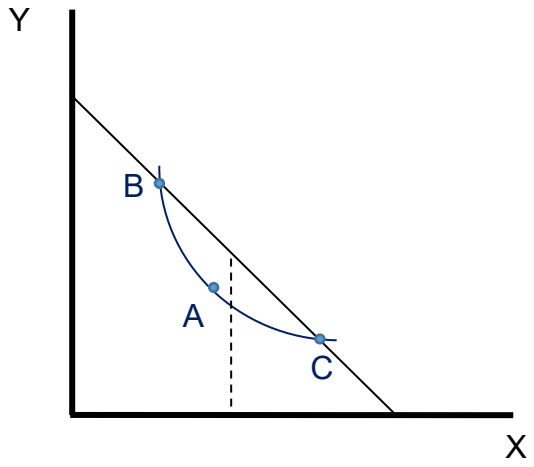
Lecture # 9 -- Consumer Behavior: Maximizing Utility

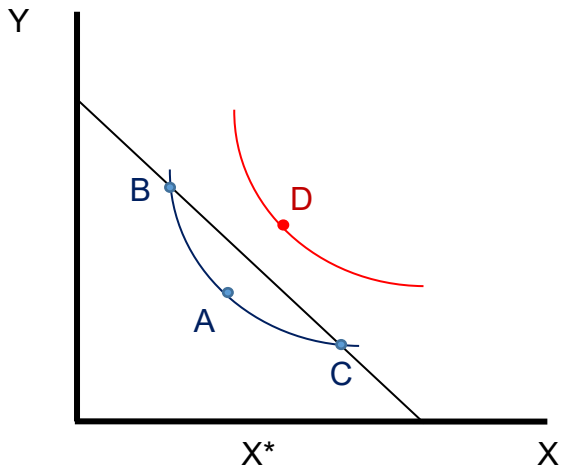
I. Which Bundle to Choose? Maximizing Utility

- What must be true about the maximizing bundle?
    1. It must be on the budget constraint.
    2. It must be on the highest possible indifference curve.

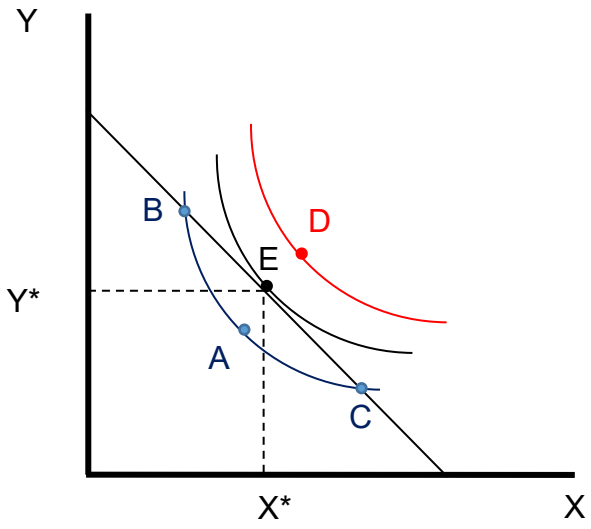
- Consider some examples



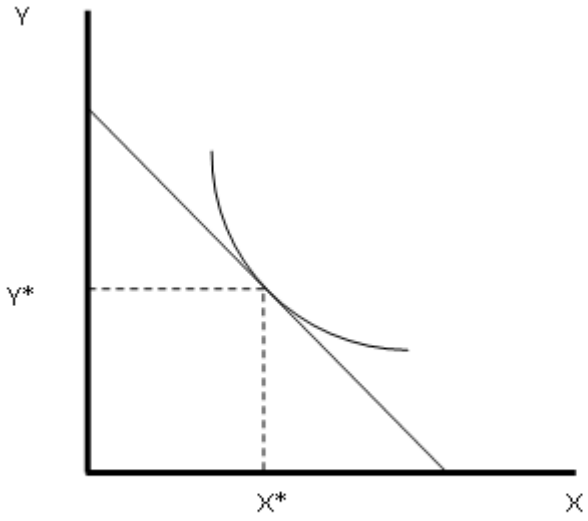
    - A is not on the budget constraint: we have money left to spend
    - B & C are on the budget constraint, but we can do better



    - D is on a higher indifference curve, but it is not on the budget constraint: we cannot afford it



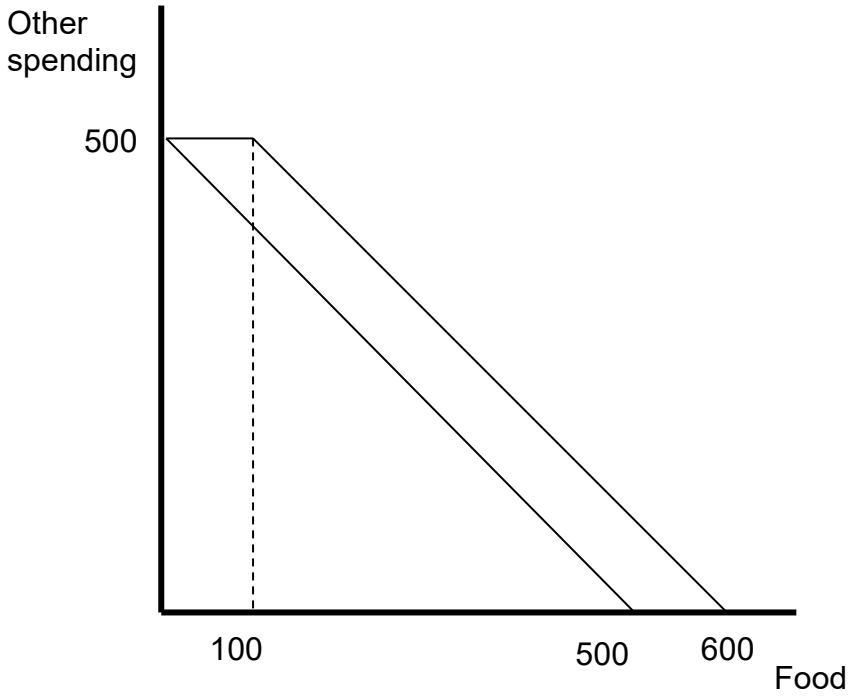
- E is the best we can do
- It is the highest possible indifference curve that is still on the budget constraint
- At this point, the indifference curve and budget constraint are tangent



- MRS = $MU_x/MU_y = P_x/P_y$, or:
  - $MU_x/P_x = MU_y/P_y$
  - ***The marginal utility per dollar spent on x equals the marginal utility spent per dollar on y.***
  - If not, utility could be improved by spending less on the good with a lower marginal utility per dollar and more on the good with a higher marginal utility per dollar.
- Note the importance of *marginal analysis*.
  - ***In general, things are maximized when they are equal at the margin.***

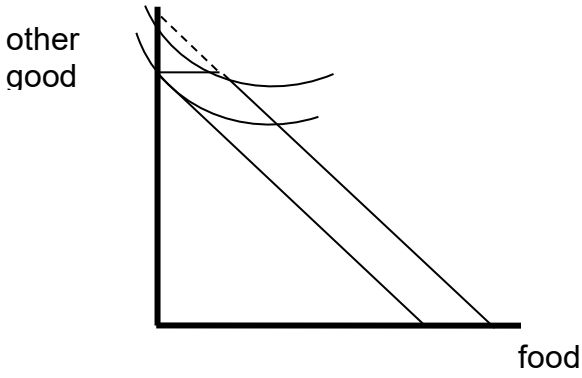
II. In Kind Transfers

- In-kind transfers
  - In-kind transfers are when aid is given as a commodity, rather than in cash, such as food stamps
  - In the example below, I use a $100 food voucher as an example of an in-kind transfer.
  - The vouchers are like an increase in income. Thus, the budget constraint shifts out.
    - Note that prices remain the same, so the slope must remain the same.
  - However, the budget constraint is cut off at the top, since some income will be spent on food.
    - It is not possible to spend $100 more on other consumption and $0 on food.

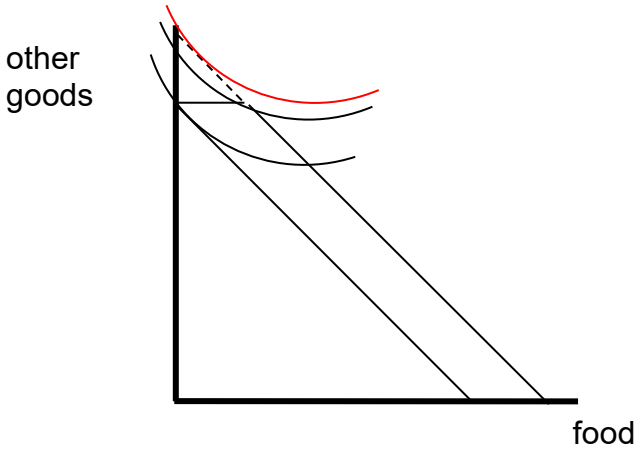


    - In general, note that the key for graphing budget constraints is finding the relevant end points.

- In kind transfers, in which aid is given as a commodity, rather than cash, may lead to corner solutions
    - When we are at a corner solution, marginal utility per dollar is not equal, so consumers are being hurt by a constraint.
        - In the voucher example, the consumer would have preferred to spend less on food than the amount allocated in vouchers, but cannot.



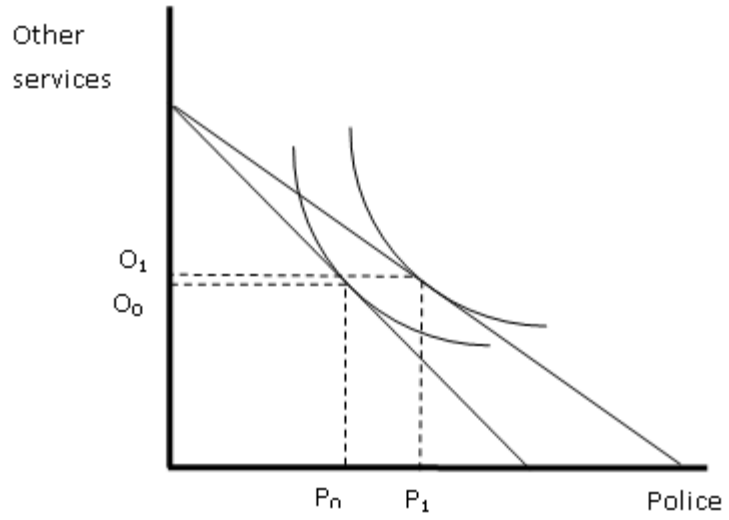
        - The person is maximizing utility given the additional constraint of the voucher program, *but would even be happier if cash was given instead.*
            - This is shown in the graph below. Note that, had we given this family cash instead (represented by the dashed line), they could have attained higher utility, represented by the red indifference curve.



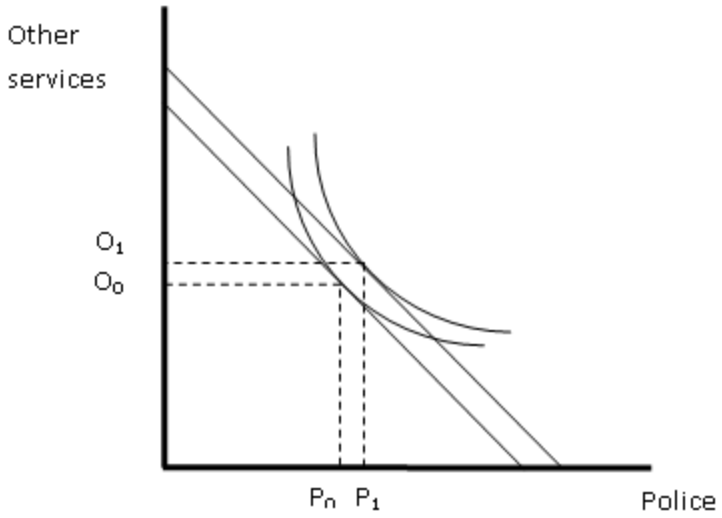
        - Moreover, as the article on aid in India discusses, in kind transfers may lead to other problems, such as a black market developing.
        - However, such policies do ensure that the aid is used as the donor intended.

III. Matching vs. Non-matching Grants

- Here we consider how direct aid compares to a subsidy.
- Matching grants – the federal government subsidizes local spending. For example, for every $2 the local government spends, the federal government adds $1.
    - The figure below illustrates a subsidy for police services.



- Non-matching grants – the federal government gives the local government money to spend without restriction.
    - To simply when we combine graphs, the figure below assumes absolutely no restriction. Since we are not examining a community near the corner solution, this is not a problem.
        - More common would be a tied grant, in which the federal government gives the local government money to spend on a specific use, but provides a fixed amount no matter what the local government spends on its own. This would be similar to our education voucher example from the last class.
    - Note that, while spending for police protection does increase, so does spending for other services. The community is able to reallocate some of what it previously spent on police to other services.



- When we combine both on a single graph, we see that, for a given expenditure level, utility is higher with the non-matching grant.
    - The blue line represents a block grant that costs as much as the matching grant.
        - We know the costs are the same because point A is on both budget lines.
        - Because the blue line goes through the indifference curve, a higher indifference curve (e.g. higher utility) is possible with the non-matching grant.
    - *That is, there is a tradeoff between encouraging a particular change in expenditure and achieving the highest level of satisfaction for a given expenditure.*
    - Also note that, with the non-matching grant, when the constraint does not influence behavior, consumption of both goods will increase.