

# Marginal Rate of Substitution Between Public and Private Goods

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<https://www.pascalmichailat.org/t5.html>



Representative household : derives utility from public & private goods & lab

Utility function:

$$U(c, g)$$

share of production, private workers

share of production, public workers

- $U$  is strictly increasing in  $c$
- $U$  is strictly increasing in  $g$
- $U$  is strictly concave

Marginal rate of substitution b/w public & private goods

$$MRS_{g,c} = \frac{\partial U / \partial g}{\partial U / \partial c} > 0$$

- $MRS_{g,c}$  is strictly decreasing in  $g/c$
- $MRS_{g,c}(g/c = 0) > 1$   $\rightarrow$  so that it is desirable to provide some public goods (interim solution to planner's problem)