How can a policy-maker determine and achieve the optimal distribution of resources when lump-sum taxation is possible? What can be done when it is not?

- Intro – will explain process for determining optimal distribution, means of doing this by redistribution of initial endowments, why it's preferable to make lump-sum transfers, and how to do things otherwise.

Notion of optimality

- Define Pareto criterion, explain motivation for being on Pareto frontier
    - Downsides – says nothing about inequality or how to choose between any of the many Pareto efficient points
- Role of social welfare functions
    - SWF can help decide between Pareto efficient points by assigning values to each of them, based on aggregating individual utilities. All SWF maxima are Pareto efficient.
    - Explain utility possibility frontier – set of individuals' utilities associated with Pareto efficient allocations
    - Society's problem: maximise SWF s.t. UPF. Present diagram and show tangency condition, illustrate that any Pareto efficient can be optimal given a suitable SWF.
    - What the SWF ought to be is a difficult normative question. Some options are Rawlsian, inequality-averse, utilitarian, present them. The last two require ordinal information *[and also all of these require inter-person utility comparisons, right? How do you actually do that, given the assumptions economics is willing to make?]*.

Lump sum taxation

- State 1st and 2nd FWTs & required assumptions
- By 2nd FWT, a two-step process can be used to determine and achieve optimum:
    - Use SWF and UPF to find optimum utility distribution, work back to optimal allocations x*
    - Define competitive equilibrium. MRSs of each agent must be equal to shared BC, so can draw on budget line. Redistribution of initial endowments to any point on that line will end up at x* -- show graphically
    - You can let markets operate freely, only need to redistribute one good

Goods taxation

- Show inefficiency with a diagram comparing revenue raised with goods tax vs lump sum and that consumer would be on higher IC with latter – DWL *[didn't quite get intuition for this, I think it's to do with income/substitution effects?]*
- Alternatives are % profit taxes or income taxes. The former aren't distortionary, and offer a way to redistribute to reach the desired outcome, but it's hard to implement a tax on all economic profits. Income taxes are distortionary, i.e. mean you aren't at the Pareto frontier.

Real-world considerations

- Political economy – certain groups may have more power than others & be opposed to taxation & redistribution
- Informational requirements – the planner must know everybody's preferences
- Assumptions for the FWTs to hold
    - Perfect competition – but in reality not everybody is a price-taker (monopolies) and there are barriers to entry/exit
    - Absence of externalities – which is not at all realistic, e.g. pollution and carbon emissions

    - Well-behaved preferences, meaning they are convex, continuous, monotonic. But this is a more reasonable assumption to make – intuitions of averages better than extremes; no sudden jumps; more is better.
- When people's endowment is human capital, very hard to make lump-sum transfers of that. So you may be forced to do other taxes instead.