Answers to midterm

1.a. Rawls’ notion of a just system of laws or rules is one that maximizes a person’s expected utility from the point of view of before the person knows who they will be born as. If people are risk-averse, this would justify having some kind of transfer from the rich to the poor, as people don’t want to have a very bad outcome; they prefer to distribute some wealth from a good outcome state to the bad outcome state. Yet even if people are risk-averse, they want there to be some returns to effort; thus the welfare system does not equalize incomes.

b. Inefficiency results when people decide to work less just to qualify for welfare. To avoid this inefficiency, the government could try to target welfare payments, using a targeting mechanism. This should be a characteristic of a person that is correlated with low income, and that they will not change in order to get more welfare payment. Since evidence suggests that women do not become single mothers just to qualify for welfare, and that single motherhood is correlated with low income, single motherhood can be (and was) used as a targeting mechanism. Another would be disability. Also the government can use ”ordeal mechanisms” to separate out people who really have a low ability to earn income, like paying in kind rather than in cash or having work requirements be a part of welfare.

c. The Earned Income Tax Credit tends to increase the labor supply of single mothers and to decrease the supply of married women. Many single mothers who did not work before they became eligible for EITC chose to work after they became eligible: Eissa and Leibman estimated that single mothers were 1.4 to 3.7 percentage points more likely to work as a result of the 1986 EITC expansion. Theoretically, a single person who does not work would get a substitution effect from EITC by raising the returns to being in the labor force, but no income effect, since they start with no labor income. Since the EITC is computed on the basis of total family earnings, most married women eligible for it would be in the phaseout portion of the EITC curve based on their husband’s earnings. For people in the phaseout portion, each additional dollar of earnings lowers EITC payments by 21c.
b. One reason that this deadweight loss is an overestimate of the actual efficiency loss is that there are externalities due to health care. For example, if someone gets vaccinated against a disease it is less likely that others will get it. Also spending on preventive doctor’s visits lowers the likelihood of having to spend a large sum in the emergency room for an untreated condition.

Another reason is that the person who is getting these additional doctor’s visits due to the low copay might have demanded around that amount at a price of $100 if they had more income. If the person would have demanded an additional doctor’s visit at a price of $100 if they were given $100, then it is not inefficient for them to take the additional doctor’s visit.

c. A major advantage of a single-payer health insurance system is lower administrative costs. Private health insurers spend about 30% of their revenue designing contracts for various types of people and on finding ways to get out of covering those people if they get sick. Many of these costs would be avoided in a not-for-profit single-payer insurance system, because everyone would be covered, so they wouldn’t have to try to find ways to leave out the people with higher risk.

A disadvantage would be that a single-payer system could be very expensive
to the government if it doesn’t leave certain types of treatment uncovered or ration in some way. The added expense would have to be financed either by higher taxes or by debt.

3. a. When parents don’t have the choice of public education they choose a certain amount of private education. When public education becomes available for free to them, they may prefer a lower amount of public education for free to a higher amount of private education that must be paid for. This assumes that private and public education are perfect substitutes and you can’t supplement public education with additional private education.

b. An argument for school vouchers is that they can force schools to compete for students, thus presumably raising their quality. Also, vouchers could allow a poor student to attend a better-quality private school rather than a bad-quality public school.

But if switching to a voucher system caused many public schools to be eliminated, rich people could still pay more for private school than poor people with just their voucher. Then there could end up being a system with schools for children of the rich, which charge a higher price, and schools for children of the poor, which charge just the amount of the voucher.

4. a. The average income tax rate is

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\frac{15,000 \times 0.1 + (40,000 - 15,000) \times 0.15}{60,000} = \frac{1500 + 3750}{60,000} = 0.0875.
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b. A tax system is progressive if the average tax rate increases as income increases.

c. The major sources of tax revenue for the federal government are the individual income tax (which includes capital gains tax), the payroll tax (for Social Security), and the corporate income tax. The major sources of state and local revenue are consumption taxes (sales taxes), the property tax, the individual income tax and the corporate income tax.

5. a. An annuity is a fund into which a person pays at some date; the fund then pays the person periodic payments from some date until their death. At death no more payments are made to the heirs. Annuities are a kind of insurance against having a low income in old age. There is asymmetric information in the annuities market because individuals know more than insurers about their life expectancy. Because of this, insurers assume that if a person is buying an annuity they must have higher than average life expectancy, thus they charge a premium that is higher than what would be actuarially fair for the general population. This in turn discourages everyone except people with the longest life expectancies from buying annuities. If there were symmetric information in the annuities market, insurers would charge each person a price based on their life expectancy and more people would buy annuities.

b. An idea for incremental reform of Social Security would be to raise the age when benefits can first be received. An idea for fundamental reform would
be to privatize Social Security - have everyone’s payroll tax payment go into a personal account that gets invested in stocks or bonds or any assets they choose, maybe with some restrictions.

c. At a 100% population growth rate (each couple has four children) over the period of 25 years, with a constant real wage rate, an unfunded Social Security system could pay each person the double of what they put in in 25 years. For a funded system to double the amount a person put in at a real growth rate of 2% per year would take more than 30 years \( (1.02^{30} = 1.811 < 2) \). So it’s possible that an unfunded system pays more benefits than the funded system with high enough population growth. However if the real growth rate is 3% per year, it would double what you put in in just 23 years.

6. See the answers to quiz 2.