

# Supplementary Materials

Explaining income inequality - an integrated approach

September 5, 2018

## 1 Geographic coverage

The Gini projections from the main projections model were limited to 43 countries due to data limitations. Below we show the countries in the sample by geographic region. Gini trends for the remaining countries were also estimated using a quantile regression with the premise that the relative position of each country in its group (of either developing or industrialized countries) remains the same through the entire time period. See main text, Section 3.5, for details.

- Advanced economies: Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, United Kingdom, United States
- Latin America & Caribbean: Brazil, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Jamaica, Mexico, Panama, Peru
- East Asia & Pacific: China, India, Philippines, Thailand, New Zealand
- Central Asia & Europe: Belarus, Bulgaria, Estonia, Israel, Lithuania

## 2 Gini Projections to 2100

Figures 1 and 2 show the median and spread of the Gini projections, by region, for the 50 countries in the sample.

Gini projections for all countries for SSP1 and SSP3 are shown in Figure 3. See main text, Section 3.5, for the calculation method. The authors can provide data for the other SSPs as requested.

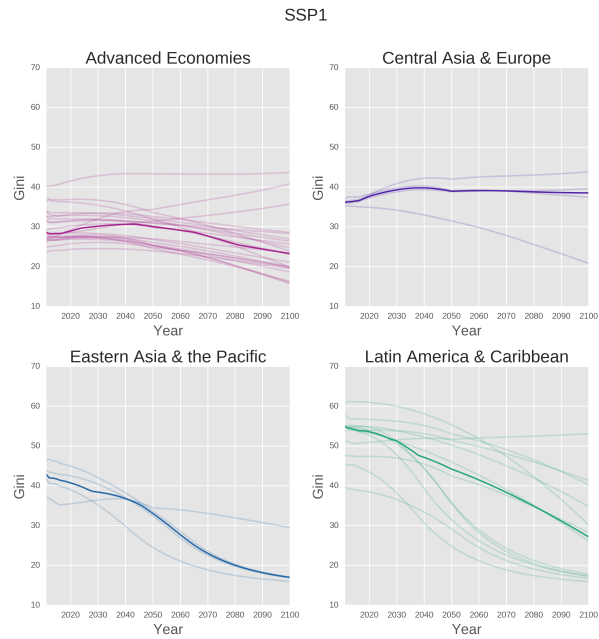


Figure 1: Projected Gini coefficients for all countries by region for SSP1. The bold lines show the median values while the lighter lines show country-specific trajectories.

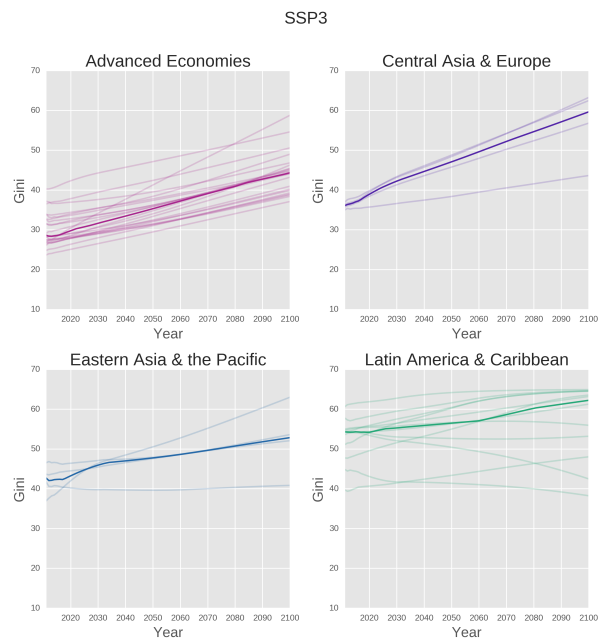


Figure 2: Projected Gini coefficients for all countries by region for SSP3.

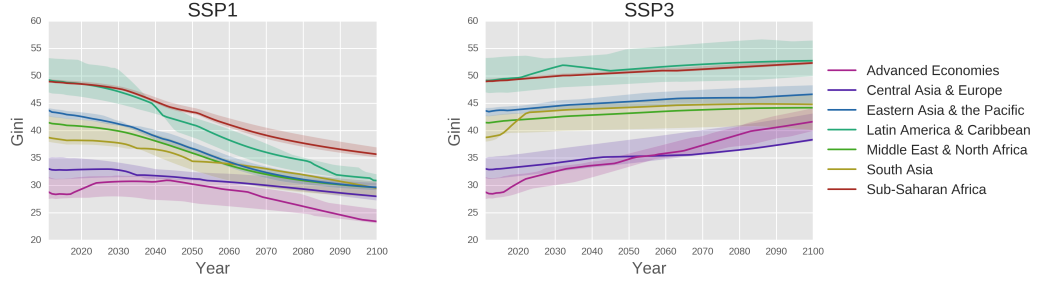


Figure 3: Regional median values with 1-standard deviation envelopes for SSP1 and SSP3, by World Bank region, for all countries.

## 2.1 Policy scenarios - education and health

The derivation and data assumptions used in the education indices (Section 3.2) are shown below.

The population index captures the growth in the educated population as a multiple of the educated population in 2010. The shares of the educated and uneducated population are part of the education projections in the SSP narratives (see (KC and Lutz, 2014)). This index is applied to all SSPs.

$$PopIndex_t = \frac{EducPop_t}{EducPop_{2010}} \quad (1)$$

The level index captures the different costs of education for tertiary, secondary and primary, weighted by the population shares in each, so that as countries shift in the composition of education attainment, their average spending per capita changes accordingly. This index is applied to all SSPs.

$$LevelIndex_t = \frac{Educ_{primt}Cost_{primt} + Educ_{sect}Cost_{sect} + Educ_{tertt}Cost_{tertt}}{EducPop_t} \quad (2)$$

The costs of education used are the average costs for OECD countries, per student in 2014 (see 'Education at a glance: OECD Indicators 2014'; Pg 204 (<https://www.oecd.org/edu/Education-at-a-Glance-2014.pdf>)).

The resource index is applied to only SSP1 and SSP5 up to 2050, and only to those countries whose average education spending is below the global average in 2010. Unlike the other two indices, the resource index is an addition to, rather than a multiple of, education spending in 2010. The annual increase is the average increase in global education spending over the last three decades, which is 0.1 percentage points (share of public spending on education).

$$ResIndex_t = (0.1t) \quad (3)$$

The health spending index has the same meaning and has the same value, coincidentally, as the education resource index. Taken together, the education spending share in any year is given by:

$$EducSpend_t = (EducSpend_{2010} + ResIndex_t)PopIndex_tLevelIndex_t \quad (4)$$