## Calculations of approximations for $\mathcal{F}_{\frac{1}{2}}(\eta)$ with and without k-transformations.

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Table.1. The obtained C's and a's in our paper (i.e. without k-transformation)

| C1           | C2           | C3          | C4           |
|--------------|--------------|-------------|--------------|
| 5795.540857  | -8358.440387 | 7038.341888 | -4474.679296 |
| a1           | a2           | a3          | a4           |
| -0.099204871 | -0.110982279 | -0.15989276 | -0.172816032 |

Table.2. The obtained C's and a's with k-transformation.

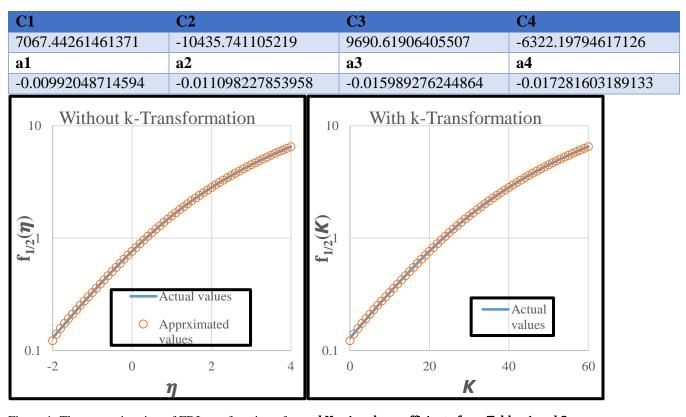


Figure 1. The approximation of FDI as a function of  $\eta$  and K using the coefficients from Tables 1 and 2.

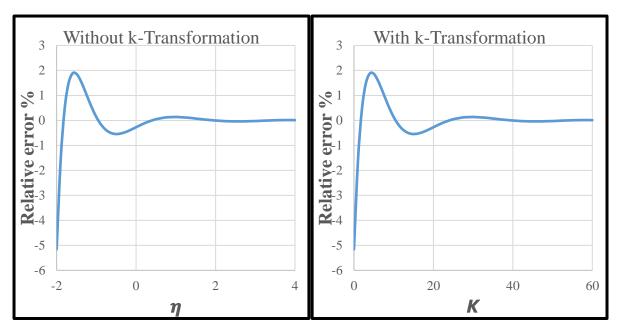
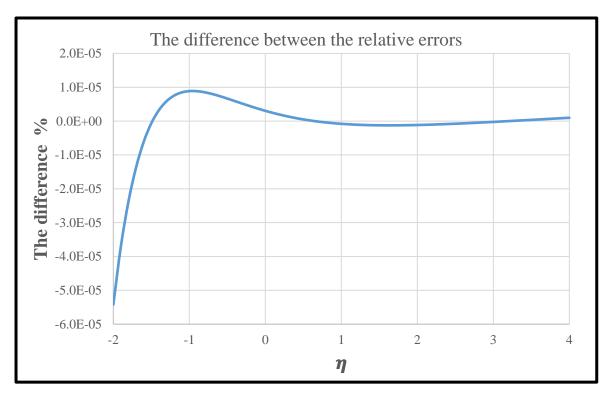


Figure.2. The difference in relative error profiles with and without k-transformation.



**Figure.3.** The difference between the relative errors for the calculations with and without k-trnasformation.