Instructions. The exam consists of 4 essay questions. They are each worth 25 points. PLEASE USE A SEPARATE EXAM BOOKLET FOR EACH QUESTION. WRITE YOUR NAME ONLY ON THE OUTSIDE OF YOUR BOOKLETS. There is no single good answer for these questions, but most good answers will combine appropriate analytical frameworks with evidence. Please number your answers, write legibly, and label any diagrams clearly. Please be sure to answer all parts of the questions you choose.

Section 1. Answer both questions in this section.

1. [This question draws on “Baby Monitor” The Economist August 11, 2012.]
   Consider the following two facts. First, there is a robust negative correlation in cross-sectional household-level data from developing countries between the “youth-dependency ratio” of a household (the number of children under the age of 15, divided by household size) and household income. Second, when low-income countries (e.g., with per-capita incomes around $2000) enter the final stage of the demographic transition, the fall in fertility rates tends to occur first among high-income households and then only gradually in households with lower and lower income levels. Drawing on these two facts, recent projections by the World Bank suggest that the demographic transition will be a source of increasing income inequality in roughly half of poor and middle-income countries between now and 2030.

   1.1. What factors would you list as important in explaining the negative correlation between youth-dependency ratio and income in household data?

   1.2. Suppose that you are advising a low-income country that is in the final phase of the demographic transition and is facing a rise in inequality due to the shifting demographics of family size. What policy interventions would you advocate, if any?

2. [This question draws on Clemens and Demombynes 2010 “When Does Rigorous Impact Evaluation Make a Difference? The Case of the Millennium Villages” Center for Global Development, Working Paper 225, October.]
   The Millennium Villages Project (MVP) was designed by Jeffrey Sachs and has been implemented by the United Nations Development Program and other organizations in 14 poor rural villages in Africa since 2004. Each Millennium village receives a large set of interventions for a period of 5 years, the total annual cost of which is roughly equivalent to per-capita income in the village (about $150 per capita). “Interventions include distribution of fertilizer and insecticide-treated bed nets, school construction, HIV testing, microfinance, electric lines, road construction, piped water and irrigation lines, and several others” (p. 7). The objective of the MVP is to break villages out of poverty traps. Proponents of the MVP emphasize that the program is focused on achieving sustainability via human capital formation and capacity-building in community committees and local governments.

   A detailed baseline household survey was undertaken in each of the Millennium villages before the implementation of the program. Subsequent surveys have allowed the project to highlight impressive gains by reporting before-versus-after comparisons on a wide variety of outcomes. The first two columns of data in the table below provide a set of such comparisons for a Millennium
village in Ghana. Cell phone ownership, for example, went from zero before the program to 47 percent by the third year of the program.

The program villages were chosen subjectively, and although a set of comparison villages was also selected, these villages were also chosen subjectively and no baseline survey was undertaken for the comparison villages. For comparison purposes, the final two columns in the table show data compiled by Clemens and Demombynes (2010) for all of rural Ghana.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Millennium village in rural Ghana</th>
<th>All of rural Ghana</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of households with access to improved drinking water</td>
<td>41 (before the program) 89 (3rd program year)</td>
<td>54 76</td>
</tr>
<tr>
<td>% of children under 5 sleeping under an insecticide-treated bed net</td>
<td>9 56</td>
<td>4 32</td>
</tr>
<tr>
<td>Gross primary attendance ratio</td>
<td>102 122</td>
<td>90 110</td>
</tr>
<tr>
<td>% of households with a mobile phone</td>
<td>0 47</td>
<td>1 37</td>
</tr>
</tbody>
</table>

Source: Clemens and Demombynes (2010), p. 46.

2.1. Given the data above, what are your own preferred estimates of the impact of the MVP on these four indicators? If you are using the ‘before-versus-after’ estimates, defend them; if you are using a different approach, explain why it is superior to ‘before-versus-after’. You can assume that whatever differences you observe in the table are statistically significant.

2.2. What features of the MVP, if any, give rise to concern that your own estimates may be biased, and may therefore fail to provide a reliable basis for deciding about whether to scale the program up either in Ghana or more broadly?

2.3. What advice would you give for designing the program in the next 14 villages, with a view to informing costly decisions about scaling this program up?

Section 2. Choose one of the two questions in this section.

3. India has been growing strongly since the late 1980s, a process helped along by market-based reforms that began tentatively in the mid-1980s and then were accelerated during the balance of payments crisis of 1990/91. Growth has been strongest in the service sector, however, where it has tended to be biased towards skilled labor. Inequality has been rising. Rural poverty and underemployment remain widespread, despite nearly two decades of good economic growth.

Many observers feel that India cannot address its employment and inequality problems without developing a labor-intensive manufacturing sector, and that it cannot do that without major reforms to reduce the cost of unskilled labor.

Your superior at the Ministry of Inclusive Growth asks you to assess a proposal to reduce the cost of unskilled labor by eliminating the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), the largest workfare program in the world, which guarantees 100 days of rural work
at local minimum wages for all individuals who wish to work (this program accounted for 3.6% of Indian government expenditure in 2011).

3.1. Would eliminating workfare promote the emergence of labor-intensive manufacturing in India?

3.2. Where else would you advise the government of India to look, for reforms that would promote employment in manufacturing?

4. China has recently surpassed the United States as the single biggest trading partner of Sub-Saharan Africa (SSA), as measured by the sum of exports and imports of merchandise (i.e., excluding trade in services and financial trade). There has been a popular backlash against inexpensive Chinese imports in a number of African countries – certainly enough, if would seem, to provide political cover if a government wished to adopt protectionist measures to support import-competing domestic producers (e.g., in textiles and apparel, or other light manufactured goods). Assume that although most African countries are WTO members, they would find a variety of ways to get around WTO rules. How would you advise an African government considering such measures?

Section 3. Choose one of the two questions in this section.

5. Energy prices started rising in the early 2000s, and with a brief respite during the global financial crisis they have remained high. Prospecting has been extremely active, and a large number of countries that were not previously exporters of oil or natural gas are now either exporting or on the cusp of exporting. What advice would you give to countries discovering major new reserves and seeking to harness them for national development? How would your advice differ, if at all, according to the size and income level of the country (e.g., small, lower-middle income Ghana versus a large, upper-middle-income country like Brazil)?

6. The literature on balance-of-payments crises has gone through various phases in its understanding of the origins, dynamics, and consequences of sudden reversals in capital inflows. So-called first-generation balance-of-payments crises are caused by unsustainable reserve losses tied to the monetization of fiscal deficits. Second-generation crises are not driven by inevitable reserve depletion but rather by a self-fulfilling expectation that if the central bank were to face a reversal of capital inflows, it would take the expansionary route of devaluing the currency. Third-generation crises are like second-generation crises, in the sense that reserve depletion is not inevitable, but in the third-generation case, devaluation is contractionary rather than expansionary.

6.1. What are the channels through which devaluation is expansionary (i.e., increases GDP) in the second-generation models? What is the alternative to devaluation in these cases?

6.2. What are the channels through which devaluation is contractionary (i.e., decreases GDP) in the third-generation cases?

6.3. Is the Asian Financial Crisis of 1997/98 best thought of as a first-, second- or third-generation crisis? How does the generation of crisis matter in determining the appropriate policies for (a) reducing the vulnerability to a crisis and (b) managing a crisis when one occurs?