V. KESIMPULAN

Berdasarkan hasil penelitian yang telah dilakukan diperoleh kesimpulan sebagai berikut:

1. Momen dari distribusi *generalized* lambda $(\lambda_1, \lambda_2, \lambda_3, \lambda_4)$ dapat ditentukan dengan menggunakan ekspetasi Z dimana Z merupakan transformasi pada salah satu parameter dari distribusi *generalized* lambda pada saat nilai λ_1 = 0, dapat dicari berdasarkan definisi momen dan melalui penurunan fungsi pembangkit momen. Momen pertama hingga momen keempat dari distribusi *generalized* lambda $(\lambda_1, \lambda_2, \lambda_3, \lambda_4)$ adalah

$$Momen\ Pertama = \lambda_1 + \frac{1}{\lambda_2}\left(1 - \frac{1}{1+\lambda_4}\right)$$

$$Momen\ Kedua = \frac{1}{{\lambda_2}^2}\left(1 + \frac{1}{1+2\lambda_4} - \frac{2}{1+\lambda_4}\right) + 2\frac{\lambda_1}{\lambda_2}\left(1 - \frac{1}{1+\lambda_4}\right) + {\lambda_1}^2$$

$$Momen\ Ketiga = \frac{1}{\lambda_2^3}\left(1 - \frac{1}{3\lambda_4+1} - \frac{3}{1+\lambda_4} + \frac{3}{1+2\lambda_4}\right) +$$

$$3\lambda_1\left(\frac{1}{{\lambda_2}^2}\left(1 + \frac{1}{1+2\lambda_4} - \frac{2}{1+\lambda_4}\right)\right) + \frac{3{\lambda_1}^2}{\lambda_2}\left(1 - \frac{1}{1+\lambda_4}\right) + {\lambda_1}^3$$

$$Momen\ Keempat = \frac{1}{{\lambda_2}^4}\left(1 + \frac{1}{4\lambda_4 + 1} - \frac{4}{1 + \lambda_4} + \frac{6}{1 + 2\lambda_4} - \frac{4}{1 + 3\lambda_4}\right) +$$

$$4\lambda_1\left(\frac{1}{\lambda_2^3}\left(1 - \frac{1}{3\lambda_4 + 1} - \frac{3}{1 + \lambda_4} + \frac{3}{1 + 2\lambda_4}\right)\right) +$$

$$6{\lambda_1}^2\left(\frac{1}{{\lambda_2}^2}\left(1 + \frac{1}{1 + 2\lambda_4} - \frac{2}{1 + \lambda_4}\right)\right) +$$

$$4{\lambda_1}^3\left(\frac{1}{\lambda_2}\left(1 - \frac{1}{1 + \lambda_4}\right)\right) + {\lambda_1}^4$$

2. Kumulan pertama hingga kumulan keempat dari distribusi *generalized* Lambda $(\lambda_1, \lambda_2, \lambda_3, \lambda_4)$ adalah:

$$Kumulan\ Pertama = \lambda_1 + \left(\frac{1}{\lambda_2}\right) - \left(\frac{1}{\lambda_2}\right)\left(1 - \frac{1}{1 + \lambda_4}\right)$$

$$Kumulan\ Kedua = \frac{1}{{\lambda_2}^2}\left(\frac{1}{1 + \lambda_4} + \frac{1}{1 + 2\lambda_4} - \frac{1}{(1 + \lambda_4)^2}\right)$$

$$Kumulan\ Ketiga = 2\left(\left(\frac{1}{\lambda_2}\right)\left(1 - \frac{1}{1 + \lambda_4}\right)\right)^3 -$$

$$3\left(\frac{1}{{\lambda_2}^3}\right)\left(1 - \frac{1}{1 + \lambda_4}\right)\left(1 - \frac{2}{1 + \lambda_4} + \frac{1}{1 + 2\lambda_4}\right) +$$

$$\frac{1}{{\lambda_2}^3}\left(1 - \frac{1}{1 + 3\lambda_4} - \frac{3}{1 + \lambda_4} + \frac{3}{1 + 2\lambda_4}\right)$$

$$Kumulan\ Keempat = \frac{4{\lambda_1}^3}{\lambda_2}\left(1-\frac{1}{1+\lambda_4}\right)-\frac{6{\lambda_1}^2}{{\lambda_2}^2}\left(1-\frac{1}{1+\lambda_4}\right)^2+$$

$$\frac{4\lambda_1}{{\lambda_2}^3}\left(1-\frac{1}{1+\lambda_4}\right)^3+\left(\frac{1}{{\lambda_2}^4}\right)\left(1-\frac{1}{1+\lambda_4}\right)^4+$$

$$\frac{6\lambda_1}{{\lambda_2}^3}\left(1-\frac{1}{1+\lambda_4}\right)\left(1-\frac{2}{1+\lambda_4}+\frac{1}{1+2\lambda_4}\right)+$$

$$\frac{12}{{\lambda_2}^4}\left(1-\frac{1}{1+\lambda_4}\right)^2\left(1-\frac{2}{1+\lambda_4}+\frac{1}{1+2\lambda_4}\right)-$$

$$\frac{4}{{\lambda_2}^3}\left(1-\frac{1}{1+\lambda_4}\right)\left(1-\frac{1}{1+3\lambda_4}+\frac{3}{1+\lambda_4}-\frac{3}{1+2\lambda_4}\right)+$$

$$\frac{1}{{\lambda_2}^4}\left(1+\frac{1}{1+4\lambda_4}-\frac{4}{1+\lambda_4}+\frac{6}{1+2\lambda_4}-\frac{4}{1+3\lambda_4}\right)$$

3. Fungsi karakteristik dari distribusi *generalized* Lambda $(\lambda_1, \lambda_2, \lambda_3, \lambda_4)$ adalah

$$\Phi_X(t) = e^{it\lambda_1+\frac{it}{\lambda_2}}\sum_{k=0}^{\infty}(-1)^k\frac{1}{k!}\frac{1}{1+k\lambda_4}\left(\frac{t}{\lambda_2}\right)^k$$