(1) Provide a brief theoretical explanation of each of the following. Your explanation should be primarily verbal, though you can supplement this with simple diagrams or algebra if you find this useful. Do not write more than two or three paragraphs for any of these.

(i) Small changes in information networks or outside options for borrowers can cause a credit market to suddenly collapse.

(ii) Cross-sectional consumption inequality grows over time owing to restricted insurance opportunities, even if all households are ex ante identical.

(iii) A positive correlation between income mobility and (cross-sectional) income inequality across countries.

(iv) Universal (free) public education funded by progressive income taxes raises per capita income and lowers income inequality.

2. Provide a survey of the available empirical evidence concerning how the following vary across wealth classes in poor underdeveloped economies: (i) access to insurance, (ii) investment choices and rates of return to investments. What does this evidence suggest concerning the role of financial market imperfections in restricting opportunities for growth and poverty reduction?

3. Consider the following model of paternalistic bequests. A person in any given generation lives and consumes for two periods, and has the following utility function $u(c_1) + v(c_2, b)$, where $c_1, c_2$ denote consumption while young and old respectively, and $b$ the bequest left
to the (only) child. The functions $u$ and $v$ are strictly increasing and strictly concave in each argument. There are no capital markets in this economy, so a child who inherits $b$ divides this between training costs and first period consumption $c_1$. Training cost $x(h)$ for every occupation $h$ is exogenous. In the second period of its life the person who trained for occupation earns a wage $w(h)$, which is divided between own consumption $c_2$ and bequest.

The economy has a single consumption good and a CRS production technology which determines the wage function $w(h)$ uniquely as a function of the occupational distribution $\mu(h)$ (by equating wages to marginal products of each occupation). Assume that every occupation is essential in this economy ($w(h) \to \infty$ as $\mu(h) \to 0$), and that every pair of occupations involve distinct training costs.

(a) Given an initial occupational distribution $\mu_0(h)$, define a (dynamic) competitive equilibrium and a steady state for this economy.

(b) Provide a condition on the utility function under which every steady state will involve no occupational mobility.

(c) Show that every steady state must involve persistent inequality in lifetime utility within each generation.

(d) Show that if the set of occupations forms a continuum, there can be at most one steady state wage function.