241	1.2826	1.9333	0.6975	1.3208	1.3241	1.3241	1.3241	1.3239	1.3241
	25	1.4270	1.3822	2.0833	0.7514	1.4235	1.4270	1.4270	1.4270	1.4266	1.4270
	32	1.5071	1.4598	2.2000	0.7934	1.5034	1.5071	1.5071	1.5071	1.5065	1.5071
	1	1.0739	1.0578	1.2625	1.0547	1.0732	1.0739	1.0739	1.0739	1.0739	1.0739
	4	1.1058	1.0893	1.3000	1.0864	1.1051	1.1058	1.1058	1.1058	1.1058	1.1058
10	10	1.1697	1.1521	1.3750	1.1498	1.1689	1.1697	1.1697	1.1697	1.1696	1.1697
	16	1.2336	1.2151	1.4500	1.2133	1.2328	1.2336	1.2336	1.2336	1.2334	1.2336
	25	1.3295	1.3095	1.5625	1.3084	1.3286	1.3295	1.3295	1.3295	1.3291	1.3295
	32	1.4041	1.3829	1.6500	1.3824	1.4032	1.4041	1.4041	1.4041	1.4035	1.4041
	1	1.0376	1.0307	1.1222	1.0426	1.0375	1.0376	1.0376	1.0376	1.0376	1.0376
	4	1.0685	1.0613	1.1556	1.0739	1.0683	1.0685	1.0685	1.0685	1.0685	1.0685
20	10	1.1302	1.1226	1.2222	1.1365	1.1300	1.1302	1.1302	1.1302	1.1301	1.1302
	16	1.1919	1.1839	1.2889	1.1991	1.1917	1.1919	1.1919	1.1919	1.1917	1.1919
	25	1.2845	1.2759	1.3889	1.2930	1.2843	1.2846	1.2846	1.2846	1.2842	1.2846
	32	1.3566	1.3475	1.4667	1.3660	1.3564	1.3567	1.3567	1.3567	1.3561	1.3567
	1	1.0260	1.0220	1.0821	1.0303	1.0259	1.0260	1.0260	1.0260	1.0260	1.0260
	4	1.0565	1.0523	1.1143	1.0612	1.0564	1.0565	1.0565	1.0565	1.0564	1.0565
30	10	1.1175	1.1131	1.1786	1.1230	1.1174	1.1175	1.1175	1.1175	1.1174	1.1175
	16	1.1785	1.1739	1.2429	1.1849	1.1784	1.1785	1.1785	1.1785	1.1783	1.1785
	25	1.2701	1.2651	1.3393	1.2776	1.2700	1.2702	1.2702	1.2702	1.2698	1.2702
	32	1.3414	1.3361	1.4143	1.3498	1.3413	1.3415	1.3415	1.3415	1.3409	1.3415
	1	1.0168	1.0151	1.0521	1.0189	1.0168	1.0168	1.0168	1.0168	1.0168	1.0168
	4	1.0470	1.0453	1.0833	1.0494	1.0470	1.0470	1.0470	1.0470	1.0470	1.0470
50	10	1.1075	1.1056	1.1458	1.1106	1.1074	1.1075	1.1075	1.1075	1.1074	1.1075
	16	1.1679	1.1660	1.2083	1.1717	1.1679	1.1680	1.1680	1.1680	1.1678	1.1680
	25	1.2587	1.2566	1.3021	1.2635	1.2587	1.2588	1.2588	1.2588	1.2584	1.2588
	32	1.3294	1.3271	1.3750	1.3348	1.3294	1.3295	1.3295	1.3295	1.3289	1.3295
	1	1.0129	1.0122	1.0397	1.0137	1.0129	1.0129	1.0129	1.0129	1.0129	1.0129
	4	1.0430	1.0422	1.0706	1.0441	1.0430	1.0430	1.0430	1.0430	1.0430	1.0430
70	10	1.1032	1.1024	1.1323	1.1049	1.1032	1.1032	1.1033	1.1032	1.1032	1.1032
	16	1.1635	1.1626	1.1941	1.1657	1.1635	1.1635	1.1635	1.1635	1.1633	1.1635
	25	1.2539	1.2529	1.2868	1.2570	1.2539	1.2540	1.2540	1.2540	1.2536	1.2540
	32	1.3243	1.3232	1.3588	1.3280	1.3243	1.3244	1.3245	1.3244	1.3238	1.3244
	1	1.0100	1.0100	1.0306	1.0097	1.0100	1.0100	1.0100	1.0100	1.0100	1.0100
	4	1.0400	1.0400	1.0612	1.0399	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
100	10	1.1001	1.1000	1.1224	1.1005	1.1001	1.1001	1.1001	1.1001	1.1000	1.1001
	16	1.1601	1.1601	1.1837	1.1611	1.1601	1.1602	1.1602	1.1602	1.1600	1.1602
	25	1.2503	1.2502	1.2755	1.2520	1.2503	1.2504	1.2505	1.2504	1.2500	1.2504
	32	1.3205	1.3204	1.3469	1.3227	1.3205	1.3207	1.3207	1.3207	1.3200	1.3207

'----' designates undefined values.

TABLE3 *(Cont.)*

α **=O.75**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 3$					
	1	3.1526	0.5699	---------	---------	0.5873	3.1586	3.1434	3.1583	3.1407	3.1556
	4	5.6003	1.1619	---------	---------	1.1904	5.6202	5.6041	5.6172	5.4963	5.6155
3	10	10.5411	2.4923	---------	---------	2.5533	10.5625	10.5572	10.5576	10.2074	10.5607
	16	15.4892	3.8732	---------	---------	3.9742	15.5074	15.5051	15.5027	14.9185	15.5066
	25	22.9124	5.9716	---------	---------	6.1380	22.9267	29.9258	22.9227	21.9851	22.9264
	32	28.6860	7.6126	---------	---------	7.8319	28.6981	28.6977	28.6947	27.4814	28.6980
	1	2.5159	0.5657	7.5485	1.4497	0.5771	2.5255	2.5260	2.5252	2.5124	2.5222
	4	4.4194	1.1658	12.1741	3.1922	1.1814	4.4531	4.4539	4.4491	4.3966	4.4484
5	10	8.2035	2.5340	21.0549	6.5387	2.5656	8.2429	8.2433	8.2353	8.1652	8.2409
	16	11.9668	3.9653	29.8055	9.7984	4.0196	12.0021	12.0023	11.9941	11.9337	12.0012
	25	17.5955	6.1487	42.8587	14.6327	6.2423	17.6245	17.6246	17.6172	17.5865	17.6241
	32	21.9672	7.8595	52.9865	18.3732	7.9857	21.9923	21.9923	21.9856	21.9831	21.9920
	1	2.1355	0.5649	3.2957	2.0859	0.5717	2.1466	2.1473	2.1464	2.1371	2.1445
	4	3.7112	1.1766	5.3441	3.8755	1.1821	3.7520	3.7536	3.7490	3.7400	3.7507
10	10	6.7873	2.5949	9.2147	7.1990	2.6029	6.8399	6.8409	6.8326	6.9457	6.8399
	16	9.8155	4.0949	12.9931	10.4194	4.1112	9.8659	9.8665	9.8570	10.1514	9.8659
	25	14.3203	6.3978	18.6015	15.1846	6.4316	14.3645	14.3648	14.3552	14.9599	14.3641
	32	17.8091	8.2087	22.9415	18.8667	8.2581	17.8487	17.8489	17.8397	18.6999	17.8487
	1	1.9705	0.5655	2.6322	1.9272	0.5699	1.9819	1.9861	1.9818	1.9744	1.9809
	4	3.4021	1.1854	4.2584	3.4942	1.1857	3.4452	3.4563	3.4434	3.4552	3.4476
20	10	6.1601	2.6401	7.2957	6.3797	2.6360	6.2191	6.2291	6.2138	6.4168	6.2224
	16	8.8500	4.1933	10.2353	9.1567	4.1899	8.9096	8.9170	8.9023	9.3785	8.9121
	25	12.8278	6.5937	14.5742	13.2455	6.5960	12.8834	12.8881	12.8747	13.8209	12.8849
	32	15.8971	8.4893	17.9199	16.3948	8.4980	15.9489	15.9523	15.9398	17.2761	15.9500
	1	1.9187	0.5658	2.4685	1.8688	0.5695	1.9302	1.9363	1.9301	1.9234	1.9296
	4	3.3049	1.1889	3.9891	3.3673	1.1876	3.3484	3.3654	3.3471	3.3660	3.3525
30	10	5.9605	2.6583	6.8159	6.1158	2.6501	6.0215	6.0387	6.0175	6.2511	6.0267
	16	8.5394	4.2338	9.5412	8.7518	4.2238	8.6024	8.6163	8.5965	9.1362	8.6066
	25	12.3409	6.6769	13.5513	12.6222	6.6686	12.4013	12.4112	12.3938	13.4639	12.4042
	32	15.2676	8.6110	16.6370	15.5971	8.6058	15.3251	15.3327	15.3168	16.8299	15.3273
	1	1.8785	0.5661	2.3517	1.8223	0.5692	1.8899	1.8978	1.8899	1.8837	1.8898
	4	*3.2290*	*U9Z0*	3.7966	3.2684	1.1893	3.2728	3.2958	*3.2720*	3.2965	3.2784
50	10	5.8038	2.6741	6.4718	5.9116	2.6628	5.8662	5.8920	5.8635	6.1221	5.8734
	16	8.2937	4.2698	9.0411	8.4378	4.2545	8.3595	8.3822	8.3553	8.9477	8.3657
	25	11.9519	6.7526	12.8101	12.1361	6.7357	12.0168	12.0348	12.0111	13.1860	12.0215
	32	14.7614	8.7232	15.7033	14.9723	8.7069	14.8243	14.8392	14.8177	16.4825	14.8281
	1	1.8615	0.5663	2.3050	1.8025	0.5691	1.8729	1.8816	1.8729	1.8670	1.8730
	4	3.1969	1.1933	3.7196	3.2268	1.1901	3.2409	3.2669	3.2403	3.2672	3.2472
70	10	5.7373	2.6813	6.3336	5.8260	2.6686	5.8003	5.8307	5.7983	6.0677	5.8085
	16	8.1890	4.2863	8.8398	8.3060	4.2688	8.2560	8.2840	8.2528	8.8682	8.2633
	25	11.7849	6.7880	12.5101	11.9310	6.7675	11.8518	11.8752	11.8472	13.0690	11.8576
	32	14.5427	8.7763	15.3240	14.7076	8.7553	14.6082	14.6285	14.6028	16.3362	14.6130
	1	1.8489	0.5664	2.2711	1.7878	0.5690	1.8603	1.8697	1.8603	1.8546	1.8605
	4	3.1731	1.1944	3.6637	3.1960	1.1907	3.2171	3.2455	3.2167	3.2455	3.2240
100	10	5.6877	2.6869	6.2334	5.7626	2.6731	5.7511	5.7856	5.7497	6.0273	5.7602
	16	8.1107	4.2992	8.6934	8.2083	4.2799	8.1785	8.2113	8.1761	8.8092	8.1868
	25	11.6592	6.8159	12.2914	11.7784	6.7926	11.7277	11.7565	11.7242	12.9820	11.7345
	32	14.3776	8.8185	15.0468	14.5100	8.7939	14.4452	14.4709	14.4409	16.2274	14.4511

'----' designates undefined values

TABLE3 *(Cont.)*

α **=0.75**

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 5$					
	1	2.8939	0.6281	---------	---------	0.6431	2.8951	2.8930	2.8951	2.8914	2.8946
	4	4.3632	0.9957	---------	---------	1.0195	4.3692	4.3640	4.3685	4.3371	4.3679
3	10	7.3231	1.7947	---------	---------	1.8402	7.3316	7.3291	7.3299	7.2285	7.3308
	16	10.2893	2.6209	---------	---------	2.6911	10.2975	10.2962	10.2956	10.1199	10.2971
	25	14.7412	3.8771	---------	---------	3.9869	14.7483	14.7477	14.7464	14.4570	14.7481
	32	18.2045	4.8601	---------	---------	5.0017	18.2107	18.2104	18.2091	17.8303	18.2106
	1	2.2737	0.6329	6.2530	1.4804	0.6408	2.2758	2.2759	2.2757	2.2736	2.2752
	4	3.4097	1.0083	8.9978	2.5215	1.0207	3.4205	3.4208	3.4195	3.4104	3.4191
5	10	5.6732	1.8326	14.3241	4.5285	1.8567	5.6894	5.6896	5.6866	5.6840	5.6886
	16	7.9286	2.6898	19.5798	6.4882	2.7284	7.9448	7.9449	7.9414	7.9576	79443
	25	11.3046	3.9974	27.4185	9.3941	4.0599	11.3189	11.3190	11.3155	11.3680	11.3187
	32	13.9272	5.0223	33.4990	11.6414	5.1045	13.9401	13.9401	13.9369	14.0205	13.9400
	1	1.9008	0.6416	2.7263	1.8892	0.6438	1.9035	1.9036	1.9034	1.9024	1.9031
	4	2.8343	1.0279	3.9342	2.9391	1.0310	2.8483	2.8488	2.8474	2.8536	2.8478
10	10	4.6688	1.8864	6.2496	4.9254	1.8931	4.6915	4.6919	4.6886	4.7560	4.6914
	16	6.4818	2.7867	8.5170	6.8579	2.7993	6.5056	6.5059	6.5016	6.6584	6.5056
	25	9.1828	4.1670	11.8840	9.7192	4.1906	9.2051	9.2053	9.2006	9.5119	9.2051
	32	11.2757	5.2524	14.4895	11.9301	5.2854	11.2963	11.2964	11.2918	11.7314	11.2963
	1	1.7375	0.6482	2.1666	1.7142	0.6476	1.7404	1.7416	1.7404	1.7399	1.7403
	4	2.5808	1.0425	3.1209	2.6293	1.0408	2.5963	2.6006	2.5957	2.6099	2.5971
20	10	4.2206	1.9268	4.9327	4.3487	1.9245	4.2468	4.2515	4.2446	4.3499	4.2482
	16	5.8286	2.8612	6.6942	6.0123	2.8602	5.8574	5.8611	5.8540	6.0898	5.8586
	25	8.2117	4.3019	9.2971	8.4652	4.3048	8.2403	8.2428	8.2360	8.6997	8.2411
	32	10.0522	5.4388	11.3050	10.3552	5.4457	10.0796	10.0814	10.0749	10.7296	10.0802
	1	1.6860	0.6508	2.0277	1.6540	0.6493	1.6889	1.6907	1.6889	1.6887	1.6890
	4	2.5005	1.0483	2.9183	2.5273	1.0451	2.5164	2.5232	2.5159	2.5331	2.5179
30	10	4.0770	1.9432	4.6023	4.1628	1.9379	4.1045	4.1127	4.1028	4.2218	4.1069
	16	5.6173	2.8923	6.2339	5.7405	2.8867	5.6481	5.6552	5.6453	5.9105	5.6502
	25	7.8936	4.3597	8.6384	8.0611	4.3556	7.9249	7.9302	7.9211	8.4436	7.9264
	32	9.6480	5.5202	10.4896	9.8458	5.5182	9.6786	9.6828	9.6743	10.4137	9.6798
	1	4.6457	0.6531	1.9284	1.6067	0.6508	1.6487	1.6511	1.6487	1.6487	1.6489
	4	2.4376	1.0533	2.7732	2.4481	1.0489	2.4538	2.4633	2.4535	2.4730	2.4560
50	10	3.9639	1.9577	4.3647	4.0188	1.9500	3.9924	4.0049	3.9912	4.1217	3.9957
	16	5.4495	2.9201	5.9016	5.5293	2.9109	5.4821	5.4938	5.4801	5.7704	5.4852
	25	7.6386	4.4126	8.1600	7.7452	4.4029	7.6726	7.6823	7.6696	8.2434	7.6751
	32	9.3220	5.5958	9.8950	9.4460	5.5866	9.3558	9.3640	9.3523	10.1669	9.3578
	1	1.6287	0.6541	1.8887	1.5868	0.6515	1.6317	1.6344	1.6317	1.6318	1.6320
	4	2.4110	1.0556	2.7150	2.4148	1.0506	2.4273	2.4382	2.4270	2.4477	2.4298
7O	10	3.9157	1.9643	4.2692	3.9583	1.9556	3.9447	3.9596	3.9437	4.0795	3.9486
	16	5.3778	2.9330	5.7675	5.4405	2.9222	5.4112	5.4258	5.4096	5.7112	5.4149
	25	7.5288	4.4375	79661	7.6117	4.4254	7.5640	7.5767	7.5616	8.1589	7.5671
	32	9.1808	5.6318	9.6531	9.2762	5.6195	9.2161	9.2273	9.2132	10.0627	9.2188
	1	1.6160	0.6549	1.8599	1.5720	0.6520	1.6190	1.6220	1.6190	1.6192	1.6194
	4	23912	1.0573	2.6728	2.3901	1.0520	2.4075	2.4196	2.4074	2.4288	2.4103
100	10	3.8/98	1.9695	4.1998	3.9135	1.9600	3.9090	3.9261	3.9083	4.0480	3.9133
	16	53241	2.9431	5.6700	5.3746	2.9311	5.3580	5.3752	5.3568	5.6672	5.3622
	25	7.4461	4.4572	7.8246	7.5123	4.4433	7.4823	7.4980	7.4804	8.0.960	7.4360
	32	9.0741	5.6604	9.4761	9.1494	5.6459	9.1106	9.1249	9.1084	9.9851	91139

'----' designates undefined values

TABLE3 *(Cont.)*

α **=0.75**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 10$					
	1	2.6894	0.6704	---------	---------	0.6878	2.6895	2.6894	2.6895	2.6891	2.6895
	4	3.4262	0.8630	---------	---------	0.8857	3.4271	3.4265	3.4270	3.4225	3.4269
3	10	4.9052	1.2652	---------	---------	1.2998	4.9071	4.9065	4.9068	4.8893	4.9069
	16	6.3871	1.6775	---------	---------	1.7248	6.3893	6.3889	6.3889	6.3561	6.3891
	25	8.6117	2.3037	---------	---------	2.3710	8.6140	8.6137	8.6135	8.5563	8.6139
	32	10.3427	2.7939	---------	---------	2.8772	10.3448	10.3447	10.3443	10.2676	10.3448
	1	2.0787	0.6860	5.2859	1.5217	0.6954	2.0789	2.0790	2.0789	2.0788	2.0789
	4	2.6444	0.8844	6.6357	2.0338	0.8967	2.6461	2.6461	2.6460	2.6458	2.6459
5	10	3.7729	1.3008	9.2912	3.0327	1.3200	3.7766	3.7767	3.7761	3.7797	3.7764
	16	4.8991	1.7291	11.9208	4.0138	1.7561	4.9036	4.9037	4.9029	4.9136	4.9035
	25	6.5862	2.3813	15.8445	5.4702	2.4205	6.5909	6.5909	6.5899	6.6145	6.5908
	32	7.8972	2.8925	18.8879	6.5963	2.9416	7.9018	7.9018	7.9007	7.9374	7.9017
	1	1.7060	0.7081	2.2927	1.7341	0.7109	1.7063	1.7063	1.7063	1.7064	1.7062
	4	2.1663	0.9144	2.8816	2.2420	0.9182	2.1687	2.1688	2.1686	2.1718	2.1686
10	10	3.0770	1.3507	4.0316	3.2264	1.3574	3.0826	3.0828	3.0821	3.1025	3.0826
	16	3.9808	1.8020	5.1643	4.1917	1.8121	3.9878	3.9879	3.9868	4.03333	3.9878
	25	5.3298	2.4915	6.8489	5.6235	2.5074	5.3373	5.3374	5.3360	5.4294	5.3373
	32	6.3759	3.0332	8.1528	6.7303	3.0540	6.3833	6.3833	6.3818	6.5153	6.3833
	1	1.5388	0.7248	1.8053	1.5397	0.7242	1.5392	1.5393	1.5392	1.5394	1.5392
	4	1.9512	0.9373	2.2671	1.9795	0.9367	1.9541	1.9549	1.9540	1.9593	1.9543
20	10	2.7613	1.3896	3.1629	2.8279	1.3897	2.7683	2.7696	2.7678	2.7990	2.7686
	16	3.5608	1.8598	4.0408	3.6565	1.8609	3.5698	3.5710	3.5688	3.6387	3.5701
	25	4.7495	2.5810	5.3413	4.8820	2.5845	4.7594	4.7604	4.7580	4.8982	4.7597
	32	5.6687	3.1493	6.3454	5.8273	3.1549	5.6788	5.6796	5.6772	5.8778	5.6791
	1	1.4851	0.7317	1.6829	1.4755	0.7299	1.4855	1.4857	1.4855	1.4858	1.4855
	4	1.8819	0.9468	2.1124	1.8939	0.9447	1.8849	1.8864	1.8849	1.8910	1.8853
30	10	2.6588	1.4060	2.9430	2.6991	1.4038	2.6663	2.6687	2.6659	2.7014	2.6669
	16	3.4233	1.8845	3.7548	3.4836	1.8827	3.4331	3.4355	3.4323	3.5119	3.4338
	25	4.5575	2.6202	4.9551	4.6417	2.6195	4.5687	4.5707	4.5674	4.7275	4.5692
	32	5.4332	3.2008	5.8803	5.5337	3.2013	5.4447	5.4463	5.4431	5.6730	5.4451
	1	1.4426	0.7378	1.5948	1.4254	0.7351	1.4430	1.4434	1.4430	1.4434	1.4431
	4	1.8270	0.9552	2.0009	1.8273	0.9519	1.8302	1.8324	1.8302	1.8370	1.8307
50	10	2.5771	1.4208	2.7840	2.5986	1.4168	2.5851	2.5890	2.5848	2.6243	2.5861
	16	3.3132	1.9072	3.5473	3.3484	1.9029	3.3238	3.3279	3.3232	3.4116	3.3248
	25	4.4025	2.6567	4.6732	4.4528	2.6525	4.4149	4.4186	4.4138	4.5926	4.4158
	32	5.2419	3.2493	5.5395	5.3020	3.2456	5.2549	5.2582	5.2536	5.5111	5.2557
	1	1.4245	0.7406	1.5593	1.4043	0.7375	1.4249	1.4253	1.4249	1.4253	1.4250
	4	1.8035	0.9591	1.9559	1.79924	0.9553	1.8069	1.8095	1.8068	1.8140	1.8074
70	10	2.5421	1.4276	2.7197	2.5563	1.4229	2.5504	2.5551	2.5501	2.5915	2.5515
	16	3.2658	1.9178	3.4632	3.2913	1.9125	3.2768	3.2820	3.2763	3.3689	3.27.81
	25	4.3353	2.6741	4.5585	4.3726	2.6685	4.3483	4.3533	4.3474	4.5351	4.3495
	32	5.1586	3.2727	5.4004	5.2032	3.2672	5.1724	5.1769	5.1713	5.4421	5.1734
	1	1.4110	0.7427	1.5335	1.3886	0.7394	1.4114	1.4119	1.4114	1.4118	1.4115
	4	1.7860	0.9621	1.9233	1.7784	0.9580	1.7894	1.7924	1.7893	1.7968	1.7900
100	10	2.5158	1.4330	2.6729	2.5248	1.4277	2.5243	2.5298	2.5241	2.5669	2.5256
	16	3.2301	1.9262	3.4018	3.2487	1.9201	3.2414	3.2477	3.2410	3.3370	3.2429
	25	4.2844	2.6879	4.4745	4.3126	2.6812	4.2979	4.3042	4.2973	4.4921	4.2994
	32	5.0954	3.2914	5.2982	5.1291	3.2845	5.1097	5.1156	5.1088	5.3906	5.1110

'----' designates undefined values

TABLE3 *(Cont.)*

α =O.75

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	MudholIkar et al.	Cox-Reid	Exact
						$v_1 = 20$					
	1	2.5832	0.6901	---------	---------	0.7103	2.5832	2.5832	2.5832	2.5832	2.583:
	4	2.9527	0.7903	---------	---------	0.8134	2.9528	2.9528	2.9528	2.9522	2.952&
3	10	3.6927	0.9941	---------	---------	1.0235	3.6930	3.6929	3.6930	3.6903	3.6930
	16	4.4335	.1.2007	---------	---------	1.2367	4.4340	4.4339	4.4339	4.4283	4.433'7
	25	5.5455	1.5135	---------	---------	1.5595	5.5460	5.5460	5.5460	5.5354	5.5460
	32	6.4107	1.7581	---------	---------	1.8122	6.4113	6.4113	6.4112	6.3965	6.4113
	1	1.9760	0.7133	4.08049	1.5519	0.7250	1.9761	1.9761	1.9761	1.9761	1.9761
	4	2.2580	0.8169	5.4698	1.8024	0.8304	2.2582	2.2582	2.2582	2.2584	2.258
5	10	2.8212	1.0286	6.7904	2.2971	1.0459	2.8218	2.8218	2.8218	2.8230	2.8218
	16	3.3838	1.2436	8.1037	2.7866	1.2648	3.3847	3.3847	3.3846	3.3876	3.3847
	25	4.2269	1.5695	10.0663	3.5153	1.5970	4.2281	4.2281	4.2279	4.2344	4.2281
	32	4.8823	1.8246	11.5890	4.0793	1.8572	4.8836	4.8836	4.8833	4.8931	4.8836
	1	1.5996	0.7461	2.0716	1.6514	0.7508	1.5996	1.5996	1.5996	1.5996	1.5996
	4	1.8271	0.8549	2.3595	1.8979	0.8603	1.8274	1.8274	1.8274	1.8282	1.8274
10	10	2.2797	1.0777	2.9291	2.3842	1.0849	2.2806	2.2807	2.2806	2.2852	2.2806
	16	2.7302	1.3049	3.4938	2.8650	1.3140	2.7317	2.7317	2.7316	2.7423	2.7317
	25	3.4039	1.6499	4.3358	3.5805	1.6621	3.4058	3.4058	3.4055	3.4278	3.4058
	32	3.9267	1.9206	4.9881	4.1343	1.9352	3.9288	3.9288	3.9284	3.9610	3.9288
	1	1.4258	0.7726	1.6155	1.4413	0.7737	1.4258	1.4258	1.4258	1.4259	1.4258
	4	1.6279	0.8857	1.8395	1.6535	0.8869	1.6283	1.6284	1.6283	1.6296	1.6284
20	10	2.0285	1.1181	2.2811	2.0708	1.1199	2.0298	2.0301	2.0297	2.0370	2.0299
	16	2.4259	1.3556	2.7176	2.4824	1.3582	2.4279	2.4282	2.4278	2.4444	2.4280
	25	3.0185	1.7175	3.3665	3.0937	1.7214	3.0212	3.0214	3.0209	3.0555	3.0212
	32	3.4774	2.0018	3.8684	3.5661	2.0068	3.4804	3.4807	3.4800	3.5308	3.4805
	1	1.3683	0.7843	1.4988	1.3724	0.7840	1.3684	1.3684	1.3684	1.3685	1.3684
	4	1.5620	0.8992	1.7063	1.5735	0.8990	1.5625	1.5627	1.5625	1.5640	1.5625
30	10	1.9450	1.1359	2.1147	1.9685	1.1359	1.9465	1.9470	1.9465	1.9550	1.9467
	16	2.3243	1.3783	2.5175	2.3574	1.3786	2.3267	2.3273	2.3265	2.3460	2.3268
	25	2.8890	1.7480	3.1157	2.9344	1.7491	2.8921	2.8927	2.8918	2.9325	2.8923
	32	3.3258	2.0389	3.5777	3.3797	2.0406	3.3293	3.3299	3.3289	3.3886	3.3295
	1	1.3220	0.7951	1.4137	1.3181	0.7938	1.3220	1.3221	1.3220	1.3222	1.3221
	4	1.5088	0.9118	1.6092	1.5105	0.9104	1.5093	1.5097	1.5093	1.5110	1.5094
50	10	1.8774	1.1526	1.9930	1.8878	1.1511	1.8791	1.8800	1.8791	1.8888	1.8793
	16	2.2417	1.3996	2.3709	2.2587	1.3982	2.2444	2.2455	2.2443	2.2666	2.2447
	25	2.7831	1.7772	2.9310	2.8079	1.7759	2.7867	2.7879	2.7865	2.8332	2.7870
	32	3.2013	2.0746	3.3631	3.2313	2.0736	3.2054	3.2065	3.2051	3.2739	3.2057
	1	1.3019	0.8002	1.3791	1.2949	0.7985	1.3020	1.3020	1.3020	1.3021	1.3020
	4	1.4857	0.9178	1.5696	1.4837	0.9158	1.4863	1.4867	1.4863	1.4881	1.4864
70	10	1.8480	1.1606	1.9434	1.8534	1.1585	1.8498	1.8509	1.8498	1.8601	1.8501
	16	2.2057	1.4099	2.3109	2.2165	1.4077	2.2085	2.2099	2.2084	2.2322	2.2089
	25	2.7367	1.7914	2.8553	2.7537	1.7892	2.7406	2.7421	2.7403	2.7902	2.7409
	32	3.1465	2.0921	3.2748	3.1675	2.0899	3.1509	3.1525	3.1506	3.2242	3.1513
	1	1.2867	0.8043	1.3537	1.2777	0.8023	1.2868	1.2869	1.2868	1.2869	1.2868
	4	1.4683	0.9225	1.5407	1.4637	0.9203	1.4688	1.4694	1.4688	1.4708	1.4689
100	10	1.8258	1.1670	1.9070	1.8277	1.1644	1.8276	1.8290	1.8276	1.8385	1.8279
	16	2.1783	1.4182	2.2669	2.1848	1.4154	2.1813	2.1831	2.1812	2.2061	2.1817
	25	2.7012	1.8029	2.7995	2.7128	1.7999	2.7054	2.7074	2.7052	2.7577	2.7058
	32	3.1046	2.1063	3.2096	3.1193	2.1033	3.1093	3.1113	3.1090	3.1867	3.1097

'----' designates undefined values

TABLE3 *(Cont.)*

α =*O.75*

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 30$					
	1	2.5472	0.6964	---------	---------	0.7177	2.5472	2.5472	2.5472	2.5472	2.5472
	4	2.7938	0.7643	---------	---------	0.7877	2.7939	2.7939	2.7939	2.7937	2.7939
3	10	3.2875	0.9014	---------	---------	0.9291	3.2876	3.2875	3.2876	3.2867	3.2876
	16	3.7815	1.0396	---------	---------	1.0717	3.7816	3.7816	3.7816	3.7797	3.7816
	25	4.5228	1.2483	---------	---------	1.2872	4.5230	4.5230	4.5230	4.5192	4.5230
	32	5.0996	1.4114	---------	---------	1.4557	5.0998	5.0998	5.0997	5.0944	5.0998
	1	1.9410	0.7224	4.6450	1.5639	0.7351	1.9409	1.9409	1.9410	1.9410	1.9410
	4	2.1287	0.7929	5.0853	1.7290	0.8069	2.1287	2.1287	2.1287	2.1288	2.1287
5	10	2.5038	0.9354	5.9626	2.0566	0.9521	2.5040	2.5040	2.5040	2.5045	2.5040
	16	2.8787	1.0794	6.8368	2.3819	1.0988	2.8790	2.8790	2.8789	2.8801	2.8790
	25	3.4406	1.2969	8.1446	2.8673	1.3206	3.4411	3.4411	3.4410	3.4437	3.4410
	32	3.8775	1.4671	9.1598	3.2432	1.4940	3.8780	3.8780	3.8779	3.8819	3.8780
	1	1.5623	0.7598	1.9969	1.6225	0.7654	1.5623	1.5623	1.5623	1.5623	1.5623
	4	1.7131	0.8340	2.1868	1.7847	0.8403	1.7132	1.7132	1.7132	1.7135	1.7132
10	10	2.0139	0.9845	2.5643	2.1064	0.9920	2.0142	2.0142	2.0141	2.0159	2.0142
	16	2.3137	1.1368	2.9398	2.4258	1.1457	2.3142	2.3142	2.3142	2.3183	2.3142
	25	2.7624	1.3674	3.5005	2.9022	1.3783	2.7631	2.7631	2.7630	2.7719	2.7631
	32	3.1108	1.5479	3.9353	3.2712	1.5605	3.1116	3.1116	3.1115	3.1247	3.1116
	1	1.3847	0.7912	1.5495	1.4054	0.7931	1.3848	1.3848	1.3848	1.3848	1.3848
	4	1.5182	0.8687	1.6967	1.5444	0.8708	1.5183	1.5183	1.5183	1.5188	1.5183
20	10	1.7836	1.0261	1.9887	1.8199	1.0287	1.7840	1.7841	1.7840	1.7868	1.7840
	16	2.0476	1.1857	2.2783	2.0929	1.1888	2.0483	2.0484	2.0483	2.0548	2.0483
	25	2.4418	1.4278	2.7101	2.4995	1.4319	2.4429	2.4430	2.4428	2.4569	2.4430
	32	2.7475	1.6177	3.0443	2.8141	1.6225	2.7488	2.7489	2.7486	2.7696	2.7488
	1	1.3250	0.8055	1.4337	1.3337	0.8061	1.3250	1.3250	1.3250	1.3251	LJ250
	4	1.4526	0.8845	1.5698	1.4653	0.8851	1.4527	1.4527	1.4527	1.4533	1.4527
30	10	1.7059	1.0451	1.8393	1.7256	1.0459	1.7064	1.7065	1.7064	1.7097	1.7064
	16	1.9575	1.2081	2.1063	1.9833	1.2093	1.9584	1.9586	1.9584	1.9662	1.9585
	25	2.3329	1.4558	2.5039	2.3667	1.4575	2.3342	2.3345	2.3341	2.3509	2.3343
	32	2.6237	1.6501	2.8115	2.6631	1.6523	2.6252	2.6254	2.6250	2.6501	2.6253
	1	1.2761	0.8192	1.3484	1.2766	0.8187	1.2761	1.2761	1.2761	1.2761	1.2761
	4	1.3988	0.8996	1.4762	1.4022	0.8990	1.3989	1.3990	1.3989	1.3996	1.3990
50	10	1.6421	1.0633	1.7290	1.6504	1.0628	1.6427	1.6430	1.6427	1.6466	1.6428
	16	1.8834	1.2298	1.9792	1.8958	1.2294	1.8845	1.8849	1.8844	1.8936	1.8846
	25	2.2429	1.4830	2.3511	2.2604	1.4828	2.2445	2.2449	2.2444	2.2641	2.2446
	32	2.5210	1.6819	2.6385	2.5420	1.6819	2.5229	2.5234	2.5227	2.5523	2.5230
	1	1.2546	0.8258	1.3133	1.2521	0.8249	1.2546	1.2546	1.2546	1.2546	1.2546
	4	1.3752	0.9069	1.4378	1.3752	0.9059	1.3753	1.3754	1.3753	1.3761	1.3753
70	10	1.6140	1.0722	1.6837	1.6181	1.0712	1.6147	1.6151	1.6147	1.6189	1.6147
	16	1.8507	1.2405	1.9267	1.8581	1.2394	1.8518	1.8524	1.8518	1.8617	1.8520
	25	2.2030	1.4966	2.2879	2.2144	1.4955	2.2047	2.2054	2.2046	2.2260	2.2049
	32	2.4754	1.6978	2.5668	2.4894	1.6969	2.4774	2.4782	2.4773	2.5093	2.4776
	1	1.2382	0.8312	1.2875	1.2336	0.8299	1.2382	1.2382	1.2382	1.2382	1.2382
	4	1.3571	0.9129	1.4094	1.3547	0.9115	1.3573	1.3574	1.3573	1.3581	1.3573
100	10	1.5926	1.0795	1.6502	1.5937	1.0780	1.5932	1.5937	1.5932	1.5977	1.5933
	16	1.8257	1.2492	1.8880	1.8296	1.2476	1.8269	1.8276	1.8268	1.8374	1.8270
	25	2.1724	1.5076	2.2411	2.1796	1.5059	2.1742	2.1751	2.1741	2.1969	2.1744
	32	2.4403	1.7109	2~5136	2.4495	1.7092	2.4425	2.4434	2.4423	2.4765	2.4427

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.75**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 50$					
	1	2.5181	0.7013	---------	---------	0.7235	2.5181	2.5181	2.5181	2.5181	2.5181
	4	2.6663	0.7426	---------	---------	0.7662	2.6663	2.6663	2.6663	2.6663	2.6663
3	10	2.9627	0.8257	---------	---------	0.8519	2.9627	2.9627	2.9627	2.9625	2.9627
	16	3.2592	0.9091	---------	---------	0.9381	3.2592	3.2592	3.2592	3.2588	3.2592
	25	3.7041	1.0347	---------	---------	1.0678	3.7041	3.7041	3.7041	3.7031	3.7041
	32	4.0501	1.1326	---------	---------	1.1689	4.0502	4.0502	4.0502	4.0488	4.0502
	1	1.9126	0.7297	4.5173	1.5744	0.7434	1.9126	1.9126	1.9126	1.9126	1.9126
	4	2.0250	0.7727	4.7799	1.6722	0.7873	2.0251	2.0251	2.0251	2.0251	2.0251
5	10	2.2499	0.8593	5.3041	1.8672	0.8754	2.2499	2.2499	2.2499	2.2501	2.2499
	16	2.4747	0.9462	5.8274	2.0615	0.9641	2.4747	2.4747	2.4747	2.4751	2.4747
	25	2.8117	1.0772	6.6111	2.3519	1.0976	2.8118	2.8118	2.8118	2.8126	2.8118
	32	3.0738	1.1794	7.2199	2.5773	1.2019	3.0739	3.0739	3.0739	3.0751	3.0739
	1	1.5317	0.7712	1.9366	1.5988	0.7778	1.5317	1.5317	1.5317	1.5317	1.5317
	4	1.6217	0.8168	2.0494	1.6948	0.8237	1.6217	1.6217	1.6217	1.6218	1.6217
10	10	1.8015	0.9084	2.2744	1.8862	0.9161	1.8015	1.8015	1.8015	1.8020	1.8015
	16	1.9809	1.0005	2.4988	2.0768	1.0091	1.9811	1.9811	1.9811	1.9822	1.9811
	25	2.2498	1.1395	2.8346	2.3619	1.1494	1.2500	2.2500	2.2499	2.2525	2.2500
	32	2.4587	1.2480	3.0952	2.5830	1.2590	2.4589	2.4589	2.4589	2.4628	2.4589
	1	1.3502	0.8075	1.4953	1.3748	0.8102	1.3502	1.3502	1.3502	1.3502	1.3502
	4	1.4295	0.8552	1.5824	1.4569	0.8581	1.4295	1.4295	1.4295	1.4296	1.4295
20	10	1.5876	0.9514	1.7558	1.6203	0.9546	1.5877	1.5877	1.5877	1.5885	1.5877
	16	1.7452	1.0482	1.9285	1.7830	1.0518	1.7454	1.7454	1.7454	1.7473	1.7454
	25	1.9811	1.1943	2.1867	2.0260	1.1985	1.9814	1.9815	1.9814	1.9856	1.9814
	32	2.1642	1.3086	2.3869	2.2144	1.3133	2.1646	2.1646	2.1646	2.1709	2.1646
	1	1.2878	0.8247	1.3794	1.3002	0.8260	1.2878	1.2878	1.2878	1.2878	1.2878
	4	1.3634	0.8735	1.4597	1.3776	0.8749	1.3634	1.3634	1.3634	1.3636	1.3634
30	10	1.5140	0.9717	1.6195	1.5318	0.9734	1.5141	1.2142	1.5141	1.5151	1.5141
	16	1.6641	1.0708	1.7785	1.6852	1.0727	1.6643	1.6644	1.6643	1.6666	1.6643
	25	1.8885	1.2205	2.0159	1.9141	1.2227	1.8888	1.8889	1.8888	1.8939	1.8888
	32	2.0625	1.3376	2.2000	2.0914	1.3401	2.0629	2.0630	2.0629	2.0706	2.0630
	1	1.2357	0.8417	1.2928	1.2398	0.8420	1.2357	1.2357	1.2357	1.2357	1.2357
	4	1.3082	0.8915	1.3680	1.3135	0.8918	1.3082	1.3083	1.3082	1.3084	1.3082
50	10	1.4525	0.9920	1.5175	1.4602	0.9924	1.4527	1.4527	1.4527	1.4538	1.4527
	16	1.5962	1.0934	1.6662	1.6059	1.0938	1.5964	1.5965	1.5964	1.5992	1.5964
	25	1.8107	1.2467	1.8880	1.8233	1.2473	1.8111	1.8113	1.8111	1.8173	1.8112
	32	1.9770	1.3667	2.0598	1.9916	1.3674	1.9775	1.9777	1.9775	1.9869	1.9776
	1	1.2124	0.8504	1.2567	1.2134	0.8502	1.2124	1.2124	1.2124	1.2124	1.2124
	4	1.2835	0.9007	1.3298	1.2855	0.9005	1.2835	1.2835	1.2835	1.2837	1.2835
70	10	1.4249	1.0023	1.4750	1.4289	1.0021	1.4251	1.4252	1.4251	1.4264	1.4251
	16	1.5656	1.1048	1.6193	1.5712	1.1047	1.5659	1.5661	1.5659	1.5690	1.5660
	25	1.7757	1.2600	1.8345	1.7835	1.2599	1.7762	1.7764	1.7762	1.7830	1.7762
	32	1.9384	1.3816	2.0011	1.9477	1.3815	1.9390	1.9393	1.9390	1.9494	1.9391
	1	1.1943	0.8575	1.2298	1.1932	0.8570	1.1943	1.1943	1.1943	1.1943	1.1943
	4	1.2643	0.9083	1.3013	1.2641	0.9077	1.2643	1.2644	1.2643	1.2645	1.2643
100	10	1.4035	1.0108	1.4433	1.4049	1.0102	1.4037	1.4038	1.4037	1.4051	1.4037
	16	1.5419	1.1144	1.5843	1.5447	1.1138	1.5423	1.5425	1.5423	1.5456	1.5423
		1.7484	1.2712	1.7945	1.7530	1.2705	1.7490	1.7493	1.7490	1.7563	1.7491
	32	1.9083	1.3940	1.9571	1.9140	1.3934	1.9090	1.9094	1.9090	1.9203	1.9091

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.75$

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 70$					
	1	2.5056	0.7033	---------	---------	0.7260	2.5056	2.5056	2.5056	2.5056	2.5056
	4	2.6115	0.7331	---------	---------	0.7567	2.6115	2.6115	2.6115	2.6115	2.6115
3	10	2.8233	0.7927	---------	---------	0.8183	2.8233	2.8233	2.8233	2.8232	2.8233
	16	3.0351	0.8525	---------	---------	0.8801	3.0352	3.0352	3.0352	3.0350	3.0352
	25	3.3529	0.9424	---------	---------	0.9730	3.3529	3.3530	3.3530	3.3526	3.3530
	32	3.6002	1.0125	---------	---------	1.0453	3.6002	3.6002	3.6002	3.5996	3.6002
	1	1.9003	0.7328	4.4627	1.5791	0.7469	1.9003	1.9003	1.9003	1.9003	1.9003
	4	1.9806	0.7638	4.6497	1.6485	0.7786	1.9806	1.9806	1.9806	1.9806	1.9806
	10	2.1411	0.8260	5.0233	1.7872	0.8420	2.1411	2.1411	2.1411	2.1412	2.1411
	16	2.3016	0.8884	5.3965	1.9255	0.9056	2.3016	2.3016	2.3016	2.3018	2.3016
	25	2.5423	0.9822	5.9557	2.1326	1.0012	2.5423	2.5423	2.5423	2.5427	2.5423
	32	2.7295	1.0553	6.3903	2.2933	1.0758	2.7295	2.7295	2.7295	2.7300	2.7295
	1	1.5184	0.7763	1.9106	1.5884	0.7833	1.5184	1.5184	1.5184	1.5184	1.5184
	4	1.5825	0.8092	1.9908	1.6566	0.8164	1.5825	1.5825	1.5825	1.5825	1.5825
10	10	1.7106	0.8751	2.1509	1.7926	0.8830	1.7106	1.7106	1.7106	1.7108	1.7106
	16	1.8386	0.9413	2.3108	1.9284	0.9498	1.8387	1.8387	1.8387	1.8391	1.8387
	25	2.0305	1.0409	2.5502	2.1315	1.0503	2.0305	2.0305	2.0305	2.0316	2.0305
	32	2.1796	1.1186	2.7362	2.2893	1.1288	2.1797	2.1797	2.1797	2.1813	2.1797
	1	1.3348	0.8150	1.4715	1.3611	0.8181	1.3348	1.3348	1.3348	1.3348	1.3348
	4	1.3911	0.8495	1.5333	1.4193	0.8528	1.3911	1.3911	1.3911	1.3912	1.3911
20	10	1.5036	0.9188	1.6565	1.5353	0.9223	1.5036	1.5037	1.5036	1.5040	1.5037
	16	1.6159	0.9885	1.7794	1.6510	0.9923	1.6160	1.6160	1.6160	1.6168	1.6160
	25	1.7841	1.0933	1.9633	1.8241	1.0976	1.7842	1.7842	1.7842	1.7860	1.7842
	32	1.9147	1.1752	2.1060	1.9584	1.1798	1.9148	1.9148	1.9148	1.9176	1.9148
	1	1.2710	0.8337	1.3553	1.2848	0.8355	1.2710	1.2710	1.2710	1.2710	1.2710
	4	1.3246	0.8691	1.4121	1.3397	0.8709	1.3246	1.3246	1.3246	1.3247	1.3246
30	10	1.4317	0.9400	1.5255	1.4490	0.9420	1.4317	1.4317	1.4317	1.4321	1.4317
	16	1.5385	1.0113	1.6386	1.5579	1.0135	1.5385	1.5385	1.5385	1.5395	1.5385
	25	1.6983	1.1188	1.8076	1.7209	1.1212	1.6984	1.6984	1.6984	1.7006	1.6984
	32	1.8224	1.2027	1.9388	1.8473	1.2054	1.8225	1.8226	1.8225	1.8259	1.8226
	1	1.2170	0.8527	1.2676	1.2225	0.8534	1.2170	1.2170	1.2170	1.2170	1.2170
	4	1.2684	0.8889	1.3208	1.2746	0.8896	1.2684	1.2684	1.2684	1.2685	1.2684
50	10	1.3708	0.9615	1.4267	1.3785	0.9623	1.3708	1.3708	1.3708	1.3713	1.3708
	16	1.4729	1.0346	1.5323	1.4819	1.0354	1.4729	1.4730	1.4730	1.4742	1.4730
	25	1.6255	1.1448	1.6901	1.6365	1.1457	1.6257	1.6258	1.6257	1.6284	1.6257
	32	1.7440	1.2309	1.8124	1.7563	1.2319	1.7442	1.7443	1.7442	1.7484	1.7442
	1	1.1925	0.8626	1.2307	1.1950	0.8627	1.1925	1.1925	1.1925	1.1925.	1.1925
	4	1.2428	0.8991	1.2823	1.2459	0.8993	1.2428	1.2428	1.2428	1.2429	1.2428
70	10	1.3431	0.9727	1.3851	1.3473	0.9730	1.3431	1.3432	1.3431	1.3437	1.3431
	16	1.4430	1.0467	1.4875	1.4482	1.0469	1.4431	1.4432	1.4431	1.4445	1.4431
	25	1.5924	1.1583	1.6405	1.5990	1.1586	1.5926	1.5927	1.5926	1.5956	1.5926
	32	1.708.2	1.2455	1.7590	1.7159	1.2459	1.7085	1.7086	1.7085	1.7132	1.7085
	1	1.1733	0.8709	1.2030	1.1737	0.8707	1.1733	1.1733	1.1733	1.1733	1.1733
	4	1.2228	0.9078	1.2534	1.2237	0.9076	1.2228	1.2228	1.2228	1.2229	1.2228
100	10	1.3214	0.9821	1.3538	1.3232	0.9819	1.3214	1.3215	1.3214	1.3221	1.3214
	16	1.4196	1.0569	1.4538	1.4222	1.0567	1.4197	1.4198	1.4197	1.4212	1.4197
	25	1.5664	1.1697	1.6031	1.5701	1.1695	1.5666	15667	1.5666	1.5699	1.5666
	32	1.6801	1.2580	1.7188	1.6847	1.2578	1.6804	1.6806	1.6804	1.6856	1.6805

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.75**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 100$					
	1	2.4962	0.7048	---------	---------	1.7279	2.4962	2.4962	2.4962	2.4962	2.4962
	4	2.5704	0.7258	---------	---------	0.7495	2.5704	2.5704	2.5704	2.5704	2.5704
3	10	2.7187	0.7677	---------	---------	0.7928	2.7187	2.7187	2.7187	2.7186	2.7187
	16	2.8670	0.8097	---------	---------	0.8362	2.8670	2.8670	2.8670	2.8669	2.8670
	25	3.0895	0.8728	---------	---------	0.9014	3.0895	3.0895	3.0895	3.0894	3.0895
	32	3.2626	0.9219	---------	---------	0.9522	3.2626	3.2626	3.2626	3.2624	3.2626
	1	1.8911	0.7352	4.4217	1.5827	0.7496	1.8911	1.8911	1.8911	1.8911	1.8911
	4	1.9473	0.7570	4.5523	1.6311	0.7719	1.9473	1.9473	1.9473	1.9473	1.94
5	10	2.0596	0.8008	4.8133	1.7277	0.8166	2.0596	2.0596	2.0596	2.0596	2.0596
	16	2.1719	0.8446	5.0742	1.8243	0.8613	2.1719	2.1719	2.1719	2.1719	2.1719
	25	2.3403	0.9105	5.4652	1.9689	0.9284	2.3403	2.3403	2.3403	2.3405	2.3403
	32	2.4713	0.9618	5.7692	2.0812	0.9808	2.4713	2.4713	2.4713	2.4715	2.4713
	1	1.5082	0.7801	1.8911	1.5806	0.7874	1.5082	1.5082	1.5082	1.5082	1.5082
	4	1.5530	0.8033	1.9470	1.6280	0.8109	1.5530	1.5530	1.5530	1.5530	1.5530
10	10	1.6426	0.8498	2.0587	1.7229	0.8578	1.6426	1.6426	1.6426	1.6426	1.6426
	16	1.7320	0.8964	2.1703	1.8176	0.9048	1.7321	1.7321	1.7321	1.7322	1.7321
	25	1.8662	0.9664	2.3376	1.9595	0.9754	1.8662	1.8662	1.8662	1.8666	1.8662
	32	1.9705	1.0209	2.4676	2.0697	1.0305	1.9705	1.9705	1.9705	1.9712	1.9705
	1	1.3229	0.8209	1.4535	1.3506	0.8243	1.3230	1.3230	1.3230	1.3230	1.3230
	4	1.3622	0.8453	1.4964	1.3910	0.8488	1.3622	1.3622	1.3622	1.3623	1.3622
20	10	1.4407	0.8942	1.5823	1.4718	0.8979	1.4407	1.4407	1.4407	1.4409	1.4407
	16	1.5191	0.9432	1.6680	1.5525	0.9472	1.5191	1.5191	1.5191	1.5194	1.5191
	25	1.6366	1.0170	1.7964	1.6732	1.0212	1.6366	1.6366	1.6366	1.6373	1.6366
	32	1.7279	1.0745	1.8961	1.7670	1.0790	1.7279	1.7279	1.7279	1.7290	1.7279
	1	1.2579	0.8409	1.3368	1.2729	0.8430	1.2579	1.2579	1.2579	1.2579	1.2579
	4	1.2953	0.8659	1.3763	1.3110	0.8680	1.2953	1.2953	1.2953	1.2953	1.2953
30	10	1.3698	0.9161	1.4552	1.3870	0.9183	1.3699	1.3699	1.3699	1.3700	1.3699
	16	1.4443	0.9664	1.5340	1.4629	0.9687	1.4444	1.4444	1.4444	1.4447	1.4444
	25	1.5559	1.0420	1.6519	1.5765	1.0446	1.5560	1.5560	1.5560	1.5568	1.5560
	32	1.6426	1.1010	1.7435	1.6648	1.1037	1.6427	1.6427	1.6427	1.6440	1.6427
	1	1.2023	0.8617	1.2481	1.2088	0.8626	1.2023	1.2023	1.2023	1.2023	1.2023
	4	1.2379	0.8873	1.2849	1.2449	0.8883	1.2380	1.2380	1.2380	1.2380	1.2379
50	10	1.3092	0.9387	1.3586	1.3171	0.9398	1.3092	1.3092	1.3092	1.3094	1.3092
	16	1.3803	0.9903	1.4320	1.3890	0.9914	1.3803	1.3804	1.3803	1.3808	1.3803
	25	1.4868	1.0679	1.5420	1.4967	1.0692	1.4869	1.4869	1.4869	1.4880	1.4869
	32	1.5695	1.1285	1.6273	1.5803	1.1298	1.5696	1.5696	1.5696	1.5713	1.5696
	1	1.1766	0.8727	1.2103	1.1801	0.8731	1.1766	1.1766	1.1766	1.1766	1.1766
	4	1.2115	0.8986	1.2461	1.2154	0.8991	1.2116	1.2116	1.2116	1.2116	1.2116
70	10	1.2813	0.9507	1.3174	1.2857	0.9512	1.2813	1.2813	1.2813	1.2815	1.2813
	16	1.3508	1.0030	1.3886	1.3559	1.0035	1.3508	1.3509	1.3508	1.3514	1.3508
	25	1.4549	1.0817	1.4952	1.4609	1.0823	1.4550	1.4550	1.4550	1.4562	1.4550
	32	1.5357	1.1431	1.5778	1.5424	1.1437	1.5358	1.5359	1.5358	1.5378	1.5358
	1	1.1563	0.8821	1.1816	1.1577	0.8822	1.1563	1.1563	1.1563	1.1563	1.1563
	4	1.1906	0.9084	1.2165	1.1923	0.9085	1.1906	1.1906	1.1906	1.1907	1.1906
100	10	1.2591	0.9611	1.2862	1.2613	0.9612	1.2591	1.2591	1.2591	1.2594	1.2591
	16	1.3274	1.0139	1.3557	1.3301	1.0141	1.3274	1.3275	1.3274	1.3280	1.3274
	25	1.4296	1.0936	1.4596	1.4330	1.0937	1.4297	1.4297	1.4297	1.4311	1.4297
	32	1.5089	1.1557	1.5402	1.5128	1.1559	1.5090	1.5091	1.5090	1.5112	1.5090

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.90**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 3$					
	1	7.1728	0.2184	---------	---------	0.2599	7.1847	7.1819	7.1842	7.1877	7.1809
	4	12.4274	0.5503	---------	---------	0.5980	12.4663	12.4633	12.4603	12.5785	12. 4604
3	10	22.7966	1.3964	---------	---------	1.4385	22.8381	22.8371	22.8286	23.3600	22.8359
	16	33.1090	2.3131	---------	---------	2.3477	33.1441	33.1440	33.1354	34.1416	33.1435
	25	48.5444	3.7280	---------	---------	3.7527	48.5721	48.5720	48.5645	50.3139	48.5718
	32	60.5383	4.8419	---------	---------	4.8597	60.5618	60.5618	60.5552	62.8924	60.561
	1	4.7947	0.2205	19.7810	4.6438	0.2652	4.8062	4.8082	4.8059	4.8260	4.8052
	4	8.1356	0.5690	30.7970	9.2081	0.6226	8.1752	8.1781	8.1705	8.4454	8.1745
5	10	14.5478	1.4854	51.8300	17.3604	1.5351	14.5934	14.5947	14.5846	15.6844	14.5932
	16	20.8503	2.4958	72.5110	25.1499	2.5379	20.8909	20.8916	20.8817	22.9234	20.8909
	25	30.2375	4.0693	103.337	36.6284	4.1003	30.2708	30.2711	30.2624	33.7818	30.2708
	32	37.5153	5.3135	127.247	45.4860	5.3366	37.5442	37.5443	37.5366	42.2272	37.5442
	1	3.5985	0.2230	5.6220	3.7648	0.2707	3.6066	3.6078	3.6065	3.6369	3.6094
	4	5.9820	0.5882	8.6540	6.4895	0.6480	6.0097	6.0120	6.0077	6.3646	6.0169
10	10	10.4010	1.5819	14.2590	11.3510	1.6416	10.4341	10.4356	10.4296	11.8199	10.4389
	16	14.6661	2.7037	19.6760	15.9893	2.7574	14.6970	14.6979	14.6916	17.2753	14.6998
	25	20.9612	4.4752	27.6830	22.8085	4.5188	20.9879	20.9884	20.9824	25.4583	20.9893
	32	25.8187	5.8871	33.8660	28.0613	5.9232	25.8425	25.8428	25.8372	31.8229	25.8434
	1	3.1324	0.2245	4.1200	3.1404	0.2740	3.1381	3.1433	3.1381	3.1734	3.1432
	4	5.1426	0.6000	6.2880	5.2796	0.6639	5.1601	5.1714	5.1595	5.5535	5.1728
20	10	8.7723	1.6457	10.2060	9.0343	1.7135	8.7911	8.7998	8.7896	10.3137	8.8008
	16	12.2159	2.8490	13.9330	12.5699	2.9134	12.2327	12.2387	12.2308	15.0739	12.2393
	25	17.2451	4.7757	19.3870	17.7211	4.8328	17.2592	17.2628	17.2571	22.2141	]7.2632
	32	21.1009	6.3252	23.5730	21.6664	6.3762	21.1135	21.1161	21.1114	27.7677	21.1163
	1	2.9930	0.2251	3.7770	2.9664	0.2752	2.9978	3.0044	2.9977	3.0348	3.0037
	4	4.8911	0.6044	5.7470	4.9518	0.6698	4.9046	4.9191	4.9042	5.3108	4.9193
30	10	8.2810	1.6703	9.2740	8.4098	1.7415	8.2930	8.3047	8.2923	9.8630	8.3050
	16	11.4708	2.9072	12.6040	11.6439	2.9765	11.4798	11.4882	11.4791	14.4151	11.4886
	25	16.1020	4.9012	17.4500	16.3313	4.9649	16.1081	16.1136	16.1075	21.2433	16.1139
	32	19.6386	6.5125	21.1550	19.9082	6.5715	19.6435	19.6476	19.6429	26.5542	19.6478
	1	2.8866	0.2256	3.5400	2.8379	0.2762	2.8906	2.8983	2.8906	2.9290	2.8972
	4	4.6991	0.6080	5.3720	4.7118	0.6748	4.7090	4.7258	4.7089	5.1257	4.7254
50	10	7.9044	1.6914	8.6250	7.9521	1.7656	7.9097	7.9232	7.9096	9.5192	7.9240
	16	10.8963	2.9582	11.6750	10.9625	3.0322	10.8972	10.9070	10.8974	13.9126	10.9084
	25	15.2135	5.0144	16.0870	15.3013	5.0848	15.2106	15.2170	15.2110	20.5028	15.2186
	32	18.4954	6.6847	19.4450	18.5981	6.7517	18.4908	18.4957	18.4915	25.6285	18.4972
	1	2.8423	0.2258	3.4460	2.7856	0.2767	2.8461	2.8541	2.8460	2.8850	2.8530
	4	4.6193	0.6096	5.2240	4.6144	0.6770	4.6275	4.6450	4.6274	5.0487	4.6447
70	10	7.7472	1.7008	8.3690	7.7663	1.7766	7.7493	7.7630	7.7493	9.3762	7.7647
	16	10.6555	2.9816	11.3070	10.6849	3.0577	10.6523	10.6620	10.6526	13.7037	]0.6647
	25	14.8385	5.0672	15.5440	14.8790	5.1409	14.8306	14.8367	14.8313	20.1949	14.8399
	32	18.0104	6.7660	18.7620	18.0584	6.8371	18.0005	18.0049	18.0015	25.2436	18.0081
	1	2.8097	0.2259	3.3790	2.7474	0.2770	2.8131	2.82]5	2.8131	2.8525	2.8203
	4	4.5603	0.6108	5.1180	4.5434	0.6787	4.5673	4.5851	4.5672	4.9919	4.5851
100	10	7.6308	0.7081	8.1840	7.6306	1.7850	7.6304	7.6439	7.6305	9.2706	7.646-
	16	10.4769	2.9997	11.0410	10.4818	3.0776	10.4703	10.4793	10.4706	13.5494	10.4837
	25	14.5592	5.1087	15.1510	14.5690	5.1851	14.5470	14.5521	14.5478	19.9675	14.5574
	32	17.6479	6.8305	18.2660	17.6610	6.9049	17.6332	17.6366	17.6343	24.9594	17.6419

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.90$

ν_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reld	Exact
						$\nu_1 = 5$					
	1	6.3662	0.3163	---------	---------	0.3364	6.3686	3.3683	6.3686	6.3710	6.3680
	4	9.5040	0.5345	---------	---------	0.5571	9.5157	9.5149	9.5143	9.5565	9.5141
3	10	15.7200	1.0480	---------	---------	1.0689	15.7366	15.7361	15.7333	15.9275	15.7356
	16	21.9077	1.5969	---------	---------	1.6144	21.9236	21.9234	21.9199	22.2985	21.9232
	25	31.1706	2.4434	---------	---------	2.4558	31.1842	31.4841	31.1807	31.8549	31.1840
	32	38.3680	3.1101	---------	---------	3.1187	38.3801	38.3800	38.3768	39.2878	38.3799
	1	4.1341	0.3301	15.9340	4.2591	0.3529	4.1366	4.1370	4.1366	4.1436	4.1365
	4	6.1113	0.5638	22.4610	6.9208	0.5902	6.1239	6.1248	6.1227	6.2154	6.1237
5	10	9.9488	1.1248	35.0750	11.8065	1.1499	9.9676	9.9682	9.9644	10.3589	9.9675
	16	13.7308	1.7318	47.4980	16.4951	1.7533	13.7495	13.7498	13.7456	14.5025	13.7494
	25	19.3661	2.6742	66.0120	23.4015	2.6900	19.3826	19.3828	19.3787	20.7179	19.3826
	32	23.7349	3.4192	80.3680	28.7269	3.4307	23.7497	23.7498	23.7460	25.5521	23.7497
	1	3.0141	0.3443	4.4432	3.1810	0.3703	3.0159	3.0162	3.0159	3.0260	3.0166
	4	4.4078	0.5950	6.2193	4.7587	0.6258	4.4168	4.4177	4.4163	4.5390	4.4192
10	10	7.0419	1.2106	9.5680	7.6584	1.2417	7.0560	7.0567	7.0542	7.5649	7.0581
	16	9.5987	1.8881	12.8193	10.4420	1.9165	9.6132	9.6136	9.6108	10.5909	9.6145
	25	13.3771	2.9517	17.6274	14.5381	2.9749	13.3905	13.3908	13.3879	15.1298	13.3913
	32	16.2933	3.7982	21.3401	17.6933	3.8173	16.3057	16.3059	16.3030	18.6601	16.306
	1	2.5770	0.3532	3.2161	2.6019	0.3814	2.5781	2.5794	2.5781	2.5899	2.5794
	4	3.7409	0.6150	4.4753	3.8311	0.6492	3.7464	3.7505	3.7462	3.8848	3.7509
20	10	5.8946	1.2692	6.8054	6.0596	1.3056	5.9024	5.9064	5.9018	6.4747	5.9068
	16	7.9545	2.0000	9.0375	8.1758	2.0351	7.9623	7.9653	7.9614	9.0646	7.9656
	25	10.9701	3.1603	2.3091	11.2658	3.1917	10.9772	10.9792	10.9762	12.9494	10.9793
	32	13.2839	4.0908	14.8212	13.6338	4.1191	13.2905	13.2919	13.2894	15.9709	13.292
	1	2.4458	0:3565	2.9355	2.4427	0.3856	2.4467	2.4484	2.4467	2.4591	2.4482
	4	3.5403	0.6226	4.0755	3.5794	0.6582	3.5442	3.5496	3.5441	3.6886	3.5497
30	10	5.5469	1.2923	6.1681	5.6269	1.3311	5.5515	5.5569	5.5513	6.1477	5.5571
	16	7.4523	2.0456	8.1595	7.5597	2.0838	7.4562	7.4605	7.4559	8.6068	7.4607
	25	10.2271	3.2484	11.0640	10.3689	3.2840	10.2300	10.2329	10.2297	12.2955	10.2331
	32	12.3484	4.2172	13.2865	12.5146	4.2503	12.3508	12.3530	12.3505	15.1644	12.353
	1	2.3456	0.3593	2.7406	2.3255	0.3892	2.3463	2.3482	2.3463	2.3592	2.3480
	4	3.3869	0.6290	3.7973	3.3949	0.6658	3.3892	3.3954	3.3892	3.5388	3.3955
50	10	5.2795	1.3124	5.7231	5.3090	1.3534	5.2809	5.2871	5.2809	5.8980	5.2877
	16	7.0640	2.0860	7.5439	7.1052	2.1273	7.0638	7.0686	7.0638	8.2572	7.0695
	25	9.6479	3.3286	10.1855	9.7025	3.3684	9.6460	9.6494	9.6463	11.7960	9.6503
	32	11.6151	4.3341	12.1988	11.6787	4.3722	11.6124	11.6150	11.6127	14.5484	11.616
	1	2.3039	0.3605	2.6639	2.2778	0.3908	2.3045	2.3065	2.3045	2.3176	2.3063
	4	3.3229	0.6319	3.6877	3.3200	0.6693	3.3246	3.3310	3.3246	3.4764	3.3312
70	10	5.1676	1.3215	5.5472	5.1796	1.3635	5.1675	5.1737	5.1675	5.7940	5.1748
	16	6.9008	2.1046	7.2998	6.9195	2.1474	6.8984	6.9032	6.8986	8.1116	6.9048
	25	9.4030	3.3663	9.8353	9.4287	3.4082	9.3983	9.4015	9.3987	11.5881	9.4033
	32	11.3033	4.3896	11.7633	11.3336	4.4303	11.2976	11.3000	11.2982	14.2919	11.302
	1	2.2731	0.3615	2.6088	2.2430	0.3920	2.2736	2.2756	2.2735	2.2869	2.2755
	4	3.2756	0.6341	3.6089	3.2653	0.6719	3.2767	3.2833	3.2767	3.4303	3.2837
100	10	5.0848	1.3285	5.4205	5.0851	1.3714	5.0833	5.0893	5.0833	5.7172	5.0911
	16	6.7796	2.1191	7.1236	6.7835	2.1631	6.7753	6.7798	6.7756	8.0041	6.7823
	25	9.2202	3.3960	9.5817	9.2274	3.4396	9.2132	9.2158	9.2136	11.4345	9.2188
	32	11.0700	4.4338	11.4472	11.0791	4.4766	11.0616	11.0634	11.0622	14.1025	11.066

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.90$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 10$					
	1	5.7527	0.3990	---------	---------	0.4052	5.7529	5.7529	5.7529	5.7535	5.7528
	4	7.3125	0.5195	---------	---------	0.5264	7.3142	7.3141	7.3141	7.3226	7.3140
3	10	10.4161	0.7813	---------	---------	0.7879	10.4197	10.4196	10.4192	10.4608	10.4195
	16	13.5097	1.0556	---------	---------	1.0612	13.5140	13.5140	13.5132	13.5991	13.5139
	25	18.1422	1.4771	---------	---------	1.4808	18.1466	18.1465	18.1456	18.3064	18.1465
	32	21.7419	1.8091	---------	---------	1.8113	21.7460	21.7460	21.7451	21.9677	21.746
	1	3.6256	0.4301	13.0615	3.9913	0.4377	3.6258	3.6258	3.6258	3.6271	3.6258
	4	4.5965	0.5616	16.2638	5.2623	0.5701	4.5985	4.5986	4.5984	4.6164	4.5984
5	10	6.5065	0.8503	22.5501	7.6841	0.8585	6.5108	6.5110	6.5103	6.5948	6.5108
	16	8.3969	1.1548	28.7664	10.0334	1.1620	8.4021	8.4022	8.4012	8.5732	8.4021
	25	11.2164	1.6249	38.0353	13.4991	1.6299	11.2218	11.2218	11.2207	11.5409	11.2218
	32	13.4025	1.9962	45.2216	16.1706	1.9994	13.4077	13.4077	13.4065	13.8491	13.408
	1	2.5528	0.4655	3.5455	2.7214	0.4751	2.5530	2.5530	2.5530	2.5549	2.5531
	4	3.2255	0.6099	4.4030	3.4712	0.6208	3.2270	3.2272	3.2270	3.2516	3.2274
10	10	4.5281	0.9313	6.0618	4.9021	0.9425	4.5315	4.5317	4.5312	4.6452	4.5320
	16	5.8035	1.2739	7.6855	6.2917	1.2843	5.8077	5.8078	5.8071	6.0388	5.8081
	25	7.6932	1.8066	10.0918	8.3422	1.8150	7.6977	7.6978	7.6969	8.1291	7.6979
	32	9.1526	2.2293	11.9505	9.9225	2.2361	9.1570	9.1571	9.1562	9.7549	9.157
	1	2.1281	0.4901	2.5148	2.1647	0.5016	2.1282	2.1283	2.1282	2.1304	1.1283
	4	2.6815	0.6440	3.1145	2.7421	0.6572	2.6823	2.6831	2.6823	2.7114	2.6831
20	10	3.7381	0.9904	4.2600	3.8335	1.0046	3.7400	3.7411	3.7399	3.8735	3.7412
	16	4.7617	1.3632	5.3703	4.8854	1.3772	4.7640	4.7649	4.7637	5.0355	4.7650
	25	6.2670	1.9474	7.0044	6.4284	1.9601	6.2694	6.2702	6.2691	6.7786	6.2702
	32	7.4240	2.4136	8.2608	7.6129	2.4251	7.4264	7.4269	7.4260	8.1343	7.427
	1	1.9990	0.4999	2.2767	2.0120	0.5123	1.9990	1.9992	1.9990	2.0014	1.9992
	4	2.5158	0.6577	2.8162	2.5430	0.6720	2.5163	2.5173	2.5163	2.5473	2.5173
30	10	3.4960	1.0147	3.8406	3.5416	1.0304	3.4969	3.4984	3.4969	3.6390	3.4985
	16	4.4403	1.4009	4.8287	4.4996	1.4167	4.4413	4.4427	4.4412	4.7307	4.4428
	25	5.8232	2.0084	6.2770	5.8999	2.0234	5.8241	5.8252	5.8240	6.3682	5.8253
	32	6.8828	2.4948	7.3874	6.9719	2.5089	6.8837	6.8845	6.8836	7.6418	6.885
	1	1.8995	0.5085	2.1102	1.8994	0.5217	1.8995	1.8997	1.8995	1.9021	1.8997
	4	2.3879	0.6698	2.6074	2.3961	0.6851	2.3880	2.3892	2.3880	2.4208	2.3893
50	10	3.3083	1.0365	3.5460	3.3255	1.0537	3.3082	3.3099	3.3082	3.4583	3.3101
	16	4.1899	1.4351	4.4467	4.2130	1.4527	4.1894	4.1910	4.1895	4.4958	4.1914
	25	5.4750	2.0650	5.7611	5.5048	2.0824	5.4741	5.4753	5.4742	6.0520	5.4757
	32	6.4562	2.5712	6.7655	6.4905	2.5879	6.4550	6.4560	6.4551	7.2624	6.456
	1	1.8578	0.5124	2.0444	1.8534	0.5260	1.8578	1.8580	1.8578	1.8604	1.8580
	4	2.3342	0.6753	2.5247	2.3361	0.6911	2.3342	2.3353	2.3342	2.3678	2.3355
70	10	3.2292	1.0466	3.4290	3.2371	1.0645	3.2286	3.2303	3.2286	3.3826	3.2308
	16	4.0840	1.4511	4.2944	4.0952	1.4697	4.0827	4.0843	4.0828	4.3974	4.0849
	25	5.3269	2.0920	5.5545	5.3415	2.1105	5.3248	5.3260	5.3250	5.9195	5.3267
	32	6.2739	2.6079	6.5154	6.2908	2.6261	6.2714	6.2723	6.2716	7.1034	6.273
	1	1.8269	0.5155	1.9969	1.8198	0.5294	1.8269	1.8271	1.8269	1.8295	1.8271
	4	2.2944	0.6796	2.4651	2.2922	0.6958	2.2942	2.2953	2.2942	2.3285	2.2956
100	10	3.1704	1.0546	3.3445	3.1723	1.0730	3.1693	3.1709	3.1693	3.3265	3.1717
	16	4.0051	1.4638	4.1842	4.0087	1.4831	4.0031	4.0044	4.0031	4.3244	4.0055
	25	5.2159	2.1134	5.4044	5.2211	2.1330	5.2129	5.2138	5.2131	5.8213	5.2151
	32	6.1369	2.6374	6.3333	6.1430	2.6567	6.1333	6.1339	6.1335	6.9855	6.135

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.90**

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudbolkar et al.	Cox-Reid	Exact
						$v_1 = 20$					
	1	5.4436	0.4420	---------	---------	0.4431	5.4436	5.4436	5.4436	5.4437	5.4436
	4	6.2198	0.5070	---------	---------	0.5082	6.2199	6.2199	6.2199	6.2214	6.2199
3	10	7.7686	0.6415	---------	---------	0.6425	7.7692	7.7692	7.7691	7.7767	7.7692
	16	9.3147	0.7794	---------	---------	0.7801	9.3155	9.3155	9.3154	9.3321	9.3155
	25	11.6310	0.9900	---------	---------	0.9899	11.6321	11.6320	11.6319	11.6651	11.6320
	32	13.4312	1.1555	---------	---------	1.1548	13.4323	13.4323	13.4321	13.4797	13.432
	1	3.3668	0.4860	11.6316	3.8682	0.4876	3.3668	3.3668	3.3668	3.3670	3.3668
	4	3.8448	0.5578	13.2061	4.4766	0.5595	3.8450	3.8450	3.8450	3.8480	3.8450
5	10	4.7939	0.7070	16.3300	5.6676	0.7085	4.7946	4.7946	4.7945	4.8100	4.7946
	16	5.7375	0.8607	19.4341	6.8381	0.8618	5.7385	5.7386	5.7384	5.7720	5.7385
	25	7.1472	1.0959	24.0703	8.5727	1.0961	7.1485	7.1485	7.1483	7.2150	7.1485
	32	8.2408	1.2812	27.6664	9.9116	1.2806	8.2422	8.2423	8.2420	8.3373	8.242
	1	2.3105	0.5400	3.0881	2.4779	0.5427	2.3105	2.3105	2.3105	2.3108	2.3105
	4	2.6365	0.6202	3.5035	2.8365	0.6232	2.6367	2.6367	2.6367	2.6409	2.6367
10	10	3.2789	0.7883	4.3220	3.5391	0.7912	3.2795	3.2795	3.2795	3.3011	3.2796
	16	3.9136	0.9624	5.1306	4.2300	0.9649	3.9145	3.9145	3.9144	3.9613	3.9146
	25	4.8575	1.2299	6.3330	5.2545	1.2317	4.8586	4.8586	4.8585	4.9517	4.8587
	32	5.5875	1.4413	7.2631	6.0454	1.4424	5.5887	5.5888	5.5885	5.7219	5.589
	1	1.8832	0.5818	2.1463	1.9221	0.5858	1.8832	1.8832	1.8832	1.8835	1.8832
	4	2.1473	0.6688	2.4328	2.1951	0.6731	2.1474	2.1475	2.1474	2.1526	2.1475
20	10	2.6638	0.8521	2.9933	2.7269	0.8567	2.6641	2.6643	2.6641	2.6908	2.6643
	16	3.1707	1.0432	3.5436	3.2474	1.0477	3.1712	3.1714	3.1711	3.2289	3.1714
	25	3.9207	1.3383	4.3581	4.0161	1.3423	3.9213	3.9215	3.9212	4.0361	3.9215
	32	4.4986	1.5722	4.9859	4.6079	1.5758	4.4993	4.4995	4.4992	4.6640	4.500
	1	1.7503	0.5999	1.9248	1.7678	0.6045	1.7503	1.7503	1.7503	1.7507	1.7503
	4	1.9950	0.6898	2.1806	2.0171	0.6949	1.9950	1.9951	1.9950	2.0008	1.9951
30	10	2.4717	*0.8801*	2.6794	2.5014	0.8856	2.4718	2.4721	2.4718	2.5010	2.4721
	16	2.9378	1.0790	3.1675	2.9739	1.0846	2.9379	2.9382	2.9379	3.0012	2.9383
	25	3.6253	*1.3870*	3.8878	3.6699	1.3924	3.6255	3.6258	3.6254	3.7514	3.6258
	32	4.1539	1.6318	4.4419	4.2047	1.6368	4.1541	4.1544	4.1541	4.3350	4.154
	1	1.6461	*0.6166*	1.7678	1.6523	*0.6219*	1.6461	1.6461	1.6461	1.6465	1.6461
	4	1.8755	0.7094	2.0018	1.8840	0.7152	1.8755	1.8756	1.8755	1.8817	1.8756
50	10	2.3205	0.9062	2.4563	2.3323	0.9127	*2.3203*	*2.3207*	*2.3203*	2.3522	2.3207
	16	2.7538	1.1127	2.8994	2.7682	1.1195	2.7536	*2.7540*	2.7536	2.8226	2.7541
	25	3.3908	1.4336	3.5512	3.4084	1.4403	3.3904	3.3908	3.3905	3.5282	3.3909
	32	3.8793	1.6892	4.0513	*3.8990*	1.6958	3.8788	3.8791	3.8788	4.0771	3.879
	1	1.6018	0.6246	1.7049	1.6046	0.6303	1.6018	1.6018	1.6018	1.6022	1.6018
	4	1.8246	*0.7187*	*1.9302*	1.8290	0.7249	1.8246	1.8247	1.8246	1.8311	1.8248
70	10	2.2560	*0.9187*	2.3668	2.2622	0.9258	2.2557	2.2560	2.2557	2.2889	2.2561
	16	2.6751	1.1290	2.7915	2.6827	1.1364	2.6746	2.6750	2.6746	2.7467	2.6752
	25	3.2900	1.4563	3.4152	3.2992	1.4638	3.2893	3.2896	3.2893	3.4333	3.2898
	32	3.7607	1.7174	3.8930	3.7709	1.7249	3.7598	3.7601	3.7599	3.9674	3.760
	1	1.5686	0.6309	1.6593	1.5694	0.6369	1.5686	1.5686	1.5686	1.5691	1.5686
	4	1.7865	0.7261	1.8782	1.7883	0.7327	1.7864	1.7866	1.7864	1.7932	1.7866
100	10	2.2076	0.9288	2.3016	*2.2104*	0.9362	2.2071	2.2074	2.2071	2.2415	2.2077
	16	2.6159	1.1421	2.7129	2.6194	1.1500	2.6152	2.6155	2.6152	2.6898	2.6158
	25	3.2139	1.4747	3.3158	3.2180	1.4828	3.2128	3.2131	3.2129	3.3623	3.2135
	32	3.6711	1.7404	3.7769	3.6755	1.7486	3.6697	3.6699	3.6698	3.8853	3.670

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.90**

v_2	λ	Palnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 30$					
	1	5.3403	0.4563	---------	---------	0.4562	5.3403	5.3403	5.3403	5.3404	5.3403
	4	5.8567	0.5011	---------	---------	0.5009	5.8767	5.8567	5.8567	5.8572	5.8567
3	10	6.8880	0.5923	---------	---------	0.5919	6.8882	6.8882	6.8882	6.8908	6.8882
	16	7.9182	0.6849	---------	---------	0.6843	7.9185	7.9185	7.9185	7.9244	7.9185
	25	9.4622	0.8256	---------	---------	0.8245	9.4626	9.4626	9.4625	9.4749	9.4625
	32	10.6623	0.9360	---------	---------	0.9344	10.6627	10.6627	10.6626	10.6808	10.663
	1	3.2798	0.5054	11.1564	3.8293	0.5054	3.2798	3.2798	3.2798	3.2799	3.2798
	4	3.5963	0.5551	12.1980	4.2266	0.5551	3.5963	3.5963	3.5963	3.5973	3.5963
	10	4.2266	0.6566	14.2721	5.0118	0.6563	4.2268	4.2268	4.2268	4.2321	4.2268
	16	4.8546	0.7600	16.3380	5.7884	0.7594	4.8549	4.8549	4.8549	4.8669	4.8549
	25	5.7938	0.9173	19.4272	6.9432	0.9162	5.7943	5.7943	5.7942	5.8191	5.7943
	32	6.5228	1.0408	21.8247	7.8359	1.0392	6.5234	6.5234	6.5233	6.5598	6.523
	1	2.2272	0.5677	2.9335	2.3935	0.5684	2.2272	2.2272	2.2272	2.2273	2.2272
	4	2.4413	0.6237	3.2064	2.6277	0.6244	2.4414	2.4414	2.4414	2.4428	2.4414
10	10	2.8661	0.7386	3.7476	3.0909	0.7391	2.8663	2.8663	2.8663	2.8739	2.8663
	16	3.2875	0.8560	4.2845	3.5491	0.8564	3.2878	3.2878	3.2878	3.3050	3.2878
	25	3.9158	1.0353	5.0850	4.2307	1.0351	3.9162	3.9162	3.9161	3.9516	3.9162
	32	4.4022	1.1764	5.7048	4.7578	1.1758	4.4027	4.4027	4.4027	4.4545	4.403
	1	1.7960	0.6183	2.0183	1.8346	0.6200	1.7960	1.7960	1.7960	1.7962	1.7960
	4	1.9682	0.6795	2.2051	2.0118	0.6813	1.9682	1.9682	1.9682	1.9700	1.9682
20	10	2.3079	0.8056	2.5739	2.3609	0.8074	2.3080	2.3080	2.3080	2.3176	2.3080
	16	2.6434	0.9350	2.9382	2.7051	0.9368	2.6436	2.6436	2.6436	2.6653	2.6436
	25	3.1417	1.1333	3.4795	3.2157	1.1348	3.1419	3.1420	3.1419	3.1867	3.1420
	32	3.5264	1.2898	3.8974	3.6097	1.2911	3.5267	3.5268	3.5266	3.5923	3.527
	1	1.6599	0.6411	1.8003	1.6776	0.6434	1.6599	1.6599	1.6599	1.6600	1.6599
	4	1.8187	0.7047	1.9664	1.8389	0.7072	1.8187	1.8187	1.8187	1.8207	1.8187
30	10	2.1312	0.8360	2.2936	2.1559	0.8386	2.1312	2.1313	2.1312	2.1420	2.1313
	16	2.4390	0.9712	2.6161	2.4677	0.9738	2.4391	2.4392	2.4391	2.4633	2.4392
	25	2.8951	1.1786	3.0941	2.9294	1.1811	2.8952	2.8953	2.8952	2.9452	2.8953
	32	3.2467	1.3427	3.4627	3.2850	1.3450	3.2468	3.2469	3.2467	3.3201	3.247
	1	1.5517	0.6630	1.6441	1.5588	0.6659	1.5517	1.5517	1.5517	1.5519	1.5517
	4	1.6998	0.7289	1.7954	1.7079	0.7321	1.6998	1.6998	1.6998	1.7020	1.6998
50	10	1.9904	0.8653	2.0925	2.0004	0.8688	1.9904	1.9905	1.9904	2.0024	1.9905
	16	2.2759	1.0062	2.3845	2.2873	1.0097	2.2758	2.2759	2.2758	2.3028	2.2759
	25	2.6976	1.2228	2.8161	2.7111	1.2264	2.6974	2.6976	2.6974	2.7533	2.6976
	32	3.0220	1.3946	3.1483	3.0368	1.3980	3.0217	3.0219	3.0217	3.1037	3.022
	1	1.5051	0.6737	1.5809	1.5091	0.6770	1.5051	1.5051	1.5051	1.5053	1.5051
	4	1.6486	0.7408	1.7262	1.6532	0.7443	1.6486	1.6486	1.6486	1.6510	1.6486
70	10	1.9297	0.8798	2.0109	1.9353	0.8836	1.9296	1.9297	1.9296	1.9423	1.9297
	16	2.2053	1.0235	2.2904	2.2116	1.0275	2.2051	2.2052	2.2051	2.2336	2.2053
	25	2.6119	1.2449	2.7029	2.6191	1.2490	2.6115	2.6116	2.6115	2.6707	2.6118
	32	2.9241	1.4205	3.0198	2.9320	1.4247	2.9237	2.9238	2.9237	3.0106	2.924
	1	1.4699	0.6824	1.5347	1.4722	0.6860	1.4699	1.4699	1.4699	1.4701	1.4699
	4	1.6099	0.7504	1.6755	1.6125	0.7542	1.6099	1.6099	1.6099	1.6124	16099
100	10	1.8838	0.8915	1.9512	1.8868	0.8957	1.8836	1.8837	1.8836	1.8969	1.8838
	16	2.1519	1.0376	2.2214	2.1551	1.0420	2.1515	2.1516	2.1515	2.1815	2.1518
	25	2.5468	1.2630	2.6196	2.5503	1.2676	2.5462	2.5463	2.5462	2.6083	2.5465
	32	2.8497	1.4420	2.9252	2.8535	1.4466	2.8490	2.8491	2.8490	2.9402	2.849

'----' designates undefined values

TABLE3 *(Cont.)*

α =O.90

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo· Zelen	Tiku	Tiku-Yip	Mudholkar etal	Cox-Reid	Exact
						$v_1 = 50$					
	1	5.2577	0.4678	---------	---------	0.4668	5.2577	5.2577	5.2577	5.2577	5.2577
	4	5.5669	0.4955	---------	---------	0.4944	5.5669	5.5669	5.5669	5.5670	5.5669
3	10	6.1849	0.5512	---------	---------	0.5499	6.1849	6.1849	6.1849	6.1855	6.1849
	16	6.8025	0.6074	---------	---------	0.6059	6.8026	6.8026	6.8025	6.8041	6.8026
	25	7.7285	0.6922	---------	---------	0.6905	7.7286	7.7286	7.7286	7.7319	7.7286
	32	8.4484	0.7586	---------	---------	0.7566	8.4485	8.4485	8.4485	8.4536	8.449
	1	3.2100	0.5213	10.7768	3.7991	0.5201	3.2100	3.2100	3.2100	3.2100	3.2100
	4	3.3986	0.5521	11.3973	4.0328	0.5509	3.3986	3.3986	3.3986	3.3989	3.3986
5	10	3.7752	0.6144	12.6359	4.4979	0.6130	3.7752	3.7752	3.7752	3.7765	3.7752
	16	4.1510	0.6772	13.8722	4.9604	0.6756	4.1511	4.1511	4.1511	4.1542	4.1511
	25	4.7138	0.7722	15.7232	5.6506	0.7702	4.7139	4.7139	4.7139	4.7207	4.7139
	32	5.1509	0.8465	17.1609	6.1854	0.8443	5.1511	5.1511	5.1511	5.1613	5.151
	1	2.1594	0.5911	2.8088	2.3244	0.5904	2.1594	2.1594	2.1594	2.1594	2.1594
	4	2.2861	0.6261	2.9702	2.4622	0.6254	2.2861	2.2861	2.2861	2.2864	2.2861
10	10	2.5385	0.6970	3.2919	2.7366	0.6961	2.5385	2.5385	2.5385	2.5405	2.5385
	16	2.7899	0.7686	3.6123	3.0095	0.7675	2.7900	2.7900	2.7900	2.7945	2.7900
	25	3.1657	0.8771	4.0911	3.4168	0.8757	3.1658	3.1658	3.1658	3.1756	3.1658
	32	3.4571	0.9621	4.4625	3.7324	0.9605	3.4573	3.4573	3.4573	3.4720	3.457
	1	1.7234	0.6506	1.9130	1.7609	0.6507	1.7234	1.7234 .	1.7234	1.7234	1.7234
	4	1.8243	0.6892	2.0226	1.8646	0.6893	1.8243	1.8243	1.8243	1.8248	1.8243
20	10	2.0250	0.7674	2.2405	2.0704	0.7675	2.0250	2.0250	2.0250	2.0275	2.0250
	16	2.2244	0.8467	2.4571	2.2747	0.8467	2.2244	2.2244	2.2244	2.2303	2.2244
	25	2.5216	0.9672	2.7801	2.5791	0.9669	2.5217	2.5217	2.5217	2.5344	2.5217
	32	2.7517	1.0617	3.0301	2.8147	1.0614	2.7518	2.7518	2.7518	2.7710	2.752
	1	1.5832	0.6787	1.6963	1.6003	0.6793	1.5832	1.5832	1.5832	1.5832	1.5832
	4	1.6758	0.7190	1.7934	1.6942	0.7196	1.6758	1.6758	1.6758	1.6763	1.6758
30	10	1.8597	0.8009	1.9861	1.8805	0.8015	1.8597	1.8597	1.8597	1.8626	1.8597
	16	2.0421	0.8839	2.1772	2.0651	0.8845	2.0421	2.0422	2.0421	2.0488	2.0422
	25	2.3137	1.0102	2.4620	2.3399	1.0107	2.3137	2.3138	2.3137	2.3282	2.3138
	32	2.5237	1.1095	2.6821	2.5523	1.1099	2.5237	2.5238	2.5237	2.5455	2.524
	1	1.4697	0.7068	1.5388	1.4767	0.7080	1.4697	1.4697	1.4697	1.4698	1.4697
	4	1.5556	0.7488	1.6267	1.5630	0.7500	1.5556	1.5556	1.5556	1.5562	1.5556
50	10	1.7258	0.8343	1.8008	1.7341	0.8356	1.7258	1.7258	1.7258	1.7291	1.7258
	16	1.8944	0.9212	1.9733	1.9034	0.9225	1.8943	1.8944	1.8943	1.9020	1.8944
	25	2.1448	1.0536	2.2297	2.1550	1.0549	2.1448	2.1448	2.1448	2.1614	2.1448
	32	2.3382	1.1578	2.4278	2.3491	1.1590	2.3381	2.3381	2.3381	2.3631	2.338
	1	1.4199	0.7211	1.4740	1.4240	0.7225	1.4200	1.4199	1.4200	1.4200	1.4200
	4	1.5029	0.7640	1.5581	1.5072	0.7655	1.5029	1.5029	1.5029	1.5035	1.5029
70	10	1.6671	0.8513	1.7246	1.6718	0.8530	1.6670	1.6671	1.6670	1.6706	1.6671
	16	1.8294	0.9402	1.8893	1.8345	0.9419	1.8294	1.8294	1.8294	1.8377	1.8294
	25	2.0704	1.0758	2.1339	2.0760	1.0775	2.0703	2.0703	2.0703	2.0882	2.0704
	32	2.2563	1.1826	2.3226	2.2622	1.1843	2.2561	2.2561	2.2561	2.2831	2.256
	1	1.3819	0.7330	1.4261	1.3844	0.7347	1.3819	1.3819	1.3819	1.3819	1.3819
	4	1.4625	0.7766	1.5073	1.4651	0.7785	1.4625	1.4625	1.4625	1.4632	1.4625
100	10	1.6220	0.8656	1.6681	1.6248	0.8675	1.6220	1.6220	1.6220	1.6258	1.6220
	16	1.7796	0.9562	1.8270	1.7824	0.9582	1.7795	1.7795	1.7795	1.7883	1.7795
	25	2.0132	1.0945	2.0627	2.0162	1.0966	2.0130	2.0131	2.0130	2.0322	2.0131
	32	2.1932	1.2035	2.2444	2.1963	1.2057	2.1930	2.1930	2.1930	2.2219	2.193

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.90**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 70$					
	1	5.2223	0.4727	---------	---------	0.4713	5.2223	5.2223	5.2223	5.2223	5.2223
	4	5.4429	0.4927	---------	---------	0.4913	5.4429	5.4429	5.4429	5.4429	5.4429
3	10	5.8840	0.5329	---------	---------	0.5314	5.8840	5.8840	5.8840	5.8843	5.8840
	16	6.3249	0.5734	---------	---------	0.5717	6.3250	6.3250	6.3249	6.3256	6.3249
	25	6.9862	0.6342	---------	---------	0.6323	6.9862	6.9862	6.9862	6.9875	6.9862
	32	7.5003	0.6818	---------	---------	0.6797	7.5003	7.5003	7.5003	7.5024	7.500
	1	3.1801	0.5281	10.6142	3.7864	0.5266	3.1801	3.1801	3.1801	3.1801	3.1801
	4	3.3143	0.5505	11.0560	3.9518	0.5489	3.3143	3.3143	3.3143	3.3144	3.3143
5	10	3.5826	0.5955	11.9385	4.2816	0.5937	3.5827	3.5827	3.5827	3.5832	3.5827
	16	3.8506	0.6408	12.8199	4.6103	0.6388	3.8507	3.8507	3.8507	3.8519	3.8507
	25	4.2522	0.7090	14.1406	5.1018	0.7068	4.2523	4.2523	4.2523	4.2550	4.2523
	32	4.5643	0.7622	15.1668	5.4830	0.7598	4.5643	4.5643	4.5643	4.5686	4.564
	1	2.1300	0.6015	2.7550	2.2942	0.6003	2.1299	2.1300	2.1300	2.1300	2.1300
	4	2.2199	0.6270	2.8696	2.3918	0.6257	2.2199	2.2199	2.2199	2.2200	2.2199
10	10	2.3992	0.6784	3.0981	2.5864	0.6770	2.3992	2.3992	2.3992	2.4000	2.3992
	16	2.5782	0.7301	3.3261	2.7804	0.7285	2.5782	2.5782	2.5782	2.5800	2.5782
	25	2.8459	0.8081	3.6674	3.0704	0.8063	2.8460	2.8460	2.8460	2.8500	2.8460
	32	3.0539	0.8691	3.9322	3.2954	0.8671	3.0538	3.0538	3.0538	3.0600	3.054
	1	1.6912	0.6654	1.8668	1.7282	0.6649	1.6912	1.6912	1.6912	1.6912	1.6912
	4	1.7625	0.6937	1.9443	1.8012	0.6931	1.7625	1.7625	1.7625	1.7627	1.7625
20	10	1.9046	0.7506	2.0986	1.9468	0.7500	1.9046	1.9046	1.9046	1.9056	1.9046
	16	2.0461	0.8080	2.2524	2.0918	0.8073	2.0461	2.0461	2.0461	2.0485	2.0461
	25	2.2576	0.8948	2.4321	2.3082	0.8939	2.2576	2.2576	2.2576	2.2629	2.2576
	32	2.4215	0.9627	2.6603	2.4760	0.9617	2.4215	2.4215	2.4215	2.4297	2.422
	1	1.5487	0.6965	1.6502	1.5653	0.6964	1.5487	1.5487	1.5487	1.5487	1.5487
	4	1.6139	0.7260	1.7186	1.6314	0.7260	1.6139	1.6139	1.6139	1.6141	1.6139
30	10	1.7438	0.7857	1.8547	1.7629	0.7856	1.7438	1.7438	1.7438	1.7450	1.7438
	16	1.8731	0.8459	1.9902	1.8936	0.8458	1.8731	1.8731	1.8731	1.8759	1.8731
	25	2.0660	0.9371	2.1925	2.0888	0.9368	2.0660	2.0660	2.0660	2.0722	2.0660
	32	2.2155	1.0085	2.3493	2.2399	1.0081	2.2155	2.2155	2.2155	2.2249	2.215
	1	1.4320	0.7282	1.4911	1.4386	0.7286	1.4320	1.4320	1.4320	1.4320	1.4320
	4	1.4923	0.7591	1.5528	1.4992	0.7596	1.4923	1.4923	1.4923	1.4925	1.4923
50	10	1.6122	0.8216	1.6755	1.6196	0.8221	1.6122	1.6122	1.6122	1.6135	1.6122
	16	1.7313	0.8848	1.7975	1.7393	0.8853	1.7313	1.7313	1.7313	1.7346	1.7313
	25	1.9089	0.9805	1.9794	1.9176	0.9809	1.9089	1.9089	1.9089	1.9161	1.9089
	32	2.0463	1.0556	2.1202	2.0556	1.0560	2.0463	2.0463	2.0463	2.0573	2.046
	1	1.3802	0.7447	1.4250	1.3840	0.7454	1.3802	1.3802	1.3802	1.3802	1.3802
	4	1.4383	0.7764	1.4839	1.4422	0.7771	1.4383	1.4383	1.4383	].438.5	1.4383
70	10	1.5537	0.8404	1.6010	1.5579	0.8412	1.5537	1.5537	1.5537	1.5552	1.5537
	16	1.6683	0.9051	1.7173	1.6727	0.9059	1.6683	1.6683	1.6683	1.6718	1.6683
	25	1.8389	1.0032	1.8906	1.8437	1.0040	1.8389	1.8389	1.8389	1.8468	1.8389
	32	1.9709	1.0803	2.0246	1.9759	1.0811	1.9708	1.9708	1.9708	1.9828	1.971
	1	1.3401	0.7587	1.3755	1.3424	0.7597	1.3401	1.3401	1.3401	1.3401	1.3401
	4	1.3964	0.7910	1.4324	1.3988	0.7920	1.3964	1.3964	1.3964	1.3967	1.3965
100	10	1.5084	0.8563	1.5453	1.5108	0.8574	1.5084	1.5084	1.5084	1.5100	1.5084
	16	1.6194	0.9224	1.6573	1.6219	0.9235	1.6194	1.6194	1.6194	0.6232	1.6194
	25	1.7847	1.0226	1.8241	1.7873	1.0238	1.7846	1.7846	1.7846	1.7931	1.7846
	32	1.9123	1.1014	1.9529	1.9150	1.1025	1.9120	1.912	1.912	1.9252	1.912

'----' designates undefined values

TABLE 3 *(Cont.)*

$\alpha = 0.90$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 100$					
	1	5.1957	0.4764	---------	---------	0.4748	5.196	5.196	5.196	5.1957	5.1957
	4	5.3500	0.4905	---------	---------	0.4889	5.350	5.350	5.350	5.3500	5.3500
3	10	5.6586	0.5189	---------	---------	0.5172	5.659	5.659	5.659	5.6587	5.6586
	16	5.9671	0.5474	---------	---------	0.5455	5.967	5.967	5.967	5.9673	5.9671
	25	6.4298	0.5902	---------	---------	0.5882	6.430	6.430	6.430	6.4303	6.4298
	32	6.7896	0.6236	---------	---------	0.6214	6.790	6.790	6.790	6.7904	6.790
	1	3.1576	0.5333	10.4924	3.7770	0.5315	3.158	3.158	3.158	3.1576	3.1576
	4	3.2513	0.5492	10.8008	3.8919	0.5473	3.251	3.251	3.251	3.251	3.2513
5	10	3.4387	0.5810	11.4172	4.1213	0.5790	3.439	3.439	3.439	3.439	3.4388
	16	3.6260	0.6129	12.0332	4.3503	0.6108	3.626	3.626	3.626	3.627	3.6261
	25	3.9068	0.6609	12.9565	4.6932	0.6586	3.907	3.907	3.907	3.908	3.9068
	32	4.1251	0.6984	13.6743	4.9594	0.6959	4.125	4.125	4.125	4.127	4.125
	1	2.1078	0.6095	2.7146	2.2715	0.6079	2.108	2.108	2.108	2.108	2.1078
	4	2.1703	0.6276	2.7943	2.3393	0.6260	2.170	2.170	2.170	2.170	2.1703
10	10	2.2953	0.6640	2.9536	2.4746	0.6622	2.295	2.295	2.295	2.296	2.2953
	16	2.4201	0.7005	3.1126	2.6098	0.6987	2.420	2.420	2.420	2.421	2.4202
	25	2.6071	0.7555	3.3509	2.8122	0.7535	2.607	2.607	2.607	2.609	2.6071
	32	2.7523	0.7985	3.5360	2.9693	0.7963	2.752	2.752	2.752	2.755	2.752
	1	1.6666	0.6771	1.8317	1.7030	0.6761	1.667	1.667	1.667	1.667	1.6666
	4	1.7161	0.6972	1.8854	1.7536	0.6962	1.716	1.716	1.716	1.716	1.7161
20	10	1.8148	0.7377	1.9927	1.8547	0.7367	1.815	1.815	1.815	1.815	1.8148
	16	1.9132	0.7784	2.0997	1.9555	0.7772	1.913	1.913	1.913	1.914	1.9133
	25	2.0606	0.8397	2.2599	2.1063	0.8384	2.061	2.061	2.061	2.063	2.0606
	32	2.1750	0.8875	2.3842	2.2233	0.8862	2.175	2.175	2.175	2178	2.175
	1	1.5220	0.7106	1.6148	1.5382	0.7100	1.522	1.522	1.522	1.522	1.5220
	4	1.5671	0.7317	1.6621	1.5839	0.7312	1.567	1.567	1.567	1.567	1.5671
30	10	1.6572	0.7743	1.7565	1.6749	0.7737	1.657	1.657	1.657	1.658	1.6572
	16	1.7470	0.8170	1.8507	1.7657	0.8164	1.747	1.747	1.747	1.748	1.7470
	25	1.8813	0.8815	1.9915	1.9015	0.8807	1.881	1.881	1.881	1884	1.8813
	32	1.9854	0.9318	2.1008	2.0068	0.9310	1.985	1.985	1.985	1.989	1.985
	1	1.4023	0.7456	1.4539	1.4086	0.7455	1.402	1.402	1.402	1.402	1.4023
	4	1.4439	0.7678	1.4965	1.4503	0.7678	1.444	1.444	1.444	1.444	1.4439
50	10	1.5268	0.8125	1.5814	1.5336	0.8124	1.527	1.527	1.527	1.527	1.5268
	16	1.6094	0.8574	1.6660	1.6165	0.8573	1.609	1.609	1.609	1.611	1.6094
	25	1.7327	0.9252	1.7924	1.7404	0.9251	1.733	1.733	1.733	1.736	1.7327
	32	1.8284	0.9783	1.8903	1.8364	0.9781	1.828	1.828	1.828	1.833	1.828
	1	1.3485	0.7643	1.3863	1.3520	0.7645	1.349	1.349	1.349	1.349	1.3485
	4	1.3885	0.7870	1.4269	1.3921	0.7873	1.388	1.388	1.388	1.389	1.3885
70	10	1.4681	0.8329	1.5077	1.4719	0.8331	1.468	1.468	1.468	1.469	1.4681
	16	1.5474	0.8790	1.5883	1.5513	0.8792	1.547	1.547	1.547	1.549	1.5474
	25	1.6658	0.9486	1.7085	1.6699	0.9488	1.666	1.666	1.666	1.669	1.6658
	32	1.7576	1.0031	1.8017	1.7618	1.0033	1.758	1.758	1.758	1.762	1.758
	1	1.3064	0.7804	1.3352	1.3085	0.7809	1.306	1.306	1.306	1.306	1.3064
	4	1.3451	0.8037	1.3743	1.3472	0.8042	1.345	1.345	1.345	1.345	1.3451
100	10	1.4222	0.8505	1.4521	1.4243	0.8510	1.422	1.422	1.422	1.423	1.4222
	16	1.4989	0.8977	1.5295	1.5010	0.8982	1.499	1.499	1.499	1.500	1.4989
	25	1.6134	0.9689	1.6451	1.6156	0.9694	1.613	1.613	1.613	1.617	1.6134
	32	1.7020	1.0247	1.7346	1.7043	1.0252	1.702	1.702	1.702	1.707	1.702

'----' designates undefined values

TABLE3 *(Cont.)*

α =**0.95**

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 3$					
	1	12.318	0.0953	---------	---------	0.1494	12.335	12.355	12.334	12.369	12.3300
	4	21.152	0.3194	---------	---------	0.3857	21.208	21.229	21.199	21.645	21.2001
3	10	38.442	0.9687	---------	---------	1.0211	38.501	38.508	38.488	40.199	38.4983
	16	55.595	1.7015	---------	---------	1.7298	55.645	55.648	55.633	58.752	55.6443
	25	81.249	2.8487	---------	---------	2.8383	81.289	81.290	81.278	86.582	81.2884
	32	101.177	3.7571	---------	---------	3.7165	101.211	101.211	101.201	108.227	101.211
	1	7.143	0.0953	34.116	8.6369	0.1540	7.1534	7.1566	7.1531	7.2126	7.1540
	4	11.949	0.3310	52.554	16.3730	0.4087	11.9845	11.9892	11.9803	12.6221	11.9863
5	10	21.035	1.0455	87.731	30.0605	1.1185	21.0757	21.0778	21.0679	23.4410	21.0766
	16	29.923	1.8731	122.310	42.1045	1.9275	29.9592	29.9602	29.9510	34.2599	29.9596
	25	43.140	3.1856	173.845	62.3088	3.2075	43.1692	43.1696	43.1618	50.4882	43.1694
	32	53.379	4.2317	213.814	77.1225	4.2276	53.4050	53.4052	53.3983	63.1103	53.4051
	1	4.871	0.0956	7.523	5.1735	0.1584	4.8729	4.8740	4.8728	4.9444	4.8781
	4	7.938	0.3425	11.313	8.6104	0.4315	7.9413	7.9434	7.9411	8.6526	7.9518
10	10	13.483	1.1271	18.271	14.6659	1.2241	13.4839	13.4852	13.4840	16.0691	13.4904
	16	18.788	2.0666	24.976	20.4143	2.1539	18.7868	18.7876	18.7871	23.4857	18.7905
	25	26.590	3.5868	34.869	28.8472	3.6518	26.5882	26.5885	26.5886	34.6105	26.5900
	32	32.601	4.8121	42.504	35.3363	4.8580	32.5989	32.5992	32.5994	43.2631	32.6001
	1	4.057	0.0958	5.243	4.0789	0.1609	4.0546	4.0579	4.0546	4.1312	4.0619
	4	6.507	0.3493	7.782	6.6061	0.4454	6.4899	6.4949	6.4907	7.2296	6.5042
20	10	10.786	1.1804	12.310	10.9611	1.2948	10.7535	10.7557	10.7566	13.4264	10.7636
	16	14.790	2.2016	16.589	15.0263	2.3150	14.7536	14.7547	14.7584	19.6231	14.7604
	25	20.604	3.8856	22.827	20.9236	3.9872	20.5672	20.5676	20.5732	28.9183	20.5712
	32	25.048	5.2597	27.605	25.4299	5.3494	25.0129	25.0131	25.0193	36.1479	25.0158
	1	3.822	0.0959	4.745	3.7970	0.1618	3.8182	3.8214	3.8182	3.8964	3.8261
	4	6.094	0.3517	7.010	6.1000	0.4506	6.0697	6.0727	6.0705	6.8186	6.0851
30	10	10.005	1.2007	11.002	10.0280	1.3223	9.9590	9.9574	9.9623	12.6632	9.9703
	16	13.627	2.2555	14.738	13.6629	2.3801	13.5733	13.5704	13.5786	18.5078	13.5813
	25	18.847	4.0107	20.149	18.9013	4.1291	18.7908	18.7879	18.7980	27.2746	18.7959
	32	22.817	5.4524	24.273	22.8859	5.5627	22.7623	22.7598	22.7704	34.0932	22.7661
	1	3.646	0.0959	4.404	3.5942	0.1626	3.6406	3.6432	3.6406	3.7200	3.6489
	4	5785	0.3538	6.482	5.7380	0.4549	5.7537	5.7527	5.7543	6.5100	5.7697
50	10	9.418	1.2181	10.105	9.3599	1.3460	9.3589	9.3495	9.3617	12.0900	9.3712
	16	12.748	2.3028	13.465	12.6826	2.4377	12.6776	12.6660	12.6824	17.6701	12.6867
	25	17.510	4.1239	18.295	17.4373	4.2582	17.4336	17.4224	17.4407	26.0401	17.4399
	32	21.111	5.6301	21.957	21.0346	5.7603	21.0344	21.0244	21.0429	32.5501	21.0394
	1	3.574	0.0959	4.271	3.5128	0.1629	3.5674	3.5697	3.5674	3.6474	3.5759
	4	5.657	0.3547	6.276	5.5931	0.4568	5.6234	5.6197	5.6239	6.3829	5.6396
70	10	9.176	1.2259	9.754	9.0921	1.3567	9.1107	9.0959	9.1130	11.8540	9.1233
	16	12.384	2.3244	12.966	12.2885	2.4641	12.3056	12.2874	12.3097	17.3251	12.3152
	25	16.953	4.1768	17.565	16.8453	4.3187	16.8665	16.8482	16.8729	25.5317	16.8734
	32	20.398	5.7142	21.041	20.2825	5.8542	20.3094	20.2923	20.3171	31.9147	20.3149
	1	3.520	0.0960	4.177	3.4537	0.1632	3.5137	3.5155	3.5137	3.5940	3.5223
	4	5.563	0.3553	6.129	5.4881	0.4582	5.5276	5.5216	5.5280	6.2896	5.5440
100	10	8.998	1.2319	9.503	8.8981	1.3649	8.9279	8.9078	8.9296	11.6806	8.9407
	16	12.116	2.3411	12.608	12.0022	2.4847	12.0309	12.0059	12.0342	17.0717	12.0409
	25	16.542	4.2183	17.040	16.4136	4.3665	16.4462	16.4198	16.4514	25.1583	16.4534
	32	19.870	5.7811	20.381	19.7325	5.9290	19.7702	19.7447	19.7768	31.4479	19.7762

'----' designates undefined values

TABLE 3 *(Cont.)*

α **=O.95**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exac:t
						$v_1 = 5$					
	1	10.8018	0.6918	---------	---------	0.2246	10.8052	10.8081	10.8052	10.8161	10.8045
	4	16.0683	0.3555	---------	---------	0.3858	16.0851	16.0912	16.0831	16.2242	16.0830
3	10	26.4369	0.7556	---------	---------	0.7772	26.4607	26.4640	26.4560	27.0404	29.4595
	16	36.7334	1.1954	---------	---------	1.2036	36.7562	36.7579	36.7509	37.8565	36.7556
	25	52.1325	1.8817	---------	---------	1.8678	52.1520	52.1527	52.1470	54.0807	52.1518
	32	64.0931	2.4252	---------	---------	2.3937	64.1104	64.1108	64.1057	66.6996	64.1102
	1	6.0408	0.2067	27.265	7.6516	0.2405	6.0430	6.0436	6.0430	6.0604	6.0431
	4	8.8762	0.3793	38.188	12.1492	0.4185	8.8875	8.8889	8.8864	9.0906	8.8880
5	10	14.3174	0.8257	59.284	20.3513	0.8605	14.3341	14.3350	14.3312	15.1510	14.3345
	16	19.6547	1.3251	80.055	28.2040	1.3494	19.6712	19.6717	19.6677	11.1114	19.6714
	15	27.5925	2.1118	111.008	39.7604	2.1177	27.6071	27.6073	27.6036	30.3020	27.6072
	32	33.7411	2.7382	135.007	48.6677	2.7291	33.7542	33.7544	33.7509	37.3724	33.7543
	1	3.9698	0.2165	5.836	4.2484	0.2567	3.9700	3.9703	3.9700	3.9910	3.9711
	4	5.7534	0.4037	8.0518	6.2305	0.4529	5.7540	5.7547	5.7540	5.9865	5.7575
10	10	9.0611	0.9030	12.2076	9.8400	0.9540	9.0610	9.0616	9.0611	9.9775	9.0639
	16	12.2440	1.4747	16.2311	12.2898	1.5200	12.2434	12.2438	12.2435	13.9685	12.2452
	25	16.9302	2.3895	22.1728	18.3558	2.4221	16.9294	16.9296	16.9296	19.9550	16.9304
	32	20.5407	3.1245	26.7576	22.2541	3.1462	20.5398	20.5399	20.5400	24.6112	20.5404
	1	3.2313	0.2225	4.0000	3.2761	0.2668	3.2302	3.2308	3.2302	3.2531	3.2319
	4	4.6393	0.4191	5.4686	4.7193	0.4752	4.6319	4.6335	4.6322	4.8796	4.6371
20	10	7.1784	0.9555	8.1587	7.3001	1.0188	7.1632	7.1642	7.1646	8.1327	7.1679
	16	9.5761	1.5820	10.7202	9.7325	1.6443	9.5580	9.5584	9.5602	11.3857	9.5614
	25	13.0649	2.5998	14.4621	13.2699	2.6555	13.0458	13.0460	13.0488	16.2653	13.0480
	32	15.7333	3.4262	17.3299	15.9748	3.4752	15.7146	15.7147	15.7179	20.0606	15.7162
	1	3.0183	0.2247	3.5983	3.0277	0.2706	3.0166	3.0171	3.0167	3.0403	3.0186
	4	4.3176	0.4249	4.9025	4.3371	0.4837	4.3069	4.3074	4.3072	4.5604	4.3126
30	10	6.6321	0.9761	7.2672	6.6580	1.0446	6.6100	6.6089	6.6114	7.6007	6.6152
	16	8.7973	1.6256	9.5004	8.8290	1.6955	8.7703	8.7687	8.7728	10.6409	8.7743
	25	11.9269	2.6890	12.7426	11.9677	2.7554	11.8975	11.8960	11.9012	15.2013	11.9003
	32	14.3097	3.5575	15.2167	14.3579	3.6193	14.2802	14.2789	14.2845	18.7483	14.2824
	1	2.8584	0.2265	3.3235	2.8493	0.2738	2.8563	2.8564	2.8563	2.8805	2.8583
	4	4.0758	0.4298	4.5149	4.0633	0.4910	4.0623	4.0607	4.0625	4.3207	4.0684
50	10	6.2201	0.9940	6.6551	6.1971	1.0672	9.1613	6.1862	6.1926	7.2012	6.1971
	16	8.2074	1.6644	8.6595	8.1777	1.7412	8.1714	8.1651	8.1738	10.0817	8.1761
	25	11.0591	2.7705	11.5503	11.0228	2.8472	11.0186	11.0125	11.0223	14.4025	11.0220
	32	13.2188	3.6794	12.7452	13.1787	3.7538	13.1771	13.1716	13.1816	17.7630	13.1799
	1	2.7925	0.2274	3.2163	2.7778	0.2753	2.7902	2.7901	2.7902	2.8147	2.7924
	4	3.9762	0.4320	4.3637	3.9536	0.4943	3.9613	3.9584	3.9615	4.2221	3.9676
70	10	6.0498	1.0021	6.4155	6.0120	1.0775	6.0179	6.0099	6.0190	7.0368	6.0239
	16	7.9628	1.6822	8.3294	7.9153	1.7624	7.9223	7.9124	7.9243	9.8515	7.9272
	25	10.6973	2.8088	11.0799	10.6399	2.8905	10.6507	10.6406	10.6541	14.0735	10.6544
	32	12.7620	3.7375	13.1623	12.6987	3.8182	12.7135	12.7039	12.7176	17.3573	12.7165
	1	2.7442	0.2280	3.1396	2.7259	0.2763	2.7417	2.7414	2.7417	2.7664	2.7439
	4	3.9030	0.4336	4.2554	3.8741	0.4968	3.8871	3.8829	3.8873	4.1496	3.8934
100	10	5.9245	1.0084	6.2438	5.8777	1.0855	5.8901	5.8792	5.8909	6.9160	5.8962
	16	7.7824	1.6961	8.0924	7.7244	1.7790	7.7381	7.7244	7.7397	9.6823	7.7432
	25	10.4298	2.8391	10.7410	10.3603	2.9247	10.3777	10.3631	10.3805	13.8319	10.3817
	32	12.4228	3.7838	12.7413	12.3472	3.8695	12.3683	12.3540	12.3719	17.0594	12.3716

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.95$

v_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo - Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 110$					
	1	9.6619	0.2926	---------	---------	0.2980	9.6622	9.6623	9.6622	9.6641	9.6621
	4	12.2719	0.3848	---------	---------	0.3897	12.2742	12.2749	12.2741	12.2997	12.2740
3	10	17.4477	0.5916	---------	---------	0.5921	17.4529	17.4537	17.4522	17.5710	17.4527
	16	22.5975	0.8119	---------	---------	0.8064	22.6036	22.6042	22.6025	22.8424	22.6034
	25	30.3014	1.1537	---------	---------	1.1379	30.3076	30.3080	30.3063	30.7493	30.3075
	32	36.2848	1.4242	---------	---------	1.4000	36.2908	36.2910	36.2893	36.8992	36.2907
	1	5.2055	0.3217	22.1480	6.9421	0.3317	5.2057	5.2057	5.2057	5.2086	5.2057
	4	6.5900	0.4247	27.5052	9.0815	0.4352	6.5917	6.5919	6.5916	6.6291	6.5918
5	10	9.2969	0.6589	38.0181	13.1450	0.6667	9.3007	9.3009	9.3002	9.4701	9.3008
	16	11.9663	0.9107	48.4120	17.0800	0.9138	11.9709	11.9711	11.9701	12.3112	11.9710
	25	15.9403	1.3036	63.9084	22.8802	1.2983	15.9450	15.9451	15.9440	16.5727	15.9451
	32	19.0185	1.6158	75.9222	27.3492	1.6034	19.0231	19.0232	19.0220	19.8873	19.0231
	1	3.2726	0.3545	4.5525	3.5232	0.3702	3.2726	3.2726	3.2726	3.2761	3.2727
	4	4.1252	0.4702	5.6191	4.4599	0.4879	4.1252	4.1253	4.1252	4.1695	4.1257
10	10	5.7587	0.7378	7.6757	6.2385	0.7552	5.7586	5.7587	5.7586	5.9565	5.7593
	16	7.3476	1.0297	9.6849	7.9604	1.0444	7.3474	7.3475	7.3474	7.7434	7.3479
	25	9.6935	1.4893	12.6587	10.4968	1.4984	9.6931	9.6932	9.6932	10.4238	9.6935
	32	11.5018	1.8567	14.9544	12.4497	1.8608	11.5014	11.5015	11.5015	12.5086	11.5017
	1	2.5789	0.3772	3.0368	2.6286	0.3974	2.5787	2.5788	2.5787	2.5827	2.5789
	4	3.2395	0.5022	3.7319	3.3007	0.5256	3.2377	3.2379	3.2378	3.2870	3.2387
20	10	4.4819	0.7956	5.0512	4.5610	0.8210	4.4775	4.4777	4.4779	4.6958	4.4788
	16	5.6739	1.1195	6.3245	5.7688	1.1443	5.6680	5.6681	5.6686	6.1045	5.6691
	25	7.4170	1.6349	8.1931	7.5350	1.6568	7.4101	7.4102	7.4111	8.2176	7.4109
	32	8.7524	2.0500	9.6276	8.8880	2.0689	8.7453	8.7454	8.7465	9.8611	8.7460
	1	2.3772	0.3862	2.7025	2.4001	0.4084	2.3769	2.3769	2.3769	2.3810	2.3771
	4	2.98]4	0.5151	3.3150	3.0054	0.5410	2.9789	2.9787	2.9789	3.0304	2.9800
30	10	4.1082	0.8195	4.4689	4.1329	0.8485	4.1015	4.1011	4.1019	4.3292	4.1030
	16	5.1813	1.1576	5.5755	5.2074	1.1870	5.1723	5.1717	5.1730	5.6279	5.1736
	25	6.7422	1.6985	7.1915	6.7712	1.7265	6.7314	6.7308	6.7327	7.5760	6.7325
	32	7.9334	2.1360	8.4275	7.9652	2.1620	7.9221	7.9216	7.9236	9.0912	7.9230
	1	2.2248	0.3942	2.4727	2.2354	0.4181	2.2244	2.2243	2.2244	2.2288	2.2246
	4	2.7863	0.5265	3.0280	2.7926	0.5547	2.7829	2.7821	2.7830	2.8366	2.7841
50	10	3.8245	0.8409	4.0668	3.8236	0.8732	3.8155	3.8136	3.8159	4.0523	3.8172
	16	4.8059	1.1922	5.0564	4.8001	1.2261	4.7934	4.7911	4.7942	5.2680	4.7950
	25	6.2248	1.7577	6.4935	6.2138	1.7916	6.2095	6.2070	6.2108	7.0915	6.2108
	32	7.3026	2.2173	7.5881	7.2887	2.2503	7.2863	7.2840	7.2879	8.5098	7.2874
	1	2.1618	0.3978	2.3826	2.1692	0.4226	2.1613	2.1612	2.1613	2.1658	2.1616
	4	2.7055	0.5317	2.9155	2.7069	0.5609	2.7017	2.7004	2.7018	2.7564	2.7030
70	10	3.7066	0.8508	3.9087	3.6987	0.8848	3.6965	3.6934	3.6968	3.9378	3.6983
	16	4.6494	1.2085	4.8516	4.6350	1.2446	4.6351	4.6313	4.6358	5.1191	4.6368
	25	6.0079	1.7860	6.2169	5.9867	1.8229	5.9901	5.9859	5.9913	6.8911	5.9915
	32	7.0372	2.2565	7.2541	7.0119	2.2931	7.0179	7.0139	7.0195	8.2693	7.191
	1	2.1153	0.4006	2.3181	2.1210	0.4261	2.1149	2.1146	2.1149	2.1194	2.1151
	4	2.6459	0.5357	2.8348	2.6446	0.5658	2.6418	2.6401	2.6419	2.6974	2.6431
100	10	3.6196	1.2214	3.7950	3.6078	0.8939	3.6085	3.6043	3.6087	3.8534	3.6103
	16	4.5336	0.8586	4.7042	4.5146	1.2592	4.5177	4.5123	4.5183	5.0094	4.5195
	25	5.8468	1.8085	6.0170	5.8203	1.8478	5.8267	5.8207	5.8278	6.7434	5.8283
	32	6.8395	2.2880	7.0122	6.8086	2.3276	6.8175	6.8115	6.8189	8.0921	6.8189

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.95$

v_2	λ	patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 20$					
	1	9.0929	0.3448	---------	---------	0.3403	9.0929	9.0929	9.0929	9.0932	9.0929
	4	10.3879	0.3961	---------	---------	0.3907	10.3882	10.3882	10.3881	10.3922	10.3881
3	10	12.9686	0.5036	---------	---------	0.4956	12.9694	12.9695	12.9694	12.9903	12.9694
	16	15.5420	0.6148	---------	---------	0.6039	15.5432	15.5433	15.5431	15.5883	15.5432
	25	19.3946	0.7856	---------	---------	0.7698	19.3961	19.3962	19.3959	19.4854	19.3961
	32	22.3875	0.9204	---------	---------	0.9006	22.3891	22.3891	22.3888	22.5165	22.3890
	1	4.7856	0.3895	19.6006	6.6025	0.3880	4.7856	4.7856	4.7856	4.7860	4.7856
	4	5.4636	0.4477	22.2337	7.6236	0.4458	5.4638	5.4638	5.4638	5.4698	5.4638
	10	6.8063	0.5705	27.4574	9.6201	0.5668	6.8069	6.8069	6.8069	6.8372	6.8069
	16	8.1385	0.6983	32.6476	11.5803	0.6923	8.1394	8.1394	8.1393	8.2046	8.1394
	25	10.1259	0.8951	40.3988	14.4836	0.8852	10.1271	10.1271	10.1269	10.2558	10.1271
	32	11.6664	1.0509	46.4108	16.7236	1.0376	11.6676	11.6677	11.6674	11.8511	11.6676
	1	2.9122	0.4446	3.8992	3.1410	0.4475	2.9122	2.9122	2.9122	2.9127	2.9122
	4	3.3215	0.5116	4.4144	3.5869	0.5146	3.3215	3.3215	3.3215	3.3288	3.3216
10	10	4.1244	0.6542	5.4280	4.4585	0.6565	4.1244	4.1244	4.1244	4.1610	4.1245
	16	4.9146	0.8037	6.4281	5.3141	0.8046	4.9145	4.9146	4.9145	4.9932	4.9147
	25	6.0867	1.0353	7.9141	6.5813	1.0336	6.0866	6.0866	6.0866	6.2415	6.0867
	32	6.9917	1.2192	9.0628	7.5588	1.2152	6.9916	6.9916	6.9916	7.2124	6.9917
	1	2.2298	0.4877	2.5318	2.2728	0.4945	2.2298	2.2298	2.2298	2.2304	2.2298
	4	2.5408	0.5618	2.8618	2.5880	0.5692	2.5405	2.5405	2.5405	2.5490	2.5406
20	10	3.1448	0.7208	3.5054	3.1997	0.7285	3.1439	3.1439	3.1439	3.1862	3.1441
	16	3.7342	0.8887	4.1356	3.7965	0.8960	3.7328	3.7328	3.7329	3.8235	3.7330
	25	4.6027	1.1506	5.0666	4.6760	1.1565	4.6008	4.6008	4.6010	4.7793	4.6010
	32	5.2701	1.3595	5.7833	5.3519	1.3640	5.2680	5.2680	5.2683	5.5228	5.2682
	1	2.0276	0.5065	2.2253	2.0480	0.5151	2.0276	2.0276	2.0276	2.0282	2.0276
	4	2.3093	0.5838	2.5135	2.3295	0.5932	2.3089	2.3088	2.3089	2.3180	2.3090
30	10	2.8535	0.7502	3.0730	2.8736	0.7605	2.8521	2.8520	2.8521	2.8975	2.8524
	16	3.3821	0.9268	3.6186	3.4023	0.9371	3.3798	3.3796	3.3799	3.4770	3.3801
	25	4.1578	1.2030	4.4216	4.1789	1.2127	4.1547	4.1545	4.1550	4.3462	4.1550
	32	4.7523	1.4241	5.0381	4.7743	1.4329	4.7487	4.7486	4.7492	5.0223	4.7490
	1	1.8727	0.5240	2.0120	1.8838	0.5344	1.8726	1.8726	1.8726	1.8733	1.8726
	4	2.1318	0.6042	2.2709	2.1407	0.6157	2.1312	2.1310	2.1312	2.1410	2.1313
50	10	2.6296	0.7779	2.7711	2.6348	0.7906	2.6275	2.6270	2.6276	2.6762	2.6279
	16	3.1105	0.9628	3.2566	3.1129	0.9762	3.1072	3.1065	3.1074	3.2114	3.1076
	25	3.8132	1.2535	3.9682	3.8124	1.2668	3.8086	3.8078	3.8089	4.0143	3.8090
	32	4.3498	1.4868	4.5127	4.3469	1.4998	4.3445	4.3437	4.3449	4.6387	4.3448
	1	1.8078	0.5323	1.9275	1.8170	0.5436	1.8077	1.8077	1.8077	1.8084	1.807
	4	2.0573	0.6140	2.1747	2.0638	0.6265	2.0566	2.0563	2.0566	2.0668	2.0568
70	10	2.5355	0.7912	2.6512	2.5373	0.8052	2.5331	2.5322	2.5331	2.5835	2.5334
	16	2.9961	0.9803	3.1124	2.9944	0.9952	2.9922	2.9910	2.9923	3.1002	2.9926
	25	3.6674	1.2782	3.7868	3.6616	1.2935	3.6618	3.6604	3.6622	3.8752	3.6623
	32	4.1789	1.5178	4.3020	4.1705	1.5330	4.1725	4.1711	4.1730	4.4780	4.1729
	1	1.7596	0.5389	1.8664	1.7680	0.5510	1.7595	1.7594	1.7595	1.7603	1.759
	4	2.0020	0.6218	2.1053	2.0074	0.6351	2.0013	2.0008	2.0013	2.0117	2.001
100	10	2.4655	0.8018	2.5644	2.4658	0.8169	2.4627	2.4615	2.4628	2.5147	2.463
	16	2.9108	0.9944	3.0079	2.9073	1.0105	2.9063	2.9046	2.9065	3.0176	2.906
	25	3.5583	1.2983	3.6550	3.5503	1.3152	3.5519	3.5498	3.5522	3.7720	3.552
	32	4.0508	1.5432	4.1484	4.0400	1.5602	4.0433	4.0411	4.0438	4.3587	4.043

'----' designates undefined values

TABLE3 *(Cont.)*

$\alpha = 0.95$

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Cox-Reid	Exact
						$v_1 = 30$					
	1	8.9037	0.3626	---------	---------	0.3551	8.9037	8.9037	8.9037	8.9038	8.9037
	4	9.7641	0.3984	---------	---------	0.3901	9.7641	9.7641	9.7641	9.7655	9.7641
3	10	11.8414	0.4717	---------	---------	0.4616	11.4816	11.4817	11.4816	11.4888	11.4816
	16	13.1957	0.5466	---------	---------	0.5344	13.1961	13.1961	13.1960	13.2121	13.1961
	25	15.7635	0.6608	---------	---------	0.6454	15.7641	15.7641	15.7640	15.7971	15.7641
	32	17.7588	0.7507	---------	---------	0.7327	17.7594	17.7594	17.7593	17.8076	17.7594
	1	4.6454	0.4135	18.7538	6.4924	0.4086	4.6454	4.6454	4.6454	4.6456	4.6454
	4	5.0932	0.4544	20.4956	7.1585	0.4490	5.0932	5.0932	5.0932	5.0951	5.0932
5	10	5.9837	0.5385	23.9637	8.4739	0.5317	5.9839	5.9839	5.9839	5.9943	5.9839
	16	6.8698	0.6247	27.4178	9.7741	0.6163	6.8701	6.8701	6.8701	6.8934	6.8701
	25	8.1938	0.7565	32.5825	11.7067	0.7455	8.1943	8.1943	8.1942	82421	8.1943
	32	9.2208	0.8604	36.5906	13.2002	0.8472	9.2213	9.2213	9.2212	9.2911	9.2213
	1	2.7894	0.4787	3.6786	3.0090	0.4777	2.7894	2.7894	2.7894	2.7895	2.7894
	4	3.0571	0.5263	4.0166	3.2997	0.5250	3.0571	3.0571	3.0571	3.0595	3.0571
lO	10	3.5866	0.6246	4.6862	3.8735	0.6226	3.5866	3.5866	3.5866	3.5994	3.5866
	16	4.1108	0.7259	5.3501	4.4407	0.7229	4.1108	4.1108	4.1108	4.1393	4.1108
	25	4.8907	0.8815	6.3391	5.2836	0.8767	4.8906	4.8907	4.8907	4.9492	4.8907
	32	5.4938	1.0044	7.1047	5.9349	0.9982	5.4937	5.4937	5.4937	5.5791	5.4938
	]	2.1069	0.5327	2.3566	2.1453	0.5351	2.1069	2.1069	2.1069	2.1071	2.1069
	4	2.3082	0.5858	2.5711	2.3491	0.5883	2.3081	2.3081	2.3081	2.3110	2.3081
20	10	2:7039	0.6964	2.9937	2.7498	0.6987	2.7036	2.7036	2.7037	2.7188	2.7037
	16	3.0934	0.8108	3.4106	3.1440	0.8129	3.0929	3.0929	3.0929	3.1266	3.0930
	25	3.6700	0.9874	4.0290	3.7278	0.9885	3.6692	3.6692	3.6693	3.7383	3.6693
	32	4.1143	1.1275	4.5060	4.1776	1.1277	4.1134	4.1134	4.1135	4.2141	4.1135
	1	1.9020	0.5573	2.0570	1.9191	0.5614	1.9020	1.9020	1.9020	1.9022	1.9020
	4	2.0833	0.6131	2.2433	2.1003	0.6174	2.0832	2.0832	2.0832	2.0863	2.0832
30	10	2.4385	0.7294	2.6094	2.4554	0.7339	2.4380	2.4379	2.4380	2.4545	2.4381
	16	2.7868	0.8502	2.9693	2.8038	0.8547	2.7859	2.7859	2.7860	2.8227	2.7860
	25	3.3009	1.0370	3.5018	3.3184	1.0410	3.2996	3.2996	3.2998	3.3749	3.2998
	32	3.6962	1.1856	3.9117	3.7142	1.1890	3.6946	3.6945	3.6948	3.8045	3.6947
	1	1.7432	0.5811	1.8461	1.7520	0.5869	1.7432	1.7432	1.7432	1.7434	1.7432
	4	1.9089	0.6394	2.0126	1.9164	0.6456	1.9087	1.9086	1.9087	1.9121	1.9087
50	10	2.2322	0.7614	2.3384	2.2375	0.7682	2.2315	2.2313	2.2315	2.2495	2.2316
	16	2.5481	0.8886	2.6576	2.5515	0.8956	2.5467	2.5464	2.5468	2.5870	2.5469
	25	3.0126	1.0859	3.1283	3.0139	1.0929	3.0106	3.0103	3.0108	3.0931	3.0108
	32	3.3687	1.2432	3.4897	3.3685	1.2499	3.3663	3.3659	3.3665	3.4868	3.3665
	1	1.6759	0.5928	1.7618	1.6832	0.5995	1.6759	1.6758	1.6759	1.6761	1.6759
	4	1.8349	0.6523	1.9202	1.8407	0.6595	1.8347	1.8346	1.8347	1.8383	1.8348
70	10	2.1446	0.7772	2.2298	2.1476	0.7851	2.1437	2.1434	2.1438	2.1627	2.1439
	16	2.4465	0.9077	2.5324	2.4472	0.9159	2.4449	2.4444	2.4450	2.4871	2.4451
	25	2.8896	1.1104	2.9778	2.8875	1.1188	2.8871	2.8865	2.8872	2.9737	2.8873
	32	3.2286	1.2722	3.3192	3.2247	1.2806	3.2256	3.2249	3.2258	3.3522	3.2258
	1	1.6255	0.6023	1.7004	1.6324	0.6097	1.6255	1.6255	1.6255	1.6257	1.6255
	4	1.7796	0.6629	1.8530	1.7848	0.6708	1.7793	1.7792	1.7793	1.7831	1.7794
100	10	2.0790	0.7902	2.1506	2.0812	0.7990	2.0780	2.0775	2.0780	2.0977	2.0781
	16	2.3703	0.9233	2.4411	2.3700	0.9326	2.3684	2.3676	2.3685	2.4124	2.3686
	25	2.7970	1.1306	2.8678	2.7937	1.1403	2.7941	2.7931	2.7942	2.8844	2.794
	32	3.1230	1.2963	3.1943	3.1177	1.3061	3.1194	3.1183	3.1196	3.2515	3.1196

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.95**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tiku-Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 50$					
	I	8.7526	0.3769	---------	---------	0.3673	8.7526	8.7526	8.7526	8.7526	8.7526
	4	9.2672	0.3992	---------	---------	0.3890	9.2672	9.2672	9.2672	9.2675	9.2672
3	10	10.2954	0.4443	---------	---------	0.4329	10.2954	10.2954	10.2954	10.2972	10.2954
	16	11.3227	0.4899	---------	---------	0.4772	11.3228	11.3228	11.3228	11.3269	11.3228
	25	12.8625	0.5590	---------	---------	0.5443	12.8626	12.8626	12.8626	12.8715	12.8626
	32	14.0594	0.6131	---------	---------	0.5968	14.0595	14.0595	14.0595	14.0728	14.0595
	1	4.5333	0.4332	18.0773	6.4055	0.4258	4.5333	4.5333	4.5333	4.5333	4.5333
	4	4.7995	0.4589	19.1148	6.7970	0.4510	4.7995	4.7995	4.7995	4.8000	4.7995
5	10	5.3307	0.5109	21.1858	7.5756	0.5021	5.3307	5.3307	5.3307	5.3333	5.3307
	16	5.8606	0.5635	23.2526	8.3496	0.5537	5.8606	5.8606	5.8606	5.8666	5.8606
	25	6.6536	0.6433	26.3472	9.5046	0.6318	6.6537	6.6537	6.6537	6.6666	6.6537
	32	7.2693	0.7059	28.7507	10.3991	0.6931	7.2694	7.2694	7.2694	7.2888	7.2694
	1	2.6898	0.5078	3.5007	2.9012	0.5037	2.6898	2.6898	2.6898	2.6899	2.6898
	4	2.8475	0.5380	3.7004	3.0719	0.5337	2.8475	2.8475	2.8475	2.8481	2.8475
10	10	3.1614	0.5992	4.0980	3.4114	0.5943	3.1614	3.1614	3.1614	3.1645	3.1614
	16	3.4736	0.6614	4.4939	3.7488	0.6557	3.4736	3.4736	3.4736	3.4810	3.4736
	25	3.9397	0.7558	5.0854	4.2524	0.7491	3.9397	3.9397	3.9397	3.9557	3.9397
	32	4.3008	0.8301	5.5440	4.6423	0.8224	4.3008	4.3008	4.3008	4.3249	4.3008
	1	2.0049	0.5728	2.2126	2.0385	0.5718	2.0049	2.0049	2.0049	2.0049	2.0049
	4	2.1222	0.6069	2.3381	2.1572	0.6058	2.1222	2.1222	2.1222	2.1229	2.1222
20	10	2.3549	0.6763	2.5874	2.3928	0.6750	2.3549	2.3549	2.3549	2.3588	2.3549
	16	2.5857	0.7470	2.8348	2.6264	0.7453	2.5856	2.5856	2.5856	2.5946	2.5856
	25	2.9292	0.8547	3.2035	2.9742	0.8524	2.9290	2.9290	2.9290	2.9484	2.9291
	32	3.1948	0.9396	3.4888	3.2430	0.9367	3.1945	3.1945	3.1945	3.2236	3.1945
	1	1.7960	0.6041	1.9166	1.8093	0.6046	1.7960	1.7960	1.7960	1.7961	1.7960
	4	1.9010	0.6401	2.0250	1.9142	0.6406	1.9010	1.9010	1.9010	1.9017	1.9010
30	lO	2.1088	0.7135	2.2398	2.1221	0.7140	2.1087	2.1087	2.1087	2.1131	2.1087
	16	2.3145	0.7884	2.4528	2.3279	0.7887	2.3143	2.3143	2.3143	2.3244	2.3143
	25	2.6201	0.9028	2.7696	2.6338	0.9027	2.6197	2.6197	2.6198	2.6413	2.6198
	32	2.8560	0.9930	3.0143	2.8700	0.9925	2.8555	2.8555	2.8555	2.8878	2.8555
	1	1.6314	0.6356	1.7052	1.6372	0.6377	1.6314	1.6314	1.6314	1.6315	1.6314
	4	1.7266	0.6736	1.8013	1.7317	0.6758	1.7266	1.7266	1.7266	1.7275	1.7266
50	10	1.9147	0.7711	1.9915	1.9187	0.7534	1.9145	1.9145	1.9145	1.9194	1.9145
	16	2.1004	0.8304	2.1796	2.1034	0.8327	2.1000	2.1000	2.1000	2.1113	2.1001
	25	2.3756	0.9517	2.4586	2.3773	0.9539	2.3750	2.3749	2.3750	2.3992	2.3750
	32	2.5875	1.0475	2.6739	2.5884	1.0496	2.5867	2.5866	2.5868	2.6232	2.5868
	1	1.5605	0.6518	1.6193	1.5650	0.6547	1.5605	1.5605	1.5605	1.5606	1.5605
	4	1.6515	0.6907	1.7104	1.6553	0.6938	1.6514	1.6514	1.6514	1.6524	1.6514
70	10	1.8310	0.7704	1.8905	1.8334	0.7736	1.8307	1.8307	1.8307	1.8360	1.8308
	16	2.0079	0.8519	2.0683	2.0091	0.8553	2.0075	2.0073	2.0075	2.0195	2.0075
	25	2.2697	0.9769	2.3318	2.2694	0.9803	2.2690	2.2688	2.2690	2.2949	2.2690
	32	2.4712	1.0758	2.5347	2.4697	1.0792	2.4702	2.4700	2.4702	2.5091	2.4703
	1	1.5067	0.6653	1.5560	1.51111	0.6689	1.5067	1.5067	1.5067	1.5086	1.5067
	4	1.5945	0.7051	1.6434	1.5980	0.7089	1.5944	1.5944	1.5944	1.5954	1.5944
100	10	1.7674	0.7866	1.8160	1.7695	0.7906	1.7672	1.7670	1.7672	1.7727	1.7672
	16	1.9377	0.8701	1.9862	1.9385	0.8744	1.9371	1.9369	1.9371	1.9499	1.9372
	25	2.1892	0.9983	2.2380	2.1884	1.0027	2.1883	2.1880	2.1883	2.2158	2.1884
	32	2.3825	1.0998	2.4318	2.3805	1.1042	2.3813	2.3810	2.3814	2.4227	2.3814

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.95**

ν_2	λ	Patnaik	Laubseher 1st	Laubseher 2nd	Laubseher 3rd	Severo Zelen	Tiku	Tiku-Yip	Mudholkar et al.	Coe-Reid	Exact
						$\nu_1 = 70$					
	1	8.6879	0.3830	---------	---------	0.3725	2.6813	8.6879	8.6879	8.6879	8.6879
	4	9.0549	0.3993	---------	---------	0.3883	9.0549	9.0549	9.0549	9.0550	9.0549
3	10	9.7885	0.4319	---------	---------	0.4201	9.7885	9.7885	9.7885	9.7892	9.7885
	16	10.5218	0.4648	---------	---------	0.4520	10.5218	10.5218	10.5218	10.5234	10.5218
	25	11.6210	0.5144	---------	---------	0.5002	11.6211	11.6211	11.6211	11.6247	11.6211
	32	12.4757	0.5532	---------	---------	0.5378	12.4757	12.4757	12.4757	12.4812	12.4757
	1	4.4852	0.4417	17.7877	6.3687	0.4334	4.4852	4.4852	4.4852	4.4852	4.4852
	4	4.6745	0.4605	18.5262	6.6455	0.4517	4.6745	4.6745	4.6745	4.6747	4.6745
	10	5.0527	0.4982	20.0016	7.1975	0.4887	5.0527	5.0527	5.0527	5.0537	5.0527
	16	5.4304	0.5362	21.4753	7.7475	0.5260	5.4304	4.4304	5.4304	5.4328	5.4304
	25	5.9960	0.5936	23.6832	8.5697	0.5822	5.9961	5.9961	5.9961	6.0013	5.9961
	32	6.4354	0.6385	25.3988	9.2074	0.6261	6.4355	6.4355	6.4355	6.4435	6.4355
	1	2.6468	0.5208	3.4240	2.8543	0.5155	2.6468	2.6468	2.6468	2.6468	2.6468
	4	2.7584	0.5430	3.5656	2.9750	0.5374	2.7584	2.7584	2.7584	2.7586	2.7584
10	10	2.9810	0.5876	3.8480	3.2156	0.5815	2.9810	2.9810	2.9810	2.9823	2.9810
	16	3.2030	0.6326	4.1296	3.4554	0.6260	3.2030	3.2030	3.2030	3.2060	3.2030
	25	3.5349	0.7006	4.5510	3.8138	0.6932	3.5349	3.5349	3.5349	3.5415	3.5349
	32	3.7924	0.7540	4.8781	4.0917	0.7459	3.7924	3.7924	3.7924	3.8024	3.7924
	1	1.9599	0.5914	2.1496	1.9911	0.5890	1.9599	1.9599	1.9599	1.9599	1.9599
	4	2.0425	0.6166	2.2381	2.0747	0.6141	2.0425	2.0425	2.0425	2.0428	2.0425
20	10	2.2069	0.6674	2.4144	2.2411	0.6646	2.2069	2.2069	2.2069	2.2084	2.2069
	16	2.3704	0.7187	2.5900	2.4066	0.7157	2.3704	2.3704	2.3704	2.3740	2.3704
	25	2.6145	0.7966	2.8521	2.6537	0.7930	2.6144	2.6144	2.6144	2.6225	2.6144
	32	2.8035	0.8576	3.0552	2.8451	0.8537	2.8034	2.8034	2.8034	2.8157	2.8034
	1	1.7486	0.6263	1.8543	1.7597	0.6254	1.7486	1.7486	1.7486	1.7486	1.7486
	4	1.8222	0.6530	1.9305	1.8334	0.6520	1.8222	1.8222	1.8222	1.8225	1.8222
30	10	1.9686	0.7069	2.0821	1.9799	0.7057	1.9685	1.9685	1.9685	1.9703	1.9685
	16	2.1140	0.7614	2.2329	2.1254	0.7601	2.1139	2.1139	2.1139	2.1180	2.1139
	25	2.3308	0.8442	2.4577	2.3424	0.8426	2.3306	2.3306	2.3306	2.3397	2.3306
	32	2.4984	0.9092	2.6318	2.5103	0.9074	2.4982	2.4982	2.4983	2.5121	2.4983
	1	1.5803	0.6624	1.6415	1.5842	0.6630	1.5803	1.5803	1.5803	1.5803	1.5803
	4	1.6467	0.6906	1.7088	1.6503	0.6912	1.6467	1.6467	1.6467	1.6471	1.6467
50	10	1.7787	0.7478	1.8425	1.7816	0.7483	1.7786	1.7786	1.7786	1.7806	1.7786
	16	1.9096	0.8057	1.9752	1.9119	0.8062	1.9095	1.9094	1.9095	1.9142	1.9095
	25	2.1043	0.8938	2.1729	2.1058	0.8941	2.1041	2.1041	2.1041	2.1145	2.1041
	32	2.2548	0.9630	2.3257	2.2557	0.9633	2.2544	2.2544	2.2545	2.2703	2.2545
	1	1.5069	0.6814	1.5540	1.5098	0.6827	1.5069	1.5069	1.5069	1.5069	1.5069
	4	1.5702	0.7104	1.6176	1.5727	0.7118	1.5702	1.5702	1.5702	1.5706	1.5702
70	10	1.6959	0.7693	1.7439	1.6975	0.7707	1.6958	1.6958	1.6958	1.6979	1.6958
	16	1.8204	0.8290	1.8692	.1.8212	0.8305	1.8202	1.8201	1.8202	1.8253	1.8202
	25	2.0054	0.9199	2.0556	2.0052	0.9213	2.0051	2.0050	2.0051	2.0163	2.0051
	32	2.1481	0.9915	2.1995	2.1472	0.9928	2.1477	2.1476	2.1477	2.1649	2.1477
	1	1.4507	0.6976	1.4890	1.4535	0.6996	1.4507	1.4507	1.4507	1.4507	1.4507
	4	1.5116	0.7273	1.5499	1.5140	0.7294	1.5116	1.5116	1.5116	1.5120	1.5116
100	10	1.6324	0.7877	1.6706	1.6338	0.7899	1.6323	1.6323	1.6323	1.6346	1.6323
	16	1.7519	0.8490	1.7903	1.7526	0.8513	1.7517	1.7516	1.7517	1.7572	1.7517
	25	1.9294	0.9423	1.9682	1.9289	0.9447	1.9290	1.9289	1.9290	1.9411	1.9290
	32	2.0662	1.0159	2.1054	2.0650	1.0183	2.0657	2.0655	2.0657	2.0841	2.0657

'----' designates undefined values

TABLE3 *(Cont.)*

α **=O.95**

v_2	λ	Patnaik	Laubscher 1st	Laubscher 2nd	Laubscher 3rd	Severo-Zelen	Tiku	Tilcu- Yip	Mudholkar et al	Cox-Reid	Exact
						$v_1 = 100$					
	1	8.6394	0.3876	---------	---------	0.3765	8.6394	8.6394	8.6394	8.6394	8.6394
	4	8.8960	0.3992	---------	---------	0.3877	8.8960	8.8960	8.8960	8.8961	8.8960
3	10	9.4090	0.4223	---------	---------	0.4102	9.4090	9.4090	9.4090	9.4093	9.4090
	16	9.9219	0.4455	---------	---------	0.4327	9.9219	9.9219	9.9219	9.9225	9.9219
	25	10.6910	0.4805	---------	---------	0.4666	10.6910	10.6910	10.6910	10.6924	10.6910
	32	11.2890	0.5077	---------	---------	0.4931	11.2891	11.2891	11.2891	11.2912	11.2891
	1	4.4491	0.4482	17.5706	6.3412	0.4391	4.4491	4.4491	4.4491	4.4491	4.4491
	4	4.5812	0.4616	18.0861	6.5335	0.4522	4.5812	4.5812	4.5812	4.5813	4.5812
5	10	4.8452	0.4883	19.1166	6.9173	0.4784	4.8452	4.8452	4.8452	4.8456	4.8452
	16	5.1090	0.5152	20.1464	7.3004	0.5047	5.1090	5.1090	5.1090	5.1099	5.1090
	25	5.5044	0.5557	21.6901	7.8739	0.5443	5.5044	5.5044	5.5044	5.5064	5.5044
	32	5.8116	0.5873	22.8899	8.3192	0.5752	5.8116	5.8116	5.8116	5.8147	5.8116
	l	2.6143	0.5308	3.3663	2.8188	0.5246	2.6143	2.6143	2.6143	2.6143	2.6143
	4	2.6919	0.5466	3.4648	2.9026	0.5402	2.6919	2.6919	2.6919	2.6919	2.6919
10	l0	2.8468	0.5784	3.6615	3.0699	0.5716	2.8468	2.8468	2.8468	2.8473	2.8468
	16	3.0015	0.6103	3.8579	3.2369	0.6031	3.0015	3.0015	3.0015	3.0026	3.0015
	25	3.2330	0.6584	4.1521	3.4869	0.6506	3.2330	3.2330	3.2330	3.2355	3.2330
	32	3.4129	0.6959	4.3806	3.6809	0.6877	3.4129	3.4129	3.4129	3.4167	3.4129
	1	1.9256	0.6060	2.1017	1.9548	0.6026	1.9256	1.9256	1.9256	1.9256	1.9256
	4	1.9827	0.6241	2.1631	2.0126	0.6206	1.9827	1.9827	1.9827	1.9828	1.9827
20	10	2.0967	0.6604	2.2854	2.1279	0.6566	2.0966	2.0966	2.0966	2.0972	2.0966
	16	2.2103	0.6969	2.4075	2.2429	0.6929	2.2102	2.2102	2.2102	2.2116	2.2102
	25	2.3801	0.7521	2.5901	2.4149	0.7477	2.3801	2.3801	2.3801	2.3832	2.3801
	32	2.5119	0.7952	2.7318	2.5484	0.7905	2.5119	2.5119	2.5119	2.5167	2.5119
	1	1.7120	0.6441	1.8066	1.7214	0.6420	1.7120	1.7120	1.7120	1.7120	1.7120
	4	1.7627	0.6633	1.8592	1.7722	0.6612	1.7627	1.7627	1.7627	1.7628	1.7627
30	10	1.8639	0.7019	1.9642	1.8735	0.6997	1.8639	1.8639	1.8639	1.8645	1.8639
	16	1.9647	0.7408	2.0688	1.9744	0.7384	1.9647	1.9647	1.9647	1.9662	1.9647
	25	2.1153	0.7995	2.2252	2.1253	0.7969	2.1153	2.1153	2.1153	2.1188	2.1153
	32	2.2321	0.8455	2.3465	2.2422	0.8427	2.2320	2.2320	2.2320	2.2374	2.2320
	1	1.5402	0.6843	1.5919	1.5426	0.6837	1.5402	1.5402	1.5402	1.5402	1.5401
	4	1.5858	0.7047	1.6382	1.5880	0.7041	1.5858	1.5858	1.5858	1.5859	1.5858
50	10	1.6767	0.7458	1.7305	1.6585	0.7452	1.6767	1.6767	1.6767	1.6774	1.6767
	16	1.7671	0.7873	1.8223	1.7686	0.7865	1.7671	1.7671	1.7671	1.7689	1.7671
	25	1.9021	0.8499	1.9595	1.9031	0.8491	1.9021	1.9021	1.9021	1.9061	1.9021
	32	2.0067	0.8990	2.0658	2.0072	0.8980	2.0066	2.0065	2.0066	2.0129	2.0066
	1	1.4643	0.7060	1.5027	1.4658	0.7062	1.4643	1.4643	1.4643	1.4643	1.4643
	4	1.5077	0.7271	1.5463	1.5089	0.7272	1.5077	1.5077	1.5077	1.5078	1.5077
70	10	1.5940	0.7695	1.6333	1.5947	0.7697	1.5940	1.5940	1.5940	1.5948	1.5940
	16	1.6799	0.8123	1.7198	1.6801	0.8125	1.6798	1.6798	1.6798	1.6818	1.6798
	25	1.8079	0.8771	1.8489	1.8075	0.8772	1.8078	1.8078	1.8078	1.8123	1.8078
	32	1.9070	0.9279	1.9489	1.9061	0.9279	1.9069	1.9068	1.9069	1.9138	1.9069
	1	1.4056	0.7249	1.4356	1.4070	0.7257	1.4056	1.4056	1.4056	1.4056	1.4056
	4	1.4472	0.7465	1.4773	1.4484	0.7474	1.4472	1.4472	1.4472	1.4474	1.4472
100	10	1.5300	0.7902	1.5603	1.5307	0.7910	1.5300	1.5300	1.5300	1.5309	1.5300
	16	1.6123	0.8342	1.6428	1.6124	0.8351	1.6122	1.6122	1.6122	1.6144	1.6122
	25	1.7349	0.9009	1.7658	1.7344	0.9018	1.7348	1.7347	1.7348	1.7396	1.7348
	32	1.8297	0.9532	1.8610	1.8287	0.9541	1.8295	1.8295	1.8295	1.8371	1.8295

'----' designates undefined

APPENDIX

CORNISH-FISHER EXP ANSION

Comish and Fisher (1937) [see also Fisher and Cornish, 1960; Abramowitz and Stegun 1964, Stuart and Ord 1987], have developed a general method for expressing the percentile of an arbitrary distribution as a function of its cumulants and the percentiles of a normal distribution. Let μ and σ be the mean and standard deviation of the random variable Y with density $f(y)$, K_r the *r-th* cumulant of Y, and a_r the *r-th* relative cumulant of Y; *i. e.*

$a_r = K_r / K_2^{r/2}$ Further let Z denote the standard normal variate.

For any probability level $\alpha(0 \le \alpha \le 1)$, let y_α and z_α be the 100 α *-th* percentiles of Y and Z respectively. Thus,

$$\Pr(Y < y_\alpha) = \int_{-\infty}^{y_\alpha} f(y)dy = \alpha$$

and

$$\Pr(Z < z_\alpha) = \int_{-\infty}^{z_\alpha} (2\pi)^{-1/2} \exp\left(-\frac{1}{2}z^2\right)dz = \alpha$$

If we let U be the standardized Y, then $u_\alpha = (y_\alpha - \mu)/\sigma$.

Comish and Fisher (1937) gave the following asymptotic expansion for the standardized percentile u_α as a function of the standardized normal percentile z_α:

$$u_\alpha = c_0 + c_1 z_\alpha + c_2 z_\alpha^2 + c_3 z_\alpha^3 +$$

where the c_i's are defined in terms ofthe relative cumulants. Generally, the more terms are included in the asymptotic expansion, the better the approximation.

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