Written Exam at the Department of Economics winter 2017-R

Development Economics

Final Exam

August 26th

(3-hour closed book exam)

SOLUTION GUIDE

1. GDP measures market activity. As such, there are two main areas, which constitute "blank spots". A) Informal/shadow economy. This involves unreported income from self-employment; it involves barter of legal services and goodsand it involves trade with stolen goods, drug dealing etc. (i.e., illegal activities). It is common practices in National Accounts to try to correct for the sources of error though it is of course not fully possible. B) Home production. This involves a range of activities that take place in the home. Examples include cooking, childcare, care of the elder etc.

2. The three outcome emerge depending on the measure involved. If inequality (summerized by the Gini coefficient) is calculated with the unit of analysis being the country and where each country enters with identical weight (a) materializes. If we weigh by population size (b) emerges (primarily because of the stellar performance of China). If the unit of analysis is the individual, so that the personal distribution of income within nations are taken into account, c) emerges.

3. The headcount ratio reports the fraction of the population below the povery line. There are 100 mio people in the economy. So: (15*0.7/100) + (85*0.1)/100.

4. (1) Longevity (life expectancy at birth) rises with income per capita. (2) The link is concave, so that the distribution of income seems to influence average life expectancy (in the world). (3). The curve shifts up over time, which is the main driver behind increases in life expectancy at birth.

5. The following has been discussed (only three main objective need to be mentioned):

   Foreign Policy, Political Alliances and National Security
   •The Cold War •The Middle East •Terror • Diplomatic Visibility/Influence
   Historical (political) Motives
   •Former colonies•
   Economic Motives
   •Trade •Subsidies in donor countries
   Humanitarian motives (Income levels and poverty)
   •We have an obligation to help worse off people•Humanitarian aid (disaster relief)
   Less obvious motives
   •Democracy •Country size • Domestic policy

6. The Mincer regression, linking individual outcomes to individual education will tell us higher education seems to be "productive": more education leads to higher income. The

aggregate regression would lead to a zero impact from education since (in this thought experiment) education only "redistributes" income but does not create income. If a bigger fraction of the population becomes educated (so that average years of schooling rises) the only effect is that the income of the poor shrinks.

Problem B

1. In order for a transfer to be considered official development assistance (ODA) it needs to fulfil three criteria. The flow comes from official development agencies (national government agencies or multinational agencies); the flow has "promotion of economic development and welfare" as main objective (military expenditures are generally not accepted as ODA); the flow has a grant element of at least 25%.
2. Between the 1960s and today (DAC) ODA as a fraction of (DAC) GNI has declined from about 0,5% to roughly 0,4%.
3. **Positive effects**. There are a number of reasons why foreign aid may contribute to the build-up of factors of production. From an analytic perspective, a poor country can be viewed as being stuck in a poverty trap. A classical argument is that the poverty traps may be caused by initially low income itself. If income is very low, the savings rate is usually low as well (due to the presence of minimum consumption requirement), which can lead to insufficient capital accumulation that solidifies the initial low level of income. In such a savings driven poverty trap, a sufficient (once over) infusion of foreign aid may ignite the growth process by lifting income sufficiently that savings turns positive and ignites the standard income-savings-capital multiplier. Poverty traps can also arise due to initially low levels of human capital (schooling or health). Low levels of factor intensity may in addition hamper technology transfer. By stimulating human capital accumulation, growth is stimulated, both directly and possibly indirectly through technology transfer. In addition, foreign aid via technical assistance may influence barriers to technology transfer directly. Infrastructure investments in countries that are internationally credit constrained may also stimulate macroeconomic efficiency.

   Negative effects. The main concern with foreign aid is that it may cause a diversion of resources. A classical argument (Dutch disease) asserts that a "windfall gain" may push resources into the service sector, which will (due to relatively low productivity) increase the price level in the economy and thus lead to a real appreciation that works to further shrink the internationally exposed industrial sector. Resource diversion may also occur through political-economy mechanisms. For example, aid inflows may keep corrupt governments in power, which likely lowers over-all productivity (e.g. via resource allocation).

   Zero effects. In countries that have not undergone the demographic transition aid may lead to population growth rather than growth in prosperity. The mechanism is the familiar "Malthusian mechanism'', which asserts that an increase in prosperity leads to larger families (either because of higher fertility, lower mortality or both), which works to lower the land-labor ratio and thereby (average) prosperity. Hence capital dilution, prompted by accelerated population growth may render aid ineffective in terms of raising average living standards.

a. (a) The key identification problem is that aid is endogenous. That is, poor (slow growing) countries are likely to receive more aid. As a consequence, the correlation between aid and growth (which often is negative) may mean that aid hampers growth; that slow growth leads to more aid inflows; that factors that hamper growth also influences (positively) how much aid a country receives.

    Another identification problem that the student may bring up is that the impact of aid may not be the same everywhere. For example, the impact of aid may be very different depending on whether a country has undergone the demographic transition nor not; whether the aid inflows a donated to governments that use the transfer productivity or not etc. Accordingly, aid is likely to be subject to (a prior) unknown non-linearities, which, if left unaccounted for, may bias (OLS) estimates.

b) The three rival views of how aid seems to influence economic growth, which are highlighted in the textbook, are: (i) That aid does not work; (ii) That aid only works in the presence of sufficiently sound policies (or conditional on other structural charactaristics); (ii) that aid is subject to "diminishing returns". All three categories of evidence makes use of (essentially "Barro-style") regression analysis. Whereas view (i) focuses on a linear effect of aid on growth, both (ii) and (iii) allow for non-linearities; (ii) adopts a specification where aid is interacted with e.g. policy indicies (aside from entering linearly), whereas (iii) allows for a squared term. Identification problems means that it is unresolved which (if any) of the three views are a better description of the historical record.

c) The micro-macro paradox observes that a whole host of micro-level studies find large positive returns on aid funded investments, whereas it seems hard to find a positive impact of aid on growth.

d) They do not. The simplest way to see this is by noting that even if aid – on impact-serves to increase income (say by funding infrastructure) the longer run impact can be zero if population growth responds in keeping with the Malthusian mechanism. This example serves to illustrate that growth regressions do not identify the (macro) return to aid, since the growth effect also convolutes behavioural responses (or general equilibrium effects).

    The student may also bring up that a recent study by Dalgaard and Hansen (2017, JDS) provides a method to identify the macro return. DH do not find that the macro returns are at variance with the micro returns. This suggests that if aid has a limited effect on growth it is unlikely to be caused by aid is being misused. Instead, mechanisms such as the Malthusian one, or perhaps political-economy effects whereby the return to aid is channelled into counterproductive uses (or simply send out of the country), may represent countervailing forces that leaves the net impact on growth insignificant.

Problem C

S/Y→y

The most basic mechanism is the one familiar from the Solow model. That is, higher savings lead to higher investments, which increases the capital stock per capita and thus income per capita in the long run.

Naturally, the 1:1 link between S/Y and I/Y only holds in a closed economy. In an open economy, featuring perfect capital mobility there need not be any such link in theory. Empirically, real rates of return appears equalized across countries. Still, at the same time, savings rates and investment rates are positively correlated across countries in practise.

X→y and X→S/Y.

Several mechanisms can be mentioned:

- Richer countries tend have governments that run smaller primary deficits (in the absence of ricardian equivalence public savings can potentially increase total savings; Ricardian equivalence seems unlikely in the poorest countries on earth)
- Longevity tends to be greater in richer places. Greater life expectancy may stimulate savings by making people act "more patient"
- Stronger protection of property rights in richer countries may also mean greater savings.

y→S/Y

The obvious candidate explanation is that minimum consumption requirements keep savings very low at low levels of income. As income rises S/Y will therefore increase.