(a) Explain the essence of the low-level equilibrium population trap. What are the main criticisms of this model?

The low-level equilibrium population trap states that the speed at which population increase was bound to stop as life sustaining resources, which increase at an arithmetic rate, would be insufficient to support human population, which increases at a geometric rate.

Malthus argued that population growth is likely to outstrip increases in food production. As population grows and each person has less land to work, the person's marginal contribution to food production will decline. As the food production cannot keep up with the population growth, per capita incomes will have a tendency to fall as to lead to a stable population.

Malthus argued the population trap can be prevented by preventative checks such as birth control or positive checks such as starvation, disease, natural disasters and war. According to Malthus, moral restraint is essential for economic development.

The Malthus population trap does have criticisms to it.

Firstly, the theory does not take technological progress in mind which can increase the output of food production.

Secondly, the theory is based on hypothesis about macro relationships between population growth and levels of per capita income that does not stand up to empirical testing.

Thirdly, the theory focuses on the wrong variable, per capita income, as the main driver behind population growth rather than the level of household income.

(b) Explain the microeconomic household theory of fertility. Use a diagrammatic representation of the theory to explain why a combination of increases in family income and job opportunities for women lead to a reduction in the demand for children.

Figure 6.9, Page 287

The microeconomic theory of fertility is the theory that family formation has costs and benefits that determine the size of families formed.

Each child is seen as a special kind of consumption good so that fertility becomes a rational response to the consumers demand for children relative to other goods. Thus the desired number of children, holding other factors constant, varies directly with household income, inversely with the price/ cost of children, and inversely with the strengths of tastes for other goods relative to children. The relationship is as follows: Equation 6.1

The higher the household income, the greater the demand for children.
The higher the net price of children, the lower the quantity demanded.
The higher the prices of all other goods relative to children, the greater the quantity of children demanded.
The greater the strengths of tastes for goods relative to children, the fewer children demanded.

An increase in family income will result in the demand for children increasing. This is shown by a rightward shift of the budget constraint line. Better job opportunities for woman will lead to the cost of the child increasing, as the mother now has an opportunity cost of raising children or going to work, and results in a downward rotation of the budget constraint line.

The result is a new utility maximisation combination that includes fewer children per family.

(c) Indicate whether or not you agree with the following statement: The microeconomic household theory of fertility implies a broader "menu" of policy options for reducing population growth than Malthus's model. Explain your answer by outlining the policy implications of each model.

I agree with this statement.

The Malthus's model has few options for reducing population growth. A policy can be made to put a limit on the size of a household. This can be done by compulsory birth control after a certain amount of children per household.

Another policy that can influence the population growth is by withholding certain technologies that promotes growth. Although this can be done, it will be at a great cost as the efficiency of the economy will decline.

The microeconomic household theory of fertility can use numerous policies.

(d) Mail & Guardian reporter, Nawaal Deane, asked poor people in the rural areas of the Eastern Cape how their lives had changed during the first decade of democracy. One woman responded as follows: "My life has gotten better since I get R170 for the three children … I see more women having babies because they know they can get this childcare grant." Is having more children to obtain childcare grants in line with the predictions of the microeconomic theory of fertility? Briefly explain your answer.

Yes they are.

Each child is seen as a special kind of consumption good so that fertility becomes a rational response to the consumers demand for children relative to other goods. Thus the desired number of children, holding other factors constant, varies directly with household income, inversely with the price/ cost of children, and inversely with the strengths of tastes for other goods relative to children.

This can be seen in two ways.

On the one hand, the cost of the child is being subsidised by the government through the use of a child grant. This lowers the net price of children, raising the quantity demanded and moving the budget constraint of the mother to the right. The mother will now demand more children as the child becomes relative cheaper than other goods.

On the other hand the children can rather be seen as a special kind of investment good as there is an expected return in the form of money and in the future an expected return in the form of labour and financial support. To determine if they want more children, the mother ways up the private economic benefits against the private costs. Since these children have more economic benefits the demand for them rises.

(e) Indicate whether or not you agree with the following statement: The microeconomic household theory of fertility implies that the abolition of apartheid would have contributed to the recent decrease in the rate of population growth in South Africa. Substantiate your answer.

Yes, I agree.

Each child is seen as a special kind of consumption good so that fertility becomes a rational response to the consumers demand for children relative to other goods. Thus the desired number of children, holding other factors constant, varies directly with household income, inversely with the price/ cost of children, and inversely with the strengths of tastes for other goods relative to children.

As the disadvantaged people during Apartheid would have more freedom after Apartheid the opportunity costs of having children increased, which increased the cost of children. This could be as a result of the amount of job opportunities for them increased and that families can move to find better work. This will lower the demand for children.

The cost of children also increased through that they can now attend better schools. Thus the cost of education went higher. This will also shift the demand for children to the left.