

$$\text{Total benefits for the government} = p \times N \times [4\%GDP + (SLW - USLW) \times t] \times \sum_{n=1}^{20} \frac{1}{(1+i)^n}$$

With the parameters as follows:

1. N = number of children under 14 years in Cote d'Ivoire = 10,542,000 (calculate from 42% of population of 25.1×10^6)
2. GDP of Côte d'Ivoire is 74.36 USD Billion in 2023
3. SLW = \$3458.05
4. $USLW$ = \$1537.03
5. $t = 0.015 \times 0.8$
6. $i = 7.1\%$
7. $n = 20$
8. $p = 31.3\%$ (percentage of children in child labor)

We can then substitute in the formula and calculate the result as percentage of GDP, since we get this as follows:

$$\begin{aligned} \text{Total benefits over 20 years} &= (\text{Gain on Health} + \text{Gain on taxes}) \times \text{Future earnings over 20 years} \\ &= (p \times 42\% \times 4\%GDP + p \times N \times (SLW - USLW) \times t) \times \sum_{n=1}^{20} \frac{1}{(1.071)^n} \\ &= (0.313 \times 0.42 \times 0.04 \times 74.36 \times 10^9) + (0.313 \times 10,542,000 \\ &\quad \times (3458.05 - 1537.03) \times 0.015 \times 0.8) \times 10.512 \\ &= ((0.313 \times 1,249,248,000) + (0.313 \times 243,018,822.48)) \times 10.512 \\ &= (391,014,624 + 76,064,891.4362) \times 10.512 \\ &= 4,909,939,866.26 \end{aligned}$$

$$\text{This means in percentage of GDP} = \frac{4,909,939,866.26}{74.36 \times 10^9} = 0.06602931503 = 6.6\%$$

The total gain of the government will be 6.6% GDP in the next 20 years