

LECTURE NOTES ECON 320

THE WELFARE THEOREMS AND GET

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Corresponding Author: Martin Kaae Jensen, Department of Economics, Ashley Building, University of Birmingham, Edgbaston, Birmingham B15 2TT, Birmingham, UK. E-mail: M.K.Jensen@bham.ac.uk. These notes are also available in pdf format at: <http://www.economics.bham.ac.uk/people/jensen.htm>

“Rejoice ! For you have learned a lot...”

We have not been through the core and both welfare theorems in exchange economies. So, we know that every WEA is in the core (in particular, every WEA is Pareto optimal—the first welfare theorem), and we know that *any* Pareto optimal allocation can be realised as a WEA after a suitable redistribution of initial resources (=the second welfare theorem).

In economies with production we have proved the first welfare theorem and I have presented (though not proved), the second welfare theorem. Recall that in our formulation of the second welfare theorem with production, the redistribution taking place in order to realise a certain Pareto optimal allocation takes the form of “income transfers”, $T_1, \dots, T_I, T_i \in \mathbb{R}, \sum_{i \in \mathcal{I}} T_i = 0$.

Such a transfer of income between the agents in an economy (the citizens in the UK, say), is called a *lump-sum transfer*. Roughly, we imagine that one day someone in the government presses a button and woop, the transfers take place between peoples’ bank accounts. So some will be pleasantly surprised, namely those for which $T_i > 0$, some will probably get angry, namely those for which $T_i < 0$, and finally some will not see any difference because $T_i = 0$. *Under this type of income transfer*, the second welfare theorem states that *there is no conflict between efficiency and fairness*. No matter which Pareto optimal allocation “the society”, normally referred to as *the social planner*, favours (in the name of fairness), this can actually be reached through the market economy after such a lump-sum redistribution. Moreover, because the favoured allocation becomes a WEA under a new vector of market prices, it will be *Pareto optimal* (of course this statement is double up: We already knew that it was Pareto optimal because this is assumed in the second welfare theorem).

The point to notice is that, alas, in reality lump-sum distributions are impossible. The most typical sources of redistributions are wage income taxes, VAT, and capital (gains) taxes. Out goes various benefits. In contrast to lump-sum transfers, such taxes are distortionary (for all practical purposes we may say “always distortionary”). It is crucial to understand that the second welfare theorem says nothing about this type of transfers, in particular it certainly *does not* state that any Pareto optimal allocation can be reached as a WEA with this type of taxation.

You should notice the way we think here. We have first of all a Walrasian equilibrium allocation in a *private ownership economy* with production. *This is our bench-mark* and we know from the first theorem of welfare economics that the WEA is Pareto optimal (efficient). We then, in the second welfare theorem, introduce lump-sum income transfers and so get an *economy with production and lump-sum transfers*. Again we know, this time by the second theorem of welfare economics (or one can show this directly), that the WEA will be Pareto optimal (efficient). So in comparison with the bench-mark we are happy here: We still have Pareto optimality and not only that, we can redistribute in the name of fairness as much as we’d like.

Finally, I just mentioned economies with production and other types of taxation. Such economies are “none of the above”, and as a rule the resulting equilibrium allocations will *not* be Pareto optimal. So in comparison with the bench-mark we are not so happy as far as efficiency is concerned. On the other hand, such economies will allow the society

(through politicians) to redistribute income and so lead to fairness, at least from the majority's point of view (and under all sorts of idealised assumptions about the political system and peoples' decisions).

Now, there are several "schools" which may roughly be identified with political parties. First of all, there are the radicals on the left and the right.

1) The left-radicals will reject the first welfare theorem and with it the second becomes irrelevant. They will do so by pointing to our unrealistic assumptions, prime among which stands perfect competition (some would also go for rationality). There are very interesting work on this perspective which studies instead "monopoly-capitalism" and where, it is safe to say, the rosy picture painted above breaks down: Efficiency goes down the drain. If any of you are interested, let me know and I'll give you some references.

2) From center-left to center-right, with social democrats (=Labour) right in the middle, we find those who accept the efficiency of the market economy (=first welfare theorem). Or it might be better to say: Accepts the fact that our description is a roughly acceptable approximation to reality. They also, however, accept the point that fairness is not necessarily (typically) obtained through the market mechanism (Pareto optimality does not imply "maximal social welfare", a somewhat flimsy concept which we shall return to in depth soon enough). Ideally, lump-sum transfers would resolve this conflict (the second welfare theorem). An indeed, you will often hear in the political debate that politicians want reforms so as to implement "less distortionary taxes" (=taxes which are closer to lump-sum transfers). Well, the point is that there is a *trade-off* between efficiency and fairness. We want the latter, but to get it we must sacrifice some efficiency. The point on the left-to-right scale depends on how much you wish to sacrifice. Of course this is a function of "how much you think is actually lost". People farther to the right will say that *a lot* is lost through distortionary taxation, so it should be avoided at all costs. People to the left will say that little is lost or they will simply say that fairness is more important *even if* something is lost.

3) The right-radicals swallow everything we have said right down and add to this that Pareto optimality is what we should ask for, and that fairness is a non-sense concept because at the end of the day people get what they deserve (the return to initial resources and ownership share, if any). So if you're poor that's just too bad - you deserve it because you're probably stupid and if not, you must be lazy ! In sum, *all* taxes should be removed and the bench-mark (private ownership economy with production) take over.

Whatever, your opinion is (except for perhaps 3)), you will notice that I have mentioned "social welfare", "fairness", and this type of concepts several times. While in this course we will not worry about distortions and such (that's another course), we *will* concern ourselves with social welfare or more specifically *social choice theory*. This then, is what we turn to next.